Project Manual

PROJECT NO.	071095-00
PROJECT TITLE:	Upgrade Electrical Distribution
DATE:	June 12, 2026

State University of New York

Binghamton University

State University Construction Fund
H. Carl McCall SUNY Building
353 Broadway
Albany, New York 12246

01230306.A0

RMF Engineering
5520 Research Park Dr. 3rd Flr.
Baltimore, Maryland 21228
OFFICE 410.576.0505
WEB rmf.com

AZAR DESIGN CO

ENCORUS GROUP

FLOURA TEETER landscape architects

REG. EXP. 04/30/2027
CERT. OF AUTH. 2743766

Cert of Auth: #023683
Reg. Expires 7/31/2026

1-31-2027

Article II - Contract Administration and Conduct
Section 2.01 Consultant's Status
Section 2.02 Finality of Decisions
Section 2.03 Claims and Disputes
Section 2.04 Omitted Work
Section 2.05 Extra Work
Section 2.06 Contractor to Give Personal Attention
Section 2.07 Employment of Workers
Section 2.08 Detailed Drawings and Instructions
Section 2.09 Contract Documents to Be Kept at Site
Section 2.10 Permits and Building Codes
Section 2.11 Surveys
Section 2.12 Site Conditions
Section 2.13 Right to Change Location
Section 2.14 Unforeseen Difficulties
Section 2.15 Moving Materials and Equipment
Section 2.16 Other Contracts
Section 2.17 Inspection and Testing
Section 2.18 Subcontractors
Section 2.19 Shop Drawings and Samples
Section 2.20 Equivalents - Approved Equal
Section 2.21 Patents, Trademarks and Copyrights
Section 2.22 Possession Prior to Completion
Section 2.23 Completion and Acceptance
Section 2.24 Record Drawings
Section 2.25 Guarantees
Section 2.26 Default of Contractor
Section 2.27 Termination for Convenience

Article III - Time of Performance
Section 3.01 Commencement, Prosecution and Completion of Work
Section 3.02 Time Progress Schedule
Section 3.03 Time Schedule for Shop Drawings and Samples
Section 3.04 Notice of Conditions Causing Delay
Section 3.05 Extension of Time
Section 3.06 Contractor's Progress Reports

Article IV - Payment
Section 4.01 Compensation to Be Paid Contractor
Section 4.02 Value of Omitted and Extra Work
Section 4.03 Adjustment for Bond and Insurance Premiums
Section 4.04 Unit Prices
Section 4.05 Allowances
Section 4.05A Field Orders
Section 4.06 Deductions for Unperformed and/or Uncorrected Work
Section 4.07 Liquidated Damages
Section 4.08 Contract Breakdown
Section 4.09 Prompt Payment Requirements
Section 4.10 Progress Payments
Section 4.11 Applications for Progress Payments
Section 4.12 Progress Payments for Materials Delivered to Site
Section 4.13 Transfer of Title to Materials Delivered to Site
Section 4.14 Progress Payments for Materials Stored Off Site
Section 4.15 Withholding of Progress Payments
Section 4.16 Lien Law
Section 4.17 Substitution of Securities for Retainage
Section 4.18 Final Payment
Section 4.19 Acceptance of Final Payment

Article II - Contract Administration and Conduct
Section 2.01 Consultant's Status
Section 2.02 Finality of Decisions
Section 2.03 Claims and Disputes
Section 2.04 Omitted Work
Section 2.05 Extra Work
Section 2.06 Contractor to Give Personal Attention
Section 2.07 Employment of Workers
Section 2.08 Detailed Drawings and Instructions
Section 2.09 Contract Documents to Be Kept at Site
Section 2.10 Permits and Building Codes
Section 2.11 Surveys
Section 2.12 Site Conditions
Section 2.13 Right to Change Location
Section 2.14 Unforeseen Difficulties
Section 2.15 Moving Materials and Equipment
Section 2.16 Other Contracts
Section 2.17 Inspection and Testing
Section 2.18 Subcontractors
Section 2.19 Shop Drawings and Samples
Section 2.20 Equivalents - Approved Equal
Section 2.21 Patents, Trademarks and Copyrights
Section 2.22 Possession Prior to Completion
Section 2.23 Completion and Acceptance
Section 2.24 Record Drawings
Section 2.25 Guarantees
Section 2.26 Default of Contractor
Section 2.27 Termination for Convenience

Article III - Time of Performance
Section 3.01 Commencement, Prosecution and Completion of Work
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Section 3.03 Time Schedule for Shop Drawings and Samples
Section 3.04 Notice of Conditions Causing Delay
Section 3.05 Extension of Time
Section 3.06 Contractor's Progress Reports

Article IV - Payment
Section 4.01 Compensation to Be Paid Contractor
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Section 4.03 Adjustment for Bond and Insurance Premiums
Section 4.04 Unit Prices
Section 4.05 Allowances
Section 4.05A Field Orders
Section 4.06 Deductions for Unperformed and/or Uncorrected Work
Section 4.07 Liquidated Damages
Section 4.08 Contract Breakdown
Section 4.09 Prompt Payment Requirements
Section 4.10 Progress Payments
Section 4.11 Applications for Progress Payments
Section 4.12 Progress Payments for Materials Delivered to Site
Section 4.13 Transfer of Title to Materials Delivered to Site
Section 4.14 Progress Payments for Materials Stored Off Site
Section 4.15 Withholding of Progress Payments
Section 4.16 Lien Law
Section 4.17 Substitution of Securities for Retainage
Section 4.18 Final Payment
Section 4.19 Acceptance of Final Payment

Section 4.20 Guarantee Payment
Section 4.21 Acceptance of Guarantee Payment
Section 4.22 Contractor Limited to Money Damages
Section 4.23 No Estoppel or Waiver
Section 4.24 Limitation of Actions
Section 4.25 Electronic Payments

Article V - Protection of Rights and Property
Section 5.01 Accidents and Accident Prevention
Section 5.02 Adjoining Property
Section 5.03 Emergencies
Section 5.04 Fire Safety
Section 5.05 Risks Assumed by Contractor
Section 5.06 Compensation and Liability Insurance
Section 5.07 Builder's Risk Insurance
Section 5.08 Effect of Procurement of Insurance
Section 5.09 No Third Party Rights

Article VI – Minority and Women's Business Enterprises (MWBEs) / Equal Employment Opportunity (EEO) Provisions
Section 6.01 Definitions
Section 6.02 MBE/EEO Policy Statement
Section 6.03 Participation by Minority Women's Business Enterprises (MWBEs) / Equal Employment Opportunity (EEO)
Section 6.04 Reports, Records and Documentation

Article VII - Provisions Required by Law
Section 7.01 Provisions Deemed Inserted
Section 7.02 Wage Rates
Section 7.03 Iran Energy Sector Divestment

Article VIII – Vendor Responsibility

Article IX – Use of Service-Disabled Veteran-Owned Business Enterprises in Contract Performance

Signature of Parties and Governmental Approvals

Acknowledgments

Appendix "A" - Standard Clauses For New York State Contracts

Schedules I, II and III

00 52 00 Schedule A

00 61 13 10 Labor and Material Bond

00 61 13 10 Performance Bond

00 61 13 10 Acknowledgment for Bonds

00 73 43 Wage Rate Requirements

Technical Specifications

01 00 00 General Requirements – WIP
01 11 00 Description of Work (Section A)
01 11 13 Coordination with Other Contracts
01 18 13 Utility Shutdowns and Cutovers
01 21 43 Time Allowances

01 23 00 Alternates (Section B)
01 26 13 Requests for Information
01 26 43 Amendments (Section E)
01 29 00 10 Payment to Campus for Utilities
01 31 00 Project Management Procedures
01 31 00 10 Single Contract Responsibility
01 31 00 20 Sheet-metal Fittings and Ductwork
01 31 10 Language Requirement
01 31 13 10 Exploratory Demolition
01 31 19 Field Meetings
01 31 19 10 Mock ups
01 31 19 33 Pre-Installations Meetings
01 31 26 Document Tracking and Change Control
01 32 13 Special Project Schedule/Phasing
01 32 13 10 Scheduling of Work - Contractor’s Coordination with locality
01 32 13 20 Scheduling of Work - Contractor’s Coordination with the with utility companies
01 32 16 Project Schedule
01 32 29 Notice of Non-Compliance
01 32 33 Project Photographs
01 32 33 10 Photo Documentation Services
01 32 33 30 Roof Inspection
01 33 23 Shop Drawings, Samples, Submittals and other information
01 33 23 20 Coordination Drawings
01 33 29 Sustainable Design Reporting
01 35 10 Archeological or Historical Finds
01 35 13 Conducting Work
01 35 13 10 Salvage of Materials
01 35 23 Safety and Protective Facilities
01 35 23 10 Safety Data Sheet
01 35 29 10 Public Health/Safety Requirements and Guidance for Construction Jobsites
01 35 43 Environmental Procedures
01 35 73 Delegated Design
01 41 13 Code Compliance and Testing
01 41 16 Laws
01 51 13 Temporary Power for Construction Activities
01 51 16 Temporary Fire Protection
01 51 23 Temporary Heating and Cooling
01 51 26 Temporary Light
01 51 36 Temporary Water for Construction Purposes
01 52 13 Field Office for the Consultant
01 52 19 Temporary Sanitary Facilities
01 54 13 Use of Elevator(s) for Construction
01 55 19 Temporary Parking
01 55 26 Traffic Control during Construction
01 55 29 Staging Area and Storage of Materials
01 56 19 Noise Mitigation Measures
01 57 23 Storm Water Construction Permit Responsibilities
01 58 13 Project Sign
01 60 00 10 U.S. Steel
01 60 00 20 Non Asbestos Products
01 60 00 30 Products
01 64 00 Campus-Furnished Products
01 66 00 Equipment Storage and Handling Requirements
01 71 23 Field Engineering
01 71 36 Non-Destructive Building Examination
01 73 00 10 Information required for Rebates, Grants, Awards and/or other Programs
01 73 29 Cutting, Patching and Repairs
01 74 00 Clean Up
01 74 16 Payment for Planting Maintenance

01 74 19 Construction Waste Management
01 75 10 Consumables used during the Work
01 78 23 Operations and Maintenance Manuals (O&M's)
01 78 36 Warranties
01 78 39 Project Record Documents
01 79 00 Training of Campus Personnel

01 00 00 General Requirement Reference Documents
1. Campus specific general requirements
2. 01 33 23 Submittal Log
3. 01 35 23 Construction Fire Safety Weekly Review form

Division 02 — Existing Conditions

02 41 19 Selective Demolition
02 82 13 Asbestos Abatement

Division 03 — Concrete

03 30 00 Cast-In-Place Concrete
03 41 00 Precast Structural Concrete

Division 07 — Thermal and Moisture Protection

07 11 13 Bituminous Dampproofing

Division 08 — Openings

08 11 13 Hollow Metal Doors and Frames
08 71 00 Door Hardware

Division 26 — Electrical

26 05 00 Common Work Results for Electrical
26 05 13 Medium-Voltage Cables
26 05 19 Low-Voltage Electrical Power Conductors and Cables
26 05 26 Grounding and Bonding for Electrical Systems
26 05 33 Raceway and Boxes for Electrical Systems
26 05 43 Underground Ducts and Raceways for Electrical Systems
26 05 73 Power Systems Studies
26 12 16 Dry-Type, Medium Voltage Transformers
26 12 19 Pad-Mounted, Liquid-Filled, Medium-Voltage Transformers
26 13 02 Medium-Voltage Padmount Switches
26 24 13 Switchboards
26 24 16 Panelboards

Division 31 — Earthwork

31 00 00 Earthwork
31 10 00 Site Clearing
31 20 00 Earth Moving
31 25 13 Erosion and Sediment Control
31 50 00 Excavation Support and Protection

Division 32 — Exterior Improvements

32 11 23 Aggregates
32 12 16 Asphalt Paving
32 13 13 Site Concrete Paving

32 14 00 Granite Curbs
32 17 23 Pavement Marking Paints
32 91 13 Furnishing and Spreading Topsoil
32 92 00 Turf and Grasses
32 93 00 Plants

Division 33 — Utilities

33 41 00 Storm Utility Drainage Piping

Division 90 — Available Project Information

90 31 19 Existing Condition Information – Test Hole Reports
90 31 26 Existing Hazardous Material Information
90 31 35 Stormwater Pollution Prevention Plan (SWPPP)

00 01 15 List of Drawings **October 22, 2025**

DWG. NO.	**TITLE**
T1.01	TITLE SHEET
T1.02	INDEX OF DRAWINGS
CIVIL	
C0.00	CIVIL LEGEND AND GENERAL NOTES
C0.00A	OVERALL EXISTING CONDITIONS PLAN
C0.01	EXISTING CONDITIONS PLAN – AREA 1
C0.02	EXISTING CONDITIONS PLAN – AREA 2
C0.03	EXISTING CONDITIONS PLAN – AREA 3
C0.04	EXISTING CONDITIONS PLAN – AREA 4
C0.05	EXISTING CONDITIONS PLAN – AREA 5
C0.06	EXISTING CONDITIONS PLAN – AREA 6
C0.07	EXISTING CONDITIONS PLAN – AREA 7
C0.08	EXISTING CONDITIONS PLAN – AREA 8
C0.09	EXISTING CONDITIONS PLAN – AREA 9
C0.10	EXISTING CONDITIONS PLAN – AREA 10
C0.11	EXISTING CONDITIONS PLAN – AREA 11
C0.12	EXISTING CONDITIONS PLAN – AREA 12
C0.13	EXISTING CONDITIONS PLAN – AREA 13
C1.00	OVERALL DEMOLITION PLAN
C1.01	DEMOLITION PLAN – AREA 1
C1.02	DEMOLITION PLAN – AREA 2
C1.03	DEMOLITION PLAN – AREA 3
C1.04	DEMOLITION PLAN – AREA 4
C1.05	DEMOLITION PLAN – AREA 5
C1.06	DEMOLITION PLAN – AREA 6
C1.07	DEMOLITION PLAN – AREA 7
C1.08	DEMOLITION PLAN – AREA 8
C1.09	DEMOLITION PLAN – AREA 9

C1.10	DEMOLITION PLAN – AREA 10
C1.11	DEMOLITION PLAN – AREA 11
C1.12	DEMOLITION PLAN – AREA 12
C1.13	DEMOLITION PLAN – AREA 13
C2.00	OVERALL SITE PLAN
C2.01	SITE PLAN – AREA 1
C2.01A	STATIONING PLAN – AREA 1
C2.02	SITE PLAN – AREA 2
C2.02A	STATIONING PLAN – AREA 2
C2.03	SITE PLAN – AREA 3
C2.03A	STATIONING PLAN – AREA 3
C2.04	SITE PLAN – AREA 4
C2.04A	STATIONING PLAN – AREA 4
C2.05	SITE PLAN – AREA 5
C2.05A	STATIONING PLAN – AREA 5
C2.06	SITE PLAN – AREA 6
C2.06A	STATIONING PLAN – AREA 6
C2.07	SITE PLAN – AREA 7
C2.07A	STATIONING PLAN – AREA 7
C2.08	SITE PLAN – AREA 8
C2.08A	STATIONING PLAN – AREA 8
C2.09	SITE PLAN – AREA 9
C2.09A	STATIONING PLAN – AREA 9
C2.10	SITE PLAN – AREA 10
C2.10A	STATIONING PLAN – AREA 10
C2.11	SITE PLAN – AREA 11
C2.11A	STATIONING PLAN – AREA 11
C2.12	SITE PLAN – AREA 12
C2.12A	STATIONING PLAN – AREA 12
C2.13	SITE PLAN – AREA 13
C2.13A	STATIONING PLAN – AREA 13
C3.01	PROFILES
C3.02	PROFILES
C3.03	PROFILES
C3.04	PROFILES
C3.05	PROFILES
C3.06	PROFILES
C3.07	PROFILES
C3.08	PROFILES
C3.09	PROFILES
C3.10	PROFILES
C3.11	PROFILES
C3.12	PROFILES
C3.13	PROFILES

C3.14	PROFILES
C3.15	PROFILES
C3.16	PROFILES
C3.17	PROFILES
C4.01	DETAILS
C4.02	DETAILS
C4.03	DETAILS
C4.04	DETAILS
C5.01	EROSION & SEDIMENT CONTROL PLAN – AREA 1
C5.02	EROSION & SEDIMENT CONTROL PLAN – AREA 2
C5.03	EROSION & SEDIMENT CONTROL PLAN – AREA 3
C5.04	EROSION & SEDIMENT CONTROL PLAN – AREA 4
C5.05	EROSION & SEDIMENT CONTROL PLAN – AREA 5
C5.06	EROSION & SEDIMENT CONTROL PLAN – AREA 6
C5.07	EROSION & SEDIMENT CONTROL PLAN – AREA 7
C5.08	EROSION & SEDIMENT CONTROL PLAN – AREA 8
C5.09	EROSION & SEDIMENT CONTROL PLAN – AREA 9
C5.10	EROSION & SEDIMENT CONTROL PLAN – AREA 10
C5.11	EROSION & SEDIMENT CONTROL PLAN – AREA 11
C5.12	EROSION & SEDIMENT CONTROL PLAN – AREA 12
C5.13	EROSION & SEDIMENT CONTROL PLAN – AREA 13
C5.14	EROSION & SEDIMENT CONTROL DETAILS
C6.00	OVERALL PHASING PLAN
C6.01	PHASING PLAN – PHASE I (SUMMER ’26)
C6.01A	TRAFFIC CONTROL PLAN – PHASE I
C6.02	PHASING PLAN – PHASE II (FALL ’26)
C6.02A	TRAFFIC CONTROL PLAN – PHASE II
C6.03	PHASING PLAN – PHASE III (SPRING ’27)
C6.03A	TRAFFIC CONTROL PLAN – PHASE III
C6.03B	TRAFFIC CONTROL PLAN – PHASE III
C6.04	PHASING PLAN – PHASE IV (SUMMER ’27)
C6.04A	TRAFFIC CONTROL PLAN – PHASE IV
C6.04B	TRAFFIC CONTROL PLAN – PHASE IV
C6.04C	TRAFFIC CONTROL PLAN – PHASE IV
C6.05	PHASING PLAN – PHASE V (FALL ’27)
C6.05A	TRAFFIC CONTROL PLAN – PHASE V
LANDSCAPE	
L0.00	OVERALL LANDSCAPE PLAN
L0.01	LANDSCAPE PLAN – AREA 1
L0.02	LANDSCAPE PLAN – AREA 2
L0.03	LANDSCAPE PLAN – AREA 3
L0.04	LANDSCAPE PLAN – AREA 4
L0.05	LANDSCAPE PLAN – AREA 5
L0.06	LANDSCAPE PLAN – AREA 6

L0.07	LANDSCAPE PLAN – AREA 7
L0.08	LANDSCAPE PLAN – AREA 8
L0.09	LANDSCAPE PLAN – AREA 9
L0.10	LANDSCAPE PLAN – AREA 10
L0.11	LANDSCAPE PLAN – AREA 11
L0.12	LANDSCAPE PLAN – AREA 12
L0.13	LANDSCAPE PLAN – AREA 13
L2.00	HARDSCAPE DETAILS
L2.01	PLANTING DETAILS
ARCHITECTURAL	
A0.01	LIBRARY LIFE SAFETY – PENTHOUSE PLAN
A0.05	ROOSEVELT HALL – BASEMENT – ELECTRICAL – LIFE SAFETY PLAN
A0.12	TECH HUB – FIRST FLOOR – ELECTRICAL ROOM – LIFE SAFETY PLAN
AD.01	LIBRARY – PARTIAL REMOVALS – PENTHOUSE PLAN
AD.12	TECH HUB – FIRST FLOOR – ELECTRICAL ROOM – REMOVALS
A1.01	LIBRARY – PROPOSED – PENTHOUSE PLAN
A1.05	ROOSEVELT HALL – BASEMENT – ELECTRICAL – REMOVALS & NEW WORK
A1.12	TECH HUB – FIRST FLOOR – PROPOSED PLAN
ASBESTOS ABATEMENT	
HM2.00	OVERALL SITE PLAN – HAZARDOUS MATERIALS
HM4.02	WHITNEY HALL – FIRST FLOOR – ELECTRICAL ROOM – HAZARDOUS MATERIALS
HM4.04	COMMISSARY – EXTERIOR – HAZARDOUS MATERIALS
HM4.05	ROOSEVELT HALL – BASEMENT – ELECTRICAL ROOM – DEMOLITION & NEW WORK
HM4.06	IROQUOIS HALL – ELECTRICAL – HAZARDOUS MATERIALS
HM4.08	ONONDAGA HALL – FIRST FLOOR – ELECTRICAL ROOM – HAZARDOUS MATERIALS
HM4.09	SENECA HALL – FIRST FLOOR – ELECTRICAL ROOM – HAZARDOUS MATERIALS
HM4.10	ONEIDA HALL – FIRST FLOOR – ELECTRICAL ROOM – HAZARDOUS MATERIALS
HM4.12	TECH HALL – FIRST FLOOR – ELECTRICAL ROOM – HAZARDOUS MATERIALS
HM4.20	MOHAWK HALL – GROUND FLOOR – ELECTRICAL ROOM – HAZARDOUS MATERIALS
ELECTRICAL	
E0.01	ELECTRICAL LEGENDS & ABBREVIATIONS
EU1.01	ELECTRICAL SITE PLAN – DEMOLITION
EU1.02	ELECTRICAL SITE PLAN – DEMOLITION
EU1.03	ELECTRICAL SITE PLAN – DEMOLITION
EU1.04	ELECTRICAL SITE PLAN – DEMOLITION
EU2.01	ELECTRICAL – SITE PLAN
EU2.01A	ELECTRICAL – SITE PLAN
EU2.02	ELECTRICAL – SITE PLAN
EU2.02A	ELECTRICAL – SITE PLAN
EU2.03	ELECTRICAL – SITE PLAN
EU2.03A	ELECTRICAL – SITE PLAN
EU2.04	ELECTRICAL – SITE PLAN

EU2.04A	ELECTRICAL – SITE PLAN
EU3.01	ELECTRICAL – MANHOLE BUTTERFLY DIAGRAMS
EU3.02	ELECTRICAL – MANHOLE BUTTERFLY DIAGRAMS
EU3.03	ELECTRICAL – MANHOLE BUTTERFLY DIAGRAMS
EU3.04	ELECTRICAL – MANHOLE BUTTERFLY DIAGRAMS
EU3.05	ELECTRICAL – MANHOLE BUTTERFLY DIAGRAMS
EU3.06	ELECTRICAL – DUCTBANK SECTIONS
EU3.07	ELECTRICAL – DUCTBANK SECTIONS
EU3.08	ELECTRICAL – DUCTBANK SECTIONS
EU3.09	ELECTRICAL – DUCTBANK SECTIONS
EP4.01A	BARTLE LIBRARY – TOWER – BASEMENT – ELECTRICAL ROOM – DEMOLITION & NEW WORK
EP4.01B	BARTLE LIBRARY – NORTH – ROOF PENTHOUSE – DEMOLITION
EP4.01C	BARTLE LIBRARY – NORTH – ROOF PENTHOUSE – NEW WORK
EP4.01D	BARTLE LIBRARY – SOUTH – ROOF PENTHOUSE – NEW WORK
EP4.02A	WHITNEY HALL – DEMOLITION
EP4.02B	WHITNEY HALL – NEW WORK
EP4.03	CENTRAL HEATING PLANT – EXTERIOR – DEMOLITION & NEW WORK
EP4.04	COMMISSARY – DEMOLITION & NEW WORK
EP4.05A	ROOSEVELT HALL – BASEMENT – ELECTRICAL ROOM – DEMOLITION
EP4.05B	ROOSEVELT HALL – BASEMENT – ELECTRICAL ROOM – NEW WORK
EP4.06A	IROQUOIS HALL – FIRST FLOOR – DEMOLITION
EP4.06B	IROQUOIS HALL – FIRST FLOOR – NEW WORK
EP4.07	CAYUGA HALL – FIRST FLOOR – ELECTRICAL ROOM – DEMOLITION & NEW WORK
EP4.08	ONONDGA HALL – FIRST FLOOR – ELECTRICAL ROOM – DEMOLITION & NEW WORK
EP4.09	SENECA HALL – FIRST FLOOR – ELECTRICAL ROOM – DEMOLITION & NEW WORK
EP4.10	ONEIDA HALL – FIRST FLOOR – ELECTRICAL ROOM – DEMOLITION & NEW WORK
EP4.11	NELSON A. ROCKEFELLER – FIRST FLOOR – ELECTRICAL ROOM – DEMOLITION & NEW WORK
EP4.12	TECH HUB – FIRST FLOOR – ELECTRICAL ROOM – DEMOLITION & NEW WORK
EP4.13	BRANDYWINE HALL – FIRST FLOOR – DEMOLITION & NEW WORK
EP4.14	CHOCONUT HALL – FIRST FLOOR – DEMOLITION & NEW WORK
EP4.15	GLENWOOD HALL – FIRST FLOOR – DEMOLITION & NEW WORK
EP4.16	NANTICOKE HALL – FIRST FLOOR – DEMOLITION & NEW WORK
EP4.17A	CHILDCARE – EXTERIOR – DEMOLITION
EP4.17B	CHILDCARE – EXTERIOR – NEW WORK
EP4.18	PUMP HOUSE – ELECTRICAL ROOM – DEMOLITION & NEW WORK
EP4.19	MOHAWK HALL – FIRST FLOOR – ELECTRICAL ROOM – DEMOLITION & NEW WORK
EP4.20	ELECTRICAL – SWITCHGEAR YARDS – EXISTING & DEMOLITION
E6.01	ELECTRICAL – SINGLE LINE DIAGRAM – DEMOLITION
E6.02	ELECTRICAL – SINGLE LINE DIAGRAM – EXISTING 15KV SYSTEM
E6.03	ELECTRICAL – SINGLE LINE DIAGRAM – EXISTING 15KV SYSTEM

E6.04	ELECTRICAL – SINGLE LINE DIAGRAM – NEW WORK
E6.05	ELECTRICAL – PANEL SCHEDULES
E6.06	ELECTRICAL – CONDUCTOR SCHEDULE
E8.01	ELECTRICAL PHASING DETAILS
E8.02	ELECTRICAL PHASING DETAILS
E8.03	ELECTRICAL PHASING DETAILS

STATE UNIVERSITY CONSTRUCTION FUND
NOTICE TO BIDDERS

The State University Construction Fund will receive sealed Proposals for Project No. 071095-00 Titled Upgrade Electrical Distribution at Binghamton University until 2:00 p.m. Local Time on July 14, 2026 at the Fund's Office at the H. Carl McCall SUNY Building, 353 Broadway, Albany, NY 12246, where such proposals will be publicly opened and read aloud in Room S201. Bidders are encouraged to view the live stream of the bid opening broadcast on the day of the bid by using the link posted on the Fund's web page: https://sucf.suny.edu/ Bidders are encouraged to submit their bids early by delivery service and use the bid modification process permitted in part (7) of Section 3 of the Information for Bidders.

All proposals and/or proposal modifications must be received and stamped in by the Fund no later than 2:00 p.m. on the bid opening date. The Proposal may be hand delivered to Room S204A or be mailed or sent by delivery service to the State University Construction Fund, H. Carl McCall SUNY Building, 353 Broadway, Albany, New York 12246. Each bid must be identified, on the outside of the envelope, with the name and address of the bidder and designated a bid for the Project titled above. When a sealed bid is placed inside another delivery jacket, the bid delivery jacket must be clearly marked on the outside "BID ENCLOSED". Proposals that are mailed to the Fund must be delivered by 1:00 p.m. on the day of the scheduled bid opening and mailed Proposals must be sent using a delivery method that provides tracking and locating the Proposal. The Fund assumes no responsibility for any Proposal that is not delivered to the aforesaid address by 1:00 p.m. on the bid opening date. See Section 3 of the Information for Bidders for additional instructions regarding proposals, including modifications. Please be advised that all individuals who access the H. Carl McCall SUNY Building to submit bids or attend bid openings will be required to present picture identification to building security officials and obtain a visitor's pass prior to entering the building. Bidder's arriving prior to 12:30 PM on the bid opening date may be asked to wait outside the building. There is no parking available for bidders at the H. Carl McCall SUNY Building and violators may be towed.

To assure delivery of their bid prior to the aforesaid deadline for receipt of bids, bidders should allow sufficient time for individuals to find public parking for their vehicles, to find the Visitor Entrance to the building, to be processed through building's health and security screening, to find the Fund's office within the building, to properly complete and submit their proposal, and to allow for delays that are typical for congested urban areas and crowded public bid openings. Due to space limitations, the Fund reserves the right to control physical access into Room S201 and direct the individuals to other spaces in the building where they can view the live stream broadcast of the bid opening on their personal electronic device.

To assure delivery of their bid modification, if any, prior to the aforesaid deadline for receipt of bids, bidders should allow sufficient time to account for internet connectivity problems, to correct email address errors, to be processed through spam filters and security software and to allow or delays that are typical for congested internet servers**.** Bidders may at any earlier time send an email to modifymybid@suny.edu alerting the Fund of your intent to modify.

All work will be completed within 1096 calendar days from receipt of the Notice to Proceed.

The Fund's project specific goals for this project are 5% MBE and 5% WBE and 3% SDVOB. See Section 00 21 13 30 MWBE-SDVOB Utilization Plan Instructions dated Nov 2023. Utilization Plans shall be accepted in the ONLINE FORMAT ONLY using the Fund's web-based application; any other form of submittal will be rejected.

A pre bid conference and project walk through will be held on June 23, 2026 at 9:00 a.m. with all contractors

assembled at Conference Room C of Binghamton University Physical Facilities Building, 188 Bunn Hill Access, Vestal, NY 13850. For additional information, see Section 00 25 13 PreBid Meetings.

There is no free parking on campus for those attending the walk through. Violators may be ticketed and towed.

Bidding and Contract Documents may be examined free of charge at:

Consultant's Office

RMF Engineering, Inc. P.C.
5520 Research Park Drive
Baltimore, MD 21228
Elizabeth Nolder, (410) 576-0505

Campus at which the work is to be performed	Binghamton University Physical Facilities Building, Jennifer Bourassa, (607) 777-5407
Dodge Reports	Visit www.construction.com Email: support@construction.com
ConstructConnect	Visit www.cmdgroup.com. Email: content@constructconnect.com
Construction Journals	Visit www.constructionjournal.com
Builders Exchange of Rochester	180 Linden Oaks, Suite 100, Rochester, NY 14625 www.robex.com
Construction Contractors Association (Hudson Valley)	330 Meadow Ave, Newburgh, NY 12550 www.ccahv.com
Construction Exchange of Buffalo & WNY	2660 Williams St., Buffalo, NY 14227 www.conexbuff.com
Eastern Contractors Association, Inc.	6 Airline Drive, Albany, NY 12205 www.ecainc.org
Northern NY Builders Exchange	22074 Fabco Rd., Watertown, NY 13601 www.nnybe.com
Builders Exchange of the Southern Tier	65 East Main St., Falconer, NY 14733 www.bxstier.com
Syracuse Builders Exchange	6563 Ridings Road, Syracuse, NY 13206 www.syrabex.com

Plans will be available on June 17, 2026 from Dataflow's official website (www.nyplanroom.com) (the Printer) in either electronic or paper format. Bidders will be able to access the project online at the Printer's web site:

(https://www.nyplanroom.com)

Click on "Public Projects" and search for 071095-00.

Bidders who register as a planholder through the Printer may acquire the bidding and contract documents using the following options:

1. For a fee of ten dollars ($10), interested firms may request and receive an electronic download of the bidding and contract documents. At the bidder's expense, purchase a printed copy or copies of the bid set.
2. For a fee of $49, interested firms may request and receive a printed copy of the complete set. An electronic download or copy on CD will not be provided.

The Fund waives fees and deposits for sets of the Contract Documents requested by NYS certified Minority- and Women-Owned Business Enterprise or Service-Disabled Veteran-Owned Business Enterprise. Payments of less than $50.00 are non-refundable. Deposits of $50.00 or more will be returned to all entities who have paid the aforesaid deposit for the entire set of Bidding and Contract Documents and who return such sets to the Consultant in good condition within forty-five (45) calendar days after the opening of bids, not exceeding five (5), so returned to the Consultant.

Bids must be submitted in duplicate in accordance with the instructions contained in the Information for Bidders. A Bid Security will be required for each bid in an amount not less than five (5) percent of the Total Bid. To provide for an efficient bid opening, do not include documents other than your Proposals and securities in your bid envelope. It is the policy of the State of New York and the Fund to encourage minority and women-owned business enterprise participation in this project by contractors, subcontractors and suppliers. All bidders are expected to cooperate in implementing this policy.

Please be advised that the Fund's insurance requirements are contained in Schedule A of Attachment A of the Construction Agreement. All insurance must be provided by companies approved by the Fund and be either licensed (admitted) by the New York State Department of Financial Services (NYS DFS) to issue insurance in the State of New York or authorized by NYS DFS and have an A.M. Best Company rating of "A-" Class "VII" or better. All successful bidders will be required to furnish a Performance Bond and a Labor and Material Bond pursuant to State Finance Law for 100% of the amount of the Contract.

Please visit https://sucf.suny.edu/sites/default/files/docs/BidandPostBidChecklist.pdf and download the "Bid and Post Bid Checklist" that gives bidders a one page summary of how to be prepared when bidding.

Please note that Sections 139-j and 139-k of the State Finance Law imposes certain restrictions on communications between the Fund and bidders during the procurement process. Pursuant to those sections of law, the Fund designates the following email addresses for persons to which communications concerning this procurement may be sent:

SUCF.ConstructionBids@suny.edu to contact one of the following people:
Robbilee Luedtke (518) 320-1837, Samantha Lord, Jeremy Clausi, or Kelly Whitbeck.

SUCF.OpportunityAdmin@suny.edu for MWBE SDVOB issues only to contact the following person:
Scott Clay, Joanne Lovelady, and Joe Francis.

SUCF.Insurance@suny.edu for insurance issues only:
Jacqueline Maher and Danielle Ruchel.

Contact with other than the above-designated Fund employees concerning this procurement may result in the rejection of your bid. To purchase plans or for technical inquiries specific to this project, please contact the Architect or Engineer of Record.

Notice on Vendor Responsibility Questionnaires (CCA-2): The CCA-2 has been updated by the Office of the State Comptroller and submission of the updated CCA-2 will be required for any bids received after 9/1/2022; however, the updated CCA-2 may be used prior to this date. It is recommended that bidders and nominated subcontractors review and re-certify their CCA-2 as soon as feasible. See Information for Bidders Section 8, Submission of Post Bid Information, for additional information.

INTEGRITY HOTLINE: As part of its Corporate Integrity Program, the Fund operates an Integrity Hotline 24-hours a day, seven-days a week. If you have knowledge of or suspect fraudulent, unethical, or other misconduct on a Fund project, please call the Hotline toll-free at 866-543-8107 or locally at 518-320-1525. All calls will be received and reviewed only by the Corporate Integrity Officer. Calls can be made anonymously or on a confidential basis. The identity of confidential callers will be fully protected. The Hotline is not equipped with Caller ID and no effort will be made to identify anonymous callers.

The Fund reserves the right to reject any or all bids.

On bid day, bidders must:

- Be aware of the requirements of the **project specific** Section 00 21 13 10 Notice to Bidders.
- Be aware of the requirements of the **project specific** Section 00 21 13 20 *Information for Bidders*.
- Provide two (2) complete original **project specific** Proposals per Sections 3 and 5 of the *Information for Bidders.* **Proposals with major informalities will be rejected.**
  - Attachment A of the Proposal (List of Completed Similar Construction Contracts) must be completed. **Do not submit a blank form** or insert "refer to attached lists".
  - Before completing Attachment A, read the **project specific** requirements of Section 7 Qualification of Bidders and Section 01 11 00 Description of Work (Section A).
- Provide two (2) complete original Bid Bonds per the Instructions for Execution of Bid Bond and Acknowledgment, or other bid security per Section 6 of the *Information for Bidders.*
  - Use the Fund's form of Bid Bond with date Dec 2015 in the lower right-hand corner.
- Deliver the Proposals and bid security **using the special bid envelope** per the *Notice to Bidders.*
- Be in compliance with NYS Dept. of State registration requirements. Nominated subs must also comply. Business entities must be in the DOS database. Search for entities at this web site:
  - https://apps.dos.ny.gov/publicInquiry/
- Be aware that all insurance must be provided by companies approved by the Fund, have an A.M. Best Company rating of "A-" Class "VII" or better, and such companies must be either 1) licensed by the New York State Department of Financial Services (NYS DFS) or 2) authorized by NYS DFS to issue insurance in the State of New York.
    - Please consult your insurance agent prior to bidding, who should be made aware of the requirements of Agreement Section 5.06 Insurance and Schedule A.
    - Certificates of Insurance must be in the formats required by Schedule A of Attachment A.
- Be aware of project specific physical conditions and subsurface conditions that could reasonably anticipated from the provisions of the Contract Documents, Section 00 31 00 Available Project Information (if applicable), and other information available to bidders and from the bidder's own inspection and examination of the site.

Post bid, bidders must:

1. Within 48 Hours after the time of the Bid Opening:
   - Provide a completed Appendix "A" per Section 8(1)d of the *Information for Bidders.*
   - Provide a Construction Schedule per Section 8(1)b of the *Information for Bidders.*
   - Provide a completed NYS Vendor Responsibility Questionnaire **For-Profit Construction** (CCA-2) per Section 8(1)a of the *Information for Bidders.*
     - Confirm your CCA-2 shows financial information required by Section 7(2) of the *Information for Bidders.*
     - Confirm your CCA-2 Attachment A shows completed construction contract information required by Section 7(3) of the *Information for Bidders.*
     - Confirm your CCA-2 includes the additional information requested for "Yes" responses, if any.
     - Confirm your CCA-2 Attachments A and B show current information for owners, architects and their current telephone numbers for contracts listed.
   - Provide names of proposed subcontractors and Attachment A's showing their experience per Section 8(1)c.iv of the *Information for Bidders.*

- Provide detailed descriptions of work for projects listed in Attachment A of your Proposal (List of Completed Similar Construction Projects) if such descriptions did not fit or if requested by the Fund.
- Cooperate with the Fund's Consultant and provide other information they may reasonably require to evaluate your bid in detail.

2. Within seven days after the time of the Bid Opening:
- Provide CCA-2 for each proposed subcontractor per Section 8(1)c of the *Information for Bidders.*
  - Confirm the CCA-2 includes the additional information requested for "Yes" responses.
  - Confirm the CCA-2 Attachments A and B show construction contract information for owners, architects and their current telephone numbers.
- Provide an MWBE Utilization Plan per Section 8(3) of the *Information for Bidders.*
- Provide an EEO Statement and Plan per Section 8(4) of the *Information for Bidders.*
- Provide proof of workers' compensation, disability benefits insurance coverage, and as requested, names of all insurance carriers.
  - This is the Workers Comp/Disability link for employers: http://www.wcb.ny.gov/content/main/Employers/Employers.jsp
  - This is the link with a description of the required forms for Workers Compensation and Disability: http://www.osc.state.ny.us/agencies/guide/MyWebHelp/Content/XI/18/G.htm

3. Prior to the Fund sending you a Notice of Award letter:
- Provide additional information per Section 8(5) of the *Information for Bidders, if requested.*

4. After your receipt of the Notice of Award letter, provide the following by the date stipulated in the letter transmitting the Notice of Award:
- Sign and complete the Contractor's portion of the **Project Specific** Agreement sent to you by the Fund.
- Provide required bonds per Section 10 of the *Information for Bidders.*
- Provide the 120-day Construction Schedule required by the General Requirements, Special Conditions paragraph titled "Project Schedule."
- Provide the completed insurance forms per Sections 5.06 and 5.07 of the Agreement.

5. Prior to starting work:
- Be in receipt of the Notice to Proceed letter issued by the Fund.

Special Notice

Please be advised that Part 10 of the Proposal you signed requires your office to be timely and responsive in your submissions of information requested by the Fund or Consultant.

The Fund may begin the process to exercise its rights regarding your bid bond and/or making an adverse determination of responsiveness if you do not provide your proper and timely attention to our requests.

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STATE UNIVERSITY CONSTRUCTION FUND

INFORMATION FOR BIDDERS

Section 1 Definitions

All definitions set forth in the Agreement are applicable to the Notice to Bidders, Information for Bidders and the Proposal, all of which documents are hereinafter referred to as the Bidding Documents.

Section 2 Issuance of Bidding and Contract Documents

Drawings and a Project Manual binding Bidding Documents, Contract Documents, and Technical Specifications will be issued by the Consultant upon request after payment of the deposit specified in the Notice to Bidders.

Section 3 Proposals

(1) Proposals must be submitted in duplicate on the forms provided by the Fund. They shall be addressed to the Fund in a sealed envelope, provided by the Fund, marked with the name and address of the bidder, the title of the Project and the Project number. The Fund accepts no responsibility for Proposals that may be delivered by any courier or other messenger service that does not contain all of the above-noted information on the outside of a sealed envelope. Facsimile or email copies of the Proposal will not be accepted by the Fund.

(2) All blank spaces in the Proposal must be filled in and, except as otherwise expressly provided in the Bidding Documents; no change is to be made in the phraseology of the Proposal or in the items mentioned therein.

(3) Proposals that are illegible or that contain omissions, errors, alterations, additions or items not called for in the Bidding Documents may be rejected as informal. In the event any bidder modifies, limits or restricts all or any part of its Proposal in a manner other than that expressly provided for in the Bidding Documents, its Proposal may be rejected as informal.

(4) Prices inserted shall be in whole dollar amount but if cents are inserted, the Fund shall round the amount down to the nearest whole number. Any Proposal may be considered informal which does not contain prices in words and figures in all of the spaces provided or which is not accompanied by a bid security in proper form at the time of bid. In addition, failure to include at the time of bid **a New York State Department of Labor ("DOL") Certificate of Registration ("Certificate of Registration") will result in the bid being rejected.**

a. In case any price shown in words and its equivalent shown in figures do not agree, the written words shall be binding upon the bidder. In case of a discrepancy in the prices contained in the Proposal forms submitted in duplicate by the bidder, the Proposal form which contains the lower bid shall be deemed the bid of the bidder; provided, however, the Fund at its election may consider the Proposal of such bidder informal.

(5) If the Proposal is made by a corporation, the names and places of residence of the president, secretary and treasurer shall be given. If by a partnership, the names and places of residence of the partners shall be given. If by a joint venture, the names and addresses of the members of the joint venture shall be given. If by an individual, the name and place of residence shall be given.

(6) No Proposal will be considered which has not been deposited with the Fund at the location designated in and prior to the time of opening of bids designated in the Bidding and Contract Documents. However, if a Proposal deposited with the Fund prior to the opening of bids is misplaced by the Fund and not opened by the Fund at the designated time of opening, then the Fund, in its sole discretion, may open such Proposal as soon as possible after the misplaced Proposal is discovered and confirmed to have been misplaced by the Fund. If the Fund decides to open such Proposal, the Fund will make reasonable attempts to notify the other bidders and allow such other bidders to view such opening by Webex or equivalent broadcast. Unopened Proposals will be returned to the bidder.

(7) Except as set forth herein, bids may be modified or withdrawn prior to the time of opening of bids as designated in the Bidding and Contract Documents only in writing or by email notice received by the Fund.

a. A written or email notice of modification or withdrawal shall be marked by the bidder with the name and address of the bidder, the title of the Project and the Project number. Upon receipt by the Fund, a duly authorized employee of the Fund shall note thereon the date and time of receipt and shall thereupon attach said written or email notice of modification or withdrawal to the envelope submitted by the bidder pursuant to subdivision (1) of this Section. Bid Modification email address: modifymybid@suny.edu . Submit modification amount only, (i.e., “deduct” or “add” $XXX, not revised total bid amount. For email notice, submit modification as an attachment in portable document format (PDF) on bidder’s letterhead signed by a duly authorized representative of the bidder.

b. In the event an employee or courier of the bidder deposits the bidder’s Proposal on the day of the bid opening and subsequently asks for its return to make modifications prior to the designated time of opening, the Fund, in its sole discretion, may refuse to return a Proposal unless such employee or courier presents reasonable proof that he/she is duly authorized by the bidder and, if returned by the Fund, require that the Proposal be properly re-deposited with the Fund prior to the designated time of opening. The Fund accepts no responsibility for Proposals returned to duly authorized employees or couriers that may subsequently be deposited after the designated time for opening or modified in an informal manner or modified in a manner not acceptable to the bidder.

(8) Except as set forth herein or as permitted by law and unless the Fund is of the opinion that it is in the public’s best interest to permit the same, permission will not be given to modify, explain, or withdraw any Proposal or part thereof after the time designated in the Bidding and Contract Documents for the opening of bids.

(9) Withdrawal of Bid After the Bid Opening

a. Unless another time is permitted by the Fund in writing, within five (5) business days of the bid opening or of notification that the previous low bidder has been rejected or permitted to withdraw, a bidder may request, in writing by email to the Fund, the withdrawal of its bid on bidder's letterhead signed by a duly authorized representative of the bidder who signed the Proposal.
b. The Fund may conduct or have conducted a fact-finding proceeding to develop information concerning the request for withdrawal. A request for withdrawal of a bid made after the specified number of days allowed may result in forfeiture of the bid security.
c. Following a timely request for withdrawal of a bid, the bid security may be returned if the bidder establishes by credible evidence, including original documents when requested, the following:

    i. An error, clerical as opposed to judgmental in nature and verifiable by written evidence, occurred in the computation of the bid,
    ii. The error constitutes either an unintentional and substantial computational error or an unintentional omission of a substantial quantity of labor and/or material from the final bid computation,
    iii. Award of the contract to the bidder at the amount of the bid would cause financial hardship to the bidder,
    iv. Withdrawal of the bid is permitted by law or in the public's best interest, and
    v. The absence of gross negligence in the preparation of the bid. For the purposes of this subparagraph, gross negligence includes, but is not limited to: (1) the apparent failure of a bidder to account for two or more categories (divisions) of work; (2) the bidder's use of multiple erroneous quotations from subcontractors or suppliers; (3) the bidder's failure to obtain valid quotations from qualified subcontractors, suppliers, or insurance carriers; (4) the bidder's failure to properly account for the minimum qualifications of a bidder in Section 7 herein, or (5) submission to the Fund of a bid withdrawal request within the preceding six (6) months or other period previously agreed to by the Fund and the bidder.

d. Required documentation in support of a request for withdrawal of bid includes, but is not limited to the following:

    i. A narrative that describes the sequence of events that led to submitting a purported errant proposal and the bidder's reasons for its request to withdraw the proposal
    ii. Take-off sheets, printed copies of electronic estimates, if applicable
    iii. Annotations on the bid documents to show where the purported error occurred (annotations can provide the narrative explanation of the purported error and how it occurred as indicated in item i. above)
    iv. Calculations for the bid as submitted compared with alternative calculations to the bid that eliminate the purported error

v. Documentation demonstrating the financial impact to bidder to perform the project for the amount initially bid.

e. If the bidder fails to provide the necessary documentation or fails to meet its burden of proof, the Fund may deny the request to withdraw without penalty and find the bidder nonresponsive. The decision of the Fund shall be made in its sole discretion and shall be final and conclusive. The Fund will advise the bidder in writing of its determination. In the event the Fund denies the bidder's request to withdraw without penalty, the bidder's bid security may be forfeited and become the property of the Fund. At the discretion of the Fund, in lieu of forfeiture of bid security, the Fund may offer the bidder an alternate resolution as may be agreed to by the parties.

f. Once a request to withdraw is made, the bidder is ineligible for award. Upon receipt of a request to withdraw, the Fund shall continue to progress the award process considering only the remaining bids.

(10) Protesting the Bid Results after Bid Opening

Not more than ten (10) business days after the bid opening, a bidder may submit a written protest challenging the bid results following the procedure available on the Fund website at the following location:

https://sucf.suny.edu/sites/default/files/docs/ContractAwardProtestProcedure.pdf

Section 4 Examination of Bidding and Contract Documents

(1) Prospective bidders shall examine the Bidding and Contract Documents carefully and, before bidding, shall make written request(s) to the Consultant (with a copy thereof to the Fund) for an interpretation or correction of any ambiguity, inconsistency, or error therein which should be discovered by a reasonably prudent bidder.

a. Requests should be made as far in advance of, but not later than, the date and time scheduled for receipt of bids. In the judgment of the Fund, it may be impractical to address requests that are submitted too close to the bid opening date.
b. Requests for use of equivalent products shall comply with Section 2.20 of the Agreement.
c. Such interpretation or correction as well as any additional Contract provision(s) the Fund shall decide to include will be issued in writing by the Consultant as an Addendum, which will be sent to each person recorded as having received a copy of the Bidding and Contract Documents from the Consultant, and which also will be available at the places where the Bidding and Contract Documents are available for inspection by prospective bidders.
d. Such interpretation or correction or additional Contract provision(s) issued by Addendum may not satisfy a bidder's request nor result in Bidding and Contract Documents that are without ambiguity, inconsistency or error. Post bid, requests for interpretations or corrections may be made after execution of the Agreement in accordance with Section 01 26 13 Requests for Information of

the General Requirements and Sections 1.06, 2.01, 2.02, and 2.08 of the Agreement.

e. Such Addendum will become a part of the Bidding and Contract Documents and will be binding on all bidders whether or not the bidder receives or acknowledges the actual notice of it. Prospective bidders are responsible for ensuring that all Addenda have been incorporated into the bid. The requirements contained in all Bidding and Contract Documents shall apply to all Addenda.

(2) Only the written interpretation or correction so given by Addendum shall be binding.

a. Prospective bidders are warned that no trustee, officer, agent or employee of the Fund, Campus, or the Consultant is authorized to explain or interpret the Bidding and Contract Documents by any other method, and any such explanation or interpretation, if given, must not be relied upon.
b. The Fund has no obligation to provide responses.

Section 5 Computation of Bid

(1) In computing their bids, bidders are not to include the sales and compensating use taxes of the State of New York or of any city and county in the State of New York for any supplies or materials which are incorporated into the completed Project as the same is exempt from such taxes.

(2) Unit prices may be inserted in the Proposal by the Fund or the bidder at the discretion of the Fund. Unit prices shall be calculated using the quantity and dollar amounts for the corresponding allowance shown in the Proposal.

a. In the event the Proposal contains blank spaces for unit prices or the Fund elects to adjust any unit price filled in by a bidder, the inserted or adjusted amount shall be agreeable to both the bidder and the Fund, or, in its sole discretion, the Fund may reject any unit prices.
b. In the case of rejection of unit prices by the Fund, the bidder acknowledges that the amount of work in the corresponding allowance shall be performed within the amount of its base bid.
c. If any unit price calculations shown in words and its equivalent shown in figures do not agree with the amounts shown for the corresponding allowance, the written words of the corresponding allowance shall be binding upon the bidder.
d. Unit prices will not be used to determine the low bidder.

(3) If alternates are included in the bidding documents, the Fund reserves the right to accept or reject any or all alternates.

a. The Fund shall determine the lowest bid by adding to or deducting from the Total Bids of the bidders, the additive or deductive alternates, if any, that the Fund elects to accept after the opening of the bids.
b. Alternates will be accepted in the order they are set forth in the Proposal.
c. Alternates, if any, are described in Section 01 23 00 (Section B) of the Technical Specifications.

d. Rejected alternates will not be used in combination with the Total Bid and other accepted alternates, if any, to determine the low bidder.
e. Alternates will be accepted or rejected at the sole and absolute discretion of the Fund.

Section 6 Payment of Bid Security

(1) Each Proposal must be accompanied by the required amount of the bid security in the form of a bank draft or certified check, payable at sight to the Fund and drawn on a bank authorized to do business in the United States, or by a Bid Bond, on a form approved by the Fund, duly executed by the bidder as principal and having as surety thereon a surety company or companies, approved by the Fund, authorized to do business in the State of New York as a surety. Attorneys-in-fact who execute a Bid Bond on behalf of a surety must affix thereto a certified and effectively dated copy of their power of appointment.

(2) The Fund will return, without interest, the bid security of a bidder, unless such security be in the form of a Bid Bond which will not be returned by the Fund, in accordance with the following procedure:

a. To all bidders except the apparent three (3) lowest bidders within two (2) working days after the opening of bids.
b. To any bidder submitting a Bid Bond, meeting the requirements of paragraph (1) hereof, after the opening of bids, as a substitute for a bank draft or certified check within two (2) working days after the Fund's approval of such Bid Bond.
c. To the apparent three (3) lowest bidders, unless their bid security was previously returned, within two (2) working days after delivery to the Fund by the successful bidder of the executed Agreement and required Bonds, or within two (2) working days of the Fund's rejection of all bids or within two (2) working days after the expiration of forty-five (45) calendar days after the bid opening or within the time to which the issuance of a Notice of Award may have been extended, whichever event shall occur last.

(3) The Fund reserves the right to deposit bid security drafts or checks pending final disposal of them.

(4) Where the bidder was not responsive in providing the complete Post Bid Information required under Section 8 of the Information for Bidders within the time specified by the Fund and doesn’t provide a reasonable extension of the 45-day award period, the Fund may reject the bid as nonresponsive and retain the bid security.

Section 7 Qualifications of Bidders

(1) A bidder must demonstrate, to the satisfaction of the Fund, that it has successfully completed, within the last ten (10) years, two (2) contracts of contract value 50%, and similar scope and complexity to this contract, one of which is a single bid contract as described in Section 14 where they were the prime contractor.

a. For scope and complexity, similar work is defined as site utility upgrades of electrical distribution including replacement of transformers and switchgear using temporary power, associated surface demolition and restoration work, and work within building interior electrical rooms.
b. The details of the bidder's relevant contract experience shall be submitted on Attachment A of the Proposal, "List of Completed Similar Construction Contracts" (the List).

    i. If the List is not provided or is missing information, and/or is found to have erroneous information or information that is no longer current, a Proposal may be rejected as not responsive.
    ii. If requested by the Fund, the bidder may be permitted to add missing information, modify and/or explain erroneous information or information that is no longer current on the List. Modifications and/or explanations of the List must be received within 48 hours of receipt of the Fund's request.

c. The determination of relevant contract experience in terms of size, scope and complexity will be at the sole and absolute discretion of the Fund. In making its determination, evaluation of a bidder's experience may include, but is not limited to, the following:

    i. Size may be evaluated by comparing the amount of the Total Bid to the dollar value of the bidder's relevant contract amounts with reasonable adjustments for cost changes over time and/or geographic location.
    ii. Size may also be evaluated using other quantities such as area, volume of work completed, or other criteria determined by the Fund.
    iii. The definition of completion of the relevant contracts shall be the date the contract was substantially completed and ready for its intended use as defined in Section 1.01 of the Agreement.
    iv. Size and/or time limits may be relaxed approximately 5% for uncertainties related to the bid calculation and/or timing of the actual receipt of bids versus a completed relevant contract.
    v. Scope and Complexity may be evaluated by comparing the scope of the work included in the Total Bid to the work in the bidder's relevant contracts. Similar work provides essentially the same intended work results as contemplated in the work included in the Total Bid. At the discretion of the Fund, similar work may reasonably differ in details of form of contract, timing, size, form, materials, methods, configuration, operation, appearance, and in other objective and aesthetic characteristics.
    vi. The form of contract for the relevant contract(s) on the List shall be a single bid prime contract for all work, as defined in Section 14 of the Information for Bidders, or equivalent contract types in which the bidder can demonstrate that it performed work of essentially the same construction scope and complexity of the work bid.

(2) All prospective bidders must demonstrate to the satisfaction of the Fund that they have the skill and experience, as well as the necessary facilities, ample financial

resources, ability to manage staff and subcontractors effectively, ability to anticipate and plan construction work for optimal progress, ability to create, strive for and maintain working environments and relationships that are constructive, communicative and cooperative, organization and general reliability to do the work to be performed under the provisions of the Contract in a satisfactory manner and within the time specified.

(3) Each bidder must demonstrate to the satisfaction of the Fund that it has working capital available for the Project upon which it is bidding in an amount equal to 15 percent of the first $100,000 of the amount of its Total Bid plus 10 percent of the next $900,000 plus 5 percent of the remainder of its Total Bid. Working capital is defined as the excess of current assets over current liabilities. The Fund defines current assets as assets which can be reasonably expected to be converted into cash within a year, and current liabilities as debts which will have to be paid within a year.

(4). The Fund may make such investigation as the Fund deems necessary to determine the responsibility of any bidder or to determine the ability of any bidder to perform the Work. Bidders shall furnish to the Fund all information and/or data required by the Fund, including complete financial data, within the time and in the form and manner required by the Fund. The Fund reserves the right to reject any bid if the evidence required by the Fund is not submitted as required or if the evidence submitted by or the investigation of any bidder fails to satisfy the Fund that the bidder is responsible, or is able or qualified to carry out the obligations of the Contract or to complete the Work as contemplated.

(5) At the time of the bid opening, all bidders and subcontractors, domestic and foreign, must be in compliance with New York State business registration requirements. Contact the NYS Department of State regarding compliance.

Section 8 Submission of Post-Bid Information

(1) Within forty-eight (48) hours after the opening of bids, each of the apparent three lowest bidders, unless otherwise directed by the Fund or as otherwise provided in the Bidding and Contract Documents, shall submit to both the Fund and the Consultant:

a. Evidence of a completed New York State Uniform Contracting Questionnaire (Vendor Responsibility Questionnaire For-Profit Construction (CCA-2)). Email confirmation that the bidder's CCA-2 is current and certified in the New York State VendRep System (VendRep) within the last six months from the bid date or, if not enrolled in VendRep, deliver a certified paper format CCA-2, including all attachments, to the Fund.

The Fund recommends that vendors file the required CCA-2 online via the VendRep. To enroll in and use the VendRep, see the VendRep Instructions at http://www.osc.state.ny.us/vendrep/vendor_index.htm or go directly to the VendRep o https://onlineservices.osc.state.ny.us/Enrollment/login?0. To request assistance, contact the Office of the State Comptroller's ("OSC") Help

Desk at 866-370-4672 or 518- 408-4672 or by email at ciohelpdesk@osc.state.ny.us.

The paper format CCA-2 and accompanying definitions are available on the OSC website at the following location:

http://www.osc.state.ny.us/vendrep/forms_vendor.htm

Paper format CCA-2 will not be accepted from a bidder who is enrolled in VendRep.

b. Not used.

c. The names and addresses of the bidder's proposed subcontractor for the Asbestos Abatement and/or hazardous material removal work of any value, and proposed subcontractors for Electrical Work, for each of said work categories valued at $20,000 or more.

i. For each proposed subcontractor named, provide a completed “List of Completed Similar Construction Projects (the List).” If the List is not provided or is missing information, and/or is found to have erroneous information or information that is no longer current, a proposed subcontractor may be rejected. If requested by the Fund, the bidder may be permitted to add missing information, modify and/or explain erroneous information or information that is no longer current on the List; modifications and/or explanations of the List must be received promptly after receipt of the Fund’s request.

ii. Only one proposed subcontractor should be named for each of such trades. Proposed subcontractors of the bidder may not be changed except with the specific written approval of the Fund.

iii. The naming of the bidder itself for any of such work is not acceptable and may result in rejection of the bidder unless the bidder can demonstrate to the Fund that it has successfully completed or substantially completed two (2) contracts of contract value 50%, and similar scope and complexity for the designated work within the last ten (10) years. Such completed contracts shall include significant portions of self-performed work. The determination of relevant contract experience in terms of size, scope and complexity will be at the sole discretion of the Fund as described in Section 7(1)c above.

iv. The bidder will be required to establish, to the satisfaction of the Consultant and the Fund, the reliability and responsibility of each of their said proposed subcontractors to furnish and perform the work described in the sections of the Specifications pertaining to each of such proposed subcontractors' respective trades. By submission of the “List of Completed Similar Construction Projects,” a proposed subcontractor must be able to demonstrate that they have successfully completed or substantially completed two (2) contracts of contract value 50%, and similar scope and complexity for the designated work within the last ten

(10) years. The determination of relevant contract experience in terms of size, scope and complexity will be at the sole discretion of the Fund as described in Section 7(1)c above.

v. For each of the proposed subcontractors, the bidders must submit to the Fund, seven (7) calendar days after the bid opening, evidence of a completed New York State Uniform Contracting Questionnaire (Vendor Responsibility Questionnaire For-Profit Construction (CCA-2)). Either email confirmation that the subcontractor's CCA-2 is current and certified in the New York State VendRep System (VendRep) within the last six months from the bid date, or deliver a certified paper format CCA-2, including all attachments, to the Fund. Paper format CCA-2 will not be accepted from a proposed subcontractor who is enrolled in VendRep.

vi. In the event that the Fund and the Consultant reject any of said proposed subcontractors or the bidder itself for any of such subcontract work, the bidder, within two (2) working days after receipt of notification of such rejection, shall again submit to the Fund and the Consultant the name of another proposed subcontractor in place of the one rejected and it will be required to establish to the satisfaction of the Fund and the Consultant the reliability and responsibility of said proposed subcontractor. When naming another proposed subcontractor, the bidder must promptly submit the proposed subcontractor's completed "List of Completed Similar Construction Projects" and evidence of their completed CCA-2.

vii. Where the bidder designated itself for any of the aforesaid categories of work and was approved by the Fund, the bidder will not be permitted to submit another proposed subcontractor for such categories of work except where its performance of such work meets a condition(s) set forth in Section 2.26 of the Construction Agreement as determined by the Fund.

viii. Proposed subcontractors of the bidder, approved by the Fund and the Consultant, must be used on the work for which they were proposed and approved, and they may not be changed except with the specific written approval of the Fund.

c. A breakdown of the amount of the bidder's Proposal. Such breakdown shall be prepared in accordance with the format included herein as Appendix "A". No bidder shall be barred from revising, in the Contract breakdown required under the provisions of Section 4.08 of the Agreement, the various amounts listed in the bid breakdown required under the provisions of this Section. The amount set forth in said bid breakdown will not be considered as fixing the basis for additions to or deductions from the Contract consideration.

(2) Within seven (7) calendar days after the opening of bids, the three low bidders shall submit to the Fund for its approval a Service-Disabled Veteran-Owned Businesses Utilization Plan. The three lowest bidders will receive an email containing instructions and a hyperlink to follow to complete their Utilization Plan electronically via the Fund's online Utilization Plan application. Utilization Plans will only be accepted in this online format; any other form submittals will be rejected. The Utilization Plan shall include the subcontractor/supplier description of work,

the estimated work schedule, and the estimated dollar value of subcontracts and supply contracts that will be awarded to Service-Disabled Veteran-Owned Businesses.

(3) Except for Contracts of $100,000 or less, and unless otherwise directed by the Fund, within seven (7) calendar days after the opening of bids, the three low bidders shall submit to the Fund for its approval, a Minority and Women-owned Business Enterprise Utilization Plan. The three lowest bidders will receive an email containing instructions and a hyperlink to follow to complete their Utilization Plan electronically via the Fund's online Utilization Plan application. Utilization Plans will only be accepted in this online format; any other form submittals will be rejected. The Utilization Plan shall include the subcontractor/supplier description of work, the estimated work schedule, and the estimated dollar value of subcontracts and supply contracts that will be awarded to Minority and Women-owned Business Enterprises. The Utilization Plan should include the description of work and the estimated dollar value of subcontracts and supply contracts that will be awarded to Minority and Women-owned Business Enterprises.

(4) Except for contracts of $100,000 or less, within seven (7) calendar days after the opening of bids, the three low bidders shall submit to the Fund for its approval, an Equal Employment Opportunity Statement.

(5) Within seven (7) calendar days after the opening of bids, submit a working plan and schedule showing the bidder's sequence logic for all significant activities and phases of the work from the anticipated start date to the substantial completion date in the bidder's Proposal. Use suitable charts, diagrams or bar graphs and show clearly, in sequence and timescale, all significant activities and phases with time estimates for each. If requested, revise the working plan and schedule until they are satisfactory to the Fund and the Consultant. This requirement is in addition to and not a substitute for the schedule requirements of Section 10 paragraph 1(c) herein or Section 3.02 (Time Progress Schedule) of the Agreement. Although the working plan and schedule submitted shall not be used in determining the lowest responsible bidder, failure to submit or revise the working plan and schedule may result in the rejection of the Proposal as not responsive.

(6) The above information and such other information as the Fund or the Consultant may request or obtain will be used by the Fund in determining the reliability and responsibility of the bidder and any proposed subcontractors. Each bidder must comply promptly with all requests by the Fund and the Consultant for information and must actively cooperate with the Fund and the Consultant in their efforts to determine the qualifications of the bidder and any proposed subcontractors. Failure to comply with the latter may result in the rejection of the Proposal as not responsive. All information required to be furnished to the Fund under this Section shall be sent to the State University Construction Fund, Director of Capital Procurement, H. Carl McCall SUNY Building, 353 Broadway, Albany, New York 12246 or emailed to the Fund at SUCF.ConstructionBids@suny.edu unless a signed original is required to be submitted.

Section 9 Award of Contract

(1) The award of the Contract shall be made to the bidder submitting the lowest Total Bid that is responsive to the solicitation and who, in the sole opinion of the Fund, is qualified to perform the work involved and is responsible and reliable.

(2) The Field Order allowance may be reduced at the sole discretion of the Fund to a lower amount at the time of award of the contract.

(3) The right is reserved, if, in the Fund's judgment, the public interest will be promoted thereby, to reject any or all Proposals, to waive any informality in any Proposal received or to afford any bidder an opportunity to remedy any deficiency resulting from a minor informality or irregularity. Without limiting the generality of the foregoing:

a. A Proposal may be rejected as not responsive if the bidder fails to furnish the required bid security or to submit the information and/or data required with its Proposal and by this Information for Bidders.

b. A Proposal may be rejected as not responsive if the bidder cannot show to the satisfaction of the Fund: (i) that it has the necessary qualifications and capital; or (ii) that it owns, controls or can procure the necessary plant and equipment to commence the work at the time prescribed in the Contract and thereafter to prosecute and complete the work at the rate, or within the time specified; or (iii) that it is not already obligated by the performance of so much other work as is likely to delay the commencement, prosecution or completion of the work contemplated by the Contract.

c. A Proposal will be rejected as not responsive if it does not provide for the completion of the work by the date of completion specified in the Proposal.

(4) The Fund also expressly reserves the right to reject any Proposal as not responsive if, in its opinion, considering the work to be performed, the facts, as to the bidder's past performance on completed contracts, business or technical organization, plant, financial and other sources of business experience compared with the work bid upon, justify rejection.

(5) The award of the Contract shall not be construed as a guarantee by the Fund that the plant, equipment and the general scheme of operations and other information and/or data submitted by the bidder with or after its Proposal is either adequate or suitable for the satisfactory performance of the work. As a condition of the award, the bidder agrees to preserve all estimates and documentation used to develop its Bid Proposal and produce the latter information for the Fund's examination upon notice from the Fund prior to the Fund’s approval of the Final Payment application required by the Contract.

Section 10 Required Bonds and Insurance

(1) Unless otherwise agreed to by the Fund, within ten (10) working days after the receipt of Notice of Award, the Contractor shall procure, execute and deliver to the Fund and maintain, at its own cost and expense:

a. A Performance Bond and a Labor and Material Bond, both of which Bonds shall be on the form prescribed by the Fund and in an amount not less than 100 percent of the total amount of the Contract awarded to the Contractor by the Fund. Said Bonds must be issued by a surety company approved by the Fund and authorized to do business in the State of New York as a surety. Attorneys-in-fact who execute said Bonds on behalf of a surety must affix thereto a certified and effectively dated copy of their power of appointment.
b. Proof of insurances with the specific coverage and limits required in Article V of the Agreement. Acceptable documents are:

    i. Proof of NYS Worker's Compensation is only accepted on the C-105.2 or U-26.3 form.

    ii. Proof of Disability insurance is only accepted on the DB-120.1 form.

    Use the link below for a description of the required forms for Workers Compensation and Disability:

    http://www.osc.state.ny.us/agencies/guide/MyWebHelp/Content/XI/18/G.htm

    iii. All other proof of insurance must be on the appropriate Certificate of Liability Insurance Acord form, as well as the Acord 855, or other form acceptable to the Fund.

c. The 120-day Schedule required by the General Requirements, Special Conditions paragraph 01 32 16, titled "Project Schedule."

Section 11 Requirements and Procedures for Participation by New York State - Certified Minority and Women -Owned Business Enterprises and Equal Employment Opportunities for Minority Group Members and Women

(1) New York State Law

Pursuant to New York State Executive Law Article 15-A and Parts 140-145 of Title 5 of the New York Codes, Rules and Regulations, the Fund is required to promote opportunities for the maximum feasible participation of New York State-certified Minority and Women-owned Business Enterprises ("MWBEs") and the employment of minority group members and women in the performance of the Fund contracts.

(2) Business Participation Opportunities for MWBEs

a. For purposes of this solicitation, the Fund hereby establishes goals (see Section 01 26 43 Amendments (Section E) of the General Requirements for goals) for New York State-certified Minority-owned Business Enterprise ("MBE") participation and for New York State-certified Women-owned Business Enterprise ("WBE") participation (based on the current availability of MBEs and WBEs). A contractor ("Contractor") on any contract resulting from this

procurement ("Contract") must document its good faith efforts to provide meaningful participation by MWBEs as subcontractors and suppliers in the performance of the Contract. To that end, by submitting a bid, the bidder agrees that the Fund may withhold payment pursuant to any Contract awarded as a result of this bid pending receipt of the required MWBE documentation. A directory of MWBEs can be viewed at: https://ny.newnycontracts.com. For guidance on how the Fund will evaluate a Contractor's "good faith efforts," refer to 5 NYCRR § 142.8 and Article VI, Section 6.03(2)d of the Agreement.

b. The bidder understands that only sums paid to MWBEs for the performance of a commercially useful function, as that term is defined in 5 NYCRR § 140.1, may be applied towards the achievement of the applicable MWBE participation goal. The portion of a contract with an MWBE serving as a supplier that shall be deemed to represent the commercially useful function performed by the MWBE shall be 60 percent of the total value of the contract. The portion of a contract with an MWBE serving as a broker that shall be deemed to represent the commercially useful function performed by the MWBE shall be the monetary value for fees, or the markup percentage, charged by the MWBE.
c. In accordance with 5 NYCRR § 142.13, the bidder further acknowledges that if it is found to have willfully and intentionally failed to comply with the MWBE participation goals set forth in a Contract resulting from this RFP, such finding constitutes a breach of contract and the Fund may withhold payment as liquidated damages.
d. Such liquidated damages shall be calculated as an amount equaling the difference between: (1) all sums identified for payment to MWBEs had the Contractor achieved the contractual MWBE goals; and (2) all sums actually paid to MWBEs for work performed or materials supplied under the Contract.
e. By submitting a bid or proposal, a bidder agrees to demonstrate its good faith efforts to achieve the applicable MWBE participation goals by submitting evidence thereof in a format prescribed by the Fund.
f. Additionally, a bidder will be required to submit the following information as evidence of compliance with the foregoing:

    i. An MWBE Utilization Plan in accordance with paragraph (3) of the above Section 8 Submission of Post Bid Information. Any modifications or changes to an accepted MWBE Utilization Plan after the Contract award and during the term of the Contract must be revised via the online Utilization Plan application and submitted to the Fund for review and approval. Business Partners can modify their Utilization Plans by visiting the Fund's website and following the instructions for the online Utilization Plan application.
    ii. The Fund will review the submitted MWBE Utilization Plan and advise the bidder of the Fund's acceptance or issue a notice of deficiency within 20 calendar days of receipt.
    iii. If a notice of deficiency is issued, the bidder will be required to respond to the notice of deficiency within seven (7) business days of receipt by submitting to the Fund a written remedy in response to the notice of deficiency. If the written remedy that is submitted is not timely or is found by the Fund to be inadequate, the Fund shall notify the bidder within five (5) business days and direct them accordingly. Failure to cooperate with

the Fund in a timely manner may be grounds for disqualification of the bid or proposal.

g. The Fund may disqualify a bidder as being non-responsive under the following circumstances:

   i. If a bidder fails to submit an MWBE Utilization Plan;
   ii. If a bidder fails to submit a written remedy to a notice of deficiency;
   iii. If a bidder fails to cooperate with the Fund; or
   iv. If the Fund determines that the bidder has failed to document good faith efforts.

h. The successful bidder will be required to attempt to utilize, in good faith, any MBE or WBE identified within its MWBE Utilization Plan, during the performance of the Contract. Requests for a partial or total waiver of established goal requirements made subsequent to Contract Award may be made at any time during the term of the Contract to the Fund, but must be made no later than prior to the submission of a request for final payment on the Contract.
i. Over the term of the Contract, the successful bidder will be required to submit to the Fund a monthly MWBE Contractor Compliance & Payment Reporting in the electronic format prescribed by the Fund, documenting the progress made toward achievement of the MWBE goals of the Contract.

(3) Equal Employment Opportunity Requirements

a. By submission of a bid in response to this solicitation, the bidder agrees with all of the terms and conditions of Schedule “A” - Provisions Required to Be Inserted by Law, including Clause 11 - Equal Employment Opportunities for Minorities and Women. The bidder is required to ensure that it and any subcontractors awarded a subcontract for the construction, demolition, replacement, major repair, renovation, planning or design of real property and improvements thereon (the "Work"), except where the Work is for the beneficial use of the bidder, undertake or continue programs to ensure that minority group members and women are afforded equal employment opportunities without discrimination because of race, creed, color, national origin, sex, age, disability or marital status. For these purposes, equal opportunity shall apply in the areas of recruitment, employment, job assignment, promotion, upgrading, demotion, transfer, layoff, termination, and rates of pay or other forms of compensation. This requirement does not apply to: (i) work, goods, or services unrelated to the Contract; or (ii) employment outside New York State.
b. The bidder will be required to submit an Equal Employment Opportunity Policy Statement in accordance with paragraph (4) of the above Section 8 Submission of Post Bid Information.
c. If awarded a Contract, bidder shall submit a Monthly Employment Utilization Report and shall require each of its subcontractors to submit a Monthly Employment Utilization Report in the electronic format prescribed by the Fund during the term of the Contract.

d. Further, pursuant to Article 15 of the Executive Law (the "Human Rights Law") and all other State and Federal statutory and constitutional non-discrimination provisions, the Contractor and sub-contractors will not discriminate against any employee or applicant for employment because of race, creed (religion), color, sex, national origin, sexual orientation, gender identity or expression, military status, age, disability, predisposing genetic characteristic, marital status or domestic violence victim status, and shall also follow the requirements of the Human Rights Law with regard to non-discrimination on the basis of prior criminal conviction and prior arrest.

(4) Reports, Records and Documentation

a. The Contractor shall file with the Fund monthly reports in the electronic form prescribed by the Fund regarding actions taken pursuant to this Section as well as a list of and value of subcontracts and supply contracts.
b. The Contractor shall permit access to its books, records and accounts by the Fund for purposes of investigation to ascertain compliance with the provisions of this Section. The Contractor shall include this provision in every subcontract so that such provision will be binding upon each subcontractor.
c. Failure to comply with the foregoing requirements entitles the Fund to take such action as the withholding of funds, suspension or termination of the Contract or such other actions or enforcement proceedings as allowed by the Contract. Such failure may also result in a finding of non-responsiveness, non-responsibility and/or a breach of the Contract.
a.

Section 12 Requirements and Procedures for Participation by New York State Certified Service-Disabled Veteran-Owned Business Enterprises ("SDVOBs")

(1) New York State Law

Pursuant to New York State Veterans' Service Law Article 3 and Parts 252.2 of Title 9 of the New York Codes, Rules and Regulations, the Fund is required to promote opportunities for the participation of New York State-certified Service-Disabled Veteran-Owned Business Enterprises in the performance of the Fund contracts to ensure progress toward the statewide SDVOB Utilization goal of 6% established by Article 3 of the New York State Veterans' Services Law.

a. New York State Veterans' Services Law Article 3 acknowledges that SDVOBs strongly contribute to the economies of the State and the nation. As defenders of our nation and in recognition of their economic activity in doing business in New York State, bidders are strongly encouraged and expected to consider SDVOBs in the fulfillment of the requirements of the project. Such partnering may be as subcontractors, subconsultants, suppliers, protégés or other supporting roles. SDVOBs can be readily identified on the directory of certified businesses at https://sdves.ogs.ny.gov/business-search

b. Bidders are strongly encouraged to the maximum extent practical and consistent with legal requirements of the State Finance Law and the Executive Law, to use responsible and responsive SDVOBs as subcontractors to provide meaningful participation. Furthermore, bidders are reminded that they must continue to also utilize small, minority and women-owned businesses consistent with Article 15-A of Executive Law. Utilizing SDVOBs in State contracts will help create more private sector jobs, rebuild New York State's infrastructure, and maximize economic activity to the mutual benefit of the bidder and its SDVOB partners. SDVOBs will promote the bidder's optimal performance under any potential agreements, thereby fully benefiting the public sector programs that are supported by associated public procurements.

c. Public procurements can drive and improve the State's economic engine through promotion of the use of SDVOBs by its bidders. The State, therefore, expects bidders to provide maximum assistance to SDVOBs in the performance of any potential agreement. The potential participation by all kinds of SDVOBs will deliver great value to the State and its taxpayers.

(2) Business Participation Opportunities for SDVOBs

a. For purposes of this solicitation, the Fund hereby establishes goals (see Section 01 26 43 Amendments (Section E) of the General Requirements for goals) for New York State-certified Service-Disabled Veteran-Owned Businesses (SDVOB) (based on the current availability of SDVOBs).

A contractor ("Contractor") on any contract resulting from this procurement ("Contract") must document its good faith efforts to provide meaningful participation by SDVOBs as subcontractors and suppliers in the performance of the Contract. To that end, by submitting a bid, the bidder agrees that the Fund may withhold payment pursuant to any Contract awarded as a result of this bid pending receipt of the required SDVOB documentation. A directory of SDVOBs can be viewed at: https://sdves.ogs.ny.gov/business-search. For guidance on how the Fund will evaluate a Contractor's "good faith efforts," refer to 9 NYCRR § 252.2 and Article IX, of the Agreement.

b. The bidder understands that only sums paid to SDVOBs for the performance of a commercially useful function, as that term is defined in 9 NYCRR § 252.2, may be applied towards the achievement of the applicable SDVOB participation goal. The portion of a contract with an SDVOB serving as a supplier that shall be deemed to represent the commercially useful function performed by the SDVOB shall be 100 percent of the total value of the contract.

c. In accordance with 9 NYCRR § 252.2 (s), the bidder further acknowledges that if it is found to have willfully and intentionally failed to comply with the SDVOB participation goals set forth in a Contract resulting from this RFP,

such finding constitutes a breach of contract, and the Fund may withhold payment as liquidated damages.

d. Any contractor who willfully and intentionally fails to comply with the service-disabled veteran owned business participation requirements in accordance with 9 NYCRR § 252.2 (s) as set forth in such State contract shall be liable to the contracting agency for damages as otherwise specified in the contract and shall provide for other appropriate remedies on account of such breach. Damages shall be calculated based on the actual cost incurred by the State agency related to the State agency's expenses for personnel, supplies and overhead related to establishing, monitoring, and reviewing certified service-disabled veteran-owned business enterprise programmatic goals.

e. By submitting a bid or proposal, a bidder agrees to demonstrate its good faith efforts to achieve the applicable SDVOB participation goals by submitting evidence thereof in a format prescribed by the Fund.

f. Additionally, a bidder will be required to submit the following information as evidence of compliance with the foregoing:

   i. An SDVOB Utilization Plan in accordance with paragraph (2) of the above Section 8 Submission of Post Bid Information. Any modifications or changes to an accepted SDVOB Utilization Plan after the Contract award and during the term of the Contract must be submitted via the online Utilization Plan application and submitted to the Fund for review and approval. Business Partners can modify their Utilization Plans by visiting the Fund's website and following the instructions for the online Utilization Plan application.

   ii. The Fund will review the submitted SDVOB Utilization Plan and advise the bidder of the Fund's acceptance or issue a notice of deficiency within 20 calendar days of receipt.

   iii. If a notice of deficiency is issued, the bidder will be required to respond to the notice of deficiency within seven (7) business days of its receipt by submitting to the Fund a written remedy in response to the notice of deficiency. If the written remedy that is submitted is not timely or is found by the Fund to be inadequate, such a failure to remedy the deficiency may be grounds for disqualification of the bid or proposal for non-responsiveness or the Fund may notify the bidder and request the bidder submit a waiver form within five (5) business days.

g. The Fund may disqualify a bidder as being non-responsive under the following circumstances:

   i. If a bidder fails to submit an acceptable SDVOB Utilization Plan;
   ii. If a bidder fails to submit a timely written remedy to a notice of deficiency;

iii. If the Fund determines the bidder's written remedy to a notice of deficiency is inadequate;
iv. If a bidder fails to file a waiver form in a timely manner;

h. A bidder is further subject to disqualification if:

   a. The bidder fails to cooperate with the Fund; or
   b. If the Fund determines that the bidder has failed to document its good faith efforts.

i. The successful bidder will be required to attempt to utilize, in good faith, any SDVOB identified within its SDVOB Utilization Plan, during the performance of the Contract. Requests for a partial or total waiver of established goal requirements made subsequent to Contract Award may be made at any time during the term of the Contract to the Fund but must be made no later than prior to the submission of a request for final payment on the Contract.

j. Over the term of the Contract, the successful bidder will be required to submit to the Fund a monthly SDVOB Contractor Compliance & Payment Reporting in the electronic format prescribed by the Fund, documenting the progress made toward achievement of the SDVOB goals of the Contract.

Section 13 Encouraging Use of New York State Business Businesses in Contract Performance

New York State businesses have a substantial presence in State contracts and strongly contribute to the economies of the State and the nation. In recognition of their economic activity and leadership in doing business in New York State, bidders/proposers for this contract for commodities, services or technology are strongly encouraged and expected to consider New York State businesses in the fulfillment of the requirements of the contract. Such partnering may be as subcontractors, suppliers, protégés or other supporting roles.

Bidders/proposers need to be aware that all authorized users of this contract will be strongly encouraged, to the maximum extent practical and consistent with legal requirements, to use responsible and responsive New York State businesses in purchasing commodities that are of equal quality and functionality and in utilizing services and technology. Furthermore, bidders/proposers are reminded that they must continue to utilize small, minority and women-owned businesses, consistent with current State law.

Utilizing New York State businesses in State contracts will help create more private sector jobs, rebuild New York's infrastructure, and maximize economic activity to the mutual benefit of the Contractor and its New York State business partners. New York State businesses will promote the Contractor's optimal performance under the contract, thereby fully benefiting the public sector programs that are supported by associated procurements.

Public procurements can drive and improve the State's economic engine through promotion of the use of New York businesses by its Contractors. The State therefore expects bidders/proposers to provide maximum assistance to New York businesses in their use of the contract. The potential participation by all kinds of New York businesses will deliver great value to the State and its taxpayers.

Information on the availability of New York State subcontractors and suppliers is available from: New York State Department of Economic Development, Procurement Assistance Unit, One Commerce Plaza, Albany, New York 12245, Phone: (518) 474-7756, Fax: (518) 486-7577.

Section 14 Single Contract Responsibility

This is a single bid general construction project. The Contractor submitting the bid is responsible for all work associated with this Project.

Section 15 Examination of Site

A pre-bid conference and project walk-through will be held with all bidders, subcontractors and other plan holders at the time and place specified in Section 00 25 13 Pre-Bid Meetings. No individual or additional walk-throughs will be provided. Failure to attend a walk-through shall not be the cause for extra payment. If the walk-through in Section 00 25 13 Pre-Bid Meetings is mandatory, the Fund expressly reserves the right to reject any Proposal as not responsive if the bidder failed to attend the mandatory walk-through.

Section 16 Procurement Lobbying Law Restrictions

Please be advised that State Finance Law Sections 139-j and 139-k include and impose certain restrictions on communications between the Fund and bidders during the procurement process. A bidder is restricted from making contacts from the earliest notice of intent to solicit offers through receipt of the Notice to Proceed ("restricted period") to other than designated staff, unless it is a contact that is included among certain statutory exceptions set forth in State Finance Law Sections 139-j(3)(a). Designated staff is identified in the Notice to Bidders as of the date hereof. Fund employees are also required to obtain certain information when contacted during the restricted period and make a determination of the responsibility of the bidder pursuant to these two statutes. Certain findings of non-responsibility can result in rejection for contract award and in the event of two findings within a 4-year period, the Offeror/bidder is debarred from obtaining governmental procurement contracts.

Bidders must also disclose whether any governmental entity has made a finding of non-responsibility within the previous four years based upon the failure to comply with Section 139-j of the State Finance Law or intentionally providing false or incomplete information to a governmental entity. The Form for this disclosure is on the last page of the Proposal and the bidder must fill out and sign this Form.

Further information about these requirements can be found on the State Office of General Services website (https://ogs.ny.gov/ACPL/) and the Fund website (https://sucf.suny.edu/opportunities/procurement-lobbying-act-policy-and-procedures).

Section 17 Requirements for Construction Activities To Address Public Health or Safety

The bidder agrees it is responsible for complying with any and all health and safety requirements issued by federal, state or local entities, including but not limited to New York State Governor Office Executive Orders, New York State Department of Health rules, regulations and guidance, and other New York State, Fund or Campus laws, rules, regulations or requirements that exist or may be issued and/or amended during the bidding and/or performance of work on this Project. Bidder affirms that all costs and time associated with compliance of these health and safety requirements, including Emergency Regulations, are included in its bid. The current NYS Emergency Regulations and Guidance are available at the following website:

https://regs.health.ny.gov/regulations/emergency

Notwithstanding the foregoing, bidder agrees to comply with the Emergency Regulations, Guidance, and Campus Rules and Regulations as it may be amended or superseded in the future. Bidder shall comply with Section 2.03 of the Contract regarding any claims or disputes stemming from such health and safety requirements.

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SUNY State University Construction Fund

MWBE/SDVOB
UTILIZATION PLAN INSTRUCTIONS

MWBE and SDVOB Utilization Plans are required to be submitted electronically via the Fund's online Utilization Plan Application, by the three low bidders **within seven (7) calendar days** after the bid opening. Submission of a Utilization Plan which fails to at least meet each goal must be accompanied by documentation of specific efforts undertaken both pre and post bid. The Contractor is required to provide sufficient documentation of the efforts made in the development of their MWBE and SDVOB Plans. The documentation should be responsive to the "Good Faith Efforts" guidelines and demonstrate the contractor's commitment to providing opportunities for MWBE and SDVOB firms in the development of each respective Utilization Plan.

The Fund will review the MWBE and SDVOB Utilization Plans and notify the contractor of any deficiencies and determine necessary actions to bring the Plan into compliance. The firms listed on the Utilization Plan will be contacted for verification of participation. A copy of the approved Plan is provided to the contractor after issuance of the Fund's Notice of Award. **Be advised, the Fund does not issue its Notice of Award without an approved MWBE Utilization Plan, and the Construction Contract may be withheld.**

ONLINE UTILIZATION PLAN If you are one of the lowest three bidders and have not received an email within 24 hours, please contact SUCF.ConstructionBids@suny.edu	Following the project bid opening, the Fund will forward the three lowest bidders an email containing instructions for submitting their MWBE and SDVOB Utilization Plan. The email will provide each firm with a link to complete their Plans electronically via the Fund's online Utilization Plan application. Utilization Plans are accepted in the ONLINE FORMAT ONLY; any other form submittal will be rejected.
CONTRACT INFORMATION	▪ The contract information will appear at the top of the application screen. (Project Number, Contract Number, Bid Date, Contract Award Value, MWBE/SDVOB Contract Goals)
BUSINESS PARTNER INFORMATION **MWBE/SDVOB CONTACT**	▪ Verify the accuracy of your Company Name, Company Address and FEIN populated by the application. ▪ Enter the Contact Name, Contact Title, Phone, Fax, Email Address of the person responsible for MWBE/SDVOB participation with your organization.
SUBCONTRACTOR/SUPPLIER INFORMATION **BE ADVISED: Only firms holding "current" New York State certification status are acceptable for participation credit.**	▪ Enter a valid Federal Identification number for each MBE, WBE, and SDVOB subcontractor and supplier. ▪ The NYS certified MBE/WBE/SDVOB firm matching the Federal ID number provided will autofill in the application. ▪ Verify the subcontractor/supplier information for accuracy. **MWBE firms must be certified by the New York State Department of Economic Development Corporation** as a Minority or Women-Owned Business to comply with the program requirements. It is the responsibility of the contractor to ensure firms proposed for utilization have an active certification with NYS and are included in the directory at the time of submission. The NYS directory of certified MWBE firms is available on the Internet at https://ny.newnycontracts.com/ NOTE: Dual certified firms may be used as either, but not both, within their certification product code. **SDVOB firms must be certified by the Office of General Services, Division of Service-Disabled Veterans' Business Development** as a Service-Disabled Veteran-owned Business to comply with the program requirements. It is the responsibility of the contractor to ensure firms proposed for utilization have an active certification with NYS and are included in the directory at the time of submission. The NYS directory of certified Service-Disabled Veteran-Owned Businesses is available on the Internet at https://sdves.ogs.ny.gov/

SUNY State University Construction Fund

MWBE/SDVOB
UTILIZATION PLAN INSTRUCTIONS

SUBCONTRACTOR/SUPPLIER INFORMATION	▪ If the participation is not direct from the Prime/General Contractor, Enter the 1st or 2nd tier subcontractor's name and email address. **The prime contractor is responsible for ensuring participation included in the Plan by subcontractors/suppliers is executed.**
DESCRIPTION OF WORK **The services MWBE and SDVOB firms provide must be among those explicitly identified in the firm's profile (codes) as listed in the NYS MWBE and SDVOB Directory.** **Firms who participate in the project outside of these conditions will not be credited toward the MWBE and/or SDVOB Utilization Plan and goals for the contract.**	▪ Provide a specific but brief description of work to be performed or supplies to be purchased from the MBE, WBE, SDVOB subcontractor or supplier. ▪ Select the firm designation: Subcontractor, Supplier, or Broker The following credit will be applied for MWBE subcontractors/suppliers. ▪ Construction Subcontractor – 100% ▪ Construction Supplier (MWBE) – 60% Firms that sell goods out of their revolving inventory. **Enter the full contract value. The system will calculate 60% credit.** ▪ Construction Supplier (SDVOB) – 100% ▪ Brokers/Construction Manufacturers' Representatives – Firms serving as a third-party intermediary between consumers of items and manufacturers, suppliers, or other entities, may only receive credit for the commission they receive or their markup percentage for brokering. ▪ MWBE Manufacturers: NYS-certified MWBEs that serve and are coded as a manufacturer may receive 100% credit for their MWBE utilization.
SUBCONTRACTOR/SUPPLIER SCHEDULE	▪ Enter the anticipated start and completion dates for each MBE, WBE, and SDVOB subcontractor and/or supplier. ▪ **Enter the dates in accordance with the scope and project scheduling.**
ATTACHMENTS	▪ Upload supporting documentation i.e., letter of explanation, good faith efforts documentation. ▪ Upload signed MWBE and SDVOB Utilization Plans (original signature) ▪ After attaching documents return to the submit tab to finalize.
FINAL REVIEW	▪ Review all information prior to submitting. ▪ Select SAVE if you wish to continue working on the Plan prior to submission. ▪ To modify the Initial Plan prior to final submission, select the link provided in the original email from the Fund and choose "re-submit" for the option to edit the initial Utilization Plan.
SIGNATURE/SUBMIT ***An original signature is required on the Utilization Plan.**	▪ Provide the Name, Title, Email address and Signature of a Company Officer. ▪ Choose "Create Utilization PDF" ▪ Print and Sign MWBE and SDVOB Utilization Plans ▪ Upload the Plans into the "Attachments" section of the application. ▪ Select SUBMIT to forward for approval.
UTILIZATION PLAN MODIFICATION **Prior approval must be obtained from the Fund for decrease in participation or deletion of a firm. A letter of explanation and supporting documentation of efforts is required to be submitted to the Fund. Upload supporting documentation via the attachments tab.**	▪ To modify the Initial Plan prior to final submittal, select the link provided in the original email from the FUND and choose "re-submit" for the option to edit the Utilization Plan. ▪ To modify an existing Plan, return to the Business Partner Application ➢ **ADD** – choose "add subcontractor" on the bottom of the subcontractor/supplier tab for firms that you are adding to the plan. Click the disc icon to save. ➢ **DELETE** – To remove firms from the approved Plan, locate the name of the firm, Click the icon to save, **an explanation is required.** ➢ **PLAN VALUE UPDATE-** Click the icon next to the appropriate subcontractor and/or supplier and enter the dollar amount of the increase/decrease of the award value. Click the icon to save, **an explanation is required.** ➢ **SCHEDULE UPDATE** – Click the icon next to the appropriate subcontractor and/or supplier to change the anticipated start and completion dates for each firm. Click the disc icon to save.

For questions and/or assistance contact the Opportunities Program office. Phone: 518-320-1650 | Email: sucf.opportunityadmin@suny.edu

Section 00 25 13 Pre-Bid Meetings

A pre-bid conference and project walk-through will be held on June 23, 2026 at 9:00 a.m. with all Bidders assembled at Conference Room C of Binghamton University Physical Facilities Building, 188 Bunn Hill Access, Vestal, NY 13850.

No individual or additional walk-throughs may be performed during the bid preparation time period. Vehicle parking must comply with campus regulations. Failure to attend a walk-through shall not be the cause for extra payment.

Attached is a copy of the Campus' standard regulations to be followed during walk through.

The pre-bid meeting shall be chaired by the Consultant with the following as the minimum agenda (Hold questions on scope until item 5 below):

1. Confirm that bidders have a full bid package including any addenda issued to date.
2. Review 00 21 13 20 Information for Bidders in its entirety.
3. See Section 11 of 00 21 13 20 Information for Bidders for participation by MBEs and WBEs. The MBE/WBE participation goals for this project are:
    - 5 percent for MBE participation
    - 5 percent for WBE participation
4. See Section 12 of the Information for Bidders for participation by Service-Disabled Veteran-Owned Businesses. The SDVOB goal for this project is 3%.
5. Utilization Plans shall be accepted in the ONLINE FORMAT ONLY using the Fund's web-based application; any other form of submittal will be rejected. Low bidders will receive an email with access instructions after receipt of bids. Questions must be sent to SUCF.OpportunityAdmin@suny.edu
6. Review the timetable for submitting questions and issuing addenda.
7. Confirm the bid date and time.

    To provide for an efficient bid opening, do not submit additional documents other than two Proposals and two bid bonds in your bid envelope.
8. Advise bidders that no changes to the Contract Documents are binding unless included in an addendum. Verbal comments are not binding.
9. Review the project scope and schedule. Describe the main concepts of the project.

a. Review the list of sole/single source products listed in General Requirements Section 01 26 43 Amendments (if any) and remind bidders that all costs for these products are covered by the base bid and no equivalents will be permitted.

b. Remind bidders and potential subs that each must have experience performing scope similar to this project scope. Review the specific Qualifications for Bidders and the nominated subcontractors as written in the Information for Bidders with the attendees.

10. Describe and discuss any Campus restrictions regarding security, access, worker prerequisites for entry to Campus, parking, and/or other restrictions that create cost and time difficulties related to this project.

11. Other items:

a. Refer the bidders to the 00 21 13 15 Contractors Bid and Post Bid Checklist.

b. Note that for projects advertised for bids after July 1, 2023, insurance requirements have changed. Key points for bidders are:

- All required insurance shall be written by companies that are licensed or authorized by the New York State Department of Financial Services to issue insurance in the State of New York and that have an A.M. Best Company rating of "A-," Class "VII" or better;
- Insurances from authorized (excess line) carriers may be acceptable. Bidders must review the project specific insurance listed in Section 5.06, **Section 5.07** and Schedule A of the Construction Agreement with their agent/broker; and
- Owner's Protective Liability Insurance is no longer required from contractors.

For projects with bid openings on or after July 14, 2024, **Builder's Risk Insurance will <u>no longer</u> be provided by the Fund under a master builders risk program and shall be at the cost of the Contractor.**

Bidders and Asbestos subs must consult their insurance company/agent prior to bidding.

c. If the Fund issues a Notice of Award and the bidder doesn't provide acceptable insurance, then the Fund may rescind the award and take other actions to which it is entitled. All resulting costs and time delay are solely the responsibility of the bidder.

d. Note the dollar threshold for named subcontractors back is $20,000 except for asbestos subs of any value, who must be named.

e. Starting December 30, 2024 all contractors and subcontractors submitting bids or performing construction work on public work projects or private projects covered

under Article 8 of the Labor Law are required to register with the New York State Department of Labor (NYSDOL) under Labor law Section 220-i.

For more information or to register, please visit:

https://dol.ny.gov/contractor-and-subcontractor-landing

12. Have a question-and-answer session.

13. Tour the site and existing conditions.

_____
NAME OF BIDDER

_____
ADDRESS OF BIDDER

00 42 13 **PROPOSAL FOR SUCF PROJECT NO. 071095-00**

Upgrade Electrical Distribution
Binghamton University
State University of New York

TO THE STATE UNIVERSITY CONSTRUCTION FUND:

1. The Bidder agrees that it shall complete all work necessary for substantial completion within 1,096 calendar days from receipt of the Notice to Proceed.

   In the event the bidder fails to complete such work by said date, or within the time to which such completion may have been extended in accordance with the Contract Documents, the bidder agrees to pay the Fund liquidated damages in the sum of $1,700.00 for each calendar day of delay in completing the work.

2. The bidder hereby declares that it has carefully examined all Bidding and Contract Documents and that it has inspected the actual location of the work, together with the local sources of supply, has satisfied itself as to all the quantities and conditions, and understands that in signing this Proposal, it waives all right to plead any misunderstanding regarding the same.

3. The bidder further understands and agrees that it is to do, perform and complete all work in accordance with the Contract Documents and to accept in full compensation therefor the amount of the TOTAL BID, modified by such additive or deductive alternates, if any, as are accepted by the Fund.

4. The bidder further agrees to accept the unit prices, if any, set forth in paragraph (5) hereof, except as the same may be modified pursuant to the provisions of Section 5 of the Information to Bidders, as full payment for any deletions, additions, modifications or changes to the portion or portions of work covered by said unit prices.

5. a. **BID CALCULATION:**

   (1) All work including Allowances (if any) listed in 5.d. below and excluding Field Order Allowance

   _____
   _____ $ _____
   (In words) (In figures)

   (2) Field Order Allowance: Schedule III and Section 4.05A of the Agreement
   One million five hundred fifty-five thousand and seven hundred dollars
   _____ $ 1,555,700.00
   (In words) (In figures)

   (3) TOTAL BID Add lines (1) and (2)

   _____
   _____ $ _____
   (In words) (In figures)

   b. **ALTERNATES**: Refer to 01 23 00 Alternates (Section B) of the General Requirements. The bidder proposes the following Additions to or Deductions from the TOTAL BID for the alternatives listed below:

Alternate Number	Add/ Deduct	Amount In Words	Amount In Figures
None.			

c. **UNIT PRICES**: The bidder or the Fund may insert unit prices for the work or materials listed below. Refer to Section 5, paragraph (2) of the Information to Bidders, Schedule 1 and Article IV Section 4.04 of the Agreement for clarification. Such unit prices apply solely for additions. The Fund may, however, adjust any unit price filled in by a bidder to an amount agreeable to both the bidder and the Fund, or it may reject any unit price. The amount of any unit price accepted or agreed to by the Fund shall be reduced by 15 percent for any deduction in the work or materials covered by such unit price.

Work or Materials Description	Amount in Words	Amount in Figures
None.		

d. **ALLOWANCES:** The bidder further agrees that its TOTAL BID includes the Allowance(s) listed below. Refer to Schedule II and Sections 4.04 and 4.05 of the Agreement for clarification:

Work or Materials Description	Amount in Words	Amount in Figures
None.		

6. By submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid, each party thereto certifies as to its own organization, under penalty of perjury, that to the best of his or her knowledge and belief: (a) the prices in this bid have been arrived at independently without collusion, consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with any competitor; (b) unless otherwise required by law, the prices have been quoted in this bid have not been knowingly disclosed by the bidder and will not knowingly be disclosed by the bidder prior to opening, directly or indirectly, to any other bidder or to any competitor; and (c) no attempt has been made or will be made by the bidder to induce any person, partnership or corporation to submit or not to submit a bid for the purpose of restricting competition.

   A bid shall not be considered for award nor shall any award be made where (a), (b) and (c) above have not been complied with; provided, however, that if in any case the bidder cannot make the foregoing certification the bidder shall so state and shall furnish with the bid a signed statement which sets forth in detail the reasons therefor. Where (a), (b), and (c) above shall have not been complied with, the bid shall not be considered for award nor shall any award be made unless the General Manager of the Fund, or his designee, determines that such disclosure was not made for purposes of restricting competition.

   The fact that a bidder (a) has published price lists, rates, or tariffs covering items being procured, (b) has informed prospective customers of proposed or pending publication of new or revised price lists for such items, or (c) has sold the same items to other customers at the same prices being bid, does not constitute, without more, a disclosure within the meaning of this Section.

7. The bidder agrees that if awarded the Contract, it will commence work upon receipt of the Notice to Proceed and that it will fully complete the work by the date stated or within the duration herein, as applicable.

8. The bidder acknowledges the receipt of the following addenda, but agrees that it is bound by all addenda whether or not listed herein.

Addendum Number	Date	Addendum Number	Date
_____	____/____/____	_____	____/____/____
_____	____/____/____	_____	____/____/____
_____	____/____/____	_____	____/____/____

9. The Omnibus Procurement Act of 1992, as amended, requires that, by signing this Proposal, the bidder certifies that whenever its Total Bid amount is greater than $1,000,000: (a) it has made reasonable efforts to encourage the participation of New York State Business Enterprises as suppliers and subcontractors on this Project, and has retained the documentation of these efforts to be provided upon request to the State;

(b) it has complied with the Federal Equal Opportunity Act of 1972 (P.L. 92-261), as amended; (c) it agrees to make reasonable efforts to provide notification to New York State residents of employment opportunities on this Project through listing any such positions with Community Services Division of the New York State Department of Labor, or providing such notification in such manner as is consistent with existing collective bargaining contracts or agreements. The bidder further agrees to document these efforts and to provide said documentation to the State and the Fund upon request, and agrees to cooperate with the State in these efforts. Documented efforts by a successful bidder shall consist of and be limited to showing that such bidder has:

a. Solicited bids, in a timely and adequate manner, from New York State Business Enterprises including certified Minority and Women's owned Business Enterprises, or

b. Contacted the New York State Department of Economic Development to obtain listings of New York State Business Enterprises, or

c. Placed notices for subcontractors and suppliers in newspapers, journals and other trade publications distributed in New York State, or

d. Participated in bidder outreach conferences.

e. If the bidder determines that New York State Business Enterprises are not available to participate on the Contract as subcontractors or suppliers, the bidder shall provide a statement indicating the method by which such determination was made.

f. If the bidder does not intend to use subcontractors on the Contract, the bidder shall provide a statement verifying such intent.

10. The bidder submits herewith bid security in an amount not less than five (5) percent of the Total Bid. In the event that

(a) the bidder's Total Bid is the lowest one submitted and the bidder does not timely provide the Post-Bid Information required under Section 8 of the Information for Bidders; or

(b) this Proposal is accepted by the Fund and the bidder shall refuse or neglect, within ten (10) working days after date of receipt of Notice of Award to:

(1) execute and deliver an Agreement in the form provided herein; or

(2) execute and deliver a Performance Bond and a Labor and Material Bond in the amounts required and in the form prescribed; or

(3) provide proof of insurances required in Article V of the Agreement; or

(4) provide the 120-day Schedule required by the General Requirements, Special Conditions paragraph 01 32 16, titled "Project Schedule;"

then the bidder shall be liable to the Fund, as liquidated damages, for the amount of the bid security or the difference between the Total Bid of the bidder and the Total Bid of the bidder submitting the next lowest bid, whichever sum shall be higher, otherwise the total amount of the bid security will be returned to the bidder in accordance with the provisions set forth in the Information for Bidders.

The Fund may apply the bid security in full or partial payments, as the case may be, of said liquidated damages and in the event the bid security is less than the amount of liquidated damages to which the Fund is entitled, the bidder shall pay the difference, upon demand, to the Fund.

11. The bidder certifies that all wood products that are to be used in the performance of this Contract shall be in accordance with the Specifications and provisions of Section 167 b. of the State Finance Law which Section prohibits the purchase and use of tropical hardwoods.

12. The bidder affirms that it understands and agrees to comply with the procedures of the Fund relative to permissible contacts as required by Sections 139-j(3) and 139-j-(6)(b) of the State Finance Law.

13. The bidder certifies that all information provided or to be provided to the Fund in connection with this procurement is, as required by Section 139-k of the State Finance Law, complete, true and accurate.

Dated _____ _____
(Legal name of person, partnership, joint venture, corporation, or LLC)

(If corporation, affix corporate seal) By _____
(Signature)

Title_____

Firm's Federal ID Number or Social Security Number as applicable _____

Firm's NYS SFS Vendor Identification Number _____

Check: Is Firm NYS-Certified* MBE? ☐ Yes WBE? ☐ Yes

*(*Defined as independent business concerns which are at least 51% owned and controlled by minority group members or women (citizens of the United States or permanent resident aliens who are Black, Hispanic, Asian or American Indian), whose ownerships in the concerns are real, substantial and continuing and who have and exercise the authority to independently control the decisions of the concerns)*

ATTENTION BIDDERS: ALSO FULLY EXECUTE PAGES P-5, P-6, P-7, P-8, P-9, P-10, AND P-11.

THE POST OFFICE ADDRESS OF THE BIDDER

_____

_____

_____

Telephone No._____ Email Address_____

If a Corporation

Name Address

_____ , PRESIDENT _____

_____, SECRETARY _____

_____, TREASURER _____

If a Partnership

Name of Partners Address

_____ _____

_____ _____

_____ _____

If a Joint Venture

Name of Members Address

_____ _____

_____ _____

_____ _____

If an Individual

Name of Individual Address

_____ _____

If a Limited Liability Corporation

Name Address

_____ _____

_____ _____

_____ _____

STATE UNIVERSITY CONSTRUCTION FUND
H. Carl McCall SUNY Building 353 Broadway ● Albany, New York 12246
Offerer Disclosure of Prior Non-Responsibility Determinations

Name of Individual or Entity Seeking to Enter into the Procurement Contract:

_____
Address:
_____

_____
Name and Title of Person Submitting this Form:

_____

_____

SUCF Project Number: _____ Date: _____

1. Has any Governmental Entity made a finding of non-responsibility regarding the individual or entity seeking to enter into the Procurement Contract in the previous four years? ☐No ☐Yes
If yes, please answer the next questions:

2. Was the basis for the finding of non-responsibility due to a violation of State Finance Law Section139-j: ☐No ☐ Yes
3. Was the basis for the finding of non-responsibility due to the intentional provision of false or incomplete information to a Governmental Entity? ☐No ☐Yes

4. If you answered "yes" to any of the above questions, please provide details regarding the finding of non-responsibility below.

Governmental Entity: _____
Date of Finding of Non-Responsibility: _____
Basis of Finding of Non-Responsibility: _____
_____
_____
_____
(Add additional pages as necessary)

5. Has any Governmental Entity or other governmental agency terminated or withheld a Procurement Contract with the above-named individual or entity due to the intentional provision of false or incomplete information?
☐No ☐Yes

6. If yes, please provide details below.
Governmental Entity: _____
Date of Termination or Withholding of Contract: _____
Basis of Termination or Withholding: _____
_____
_____
_____
_____
_____
(Add additional pages as necessary)

Offerer certifies that all information provided to SUCF with respect to State Finance Law Section 139-k is complete, true and accurate. Submit form with original signature with Proposal.

By: _____ _____
Signature Date

STATE UNIVERSITY CONSTRUCTION FUND
H. Carl McCall SUNY Building 353 Broadway ● Albany, New York 12246

IRAN ENERGY SECTOR DIVESTMENT COMPLIANCE

Printed Name of Entity Seeking to Enter into the Contract:

_____

Address:

_____

Printed Name and Title of Person Executing Certification:

_____

SUCF Project Number: _____

Pursuant to New York State Finance Law §165-a, Iran Divestment Act of 2012 (Act), the Office of General Services is required to post on its web site a list of persons who have been determined to engage in investment activities in Iran ("prohibited entities list"), as defined by the Act. New York State Public Authorities Law § 2879-c, with certain exceptions, prohibits the Fund from entering into or awarding a Contract with persons identified on the prohibited entities list.

CERTIFICATION:

By submission of this bid or proposal, each person (as defined in paragraph (e) of subdivision one of section one hundred sixty five-a of the state finance law) and each person signing on behalf of any other party certifies, and in the case of a joint bid or proposal or partnership each party thereto certifies as to its own organization, under penalty of perjury, that to the best of its knowledge and belief that each person is not on the list created pursuant to paragraph (b) of subdivision 3 of section 165-a of the State finance law.

STATE OF)
)ss.:
COUNTY OF)

The undersigned, being duly sworn, says (a) I am duly authorized to execute this Certification and (b) I hereby certify, under penalty of perjury, that the forgoing Certification is in all respects true and accurate.

Signature of Person Executing
Certification:_____

Subscribed and sworn to before me this_____day of_____,20____.

_____

Notary Public

Submit form with <u>original</u> signatures

STATE UNIVERSITY CONSTRUCTION FUND
H. Carl McCall SUNY Building 353 Broadway ● Albany, New York 12246

Certification Regarding Sexual Harassment Prevention Policies Pursuant to State Finance Law §139-l

By submission of this proposal, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint proposal each party thereto certifies as to its own organization, under penalty of perjury, that the bidder has and has implemented a written policy addressing sexual harassment prevention in the workplace and provides annual sexual harassment prevention training to all of its employees. Such policy shall, at a minimum, meet the requirements of section two hundred one-g of the labor law.

I, _____, hereby affirm, under penalty of perjury, that
Printed Name of Person Executing Certification

I am _____ of the above-named bidder, that I am
Printed Title of Person Executing Certification

authorized to make this certification on behalf of such bidder, and I further certify that this certification is true, accurate and complete to the best of my knowledge and belief.

The undersigned, being duly sworn, says (a) I am duly authorized to execute this Certification and (b) I hereby certify, under penalty of perjury, that the forgoing Certification is in all respects true and accurate.

_____
signature

STATE OF)
) ss.:
COUNTY OF)

On this _____day of _____, 20___ , before me personally came

_____, to me known and known to me to be the person(s) described in and who executed the foregoing instrument and acknowledged that he/she executed the same.

_____
Notary Public

Submit form with original signatures

ENCOURAGING USE OF NEW YORK STATE BUSINESSES IN CONTRACT PERFORMANCE

New York State businesses have a substantial presence in State contracts and strongly contribute to the economies of the state and the nation. In recognition of their economic activity and leadership in doing business in New York State, bidders/proposers for this contract for commodities, services or technology are strongly encouraged and expected to consider New York State businesses in the fulfillment of the requirements of the contract. Such partnering may be as subcontractors, suppliers, protégés or other supporting roles.

Bidders/proposers need to be aware that all authorized users of this contract will be strongly encouraged, to the maximum extent practical and consistent with legal requirements, to use responsible and responsive New York State businesses in purchasing commodities that are of equal quality and functionality and in utilizing services and technology. Furthermore, bidders/proposers are reminded that they must continue to utilize small, minority and women-owned businesses, consistent with current State law.

Utilizing New York State businesses in State contracts will help create more private sector jobs, rebuild New York's infrastructure, and maximize economic activity to the mutual benefit of the contractor and its New York State business partners. New York State businesses will promote the contractor's optimal performance under the contract, thereby fully benefiting the public sector programs that are supported by associated procurements.

Public procurements can drive and improve the State's economic engine through promotion of the use of New York businesses by its contractors. The State therefore expects bidders/proposers to provide maximum assistance to New York businesses in their use of the contract. The potential participation by all kinds of New York businesses will deliver great value to the State and its taxpayers.

Bidders/proposers can demonstrate their commitment to the use of New York State businesses by responding to the question below:

Will New York State Businesses be used in the performance of this contract? ☐ Yes ☐ No

SUCF Project Number: _____

If yes, identify New York State Business(es) that will be used; (list identifying information below).

_____

_____

_____

_____

_____

(Attach additional identifying information with the bid as required)

By: _____ Date: _____
Signature

Print Name and Title: _____

Contractor Name: _____

Contractor Address: _____

STATE UNIVERSITY CONSTRUCTION FUND
H. Carl McCall SUNY Building 353 Broadway ● Albany, New York 12246

EO 177 Certification

The New York State Human Rights Law, Article 15 of the Executive Law, prohibits discrimination and harassment based on age, race, creed, color, national origin, sex, pregnancy or pregnancy-related conditions, sexual orientation, gender identity, disability, marital status, familial status, domestic violence victim status, prior arrest or conviction record, military status or predisposing genetic characteristics.

The Human Rights Law may also require reasonable accommodation for persons with disabilities and pregnancy-related conditions. A reasonable accommodation is an adjustment to a job or work environment that enables a person with a disability to perform the essential functions of a job in a reasonable manner. The Human Rights Law may also require reasonable accommodation in employment on the basis of Sabbath observance or religious practices.

Generally, the Human Rights Law applies to:

- all employers of four or more people, employment agencies, labor organizations and apprenticeship training programs in all instances of discrimination or harassment;
- employers with fewer than four employees in all cases involving sexual harassment; and,
- any employer of domestic workers in cases involving sexual harassment or harassment based on gender, race, religion or national origin.

In accordance with Executive Order No. 177, the Bidder hereby certifies that it does not have institutional policies or practices that fail to address the harassment and discrimination of individuals on the basis of their age, race, creed, color, national origin, sex, sexual orientation, gender identity, disability, marital status, military status, or other protected status under the Human Rights Law.

Executive Order No. 177 and this certification do not affect institutional policies or practices that are protected by existing law, including but not limited to the First Amendment of the United States Constitution, Article 1, Section 3 of the New York State Constitution, and Section 296(11) of the New York State Human Rights Law.

Contractor Name: _____

By: _____ Date: _____
Signature

Print Name and Title: _____

Attachment A – List of Completed Similar Construction Projects

SUCF PROJECT # **BIDDER**

Project #1 Title	Award Date	Contract Amount	Date Completed
Project Description Related to IFB Requirements			
Agency/Owner & Contact Person	Contact Information - Telephone No. & Email Address		
Were you the prime contractor on this project	Was the contract single bid		
Project #2 Title	Award Date	Contract Amount	Date Completed
Project Description Related to IFB Requirements			
Agency/Owner & Contact Person	Contact Information - Telephone No. & Email Address		
Were you the prime contractor on this project	Was the contract single bid		
Form Completed by: Phone Number: Email: Date:			

APPENDIX A

For SUCF Project No. 071095-00

BID BREAKDOWN

In the spaces provided below, insert the bid amounts for the various divisions listed.

	DIVISION OR SECTION	**AMOUNT**
1.	Division 1 – General Requirements	$ _____
2.	Division 2 – Existing Conditions	
	Asbestos Abatement	$ _____
	All other Division 2 Work	$ _____
3.	Division 3 – Concrete	$ _____
4.	Division 7 – Thermal and Moisture Protection	$ _____
5.	Division 8 – Openings	$ _____
6.	Division 26 – Electrical	
	Temporary Substation Work	$ _____
	Electrical Equipment	$ _____
	All other Division 26 Work	$ _____
7.	Division 31 – Earthwork	$ _____
8.	Division 32 – Exterior Improvements	$ _____
9.	Division 33 – Utilities	$ _____
10.	Sum of all lines above (**Base Bid)**	$ _____
11.	Field Order Allowance	$ 1,555,700.00
	Total Bid	$ _____

1. This breakdown is not the basis for Contractor payment (Agreement Section 4.08).
2. The Total above should equal the amount in the Contractor's bid Proposal.

Note: Please indicate whether you believe that any information supplied herein is confidential and should be exempt from disclosure under the Freedom of Information Law.

☐ Yes ☐ No

If "yes", you must identify the information you feel is confidential by placing an asterisk (*) in front of the appropriate number(s) and you are requested to attach an additional sheet(s) upon which the basis for such claim(s) is explained.

_____

Name of Contractor

BID BOND

BOND NO. _____

KNOW ALL PERSONS BY THESE PRESENTS, that

, having an office at

(hereinafter called the "Principal") and the

a corporation created and existing under the laws of the State of ,
having its principal office at

(hereinafter called the "Surety") are held and firmly bound unto the State University Construction Fund (hereinafter called the "Fund") in the full and just sum of

dollars ($)
good and lawful money of the United States of America, or in the full and just sum of the difference between the Total Bid of the Principal and the Total Bid of the bidder submitting the next lowest bid, whichever sum shall be higher, for the payment of which said sum of money, well and truly to be made and done, the Principal binds itself, its heirs, executors, administrators, successors and assigns and the Surety binds itself, its successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has submitted to the Fund a Proposal for

which Proposal is incorporated herein by reference and made a part hereof as fully and to the same extent as if set forth at length herein;

NOW, THEREFORE, the condition of this obligation is such that in the event (1) the Principal's Total Bid is the lowest one submitted and the Principal timely provides the Post-Bid Information required under Sections 7 and 8 of the Information for Bidders or (2) the Fund shall accept the Proposal of the Principal and the Principal shall enter into a Contract with the Fund in accordance with the terms of such Proposal and/or enter into certain prescribed subcontracts in accordance with the terms of such Proposal and give such Bond or Bonds, proof of insurances, and 120-day Schedule as may be specified in the Bidding or Contract Documents, then this obligation shall be null and void, otherwise to remain in full force and effect.

The Surety, for value received, hereby stipulates and agrees that the obligation of said Surety and its Bond shall be in no way impaired or affected by any extension of the time within which the Fund may accept the Proposal of the Principal and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal has hereunto set its hand and seal and the Surety has caused this instrument to be signed by its

and its corporate seal to be hereunto affixed this day of 20 .

_____
Principal

_____
By

(If Corporation, affix corporate seal)

_____
Surety

_____
By

(If Corporation, affix corporate seal)

ACKNOWLEDGMENTS

(ACKNOWLEDGMENT BY PRINCIPAL, UNLESS IT BE A CORPORATION)

STATE OF)
) ss.:
COUNTY OF)

On this _____ day of _____, 20_____ , before me personally came

_____, to me known and known to me to be the person(s) described in and who executed the foregoing instrument and acknowledged that he executed the same.

_____
Notary Public

(ACKNOWLEDGEMENT BY CORPORATION)

STATE OF NEW YORK)
COUNTY OF) SS:

On this _____ day of _____, 20____, before me personally came

_____, to me known, who, being by me duly sworn, did depose and say that he/she/they reside(s) in _____; that he/she/they is (are) the _____ (president or other officer or director or attorney in fact duly appointed) of the _____ (name of corporation), the corporation described in and which executed the above instrument; and that he/she/they signed his/her/their name(s) thereto by authority of the board of directors of said corporation.

_____
Notary Public

;

(ACKNOWLEDGMENT BY SURETY COMPANY)

STATE OF)
) ss.:
COUNTY OF)

On this _____ day of _____, 20_____, before me personally came

_____, to me known who, being by me

duly sworn, did depose and say that he resides in _____;

that he is the _____ of the _____,
the corporation described in and which executed the foregoing instrument; that he knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that is was so affixed by order of the Board of Directors of said corporation and that he signed h name thereto by like order; and that the liabilities of said company do not exceed its assets as ascertained in the manner provided by the laws of the State of New York.

_____
Notary Public

00 43 13 10 INSTRUCTIONS FOR EXECUTION OF BID BOND

NOTE: All instructions are numbered in the sequence that they appear on the following Bid Bond sample:

1. Name of Principal.

1a. Address of Principal.

2. Surety name, address *(Note: Must be authorized to do business in NYS as surety).*

3. Surety's State of incorporation.

4. Surety's principal office.

5. Amount of bid security *(in words and figures* **OR** *"5% of amount of bid").*

6. Correct project designation, including SUCF Project No.

7. "Attorney-in-Fact" *(or other authorized representative)* of Surety.

8. Execution date of Bond.

9. Name of Principal.

10. Original signature of Principal's officer (if corporation); partner (if partnership); or individual owner (facsimile or stamped signature not acceptable). *Note: If Principal's signatory is <u>not</u> a corporate officer, such other authorized representative's capacity to execute the Bond on behalf of Principal must be shown by a duly executed document reflecting the grant of such authority, e.g. by a copy of the appropriate Resolution of the Board of Directors of Principal).*

11. Corporate seal of Principal (if a corporation).

12. Name of Surety.

13. Original signature of Surety's Attorney-in-Fact (or other authorized representative). *Note: Facsimile or stamped signature not acceptable.*

14. Corporate seal of Surety. *Note: If the Bond is executed by <u>joint venture</u>, each member of the joint venture must affix its appropriate name, signature, seal, etc., as listed above. Changes, additions, or deletions in the text of the Fund's Bond form are not acceptable.*

The Bond must also have attached to it: (1) Surety Company's Power of Attorney (naming attorney executing Bond); (2) Surety's Certificate (date to be on or after date of Bond execution); (3) Surety's current Financial Statement (no more than two years old).

Note: On the Surety's Financial Statement, "surplus to policy holders" must be in an amount at least ten (10) times the amount of the bid security (Item "5" on Page BB-1).

BID BOND

BOND NO. _____

KNOW ALL PERSONS BY THESE PRESENTS, that

-1-

, having an office at

-1a-

(hereinafter called the "Principal") and the

-2-

a corporation created and existing under the laws of the State of **-3-** , having its principal office at

-4-

(hereinafter called the "Surety") are held and firmly bound unto the State University Construction Fund (hereinafter called the "Fund") in the full and just sum of

-5-

dollars ($)
good and lawful money of the United States of America, or in the full and just sum of the difference between the Total Bid of the Principal and the Total Bid of the bidder submitting the next lowest bid, whichever sum shall be higher, for the payment of which said sum of money, well and truly to be made and done, the Principal binds itself, its heirs, executors, administrators, successors and assigns and the Surety binds itself, its successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has submitted to the Fund a Proposal for

-6-

which Proposal is incorporated herein by reference and made a part hereof as fully and to the same extent as if set forth at length herein;

NOW, THEREFORE, the condition of this obligation is such that in the event (1) the Principal's Total Bid is the lowest one submitted and the Principal timely provides the Post-Bid Information required under Sections 7 and 8 of the Information for Bidders or (2) the Fund shall accept the Proposal of the Principal and the Principal shall enter into a Contract with the Fund in accordance with the terms of such Proposal and/or enter into certain prescribed subcontracts in accordance with the terms of such Proposal and give such Bond or Bonds, proof of insurances, and 120-day Schedule as may be specified in the Bidding or Contract Documents, then this obligation shall be null and void, otherwise to remain in full force and effect.

The Surety, for value received, hereby stipulates and agrees that the obligation of said Surety and its Bond shall be in no way impaired or affected by any extension of the time within which the Fund may accept the Proposal of the Principal and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal has hereunto set its hand and seal and the Surety has caused this instrument to be signed by its **-7-**

and its corporate seal to be hereunto affixed this day of **-8-** 20 .

-9-

_____
Principal

-10-

_____
By

(If Corporation, affix corporate seal) **-11-**

-12-

_____
Surety

-13-

_____
By

(If Corporation, affix corporate seal) **-14-**

INSTRUCTIONS FOR EXECUTION OF ACKNOWLEDGMENTS

NOTE: All instructions are numbered in the sequence that they appear on the following Acknowledgment sample:

Acknowledgment by Individual Principal:

1. State where executed.
2. County where executed.
3. Date of execution.
4. Month of execution.
5. Year of execution.
6. Name of Individual Principal.
7. Original signature of Notary before whom Acknowledgment is signed. *NOTE: Facsimile or stamped signature not acceptable.*
8. Attach stamp or seal of Notary, showing (current) date of expiration of commission.

Acknowledgment by Corporate Principal:

1. State where executed.
2. County where executed.
3. Date of execution.
4. Month of execution.
5. Year of execution.
6. Name of Principal's Corporate Officer (or authorized representative).
7. Residence of Principal's Corporate Officer (or authorized representative).
8. Title of Corporate Officer (or authorized representative).
9. Full name of Principal.
10. Original signature of Notary before whom Acknowledgment is signed. *NOTE: Facsimile or stamped signature not acceptable.*
11. Attach stamp or seal of Notary, showing (current) date of expiration of commission.

Acknowledgment By Surety:

1. State where executed.
2. County where executed.
3. Date of execution.
4. Month of execution.
5. Year of execution.
6. Name of Surety's Attorney-in-Fact (or authorized representative).
7. Residence of Surety's Attorney-in-Fact (or authorized representative).
8. "Attorney-in-Fact" (or other authorized representative) of Surety.
9. Full name of Surety.
10. Original signature of Notary before whom Acknowledgment is signed. *NOTE: Facsimile or stamped signature not acceptable.*
11. Attach stamp or seal of Notary showing (current) date of expiration of commission.

NOTE: The date of all Acknowledgments must be on or after the date of execution of the Bond (Item "8" on page BB-1).

ACKNOWLEDGMENTS

(ACKNOWLEDGMENT BY PRINCIPAL, UNLESS IT BE A CORPORATION)

STATE OF **-1-**)
) ss.:
COUNTY OF **-2-**)

On this **-3-** day of **-4-**, 20**-5-** , before me personally came **-6-**, to me known and known to me to be the person(s) described in and who executed the foregoing instrument and acknowledged that he executed the same.

-7-
Notary Public

-8-

(ACKNOWLEDGMENT BY PRINCIPAL, IF A CORPORATION)

STATE OF **-1-**)
) ss.:
COUNTY OF **-2-**)

On this **-3-** day of **-4-**, 20**-5-** , before me personally came **-6-**, to me known who, being by me duly sworn, did depose and say that he resides in **-7-**;

that he is the **-8-** of the **-9-**, the corporation described in and which executed the foregoing instrument; that he knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that is was so affixed by order of the Board of Directors of said corporation and that he signed h name thereto by like order.

-10-
Notary Public

-11-

(ACKNOWLEDGMENT BY SURETY COMPANY)

STATE OF **-1-**)
) ss.:
COUNTY OF **-2-**)

On this **-3-** day of **-4-**, 20**-5-**, before me personally came **-6-**, to me known who, being by me duly sworn, did depose and say that he resides in **-7-**;

that he is the **-8-** of the **-9-**, the corporation described in and which executed the foregoing instrument; that he knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that is was so affixed by order of the Board of Directors of said corporation and that he signed h name thereto by like order; and that the liabilities of said company do not exceed its assets as ascertained in the manner provided by the laws of the State of New York.

-10-
Notary Public

State University Construction Fund
AGREEMENT

This Agreement made as of the day of X, 20XX, by and between the State University Construction Fund, whose address is The H. Carl McCall SUNY Building, 353 Broadway, Albany, New York 12246, hereinafter referred to as the "Fund", and

hereinafter referred to as the "Contractor".

WITNESSETH:

The parties hereto agree that the Contractor shall (a) furnish and perform all work of every kind required and all other things necessary to complete in the most substantial and workmanlike manner the construction of

SUCF Project:

at the

in strict accordance with the Contract Documents;

(b) complete all work necessary for substantial completion by or within , starting after receipt of the Notice to Proceed,

[INSTRUCTIONS: Identify substantial completion date above utilizing only one method.]

or within the time to which such completion may have been extended in accordance with the Contract Documents; (c) in the event it fails to substantially complete all the work on time, pay to the Fund liquidated damages in the amount of

dollars

for each calendar day of delay of substantially completing all the work; and (d) do everything required by the Contract; subject, however, to the terms, provisions and conditions listed hereinafter.

Article I
General Provisions

Section 1.01 **Definitions**

Where the following words and expressions are used in the Contract Documents it is understood that they have the meaning set forth as follows:

Allowance	Any and all work and materials which may be required of the Contractor in performing work set forth under one or more allowances to this Contract shall be Work, as defined herein, which shall be performed in accordance with the base schedule for the performance of the Contractor's Work. Contractor shall not be entitled to an extension of time for the performance of an allowance or all allowances.
Consultant	The Architect or Engineer named in the Notice to Bidders or such other person or firm designated by the Fund to provide general administration of the Contract and inspection of the work.
Bidding Documents	Notice to Bidders, Information for Bidders and Proposals
Bonds	Performance Bond and Labor and Material Bond
Delay	For purposes of this document and as used herein and in any other contract documents between the Contractor and the Fund the word "delay" shall be interpreted broadly and shall include by way of example only and not by way of limitation: delay, disruption, interference, inefficiencies, impedance, hindrance, acceleration, resequencing, schedule impacts, lack of timeliness by the Fund and/or Consultant, and lack of coordination, cumulative impact of multiple change orders, delay and other impacts.
Contract or Contract	The Agreement, Bonds, Specifications, Project Manual, Drawings, Addenda

Documents	issued prior to the opening of bids and Change Orders issued after award of the Contract.
Fund or Owner	State University Construction Fund
Notice of Award	Letter of Intent
Project	The facility or facilities to be constructed including all usual, appropriate and necessary attendant work shown on, described in or mentioned in the Contract.
Site	The area within the Contract limit lines, as shown on the Drawings, and all other areas upon which the Contractor is to perform work.
Substantial Completion	Substantial Completion is the completion of Work so that the Project can be fully occupied and used for the purposes for which it is intended. Substantial Completion includes: (1) completion of all work required for the issuance of a code compliance certificate, or a temporary approval for occupancy, completed in a manner that includes no uncorrected deficiency or material violation of the Building Code of New York State within the area or work for which the certificate is to be issued; (2) completion of all building systems and functional testing of said systems (other than tests that cannot be performed due to the seasonal environmental conditions in effect at the time of completion); (3) acceptance and approval of the Operating Instructions and Manuals and Training of Campus Personnel; and (4) the sum of values determined for Punch List work at the time of Substantial Completion shall not exceed one (1) percent of the amount of the Contract consideration unless otherwise agreed to by the Fund.
Work	The using, performing, installing, furnishing and supplying of all materials, equipment, labor, services and incidentals necessary or proper for or incidental to the successful completion of the Project and the carrying out of all duties and obligations imposed upon the Contractor by the Contract.

Section 1.02 Captions

The titles or captions of Articles and Sections of the Contract are intended for convenience and reference purposes only and in no way define, limit or describe the scope or intent thereof or of the Contract or in any way affect the Contract.

Section 1.03 Nomenclature

Materials, equipment or other work described in words and abbreviations which have a well-known, technical or trade meaning shall be interpreted as having such meaning in connection with the Contract.

Section 1.04 Entire Agreement

The Contract constitutes the entire agreement between the parties hereto and no statement, promise, condition, understanding, inducement or representation, oral or written, expressed or implied, which is not contained herein shall be binding or valid and the Contract shall not be changed, modified, or altered in any manner except by an instrument in writing executed by the parties hereto.

Section 1.05 Successors and Assigns

The Contract shall bind the successors, assigns and representatives of the parties hereto.

Section 1.06 Accuracy and Completeness of Contract Documents

(1) The Contract Documents are complementary and what is called for by any one shall be as binding as if called for by all. The intention of the Documents is to include all materials, plant, equipment, tools, skill and labor of every kind necessary for the proper execution of the work and also those things which may be reasonably inferable from the Contract Documents as being necessary to produce the intended results.

(2) The Contract Documents contemplate a finished piece of work of such character and quality as is reasonably inferable from them. The Contractor acknowledges that the Contract consideration includes sufficient money allowance to make its work complete and operational and in compliance with good practice and it agrees that inadvertent minor discrepancies or omissions or the failure to show details or to repeat on any part of the Contract Documents the figures or notes given on another shall

not be the cause for additional charges or claims. In case of a conflict between any part or parts of the Contract Documents with any other part or parts thereof, as contrasted to an omission or failure to show details or to repeat on any part of the Contract Documents the figures or notes given on another part thereof, the following shall be given preference, in the order hereinafter set forth, to determine what work the Contractor is required to perform: (a) Addenda (later dates to take preference over earlier dates); (b) Amendments to Agreement; (c) Agreement; (d) Specifications; (e) Schedules; (f) Large scale detail Drawings (detail drawings having a scale of 3/4" and over); (g) Large scale plan and section Drawings (plan and section drawings having a scale equal to or larger than that used for the basic floor or site plan, as the case may be); (h) Small scale detail Drawings (detail drawings having a scale of less than 3/4"); and (i) Small scale plan and section Drawings (plan and section drawings having a scale less than that used for the basic floor or site plan, as the case may be). In the event of such a conflict between or among parts of the Contract Documents that are entitled to equal preference, the more expensive way of doing the work, the better quality or greater quantity of material shall govern unless the Fund otherwise directs.

Section 1.07 Organization of Contract Documents

The Specifications and Drawings are generally divided into trade sections for the purpose of ready references, but such division is arbitrary and such sections shall not be construed as the prescription by the Consultant or the Fund of the limits of the work of any subcontractor or as a determination of the class of labor or trade necessary for the fabrication, erection, installation or finishing of the work required. The Contractor will be permitted to allot the work of subcontractors at its own discretion regardless of the grouping of the Specifications and Drawings. It shall be the Contractor's responsibility to settle definitively with each subcontractor the portions of the work which the latter will be required to do. The Fund and the Consultant assume no responsibility whatever for any jurisdiction claimed by any of the trades involved in the work.

Section 1.08 Furnishing of Contract Documents

The Fund shall establish the format for the Contract Documents (hard copy and/or electronic media) at the start of the Project. The Contractor shall be furnished, free of charge, with two (2) copies of the Specifications and Drawings in the selected format(s). Any other copies of the Specifications and Drawings which the Contractor may desire can be obtained at the Contractors expense.

Section 1.09 Examination of Contract Documents and Site

By executing the Contract, the Contractor agrees that it has carefully examined the Contract Documents together with the site of the proposed work as well as its surrounding territory; that it is fully informed regarding all the conditions affecting the work to be done and the labor and materials to be furnished for the completion of the Contract; and that its information has been acquired by personal investigation and research and not in the estimates and records of the Fund.

Section 1.10 Invalid Provisions

If any term or provision of the Contract Documents or the application thereof to any person, firm or corporation or circumstance shall, to any extent, be invalid or unenforceable, the remainder of the Contract Documents, or the application of such terms or provisions to persons, firms or corporations or circumstances other than those to which it is held invalid or unenforceable, shall not be affected thereby and each term or provision of the Contract Documents shall be valid and be enforced to the fullest extent permitted by law.

Section 1.11 No Collusion or Fraud

The Contractor hereby agrees that the Contract was secured without collusion or fraud and that neither any officer nor any employee of the Fund has or shall have a financial interest in the performance of the Contract or in the supplies, work or business to which it relates, or in any portion of the profits thereof.

Section 1.12 Notices

(1) All notices permitted or required hereunder shall be in writing and shall be transmitted either:

a. via certified or registered United States mail, return receipt requested;
b. by personal delivery;
c. by expedited delivery service; or
d. by email if actually received by the Fund. Contractor bears the burden of service by email and receipt of email by the Fund.

Such notices shall be addressed as follows or to such different addresses as the parties may from time to time designate:

The State University Construction Fund
Name:
Title: Project Coordinator
The H. Carl McCall SUNY Building
353 Broadway, Albany, NY 12246
Telephone Number:
E-mail address:

Contractor
Company Name:
Designated Contact Name:
Contact Title: Project Manager
Address:
Telephone Number:
E-mail Address:

(2) Any such notice shall be deemed to have been given either at the time of personal delivery or actual receipt by the Fund, or in the case of email, upon receipt by the Fund.

(3) The parties may, from time to time, specify any new or different address in the United States as their address for purpose of receiving notice under this Agreement by giving fifteen (15) days written notice to the other party sent in accordance herewith. The parties agree to mutually designate individuals as their respective representatives for the purposes of receiving notices under this Agreement. Additional individuals may be designated in writing by the parties for purposes of implementation and administration/billing, resolving issues and problems and/or for dispute resolution.

Section 1.13 Singular-Plural; Male-Female

As used in the Contract Documents, the singular of any word or designation, whenever necessary or appropriate, shall include the plural and vice versa, and the masculine gender shall include the female and neutral genders and vice versa.

Article II
Contract Administration and Conduct

Section 2.01 Consultant's Status

(1) The Consultant, as the Fund's representative, shall provide general administration of the Contract and inspection of the work. The Consultant will not be responsible for construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the work, and it will not be responsible for the Contractor's failure to carry out the work in accordance with the Contract Documents. The Consultant's duties, services and work shall in no way supersede or dilute the Contractor's obligation to perform the work in conformance with all Contract requirements, but it is empowered by the Fund to act on its behalf with respect to the proper execution of the work and to give instructions and/or direction when necessary to require such corrective measures as may be necessary, in its professional opinion, to insure the proper execution of the Contract or to otherwise protect the Fund's interest.

(2) The Consultant shall have the authority to stop the work or to require and/or direct the prompt execution thereof whenever such action may be necessary, in its professional opinion, to insure the proper execution of the Contract or to otherwise protect the interests of the Fund.

(3) Except as otherwise provided in the Contract, the Consultant shall determine the amount, quality, acceptability, fitness and progress of the work covered by the Contract and shall decide all questions of fact which may arise in relation to the interpretation of the plans and Specifications, the performance of the work and the fulfillment by the Contractor of the provisions of the Contract. The Consultant shall in the first instance be the interpreter of the provisions of the Contract and the judge of its performance and it shall use its power under the Contract to enforce its faithful performance.

Section 2.02 Finality of Decisions

(1) Any decision or determination of the Consultant under the provisions of the Contract shall be final, conclusive and binding on the Contractor unless the Contractor shall, within ten (10) working days after such decision, make and deliver to the Fund a verified written statement of its contention that the decision of the Consultant is contrary to a provision of the Contract. The Fund shall thereupon determine the validity of the Contractor's contention. Pending decision by the Fund, the Contractor shall proceed in accordance with the Consultant's decision.

(2) Wherever it is provided in the Contract Documents that an application must be made to the Fund and/or determination made by the Fund, the Fund's decision on such application and/or its determination under the Contract Documents shall be final, conclusive and binding upon the Contractor unless the Contractor, within ten (10) working days after receiving notice of the Fund's decision or determination, files a written statement with the Fund and the Consultant that it reserves its rights in connection with the matters covered by said decision

or determination and after a court of competent jurisdiction determines the Fund's said decision or determination to be fraudulent, capricious, arbitrary or so grossly erroneous as necessarily to imply bad faith, in an action brought in accordance with Section 4.24.

Section 2.03 Claims and Disputes

(1) If the Contractor claims (i) that any work it has been ordered to do is extra work or (ii) that it has performed or is going to perform extra work or (iii) that any action or omission of the Fund or the Consultant is contrary to the terms and provisions of the Contract, it shall:

a. Promptly comply with such order;

b. Notwithstanding the provisions of Section 1.12 of the Agreement and any other provisions of the Contract documents to the contrary, file with the Fund and the Consultant, within five (5) working days after being ordered to perform the work claimed by it to be extra work or within five (5) working days after commencing performance of the extra work, whichever date shall be the earlier, or within five (5) working days after the said action or omission on the part of the Fund or the Consultant occurred, a written notice of the basis of its claim and request a determination thereof,

c. Notwithstanding the provisions of Section 1.12 of the Agreement and any other provisions of the Contract documents to the contrary, file with the Fund and the Consultant, within thirty (30) calendar days after said alleged extra work was required to be performed or said alleged extra work was commenced, whichever date shall be the earlier, or said alleged action or omission by the Fund or the Consultant occurred, a verified detailed statement, with documentary evidence, of the items and basis of its claim, including an initial and updated detailed Time Progress Schedule,

d. Produce for the Fund's examination, upon notice from the Fund, such information and documentation as directed by the Fund, which shall include but not be limited to job cost reports and all estimates and documentation used to develop the Bid Proposal, all its books of account, bills, invoices, payrolls, subcontracts, time books, progress records, daily reports, bank deposit books, bank statements, checkbooks and cancelled checks, showing all of its actions and transactions in connection with or relating to or arising by reason of its claim, and submit persons in its employment and in its subcontractors' employment for examination under oath by any person designated by the Fund to investigate any claims made against the Fund under the Contract, such examination to be made at the offices of the Contractor; and

e. Proceed diligently, pending and subsequent to the determination of the Fund with respect to any such disputed matter, with the performance of the Contract and in accordance with all instructions of the Fund and the Consultant.

(2) The Contractor's failure to comply with any or all parts of subdivision b, c and d of paragraph (1) of this Section shall be deemed to be: (i) a conclusive and binding determination on its part that said order, work, action or omission does not involve extra work and is not contrary to the terms and provisions of the Contract; and (ii) a waiver by the Contractor of all claims for additional compensation or damages as a result of said order, work, action or omission. The provisions of subdivision b, c and d of paragraph (1) of this Section are for the purpose of enabling the Fund to avoid waste of public funds by affording it promptly the opportunity to cancel or revise any order, change its plans, mitigate or remedy the effects or circumstances giving rise to a claim or take such other action as may seem desirable and to verify any claimed expenses or circumstances as they occur. Compliance with such provisions is essential whether or not the Fund is aware of the circumstances of any order or other circumstances which might constitute a basis for a claim and whether or not the Fund has indicated it will consider a claim in connection therewith.

(3) The Contractor's failure to submit and maintain a Time Progress Schedule in accordance with Section 3.02 of the Agreement shall be deemed to be a waiver by the Contractor of all claims for additional time, compensation or damages as a result of any condition which is an alleged cause of delay in the completion of the work. The Schedule of Record, regularly updated and submitted at required durations in accordance with the provisions of the General Requirements, Section paragraph titled "Project Schedule": (i) informs the Fund and affords it promptly of regular opportunities to change its plans or mitigate or remedy the effects or circumstances giving rise to a claim of delay in the completion of the work or take such other action as may seem desirable to verify any claimed circumstances as they occur; and (ii) forms a record which becomes the basis of the Fund's verification of an alleged cause of delay in the completion of the work.

(4) No person has power to waive or modify any of the foregoing provisions and, in any action against the Fund to recover any sum in excess of the sum certified by the Fund to be due under or by reason of the Contract, the Contractor must allege in its complaint and prove at the trial compliance with the provisions of this Section.

(5) Nothing in this Section shall in any way affect the Fund's right to obtain an examination before trial or a discovery and inspection in any action that might be instituted by or against the Fund or the Contractor.

Section 2.04 Omitted Work

The Fund reserves the right at any time during the progress of the work to delete, modify or change the work covered by the Contract, by a Change Order or Field Order thereto providing for either a reduction or omission of any portion of the work, without constituting grounds for any claim by the Contractor for allowances for damages or for loss of anticipated profits and in such event a deduction shall be made from the Contract consideration, the amount of which is to be determined in accordance with the provisions of Section 4.02 or 4.05A of the Agreement.

Section 2.05 Extra Work

(1) The Fund reserves the right at any time during the progress of the work to add, modify or change the work covered by the Contract by Change Order or Field Order or as otherwise required by the Fund thereto providing for extra work of either a qualitative or quantitative nature and in such event the Contract consideration may be increased by an amount to be determined in accordance with the provisions of Sections 4.02 and 4.05A of the Agreement and the completion date for all or any part of the work may be extended for such period of time as may be determined by the Fund as necessary, because of the extra work, to complete the work or any part thereof.

(2) Nothing in the Contract Documents shall excuse the Contractor from proceeding with the extra work as directed. The terms and conditions of the Contract Documents shall be fully applicable to all extra work.

(3) The Contractor shall have no claim for extra work or an extension of time if the performance of such work, in the judgment of the Consultant, is made necessary or desirable because of any act or omission of the Contractor which is not in accordance with the Contract.

(4) Notwithstanding the provisions of Section 2.02 of the Agreement and any other provisions of the Contract Documents to the contrary, an officer of the Fund, after conferring with the Consultant, shall have the right to overrule a determination or decision of the Consultant, that relates to whether certain work is included in the Contract Documents or is extra work, which he or she believes is incorrect; in the event an officer exercises such right, his or her determination or decision shall be final, conclusive and binding upon the Contractor and the Fund unless the same shall be determined by a court of competent jurisdiction to have been fraudulent, capricious, arbitrary or so grossly erroneous as necessarily to imply bad faith.

Section 2.06 Contractor to Give Personal Attention

(1) The Contractor shall give its constant personal attention to all the work while it is in progress and shall place the work in charge of a competent and reliable full-time superintendent acceptable to the Consultant and the Fund who shall have authority to act for the Contractor and who shall be accountable to the Consultant to the extent provided in the Contract. Unless the superintendent proves to be unsatisfactory to the Contractor and ceases to be in its employ, such superintendent shall not be changed without the written permission of the Consultant and the Fund.

(2) When the Contractor and its superintendent are temporarily absent from the site of the work, the Contractor or its superintendent shall designate a responsible supervisory employee, approved by the Consultant and the Fund, to receive such orders as the Consultant or its representative may give. At no time shall any work be conducted on the site in the absence of an individual present who has been so designated by the Contractor or its superintendent as having authority to receive and execute instructions given by the Consultant or its representative.

(3) If the superintendent, project manager or other supervisory employees are not satisfactory to the Fund, the Contractor shall, if directed by the Fund, immediately replace such supervisory employees with other supervisory employees acceptable to the Consultant and the Fund. Such replacement and all related impacts shall be at no additional cost to the Fund.

Section 2.07 Employment of Workers

The Contractor shall at all times employ competent and suitable workers and equipment which shall be sufficient to prosecute all the work to full completion in

a disciplined orderly manner and in accordance with the Time Progress Schedule and the contractually required time of performance. All workers engaged in special or skilled work shall have had sufficient experience in such work to properly and satisfactorily perform the same. Should the Consultant deem any employee of the Contractor or any subcontractor incompetent, careless, insubordinate or otherwise objectionable or whose continued employment on the work is deemed by the Consultant to be contrary to the public interest, it shall so advise the Contractor and the latter shall dismiss or shall cause the subcontractor, if such employee is employed by the latter, to dismiss such employee and such employee shall not again be employed on the work to be performed under the Contract without obtaining the prior written approval of the Consultant.

Section 2.08 Detailed Drawings and Instructions

Upon timely notice from the Contractor that supplementary information is required, the Consultant shall furnish additional instructions, by means of Drawings or otherwise, necessary for the proper execution of the work. All such Drawings and instructions shall be consistent with the Contract Documents, true developments thereof and reasonably inferable therefrom. The work shall be executed in conformity therewith and the Contractor shall do no work without proper Drawings and/or instructions.

Section 2.09 Contract Documents to Be Kept at Site

The Contractor shall keep at the site of the work a copy of the Drawings and Specifications and shall at all times give the Consultant and the Fund access thereto.

Section 2.10 Permits and Building Codes

The Contractor shall obtain from the proper authorities all permits legally required to carry on its work, pay any and all taxes and fees legally required and shall be responsible for conducting its operations in accordance with the provisions of such permits. Except as otherwise expressly provided in the Contract Documents, all of the work covered by this Contract which is to be performed on property owned by the State University of New York is not subject to the building code of any city, county or other political subdivision of the State of New York. It is, however, subject to the provisions of the Building Code of New York State and the applicable Federal and State health and labor laws and regulations.

Section 2.11 Surveys

(1) From the data shown on the Drawings and identified at the site by the Consultant, a licensed surveyor, to be designated and paid for by the Fund, shall establish one (1) fixed benchmark and one (1) fixed base line at the site. The Contractor shall work from the benchmarks and base lines shown on the Drawings, identified at the site by the Consultant and established at the site by the aforesaid surveyor and shall establish such supplementary bench marks and base lines that are required in order for it to lay out the work. The Contractor shall be responsible for all measurements that may be required for execution of the work to the exact position and elevation as prescribed in the Specifications, shown on the Drawings, or as the same may be modified at the direction of the Consultant to meet changed conditions or as a result of modifications to the work covered by the Contract.

(2) The Contractor shall furnish at its own expense such stakes and other required equipment, tools and materials, and all labor as may be required in laying out any part of the work. If, for any reason, monuments are disturbed, it shall be the responsibility of the Contractor to reestablish them, without cost to the Fund, as directed by the Consultant. The Consultant may require that construction work be suspended at any time when location and limit marks established by the Contractor are not reasonably adequate to permit checking completed work or the work in progress.

(3) In all multiple-story construction, the Contractor shall establish and maintain line marks at each floor level and grade marks four (4) feet above the finished floor at each floor level.

Section 2.12 Site Conditions

(1) The Contractor acknowledges that it has assumed the risk and that the Contract consideration includes such provision as it deems proper for all physical conditions and subsurface conditions as it could reasonably anticipate encountering from the provisions of the Contract Documents, borings, rock cores, topographical maps and such other information as the Fund or the Consultant made available to it prior to the Fund's receipt of bids or from its own inspection and examination of the site prior to the Fund's receipt of bids.

(2) In the event that the Contractor encounters subsurface physical conditions or other latent physical conditions at the site differing substantially from those shown on or described or indicated in the Contract Documents and which could not have been reasonably anticipated from the aforesaid information made available by the Fund or the Consultant or from the Contractor's aforesaid inspection and examination of the site, it shall give immediate notice to the Consultant of such conditions before they are disturbed. The Consultant will thereupon promptly investigate the conditions and, if it finds that they do substantially differ from that which should have been reasonably anticipated by the Contractor, it shall make such changes in the Drawings and Specifications as may be necessary and a Change Order or Field Order may be issued, the amount of which shall be determined in accordance with the provisions of Sections 4.02 and 4.05A, to reflect any increase or decrease in the cost of, or the time required for, performance of the Contract as a result of any of the aforesaid changes made by the Consultant and/or as a result of such unanticipated subsurface conditions.

Section 2.13 Right to Change Location

When additional information regarding the subsurface conditions becomes available to the Fund as a result of the excavation work, further testing or otherwise, it may be found desirable to change the location, alignment, dimensions or grades to conform to such conditions. The Fund reserves the right to make such reasonable changes in the work as, in its opinion, may be considered necessary or desirable; such changes and any adjustments in the Contract consideration as a result thereof are to be made in accordance with the provisions of Sections 2.04, 2.05 4.02 and 4.05A of the Agreement.

Section 2.14 Unforeseen Difficulties

Except as otherwise expressly provided in Section 2.12 of the Agreement and in other Sections of the Contract Documents, the Contractor acknowledges that it has assumed the risk and that the Contract consideration includes such provisions as it deems proper for any unforeseeable obstacles or difficulties which it may encounter in the performance of the work.

Section 2.15 Moving Materials and Equipment

Should it become necessary, in the judgment of the Consultant, at any time during the course of the work to move materials which are stored on the site and equipment which has been temporarily placed thereon, the Contractor upon request of the Consultant shall move them or cause them to be moved at its sole cost and expense; provided, however, if materials and equipment that have been stored or placed by the Contractor at a location on the site expressly approved, in writing, by the Consultant and the same are moved or caused to be moved by the Contractor at the Consultant's request, such removal shall be deemed extra work and the Contractor shall be compensated therefor in accordance with the provisions of Sections 4.02 and 4.05A of the Agreement.

Section 2.16 Other Contracts

(1) Prior to and during the progress of the work hereunder the Fund reserves the right to let or permit the letting of other contracts relating to the Project or in connection with work on sites within the Contract limit lines or adjoining or adjacent to that on which the work covered by this Contract is to be performed. In the event such other contracts are let, or have previously been let, the Contractor and such other contractors shall coordinate their work with each other, arrange the sequence of their work to conform with the progressive operation of all the work covered by such contracts and afford each other reasonable opportunities for the introduction and storage of their materials, supplies and equipment and the execution of their work. If the Contractor or such other contractors contend that their work or the progress thereof is being interfered with by the acts or omissions of the other or others or that there is a failure to coordinate or properly arrange the sequence of the work on the part of the Contractor or such other contractors, they shall, within five (5) working days of the commencement of such interference or failure of coordination or failure to perform work in proper sequence, give written notification to the Fund and the Consultant of such contention. Upon receipt of such notification or on its own initiative, the Consultant shall investigate the situation and issue such instructions to the Contractor or such other contractors with respect thereto as it may deem proper. The Consultant shall determine the rights of the Contractor and of such other contractors and the sequence of work necessary to expedite the completion of all work covered by this Contract in relation to the work covered by said other contracts.

(2) The Contractor agrees that it has and will make no claim for damages against the Fund by reason of any act or omission to act by any other contractor or in connection with the Consultant's or Fund's acts or omissions to act in connection with such other contractor, but the Contractor shall have a right to recover such damages from the other contractors.

(3) Not Used.

(4) If the proper and accurate performance of the work covered by the Contract depends upon the proper performance and execution of work not included herein or depends upon the work of any other contractor, the Contractor shall inspect and promptly report to the Consultant any defects in such work that render it unsuitable for proper execution and results. Its failure to so inspect and report shall constitute an acceptance of the other contractor's work as fit and proper for the reception of the work covered by the Contract, except as to latent defects which may be discovered thereafter.

Section 2.17 Inspection and Testing

(1) All materials and workmanship shall be subject to inspection, examination and testing by the Consultant and the Fund at all times during the performance of the work and at all places where the work is carried on. Except as otherwise herein specified, the Fund shall pay for the cost of inspection, examination and testing by the Consultant or the Fund. If, however, the tests prove that the materials and/or work tested do not meet the requirements of the Contract, then the entire cost of such tests and any additional testing and or inspections required until the work is deemed compliant is to be borne by the Contractor. The Consultant will have the right to reject defective material and workmanship furnished by the Contractor or require its correction. The Contractor, without charge therefor, shall satisfactorily and promptly correct all rejected work and replace all rejected material with proper material.

(2) The Contractor shall promptly segregate and remove from the site of the work all rejected material and work. If the Contractor shall fail to proceed at once with the replacing of rejected material and/or correction of defective workmanship, the Fund may, by contract or otherwise, replace such material and/or correct such workmanship, and charge the costs thereof to the Contractor or it may cancel the Contract and terminate the Contractor's employment as provided in the Agreement.

(3) The Contractor, without additional charge, shall promptly furnish all reasonable facilities, labor materials and equipment with associated operators necessary for the safe and convenient access, inspection and testing that may be required by the Consultant or the Fund.

(4) If the Contract Documents or the Consultant's instructions or the applicable laws, ordinances or regulations of any governmental authority require any part of the work covered by the Contract to be specially tested or inspected, the Contractor shall give the Consultant timely notice of its readiness for such testing or inspection or, if the same is to be performed by a governmental authority, of the date fixed therefor. If any such work, without the written permission of the Consultant, should be covered up prior to such testing or inspection, the Contractor, at its sole cost and expense must, if directed by the Consultant, uncover the same for testing or inspection and reconstruct same after the tests or inspection are conducted. All certificates of inspection or testing, involving the Contractor's work, required to be obtained from governmental authorities are to be secured by the Contractor at its sole cost and expense.

(5) Should it be considered necessary or advisable by the Consultant at any time before final acceptance of the entire work to make an examination of work already completed by removing or tearing out same, the Contractor, upon request, shall furnish all necessary facilities, labor and material to perform such examination. If the work subject to such examination is found to be defective or nonconforming in any manner due to the fault of the Contractor or any of its subcontractors, such uncovering or destruction and necessary reconstruction, even though such includes work not covered in the Contract, shall be at the expense of the Contractor. If, however, such work after testing and examination is found to be satisfactory, the Fund will pay the Contractor the cost of such uncovering or destruction and reconstruction, such cost to be determined as in the case of extra work as provided in Sections 4.02 and 4.05A.

(6) Inspection of material and furnished articles to be incorporated in the work may be made at the place of production, manufacture or shipment unless otherwise stated herein. The inspection of material and workmanship for final acceptance as a whole or in part will be made at the site of the work.

Section 2.18 Subcontractors

(1) Except for subcontractors designated by the Fund, or required to be named at any earlier date, pursuant to the provisions of the Information for Bidders, within thirty (30) calendar days after receipt of the Notice to Proceed, the Contractor must submit a written statement to the Consultant giving the name and address of all proposed subcontractors. Said statement must contain a description of the portion of the work and materials which the proposed

subcontractors are to perform and furnish and any other information tending to prove that the proposed subcontractors have the necessary facilities, skill, integrity, past experience and financial resources to perform the work in accordance with the terms and provisions of the Contract Documents.

(2) If the Consultant finds that the proposed subcontractors are qualified, it will so notify the Contractor within ten (10) working days after receipt of the aforesaid information. If the determination is to the contrary, however, the Consultant within such period will notify the Contractor of such determination and the latter, unless it decides to do such work itself and is qualified, in the Consultant's opinion, to do such work, must, within ten (10) working days thereafter, submit similar information with respect to other proposed subcontractors.

(3) The Consultant's approval of a subcontractor and/or the Fund's designation of a subcontractor pursuant to the provisions of the Contract Documents shall not relieve the Contractor of any of its responsibilities, duties and liabilities hereunder. The Contractor shall be solely responsible to the Fund for the acts or defaults of such subcontractors and of such subcontractors' officers, agents and employees, each of whom shall, for this purpose, be deemed to be the agent or employee of the Contractor to the extent of its subcontract.

(4) The Contractor shall be fully responsible for the administration, integration, coordination, direction and supervision of all of its subcontractors and of all work and it shall check all space requirements of the work and coordinate and adjust the same so that conflicts in space do not occur in the work being performed by it with its own employees and with the work being performed by its subcontractors and so that all equipment, piping, wiring, etc., can be installed, where possible, in the spaces allowed for same.

(5) No subcontractor shall be permitted to work at the site until: (a) it has furnished satisfactory evidence to the Consultant of the insurance required by law; (b) in the case of a Project involving a federal grant, it has furnished satisfactory evidence to the Consultant of the same type and amount of liability insurance as that required of the Contractor by Section 5.06 of the Agreement; and (c) except for subcontractors designated by the Fund pursuant to the provisions of the Information for Bidders, it has been approved by the Consultant.

(6) Within ten (10) working days after the Contractor receives payment from the Fund on account of a progress payment application for the percentage of the work done, it shall pay each of its subcontractors the sum contained in said payment for the percentage of said subcontractor's work, less the same amount retained therefrom by the Fund under the terms of the Contract Documents or in consequence of any legal proceedings or statutory liens, and less any amounts due the Contractor under the subcontract for work not performed or not properly or timely performed by the subcontractor. In the event any subcontractor is not paid by the Contractor, the former should immediately notify the Fund of such fact.

(7) The Contractor shall execute with each of its subcontractors and shall require all subcontractors to execute with their sub-subcontractors a written agreement which shall bind the latter to the terms and provisions of this Contract insofar as such terms and provisions are applicable to the work to be performed by such subcontractors. The Contractor shall require all subcontractors and sub-subcontractors to promptly, upon request, file with the Consultant and the Fund a conformed copy of such agreements, from which the price and terms of payment may be deleted.

(8) If for sufficient reason, at any time during the progress of the work to be performed hereunder, the Consultant determines that any subcontractor or sub-subcontractor is incompetent, careless, or uncooperative, the Consultant will notify the Contractor accordingly and immediate steps will be taken by the Contractor for cancellation of such subcontract or sub-subcontract. Such termination, however, shall not give rise to any claim by the Contractor or by such subcontractor or sub-subcontractor for loss of prospective profits on work unperformed and/or work unfurnished and a provision to that effect shall be contained in all subcontracts and sub-subcontracts.

(9) No provisions of this Contract shall create or be construed as creating any contractual relation between the Fund and any subcontractor or sub-subcontractor or with any person, firm or corporation employed by, contracted with or whose services are utilized by the Contractor.

Section 2.19 Shop Drawings and Samples

(1) The Contractor in accordance with the approved Shop Drawing, Submittal, Mockup, and Sample schedules and with such promptness and in such sequence as to cause no delay in the work, shall submit for the Consultant's approval all Shop Drawings and Samples called for under the Contract or requested by the Consultant.

(2) Shop Drawings and mock-ups shall establish the actual detail of the work, indicate proper relation to adjoining work, amplify design details of mechanical and electrical equipment in proper relation to physical spaces in the structure, and incorporate minor changes of design or construction to suit actual conditions. Shop drawings include drawings, diagrams, schedules, product data and other information or materials specially prepared for the work by the Contractor to illustrate some portion of the work. Product data include standard illustrations, schedules, performance charts, instructions, brochures, diagrams and other information identified by the Contractor to illustrate materials or equipment for some portion of the work.

(3) All Shop Drawings, mock-ups and samples shall be thoroughly checked by the Contractor for compliance with the Contract Documents before submitting them to the Consultant for approval and all Shop Drawings shall bear the Contractor's recommendation for approval. Any Shop Drawings submitted without this stamp of approval and certification, and Shop Drawings which, in the Consultant's opinion, are incomplete, contain numerous errors or have not been checked or only checked superficially, will be returned unchecked by the Consultant for resubmission by the Contractor. In checking Shop Drawings, the Contractor shall verify all dimensions and field conditions and shall check and coordinate the Shop Drawings of any section or trade with the requirements of all other sections or trades whose work is related thereto, as required for proper and complete installation and sequence of the work.

(4) Samples must be of sufficient size or number to show the quality, type, range of color, finish and texture of the material. Each Sample shall be properly labeled to show the nature of the material, trade name of manufacturer, name and location of the work where the material represented by the Sample is to be used and the name of the Contractor submitting the Sample. Transportation charges to the Consultant must be prepaid on Samples forwarded to it.

(5) At the start of the Project, the format for submittals shall be established by the Fund. If an electronic method is selected for the submission and approval of submittals, the Contractor shall provide submittals in a PDF format and the Consultant will return the submittals in electronic format to the Contractor. For both hard-copy and electronic submittal formats, all submittals that require physical samples or mock-ups shall be provided in accordance with the requirements set forth in the Contract Specifications. Shop Drawings and Samples, submitted by the Contractor in accordance with the approved Shop Drawing and Sample schedule that is included in the Time Progress Schedule, will be reviewed by the Consultant within fifteen (15) working days and if satisfactory will be approved. A Shop Drawing, when approved, will be returned to the Contractor. If not satisfactory, the Drawings and Samples will be appropriately marked and returned to the Contractor for correction thereof, in which event the Contractor shall resubmit to the Consultant a corrected copy of the Shop Drawing or a new Sample, as the case may be. The Contractor shall make any correction required by the Consultant and shall appropriately note any changes or revisions on the Shop Drawing, dated to correspond with the date of the Consultant's request for the change. Upon approval of the Shop Drawing by the Consultant, the Contractor shall promptly furnish to the Consultant as many copies thereof as the Consultant may reasonably request. Should more than two (2) separate reviews of any required shop drawings or samples submitted be necessary, in the judgement of the Consultant and the Fund, the Contractor shall be responsible for the reasonable costs incurred by the Fund for such additional reviews by the Consultant.

(6) At the time of submission of a Shop Drawing or Sample, the Contractor shall inform the Consultant and the Fund in writing of any deviation in the Shop Drawing or Sample from the requirements of the Contract Documents. Unless such deviation is specifically noted by the Contractor with a notation that such deviation will result in extra work for which the Contractor requests payment, the Contractor shall be deemed to have waived any claim for extra work, additional compensation or payment or an extension of time with respect to all work shown on, described in or related to the Shop Drawing or Sample.

(7) The Consultant's approval of Shop Drawings or Samples is for design only and is not a complete check on the method of assembly, erection or construction. Approval shall in no way be construed as: (a) permitting any departure whatsoever from the Contract Documents, except where the Contractor, in accordance with the provisions of paragraph 6 of this Section, has previously notified the Fund and the Consultant of such departure; (b) relieving the Contractor of full responsibility for any error in quality of materials, details, dimensions, omissions or otherwise that may exist; (c) relieving the Contractor of full responsibility for adequate field connections, erection techniques, bracing or deficiencies in strength; (d) relieving the Contractor of full responsibility for satisfactory performance of all work

and coordination with the work of all subcontractors and other contractors; or (e) permitting departure from additional details or instructions previously furnished by the Consultant.

(8) No work requiring a Shop Drawing or Sample shall be commenced until a Shop Drawing or Sample is approved by the Consultant and all such work shall be: (a) in accordance with the approved Shop Drawing, provided the latter conforms in all respects to the Contract Documents or to such deviations therefrom as have been previously noted by the Contractor in accordance with the provisions of paragraph 6 of this Section; and (b) in conformance in all respects to the sample furnished to and approved by the Consultant and, unless otherwise specified, as new and of good quality.

(9) The Contractor may be required to provide professional services that constitute the practice of architecture or engineering when specifically required by the Contract Documents for a portion of the work or the Contractor needs to provide such services in order to carry out its responsibilities for construction means, methods, techniques, sequences and procedures. When professional services are required in the Contract Documents, the Consultant will specify all performance and design criteria that such services must satisfy. The Fund and Consultant shall be entitled to rely on the adequacy, accuracy and completeness of the professional services, certifications, and approvals performed or provided by design professionals working for the Contractor.

(10) Contractor agrees that the Fund may deduct from any application for payment made by the Contractor, any and all Design Professional, Consultant and/or Construction Management fees and costs incurred by the Fund together with a markup upon such hard costs in the amount of 15% in the review or evaluation of any substitutions for methods, products or performance pursuant to this Section 2.19.

Section 2.20 Equivalents - Approved Equal

(1) Equivalents or Approvals - General

a. The words "similar and equal to", or equal", “equivalent" and such other words of similar content and meaning shall for the purposes of this Contract be deemed to mean similar and equivalent to one of the named products. For the purposes of subdivisions (1) and (2) of this Section and for the purposes of the Bidding Documents, the word "products" shall be deemed to include the words “articles", "materials", "items", "equipment" and “methods". Whenever in the Contract Documents one or more products are specified, the words "similar and equal to" shall be deemed inserted.

b. Whenever any product is specified in the Contract Documents by a reference to the name, trade name, make or catalog number of any manufacturer or supplier, the intent is not to limit competition, but to establish a standard of quality which the Consultant has determined is necessary for the Project. A Contractor may at its option use any product other than that specified in the Contract Documents provided the same is approved by the Consultant in accordance with the procedures set forth in subdivision (2) of this Section except for the single/sole source shown in Specification Sections where the use of another product is not permitted. In all cases the Consultant shall be the sole judge as to whether a proposed product is to be approved and the Contractor shall have the burden of proving, at its own cost and expense, to the satisfaction of the Consultant, that the proposed product is similar and equal to the named product. In making such determination the Consultant may establish such objective and appearance criteria as it may deem proper that the proposed product must meet in order for it to be approved.

c. Nothing in the Contract Documents shall be construed as representing, expressly or implied, that the named product is available or that there is or there is not a product similar and equal to any of the named products and the Contractor shall have and make no claim by reason of the availability or lack of availability of the named product or of a product similar and equal to any named product.

d. The Contractor shall have and make no claim for an extension of time or for damages by reason of the time taken by the Consultant in considering a product proposed by the Contractor or by reason of the failure of the Consultant to approve a product proposed by the Contractor.

e. Requests for approval of proposed equivalents will be received by the Consultant only from the Contractor.

f. Approval shall in no way be construed as: (a) permitting any departure whatsoever from the Contract Documents, (b) relieving the Contractor of full responsibility for any error in quality of materials, details, dimensions, sequence of work,

omissions or otherwise that may exist, (c) relieving the Contractor of full responsibility for adequate field connections, erection techniques, bracing or deficiencies in strength, (d) relieving the Contractor of full responsibility for satisfactory performance of all work to achieve a functionally complete facility or result and coordination with the work of all subcontractors and other contractors or (e) permitting departure from additional details or instructions previously furnished by the Consultant.

g. Contractor agrees that the Contractor approves and authorizes the deduction from Contractor's applications for payment any and all costs incurred by the Construction Manager, Consultant, Design Professional or otherwise in evaluating Contractor's submissions under this Section 2.20, together with a markup upon such hard costs in the amount of 15%.

(2) Equivalents or Approvals After Bidding

a. Any and all submissions for "or equal" products which are submitted by the Contractor after award of the Contract must be made by the Contractor within ninety (90) calendar days after the date of award. Contractor agrees that it waives and relinquishes the right, claim or privilege, if any, to submit "or equal" proposals if such are made ninety (90) calendar days after the date of award of the Contract to the Contractor.

b. Requests for approval of proposed equivalents will be considered by the Consultant after bidding only in the following cases: (a) the named product cannot be obtained by the Contractor because of strikes, lockouts, bankruptcies or discontinuance of manufacture and the Contractor makes a written request to the Consultant for consideration of the proposed equivalent within ten (10) calendar days of the date it ascertains it cannot obtain the named product; or (b) the proposed equivalent is superior, in the opinion of the Consultant, to the named product; or (c) the proposed equivalent, in the opinion of the Consultant, is equal to the named product and its use is to the advantage of the Fund, e.g., the Fund receives an equitable credit, acceptable to it, as a result of the estimated cost savings to the Contractor from the use of the proposed equivalent or the Fund determines that the Contractor has not failed to act diligently in placing the necessary purchase orders and a savings in the time required for the completion of the construction of the Project should result from the use of the proposed equivalent.

c. Where the Consultant pursuant to the provisions of this subdivision approves a product proposed by a Contractor and such proposed product requires a revision or redesign of any part of the work covered by this Contract, all such revision and redesign and all new Drawings and details required therefor shall be subject to the approval of the Consultant and shall be provided by the Contractor at its own cost and expense.

d. Where the Consultant pursuant to the provisions of this Section approves a product proposed by a Contractor and such proposed product requires a different quantity and/or arrangement of duct work, piping, wiring, conduit or any other part of the work from that specified, detailed or indicated in the Contract Documents, the Contractor shall provide the same at its own cost and expense.

(3) Contractor agrees that the Fund may deduct from any application for payment made by the Contractor any and all Design Professional, Consultant and/or Construction Management fees and costs incurred by the Fund, together with a markup upon such hard costs in the amount of 15%, in the consideration or evaluation of any substitutions for methods, products or performance pursuant to this Section 2.20.

Section 2.21 Patents, Trademarks and Copyrights

The Contractor acknowledges that the Contract consideration includes all royalties, license fees and costs arising from patents or trademarks in any way involved in the work; provided, however, that the Contract consideration shall not be deemed to have included therein any royalty, license fee or cost arising from a patent or trademark for a design prepared by the Consultant and the Contractor shall have no liability in connection therewith. Where the Contractor is required or desires to use any product, device, material or process covered by patent or trademark, the Contractor shall indemnify and save harmless the Fund from any and all claims, actions, causes of action

or demands, for infringement by reason of the use of such patented product, device, material or process, and shall indemnify the Fund from any cost, liability, damage and expense, including reasonable attorneys' fees and court costs, which it may be obligated to incur or pay by reason of any claim or infringement at any time both before or after the Fund's final acceptance of all the work to be performed under the Contract.

Section 2.22 Possession Prior to Completion

If before the final completion of all the work it shall be deemed advisable or necessary by the Fund to take over, use, occupy or operate any part of the completed or partly completed work or to place or install therein equipment and furnishings, the Fund, upon reasonable written notice to the Contractor, shall have the right to so do and the Contractor will not in any way interfere therewith or object to the same. Such action by the Fund shall in no way affect the obligations of the Contractor under the terms and provisions of the Contract Documents and the Contractor acknowledges that such action by the Fund does not in any way evidence the completion of the work or any part thereof or in any way signify the Fund's acceptance of the work or any part thereof. The Contractor agrees to continue the performance of all work covered by the Contract in a manner which will not unreasonably interfere with such takeover, use, occupancy, operation, placement or installation.

Section 2.23 Completion and Acceptance

(1) Partial Completion

If before the final completion of all the work any portion of the permanent construction has been satisfactorily completed and the same will be immediately useful to the Fund, the latter may, by written notice, advise the Contractor that it accepts such portion of the work. Such action by the Fund shall in no way affect the obligations of the Contractor under the terms and provisions of the Contract with respect to any work not so completed and accepted. The partial completion of any portion of the Contractor's work by the Fund, the Campus or the Consultant, shall not impact the assessment of liquidated damages or actual costs for delays or disruption to the Project caused by the Contractor, its subcontractors or vendors.

(2) Substantial Completion

When all the Work covered by the Contract is substantially completed, as defined in Section 1.01, the Contractor shall give written notice thereof to the Fund and the Consultant. The latter will then promptly make an inspection of the work and, if they shall determine that all the work is substantially completed, they shall so advise the Contractor. Such action shall in no way affect the obligations of the Contractor under the terms and provisions of the Contract with respect to any uncompleted (including untested or deferred work), unaccepted or corrective work or in any way affect, limit or preclude the issuance by the Consultant, from time to time thereafter, of "Punch Lists", i.e., lists of uncompleted or corrective work which the Contractor is to promptly complete and/or correct. In the judgement of the Fund, should more than two (2) separate inspections of the Work be necessary, the Contractor agrees that the Fund may deduct from any application for payment made by the Contractor, any and all Design Professional, Consultant and/or Construction Management fees and costs incurred by the Fund together with a markup upon such hard costs in the amount of 15% for all such additional inspections.

The Contractor must fully, completely and acceptably perform all Punch List work and any other work subsequently discovered remaining to be completed or corrected, within ninety (90) calendar days of Substantial Completion or within such other timeframe stipulated by the Fund or Consultant. Failure to complete the Punch List within the time so designated hereunder may be deemed default on the part of the Contractor.

(3) Final Completion and Acceptance

After the completion of all the work the Contractor shall give written notice to the Fund and the Consultant that all the work is ready for inspection and final acceptance. The Fund and the Consultant shall promptly make such inspection and, if they shall determine that all the work has been satisfactorily completed, the Fund shall thereupon by written notice advise the Contractor that it accepts such work. In the judgement of the Fund, should more than two (2) separate inspections of the Work be necessary, the Contractor agrees that the Fund may deduct from any application for payment made by the Contractor, any and all Design Professional, Consultant and/or Construction Management fees and costs incurred by the Fund together with a markup upon such hard costs in the amount of 15% for all such additional inspections.

Section 2.24 Record Drawings

(1) At the start of the Project, the format for Record Drawings shall be established by the Fund. Prior to acceptance by the Fund of all work covered by

the Contract, the Contractor shall furnish to the Consultant one (1) set of current Contract Drawings on which the Contractor has recorded, using colored pencil for hard copy format or electronic editing tool in contrasting color for electronic format, in a neat and workmanlike manner, all instances where actual field construction differs from work as indicated on the Contract Drawings. These "Record". Drawings shall show the following information: (a) all significant changes in plans, sections, elevations and details, such as shifts in location of walls, doors, windows, stairs and the like made during construction; (b) all significant changes in foundations, columns, beams, openings, concrete reinforcing, lintels, concealed anchorages and "knock-out" panels made during construction; (c) final location of electric panels, final arrangement of electric circuits and any significant changes made in electrical design as a result of Change Orders, Field Orders or job conditions; (d) final location and arrangement of all mechanical equipment and major concealed plumbing, including, but not limited to, supply and circulating mains, vent stacks, sanitary and storm water drainage; (e) final location and arrangement of all underground utilities, connections to building and/or rerouting of existing utilities, including, but not limited to, sanitary, storm, heating, electric, signal, gas, water and telephone: and (f) final make and model for all significant equipment and devices listed in the specifications. The Contractor shall also provide an electronic version as determined by the Consultant.

(2) Periodically during the work, the Consultant may request submission of a progress set of Record Drawings for review and advise the Contractor of errors or omissions, if any, that must be corrected or completed prior to final submission of the Record Drawings. Shop Drawings shall not be acceptable as Record Drawings.

(3) The Contractor shall submit the Record Drawings to the Consultant at least fifteen (15) days prior to the date of Substantial Completion. The Consultant will then review the Record Drawings and, if they shall determine that the Record Drawings represent the actual field construction being completed, they shall so advise the Contractor. If not satisfactory, the Record Drawings will be appropriately marked and returned to the Contractor for correction thereof, in which event the Contractor shall promptly correct and resubmit to the Consultant a corrected copy of the Record Drawings. Acceptance of the Record Drawings by the Fund is a condition precedent to the Contractor's entitlement to receive Final Payment.

Section 2.25 Guarantees

(1) The Contractor, at the convenience of the Fund, shall remove, replace and/or repair at its own cost and expense any defects in workmanship, materials, ratings, capacities or characteristics occurring in or to the work covered by the Contract within one (1) year or within such longer period as may otherwise be provided in the Contract, the period of such guarantee to commence with the Fund's final acceptance of all work covered under the Contract or at such other date or dates as the Fund may specify prior to that time, and the Contractor, upon demand, shall pay for all damage to all other work resulting from such defects and all expenses necessary to remove, replace and/or repair such other work which may be damaged in removing, replacing or repairing the said defects. The obligations of the Contractor under the provisions of this paragraph or any other guarantee provisions of the Contract Documents are not limited to the monies retained by the Fund under the Contract.

(2) Unless such removal, replacement and/or repair shall be performed by the Contractor within ten (10) working days after it receives written notice from the Fund specifying such defect, or if such defect is of such a nature that it cannot be completely removed, repaired and/or replaced within said ten (10) day period and the Contractor shall not have diligently commenced removing, repairing and/or replacing such defect within said ten (10) day period and shall not thereafter with reasonable diligence and in good faith proceed to do such work, the Fund may employ such other person, firm or corporation as it may choose to perform such removal, replacement and/or repair and the Contractor agrees, upon demand, to pay to the Fund all amounts which it expends for such work.

Section 2.26 Default of Contractor

(1) In addition to those instances specifically referred to in other Sections hereof, the Fund shall have the right to declare the Contractor in default of the whole or any part of the work if:

a. The Contractor becomes insolvent; or if

b. The Contractor makes an assignment for the benefit of creditors pursuant to the statutes of the State of New York; or if

c. A voluntary or involuntary petition in bankruptcy is filed by or against the Contractor; or if

d. A receiver or receivers are appointed to take charge of the Contractor's property or affairs; or if

e. The Contractor fails to commence work when notified to do so by the Consultant; or if

f. The Contractor shall abandon the work; or if

g. The Contractor shall refuse to proceed with the Work or extra Work when and as directed by the Consultant or Fund; or if

h. The Contractor shall without just cause reduce its working force to a number which, if maintained, would be insufficient, in the opinion of the Fund, to complete the work in accordance with the approved time progress schedule, and shall fail or refuse to sufficiently increase such working force when ordered to do so by the Consultant; or if

i. The Contractor shall sublet, assign, transfer convey, or otherwise dispose of the Contract other than as herein specified; or if

j. The Fund shall be of the opinion that the Contractor is or has been unnecessarily or unreasonably or willfully delaying the performance and completion of the work, or the award of necessary subcontracts, or the placing of necessary material and equipment orders; or if

k. The Fund shall be of the opinion that the work cannot be completed within the time herein provided therefor or within the time to which such completion may have been extended; provided, however, that the impossibility of timely completion is, in the Fund's opinion, attributable to conditions within the Contractor's control; or if

l. The work is not completed within the time herein provided therefor or within the time to which the Contractor may be entitled to have such completion extended; or if

m. The Fund shall be of the opinion that the Contractor is or has been willfully or in bad faith violating any of the provisions of this Contract;

n. The Fund shall be of the opinion that the Contractor is not or has not been executing the Contract in good faith and in accordance with its terms; or if

o. At any time during the period of the Agreement, insurance as required is not in effect or proof thereof is not provided to the Fund.

(2) Before the Fund shall exercise its right to declare the Contractor in default by reason of the conditions set forth in the above items *a, b, c, d, e, f, g, h, j, k, l,* m, n and o, it shall give the Contractor three (3) working days' notice of its intention to declare the Contractor in default and unless, within such three (3) day period, the Contractor shall make arrangements, satisfactory to the Fund, to correct and/or eliminate the conditions set forth in the Fund's aforesaid notice, the Contractor may be declared in default at the expiration of such three (3) day period or at the expiration of such longer period of time as the Fund may determine.

(3) The right to declare in default for any of the grounds specified or referred to shall be exercised by the Fund sending the Contractor a written notice setting forth the ground or grounds upon which such default is declared. Upon receipt of notice that it has been declared in default, the Contractor shall immediately discontinue all further operations under the Contract and shall immediately quit the site, leaving untouched all plant, materials, equipment, tools and supplies then on site.

(4) The Fund, after declaring the Contractor in default, may then have the work completed by such means and in such manner, by contract, with or without public letting, or otherwise, as it may deem advisable, utilizing for such purpose such of the Contractor's plant, materials, equipment, tools and supplies remaining on the site, and also such subcontractors as it may deem advisable, or it may call upon the Contractor's surety at its own expense to do so.

(5) In the event that the Fund declared the Contractor in default of the work or any part of the work, the Contractor, in addition to any other liability to the Fund hereunder or otherwise provided for or allowed by law, shall be liable to the Fund for any costs it incurs for additional architectural and engineering services necessary, in its opinion, because of the default and the total amount of liquidated damages from the date when the work should have been completed by the Contractor in accordance with the terms hereof to the date of actual completion of the work, both of which items shall be considered as expenses incurred by the Fund in completing the work and the amount of which may be charged against and deducted out of such monies as would have been payable to the Contractor or its surety if the work had been completed without a default.

(6) If the Fund completes the work, the Consultant shall issue a certificate stating the

expenses incurred in such completion, including the cost of re-letting. Such certificate shall be final, binding and conclusive upon the Contractor, its surety, and any person claiming under or through the Contractor, as to the amount thereof.

(7) The expense of such completion, as so certified by the Consultant, shall be charged against and deducted out of such monies as would have been payable to the Contractor if it had completed the work; the balance of such monies, if any, subject to the other provisions of the Contract, to be paid to the Contractor without interest after such completion. Should the expense of such completion, so certified by the Consultant, exceed the total sum which would have been payable under the Contract if the same had been completed by the Contractor, any such excess shall be paid by the Contractor to the Fund upon demand.

(8) In the event the Fund shall determine to complete the work without calling upon the Contractor's surety to do so, the Contractor shall not be entitled, from and after the effective date of the declaration of the default, to receive any further payment under the Contract until the said work shall be wholly completed and accepted by the Fund.

(9) In case the Fund shall declare the Contractor in default as to a part of the work only, the Contractor shall discontinue such part, shall continue performing the remainder of the work in strict conformity with the terms of the Contract, and shall in no way hinder or interfere with any other contractors or persons whom the Fund may engage to complete the work as to which the Contractor was declared in default.

(10) The provisions relating to declaring the Contractor in default as to the entire work shall be equally applicable to a declaration of partial default, except that the Fund shall be entitled to utilize for completion of the part of the work as to which the Contractor was declared in default only such plant, materials, equipment, tools and supplies as had been previously used by the Contractor on such part.

(11) In completing the whole or any part of the work, the Consultant and the Fund shall have the power to depart from, change or vary the terms and provisions of the Contract; provided, however, that such departure, change or variation is made for the purpose of reducing the time or expense of such completion. Such departure, change or variations, even to the extent of accepting a lesser or different performance, shall not affect the conclusiveness of the Consultant's certificate of the cost of completion, nor shall it constitute a defense to any action to recover the amount by which such certificate exceeds the amount which would have been payable to the Contractor hereunder but for its default.

(12) The provisions of this Section shall be in addition to any and all other legal or equitable remedies provided by this Agreement and otherwise applicable by law.

Section 2.27 Termination for Convenience

(1) The performance of work under this Contract may be terminated by the Fund, in whole or in part, whenever the Fund shall determine that such termination is in the best interest of the Fund. Any such termination shall be effected by a notice in writing to the Contractor specifying the date upon which such termination shall become effective and the extent to which performance of the Contract shall be terminated. Such termination shall be effective on the date and to the extent specified in said notice.

(2) Upon receipt of a notice of termination, and-except as otherwise directed in writing by the Fund, the Contractor shall:

a. Discontinue all work and the placing of all orders for materials and facilities otherwise required for the performance thereof,

b. Cancel all existing orders and subcontracts to the extent such orders and subcontracts relate to the performance of work terminated by the notice of termination;

c. Take such action as may be necessary to secure to the Fund the benefits of any rights of the Contractor under orders or subcontracts which relate to the performance of work terminated by the notice of termination, including, but not limited to, the assignment to the Fund, in the manner and to the extent directed by the Fund, all the right, title and interest of the Contractor under the orders or subcontracts so terminated and cancelled. In the event of such assignment, the Fund shall have the right, in its discretion, to settle or pay any or all claims arising out of the termination and cancel-lation of such orders and subcontracts;

d. Transfer title and deliver to the Fund, in accordance with the direction of the Fund, all materials, supplies, work in process, facilities, equipment, machines or tools produced as a part of or acquired by the Contractor in connection with the work terminated by said notice, and all plans, Drawings, Working Drawings, sketches,

Specifications and information for use in connection therewith; provided, however, that the Contractor may retain any of the foregoing if it so elects and foregoes reimbursement therefor;

e. Take such action as may be necessary or as the Consultant or the Fund may prescribe for the protection and preservation of all property in the possession or control of the Contractor in which the Fund, under the provisions of the Contract, has or may acquire an interest.

(3) Notwithstanding the foregoing, should the notice of termination relate to only a portion of the work covered by the Contract, the Contractor will proceed with the completion of such portions of the work as are not terminated.

(4) The Fund will pay and the Contractor shall accept, in full consideration for the performance and completion of the portions of the work as are not terminated, a sum calculated by determining the percentage the portions of the work not terminated bear to the total amount of the work covered by the Contract, and by multiplying the Contract consideration by such percentage - the product thereof being the amount to be paid to the Contractor. The Fund shall determine the amount of such consideration in accordance with the foregoing.

(5) Upon compliance by the Contractor with the foregoing provisions of this Section and subject to deductions for payments previously made, the Fund, for the portions of the work terminated, shall compensate the Contractor as follows:

a. By reimbursing the Contractor for actual expenditures made with respect to such work, including expenditures made in connection with any portion thereof which may have been completed prior to termination, as well as expenditures made after termination in completing those portions of the work covered by the Contract which the Contractor may have been required by the notice of termination to complete. The Fund shall determine the allowability and amount of such expenditures.

b. By reimbursing the Contractor for all actual expenditures made, with the prior written approval of the Fund or pursuant to a court judgment, in settling or discharging any outstanding contractual obligations or commitments incurred or entered into by the Contractor in good faith with respect to the Contract and resulting from the termination thereof.

c. By reimbursing the Contractor for all actual expenditures made after the effective date of the notice of termination resulting from or caused by the Contractor taking necessary action or action prescribed by the Consultant or the Fund for the protection and preservation of all property in the possession or control of the Contractor in which the Fund, under the provisions of the Contract, has or may acquire an interest.

d. By paying the Contractor a markup, which is to be calculated in the same manner as that provided for in subdivision c of paragraph (1) of Sections 4.02 and 4.05A for extra work, on the foregoing expenditures, which markup is to cover the Contractor's overhead and profit; provided, however, that if it appears that the Contractor would have sustained a loss on the entire Contract had it been completed, said markup shall be reduced by one-third.

(6) The sum of all amounts payable under this Section, plus the sum of all amounts previously paid by the Fund under the provisions of the Contract, shall not exceed the amount of the Contract consideration. In no event shall the Contractor be entitled to any payment for loss of anticipated profits on uncompleted work and the Fund shall not be liable for same.

(7) Termination by the Fund under the provisions of this Section shall be without prejudice to any claims or rights which the Fund may have against the Contractor. The Fund may retain from the amount due to the Contractor under the provisions of this Section such monies as may be necessary to satisfy any claim which the Fund may have against the Contractor in connection with the Contract; provided, however, that the Fund's failure to retain such monies shall not be deemed a waiver of any of its rights or claims against the Contractor.

(8) Notwithstanding the foregoing, where the Contractor and the Consultant can agree upon another method of determining the amount of the consideration to be paid to the Contractor under the provisions of this Section, such method, subject to the approval of the Fund, may, at the option of the Fund, be substituted for the method set forth above.

Article III
Time of Performance

Section 3.01 Commencement, Prosecution and Completion of Work

(1) The Contractor agrees that it will begin the work herein embraced upon receipt of the Notice to Proceed, unless the Fund consents, in writing, to begin at a different date, and that it will prosecute the same with such diligence that all work covered by the Contract shall be substantially completed and performed on or before the time specified on page A-1 of the Agreement.

(2) The Contractor further agrees that time is of the essence in this Contract and that all the Work shall be prosecuted in such manner and with sufficient plant and forces to complete all Work timely.

Section 3.02 Time Progress Schedule

(1) To show compliance with the requirements of Section 3.01 of the Agreement, provide and maintain a Time Progress Schedule in accordance with the General Requirements, Special Conditions, Section paragraph titled "Project Schedule". Unless otherwise accepted by the Fund, the Time Progress Schedule shall be strictly adhered to by the Contractor. The time for substantial completion shall be on or before the time specified on page A-1 of the Agreement.

(2) If through the fault of the Contractor or any subcontractor the Contractor shall fail to adhere to the time progress schedule, it must promptly adopt such other and additional means and methods of construction as will make up for the time lost and will assure completion in accordance with such schedule.

(3) The failure of the Contractor to submit a Time Progress Schedule, the Fund's or the Consultant's acceptance of the Contractor's time progress schedule or lack of such acceptance, the means and/or methods of construction employed by the Contractor, including any revisions thereof, and/or its failure to revise the same shall not relieve the Contractor of its obligation to accomplish the result required by the Contract in the time specified on page A-1 of the Agreement, nor shall the exercise of the Consultant's or the Fund's right to reject any portion of the work, create or give rise to any claim, action or cause of action, legal, equitable or otherwise, against the Consultant or the Fund.

(4) The failure of the Contractor to submit and maintain a Time Progress Schedule in accordance with the General Requirements shall be deemed to be a waiver by the Contractor of all claims for additional compensation or damages as a result of any condition which is an alleged cause of delay in the completion of the work.

Section 3.03 Time Progress Schedule for Shop Drawings and Samples

The Contractor shall include activities for preparation and submission of all Shop Drawings, mock-ups and Samples in the Time Progress Schedule in Section 3.02.

Section 3.04 Notice of Conditions Causing Delay

(1) Within ten (10) working days after the commencement of any condition which is causing or may cause delay in completion or require Contractor to request an extension of time, the Contractor must notify the Consultant and the Fund in writing of the effect, if any, of such condition upon the Time Progress Schedule, and must state why and in what respects, if any, the condition is causing or may cause such delay.

(2) Contractor agrees that an express condition precedent to Contractor's entitlement to any extension of time on the project shall be full and complete compliance to the satisfaction of the Fund with the Contractor's obligations in Section 3.06, Contractor's Progress Reports. Failure to submit proper Contractor's progress reports in appropriate and timely fashion shall be deemed a waiver and relinquishment of any right, claim or privilege to obtain an extension of time for the performance of the Contractor's work.

(3) Failure to strictly comply with this requirement may, in the discretion of the Fund, be deemed sufficient cause to deny any extension of time on account of delay in completion arising out of or resulting from any change, extra work, suspension, or other condition.

(4) Except as otherwise set forth in this Section 3.04 all procedures set forth in Sections 2.02 and 2.03 of this Agreement shall be complied with by the Contractor. Furthermore, full and complete compliance with the requirements of this Article III is a condition precedent to the Contractor's entitlement to receive an extension of time.

Section 3.05 Extension of Time

(1) Within ten (10) working days after the commencement of any condition which is causing or may cause the Contractor to incur, require or otherwise need an extension of time, the Contractor shall notify the Consultant and the Fund of such condition. Full and complete compliance with this paragraph 3.05(1) is a condition precedent to the

Contractor obtaining an extension of time for performance of any portion or all of its work.

(2) An extension or extensions of time for the completion of the work may be granted by the Fund subject to the provisions of this Section, but only upon written application therefor by the Contractor to the Fund and the Consultant.

(3) An application for an extension of time must set forth in detail the source and the nature of each alleged cause of delay in the completion of the work, the date upon which each such cause of delay began and ended and the number of days of delay attributable to each of such causes. It must be submitted prior to completion of the work.

(4) If such an application is made, the Contractor may be entitled to an extension of time for delay in completion of the work caused solely: (a) by the acts or omissions of the Fund, its trustees, officers, agents or employees; or (b) by the acts or omissions of other contractors, not including subcontractors of the Contractor, on this Project; or (c) by unforeseeable supervening conditions entirely beyond the control of either party hereto (such as, but not limited to, acts of God or the public enemy, war or other national emergency making performance temporarily impossible or illegal, or strikes or labor disputes).

(5) The Contractor may, however, be entitled to an extension of time for such causes only for the number of calendar days of delay which the Fund may determine to be due solely to such causes, and then only if the Contractor shall have strictly complied with all of the requirements of this Section and Section 3.04. The Fund shall make such determination within ninety (90) calendar days after receipt of the Contractor's application for an extension of time; provided, however, said application complies with the requirements of this Section.

(6) The Contractor shall not be entitled to receive a separate extension of time for each one of several causes of delay operating concurrently, but, if at all, only for the actual period of delay in completion of the work as determined by the Fund, irrespective of the number of causes contributing to produce such delay. If one of several causes of delay operating concurrently results from any act, fault or omission of the Contractor or of its subcontractors or material-men and would of itself (irrespective of the concurrent causes) have delayed the work, no extension of time will be allowed for the period of delay resulting from such an act, fault or omission.

(7) The granting of an application for an extension of time for causes of delay other than those herein referred to shall be entirely within the discretion of the Fund.

(8) If the Contractor shall claim to have sustained any damages by reason of delays, extraordinary or otherwise, or hindrances which it claims to be due to any action, omission, direction or order by the Fund or the Consultant, the Contractor shall be entitled only to an extension of time as hereinabove provided and shall not have or assert any claim or prosecute any suit, action, cause of action or proceeding against the Fund based upon such delays or hindrances, unless such delays or hindrances were caused by the Fund's bad faith or its willful, malicious, or grossly negligent conduct, or uncontemplated delays, or delays so unreasonable that they constitute an intentional abandonment of the Contract by the Fund, or delays resulting from the Fund's breach of a fundamental obligation of the Contract.

(9) The Contractor shall not be entitled to an extension of time for the performance of any or all of the Work set forth in allowances to the Contract. All allowance work shall be performed in accordance with the Contractor's schedule.

Section 3.06 Contractor's Progress Reports

After commencement of the work the Contractor shall furnish the Consultant with written monthly reports setting forth the condition and progress of the work, the percentage of each part of the work that has been finished, those parts of the work which have been completed within the scheduled time and those parts of the work which have not been finished within the scheduled time, and the general progress of the work that is being performed away from the site and the approximate date when such work will be finished and delivered to the site. Contractor agrees that compliance with this Section 3.06 is an express condition precedent to the Contractor's right, claim or entitlement to obtain an extension of time for the performance of the Contractor's work. Failure to comply with this Section 3.06 shall be a waiver and relinquishment of all such rights, claims and privileges to request or obtain an extension of time for the performance of Contractor's work.

Article IV
Payment

Section 4.01 Compensation to Be Paid Contractor

The Fund shall pay to the Contractor and the latter shall accept as full and complete payment for the performance of this Contract, subject to additions or deductions as provided herein, the sum of ( ) dollars ($) which sum is the amount of the Contract consideration.

Section 4.02 Value of Omitted and Extra Work

(1) The amount by which the Contract consideration is to be increased or decreased by any Change Order or Field Order shall be determined by the Fund by one or more of the following methods:

a. By applying the applicable price or prices set forth on the attached Schedule "I" of this Agreement or by applying a unit price agreed to by both parties. Subject to the provisions of Section 4.04, this method must be used if the Contract Documents contain applicable unit prices.

b. By estimating the fair and reasonable cost of: (i) labor, including all wages, required wage supplements and insurance required by law (workers' compensation, social security, disability, unemployment, etc.) paid to or on behalf of foremen, workers and other employees below the rank of superintendent directly employed at the site of the Project; (ii) materials; and (iii) equipment, excluding hand tools, which, in the judgment of the Fund, would have been or will be employed exclusively and directly on the omitted work or extra work, as the case may be; and, in the case of extra work, where the same is performed directly by the Contractor, by adding to the total of such estimated costs a sum equal to 15 percent thereof, but, where the extra work is performed by a subcontractor, by adding a sum equal to 15 percent of said costs for the benefit of such subcontractor, and by adding, for the benefit of the Contractor (no further allowance will be made where extra work is performed by the sub-subcontractor), an additional sum equal to 10 percent of the first $10,000 of the above-estimated costs, including the subcontractor's percentage override, plus 5 percent of the next $90,000 of the total of said items, plus 3 percent of any sum in excess of $100,000 of the total of said items. There is no markup on the premium portion of overtime labor. For the purposes of the aforesaid percentage overrides, the words "extra work" shall be defined as a complete item of added, modified or changed work as described in the Consultant's written instructions to the Contractor. Such "extra work" may include the work of one or more trades and/or subcontractors or sub-subcontractors and shall include all labor, materials, plant, equipment, tools and all incidentals directly and/or indirectly necessary, related, involved in or convenient to the successful completion of the extra work item. Where the Consultant's aforesaid written instructions to the Contractor involve both an increase and a reduction in similar or related work, the above percentage overrides will be applied only on the amount, if any, the cost of the increased work exceeds the cost of the reduced work.

   No overhead and profit shall be retained by the Contractor on the cost of work determined by the method provided in Subparagraph (1)a.

   All profit, overhead and expense of whatsoever kind and nature, other than those set forth above in items (i) through (iii), of the Contractor, its subcontractors and sub-subcontractors, are covered by the aforesaid percentage overrides and no additional payment therefor will be made by the Fund.

   The Fund may make such cost estimate either before or after the extra work is completed by the Contractor.

c. By determining the actual cost of the extra work in the same manner as in the above subdivision b except that actual costs of the Contractor shall be utilized in lieu of estimated costs. The Fund shall have the option to utilize this method provided it notifies the Contractor of its intent to do so prior to the time the Contractor commences performance of such extra work.

(2) Irrespective of the method used or to be used by the Fund in determining the value of a Change Order or Field Order, the Contractor, within fifteen (15) working days after a request for the same, must submit to the Fund and the Consultant a detailed breakdown of the Contractor's estimate of the value of the omitted and/or extra work. All change and field orders must be prepared and submitted using the Fund’s Open Item Log (OIL) System.

(3) Equipment Watch Rental Rate Blue Book (published online by Intertec Penton Media, Inc.) or other published rates as approved by the Fund in writing, will be utilized for the equipment rental pricing. For the purposes of paragraph (1) hereof, the cost of equipment shall be determined, irrespective of the actual price for any rental or actual cost associated with such equipment as follows: take the monthly rate listed in Equipment Watch and dividing the same by

176 hours to establish an hourly rate and then multiplying such hourly rate by the actual number of hours that the equipment was used. The Contractor will submit an actual rental invoice, or acceptable quotation from a bonafide equipment rental supplier for rented equipment when equipment is not owned by the Contractor. The equipment rental supplier cannot be an “affiliate” of the Contractor, nor in any way be related to the Contractor. If submitted invoices/quotations are acceptable to the Fund, the Contractor will be reimbursed the actual rental cost including sales tax and appropriate mark-up. If no listing of rates for an item of equipment is contained in Equipment Watch, the Fund shall determine the reasonable rate of rental of the particular item of equipment by such other means as it finds appropriate. The edition Equipment Watch to be used shall be that in effect on the date of the receipt of bids for this Contract. None of the provisions of Equipment Watch shall be deemed referred to or included in this Contract excepting only the aforesaid monthly rates. To the cost of equipment as determined above, there is to be added the actual cost of gasoline, oil, grease and maintenance required for operation of such equipment and, in the case of equipment utilized only for extra work when, in the opinion of the Consultant, suitable equipment therefor was not available on the site, the reasonable cost of transporting said equipment to and from the site. Notwithstanding the foregoing, if the Consultant should determine that the nature or size of the equipment used by the Contractor in connection with the extra work is larger or more elaborate, as the case may be, than the size or nature of the minimum equipment determined by the Consultant to be suitable for the extra work, the cost of equipment will not be based upon the equipment used by the Contractor but instead will be based on the smallest or least elaborate equipment determined by the Consultant to have been suitable for the performance of the extra work.

(4) Unless otherwise specifically provided for in a Change Order or Field Order, the compensation specified therein for extra work includes full payment for both the extra work covered thereby and for any damage or expense caused the Contractor by any delays to other work to be done under the Contract resulting from or on account of said extra work, and the Contractor waives all rights to any other compensation for said extra work, damage or expense.

Section 4.03 Adjustment for Bond and Insurance Premiums

Upon final acceptance of the work to be performed under this Contract, the Fund may adjust the Contract consideration to reflect any changes in the cost of all required Bonds and liability and builder's risk insurance premiums which the Contractor had to pay for on all extra work and would have had to furnish and pay for on all omitted work. Unless such cost is agreed upon by the Fund and the Contractor, the Fund may calculate and determine the amount of the adjustment in the Contract consideration by estimating such costs. There is no markup on bond or insurance premium adjustment.

Section 4.04 Unit Prices

(1) Except as otherwise provided in the second paragraph of this Section, the unit prices, set forth on the attached Schedule "I" of this Agreement, will be binding upon both the Fund and the Contractor in determining the value of omitted and/or extra work, and, in the case of extra work, such unit prices shall be deemed to include all profit, overhead and expenses of whatsoever kind and nature of the Contractor, its subcontractors and sub-subcontractors, and the Contractor agrees that it shall make no claim for any profit, overhead, expense or percentage override in connection therewith.

(2) Where said Schedule "I" sets forth a unit price for added and/or deducted work, the Fund shall have the option, whenever it is found that the quantity of changed work varies by more than 15 percent from the quantity that is stated or that can be determined by the Contract Documents at the time of execution thereof, to accept or reject such unit price for the quantity that the changed work varies by more than 15 percent from the stated or determinable quantity. Where a quantity is not specifically stated in the Contract Documents, the Fund's determination of the amount of said quantity included in the Contract Documents shall determine the applicability of this paragraph. Where the Fund, pursuant to the foregoing provisions, exercises its aforesaid option, the amount of the increase or decrease in the Contract consideration for the quantity of work which varies by more than 15 percent from the stated or determinable quantity shall be determined in accordance with the provisions of Section 4.02 of the Agreement as if there was no unit price therefor set forth in said Schedule "I”.

Section 4.05 Allowances

(1) The Contractor acknowledges that the Contract consideration includes the allowances set forth on the attached Schedule "II" and “III” of this Agreement and, except for quantitative and field order

allowances, it agrees to cause the work covered thereby to be done by such contractors for such sums as the Fund may direct. Where cash allowances are provided, the allowances shall be deemed to include the purchase of the materials and/or equipment and the delivery of same to the job site. Unless otherwise specified in the Contract Documents, cash allowances do not include the proper installation of the materials and/or equipment or the connection for final utilities thereto; the cost of said installation and/or connection having been included in the amount of the Contract consideration.

(2) The Contractor acknowledges that the Contract consideration includes such sums for expenses and profit on account of cash allowances as it deems proper and that it shall make no claim for expenses or profit or any percentage override in addition thereto; said items having been included in the amount of the Contract consideration.

(3) In the event any of the cash allowances listed below are either higher or lower than the cost of having the work done in accordance herewith, the Contract consideration shall be adjusted to reflect such variance, the amount of said adjustment to be the difference between the amount of the allowance and the actual cost of performing the work covered thereby.

(4) When quantitative allowances are provided, progress payments thereof to the Contractor will be based upon the applicable unit prices set forth on the attached Schedule "I" of the Agreement, subject, however, to the provisions of paragraph (2) of Section 4.04. In the event any of said quantitative allowances are more than or less than the actual quantity of work performed, the Contract consideration shall be adjusted to reflect such variance, the amount of said adjustment to be determined in accordance with the provisions of Sections 4.02, 4.04 and 4.05A of the Agreement.

Section 4.05A Field Orders

When the Agreement contains a Field Order Allowance, the bid shall include the amount of such allowance. Said amount shall cover the cost of additional labor, materials and time for contingent activities within the scope of the Agreement as directed and described by the Fund in writing in a Field Order. The Field Order will include a description of the work and the method for determining the value of such work. The value of the work directed under this allowance will be determined by one or more of the provisions of Section 4.02. If the net cost(s) of all Field Orders issued are more or less than the specified amount of the allowance, the Contract sum will be adjusted by Change Order.

Section 4.06 Deductions for Unperformed and/or Uncorrected Work

(1) Without prejudice to any other rights, remedies or claims of the Fund, in the event that the Contractor at any time fails or neglects to supply working forces and materials of the proper quantity and quality necessary, in the opinion of the Consultant or the Fund, to comply with the approved time progress schedule, or fails in any respect to prosecute the work with promptness and diligence or causes by any action or omission the stoppage or delay of or interference with the work of any other contractor having a contract with the Fund, or fails in the performance of any obligations and responsibilities under this Contract, then, and in that event, the Fund, acting itself or through the Consultant, may, upon three (3) working days' notice to the Contractor, either itself provide or have any other contractor, including but limited to the Fund's Job Order Contracting Program, provide any and all labor or materials or both necessary, in its opinion, to correct any aforesaid deficiency of the Contractor, and the Fund will thereafter backcharge the Contractor by issuing a Change Order reducing the amount of the Contract consideration for all costs and expenses it incurs in connection with the correction of such deficiency. The Contractor agrees that the Fund may deduct from any application for payment made by the Contractor, any and all Design Professional, Consultant and/or Construction Management fees and costs incurred by the Fund together with a markup upon such hard costs in the amount of 15% for services required in connection with the correction of such deficiency(ies).

(2) Notwithstanding any provisions in the Contract Documents to the contrary, if the Fund deems it inexpedient to correct work not done in accordance with the Contract or any work damaged as a result thereof, it shall notify the Contractor of such fact and the latter shall not remedy or correct the same. In such event, however, the amount of the Contract consideration shall be decreased by an amount, determined by the Fund, which is equal to the difference in value of the work as performed by the Contractor and the value of the work had it been satisfactorily performed in accordance with the Contract or which is equal to the cost of performing the corrective work, whichever shall be the higher amount.

Section 4.07 Liquidated Damages

In the event that the Contractor shall fail to substantially complete all the work within the time fixed for such completion on page A-1, or within the time to which such completion may have been extended or in the event that the Contractor abandons the work and the same is not substantially completed within the aforesaid time for such completion, the Contractor must pay to the Fund as damages for each calendar day of delay in completing the work the amount set forth on page A-1. In view of the difficulty of accurately ascertaining the loss which the Fund will suffer by reason of delay in completion of the work hereunder, said sum is hereby fixed and agreed as liquidated damages which the Fund will suffer by reason of such delay and not as a penalty. The Fund may deduct and retain out of the monies which may become due hereunder to the Contractor the amount of any such liquidated damages and, in case the amount which may become due to the Contractor under the provisions of the Contract may be less than the liquidated damages suffered by the Fund, the Contractor shall pay the difference, upon demand, to the Fund.

Section 4.08 Contract Breakdown

Prior to the submission of its first application for a progress payment, the Contractor shall present to the Fund and the Consultant for their approval a detailed schedule showing the breakdown of the Contract consideration. The Contract Breakdown Summary shall be further broken down on separate Fund provided forms as required by the Consultant and the Fund. Contract Breakdown Summary and supporting forms shall be able to interface with the Fund's electronic payment system. Such schedule must contain the amount estimated for each part of the work and quantity survey for each part of the work. It shall also list the estimated value of the Contractor's guarantee obligations under the provisions of the Contract Documents, which is hereby fixed at $5,000 or one-half of one percent (1/2%) of the Contract award amount, whichever is the lesser sum. Such schedule shall be revised by the Contractor until the same shall be satisfactory to the Fund and the Consultant and shall not be changed after the Fund and the Consultant have approved the same. The amounts set forth in the schedule will not be considered as fixing the basis for additions to or deductions from the Contract consideration.

Section 4.09 Prompt Payment Requirements

(1) For the purposes of Article XI-A of the State Finance Law, the Controller's Office of the State University Construction Fund, whose mailing address is The H. Carl McCall SUNY Building, 353 Broadway, Albany, New York 12246, is the Fund's designated payment office. Applications for payment must contain the approval of the Consultant before being submitted to the Fund.

(2) Whenever the Consultant's approval of an application for payment is required under the Contract, the Consultant shall have fifteen (15) calendar days, after receipt of such application, to inspect the work before acting on the application.

(3) Until such time that the Contract is approved by the Fund, the thirty (30) day period, referred to in Article XI-A of the State Finance Law for the payment of invoices without interest, shall not begin.

Section 4.10 Progress Payments

(1) Unless otherwise provided in the Contract, progress payments will be made as the work progresses upon applications submitted by the Contractor and approved by the Consultant and the Fund. Payment of such approved applications shall be made by the Fund within thirty (30) days after such approval has been given.

(2) The Fund shall make progress payments to the Contractor on the basis of such approved applications, less an amount equal to 5 percent thereof, plus an amount necessary, in the Fund's judgment, to satisfy any claims, liens or judgments against the Contractor which have not been suitably discharged, , together with any back charges and offsets which are deemed necessary or likely to be incurred by the Fund as a result of any failure by the Contractor to fully, completely, accurately and timely perform its work, which it shall reserve from each such payment until all of the work covered by the Contract has been completed.

(3) When the Fund and the Consultant have determined that all the work is substantially completed, or that a substantial portion of the permanent construction has been completed and accepted, the Fund shall make a progress payment to the Contractor, on the basis of an application submitted by the Contractor and approved by the Consultant and the Fund, which shall reduce the unpaid amount due to the Contractor under the terms of the Contract, including all monies retained by the Fund from previous progress payments to the Contractor, to an amount equal to two (2) times the cost, estimated by the Consultant, of performing, in accordance with the Contract, all uncompleted, unaccepted and corrective

work, plus an amount necessary, in the Fund's judgment, to satisfy any claims, liens or judgments against the Contractor which have not been suitably discharged. As the remaining items of work are satisfactorily completed or corrected, the Fund shall make progress payments to the Contractor, on the basis of applications submitted by the Contractor and approved by the Fund and the Consultant, covering said items of work less an amount necessary, in the Fund's judgment, to satisfy any claims, liens or judgments against the Contractor which have not been suitably discharged.

Section 4.11 Applications for Progress Payments

The Contractor shall prepare all applications for progress payments for work performed, together with supporting data and computations as are deemed necessary by the Consultant to determine the accuracy of the application. The application for payment and all required supporting documentation shall be submitted using the Fund's prescribed forms and electronic payment system. The Contractor shall include with such applications reports detailing actual payments to minority and women-owned businesses who participate on Fund projects. Failure of the Contractor to submit applications for progress payments, or lack of complete and accurate supporting data, shall be sufficient reason for withholding payment until such omissions or errors are rectified. Unless otherwise directed, such applications, signed and certified as correct by the Contractor, shall be delivered by the Contractor to the Consultant once each month showing the total value of work completed and in place on the last day of the payment period covered by the application.

Section 4.12 Progress Payments for Materials Delivered to Site

(1) Progress payments made in accordance with Section 4.10 shall include a payment for materials and equipment to be furnished and installed under the Contract, after such materials and equipment have been delivered and accepted at the site of the work.

(2) Materials and equipment for which such progress payment has been made shall not be removed from the site, shall be stored until incorporated into the work in a location approved by the Consultant and shall be adequately protected from fire, theft and vandalism, the effects of the elements and any other damage whatsoever, and shall at all times be available for inspection by the Consultant and the Fund.

Section 4.13 Transfer of Title to Materials Delivered to Site

Title to all supplies and materials to be furnished or provided by the Contractor to the Fund pursuant to the provisions of the Contract Documents shall immediately vest in and become the sole property of the Fund upon delivery of such supplies and materials to the site. Notwithstanding such transfer of title, the Contractor shall have the full continuing responsibility to install such materials and supplies, protect them, maintain them in proper condition and forthwith repair, replace and make good any damage thereto without cost to the Fund until such time as the work covered by the Contract is fully accepted by the Fund. Such transfer of title shall in no way affect any of the Contractor's obligations under the Contract. In the event that, after title has passed to the Fund, any of such supplies and materials are rejected as being defective or otherwise unsatisfactory, title to all such supplies and materials shall be deemed to have been transferred back to the Contractor.

Section 4.14 Progress Payments for Materials Stored Off Site

(1) Progress payments made in accordance with Section 4.10 shall include a payment for materials and equipment which are in short and/or critical supply or have been specially fabricated for the Project. Materials and equipment, for which a progress payment is made pursuant to the preceding sentence, shall be stored by the Contractor, after fabrication, until such time as their delivery to the site is required, at a facility and location approved by the Consultant; shall be adequately protected from fire, theft and vandalism, the effects of the elements and any other damage whatsoever; and shall at all times be available for inspection by the Consultant and the Fund. No progress payment shall, however, be made for said materials and equipment until:

a. The Contractor furnishes to the Fund a bill of sale listing quantity and costs of said materials and equipment f.o.b. point of origin;

b. The Consultant shall have inspected said materials and equipment and recommended payment therefor; and

c. The Contractor furnishes to the Fund a builder's risk insurance policy, with the broad form extended coverage endorsement, for said materials and equipment, in an amount equal to

100 percent of the value thereof, which policy shall be maintained, at the sole cost and expense of the Contractor, until said materials and equipment have been incorporated into the Project. The said insurance policy shall contain a provision that the loss, if any, is to be made adjustable with and payable to the Fund as trustee for the insured, i.e., the Fund and the Contractor, and a provision that it shall not be changed or cancelled and that it will be automatically renewed upon expiration and continued in force unless the Fund is given thirty (30) days written notice to the contrary.

d. The Contractor shall develop and provide a preventive maintenance log for stored equipment when determined appropriate by the Consultant. The Contractor shall provide timely notification and opportunity for the Consultant and the Fund to view the Contractor's preventative maintenance efforts.

(2) Materials and equipment for which a progress payment has been made by the Fund pursuant to this Section shall be, become and remain the sole property of the Fund; provided, however, that the Contractor shall have the full continuing responsibility to install such materials and equipment, to deliver it to the site, to protect it, to maintain it in proper condition and to forthwith repair, replace and make good any damage thereto without cost and/or additional time to the Fund until such time as the work covered by the Contract is fully accepted by the Fund. Such transfer of title shall in no way affect any of the Contractor's obligations under the Contract.

Section 4.15 Withholding of Progress Payments

Notwithstanding anything contained in the Contract to the contrary, the Fund may withhold payment of all or any part of a progress, final or guarantee payment, in such an amount as it may deem proper to enforce the provisions of the Contract and to satisfy the claims of third parties, when:

a. The Fund shall learn of any claim, of whatsoever nature or kind, against the Fund or the Contractor, which in any way arises or is alleged to arise out of or as a result of or in connection with the performance by the Contractor of the work covered by the Contract or out of or in connection with the Contractor's operations or performance at or in the vicinity of the construction site, that, in the opinion of the Fund, may not be adequately covered by insurance.

If an action on such claim is timely commenced and the liability of the Fund and/or the Contractor shall have been established therein by a final judgment of a court of competent jurisdiction, or if such claim shall have been admitted by the Contractor to be valid, the Fund shall pay such judgment or admitted claim out of the monies retained by it under the provisions of the Contract and return the balance, if any, without interest, to the Contractor.

The Fund may withhold from the Contractor any payments retained by it until such time as all such claims are either satisfied or barred by law from being presented. At such time the Fund, upon written demand by the Contractor, shall return to the Contractor the amount so withheld, without interest.

b. The Contractor has not complied with any lawful or proper direction of the Consultant or the Fund or their representatives concerning the work covered by the Contract or the performance of the Contract or the production of records as required under the provisions of the Contract.

c. There exists any of the conditions, listed in Section 2.26, which would allow the Fund to declare the Contractor in default of the whole or any part of the work.

d. The Contractor is a foreign contractor and has not furnished satisfactory proof that all taxes due by such Contractor under the provisions of the Tax Law have been paid. The Certificate of the New York State Tax Commission to the effect that all such taxes have been paid shall be conclusive proof of the payment of such taxes. The term "foreign contractor" as used herein means, in the case of an individual, a person who is not a resident of the State of New York; in the case of a partnership, one having one or more partners not a resident of the State; and in the case of a corporation, one not organized under the laws of the State of New York.

e. The Contractor, upon request of the Fund at any time after the initial progress payment by the Fund to the Contractor, fails to furnish the Fund with such documentary evidence that the Fund may deem necessary to prove to it that material and labor paid for by the Fund under previous applications for payment submitted have been paid for by the Contractor and that there are no outstanding claims or liens in connection therewith or fails to satisfy the Fund that the Contractor, with

good cause, has sufficiently provided for the payment and/or satisfaction of claims for said material and labor.

Section 4.16 Lien Law

The attention of the Contractor is specifically called to the provisions of the Lien Law of the State of New York, wherein funds received by a Contractor for a public improvement are declared to constitute trust funds in the hands of such Contractor to be applied first to the payment of certain claims.

Section 4.17 Substitution of Securities for Retainage

Any time after 50 percent of all the work has been completed, the Fund, if the progress and performance of the work is satisfactory to it, on request of the Contractor, will allow the Contractor to withdraw up to 50 percent of the aforesaid amount retained by the Fund by depositing with the Comptroller of the State of New York government securities, of the type and kind specified in Section 139 of the State Finance Law, having a market value not exceeding par, at the time of deposit, equal to the amount so withdrawn. The Comptroller of the State of New York shall, from time to time, collect all interest or income on the obligations so deposited, and shall pay the same, when and as collected, to the Contractor. If the deposit be in the form of coupon bonds, the coupons as they respectively become due shall be delivered to the Contractor; provided, however, that the Contractor shall not be entitled to interest or coupons or income on any of the deposited securities, the proceeds of which have or will be used or applied by the Fund. In the event that the Contractor does not, in accordance with the terms and provisions of the Contract, comply with and fulfill all of its obligations and responsibilities thereunder, the Comptroller of the State of New York shall have the right to sell, assign, transfer or otherwise dispose of the aforesaid securities and the Fund shall have the right to use and apply all or any part of the monies obtained by the Comptroller of the State of New York from such a sale, assignment, transfer or disposition or from the collection of interest or income from said securities to the performance and fulfillment of said obligations and responsibilities. Notwithstanding the foregoing, when the Fund makes a payment under Section 4.10 (3) of the Agreement, it will return to the Contractor, as part of such payment, its substituted securities, and thereafter all retention of the Fund shall be in funds and not in substituted securities.

Section 4.18 Final Payment

Upon acceptance of all the work, except for the Contractor's guarantee obligations under Section 2.25 of the agreement and the Contractor's guarantee obligations under any provision of the Specifications, the Contractor shall prepare and submit to the Fund and the Consultant, for their approval, a final application for payment, which the Fund, within thirty (30) days after its approval of same, shall pay. Such application and payment shall be in an amount equal to 100 percent of the Contract consideration excluding the Contractor's guarantee obligations, less:

a. All previous payments by the Fund to the Contractor;

b. All deductions authorized to be made by the Fund under the Contract; and

c. An amount necessary, in the Fund's judgment, to satisfy any claims, liens or judgments against the Contractor which have not been suitably discharged.

d. The Contractor shall not be entitled to any interest on the monies retained by the Fund pursuant to Subdivision c of Section 4.18 of the Agreement.

Section 4.19 Acceptance of Final Payment

(1) The acceptance by the Contractor, or by any one claiming by or through it, of the final payment shall, except with respect to the amount retained by the Fund pursuant to the provisions of subdivisions b and c of Section 4.18 of the Agreement, constitute and operate as a release to the Fund from any and all claims of any liability for anything theretofore done or furnished for or relating to or arising out of the work covered by the Contract and for any prior act, neglect or default on the part of the Fund or any of its trustees, officers, agents or employees in connection therewith.

(2) Should the Contractor refuse to accept the final payment as tendered by the Fund or should the Contractor refuse to execute the final application for payment without protest and without reserving any rights or claims against the Fund, it shall constitute a waiver of any right to interest on the amount of the payment so tendered and/or on the amount set forth in said final application for payment.

Section 4.20 Guarantee Payment

(1) Subject to the provisions of the second paragraph of this Section, at the expiration of one (1) year after the Fund has accepted all the work covered

by the Contract, the Contractor shall prepare and submit to the Fund and the Consultant, for their approval, a guarantee application for payment, which the Fund, within thirty (30) days after its approval of same, shall pay. Such application and payment shall be in an amount equal to the monies retained by the Fund for the Contractor's guarantee obligations under the Agreement, less any monies deducted by the Fund under this Section. The Contractor shall not be entitled to any interest on the monies retained by the Fund pursuant to subdivision c of Section 4.18 of the Agreement.

(2) In the event the Contractor does not, in accordance with the terms and provisions of the Contract, complete all corrective work or comply with and fulfill its contractual obligations, the Fund may use and apply all or any part of the monies retained by it to have such work or obligations performed or fulfilled by a person, firm or corporation other than the Contractor. The obligations of the Contractor, under the terms and provisions of the Contract, shall not, however, be limited to the monies retained by the Fund pursuant to the provisions of the Contract.

(3) No payments may be made under this agreement for work completed more than 365 days after the completion date unless the date/duration listed on page A-1, is extended in writing by the Fund.

Section 4.21 Acceptance of Guarantee Payment

The acceptance by the Contractor or by anyone claiming by or through it, of the guarantee payment shall constitute and operate as a release to the Fund from any and all claims in connection with monies retained by the Fund. Should the Contractor refuse to accept the guarantee payment as tendered by the Fund or should the Contractor refuse to execute the guarantee application for payment without protest and without reserving any rights or claims against the Fund, it shall constitute a waiver of any right to interest on the amount of the payment so tendered and/or on the amount set forth in said guarantee application for payment.

Section 4.22 Contractor Limited to Money Damages

Inasmuch as the Contractor can be compensated adequately by money damages for any breach of the Contract which may be committed by the Fund, the Contractor agrees that no default, act or omission of the Fund shall constitute a material breach of the Contract entitling it to cancel or rescind the same or to suspend or abandon performance thereof; and it hereby waives any and all rights and remedies to which it might otherwise be or become entitled to because of any wrongful act or omission of the Fund or its representatives, saving only its right to money damages.

Section 4.23 No Estoppel or Waiver

(1) The Fund shall not be precluded or estopped by any inspection, acceptance, application for payment or payment, final or otherwise, issued or made under the Contract or otherwise issued or made by it, the Consultant, or any trustee, officer, agent or employee of the Fund, from showing at any time the true amount and character of the work performed, or from showing that any such inspection, acceptance, application for payment or payment is incorrect or was improperly issued or made; and the Fund shall not be precluded or estopped, notwithstanding any such inspection, acceptance, application for payment or payment, from recovering from the Contractor any damages which it may sustain by reason of any failure on its part to comply strictly with the Contract and any monies which may be paid to it or for its account in excess of those to which it is lawfully entitled.

(2) Neither the acceptance of all or any part of the work covered by the Contract; nor any payment therefor; nor any order or application for payment issued under the Contract or otherwise issued by the Fund, the Consultant, or any trustee, officer, agent or employee of the Fund; nor any permission or direction to continue with the performance of the Contract before or after its specified completion date; nor any performance by the Fund of any of the Contractor's duties or obligations; nor any aid lent to the Contractor by the Fund in its performance of such duties or obligations; nor any delay or omission by the Fund to exercise any right or remedy accruing to it under the terms of the Contract or existing at law or in equity or by statute or otherwise; nor any other thing done or omitted to be done by the Fund, its trustees, officers, agents or employees; shall be deemed to be a release to the Contractor or its sureties from any obligations, liabilities or undertakings in connection with the Contract or the Performance Bond or a waiver of any provision of the Contract or of any rights or remedies to which the Fund may be entitled because of any breach thereof, excepting only a written instrument expressly providing for such release or waiver. No cancellation, rescission or annulment hereof, in whole or as to any part of the Contract, because of any breach hereof, shall be deemed a waiver of any money damages to which the Fund may be entitled because of such breach. No waiver by the Fund of any breach

of the Contract shall be deemed to be a waiver of any other or any subsequent breach.

Section 4.24 Limitation of Actions

(1) No action or proceeding shall be maintained by the Contractor, or anyone claiming under or through the Contractor, against the Fund, or its trustees, officers, agents or employees, upon any claim arising out of or based upon the Contract or any breach thereof or by reason of any act or omission or requirement of the Fund, or its trustees, officers, agents or employees, unless:

a. Such action or proceeding is instituted in the Supreme Court of the State of New York in and for the County of Albany;

b. The Contractor or the person claiming under or through it shall have strictly complied with all requirements relating to the giving of notices and information with respect to such claims and shall have provided the Fund with both electronic and hard copy versions of any claims, including all required information and electronic and hard copy versions of all contractually required notices that the Contractor provided to the Fund and the Consultant throughout the duration of the Contract ;

c. Such action or proceeding by the Contractor shall be commenced within eighteen months after the date of substantial completion set by the Fund or its Consultant and issued in writing to the Contractor. Any action or proceeding not commenced within this time frame shall be dismissed with prejudice;

d. If the Contract is terminated or the Contractor declared in default by the Fund, such action is commenced within six (6) months after the date of such termination or declaration of default by the Fund; and

e. All claims and disputes which are subject to or related to this Contract and the Project shall be subject to non-binding mediation, at the sole option and discretion of the Fund. Should the Fund at its sole option and in the exercise of its sole discretion elect to mediate under this clause, then a letter from the Fund indicating the completion of such mediation shall be a condition precedent to any litigation by Contractor against the Fund or the State of New York. In the absence of the Fund exercising its right to proceed to mediation, the condition precedent to any litigation against the Fund of the State of New York, shall be a letter citing that the Fund declines its rights under this clause. The costs of any mediation shall be paid equally by the parties to the mediation.

(2) Notwithstanding anything in the laws of the State of New York to the contrary, the Contractor, or anyone claiming under or through the Contractor, shall not be entitled to any additional time to begin anew any other action if an action commenced within the times herein specified is dismissed or discontinued for any reason whatsoever.

Section 4.25 Electronic Payments

The Contractor shall provide complete and accurate payment applications in order to receive payment. Payment applications submitted must contain all information and supporting documentation required by the Fund. Payment for applications submitted by the Contractor shall only be rendered electronically unless payment by paper check is expressly authorized by the Fund's General Manager, in the General Manager's sole discretion, due to extenuating circumstances. Such electronic payment shall be made in accordance with ordinary State procedures and practices. The Contractor shall comply with the State Comptroller's procedures to authorize electronic payments. Authorization forms are available at the Office of the State Comptroller's website at www.osc.state.ny.us/epay/index.htm; by email at epunit@osc.state.ny.us; or by telephone at 518-474-4032. The Contractor acknowledges that it will not receive payment on any invoices submitted under this Contract if it does not comply with the State Comptroller's electronic payment procedures, except where the Fund's General Manager has expressly authorized payment by paper check as set forth above.

Article V
Protection of Rights and Property

Section 5.01 Accidents and Accident Prevention

The Contractor shall at all times take reasonable precautions for the safety of persons engaged in the performance of the work. The Contractor shall comply fully with all applicable provisions of the laws of the State of New York and OSHA and with all valid rules and regulations thereunder. The Contractor's attention is specifically called to the applicable rules and regulations, codes and bulletins of the New York State Department of Labor.

Section 5.02 Adjoining Property

The Contractor shall be required to protect all the adjoining property and to repair or replace any such properties damaged or destroyed by it, its employees or subcontractors through, by reason of or as a result of activities under, for or related to the Contract.

Section 5.03 Emergencies

(1) In case of an emergency which threatens loss or injury to persons or property, the Contractor will be allowed to act, without previous instructions from the Consultant or the Fund, in a diligent manner, to the extent required to avoid or limit such loss or injury, and it shall notify the Consultant and the Fund immediately thereafter of the action taken by it and of such emergency. Where the Contractor has not taken action but has notified the Consultant or the Fund of an emergency which threatens loss or injury to persons or property, it shall act in accordance with the instructions and/or authorization by the Consultant or the Fund.

(2) In the event that the Contractor performs extra work in accordance with the preceding paragraph, it will be compensated therefor in accordance with the provisions of Section 4.02.

Section 5.04 Fire Safety

(1) Contractor shall comply with the General Requirements, Section paragraph titled Temporary Fire Protection.

(2) Solid fuel salamanders and heaters shall not be used by the Contractor or any of its subcontractors. All other salamanders used by the Contractor or any of its subcontractors shall require constant attendance of competent persons on each floor where in use.

(3) All temporary fabric used by the Contractor or any of its subcontractors for curtains or awnings shall be either non-combustible or flame retarded so that it will not burn or propagate flame.

Section 5.05 Risks Assumed by Contractor

(1) To the fullest extent permitted by law, the Contractor solely assumes the following distinct several risks whether they arise from acts or omissions (whether negligent or not and whether supervisory or otherwise) of the Contractor, of the Fund, of third persons or from any other cause, including unforeseen obstacles and difficulties which may be encountered in the prosecution of the work covered by the Contract, whether such risks are within or beyond the control of the Contractor and whether such risks involve a legal duty, primary or otherwise, imposed upon the Fund, the Dormitory Authority of the State of New York, the State of New York or the State University of New York, excepting only risks which arise from defects in maps, plans, designs or Specifications prepared, acquired or used by the Consultant or the Fund, from the negligence of the Fund, its agents or employees or from affirmative acts of the Fund, the Dormitory Authority of the State of New York, the State of New York or the State University of New York or their trustees, officers, agents or employees committed with intent to cause the loss, damage and injuries herein below set forth:

a. The risk of loss or damage, direct or indirect, to the work covered by the Contract or to any plant, equipment, tools, materials or property furnished, used, installed or received by the Fund or by the Contractor or any subcontractor, material man or worker performing services or furnishing materials for the work covered hereunder. The Contractor shall bear such risk of loss or damage until the work covered by the Contract has been finally accepted by the Fund or until completion of removal of such plant, equipment, tools, materials or property from the construction site and the vicinity thereof, whichever event occurs last. In the event of such loss or damage, the Contractor shall forthwith repair, replace and/or make good any such loss or damage without cost to the Fund.

b. The risk of claims, just or unjust, by third persons against the Contractor, the Fund, the Dormitory Authority of the State of New York, the State of New York, or the State University of New York on account of wrongful death, bodily injuries and property damage, direct or consequential, loss or damage of any kind whatsoever arising or alleged to arise out of or as a result of or in connection with the performance by the Contractor of the work covered by the Contract (whether actually caused by or resulting from the performance of the Contract) or out of or in connection with the Contractor's operations or presence at or in the vicinity of the construction site.

(2) To the fullest extent permitted by law, the Contractor shall indemnify and save harmless the Fund, the Dormitory Authority of the State of New York, the State of New York and the State University of New York, their trustees, officers, agents or employees against all claims described above and for all costs and expenses incurred by them in the defense, settlement or satisfaction thereof, including

attorneys' fees and court costs. If so directed, the Contractor shall at its own expense defend against such claims, in which event it shall not, without obtaining express advance permission from Counsel of the Fund, raise any defense involving in any way jurisdiction of the tribunal over the Fund, governmental nature of the Fund or the provisions of any statutes respecting suits against the Fund.

(3) Neither the Fund's final acceptance of the work to be performed hereunder nor the making of any payment shall release the Contractor from its obligations under this Section. The enumeration elsewhere in the Contract of particular risks assumed by the Contractor or of particular claims for which it is responsible shall not be deemed to limit the effect of the provision of this Section or to imply that it assumes or is responsible for only risks or claims of the type enumerated.

Section 5.06 Insurance Requirements

(1) General Provisions

a. Prior to the execution of the Agreement, the Contractor shall at its sole cost and expense, procure and furnish to the Fund a Certificate of Insurance and required endorsements in a form satisfactory to the Fund demonstrating that the Contractor has complied with the specific provisions of this Article and the Agreement, The Contractor shall maintain in force and effect at all times during the Agreement from Notice to Proceed until Final Acceptance, or as may otherwise be required by this Article and the Agreement, policies of insurance covering all operations under the Agreement whether performed by the Contractor or its subcontractors as herein set forth.

b. All insurance required by the Agreement shall be written by companies that have an A.M. Best Company rating of "A-," Class "VII" or better. In addition, companies writing insurance intended to comply with the requirements of the Agreement shall be licensed or authorized by the New York State Department of Financial Services to issue insurance in the State of New York or meet such other requirements as may be acceptable to the Fund in its sole and exclusive discretion. If during the duration of coverage on the Agreement, the carrier's A.M. Best rating falls below "A-," Class "VII," the insurance must be replaced, on or before the renewal date of the policy with insurance that meets the requirements set forth herein.

(2) Submission of Insurance

a. **Coverage Types**. The types of insurance coverage and policy limits required from the Contractor pursuant to the Agreement are specified in Paragraph (3) Specific Coverage below and limits outlined in Schedule A attached hereto ("Schedule A").

b. **Policy.** Except as may be otherwise specifically provided herein or agreed to in writing by the Fund, policies of insurance must be maintained on an occurrence basis at all times during the Agreement from Notice to Proceed until Final Acceptance, or as may be otherwise required by this Article and the Agreement, with limits not less than those set forth in Schedule A and as required by the terms of the Agreement, or as required by law, whichever is greater. If such insurance contains an aggregate limit, it shall apply separately on a per project basis.

c. **Certificates of Insurance.** The Contractor shall provide the Fund a Certificate or Certificates of Insurance, on the appropriate Certificate of Liability Insurance ACORD form, as well as the ACORD 855 NY form for liability insurance including required policy endorsements, in accordance with New York Insurance Law and submitted directly by the insurance broker or agent to the Fund, before commencing any work under the Agreement. The certificate C105.2 or the U26.3 (State Insurance Fund) are the only acceptable proof of coverage for Worker's Compensation. The DB120.1 is the only acceptable proof of coverage for Disability Benefits. Certificates must reference the NAIC number of the issuing company, policy number, effective dates of coverage, policy limits consistent with Schedule A and the Agreement requirements, name the Additional Insureds, and shall name the Fund as the Certificate Holder.

d. **Primary Coverage.** The liability and protective policies of insurance shall provide primary and non-contributory coverage to the Additional Insureds required in Section 5.06(2)(h) below for any claim arising from the Contractor's work under the Agreement, or because of the Contractor's activities. Any other insurance maintained by the Fund or Additional Insureds shall be in excess of and shall not contribute to the Contractor's insurance or subcontractor's insurance, regardless of the "other insurance" clause contained in the Fund's or Additional Insured's policy of insurance, if any. A copy of the

endorsement reflecting this requirement may be requested by the Fund.

e. **Policy Renewal/Expiration.** Unless otherwise agreed to in writing by the Fund, all insurance policies must have a policy period of at least one year. Not less than five (5) days prior to the expiration date or renewal date of the policy for insurance, the Contractor shall supply the Fund with updated replacement certificates of insurance and required endorsements. The Contractor shall give written notice to the Fund of any letter or notification that cancels, materially changes, or non- renews the policy and the Contractor shall require the insurance carrier(s) to copy the Fund on any letter or notification that cancels, materially changes, or non- renews the policy.

Unless otherwise agreed to in writing by the Fund, policies shall be written to include a provision that the policy will not be canceled, materially changed, or not renewed without at least thirty (30) days' prior, written notice except for non-payment, in which case notice shall be provided as required by law from the insurance carrier to the Fund. In addition, if required by the Fund, the Contractor shall deliver to the Fund within three (3) business days of such request a copy of any or all certificates of insurance and required endorsements not previously provided.

If, at any time during the Agreement, the Fund determines that the insurance as required is not in effect as per the terms of the Agreement, or proof thereof is not provided to the Fund, or the Contractor has otherwise failed to strictly adhere to the provisions of this Article, the Fund may withhold further Agreement payments and shall have the option to (i) direct the Contractor to stop work with no additional cost or extension of time due on account thereof; or (ii) treat such failure as an event of default under Section 2.26 of the Agreement..

With exception of the A.M. Best rating requirements, if at any time the coverage provisions and limits of the policies of insurance required herein do not meet the provisions and limits set forth in Schedule A and the Agreement, the Contractor shall immediately cease work on the project site. Further, the Contractor will not be allowed access to the project site without providing proof of proper insurance. The Contractor shall not resume work on the project until permitted to do so by the Fund. Any delay or time lost as a result of the Contractor not having insurance or providing proof thereof as required by this Article and the Agreement shall not give rise to a delay claim or any other claim by the Contractor against the Fund. If required by the Fund, the Contractor shall deliver to the Fund within fifteen (15) business days of such request, full and complete copies of any or all policies of insurance and endorsements relating to the project that were not previously provided, certified by the insurance carrier as true and complete.

f. **Self-Insured Retention / Deductibles.** Certificates must disclose any Deductible, Self-Insured Retention, Aggregate Limit or any exclusion to the policy that materially changes the coverage required by the Agreement, and Deductibles or Self-Insured Retentions above $25,000 shall be subject to approval from the Fund. The Contractor shall be solely responsible for all claim expenses and loss payments within the Deductible or Self-Insured Retention.

g. **Subcontractors.** Should the Contractor engage subcontractors, the Contractor shall impose on those entities the general insurance requirements of this Article and the Agreement. Required insurance limits shall be determined commensurate with the work of the subcontractor. The Contractor shall maintain the subcontractor certificates of insurance and required endorsements on file which shall be delivered to the Fund within three (3) business days of such request. If required by the Fund, the Contractor shall deliver to the Fund within fifteen (15) business days of such request, full and complete copies of any or all subcontractor policies of insurance and endorsements relating to the project that were not previously provided, certified by the insurance carrier as true and complete.

h. **Additional Insureds**. The Contractor shall cause to be included in each of the liability insurance policies coverage for on-going and completed operations naming as Additional Insureds, The People of the State of New York, the State University of New York, the Dormitory Authority of the State of New York, the Fund, other such entities as named in Schedule A, and their officers, agents, and employees ("Additional Insureds"). An Additional Insured Endorsement evidencing such coverage shall be provided to the Fund prior to the commencement of the Agreement. Additional Insured protection afforded must contemplate on-going and completed operations, and the additional insured protection for products/completed operations must remain in

place for three years after Final Acceptance. For Contractors who have Self-Insured Retention, the Contractor shall be obligated to defend and indemnify the above-named Additional Insureds with respect to Commercial General Liability insurance and Business Automobile Liability insurance, in the same manner that the Contractor would have been required to pursuant to this Article had the Contractor obtained such insurance policies.

i. **Waiver of Subrogation.** Unless otherwise agreed to in writing by the Fund, with the exception of Disability policies, all policies of insurance must be endorsed to provide that there shall be no right of subrogation against the State of New York, the State University of New York, the Dormitory Authority of the State of New York, the Fund, the Additional Insureds, and their officers, agents and employees. To the extent that any of the policies of insurance prohibit such a waiver of subrogation, the Contractor shall secure the necessary permission to make this waiver.

(3) Specific Coverage

The Contractor shall obtain and maintain in full force and effect, the following insurance with limits not less than those described in Schedule A and as required by the terms of the Agreement, or as required by law, whichever is greater:

a. **Commercial General Liability Insurance.** A Commercial General Liability ("CGL") insurance policy with coverage that shall include, but not be limited to, coverage for bodily injury, property damage, personal/advertising injury, premises liability, independent contractors/ subcontractors, blanket contractual liability including tort liability of another assumed in contract, liability arising from all work and operations under the Agreement, defense and indemnification obligations, including those assumed under the Agreement, cross liability coverage for Additional Insureds, products/completed operations for a term no less than three years commencing upon Final Acceptance, explosion, collapse, and underground hazards, contractor means and methods, and liability resulting from Section 240 or Section 241 of the NYS Labor Law. Such policy shall be written on ISO Occurrence form CG 00 01 or a substitute form that is acceptable to the Fund, providing equivalent coverage.

The General Aggregate limit included in the CGL insurance shall apply separately on a per project basis at the limits set forth herein in Schedule A.

Insurance policies that remove or restrict blanket contractual liability located in the "insured contract" definition (as stated in Section V, Number 9, Item f in the ISO CGL policy) so as to limit coverage against claims that arise out of the work under the Agreement, or that remove or modify the "insured contract" exception to the employers liability exclusion, or that do not cover the Additional Insureds for claims involving injury to employees of the Named Insured or subcontractors, are not acceptable.

In the event any work under the Agreement involves activity on or within 50 ft. of railroad property or a railroad right-of-way or requires entrance upon a railroad property or railroad right-of-way, or requires an assignment of a Railroad employee, any exclusion for such work must be deleted. In addition, the Contractor shall otherwise fully comply with Section 5.06 (3)h below. For purposes of this paragraph, a subway is also a railroad.

b. **Comprehensive Business Automobile Liability Insurance.** A Commercial Automobile Liability insurance policy at the limits set forth herein in Schedule A covering liability arising out of the use of any motor vehicle in connection with the Agreement, including owned, leased, hired, and non-owned vehicles bearing, or, under the circumstances under which they are being used, required by the Motor Vehicle Laws of the State of New York to bear license plates. If the Agreement involves the removal of hazardous waste from the project site or otherwise transporting Hazardous Materials, pollution liability coverage for covered autos shall be provided.

c. **Workers' Compensation.** New York State Workers' Compensation (including occupational disease) and Employer's Liability insurance coverage during the life of the Agreement for the benefit of the Contractor's and its subcontractors' employees as are required to be covered by the New York State Workers' Compensation Law.

In the event any of the work under the Agreement involves activity on or near a shoreline or on or near navigable waterways or when any part of the work under the Agreement is connected to water related activities, an endorsement to the Workers' Compensation policy or the Protection &

Indemnity policy providing coverage for all of the Contractor's and its subcontractors' employees under the Jones Act and the US Longshore and Harbor Workers' Compensation Act will be required and shall be delivered to the Fund within three (3) business days of such request. A waiver of subrogation in favor of the Additional Insureds must be included on the policy. In addition, the Contractor shall otherwise fully comply with Section 5.06(3)g below.

Evidence of Workers' Compensation and Employer's Liability coverage must be provided to the Fund on forms specified by the Chairman of the New York State Workers' Compensation Board.

d. **Disability Benefits.** Disability coverage during the life of the Agreement for the benefit of the Contractor's and its subcontractors' employees as are required to be covered by the New York State Disability Benefits Law.

Evidence of New York State Disability Benefits coverage must be provided to the Fund on forms specified by the Chairman of the New York State Workers' Compensation Board.

e. **Umbrella and Excess Liability.** When the limits of the CGL, Auto, and/or Employers Liability policies procured are insufficient to meet the limits specified in Schedule A, the Contractor shall procure and maintain Commercial Umbrella and/or Excess Liability policies with limits in excess of the primary, provided, however, that the total amount of insurance coverage is at least equal to the requirements set forth above. Such policies shall follow the same form as the primary. Any insurance maintained by the Fund or Additional Insureds shall be considered in excess of and shall not contribute with any other insurance procured or maintained by the Contractor including primary, umbrella and excess liability regardless of the "other insurance" clause contained in either party's policy.

f. **Contractor's Pollution Liability.** If the Agreement involves abatement, handling, removal, repair, replacement, enclosure, encapsulation and/or disposal of any pollutants, which includes but is not limited to, petroleum, petroleum products, Hazardous Materials or substances including asbestos, lead, mercury, PCBs, fungus and those as defined by applicable State and federal laws and regulations (collectively referred to as "Hazardous Activities"), the Contractor shall procure, or otherwise obtain through an approved subcontractor, and maintain in full force and effect throughout the term of the Agreement, from Notice to Proceed and for three years after Final Acceptance, Contractor's Pollution Liability with limits as set forth in Schedule A, providing coverage for bodily injury and property damage, including loss of use of damaged property or of property that has not been physically injured. Such policy shall provide coverage for actual, alleged or threatened emission, discharge, dispersal, seepage, release or escape of pollutants, including any loss, cost or expense incurred as a result of any cleanup of pollutants or in the investigation, settlement or defense of any claim, suit, or proceedings against the Fund or Additional Insureds arising from the Contractor's or its subcontractors' work under the Agreement.

In addition, in the event the Contractor or any subcontractor is engaged in Hazardous Activities related to the Agreement, the Contractor or subcontractor shall, to the fullest extent permitted by law, hold harmless and indemnify the Additional Insureds and their trustees, officers, agents or employees, for any claims or liabilities in connection with illness or sickness arising from work performed, not performed, or which should have been performed. The Contractor shall have said hold-harmless and indemnification conditions stipulated in all contracts with subcontractors.

g. **Marine General Liability, Protection & Indemnity, Hull & Machinery, Jones Act and United States Longshore and Harbor Workers' Act Coverage.** In the event any of the work under the Agreement involves activity on or near a shoreline or on or near navigable waterways or when any part of the work under the Agreement is connected to water related activities (collectively referred to as "Marine Operations"), Marine General Liability, Protection & Indemnity and Hull and Machinery coverage is required. Hull and Machinery coverage shall be provided for the total value of the watercraft and equipment used. The Contractor shall obtain Marine General Liability and Protective and Indemnity Liability Insurance for all Marine Operations relating to the Agreement at the limits set forth herein in Schedule A. Any endorsements that eliminate or minimize coverage for claims related to the imposition of New York Labor Law are prohibited. Certificate of Liability Insurance must be provided that certifies the required coverage is in place and

must be accompanied by an ACORD 855 form or its equivalent.

h. **Railroad Protective Liability**. In the event any work under the Agreement involves activity on or within 50 ft. of railroad property or a railroad right-of-way, or requires entrance upon a railroad property or railroad right-of-way, or requires an assignment of a Railroad employee, the Contractor shall provide and maintain a Railroad Protective Liability ("RPL") Insurance Policy in the amount required by the respective railroad as set forth herein in Schedule A. For purposes of this paragraph, a subway is also a railroad.

The RPL policy must name the Railroad as the Named Insured. No Additional Insureds may be listed on the RPL policy and the definition of "physical damage to property" must be amended to mean direct and accidental loss of or damage to "all property of any Named Insured and all property in any Named Insured's care, custody or control."

Evidence of RPL must be provided to the Fund on a Certificate of Insurance, and a detailed Binder pending issuance of the policy, or on an ISO-RIMA or equivalent form approved by the Railroad and meet any other requirements as specified by the Railroad and/or the Fund."

Section 5.07 Builder's Risk

(1) The Contractor shall procure and maintain, at its own cost and expense, until final acceptance of all work covered by this Contract or until the Project has been turned over for use by the State University of New York, whichever event occurs earlier, a builder's risk insurance policy covering all risks, with fire, extended coverage, vandalism and malicious mischief coverage. In the event the loss occurs at an occupied facility, the policy shall permit occupancy without the consent of the insurance company. The policy shall cover the cost of removing debris, including demolition as may be legally necessary by operation of any law, ordinance, or regulation, and property of the State held in their care, custody and/or control.

(2) The policy shall be in an amount equal to the Project's insurable value, i.e., the Contract consideration less the cost of the Contractor's Performance and Labor and Material Bonds; the cost of trees, shrubbery, lawn grass, plants and the maintenance of the same; the cost of demolition; the cost of excavation; the cost of foundations, piers or other supports which are below the undersurface of the lowest basement floor, or where there is no basement, which are below the surface of the ground, concrete and masonry work; the cost of underground flues, pipes or wiring; the cost of earthmoving, grading and the cost of paving, roads, walks, parking lots or athletic fields; and the cost of bridges, tunnels, dams, piers, wharves, docks, retaining walls and radio and/or television towers and antennas.

(3) The policy may contain a provision for a $500 deductible for each loss to a Project having an insurable value of less than $1,500,000 and a $1,000 deductible for each loss to a Project having an insurable value of $1,500,000 or more.

(4) The Fund, the Contractor and its subcontractors, as their interests may appear, shall be named as the parties insured under said policy.

(5) The Contractor shall have the sole responsibility to promptly report any loss to the insurer and/or its representatives and to furnish the latter with all necessary details relating to the occurrence of the loss and the amount thereof. The Fund, the Contractor and all subcontractors of the Contractor waive all rights, each against the others, for damages caused by fire or other perils covered by insurance provided under the terms of this Section, except such rights as they may have to the proceeds of insurance received; provided, however, this waiver shall not apply to any manufacturer, supplier or similar agent under any guarantee or warranty.

(6) The Contractor shall not violate or permit to be violated any condition of such policy and shall at all times satisfy the fire safety requirements of the Fund and the insurance company issuing the same.

(7) The procurement and maintenance of said policy shall in no way be construed or be deemed to relieve the Contractor from any of the obligations and risks imposed upon it by this Contract or to be a limitation on the nature or extent of such obligations and risks.

(8) Not less than thirty days prior to the expiration date or renewal date, the Contractor shall supply the Fund with an updated replacement certificate of insurance and endorsements. The Contractor shall advise the Fund of any letter or notification that cancels, materially changes, or non-renews the policy and Contractor shall require the insurance carrier(s) to copy the Fund on any letter or notification that cancels, materially changes, or non-

renews the policy. Before the Contractor shall be entitled to have any progress payment rendered on account of the work which is to be insured pursuant to this Section, it shall furnish to the Fund a certificate in duplicate of the insurance herein required. Such insurance must be procured from an insurance carrier approved by the Fund, licensed to do business in the State of New York ("admitted" carrier), and rated at least "A-" by A.M. Best Company.

Section 5.08 Effect of Procurement of Insurance

Neither the procurement nor the maintenance of such insurance shall in any way affect or limit the obligations, responsibilities or liabilities of the Contractor hereunder.

Section 5.09 No Third Party Rights

Nothing in this Section or in this Agreement shall create or give to third parties, except the Dormitory Authority of the State of New York, the State of New York and the State University of New York any claim or right of action against the Contractor, the Consultant, the Fund, the Dormitory Authority of the State of New York, the State of New York and the State University of New York beyond such as may legally exist irrespective of this Section or this Agreement.

Article VI
Minority and Women's Business Enterprises (MWBEs) / Equal Employment Opportunity (EEO) Provisions

Section 6.01 Definitions

The terms "Minority-owned business enterprise" ("MBE**"),** "Women-owned business enterprise" ("WBE") or "minority group member", and "Subcontract" shall have the same meaning as under Article 15-A of the New York State Executive Law, and 5 NYCRR Parts 140 – 145, as the same may be from time to time amended.

Section 6.02 MWBE/EEO Policy Statement

(1) The Fund recognizes the need to take affirmative action to promote the employment of minority group members and women and to ensure that Minority and Women Business Enterprises are given the opportunity to participate in the performance of its construction program. This opportunity for participation in our free enterprise system by socially and economically disadvantaged persons is essential to obtain social and economic equality and improve the functioning of the State economy. Accordingly, it is the policy of the Fund to provide for participation of minorities and women on the Project.

(2) The Contractor acknowledges its understanding of the policy herein stated and agrees to cooperate with the Fund in the implementation of this policy.

Section 6.03 Participation by Minority and Women's Business Enterprises (MWBEs)/ Equal Employment Opportunity (EEO)

(1) General Provisions

a. The Fund is required to implement the provisions of New York State Executive Law Article 15-A, 5 NYCRR Parts 140-145 of the New York Codes, Rules and Regulations ("NYCRR"), and Executive Order No. 162 dated January 9, 2017 ("E.O. 162") for all State contracts as defined therein, with a value (1) in excess of $25,000 for labor, services, equipment, materials, or any combination of the foregoing or (2) in excess of $100,000 for real property renovation and/or construction.

b. The Contractor agrees, in addition to any other nondiscrimination provision of the Contract and at no additional cost to the Fund, to fully comply and cooperate with the Fund in the implementation of New York State Executive Law Article 15-A, the regulations promulgated thereunder, and E.O. 162. These requirements include equal employment opportunities for minority group members and women ("EEO") and contracting opportunities for New York State certified minority and women-owned business enterprises ("MWBEs"). Contractor's demonstration of "good faith efforts" pursuant to 5 NYCRR §142.8 shall be a part of these requirements. These provisions shall be deemed supplementary to, and not in lieu of, the nondiscrimination provisions required by New York State Executive Law Article 15 (the "Human Rights Law") and other applicable federal, state or local laws.

c. Failure to comply with all of the requirements herein may result in a finding of non-

responsiveness, non-responsibility and/or a breach of contract, leading to the assessment of liquidated damages pursuant to Section 7 of this Article, withholding of funds and such other remedies as may be available to the Fund pursuant to the Contract and applicable law, including but not limited to bid rejection or contract termination for cause.

d. Contractor will include the provisions of this Article in each and every agreement, contract, and/or subcontract with each and every subcontractor and supplier in such a manner that the provisions of this Article will be binding upon each subcontractor and supplier as to work in connection with and related to this Agreement. All subcontractors and suppliers must be approved by the Fund and the MWBE Utilization plans are subject to approval by the Fund's Opportunities Program.

(2) Contract Goals

a. For purposes of this Contract, the Fund hereby establishes goals of % for New York State-certified Minority-Owned Business Enterprises ("MBE") participation and % for New York State-certified Women-Owned Business Enterprises ("WBE") participation (collectively "MWBE Contract Goals") based on the current availability of MBEs and WBEs.

i. The % goal for Minority-Owned Business Enterprise participation shall be applied as follows: a maximum of one third (1/3) of the goal may be applied to purchases of materials, supplies, and equipment from MBEs.

ii. The % goal for Women-Owned Business Enterprise participation shall be applied as follows: a maximum of one third (1/3) of the goal may be applied to purchases of materials, supplies, and equipment from WBEs.

b. For purposes of providing meaningful participation by MWBEs on the Contract and achieving the MWBE Contract Goals established in Section 2a hereof, Contractor should reference the Directory of New York State Certified MWBEs found at the following internet address: https://www.ny.newnycontracts.com. Additionally, the Contractor is encouraged to contact the Fund's Opportunities Program Office. The Contractor can also reach out to the Division of Minority and Women's Business Development at (212) 803-2414 to discuss additional methods of maximizing participation by MWBEs on the Contract.

c. The Contractor understands that only sums paid to MWBEs for the performance of a commercially useful function, as that term is defined in 5 NYCRR §140.1, may be applied towards the achievement of the applicable MWBE participation goal. The portion of a contract with an MWBE serving as a supplier, that shall be deemed to represent the commercially useful function performed by the MWBE, shall be 60 percent of the total value of the contract. The portion of a contract with an MWBE serving as a broker, that shall be deemed to represent the commercially useful function performed by the MWBE, shall be the monetary value for fees, or the markup percentage, charged by the MWBE.

d. Where MWBE Contract Goals have been established herein, the Contractor must document "good faith efforts" pursuant to pursuant to 5 NYCRR §142.8, to provide meaningful participation by MWBE's as subcontractors and suppliers, in the performance of the Contract. Such documentation shall include, but not necessarily be limited to:

i. Evidence of outreach to MWBEs,

ii. Any responses from MWBE's to the Contractor's outreach;

iii. Copies of advertisements for participation by MWBEs in appropriate general circulation, trade and minority or women-owned publications;

iv. The dates of attendance at any pre-bid, pre-award or other meetings, if any, scheduled by the Fund with MWBE's; and,

v. Information describing specific steps undertaken by the Contractor to reasonably structure the Contract Scope of work to maximize opportunities for MWBE participation.

(3) Equal Employment Opportunity (EEO)

a. The provisions of Article 15-A of the Executive Law, the rules and regulations promulgated thereunder, and E.O. 162 pertaining to equal employment opportunities for minority group members and women, shall apply to the Contract. Contractor agrees to be bound by them. In the event of any conflict, the provisions of the statute, regulations and Executive Order shall govern over any contrary provisions of this Agreement.

b. In performing the Contract, the Contractor shall:

i. Ensure that the Contractor and each contractor and subcontractor performing work on the Contract shall undertake or continue existing EEO programs to ensure that minority group members and women are afforded equal employment opportunities without discrimination because of race, creed, color, national origin, sex, age, disability or marital status. For these purposes, EEO shall apply in the areas of recruitment, employment, job assignment, promotion, upgrading, demotion, transfer, layoff, or termination and rates of pay or other forms of compensation.

ii. Within seven (7) calendar days after the opening of bids or upon receipt of a request by the Fund, the Contractor shall have submitted an EEO policy statement to the Fund.

iii. If the Contractor or any of its sub-contractors do not have an existing EEO policy statement, the Fund may require the Contractor or subcontractor to adopt a model statement.

iv. The Contractor's EEO policy statement shall include the following language:

(a) The Contractor will not discriminate against any employee or applicant for employment because of race, creed, color, national origin, sex, age, disability or marital status, will undertake or continue existing EEO programs to ensure that minority group members and women are afforded equal employment opportunities without discrimination, and shall make and document its conscientious and active efforts to employ and utilize minority group members and women in its work force.

(b) The Contractor shall state in all solicitations or advertisements for employees that, in the performance of the Contract, all qualified applicants will be afforded equal employment opportunities without discrimination because of race, creed, color, national origin, sex, age, disability or marital status.

(c) At the request of the Fund, the Contractor shall request each employment agency, labor union, or authorized representative of workers with which it has a collective bargaining or other agreement or understanding, to furnish a written statement that such employment agency, labor union, or representative will not discriminate on the basis of race, creed, color, national origin, sex age, disability or marital status and that such union or representative will affirmatively cooperate in the implementation of the Contractor 's obligations herein.

(d) The Contractor will include the provisions of paragraphs a through c of this subdivision (iv) and paragraph e of this subsection 3 which provides for relevant provisions of the Human Rights Law, in every subcontract in such a manner that the requirements of the subdivision will be binding upon each subcontractor as to work in connection with the Contract.

c. Staffing Plan

To ensure compliance with E.O.162, in connection with all low bids in excess of $250,000, the Contractor shall, as a required condition of contract award, prepare and submit a staffing plan, as part of the Contractor's bid or proposal, or within a reasonable time after the bid opening or proposal submission and prior to final contract award, as directed by the Fund. The Contractor shall do so using the staffing plan form provided by the Fund, to document the composition of the proposed workforce to be utilized in the performance of the Contract by the specified categories listed, including ethnic background, gender, and Federal occupational categories.

d. Monthly Workforce Utilization/Gross Wages

Report

i. For each and every real property renovation and/or construction contract in excess of $100,000, the Contractor shall, during the term of the Contract and as part of the normal course of performing the work of the Contract, submit a monthly Workforce Utilization/Gross Wages Report, and shall require each of its subcontractors to submit a Workforce Utilization/Gross Wages Report in the electronic form prescribed by the Fund on a monthly basis.

ii. Separate forms shall be completed by the Contractor and any subcontractors.

iii. Pursuant to E.O.162, in addition to required Equal Employment Opportunity (EEO) information, the Contractor and its subcontractors are also required to include in such monthly reports the job titles and gross wages paid to each of their employees for the work performed by such employees on the Contract; or for each and every member of their entire workforce, if they are unable to determine which employees are working directly on the contract for which the report is submitted.

e. Contractor shall comply with the provisions of the Human Rights Law, all other State and Federal statutory and constitutional non-discrimination provisions. Contractor and sub-contractors shall not discriminate against any employee or applicant for employment because of race, creed (religion), color, sex, national origin, sexual orientation, military status, age, disability, predisposing genetic characteristic, marital status or domestic violence victim status, and shall also follow the requirements of the Human Rights Law with regard to non-discrimination on the basis of prior criminal conviction and prior arrest.

(4) MWBE Utilization Plan

a. The Contractor represents and warrants that Contractor has submitted an MWBE Utilization Plan for the Fund's approval prior to the execution of the Contract and within seven (7) calendar days after receipt of a request thereof.

b. Contractor agrees to adhere to such MWBE Utilization Plan in the performance of the Contract.

c. Contractor further agrees that a failure to submit and/or adhere to such MWBE Utilization Plan may constitute a material breach of the terms of the Contract. Upon the occurrence of such a material breach, the Fund shall be entitled to any remedy provided herein, including but not limited to, a finding that the Contractor is non-responsive

(5) Waivers

If the Contractor, after making good faith efforts, is unable to achieve the MWBE Contract Goals stated herein, the Contractor may submit a request for a waiver through a method provided by the Fund. Such waiver request must be supported by evidence of the Contractor's good faith efforts to achieve the maximum feasible MWBE participation towards the applicable MWBE Contract Goals. If documentation included with the waiver request is completed, the Fund shall evaluate the request and issue a written notice of approval or denial within twenty (20) business days of receipt.

If the Fund, upon review of the MWBE Utilization Plan, the reports described in Section 6.04, or any other relevant information, determines that the Contractor is failing or refusing to comply with the MWBE Contract Goals, and no waiver has been issued in regards to such non-compliance, the Fund may issue a notice of deficiency to the Contractor. The Contractor must respond to the notice of deficiency within seven (7) business days of receipt. Such response may include a request for partial or total waiver of MWBE Contract Goals.

(6) Liquidated Damages

a. Where the Fund determines that Contractor is not in compliance with the provisions of this Article and the Contractor refuses to comply with such requirements, or if the Contractor is found to have willfully and intentionally failed to comply with the MWBE Contract Goals, Contractor shall be obligated to pay liquidated damages to the Fund.

b. Such liquidated damages shall be calculated as an amount equaling the difference between:

i. All sums identified for payment to MWBEs had the Contractor achieved the contractual MWBE goals; and

ii. All sums actually paid to MWBEs for work performed or materials supplied under the Contract.

c. In the event a determination has been made which requires the payment of liquidated damages and such identified sums have not been withheld by the Fund, Contractor shall pay such liquidated damages to the Fund within sixty (60) days after they are assessed. Provided, however, that if the Contractor has filed a complaint with the Director of the Division of Minority and Woman Business Development pursuant to 5 NYCRR § 142.12, liquidated damages shall be payable only in the event of a determination adverse to the Contractor following the complaint process.

Section 6.04 Reports, Records and Documentation

a. The Contractor shall, for each and every real property renovation and/or construction contract in excess of $100,000, file with the Fund monthly reports in the electronic form prescribed by the Fund, regarding actions taken pursuant to this Article, as well as a list of and value of subcontracts and supply contracts.

b. The Contractor shall permit access to its books, records and accounts by the Fund for purposes of investigation to ascertain compliance with the provisions of this Article. The Contractor shall include this provision in every subcontract so that such provision will be binding upon each subcontractor.

c. Failure to comply with the foregoing requirements entitles the Fund to take such action as the withholding of funds, suspension or termination of the Contract or such other actions or enforcement proceedings as allowed by the Contract. Such failure may also result in a finding of non-responsiveness, non-responsibility and/or a breach of the Contract.

Article VII
Provisions Required by Law

Section 7.01 Provisions Deemed Inserted

Each and every provision required by law to be inserted in the Contract, including, but not limited to, the applicable provisions set forth in Schedule "A" which is attached hereto and made a part hereof, shall be deemed to be inserted herein and the Contract shall be read and enforced as though it were included herein and, in the event any such provision is not inserted or is not correctly inserted, then, upon the application of either party, this Contract shall forthwith be physically amended to make such insertion or correction.

Section 7.02 Wage Rates

The Contractor shall post the appropriate prevailing wage schedules in a conspicuous place at the construction site. The Department of Labor shall provide the Contractor with posters relating to prevailing wage rates and same shall be displayed by the Contractor in a conspicuous place at the construction site. The Contractor shall also distribute wallet cards, to be provided by the Department of Labor, to all workers engaged at the construction site containing information relating to wage rates and telephone numbers to call if a worker believes his or her rights are being violated. The Contractor shall provide each worker with a written notice, informing them of the applicable prevailing wage requirements, and the Contractor must obtain a signed statement or declaration from such worker attesting to the fact that he or she has been given this information. Further, the Contractor is required to keep certified copies of its payrolls at the construction site.

Section 7.03 Iran Energy Sector Divestment

Pursuant to New York State Finance Law §165-a, Iran Divestment Act of 2012 (Act), the Office of General Services is required to post on its website a list of persons who have been determined to engage in investment activities in Iran (“prohibited entities list”), as defined by the Act. New York State Public Authorities Law § 2879-c, with certain exceptions, prohibits the Fund from entering into or awarding a Contract with persons identified on the prohibited entities list and requires that the person (as defined in paragraph (e) of subdivision one of Section 165-a of the State finance law) entering into the contract with the Fund certify, under penalty of perjury, that it is not on the prohibited entities list. By signing this Agreement with the Fund, each person (as defined in paragraph (e) of subdivision one of Section 165-a of the State finance law) and each person signing on behalf of any other party certifies, and in the case of a joint bid or partnership each party thereto certifies as to its own organization, under penalty of perjury, that

to the best of its knowledge and belief that each person is not on the prohibited entities list.

Article VIII
Vendor Responsibility

(1) The Contractor shall at all times during the Agreement term remain responsible. The Contractor shall provide the Fund with written notice as required by this Article of any issues impacting its responsibility, which shall minimally include updated responses to the its filed vendor responsibility questionnaire. The Contractor agrees, if requested by the Fund, to present evidence of its continuing legal authority to do business in New York State, integrity, experience, ability, prior performance and organizational and financial capacity.

(2) The Fund, at its sole discretion, reserves the right to suspend any or all activities under this Agreement, at any time, when the Fund discovers information that calls into question the responsibility of the Contractor. In the event of such suspension, the Contractor will be given written notice outlining the particulars of such suspension. Upon issuance of such notice, the Contractor must comply with the terms of the suspension order. Agreement activity may resume at such time as the Fund issues a written notice authorizing a resumption of performance under the Agreement.

(3) Upon written notice to the Contractor, and a reasonable opportunity to be heard with appropriate Fund officials or staff, the Contractor may be terminated by the Fund at the Contractor's expense where the Contractor is determined by the Fund to be non-responsible. In such event, the Fund may complete the contractual requirements in any manner that the Fund may deem advisable and pursue available legal or equitable remedies for breach.

(4) In addition to the notice requirements set forth in Section 1.12 of this Agreement, the Contractor shall provide the notice required by this section as follows:

The State University Construction Fund
Attention: Harry McLellan, General Counsel
The H. Carl McCall SUNY Building
353 Broadway, Albany, NY 12246
Telephone Number: (518) 320-1748
E-mail address: Harry.McLellan@suny.edu

In no case shall termination of the Contract by the Fund be deemed a breach by the Fund thereof, nor shall the Fund be liable for any damages or lost profits or otherwise, which may be sustained by Contractor as a result of such termination.

Article IX
Use of Service-Disabled Veteran-Owned Business Enterprises in Contract Performance

(1) Article 17-B of New York State Executive Law acknowledges that Service-Disabled Veteran-Owned Businesses (SDVOBs) strongly contribute to the economies of the State and the nation. As defenders of our nation and in recognition of their economic activity in doing business in New York State, the Contractor for the Project and Work defined in this Agreement, agrees to, at no additional cost to the Fund, fully comply and cooperate with the Fund's implementation of New York State Executive Law Article 17-B and provide opportunities for SDVOBs in the fulfillment of the requirements of this Agreement. SDVOBs can be readily identified on the directory of certified businesses at:

https://ogs.ny.gov/Veterans/#1

(2) The Contractor is strongly encouraged to the maximum extent practical and consistent with legal requirements of the State Finance Law and the Executive Law to use responsible and responsive SDVOBs in purchasing and utilizing commodities, services and technology that are of equal quality and functionality to those that may be obtained from non-SDVOBs. Furthermore, Contractors are reminded that they must continue to utilize small, minority and women-owned businesses consistent with current State law

(3) Utilizing SDVOBs in State contracts will help create more private sector jobs, rebuild New York State's infrastructure, and maximize economic activity to the mutual benefit of the Contractor and its SDVOB partners. SDVOBs will promote the Contractor's optimal performance under the Agreement, thereby fully benefiting the public sector programs that are supported by associated public procurements.

(4) Public procurements can drive and improve the State's economic engine through promotion of the use of SDVOBs by the Contractor. The Fund, therefore, expects Contractors to provide maximum assistance to SDVOBs in the performance of services for this Agreement. The potential participation by all kinds of SDVOBs will deliver great value to the State and its taxpayers.

(5) For the purposes of this Agreement, the Fund hereby establishes the goal of % participation for SDVOBs. For the purposes of providing meaningful

participation by SDVOBs on the Agreement and achieving the Agreement Goal, the Contractor should reference the directory of New York State Certified SDVOBs at the following internet address:

https://ogs.ny.gov/Veterans/#1

(6) Damages – SDVOB Participation: Any Contractor who willfully and intentionally fails to comply with the SDVOB participation requirements of the SDVOB regulations set forth in 9 NYCRR Section 252, and as set forth in this Agreement, shall be liable to the Fund for damages as otherwise specified in this agreement, and shall provide for other appropriate remedies on account of such breach. Damages shall be calculated based on the actual cost incurred by the Fund related to the Fund's expenses for personnel, supplies and overhead related to establishing, monitoring and reviewing certified SDVOB enterprise programmatic goals.

(7) The Contractor is required to submit a Compliance Report to the Fund in every application for payment or by request of the Fund and such report must document the progress made towards achievement of the SDVOB goal of the Agreement.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the day and year first above written.

STATE UNIVERSITY CONSTRUCTION FUND

By _____

Title _____

Name _____

(COMPANY NAME)

By _____

Date: _____

SUCF Project No. ( )

If Corporation, affix Corporate Seal

Contract No. DXXXXXX

ACKNOWLEDGMENTS

(ACKNOWLEDGMENT BY INDIVIDUAL)

STATE OF)
COUNTY OF) SS:

On this _____ day of _____, 20 _____, before me personally came

_____, to me known and known to me to be the

person described in and who executed the foregoing instrument and he acknowledged to me that he executed the same.

_____
Notary Public

(ACKNOWLEDGMENT BY PARTNERSHIP)

STATE OF)
COUNTY OF) SS:

On this _____ day of _____, 20 _____, before me personally came

_____, to me known and known to me to be the

person who executed the above instrument, who, being duly sworn by me, did for h self depose and say that he is a

member of the firm of _____ consisting of h self and

_____

that he executed the foregoing instrument in the firm name of _____

and that he had authority to sign same, and he did duly acknowledge to me that he executed the same as the act and deed

of said firm of _____,for the uses and purposes mentioned therein.

_____
Notary Public

(ACKNOWLEDGEMENT BY CORPORATION)

STATE OF)
COUNTY OF) SS:

On this _____ day of _____, 20____, before me personally came

_____, to me known, who, being by me duly sworn, did depose

and say that he/she/they reside(s) in _____; that he/she/they is (are) the

_____ (president or other officer or director or attorney in fact duly appointed) of the

_____ (name of corporation), the corporation described in and which executed

the above instrument; and that he/she/they signed his/her/their name(s) thereto by authority of the board of directors of said

corporation.

_____
Notary Public

State University Construction Fund Appendix "A"
Standard Clauses For New York State Contracts

The parties to the attached contract, license, lease, amendment or other agreement of any kind (hereinafter, "the contract" or "this contract") agree to be bound by the following clauses which are hereby made a part of the contract (the word "Contractor" herein refers to any party other than the State or the State University Construction Fund, whether a contractor, licensor, licensee, lessor, lessee or any other party; the State University Construction Fund shall hereinafter be referred to as the "Fund"):

1. EXECUTORY CLAUSE. In accordance with Section 41 of the State Finance Law, the State and the Fund shall have no liability under this contract to the Contractor or to anyone else beyond funds appropriated and available for this contract.

2. NON-ASSIGNMENT CLAUSE. In accordance with Section 138 of the State Finance Law, this contract may not be assigned by the Contractor or its right, title or interest therein assigned, transferred, conveyed, sublet or otherwise disposed of without the State's or the Fund's previous written consent, and attempts to do so are null and void. Notwithstanding the foregoing, such prior written consent of an assignment of a contract let pursuant to Article XI of the State Finance Law may be waived at the discretion of the Fund and with the concurrence of the State Comptroller where the original contract was subject to the State Comptroller's approval, where the assignment is due to a reorganization, merger or consolidation of the Contractor's business entity or enterprise. The Fund retains its right to approve an assignment and to require that any Contractor demonstrate its responsibility to do business with the Fund. The Contractor may, however, assign its right to receive payments without the Fund's prior written consent unless this contract concerns Certificates of Participation pursuant to Article 5-A of the State Finance Law.

3. COMPTROLLER'S APPROVAL. (a) In accordance with Section 112 of the State Finance Law and Section 373 of the Education Law, the State Comptroller's approval is required for the following contracts: (i) goods, services, construction and construction-related services which exceed $75,000 and (ii) purchases utilizing an Office of General Services centralized contract which exceed $200,000;

(b) If this contract exceeds the threshold amounts listed above in Paragraph 3(a), or, if this is an amendment for any amount to a contract which, as so amended, exceeds said threshold amounts, or if, by this contract, the State or the Fund agrees to give something other than money when the value or reasonably estimated value of such consideration exceeds $25,000, it shall not be valid, effective or binding upon the Fund or the State and the Fund and the State shall bear no liability, until it has been approved by the State Comptroller or the pertinent pre-audit reviw period has elapsed without State Comptroller approval or rejection and such contracts are filed in his or her office.

4. WORKERS' COMPENSATION BENEFITS. In accordance with Section 142 of the State Finance Law, this contract shall be void and of no force and effect unless the Contractor shall provide and maintain coverage during the life of this contract for the benefit of such employees as are required to be covered by the provisions of the Workers' Compensation Law.

5. NON-DISCRIMINATION REQUIREMENTS. To the extent required by Article 15 of the Executive Law (also known as the Human Rights Law) and all other State and Federal statutory and constitutional non-discrimination provisions, the Contractor will not discriminate against any employee or applicant for employment, nor subject any individual to harassment, because of age, race, creed, color, national origin, citizenship or immigration status, sexual orientation, gender identity or expression, military status, sex, disability, predisposing genetic characteristics, familial status, marital status, or domestic violence victim status or because the individual has opposed any practices forbidden under the Human Rights Law or has filed a complaint, testified, or assisted in any proceeding under the Human Rights Law. Furthermore, in accordance with Section 220-e of the Labor Law, if this is a contract for the construction, alteration or repair of any public building or public work or for the manufacture, sale or distribution of materials, equipment or supplies, and to the extent that this contract shall be performed within the State of New York, Contractor agrees that neither it nor its subcontractors shall, by reason of race, creed, color, disability, sex, or national origin: (a) discriminate in hiring against any New York State citizen who is qualified and available to perform the work; or (b) discriminate against or intimidate any employee hired for the performance of work under this contract. If this is a building service contract as defined in Section 230 of the Labor Law, then, in

accordance with Section 239 thereof, Contractor agrees that neither it nor its subcontractors shall by reason of race, creed, color, national origin, age, sex or disability: (a) discriminate in hiring against any New York State citizen who is qualified and available to perform the work; or (b) discriminate against or intimidate any employee hired for the performance of work under this contract. Contractor is subject to fines of $50.00 per person per day for any violation of Section 220-e or Section 239 as well as possible termination of this contract and forfeiture of all moneys due hereunder for a second or subsequent violation.

6. WAGE AND HOURS PROVISIONS. If this is a public work contract covered by Article 8 of the Labor Law or a building service contract covered by Article 9 thereof, neither Contractor's employees nor the employees of its subcontractors may be required or permitted to work more than the number of hours or days stated in said statutes, except as otherwise provided in the Labor Law and as set forth in prevailing wage and supplement schedules issued by the State Labor Department. Furthermore, Contractor and its subcontractors must pay at least the prevailing wage rate and pay or provide the prevailing supplements, including the premium rates for overtime pay, as determined by the State Labor Department in accordance with the Labor Law. Additionally, effective April 28, 2008, if this is a public work contract covered by Article 8 of the Labor Law, the Contractor understands and agrees that the filing of payrolls in a manner consistent with Subdivision 3-a of Section 220 of the Labor Law shall be a condition precedent to payment by the Fund of any Fund approved sums due and owing for work done upon the project.

7. NON-COLLUSIVE BIDDING CERTIFICATION. In accordance with Section 139-d of the State Finance Law, if this contract was awarded based upon the submission of bids, Contractor affirms, under penalty of perjury, that its bid was arrived at independently and without collusion aimed at restricting competition. Contractor further affirms that, at the time Contractor submitted its bid, an authorized and responsible person executed and delivered to the Fund a non-collusive bidding certification on Contractor's behalf.

8. INTERNATIONAL BOYCOTT PROHIBITION. In accordance with Section 220-f of the Labor Law and Section 139-h of the State Finance Law, if this contract exceeds $5,000, the Contractor agrees, as a material condition of the contract, that neither the Contractor nor any substantially owned or affiliated person, firm, partnership or corporation has participated, is participating, or shall participate in an international boycott in violation of the federal Export Administration Act of 1979 (50 USC App. Sections 2401 et seq.) or regulations thereunder. If such Contractor, or any of the aforesaid affiliates of Contractor, is convicted or is otherwise found to have violated said laws or regulations upon the final determination of the United States Commerce Department or any other appropriate agency of the United States subsequent to the contract's execution, such contract, amendment or modification thereto shall be rendered forfeit and void. The Contractor shall so notify the State Comptroller within five (5) business days of such conviction, determination or disposition of appeal (2 NYCRR § 105.4).

9. SET-OFF RIGHTS. The State and the Fund shall have all common law, equitable and statutory rights of set-off. These rights shall include, but not be limited to, the State's and the Fund's option to withhold for the purposes of set-off any moneys due to the Contractor under this contract up to any amounts due and owing to the State or the Fund with regard to this contract or any other Fund contract, as well as any other contract with any State department or agency, including any contract for a term commencing prior to the term of this contract, plus any amounts due and owing to the State or the Fund for any other reason including, without limitation, tax delinquencies, fee delinquencies or monetary penalties relative thereto. The State and the Fund shall exercise their set-off rights in accordance with normal State practices including, in cases of set-off pursuant to an audit, the finalization of such audit by the State, the Fund, its representatives, or the State Comptroller.

10. RECORDS. The Contractor shall establish and maintain complete and accurate books, records, documents, accounts and other evidence directly pertinent to performance under this contract (hereinafter, collectively, the "Records"). The Records must be kept for the balance of the calendar year in which they were made and for six (6) additional years thereafter. The State Comptroller, the Attorney General and any other person or entity authorized to conduct an examination, as well as the Fund and any other agencies involved in this contract, shall have access to the Records during normal business hours at an office of the Contractor within the State of New York or, if no such office is available, at a mutually agreeable and reasonable venue within the State, for the term specified above for the purposes of inspection, auditing and copying. The Fund shall take reasonable steps to protect from public disclosure any of the Records which are exempt from disclosure under Section 87 of the Public Officers Law (the "Statute") provided that: (i)

the Contractor shall timely inform an appropriate Fund official, in writing, that said Records should not be disclosed; and (ii) said Records shall be sufficiently identified; and (iii) designation of said records as exempt under the Statute is reasonable. Nothing contained herein shall diminish, or in any way adversely affect, the State's or the Fund's right to discovery in any pending or future litigation.

11. IDENTIFYING INFORMATION AND PRIVACY NOTIFICATION. (a) Identification Number(s). Every invoice or New York State Claim for Payment submitted to the Fund by a payee, for payment for the sale of goods or services or for transactions (e.g., leases, easements, licenses, etc.) related to real or personal property must include the payee's identification number. The number is any or all of the following: (i) the payee's Federal employer identification number, (ii) the payee's Federal social security number, and/or (iii) the payee's Vendor Identification Number assigned by the Statewide Financial System. Failure to include such number or numbers may delay payment. Where the payee does not have such number or numbers, the payee, on its invoice or Claim for Payment, must give the reason or reasons why the payee does not have such number or numbers.

(b) Privacy Notification. (1) The authority to request the above personal information from a seller of goods or services or a lessor of real or personal property, and the authority to maintain such information, is found in Section 5 of the State Tax Law. Disclosure of this information by the seller or lessor to the Fund or the State is mandatory. The principal purpose for which the information is collected is to enable the State to identify individuals, businesses and others who have been delinquent in filing tax returns or may have understated their tax liabilities and to generally identify persons affected by the taxes administered by the Commissioner of Taxation and Finance. The information will be used for tax administration purposes and for any other purpose authorized by law. (2) The personal information is requested by the purchasing unit of the Fund contracting to purchase the goods or services or lease the real or personal property covered by this contract or lease. The information is maintained in the Statewide Financial System by the Vendor Management Unit within the Bureau of State Expenditures, Office of the State Comptroller, 110 State Street, Albany, New York 12236.

12. EQUAL EMPLOYMENT OPPORTUNITIES FOR MINORITIES AND WOMEN. In accordance with Section 312 of the Executive Law and 5 NYCRR Part 143, if this contract is: (i) a written agreement or purchase order instrument, providing for a total expenditure in excess of $25,000.00, whereby a contracting agency is committed to expend or does expend funds in return for labor, services, supplies, equipment, materials or any combination of the foregoing, to be performed for, or rendered or furnished to the Fund; or (ii) a written agreement in excess of $100,000.00 whereby the Fund is committed to expend or does expend funds for the acquisition, construction, demolition, replacement, major repair or renovation of real property and improvements thereon; or (iii) a written agreement in excess of $100,000.00 whereby the owner of a State assisted housing project is committed to expend or does expend funds for the acquisition, construction, demolition, replacement, major repair or renovation of real property and improvements thereon for such project, then the following shall apply and by signing this agreement the Contractor certifies and affirms that it is Contractor's equal employment opportunity policy that:

(a) The Contractor will not discriminate against employees or applicants for employment because of race, creed, color, national origin, sex, age, disability or marital status, shall make and document its conscientious and active efforts to employ and utilize minority group members and women in its work force on State contracts and will undertake or continue existing programs of affirmative action to ensure that minority group members and women are afforded equal employment opportunities without discrimination. Affirmative action shall mean recruitment, employment, job assignment, promotion, upgradings, demotion, transfer, layoff, or termination and rates of pay or other forms of compensation;

(b) at the Fund's request, the Contractor shall request each employment agency, labor union, or authorized representative of workers with which it has a collective bargaining or other agreement or understanding, to furnish a written statement that such employment agency, labor union or representative will not discriminate on the basis of race, creed, color, national origin, sex, age, disability or marital status and that such union or representative will affirmatively cooperate in the implementation of the Contractor's obligations herein; and

(c) the Contractor shall state, in all solicitations or advertisements for employees, that, in the performance of the State contract, all qualified applicants will be afforded equal employment opportunities without discrimination because of race, creed, color, national origin, sex, age, disability or marital status.

Contractor will include the provisions of "a," "b," and "c" above, in every subcontract over $25,000.00 for the construction, demolition, replacement, major repair, renovation, planning or design of real property and improvements thereon (the "Work") except where the Work is for the beneficial use of the Contractor. Section 312 does not apply to: (i) work, goods or services unrelated to this contract; or (ii) employment outside New York State. The State and the Fund shall consider compliance by a contractor or subcontractor with the requirements of any federal law concerning equal employment opportunity which effectuates the purpose of this clause. The Fund shall determine whether the imposition of the requirements of the provisions hereof duplicate or conflict with any such federal law and if such duplication or conflict exists, the Fund shall waive the applicability of Section 312 to the extent of such duplication or conflict. Contractor will comply with all duly promulgated and lawful rules and regulations of the Department of Economic Development's Division of Minority and Women's Business Development pertaining hereto.

13. CONFLICTING TERMS. In the event of a conflict between the terms of the contract (including any and all attachments thereto and amendments thereof) and the terms of this Appendix A, the terms of this Appendix A shall control.

14. GOVERNING LAW. This contract shall be governed by the laws of the State of New York except where the Federal supremacy clause requires otherwise.

15. LATE PAYMENT. Timeliness of payment and any interest to be paid to Contractor for late payment shall be governed by Article 11-A of the State Finance Law to the extent required by law. For the purposes of Article 11-A of the State Finance law, the Controller's Office of the State University Construction Fund, whose mailing address is the H. Carl McCall SUNY Building, 353 Broadway, Albany, New York 12246, is the Fund's designated payment office.

16. NO ARBITRATION. Disputes involving this contract, including the breach or alleged breach thereof, may not be submitted to binding arbitration (except where statutorily authorized), but must, instead, be heard in a court of competent jurisdiction of the State of New York.

17. SERVICE OF PROCESS. In addition to the methods of service allowed by the State Civil Practice Law & Rules ("CPLR"), Contractor hereby consents to service of process upon it by registered or certified mail, return receipt requested. Service hereunder shall be complete upon Contractor's actual receipt of process or upon the Fund's receipt of the return thereof by the United States Postal Service as refused or undeliverable. Contractor must promptly notify the Fund, in writing, of each and every change of address to which service of process can be made. Service by the Fund to the last known address shall be sufficient. Contractor will have thirty (30) calendar days after service hereunder is complete in which to respond.

18. PROHIBITION ON PURCHASE OF TROPICAL HARDWOODS. The Contractor certifies and warrants that all wood products to be used under this contract award will be in accordance with, but not limited to, the specifications and provisions of Section 165 of the State Finance Law, (Use of Tropical Hardwoods) which prohibits purchase and use of tropical hardwoods, unless specifically exempted, by the State or any governmental agency or political subdivision or public benefit corporation. Qualification for an exemption under this law will be the responsibility of the contractor to establish to meet with the approval of the State.

In addition, when any portion of this contract involving the use of woods, whether supply or installation, is to be performed by any subcontractor, the prime Contractor will indicate and certify in the submitted bid proposal that the subcontractor has been informed and is in compliance with specifications and provisions regarding use of tropical hardwoods as detailed in Section 165 of the State Finance Law. Any such use must meet with the approval of the State and the Fund; otherwise, the bid may not be considered responsive. Under bidder certifications, proof of qualification for exemption will be the responsibility of the Contractor to meet with the approval of the State.

19. MACBRIDE FAIR EMPLOYMENT PRINCIPLES. In accordance with the MacBride Fair Employment Principles (Chapter 807 of the Laws of 1992), the Contractor hereby stipulates that the Contractor either (a) has no business operations in Northern Ireland, or (b) shall take lawful steps in good faith to conduct any business operations in Northern Ireland in accordance with the MacBride Fair Employment Principles (as described in Section 165 of the New York State Finance Law), and shall permit independent monitoring of compliance with such principles.

20. OMNIBUS PROCUREMENT ACT OF 1992. It is the policy of New York State to maximize opportunities for the participation of New York State

business enterprises, including minority- and women-owned business enterprises as bidders, subcontractors and suppliers on its procurement contracts.

Information on the availability of New York State subcontractors and suppliers is available from:

NYS Department of Economic Development
Division for Small Business and Technology Development
625 Broadway
Albany, New York 12245
Telephone: 518-292-5100

A directory of certified minority- and women-owned business enterprises is available from:

NYS Department of Economic Development
Division of Minority and Women's Business Development
633 Third Avenue, 33rd Floor
New York, NY 10017
646-846-7364
email: mwbebusinessdev@esd.ny.gov
https://ny.newnycontracts.com/FrontEnd/searchcertifieddirectory.asp

The Omnibus Procurement Act of 1992 (Chapter 844 of the Laws of 1992, codified in State Finance Law § 139-i and Public Authorities Law § 2879(3)(n)–(p)) requires that by signing this bid proposal or contract, as applicable, Contractors certify that whenever the total bid amount is greater than $1 million:

(a) The Contractor has made reasonable efforts to encourage the participation of New York State Business Enterprises as suppliers and subcontractors, including certified minority- and women-owned business enterprises, on this project, and has retained the documentation of these efforts to be provided upon request to the State;

(b) The Contractor has complied with the Federal Equal Employment Opportunity Act of 1972 (P.L. 92-261), as amended;

(c) The Contractor agrees to make reasonable efforts to provide notification to New York State residents of employment opportunities on this project through listing any such positions with the Job Service Division of the New York State Department of Labor, or providing such notification in such manner as is consistent with existing collective bargaining contracts or agreements. The Contractor agrees to document these efforts and to provide said documentation to the Fund upon request; and

(d) The Contractor acknowledges notice that the State may seek to obtain offset credits from foreign countries as a result of this contract and agrees to cooperate with the State in these efforts.

21. RECIPROCITY AND SANCTIONS PROVISIONS. Bidders are hereby notified that if their principal place of business is located in a country, nation, province, state or political subdivision that penalizes New York State vendors, and if the goods or services they offer will be substantially produced or performed outside New York State, the Omnibus Procurement Act of 1994 and 2000 amendments (Chapter 684 and Chapter 383, respectively, codified in State Finance Law § 165(6) and Public Authorities Law § 2879(5))) require that they be denied contracts which they would otherwise obtain. NOTE: As of May 2023, the list of discriminatory jurisdictions subject to this provision includes the states of South Carolina, Alaska, West Virginia, Wyoming, Louisiana and Hawaii.

22. COMPLIANCE WITH BREACH NOTIFICATION AND DATA SECURITY LAWS. Contractor shall comply with the provisions of the New York State Information Security Breach and Notification Act (General Business Law §§ 899-aa and 899-bb and State Technology Law § 208.

23. COMPLIANCE WITH CONSULTANT DISCLOSURE LAW. If this is a contract for consulting services, defined for purposes of this requirement to include analysis, evaluation, research, training, data processing, computer programming, engineering, environmental, health, and mental health services, accounting, auditing, paralegal, legal or similar services, then, in accordance with Section 163 (4)(g) of the State Finance Law (as amended by Chapter 10 of the Laws of 2006), the Contractor shall timely, accurately and properly comply with the requirement to submit an annual employment report for the contract to the Department of Civil Service and the State Comptroller.

24. PROCUREMENT LOBBYING. To the extent this agreement is a "procurement contract" as defined by State Finance Law §§ 139-j and 139-k, by signing this agreement the contractor certifies and affirms that all disclosures made in accordance with State Finance Law §§ 139-j and 139-k are complete, true and accurate. In the event such certification is found to be intentionally false or intentionally incomplete, the Fund may terminate the agreement by providing written notification to the Contractor in accordance with the terms of the agreement.

25. CERTIFICATION OF REGISTRATION TO COLLECT SALES AND COMPENSATING USE TAX BY CERTAIN STATE CONTRACTORS, AFFILIATES AND SUBCONTRACTORS.
To the extent this agreement is a contract as defined by Tax Law § 5-a, if the contractor fails to make the certification required by Tax Law § 5-a or if during the term of the contract, the Department of Taxation and Finance or the Fund discovers that the certification, made under penalty of perjury, is false, then such failure to file or false certification shall be a material breach of this contract and this contract may be terminated, by providing written notification to the Contractor in accordance with the terms of the contract, if the Fund determines that such action is in the best interests of the State.

26. IRAN DIVESTMENT ACT. By entering into this Agreement, Contractor certifies in accordance with State Finance Law § 165-a that it is not on the "Entities Determined to be Non-Responsive Bidders/Offerers pursuant to the New York State Iran Divestment Act of 2012" ("Prohibited Entities List") posted at: https://ogs.ny.gov/iran-divestment-act-2012

Contractor further certifies that it will not utilize on this Contract any subcontractor that is identified on the Prohibited Entities List. Contractor agrees that should it seek to renew or extend this Contract, it must provide the same certification at the time the Contract is renewed or extended. Contractor also agrees that any proposed Assignee of this Contract will be required to certify that it is not on the Prohibited Entities List before the contract assignment will be approved by the Fund.

During the term of the Contract, should the Fund receive information that a person (as defined in State Finance Law § 165-a) is in violation of the above-referenced certifications, the Fund will review such information and offer the person an opportunity to respond. If the person fails to demonstrate that it has ceased its engagement in the investment activity which is in violation of the Act within 90 days after the determination of such violation, then the Fund shall take such action as may be appropriate and provided for by law, rule, or contract, including, but not limited to, imposing sanctions, seeking compliance, recovering damages, or declaring the Contractor in default.
The Fund reserves the right to reject any bid, request for assignment, renewal or extension for an entity that appears on the Prohibited Entities List prior to the award, assignment, renewal or extension of a contract, and to pursue a responsibility review with respect to any entity that is awarded a contract and appears on the Prohibited Entities list after contract award.

27. ADMISSIBILITY OF REPRODUCTION OF CONTRACT. Notwithstanding the best evidence rule or any other legal principle or rule of evidence to the contrary, the Contractor acknowledges and agrees that it waives any and all objections to the admissibility into evidence at any court proceeding or to the use at any examination before trial of an electronic reproduction of this contract, in the form approved by the State Comptroller, if such approval was required, regardless of whether the original of said contract is in existence.

SCHEDULE I Unit Prices

Refer to Section 4.04 of the Agreement for additional information.

Work or Material Description	Amount in Words	Amount in Figures

SCHEDULE II Allowance(s)

Refer to Section 4.05 of the Agreement for additional information. The amount(s) indicated below shall be included in the Total Bid amount and their total indicated on the Proposal in the space provided.

Work or Material Description	Amount in Words	Amount in Figures

SCHEDULE III Field Order Allowance

Refer to Section 4.05A of the Agreement for additional information. The amount indicated below shall be included in the Total Bid amount and indicated on the Proposal in the space provided.

_____ _____

(in words) (in figures)

SUNY State University Construction Fund

Insurance Requirements
Schedule A

Project: 071095 - 00- Upgrade Electrical Distribution - Completion of Phases
Contract Type: Construction - Full Service

All certificate(s) of Insurance/Accord Form must be submitted pursuant to Contract Article 5.06 and include the following information:

- For each insurance certificate, the name and NAIC number of issuing company, number of policy, with effective dates and deductibles, if applicable
- Policy limits consistent with the requirements listed below
- Certificate must disclose the policies are on a primary and non-contributory basis
- The contract/project number assigned by the Fund
- Carriers must meet the following criteria:(1) AM Best Company rating of A- or greater, (2) financial score of VII or greater

	Policy Limits				
Insurance Type	**Per Occurrence**	**Per Aggregate**	**Products & CO**	**Minimum Limits and Special Conditions**	**Forms**
Worker's Compensation	As required by NYS			Statutory per New York State laws without regard to jurisdiction. Waiver of Subrogation is required.	Form C105.2 (Certificate of NYS Workers' Compensation Coverage) or the U-26.3 (State Insurance Fund Certificate)
Disability	As required by NYS			Statutory per New York State laws without regard to jurisdiction.	Form DB120.1 (Certificate of Insurance Coverage under the NYS Disability Benefits Law).
General Liability	5,000,000	5,000,000	5,000,000	General Aggregate limit must apply per project.	Accord 25 and Certificate of Liability Addendum Acord 855
Automobile	1,000,000				
Builder's Risk	To Be Determined				State University Construction Fund, the contractor, and its subcontractors to be added a Named Insured.

	Contract Additional Insurance				
Insurance Type	**Per Occurrence**	**Per Aggregate**	**Products & CO**	**Minimum Limits and Special Conditions**	**Forms**
Pollution (Asbestos)	2,000,000	2,000,000			Accord 25 certificate and endorsements the endorsement may be replaced with the CG 20 38 or its equivalent.

State University Construction Fund

Insurance Requirements
Schedule A

Project: 071095 - 00- Upgrade Electrical Distribution - Completion of Phases
Contract Type: Construction - Full Service

Additional Insured for each liability insurance policy, including coverage for on-going and completed operations:

- The People of the State of New York
- The State University of New York
- The Dormitory Authority of the State of New York
- The State University Construction Fund
- The Campus
- If applicable, Construction Manager
- If applicable, Railroad
- The officers, agents, and employees of those listed above
- If applicable, non-state landowner impacted by this work

Guidance to Submit Insurance Certificates

- Certificates must be signed.
- Accord forms must be emailed directly by the agent or carrier.
- Email certificates and other insurance related correspondence to sucf.insurance@suny.edu.
- Include in the subject line the SUCF contract number or project number.
- Please do not mail additional copies to the Fund.

Report Notes:

LABOR AND MATERIAL BOND

KNOW ALL PERSONS BY THESE PRESENTS, that

(hereinafter called the "Principal") and

(hereinafter called the "Surety") are held and firmly bound to the State University Construction Fund (hereinafter called the "Fund") in the full and just sum of

dollars ($)

good and lawful money of the United States of America, for the payment of which sum of money, well and truly to be made and done, the Principal binds itself, its heirs, executors, administrators, successors and assigns and the Surety binds itself, its successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has entered into a certain written Contract bearing date on the

day of , 20 ,

with the Fund for the

a copy of which Contract is annexed to and hereby made a part of this Bond as though herein set forth in full; and

WHEREAS, the Fund has required this Bond guaranteeing prompt payment of monies due to all persons furnishing the Principal or any subcontractor of the Principal with labor or materials in the prosecution of the work provided in such Contract;

NOW, THEREFORE, the conditions of this obligation are such that if the Principal shall

promptly pay all monies due to all persons furnishing the Principal or any subcontractor of the Principal with labor or materials in the prosecution of the Contract, then this obligation shall be null and void, otherwise to remain in full force and effect.

PROVIDED, HOWEVER, the said Surety, for value received, hereby stipulates and agrees that no change, extension, alteration or addition to the terms of the said Contract or Specifications accompanying the same, shall in any way affect its obligations under this Bond, and it does hereby waive notice of any such change, extension, alteration or addition; and further.

PROVIDED, HOWEVER, the place of trial of any action on this Bond shall be in the county in which the said Contract was to be performed, or if said Contract was to be performed in more than one county, then in any such county, and not elsewhere; and further

PROVIDED, HOWEVER, this Bond shall be enforceable in accordance with the terms and provisions of Section 137 of the State Finance Law.

IN WITNESS WHEREOF, the Principal has hereunto set its hand and seal and the Surety has caused this instrument to be signed by its attorney-in-fact and its corporate seal to be hereto affixed this

day of ,20 .

_____
Principal

By _____

(If Corporation, affix corporate seal)

_____
Surety

By _____

(If Corporation, affix corporate seal)

PERFORMANCE BOND

KNOW ALL PERSONS BY THESE PRESENTS, that

(hereinafter called the "Principal") and

(hereinafter called the "Surety") are held and firmly bound to the State University Construction Fund (hereinafter called the "Fund") in the full and just sum of

dollars ($)

good and lawful money of the United States of America, for the payment of which sum of money, well and truly to be made and done, the Principal binds itself, its heirs, executors, administrators, successors and assigns and the Surety binds itself, its successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has entered into a certain written Contract bearing date on the day of , 20 , with the Fund for the

a copy of which Contract is annexed to and hereby made part of this Bond as though herein set forth in full; and

NOW, THEREFORE, the conditions of this obligation are such that if the Principal, its representatives or assigns, shall well and faithfully comply with and perform all the terms, convenants and conditions of said Contract on its part to be kept and performed and all modifications, amendments, additions and alterations thereto that may hereafter be made, according to the true intent and meaning of said Contract, including repair and/or replacement of defective work and guarantees of maintenance for the periods stated in the Contract, and shall fully indemnify and save harmless the Fund from all cost and damage which it may suffer by reason of failure to do so, and shall fully reimburse and repay the Fund for all outlay and expense which the Fund may incur in making good any such default, and shall protect the said Fund against, and pay any and all amounts, damages, costs and judgments which may or shall be recovered against said Fund or its trustees, officers, agents or employees or which the said Fund may be called upon to pay to any person or corporation by reason of any damages arising or growing out of the doing of said work, or the repair of maintenance thereof, or the manner of doing the same, or the neglect of the said Principal, or its agents, or the improper performance of the said work by the said Principal, or its agents, or the infringement of any patent or patent rights by reason of the use of any materials furnished or work done as aforesaid or otherwise, then this obligation shall be null and void, otherwise to remain in full force and effect;

PROVIDED, HOWEVER, the said Surety, for value received, hereby stipulates and agrees, if requested to do so by the Fund, to fully perform and complete the work mentioned and described in said Contract, pursuant to the terms, conditions, and convenants thereof, if for any cause the Principal fails or neglects to so fully perform and complete such work and the Surety further agrees to commence such work of completion within ten (10) calendar days after written notice thereof from the Fund and to complete such work within 10 (10) calendar days from the expiration of the time allowed the Principal in the Contract for the completion thereof; and further

PROVIDED, HOWEVER, the Surety, for value received, for itself and its successors and assigns, hereby stipulates and agrees that the obligation of said Surety and its Bond shall be in no way impaired or affected by an extension of time, modification, omission, addition, or change in or to the said Contract or the work to be performed thereunder, or by any payment thereunder before the time required therein, or by any waiver of any provisions thereof, or by any assignment, subletting or other transfer of any work to be performed or any monies due or to become due thereunder or by the Fund's takeover, use, occupancy or operation of any part or all of the work covered by the Contract; and said Surety does hereby waive notice of any and all of such extensions, modifications, omissions, additions, changes, payments, waivers, assignments, subcontracts, transfers, takeovers, uses, occupancies or operations, and hereby expressly stipulates and agrees that any and all things done and omitted to be done by and in relation to assignees, subcontractors, and other transferees shall have the same effect as to said Surety as though done or omitted to be done by or in relation to said Principal.

IN WITNESS WHEREOF, the Principal has hereunto set its hand and seal and the Surety has caused this instrument to be signed by its attorney-in-fact, and its corporate seal to be hereunto affixed this day of , 20 .

_____
Principal

By _____

(If Corporation, affix corporate seal)

_____
Surety

By _____

(If Corporation, affix corporate seal)

ACKNOWLEDGMENTS FOR BONDS

(ACKNOWLEDGMENT BY PRINCIPAL, UNLESS IT BE A CORPORATION)

STATE OF)
) ss.:
COUNTY OF)

On this _____ day of _____, 20_____ , before me personally came

_____, to me known and known to me to be the person(s) described in and who executed the foregoing instrument and acknowledged that he executed the same.

_____
Notary Public

(ACKNOWLEDGMENT BY PRINCIPAL, IF A CORPORATION)

STATE OF)
) ss.:
COUNTY OF)

On this _____ day of _____, 20_____ , before me personally came

_____, to me known who, being by me

duly sworn, did depose and say that he resides in _____;

that he is the _____of the

_____, the corporation described in and which executed the foregoing instrument; that he knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that is was so affixed by order of the Board of Directors of said corporation and that he signed h name thereto by like order.

_____
Notary Public

(ACKNOWLEDGMENT BY SURETY COMPANY)

STATE OF)
) ss.:
COUNTY OF)

On this _____ day of _____, 20_____, before me personally came

_____, to me known who, being by me

duly sworn, did depose and say that he resides in _____;

that he is the _____ of the _____, the corporation described in and which executed the foregoing instrument; that he knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that is was so affixed by order of the Board of Directors of said corporation and that he signed h name thereto by like order; and that the liabilities of said company do not exceed its assets as ascertained in the manner provided by the laws of the State of New York.

_____
Notary Public

SUCF

Elizabeth Nolder
5520 Research Park Drive
Suite 300
Baltimore MD 21228

Schedule Year	2025 through 2026
Date Requested	01/28/2026
PRC#	2026002023

Location	SUNY Binghamton
Project ID#	071095-00
Project Type	Complete remainder of campus electrical distribution upgrade so all buildings are fed from the 12.47 kV system and the 4.8 kV system can be decommissioned and removed.

PREVAILING WAGE SCHEDULE FOR ARTICLE 8 PUBLIC WORK PROJECT

Attached is the current schedule(s) of the prevailing wage rates and prevailing hourly supplements for the project referenced above. A unique Prevailing Rate Case Number (PRC#) has been assigned to the schedule(s) for your project.

The schedule is effective from July 2025 through June 2026. All updates, corrections, posted on the 1st business day of each month, and future copies of the annual determination are available on the Department's website www.labor.ny.gov. Updated PDF copies of your schedule can be accessed by entering your assigned PRC# at the proper location on the website.

It is the responsibility of the contracting agency or its agent to annex and make part, the attached schedule, to the specifications for this project, when it is advertised for bids and /or to forward said schedules to the successful bidder(s), immediately upon receipt, in order to insure the proper payment of wages.

Please refer to the "General Provisions of Laws Covering Workers on Public Work Contracts" provided with this schedule, for the specific details relating to other responsibilities of the Department of Jurisdiction.

Upon completion or cancellation of this project, enter the required information and mail **OR** fax this form to the office shown at the bottom of this notice, **OR** fill out the electronic version via the NYSDOL website.

NOTICE OF COMPLETION / CANCELLATION OF PROJECT

Date Completed: _____ Date Cancelled: _____

Name & Title of Representative: _____

Phone: (518) 457-5589 Fax: (518) 485-1870
W. Averell Harriman State Office Campus, Bldg. 12, Room 130, Albany, NY 12240

General Provisions of Laws Covering Workers on Article 8 Public Work Contracts

Introduction

The Labor Law requires public work contractors and subcontractors to pay laborers, workers, or mechanics employed in the performance of a public work contract not less than the prevailing rate of wage and supplements (fringe benefits) in the locality where the work is performed.

Contractor Registry

Effective December 30, 2024 all contractors and subcontractors submitting bids or performing construction work on public work projects, or private projects covered by Article 8 of the Labor Law, are required to register with the New York State Department of Labor (NYSDOL) under Labor Law Section 220-i. To register, contractors and subcontractors must submit an application through NYSDOL's Contractor Registry portal which is available through the agency's Management System for Protecting Worker Rights (MPWR) https://mpwr-public.labor.ny.gov/en/login.

For additional information, please visit online.

Responsibilities of the Department of Jurisdiction

A Department of Jurisdiction (Contracting Agency) includes a state department, agency, board or commission: a county, city, town or village; a school district, board of education or board of cooperative educational services; a sewer, water, fire, improvement and other district corporation; a public benefit corporation; and a public authority awarding a public work contract.

The Department of Jurisdiction (Contracting Agency) awarding a public work contract MUST obtain a Prevailing Rate Schedule listing the hourly rates of wages and supplements due the workers to be employed on a public work project. This schedule may be obtained by completing and forwarding a "Request for wage and Supplement Information" form (PW 39) to the Bureau of Public Work. The Prevailing Rate Schedule MUST be included in the specifications for the contract to be awarded and is deemed part of the public work contract.

Upon the awarding of the contract, the law requires that the Department of Jurisdiction (Contracting Agency) furnish the following information to the Bureau: the name and address of the contractor, the date the contract was let and the approximate dollar value of the contract. To facilitate compliance with this provision of the Labor Law, a copy of the Department's "Notice of Contract Award" form (PW 16) is provided with the original Prevailing Rate Schedule.

The Department of Jurisdiction (Contracting Agency) is required to notify the Bureau of the completion or cancellation of any public work project. The Department's PW 200 form is provided for that purpose.

Both the PW 16 and PW 200 forms are available for completion online.

Hours

No laborer, worker, or mechanic in the employ of a contractor or subcontractor engaged in the performance of any public work project shall be permitted to work more than eight hours in any day or more than five days in any week, except in cases of extraordinary emergency. The contractor and the Department of Jurisdiction (Contracting Agency) may apply to the Bureau of Public Work for a dispensation permitting workers to work additional hours or days per week on a particular public work project.

Wages and Supplements

The wages and supplements to be paid and/or provided to laborers, workers, and mechanics employed on a public work project shall be not less than those listed in the current Prevailing Rate Schedule for the locality where the work is performed. If a prime contractor on a public work project has not been provided with a Prevailing Rate Schedule, the contractor must notify the Department of Jurisdiction (Contracting Agency) who in turn must request an original Prevailing Rate Schedule form the Bureau of Public Work. Requests may be submitted by: mail to NYSDOL, Bureau of Public Work, State Office Bldg. Campus, Bldg. 12, Rm. 130, Albany, NY 12226; Fax to Bureau of Public Work (518) 485-1870; or electronically at the NYSDOL website www.labor.ny.gov.

Upon receiving the original schedule, the Department of Jurisdiction (Contracting Agency) is REQUIRED to provide complete copies to all prime contractors who in turn MUST, by law, provide copies of all applicable county schedules to each subcontractor and obtain from each subcontractor, an affidavit certifying such schedules were received. If the original schedule expired, the contractor may obtain a copy of the new annual determination from the NYSDOL website www.labor.ny.gov.

The Commissioner of Labor makes an annual determination of the prevailing rates. This determination is in effect from July 1st through June 30th of the following year. The annual determination is available on the NYSDOL website

www.labor.ny.gov.

Payrolls and Payroll Records

Every contractor and subcontractor MUST keep original payrolls or transcripts subscribed and affirmed as true under penalty of perjury. As per Article 6 of the Labor law, contractors and subcontractors are required to establish, maintain, and preserve for not less than six (6) years, contemperaneous, true, and accurate payroll records. At a minimum, payrolls must show the following information for each person employed on a public work project: Name, Address, Last 4 Digits of Social Security Number, Classification(s) in which the worker was employed, Hourly wage rate(s) paid, Supplements paid or provided, and Daily and weekly number of hours worked in each classification.

The filing of payrolls to the Department of Jurisdiction is a condition of payment.Every contractor and subcontractor shall submit to the Department of Jurisdiction (Contracting Agency), within thirty (30) days after issuance of its first payroll and every thirty (30) days thereafter, a transcript of the original payrolls, subscribed and affirmed as true under penalty of perjury. The Department of Jurisdiction (Contracting Agency) shall collect, review for facial validity, and maintain such payrolls.

In addition, the Commissioner of Labor may require contractors to furnish, with ten (10) days of a request, payroll records sworn to as their validity and accuracy for public work and private work. Payroll records include, but are not limited to time cards, work description sheets, proof that supplements were provided, cancelled payroll checks and payrolls. Failure to provide the requested information within the allotted ten (10) days will result in the withholding of up to 25% of the contract, not to exceed $100,000.00. If the contractor or subcontractor does not maintain a place of business in New York State and the amount of the contract exceeds $25,000.00, payroll records and certifications must be kept on the project worksite.

The prime contractor is responsible for any underpayments of prevailing wages or supplements by any subcontractor.

All contractors or their subcontractors shall provide to their subcontractors a copy of the Prevailing Rate Schedule specified in the public work contract as well as any subsequently issued schedules. A failure to provide these schedules by a contractor or subcontractor is a violation of Article 8, Section 220-a of the Labor Law.

All subcontractors engaged by a public work project contractor or its subcontractor, upon receipt of the original schedule and any subsequently issued schedules, shall provide to such contractor a verified statement attesting that the subcontractor has received the Prevailing Rate Schedule and will pay or provide the applicable rates of wages and supplements specified therein. (See NYS Labor Laws, Article 8 . Section 220-a).

Determination of Prevailing Wage and Supplement Rate Updates Applicable to All Counties

The wages and supplements contained in the annual determination become effective July 1st whether or not the new determination has been received by a given contractor. Care should be taken to review the rates for obvious errors. Any corrections should be brought to the Department's attention immediately. It is the responsibility of the public work contractor to use the proper rates. If there is a question on the proper classification to be used, please call the district office located nearest the project. Any errors in the annual determination will be corrected and posted to the NYSDOL website on the first business day of each month. Contractors are responsible for paying these updated rates as well, retroactive to July 1st.

When you review the schedule for a particular occupation, your attention should be directed to the dates above the column of rates. These are the dates for which a given set of rates is effective. To the extent possible, the Department posts rates in its possession that cover periods of time beyond the July 1st to June 30th time frame covered by a particular annual determination. Rates that extend beyond that instant time period are informational ONLY and may be updated in future annual determinations that actually cover the then appropriate July 1st to June 30th time period.

Withholding of Payments

When a complaint is filed with the Commissioner of Labor alleging the failure of a contractor or subcontractor to pay or provide the prevailing wages or supplements, or when the Commissioner of Labor believes that unpaid wages or supplements may be due, payments on the public work contract shall be withheld from the prime contractor in a sufficient amount to satisfy the alleged unpaid wages and supplements, including interest and civil penalty, pending a final determination.

When the Bureau of Public Work finds that a contractor or subcontractor on a public work project failed to pay or provide the requisite prevailing wages or supplements, the Bureau is authorized by Sections 220-b and 235.2 of the Labor Law to so notify the financial officer of the Department of Jurisdiction (Contracting Agency) that awarded the public work contract. Such officer MUST then withhold or cause to be withheld from any payment due the prime contractor on account of such contract the amount indicated by the Bureau as sufficient to satisfy the unpaid wages and supplements, including interest and any civil penalty that may be assessed by the Commissioner of Labor. The withholding continues until there is a final determination of the underpayment by the Commissioner of Labor or by the court in the event a legal proceeding is instituted for review of the determination of the Commissioner of Labor.

The Department of Jurisdiction (Contracting Agency) shall comply with this order of the Commissioner of Labor or of the court with respect to the release of the funds so withheld.

Summary of Notice Posting Requirements

The current Prevailing Rate Schedule must be posted in a prominent and accessible place on the site of the public work project. The prevailing wage schedule must be encased in, or constructed of, materials capable of withstanding adverse weather conditions and be titled "PREVAILING RATE OF WAGES" in letters no smaller than two (2) inches by two (2) inches.

The "Public Work Project" notice must be posted at the beginning of the performance of every public work contract, on each job site.

Every employer providing workers. compensation insurance and disability benefits must post notices of such coverage in the format prescribed by the Workers. Compensation Board in a conspicuous place on the jobsite.

Every employer subject to the NYS Human Rights Law must conspicuously post at its offices, places of employment, or employment training centers, notices furnished by the State Division of Human Rights.

Employers liable for contributions under the Unemployment Insurance Law must conspicuously post on the jobsite notices furnished by the NYS Department of Labor.

Apprentices

Employees cannot be paid apprentice rates unless they are individually registered in a program registered with the NYS Commissioner of Labor. The allowable ratio of apprentices to journeyworkers in any craft classification can be no greater than the statewide building trade ratios promulgated by the Department of Labor and included with the Prevailing Rate Schedule. An employee listed on a payroll as an apprentice who is not registered as above or is performing work outside the classification of work for which the apprentice is indentured, must be paid the prevailing journeyworker's wage rate for the classification of work the employee is actually performing.

NYSDOL Labor Law, Article 8, Section 220-3, require that only apprentices individually registered with the NYS Department of Labor may be paid apprenticeship rates on a public work project. No other Federal or State Agency of office registers apprentices in New York State.

Persons wishing to verify the apprentice registration of any person must do so in writing by mail, to the NYSDOL Office of Employability Development / Apprenticeship Training, State Office Bldg. Campus, Bldg. 12, Albany, NY 12226 or by Fax to NYSDOL Apprenticeship Training (518) 457-7154. All requests for verification must include the name and social security number of the person for whom the information is requested.

The only conclusive proof of individual apprentice registration is written verification from the NYSDOL Apprenticeship Training Albany Central office. Neither Federal nor State Apprenticeship Training offices outside of Albany can provide conclusive registration information.

It should be noted that the existence of a registered apprenticeship program is not conclusive proof that any person is registered in that program. Furthermore, the existence or possession of wallet cards, identification cards, or copies of state forms is not conclusive proof of the registration of any person as an apprentice.

Interest and Penalties

In the event that an underpayment of wages and/or supplements is found:

- Interest shall be assessed at the rate then in effect as prescribed by the Superintendent of Banks pursuant to section 14-a of the Banking Law, per annum from the date of underpayment to the date restitution is made.
- A Civil Penalty may also be assessed, not to exceed 25% of the total of wages, supplements, and interest due.

Debarment

Any contractor or subcontractor and/or its successor shall be ineligible to submit a bid on or be awarded any public work contract or subcontract with any state, municipal corporation or public body for a period of five (5) years when:

- Two (2) willful determinations have been rendered against that contractor or subcontractor and/or its successor within any consecutive six (6) year period.
- There is any willful determination that involves the falsification of payroll records or the kickback of wages or supplements.

Criminal Sanctions

Willful violations of the Prevailing Wage Law (Article 8 of the Labor Law) may be a felony punishable by fine or imprisonment of up to 15 years, or both.

Discrimination

No employee or applicant for employment may be discriminated against on account of age, race, creed, color, national origin, sex, disability or marital status.

No contractor, subcontractor nor any person acting on its behalf, shall by reason of race, creed, color, disability, sex or national origin discriminate against any citizen of the State of New York who is qualified and available to perform the work to which the employment relates (NYS Labor Law, Article 8, Section 220-e(a)).

No contractor, subcontractor, nor any person acting on its behalf, shall in any manner, discriminate against or intimidate any employee on account of race, creed, color, disability, sex, or national origin (NYS Labor Law, Article 8, Section 220-e(b)).

The Human Rights Law also prohibits discrimination in employment because of age, marital status, or religion.

There may be deducted from the amount payable to the contractor under the contract a penalty of $50.00 for each calendar day during which such person was discriminated against or intimidated in violation of the provision of the contract (NYS Labor Law, Article 8, Section 220-e(c)).

The contract may be cancelled or terminated by the State or municipality. All monies due or to become due thereunder may be forfeited for a second or any subsequent violation of the terms or conditions of the anti-discrimination sections of the contract (NYS Labor Law, Article 8, Section 220-e(d)).

Every employer subject to the New York State Human Rights Law must conspicuously post at its offices, places of employment, or employment training centers notices furnished by the State Division of Human Rights.

Workers' Compensation

In accordance with Section 142 of the State Finance Law, the contractor shall maintain coverage during the life of the contract for the benefit of such employees as required by the provisions of the New York State Workers' Compensation Law.

A contractor who is awarded a public work contract must provide proof of workers' compensation coverage prior to being allowed to begin work.

The insurance policy must be issued by a company authorized to provide workers' compensation coverage in New York State. Proof of coverage must be on form C-105.2 (Certificate of Workers' Compensation Insurance) and must name this agency as a certificate holder.

If New York State coverage is added to an existing out-of-state policy, it can only be added to a policy from a company authorized to write workers' compensation coverage in this state. The coverage must be listed under item 3A of the information page.

The contractor must maintain proof that subcontractors doing work covered under this contract secured and maintained a workers' compensation policy for all employees working in New York State.

Every employer providing worker's compensation insurance and disability benefits must post notices of such coverage in the format prescribed by the Workers' Compensation Board in a conspicuous place on the jobsite.

Unemployment Insurance

Employers liable for contributions under the Unemployment Insurance Law must conspicuously post on the jobsite notices furnished by the New York State Department of Labor.

Kathy Hochul, Governor

Roberta Reardon, Commissioner

SUCF

Elizabeth Nolder
5520 Research Park Drive
Suite 300
Baltimore MD 21228

Schedule Year 2025 through 2026
Date Requested 01/28/2026
PRC# 2026002023

Location SUNY Binghamton
Project ID# 071095-00
Project Type Complete remainder of campus electrical distribution upgrade so all buildings are fed from the 12.47 kV system and the 4.8 kV system can be decommissioned and removed.

Notice of Contract Award

New York State Labor Law, Article 8, Section 220.3a requires that certain information regarding the awarding of public work contracts, be furnished to the Commissioner of Labor. One "Notice of Contract Award" (PW 16, which may be photocopied), **MUST** be completed for **EACH** prime contractor on the above referenced project.

Upon notifying the successful bidder(s) of this contract, enter the required information and mail **OR** fax this form to the office shown at the bottom of this notice, **OR** fill out the electronic version via the NYSDOL website.

Contractor Information
All information must be supplied

Federal Employer Identification Number: _____

Name: _____

Address: _____

_____

City: _____ State: _____ Zip: _____

Amount of Contract: $_____

Approximate Starting Date: ____/____/____

Approximate Completion Date: ____/____/____

Contract Type:
[ ] (01) General Construction
[ ] (02) Heating/Ventilation
[ ] (03) Electrical
[ ] (04) Plumbing
[ ] (05) Other : _____

Phone: (518) 457-5589 Fax: (518) 485-1870
W. Averell Harriman State Office Campus, Bldg. 12, Room 130, Albany, NY 12226

Social Security Numbers on Certified Payrolls:

The Department of Labor is cognizant of the concerns of the potential for misuse or inadvertent disclosure of social security numbers. Identity theft is a growing problem and we are sympathetic to contractors' concern regarding inclusion of this information on payrolls if another identifier will suffice.

For these reasons, the substitution of the use of the last four digits of the social security number on certified payrolls submitted to contracting agencies on public work projects is now acceptable to the Department of Labor. This change does not affect the Department's ability to request and receive the entire social security number from employers during its public work/ prevailing wage investigations.

Construction Industry Fair Play Act: Required Posting for Labor Law Article 25-B § 861-d

Construction industry employers must post the "Construction Industry Fair Play Act" notice in a prominent and accessible place on the job site. Failure to post the notice can result in penalties of up to $1,500 for a first offense and up to $5,000 for a second offense. The posting is included as part of this wage schedule. Additional copies may be obtained from the NYS DOL website, https://dol.ny.gov/public-work-and-prevailing-wage
If you have any questions concerning the Fair Play Act, please call the State Labor Department toll-free at 1-866-435-1499 or email us at: dol.misclassified@labor.ny.gov .

Worker Notification: (Labor Law §220, paragraph a of subdivision 3-a)

Effective June 23, 2020

This provision is an addition to the existing wage rate law, Labor Law §220, paragraph a of subdivision 3-a. It requires contractors and subcontractors to provide written notice to all laborers, workers or mechanics of the *prevailing wage and supplement rate* for their particular job classification *on each pay stub**. It also requires contractors and subcontractors to *post a notice* at the beginning of the performance of every public work contract *on each job site* that includes the telephone number and address for the Department of Labor and a statement informing laborers, workers or mechanics of their right to contact the Department of Labor if he/she is not receiving the proper prevailing rate of wages and/or supplements for his/her job classification. The required notification will be provided with each wage schedule, may be downloaded from our website *www.labor.ny.gov* or be made available upon request by contacting the Bureau of Public Work at 518-457-5589. *In the event the required information will not fit on the pay stub, an accompanying sheet or attachment of the information will suffice.

(12.20)

To all State Departments, Agency Heads and Public Benefit Corporations
IMPORTANT NOTICE REGARDING PUBLIC WORK ENFORCEMENT FUND

Budget Policy & Reporting Manual

B-610

Public Work Enforcement Fund

effective date December 7, 2005

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1. Purpose and Scope:

This Item describes the Public Work Enforcement Fund (the Fund, PWEF) and its relevance to State agencies and public benefit corporations engaged in construction or reconstruction contracts, maintenance and repair, and announces the recently-enacted increase to the percentage of the dollar value of such contracts that must be deposited into the Fund. This item also describes the roles of the following entities with respect to the Fund:

- New York State Department of Labor (DOL),
- The Office of the State of Comptroller (OSC), and
- State agencies and public benefit corporations.

2. Background and Statutory References:

DOL uses the Fund to enforce the State's Labor Law as it relates to contracts for construction or reconstruction, maintenance and repair, as defined in subdivision two of Section 220 of the Labor Law. State agencies and public benefit corporations participating in such contracts are required to make payments to the Fund.

Chapter 511 of the Laws of 1995 (as amended by Chapter 513 of the Laws of 1997, Chapter 655 of the Laws of 1999, Chapter 376 of the Laws of 2003 and Chapter 407 of the Laws of 2005) established the Fund.

3. Procedures and Agency Responsibilities:

The Fund is supported by transfers and deposits based on the value of contracts for construction and reconstruction, maintenance and repair, as defined in subdivision two of Section 220 of the Labor Law, into which all State agencies and public benefit corporations enter.

Chapter 407 of the Laws of 2005 increased the amount required to be provided to this fund to .10 of one-percent of the total cost of each such contract, to be calculated at the time agencies or public benefit corporations enter into a new contract or if a contract is amended. The provisions of this bill became effective August 2, 2005.

To all State Departments, Agency Heads and Public Benefit Corporations
IMPORTANT NOTICE REGARDING PUBLIC WORK ENFORCEMENT FUND

OSC will report to DOL on all construction-related ("D") contracts approved during the month, including contract amendments, and then DOL will bill agencies the appropriate assessment monthly. An agency may then make a determination if any of the billed contracts are exempt and so note on the bill submitted back to DOL. For any instance where an agency is unsure if a contract is or is not exempt, they can call the Bureau of Public Work at the number noted below for a determination. Payment by check or journal voucher is due to DOL within thirty days from the date of the billing. DOL will verify the amounts and forward them to OSC for processing.

For those contracts which are not approved or administered by the Comptroller, monthly reports and payments for deposit into the Public Work Enforcement Fund must be provided to the Administrative Finance Bureau at the DOL within 30 days of the end of each month or on a payment schedule mutually agreed upon with DOL.

Reports should contain the following information:

- Name and billing address of State agency or public benefit corporation;
- State agency or public benefit corporation contact and phone number;
- Name and address of contractor receiving the award;
- Contract number and effective dates;
- Contract amount and PWEF assessment charge (if contract amount has been amended, reflect increase or decrease to original contract and the adjustment in the PWEF charge); and
- Brief description of the work to be performed under each contract.

Checks and Journal Vouchers, payable to the "New York State Department of Labor" should be sent to:

Department of Labor
Administrative Finance Bureau-PWEF Unit
Building 12, Room 464
State Office Campus
Albany, NY 12226

Any questions regarding billing should be directed to NYSDOL's Administrative Finance Bureau-PWEF Unit at (518) 457-3624 and any questions regarding Public Work Contracts should be directed to the Bureau of Public Work at (518) 457-5589.

NEW YORK STATE OF OPPORTUNITY. Department of Labor

Required Notice under Article 25-B of the Labor Law

Attention All Employees, Contractors and Subcontractors: You are Covered by the Construction Industry Fair Play Act

The law says that you are an employee unless:

- You are free from direction and control in performing your job, **and**
- You perform work that is not part of the usual work done by the business that hired you, **and**
- You have an independently established business.

Your employer cannot consider you to be an independent contractor unless all three of these facts apply to your work.

It is against the law for an employer to misclassify employees as independent contractors or pay employees off the books.

Employee Rights: If you are an employee, you are entitled to state and federal worker protections. These include:

- Unemployment Insurance benefits, if you are unemployed through no fault of your own, able to work, and otherwise qualified,
- Workers' compensation benefits for on-the-job injuries,
- Payment for wages earned, minimum wage, and overtime (under certain conditions),
- Prevailing wages on public work projects,
- The provisions of the National Labor Relations Act, and
- A safe work environment.

It is a violation of this law for employers to retaliate against anyone who asserts their rights under the law. Retaliation subjects an employer to civil penalties, a private lawsuit or both.

Independent Contractors: If you are an independent contractor**, you must pay all taxes and Unemployment Insurance contributions required by New York State and Federal Law.**

Penalties for paying workers off the books or improperly treating employees as independent contractors:

• **Civil Penalty**	First offense: Up to $2,500 per employee Subsequent offense(s): Up to $5,000 per employee
• **Criminal Penalty**	First offense: Misdemeanor - up to 30 days in jail, up to a $25,000 fine and debarment from performing public work for up to one year. Subsequent offense(s): Misdemeanor - up to 60 days in jail or up to a $50,000 fine and debarment from performing public work for up to 5 years.

If you have questions about your employment status or believe that your employer may have violated your rights and you want to file a complaint, call the Department of Labor at (866) 435-1499 or send an email to dol.misclassified@labor.ny.gov. All complaints of fraud and violations are taken seriously. You can remain anonymous.

Employer Name:

WE ARE YOUR DOL

New York State Department of Labor
Bureau of Public Work

Attention Employees

THIS IS A:

PUBLIC WORK PROJECT

If you are employed on this project as a **worker, laborer, or mechanic** you are entitled to receive the **prevailing wage and supplements rate** for the classification at which you are working.

Your pay stub and wage notice received upon hire must clearly state your wage rate and supplement rate.

Chapter 629 of the Labor Laws of 2007:

These wages are set by law and must be posted at the work site. They can also be found at: https://dol.ny.gov/bureau-public-work

If you feel that you have not received proper wages or benefits, please call our nearest office.*

Albany	(518) 457-2744	Patchogue	(631) 687-4882
Binghamton	(607) 721-8005	Rochester	(585) 258-4505
Buffalo	(716) 847-7159	Syracuse	(315) 428-4056
Garden City	(516) 228-3915	Utica	(315) 793-2314
New York City	(212) 932-2419	White Plains	(914) 997-9507
Newburgh	(845) 568-5287		

* For New York City government agency construction projects, please contact the Office of the NYC Comptroller at (212) 669-4443, or www.comptroller.nyc.gov – click on Bureau of Labor Law.

Contractor Name: _____

Project Location: _____

Requirements for OSHA 10 Compliance

Article 8 §220-h requires that when the advertised specifications, for every contract for public work, is $250,000.00 or more the contract must contain a provision requiring that every worker employed in the performance of a public work contract shall be certified as having completed an OSHA 10 safety training course. The clear intent of this provision is to require that all employees of public work contractors, required to be paid prevailing rates, receive such training “prior to the performing any work on the project.”

The Bureau will enforce the statute as follows:

All contractors and sub contractors must attach a copy of proof of completion of the OSHA 10 course to the first certified payroll submitted to the contracting agency and on each succeeding payroll where any new or additional employee is first listed.

Proof of completion may include but is not limited to:

- Copies of bona fide course completion card (*Note: Completion cards do not have an expiration date.)*
- Training roster, attendance record of other documentation from the certified trainer pending the issuance of the card.
- Other valid proof

**A certification by the employer attesting that all employees have completed such a course is not sufficient proof that the course has been completed.

Any questions regarding this statute may be directed to the New York State Department of Labor, Bureau of Public Work at 518-457-5589.

WICKS

Public work projects are subject to the Wicks Law requiring separate specifications and bidding for the plumbing, heating and electrical work, when the total project's threshold is $3 million in Bronx, Kings, New York, Queens and, Richmond counties; $1.5 million in Nassau, Suffolk and Westchester counties; and $500,000 in all other counties.

For projects below the monetary threshold, bidders must submit a sealed list naming each subcontractor for the plumbing, HVAC and electrical and the amount to be paid to each. The list may not be changed unless the public owner finds a legitimate construction need, including a change in specifications or costs or the use of a Project Labor Agreement (PLA), and must be open to public inspection.

Allows the state and local agencies and authorities to waive the Wicks Law and use a PLA if it will provide the best work at the lowest possible price. If a PLA is used, all contractors shall participate in apprentice training programs in the trades of work it employs that have been approved by the Department of Labor (DOL) for not less than three years. They shall also have at least one graduate in the last three years and use affirmative efforts to retain minority apprentices. PLA's would be exempt from Wicks, but deemed to be public work subject to prevailing wage enforcement.

The Commissioner of Labor shall have the power to enforce separate specification requirement s on projects, and may issue stop-bid orders against public owners for non-compliance.

Other new monetary thresholds, and similar sealed bidding for non-Wicks projects, would apply to certain public authorities including municipal housing authorities, NYC Construction Fund, Yonkers Educational Construction Fund, NYC Municipal Water Finance Authority, Buffalo Municipal Water Finance Authority, Westchester County Health Care Association, Nassau County Health Care Corp., Clifton-Fine Health Care Corp., Erie County Medical Center Corp., NYC Solid Waste Management Facilities, and the Dormitory Authority.

Contractors must pay subcontractors within a 7 days period.

(07.19)

Introduction to the Prevailing Rate Schedule

Information About Prevailing Rate Schedule

This information is provided to assist you in the interpretation of particular requirements for each classification of worker contained in the attached Schedule of Prevailing Rates.

Classification

It is the duty of the Commissioner of Labor to make the proper classification of workers taking into account whether the work is heavy and highway, building, sewer and water, tunnel work, or residential, and to make a determination of wages and supplements to be paid or provided. It is the responsibility of the public work contractor to use the proper rate. If there is a question on the proper classification to be used, please call the district office located nearest the project. District office locations and phone numbers are listed below.
Prevailing Wage Schedules are issued separately for "General Construction Projects" and "Residential Construction Projects" on a county-by-county basis.

General Construction Rates apply to projects such as: Buildings, Heavy & Highway, and Tunnel and Water & Sewer rates.
Residential Construction Rates generally apply to construction, reconstruction, repair, alteration, or demolition of one family, two family, row housing, or rental type units intended for residential use.
Some rates listed in the Residential Construction Rate Schedule have a very limited applicability listed along with the rate. Rates for occupations or locations not shown on the residential schedule must be obtained from the General Construction Rate Schedule. Please contact the local Bureau of Public Work office before using Residential Rate Schedules, to ensure that the project meets the required criteria.

*Contractor Registry (LL 220-I): Effective December 30th, 2024
Labor Law Section 220-i(6) prohibits contractors from bidding on public work and prohibits both contractors and subcontractors from commencing work on private and public projects subject to prevailing wage requirements. This section requires contractors to submit their Certificate of Registration with their bid materials. Each Certificate of Registration will have a unique registration number. Failure to provide proof of registration, as required by Labor Law Section 220-i, as a minimum qualification will result in the bidder being deemed non-responsive. There is a public database of registered contractors and subcontractors available online at data.ny.gov to confirm registration validity. For additional information on how to register and the requirements, visit https://dol.ny.gov/public-work-contractor-and-subcontractor-registry-landing

*Electronic Certified Payroll (LL 220-J): Effective December 31st, 2025
Effective December 31, 2025, all contractors and subcontractors who perform public work, or covered private work subject to the prevailing wage, will be required to submit certified payrolls electronically to the Bureau of Public Work and Prevailing Wage Enforcement. Additional information about the electronic certified payroll submission system will be made available on the Department's Website at https://dol.ny.gov/Electronic-Payroll

Payrolls and Payroll Records

Every contractor and subcontractor MUST keep original payrolls or transcripts subscribed and affirmed as true under penalty of perjury. Payrolls must be maintained for at least three (3) years from the projects date of completion. Additionally, as per Article 6 of the Labor Law, contractors and subcontractors are required to establish, maintain, and preserve for not less that six (6) years, contemporaneous, true, and accurate payroll records.

At a minimum, payrolls must show the following information for each person employed on a public work project: Name; Address, Last 4 Digits of Social Security number, Classification(s) in which the worker was employed, Hourly wage rate(s) paid, Supplements paid or provided, and Daily and weekly number of hours worked in each classification.

Payroll records and transcripts are required to be kept on site during all the time that work under that contract is being performed.

NOTE: *For more detailed information regarding Article 9 prevailing wage contracts, please refer to "General Provisions of Laws Covering Workers on Article 9 Public Work Building Service Contracts".*

If you have any questions concerning the attached schedule or would like additional information, please write to:

New York State Department of Labor
Bureau of Public Work
State Office Campus, Bldg. 12
Albany, NY 12240

OR

Contact the nearest BUREAU of PUBLIC WORK District Office

District Office Locations:	Telephone #	FAX #
Bureau of Public Work - Albany	518-457-2744	518-485-0240
Bureau of Public Work - Binghamton	607-721-8005	607-721-8004

Bureau of Public Work - Buffalo	716-847-7159	716-847-7650
Bureau of Public Work - Garden City	516-228-3915	516-794-3518
Bureau of Public Work - Newburgh	845-568-5287	845-568-5332
Bureau of Public Work - New York City	212-932-2419	212-775-3579
Bureau of Public Work - Patchogue	631-687-4882	631-687-4902
Bureau of Public Work - Rochester	585-258-4505	585-258-4708
Bureau of Public Work - Syracuse	315-428-4056	315-428-4671
Bureau of Public Work - Utica	315-793-2314	315-793-2514
Bureau of Public Work - White Plains	914-997-9507	914-997-9523
Bureau of Public Work - Central Office	518-457-5589	518-485-1870

Paid Holidays

Paid Holidays are days for which an eligible employee receives a regular day's pay, but is not required to perform work. If an employee works on a day listed as a paid holiday, this remuneration is in addition to payment of the required prevailing rate for the work actually performed.

Overtime

At a minimum, all work performed on a public work project in excess of eight hours in any one day or more than five days in any workweek is overtime. However, the specific overtime requirements for each trade or occupation on a public work project may differ. Specific overtime requirements for each trade or occupation are contained in the prevailing rate schedules.

Overtime holiday pay is the premium pay that is required for work performed on specified holidays. It is only required where the employee actually performs work on such holidays.

The applicable holidays are listed under HOLIDAYS: OVERTIME. The required rate of pay for these covered holidays can be found in the OVERTIME PAY section listings for each classification.

Supplemental Benefits

Particular attention should be given to the supplemental benefit requirements. Although in most cases the payment or provision of supplements is straight time for all hours worked, some classifications require the payment or provision of supplements, or a portion of the supplements, to be paid or provided at a premium rate for premium hours worked. Supplements may also be required to be paid or provided on paid holidays, regardless of whether the day is worked. The Overtime Codes and Notes listed on the particular wage classification will indicate these conditions as required.

Effective Dates

When you review the schedule for a particular occupation, your attention should be directed to the dates above the column of rates. These are the dates for which a given set of rates is effective. The rate listed is valid until the next effective rate change or until the new annual determination which takes effect on July 1 of each year.

All contractors and subcontractors are required to pay the current prevailing rates of wages and supplements. If you have any questions please contact the Bureau of Public Work or visit the New York State Department of Labor website (www.labor.ny.gov) for current wage rate information.

Shift Work

If the timeline of the contract requires shift work be performed to meet deadlines, the BPWE will enforce the shift work rate as the required rate on the project whether or not shift work is specifically addressed in the contract.

Paid Prenatal Leave

Every employer shall be required to provide to its employees twenty hours of paid prenatal personal leave during any fifty-two week calendar period. Paid prenatal personal leave shall mean leave taken for the health care services received by an employee during their pregnancy or related to such pregnancy, including physical examinations, medical procedures, monitoring and testing, and discussions with a healthcare provider related to the pregnancy. Paid prenatal personal leave may be taken in hourly increments. Benefits for paid prenatal personal leave shall be paid in hourly installments. Employees shall receive compensation at the employee's regular rate of pay, or the applicable minimum wage established by the labor law, whichever is greater, for the use of Paid Prenatal leave.

Apprentice Training Ratios

The following are the allowable ratios of registered Apprentices to Journey-workers.

For example, the ratio 1:1,1:3 indicates the allowable initial ratio is one Apprentice to one Journeyworker. The Journeyworker must be in place on the project before an Apprentice is allowed. Then three additional Journeyworkers are needed before a second Apprentice is allowed. The last ratio repeats indefinitely. Therefore, three more Journeyworkers must be present before a third Apprentice can be hired, and so on.

Please call Apprentice Training Central Office at (518) 457-6820 if you have any questions.

Title (Trade)	Ratio
Boilermaker (Construction)	1:1,1:4
Boilermaker (Shop)	1:1,1:3
Carpenter (Bldg.,H&H, Pile Driver/Dockbuilder)	1:1,1:4
Carpenter (Residential)	1:1,1:3
Electrical (Outside) Lineman	1:1,1:2
Electrician (Inside)	1:1,1:3
Elevator/Escalator Construction & Modernizer	1:1,1:2
Glazier	1:1,1:3
Insulation & Asbestos Worker	1:1,1:3
Iron Worker	1:1,1:4
Laborer	1:1,1:3
Mason	1:1,1:4
Millwright	1:1,1:4
Op Engineer	1:1,1:5
Painter	1:1,1:3
Plumber & Steamfitter	1:1,1:3
Roofer	1:1,1:2
Sheet Metal Worker	1:1,1:3
Sprinkler Fitter	1:1,1:2

If you have any questions concerning the attached schedule or would like additional information, please contact the nearest BUREAU of PUBLIC WORK District Office or write to:

New York State Department of Labor
Bureau of Public Work
State Office Campus, Bldg. 12
Albany, NY 12226

District Office Locations:	Telephone #	FAX #
Bureau of Public Work - Albany	518-457-2744	518-485-0240
Bureau of Public Work - Binghamton	607-721-8005	607-721-8004
Bureau of Public Work - Buffalo	716-847-7159	716-847-7650
Bureau of Public Work - Garden City	516-228-3915	516-794-3518
Bureau of Public Work - Newburgh	845-568-5287	845-568-5332
Bureau of Public Work - New York City	212-932-2419	212-775-3579
Bureau of Public Work - Patchogue	631-687-4882	631-687-4902
Bureau of Public Work - Rochester	585-258-4505	585-258-4708
Bureau of Public Work - Syracuse	315-428-4056	315-428-4671
Bureau of Public Work - Utica	315-793-2314	315-793-2514
Bureau of Public Work - White Plains	914-997-9507	914-997-9523
Bureau of Public Work - Central Office	518-457-5589	518-485-1870

Broome County General Construction

Boilermaker — 02/01/2026

JOB DESCRIPTION Boilermaker **DISTRICT** 1

ENTIRE COUNTIES
Albany, Broome, Chenango, Columbia, Delaware, Essex, Fulton, Greene, Hamilton, Herkimer, Montgomery, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Tioga, Warren, Washington

WAGES
Per hour

	07/01/2025	01/01/2026
		+ $2.50
Boilermaker	$ 43.34	

SUPPLEMENTAL BENEFITS
Per hour

Journeyworker	$26.51
	+ $1.49*

(*) This portion of the benefit is NOT subject to the SAME PREMIUM as shown for overtime.

OVERTIME PAY
See (B, E, Q, V) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 15, 25) on HOLIDAY PAGE
Note: When a holiday falls on Sunday, the day observed by the State or Nation shall be observed, and when Christmas Day and New Year's fall on Saturday, Friday will be observed as the holiday.

REGISTERED APPRENTICES
Wages per hour
(1/2) year terms at the following percentage of Journeyman's wage.

1st	2nd	3rd	4th	5th	6th	7th	8th
65%	65%	70%	75%	80%	85%	90%	95%

Supplemental Benefits per hour

1st	2nd	3rd	4th	5th	6th	7th	8th
$19.71	$19.71	$20.69	$21.64	$22.62	$23.60	$24.57	$25.53
+1.49**	+1.49**	+1.49**	+1.49**	+1.49**	+1.49**	+1.49**	+1.49**

(**) This portion of the benefit is NOT subject to the SAME PREMIUM as shown for overtime.

1-197

Broadband — 02/01/2026

JOB DESCRIPTION Broadband **DISTRICT** 4

ENTIRE COUNTIES
Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orleans, Oswego, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Wyoming, Yates

PARTIAL COUNTIES
Orange: Only in the Village of Greenwood Lake, Village of Highland Falls, Town of Tuxedo, and Town of Patterson

WAGES
NOTE: Applies to all public work and covered private projects, including those receiving ConnectAll funding subject to New York State Labor Law §224-E, solicited on or after July 1,2025. For all other projects solicited prior to July 1,2025 please see LINEMAN ELECTRICIAN-TELEDATA

Per Hour:	07/01/2025	08/04/2025
Field Tech Install/Repair	$ 51.31	$ 52.85

For outside work (excluding installation on building construction/alteration/renovation projects), stopping at first point of attachment (demarcation), installing/maintaining/repairing broadband internet service.

"Broadband", "Broadband Service", or "Broadband Internet" means mass-market retail service by wire or radio that provides the capability to transmit data to and receive data from all or substantially all internet endpoints, including any capabilities that are incidental to and enable the operation of the communications service, but excluding dial-up internet access service.

Note: EXLCUDES work within ten (10) feet of High Voltage (600 Volts and over) transmission lines for this work, please see LINEMAN

SUPPLEMENTAL BENEFITS
Per Hour:

$ 23.24

OVERTIME PAY
See (B, K, *R) on OVERTIME PAGE
* Two and one half times the hourly rate after the 8th hour

HOLIDAY
Paid: See (5, 6, 7, 11, 12) on HOLIDAY PAGE
Overtime: See (5, 6, 7, 11, 12) on HOLIDAY PAGE

4-CWA-Dist2

Carpenter - Building 02/01/2026

JOB DESCRIPTION Carpenter - Building **DISTRICT** 2

ENTIRE COUNTIES
Broome, Tioga

WAGES

Per hour:	07/01/2025	01/01/2026	07/01/2026 Additional	07/01/2027 Additional
Carpenter	$ 31.69	$ 32.19	$ 3.50*	$ 4.00*
Floor Coverer	31.69	32.19	3.50*	4.00*
Carpet Layer	31.69	32.19	3.50*	4.00*
Dry-Wall	31.69	32.19	3.50*	4.00*
Diver-Wet Day	36.25	36.25	24.44*	4.00*
Diver -Dry Day	32.69	33.19	3.50*	4.00*
Diver Tender	32.69	33.19	3.50*	4.00*

*To be allocated at a later date

NOTE ADDITIONAL AMOUNTS PAID FOR THE FOLLOWING WORK LISTED BELOW (per hour worked):
- Pile Drivers/Dock Builders shall receive $0.25 per hour over the journeyworker's rate of pay when performing piledriving/dock building work.
- Certified welders shall receive $1.00 per hour over the journeyworker's rate of pay when the employee is required to be certified and performs DOT or ABS specified welding work (Effective 7/1/2026 premium increases to $3.00/hr and will include premium when AWS certification is required).
- When an employee performs work within a contaminated area on a State and/or Federally designated hazardous waste site, and where relevant State and/or Federal regulations require employees to be furnished and use or wear required forms of personal protection, then the employee shall receive his regular hourly rate plus $1.50 per hour.
- Depth pay for Divers based upon deepest depth on the day of the dive (per diem payment):
  0' to 80' no additional fee
  81'to 100' additional $.50 per foot
  101'to 150' additional $0.75 per foot
  151'and deeper additional $1.25 per foot
- Penetration pay for Divers based upon deepest penetration on the day of the dive (per diem payment):
  0' to 50' no additional fee
  51' to 100' additional $.75 per foot
  101' and deeper additional $1.00 per foot
- Diver rates applies to all hours worked on dive day.

SHIFT WORK
On Agency/Owner mandated shift work, the following rates will be applicable:
1st Shift - Regular Rate
2nd Shift - Premium of 7% of base wage per hour (Effective 7/1/2026 premium increases to 10%)
3rd Shift - Premium of 14% of base wage per hour (Effective 7/1/2026 premium increases to 15%)
Shift work shall be defined as implementing at least two (2) shifts in a twenty-four (24) consecutive hour period. Shift work must be for a minimum of three (3) consecutive days.

SUPPLEMENTAL BENEFITS
Per hour:

	07/01/2025	01/01/2026
Journeyworker	$ 22.07	$ 22.07

OVERTIME PAY

See (B, E, E2, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE
Note: Any holiday which occurs on Sunday shall be observed the following Monday. If Christmas falls on a Saturday, it shall be observed on the prior Friday.

REGISTERED APPRENTICES
Wages per hour (1300 hour terms at the following percentage of Journeyworker's base wage):

1st	2nd	3rd	4th
65%	70%	75%	80%

Supplemental Benefits per hour:

$ 12.55	$ 12.55	$ 15.15	$ 15.15

NOTE ADDITIONAL AMOUNTS PAID TO APPRENTICES FOR THE FOLLOWING WORK LISTED BELOW (per hour worked):
- Pile Driving/Dock Builder apprentices shall receive an additional $0.25 per hour worked when performing piledriving/dock building work.
- Certified Welders shall receive $1.00 per hour over the apprentices rate of pay when the apprentice is required to be certified and performs DOT or ABS specified welding work (Effective 7/1/2026 premium increases to $3.00/hr and will include premium when AWS certification is required).
- When an apprentice performs work within a contaminated area on a State and/or Federally designated hazardous waste site, and where relevant State and/or Federal regulations require the apprentice to be furnished and use or wear required forms of personal protection, then the apprentice shall receive his regular hourly rate plus $1.50 per hour.

2-277B-Bro

Carpenter - Building / Heavy&Highway — 02/01/2026

JOB DESCRIPTION Carpenter - Building / Heavy&Highway **DISTRICT** 2

ENTIRE COUNTIES
Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orleans, Oswego, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Wyoming, Yates

PARTIAL COUNTIES
Orange: The area lying on Northern side of Orange County demarcated by a line drawn from the Bear Mountain Bridge continuing west to the Bear Mountain Circle, continue North on 9W to the town of Cornwall where County Road 107 (also known as Quaker Rd) crosses under 9W, then east on County Road 107 to Route 32, then north on Route 32 to Orrs Mills Rd, then west on Orrs Mills Rd to Route 94, continue west and south on Route 94 to the Town of Chester, to the intersection of Kings Highway, continue south on Kings Highway to Bellvale Rd, west on Bellvale Rd to Bellvale Lakes Rd, then south on Bellvale Lakes Rd to Kain Rd, southeast on Kain Rd to Route 17A, then north and southeast along Route 17A to Route 210, then follow Route 210 to NJ Border.

WAGES

Wages per hour:	07/01/2025	07/01/2026 Additional	07/01/2027 Additional
Carpenter - ONLY for Artificial Turf/Synthetic Sport Surface	$ 37.94	$ 2.25*	$ 2.25*

* To be allocated at a later date.

Note - Does not include the operation of equipment. Please see Operating Engineers rates.

SUPPLEMENTAL BENEFITS
Per hour worked:

Journeyworker	$ 27.34

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (5) on HOLIDAY PAGE
Overtime: See (5, 6, 16) on HOLIDAY PAGE
Notes:
When a holiday falls upon a Saturday, it shall be observed on the preceding Friday. Whan a holiday falls upon a Sunday, it shall be observed on the following Monday.
An employee taking an unexcused day off the regularly scheduled day before or after a paid Holiday shall not receive Holiday pay.

REGISTERED APPRENTICES
Wages per hour (1300 hour terms at the following percentage of Journeyworker's wage):

1st	2nd	3rd	4th
65%	70%	75%	80%

Supplemental Benefits per hour worked:

$19.10	$19.69	$21.83	$22.42

2-42AtSS

Carpenter - Heavy&Highway 02/01/2026

JOB DESCRIPTION Carpenter - Heavy&Highway **DISTRICT** 2

ENTIRE COUNTIES
Broome, Cayuga, Chemung, Cortland, Delaware, Jefferson, Lewis, Onondaga, Oswego, Schuyler, Seneca, St. Lawrence, Steuben, Tioga, Tompkins, Yates

WAGES

Per hour	07/01/2025	07/01/2026 Additional	07/01/2027 Additional
Carpenter	$ 39.52	$ 2.00*	$ 4.42*
Piledriver	39.52	2.00*	4.42*
Dockbuilder	39.52	2.00*	4.42*
Diver-Wet Day	64.52	2.00*	4.42*
Diver-Dry Day	40.52	2.00*	4.42*
Diver-Tender	40.52	2.00*	4.42*

*To be allocated at a later date.

NOTE ADDITIONAL AMOUNTS PAID FOR THE FOLLOWING WORK LISTED BELOW (per hour worked):
- State or Federal designated hazardous site, requiring protective gear shall be an additional $2.50 per hour.
- Certified welders when required to perform welding work will receive an additional $5.00 per hour.

ADDITIONAL NOTES PERTAINING TO DIVERS/TENDERS:
- Divers and Tenders shall receive one and one half (1 1/2) times their regular diver and tender rate of pay for Effluent and Slurry diving.
- Divers and tenders being paid at the specified rate for Effluent and Slurry diving shall have all overtime rates based on the specified rate plus the appropriate overtime rates (one and one half or two times the specified rate for Slurry and Effluent divers and tenders).
- The pilot of an ADS or submersible will receive one and one-half (1 1/2) times the Diver-Wet Day Rate for time submerged.
- All crew members aboard a submersible shall receive the Diver-Wet Day rate.
- Depth pay for Divers based upon deepest depth on the day of the dive (per diem payment):
  - 0' to 50' no additional fee
  - 51' to 100' additional $0.50 per foot
  - 101' to 150' additional $0.75 per foot
  - 151' to 200' additional $1.25 per foot
  - 201' and deeper additional $1.50 per foot
- Penetration pay for Divers based upon deepest penetration on the day of the dive (per diem payment):
  - 0' to 50' no additional fee
  - 51' to 100' additional $0.75 per foot
  - 101' to 200' additional $1.00 per foot
  - Over 201' additional $1.25 per foot
- Diver rates applies to all hours worked on dive day.

SHIFT WORK
When project owner mandates a single irregular work shift, the Journeyworkers and Apprentices will receive an additional $4.00 per hour. A single irregular work shift can start any time from 5:00 p.m. to 1:00 a.m.

SUPPLEMENTAL BENEFITS
Per hour:

Journeyworker	$ 27.31

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (5, 6) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE
- In the event a Holiday falls on a Saturday, the Friday before will be observed as a Holiday. If a Holiday falls on a Sunday, then Monday will be observed as a Holiday.
- The employee must work their scheduled workday before and their scheduled workday after the holiday to receive holiday pay.

REGISTERED APPRENTICES
CARPENTER/PILEDRIVER/DOCKBUILDER APPRENTICES
Wages per hour (1300 hour terms at the following percentage of journeyworker's base wage):

1st	2nd	3rd	4th
65%	70%	75%	80%

Supplemental Benefits per hour:

$ 19.07	$ 19.66	$ 21.75	$ 22.34

NOTE ADDITIONAL AMOUNTS PAID PER HOUR WORKED TO APPRENTICES FOR SPECIFIC TYPES OF WORK PERFORMED:
- State or Federal designated hazardous site, requiring protective gear shall be an additional $2.50 per hour.
- Certified welders when required to perform welding work will receive an additional $5.00 per hour.

2-277HH-Bro

Electrician 02/01/2026

JOB DESCRIPTION Electrician **DISTRICT** 2

ENTIRE COUNTIES
Broome

PARTIAL COUNTIES
Chenango: Entire County except the Townships of Columbus, New Berlin and Sherburne.
Delaware: Only the Townships of Davenport, Delhi, Deposit, Franklin, Hamden, Masonville, Meredith, Sidney, Tompkins and Walton Townships,and that portion of Colchester and Hancock Townships north of the east branch of the Delaware River.
Otsego: Only the Townships of Butternuts, Hartwick, Laurens, Maryland, Milford, Morris, Oneonta, Otego, Unadilla and Westford.
Tioga: Only the Townships of Berkshire, Newark Valley, Owego, Richford and Tioga.

WAGES

Per hour:	07/01/2025
Electrician (base wage)	$ 42.68
Cable Splicer	50.43

ADDITIONAL AMOUNTS FOR SPECIFIC TYPES OF JOBSITE CONDITIONS (amount subject to any overtime premiums):
Additional $ 0.50 per hour when required to work underground, such as in tunnels for roads, railroads, or water.
Additional $ 0.50 per hour when required to work at a height of 40 feet above the ground or roof level.

SHIFT WORK

When shift work is mandated in the job specifications or by the contracting agency, the following journeyworker hourly rates apply. The starting hours of a shift may be adjusted up to two (2) hours in order to meet the needs of the contracting agency.

Between the hours of 8:00AM and 4:30PM	$ 42.68
Between the hours of 4:30PM and 1:00AM	50.06
Between the hours of 12:30AM and 9:00AM	56.08

SUPPLEMENTAL BENEFITS

Per hour:	
Journeyworker	$ 31.78 plus 3% of wage

OVERTIME PAY
See (B, *E, Q) on OVERTIME PAGE
*Double time after 8 hours on Saturday.

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, *8, 16) on HOLIDAY PAGE
When a dated holiday falls on a Saturday it shall be celebrated on Friday. When a dated holiday falls on a Sunday, it shall be celebrated on Monday.
*Good Friday may be celebrated the following Monday by mutual agreement of Employer and Employees.

REGISTERED APPRENTICES
WAGES: Terms at the following percentages of Journeyworker's wage.

1st	2nd	3rd	4th	5th
0-2000 Hrs	2000-3500 Hrs	3500-5000 Hrs	5000-6500 Hrs	6500-8000 Hrs
45%	50%	58%	68%	78%

ADDITIONAL AMOUNTS FOR SPECIFIC TYPES OF JOBSITE CONDITIONS (amount subject to any overtime premiums):
Additional $ 0.50 per hour when required to work underground, such as in tunnels for roads, railroads, or water.
Additional $ 0.50 per hour when required to work at a height of 40 feet above the ground or roof level.

SUPPLEMENTAL BENEFITS per hour:

07/01/2025	
1st term	$ 10.25 plus 3% of the hourly wage
2nd term	$ 27.12 plus 3% of the hourly wage

All other terms $ 27.83 plus 3% of the hourly wage

2-325

Elevator Constructor 02/01/2026

JOB DESCRIPTION Elevator Constructor **DISTRICT** 6

ENTIRE COUNTIES
Broome, Cayuga, Chenango, Cortland, Franklin, Jefferson, Lewis, Onondaga, Oswego, St. Lawrence, Tioga, Tompkins

PARTIAL COUNTIES
Delaware: Only the towns of: Tompkins, Walton, Masonville, Sidney, Franklin and Deposit.
Madison: Only the towns of: Cazenovia, DeRuyter, Eaton, Fenner, Georgetown, Lebanon, Lenox, Nelson and Sullivan.
Oneida: Only the towns of: Camden, Florence and Vienna.

WAGES

Per hour:	07/01/2025	01/01/2026	01/01/2027
Mechanic	$ 58.44	$ 61.003	$ 63.719
Helper	40.91	42.70	44.60

SUPPLEMENTAL BENEFITS
Per hour:

Journeyworker	$ 38.435*	$ 38.985*	39.535*

*NOTE - add 6% of regular hourly rate for all hours worked. Add 8% of regular hourly rate if more than 5 years of service.

OVERTIME PAY
See (D, O) on OVERTIME PAGE

HOLIDAY
Paid: See (5, 6, 15, 16) on HOLIDAY PAGE
Overtime: See (5, 6, 15, 16) on HOLIDAY PAGE
NOTE: When a holiday falls on a Saturday, it shall be observed on Friday. When a holiday falls on Sunday, it shall be observed on Monday.

REGISTERED APPRENTICES
WAGES per hour: 1 year terms at the following percentage of the Elevator Constructor wage.

0-6 months	6-12 months	2nd year	3rd year	4th year
50%	55%	65%	70%	80%

SUPPLEMENTAL BENEFITS per hour:

0-6 months: 6% of the hourly apprentice rate paid, no additional supplemental benefits.

All other terms: Same as Journeyworker

6-62.1

Glazier 02/01/2026

JOB DESCRIPTION Glazier **DISTRICT** 5

ENTIRE COUNTIES
Broome, Chemung, Chenango, Delaware, Otsego, Schuyler, Steuben, Tioga, Tompkins

WAGES

Per hour:	07/01/2025
Glazier	$ 30.00

SUPPLEMENTAL BENEFITS
Per hour:

Journeyman	$ 33.15

OVERTIME PAY
See (B, E*, E2, Q**) on OVERTIME PAGE.

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES
1000 hour terms

Appr. 1st term	$ 20.00
Appr. 2nd term	21.00
Appr. 3rd term	22.00
Appr. 4th term	23.00
Appr. 5th term	24.00
Appr. 6th term	25.00
Appr. 7th term	26.00
Appr. 8th term	27.00

Supplemental Benefits per hour:

Appr. 1st term	$ 13.27
Appr. 2nd term	13.27
Appr. 3rd term	19.27
Appr. 4th term	19.27
Appr. 5th term	20.27
Appr. 6th term	20.27
Appr. 7th term	21.27
Appr. 8th term	21.27

5-677z3

Insulator - Heat & Frost — 02/01/2026

JOB DESCRIPTION Insulator - Heat & Frost **DISTRICT** 7

ENTIRE COUNTIES
Broome, Cayuga, Chemung, Chenango, Cortland, Herkimer, Jefferson, Lewis, Madison, Oneida, Onondaga, Oswego, Otsego, Schuyler, Seneca, St. Lawrence, Tioga, Tompkins

WAGES
Per hour: 07/01/2025

Asbestos Installer	$ 43.25
Insulation Installer	43.25
(On mechanical systems only)	

SHIFT WORK
The following rates will apply on all contracting agency-mandated shifts worked:

1st Shift	$ 43.25
2nd Shift	49.74
3rd Shift	51.90

SUPPLEMENTAL BENEFITS
Per hour:

Journeyworker	$ 27.34

OVERTIME PAY
See (*B1, **K, P) on OVERTIME PAGE
*NOTE: First 10 hours on Saturday.
**NOTE: Holidays that fall on Sunday are subject to double time.

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (2*,4,6,28) on HOLIDAY PAGE
*Triple time for Labor Day if worked.

REGISTERED APPRENTICES
WAGES per hour: One (1) year terms at the following percentage of Journeyworker's wage.

1st	2nd	3rd	4th
60%	70%	80%	90%

SUPPLEMENTAL BENEFITS per hour:

$ 24.09	$ 24.09	$ 27.34	$ 27.34

7-30-Syracuse

Ironworker — 02/01/2026

JOB DESCRIPTION Ironworker **DISTRICT** 6

ENTIRE COUNTIES
Broome, Cayuga, Cortland, Onondaga, Oswego, Seneca, Tioga, Tompkins

PARTIAL COUNTIES
Chenango: Only the townships of Afton, Bainbridge, Coventry, German, Greene, Guilford, Lincklaen, McDonough, Norwich, Otselic, Oxford, Pharsalia, Pitcher, Preston and Smithville.
Jefferson: Only the townships of Adams, Alexandria, Brownville, Cape Vincent, Clayton, Ellisburg, Henderson, Hounsfield, LeRay, Lorraine, Lyme, Orleans, Pamelia, Rodman, Rutland, Theresa, Watertown and Worth.
Madison: Only the townships of Cazenovia, DeRuyter, Fenner, Georgetown, Lenox, Lincoln, Nelson, Smithfield and Sullivan.
Schuyler: Only the townships of Cayuta, Catharine, Hector and Montour.
Wayne: Only the townships of Butler, Galen, Huron, Rose, Savannah and Wolcott.

WAGES
Structural, Reinforcing, Re-bar, Machinery Mover & Rigger, Ornamental & Curtain Wall, Window Wall, Pre-Glazed Metal Framed Windows Attached to Steel or Masonry Including Caulking, Fence Erector (Chain Link/Security), Sheeter/Bridge Rail, Pre-Cast Erector, Stone Derrickman, Pre-Engineered Building Erector, Welder

Per hour:	07/01/2025	07/01/2026 Additional
Ironworker	$ 37.16	$ 2.76*

* To be allocated at a later date.

SHIFT WORK
Multiple shifts mandated by the project owner. All shifts will be eight (8) hours.

1st Shift	$ 37.16	
2nd Shift	40.88	Starting times between 2PM and 7PM
3rd Shift	42.73	Starting times between 7PM and 12AM

WHEN A SINGLE IRREGULAR SHIFT IS WORKED, WITH START TIMES BASED ON SECOND AND THIRD SHIFTS, ADD 10% TO THE 1ST SHIFT WAGE RATE POSTED ABOVE.

SUPPLEMENTAL BENEFITS
Per hour:

Journeyworker	$ 31.88

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE
NOTE: Any holiday which occurs on Saturday shall be observed on the preceding Friday. Any holiday which occurs on Sunday shall be observed the following Monday.

REGISTERED APPRENTICES
WAGES per hour: One year terms at the following rates.

1st	2nd	3rd	4th
$ 21.50	$ 23.50	$ 25.50	$ 27.50

SUPPLEMENTAL BENEFITS per hour:

1st year	$ 13.03
2nd year	21.36
3rd year	22.55
4th year	23.74

6-60

Laborer - Building 02/01/2026

JOB DESCRIPTION Laborer - Building **DISTRICT** 2

ENTIRE COUNTIES
Broome, Chemung, Cortland, Schuyler, Steuben, Tioga, Tompkins

PARTIAL COUNTIES
Chenango: Entire County except the Townships of Sherburne, Columbus and New Berlin.
Delaware: Only the Townships of Sidney, Masonville, Walton, Tompkins, Deposit, Hancock, and Colchester.

WAGES
Per hour:

GROUP #1: Basic Laborer - excavation, concrete vibrator, power-driven buggie, demolition (including acetylene torch work) that is customarily done by a laborer

GROUP #2: Air Tool Operators, Mason Tenders

GROUP #3: Blaster, Rock Drill (compressor driven)

GROUP #4: Asbestos, Hazardous, Toxic Waste, Lead and Mold Remediation

	07/01/2025	07/01/2026 Additional
GROUP #1	$ 30.00	$ 1.25*
GROUP #2	31.00	1.25*
GROUP #3	32.00	1.25*
GROUP #4	32.00	1.25*

*To be allocated at a later date.

IMPORTANT NOTES:
- Laborer tasks on Renewable Energy and Green Energy construction work shall be paid at the appropriate Heavy & Highway rates.
- Wage and supplement rates for the operation of forklift and skid steer may be found under the classification "Operating Engineer".

SUPPLEMENTAL BENEFITS
Per hour:

Journeyworker	$ 20.20

OVERTIME PAY
See (B, E, E2, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE
When a holiday falls on Sunday, it shall be observed on the following Monday.

REGISTERED APPRENTICES
WAGES: 1000 hour terms at the following percentage of Journeyworker's wage.

1st	2nd	3rd	4th
70%	80%	85%	90%

SUPPLEMENTAL BENEFITS per hour:

1st term	$ 15.85
2nd term	17.10
3rd term	17.98
4th term	18.85

2-785b

Laborer - Heavy&Highway **02/01/2026**

JOB DESCRIPTION Laborer - Heavy&Highway **DISTRICT** 2

ENTIRE COUNTIES
Broome, Chemung, Cortland, Schuyler, Steuben, Tioga, Tompkins

PARTIAL COUNTIES
Chenango: Entire County except the Townships of Sherburne, Columbus, and New Berlin.
Delaware: Only the Townships of Sidney, Masonville, Walton, Tompkins, Deposit, Hancock and Colchester.

WAGES
Per hour:

GROUP A: Drill Helper, Flagman, Outboard and Hand Boats.

GROUP B: Basic Rate, Bull Float (where used for strike off only), Chain Saw, Concrete Aggregate Bin, Concrete Bootmen, Gin Buggy, Hand or Machine Vibrator, Jack Hammer, Mason Tender, Mortar Mixer, Pavement Breaker, Handlers of Steel Mesh, Small Generators for Laborers Tools, Installation of Bridge Drainage Pipe, Pipe Layers, Vibrator Type Rollers, Tamper, Drill Doctor, Water Pump Operators (1-1/2" & Single Diaphragm), Nozzle (Asphalt, Gunite, Seeding, and Sand Blasting), Laborers on Chain Link Fence Erection, Rock Splitter and Power Unit, Pusher Type Concrete Saw and all other Gas, Electric, and Air Tool Operators, Wrecking Laborer.

GROUP C: Drilling equipment - only where a separate air compressor unit supplies power, Acetylene Torch Operators, Asphalt Raker, Powder Man, Tail or Screw Operator on Asphalt Paver.

GROUP D: Blasters, Form Setters (slab steel forms on highways, roads, streets & airport runways), Stone or Granite Curb Setters.

GROUP E: Hazardous Waste defined as when an employee performs hazardous waste removal, lead abatement and removal, asbestos abatement and removal work on State and/or Federally designated waste site and were relevant State and/or Federal regulations require employees to use or wear required forms of personal protection.

	07/01/2025	07/01/2026 Additional	07/01/2027 Additional
GROUP A	$ 38.06	$ 3.40*	$ 4.20*
GROUP B	38.26	3.40*	4.20*
GROUP C	38.46	3.40*	4.20*
GROUP D	38.66	3.40*	4.20*
GROUP E	43.26	3.40*	4.20*

*To be allocated at a later date.

IMPORTANT NOTES:
- Laborer tasks on Renewable Energy and Green Energy construction work shall be paid at the appropriate Heavy & Highway rates.
- Wage and supplement rates for the operation of forklift and skid steer may be found under the classification "Operating Engineer".
- When an employee is required by the employer and/or by the material data safety sheets of a product, during its application, to wear a half or full-face replaceable cartridge respirator for more than (2) hours, then in such case said employee(s) will be paid the Group E rate for the shift.

SHIFT WORK
A single irregular work shift starting any time between 5:00 PM and 1:00 AM on governmental mandated night work shall be paid an additional $5.00 per hour.

SUPPLEMENTAL BENEFITS
Per hour:

Journeyworker $ 26.35

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (5, 6) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE
- If Holiday falls on Sunday, it will be celebrated on Monday. If the Holiday falls on Saturday, it will be celebrated on Saturday.
- An Employee must work the scheduled working day before and the scheduled working day after a holiday to receive holiday pay.

REGISTERED APPRENTICES
WAGES: 1000 hour terms at the following percentage of Journeyworker's GROUP B wage:

1st	2nd	3rd	4th
70%	80%	90%	95%

SUPPLEMENTAL BENEFITS per hour:
All terms $ 26.35

2-785h

Laborer - Tunnel 02/01/2026

JOB DESCRIPTION Laborer - Tunnel **DISTRICT** 2

ENTIRE COUNTIES
Broome, Chemung, Cortland, Schuyler, Steuben, Tioga, Tompkins

PARTIAL COUNTIES
Chenango: Entire County except the Townships of Sherburne, Columbus, and New Berlin.
Delaware: Only the Townships of Sidney, Masonville, Walton, Tompkins, Deposit, Hancock and Colchester.

WAGES
Per hour:

GROUP A: Change House Man

GROUP B: Miners and all Machine Men, Safety Miner, All Shaft work, Caisson work, Drilling, Blow Pipe, all Air Tools, Tugger, Scaling, Nipper, Guniting pot to nozzle, Bit Grinder, Signal Man (top and bottom), Concrete Man, Shield Driven Tunnels, mixed face and soft ground, liner plate tunnels in free air.

GROUP C: Blaster

GROUP D: Hazardous waste removal work on a State and/or Federally designated waste site where relevant State and/or Federal regulations require employees to use or wear required forms of personal protection.

	07/01/2025	07/01/2026 Additional	07/01/2027 Additional
Group A	$ 41.24	$ 3.40*	$ 4.20*
Group B	41.44	3.40*	4.20*
Group C	44.24	3.40*	4.20*
Group D	46.24	3.40*	4.20*

*To be allocated at a later date

IMPORTANT NOTES:
- When an employee is required by the employer and/or by the material data safety sheets of a product, during its application, to wear a half or full face replaceable cartridge respirator for more then (2) hours, then in such case said employee(s) will be paid the Group D rate for the shift.

SHIFT WORK
A single irregular work shift starting any time between 5:00 PM and 1:00 AM on governmental mandated night work shall be paid an additional $5.00 per hour.

SUPPLEMENTAL BENEFITS
Per hour:

Journeyworker $ 26.35

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE
- If Holiday falls on Sunday, it will be celebrated on Monday. If the Holiday falls on Saturday, it will be celebrated on Friday.

HOLIDAY
Paid: See (5, 6) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE
If the holiday falls on Saturday, it will be celebrated on Friday. If the holiday falls on Sunday, it will be celebrated on Monday

REGISTERED APPRENTICES
WAGES: 1000 hour terms at the following percentage of Group B wage

1st	2nd	3rd	4th
70%	80%	90%	95%

SUPPLEMENTAL BENEFITS per hour:

All Terms $ 26.35

2-785T

Lineman Electrician — 02/01/2026

JOB DESCRIPTION Lineman Electrician **DISTRICT** 6

ENTIRE COUNTIES
Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Rensselaer, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Wyoming, Yates

WAGES
A Lineman/Technician shall perform all overhead aerial work. A Lineman/Technician on the ground will install all electrical panels, connect all grounds, install and connect all electrical conductors, assembly of all electrical materials, conduit, pipe, or raceway; placing of fish wire; pulling of cables, wires or fiber optic cable through such raceways; splicing of conductors; dismantling of such structures, lines or equipment.

Crane Operators: Operation of any type of crane on line projects.
Crawler Backhoe: Operation of tracked excavator/crawler backhoe with 1/2 yard bucket or larger on line projects.
Digging Machine Operator: All other digging equipment and augering on line projects.

A Groundman/Truck Driver shall: Build and set concrete forms, handle steel mesh, set footer cages, transport concrete in a wheelbarrow, hand or machine concrete vibrator, finish concrete footers, mix mortar, grout pole bases, cover and maintain footers while curing in cold weather, operate jack hammer, operate hand pavement breaker, tamper, concrete and other motorized saws, as a drill helper, operate and maintain generators, water pumps, chainsaws, sand blasting, operate mulching and seeding machine, air tools, electric tools, gas tools, load and unload materials, hand shovel and/or broom, prepare and pour mastic and other fillers, assist digger operator/equipment operator in ground excavation and restoration, landscape work and painting. Only when assisting a lineman technician, a groundman/truck driver may assist in installing conduit, pipe, cables and equipment.

NOTE: Includes Teledata Work within ten (10) feet of High Voltage Transmission Lines. Also includes digging of holes for poles, anchors, footer, and foundations for electrical equipment.

-----Below rates applicable on all overhead and underground distribution and maintenance work, and all overhead and underground transmission line work and the installation of fiber optic cable where no other construction trades are or have been involved. Includes access matting for line work.

Per hour:	07/01/2025	05/04/2026	05/03/2027	05/01/2028
Group A:				
Lineman, Technician	$ 61.56	$ 64.37	$ 66.84	$ 69.47
Crane, Crawler Backhoe	61.56	64.37	66.84	69.47
Welder, Cable Splicer	61.56	64.37	66.84	69.47
Group B:				
Digging Mach. Operator	$ 55.40	$ 57.93	$ 60.16	$ 62.52
Group C:				
Tractor Trailer Driver	$ 52.33	$ 54.71	$ 56.81	$ 59.05
Groundman, Truck Driver	49.25	51.50	53.47	55.58
Equipment Mechanic	49.25	51.50	53.47	55.58
Group D:				
Flagger	$ 33.86	$ 35.40	$ 36.76	$ 38.21

Additional 3% per hour above regular rate for entire crew when a helicopter is used. This will increase to 5% on May 03, 2027.

-----Below rates applicable on all electrical sub-stations, switching structures, fiber optic cable and all other work not defined as "Utility outside electrical work." Includes access matting for line work.

Group A:				
Lineman, Technician	$ 61.56	$ 64.37	$ 66.84	$ 69.47
Crane, Crawler Backhoe	61.56	64.37	66.84	69.47
Cable Splicer	67.72	70.81	73.52	76.42
Certified Welder, Pipe Type Cable	$ 64.64	$ 67.59	$ 70.18	$ 72.94
Group B:				
Digging Mach. Operator	$ 55.40	$ 57.93	$ 60.16	$ 62.52
Group C:				
Tractor Trailer Driver	$ 52.33	$ 54.71	$ 56.81	$ 59.05
Groundman, Truck Driver	49.25	51.50	53.47	55.58
Equipment Mechanic	49.25	51.50	53.47	55.58
Group D:				
Flagger	$ 33.86	$ 35.40	$ 36.76	$ 38.12

Additional 3% per hour above regular rate for entire crew when a helicopter is used. This will increase to 5% on May 03, 2027.

-----Below rates applicable on all switching structures, maintenance projects, railroad catenary install/maintenance third rail installation, bonding of rails and pipe type cable and installation of fiber optic cable. Includes access matting for line work.

Group A:				
Lineman, Tech, Welder	$ 62.94	$ 65.81	$ 68.34	$ 71.03
Crane, Crawler Backhoe	62.94	65.81	68.34	71.03
Cable Splicer	69.23	72.39	75.17	78.13
Certified Welder, Pipe Type Cable	66.09	69.10	71.76	74.58

Group B:				
Digging Mach. Operator	$ 56.65	$ 59.23	$ 61.51	$ 63.93
Group C:				
Tractor Trailer Driver	$ 53.50	$ 55.94	$ 58.09	$ 60.38
Groundman, Truck Driver	50.35	52.65	54.67	56.82
Equipment Mechanic	50.35	52.65	54.67	56.82
Group D:				
Flagger	$ 34.62	$ 36.20	$ 37.59	$ 39.07

Additional 3% per hour above regular rate for entire crew when a helicopter is used. This will increase to 5% on May 03, 2027.

-----Below rates applicable on all overhead and underground transmission line work & fiber optic cable where other construction trades are or have been involved. This applies to transmission line work only, not other construction. Includes access matting for line work.

Group A:				
Lineman, Tech, Welder	$ 64.18	$ 67.10	$ 69.68	$ 72.43
Crane, Crawler Backhoe	64.18	67.10	69.68	72.43
Group B:				
Digging Mach. Operator	$ 57.76	$ 60.39	$ 62.71	$ 65.19
Group C:				
Tractor Trailer Driver	$ 54.55	$ 57.04	$ 59.23	$ 61.57
Groundman, Truck Driver	51.34	53.68	55.74	57.94
Equipment Mechanic	51.34	53.68	55.74	57.94
Group D:				
Flagger	$ 35.30	$ 36.91	$ 38.32	$ 39.84

Additional 3% per hour above regular rate for entire crew when a helicopter is used. This will increase to 5% on May 03, 2027.

SHIFT WORK

THE FOLLOWING RATES WILL APPLY ON ALL CONTRACTING AGENCY MANDATED MULTIPLE SHIFTS OF AT LEAST FIVE (5) DAYS DURATION WORKED BETWEEN THE HOURS LISTED BELOW:

1ST SHIFT	8:00 AM to 4:30 PM REGULAR RATE
2ND SHIFT	4:30 PM to 1:00 AM REGULAR RATE PLUS 17.3 %
3RD SHIFT	12:30 AM to 9:00 AM REGULAR RATE PLUS 31.4 %

SUPPLEMENTAL BENEFITS

Per hour:

	07/01/2025	05/04/2026	05/03/2027	05/01/2028
Group A	$ 31.90*	$ 32.90*	$ 34.40*	$ 35.90*
Group B	$ 27.90*	$ 28.90*	$ 30.40*	$ 31.90*
Group C	$ 27.70*	$ 28.50*	$ 29.70*	$ 30.90*
Group D	$ 27.65*	$ 28.40*	$ 29.53*	$ 30.66*

*Plus 7 % of the hourly wage paid. The 7% is based on straight time or premium time.

OVERTIME PAY

See (B, E, Q, X) on OVERTIME PAGE. NOTE: Double time for all emergency work designated by the Dept. of Jurisdiction.
WAGE CAP - Double the straight time hourly base wage shall be the maximum hourly wage compensation for any hour worked. Contractor is still responsible to pay the hourly benefit amount for each hour worked.

HOLIDAY

Paid See (5, 6, 8, 15, 25) on HOLIDAY PAGE
Overtime See (5, 6, 8, 15, 25) on HOLIDAY PAGE
NOTE: All paid holidays falling on Saturday shall be observed on the preceding Friday. All paid holidays falling on Sunday shall be observed on the following Monday. Supplements for holidays paid at straight time.

REGISTERED APPRENTICES

WAGES per hour: 1000 hour terms at the following percentage of the applicable Journeyworker's Lineman wage.

1st	2nd	3rd	4th	5th	6th	7th
60%	65%	70%	75%	80%	85%	90%

SUPPLEMENTAL BENEFITS per hour:

	07/01/2025	05/04/2026	05/03/2027	05/01/2028
All terms:	$ 27.65*	$ 28.40*	$ 29.53*	$ 30.66*

*Plus 7% of the hourly wage paid. The 7% is based on straight time or premium time.

6-1249a

Lineman Electrician - Teledata 02/01/2026

JOB DESCRIPTION Lineman Electrician - Teledata **DISTRICT** 6

ENTIRE COUNTIES
Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Rensselaer, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Westchester, Wyoming, Yates

WAGES
NOTE: Applies to all public work and covered private projects, including those receiving ConnectAll funding subject to LL 224-E,solicited prior to July 1, 2025. For all projects, excluding dial-up internet access service, solicited on or after July 1, 2025, please see BROADBAND

Per hour:	07/01/2025
Cable Splicer	$ 40.81
Installer, Repairman	$ 38.73
Teledata Lineman	$ 38.73
Tech., Equip. Operator	$ 38.73
Groundman/Flagger	$ 20.53

For outside work, stopping at first point of attachment (demarcation).

NOTE: EXCLUDES Teledata work within ten (10) feet of High Voltage (600 volts and over) transmission lines. For this work, please see LINEMAN.

SHIFT WORK
THE FOLLOWING RATES APPLY WHEN THE CONTRACTING AGENCY MANDATES MULTIPLE SHIFTS OF AT LEAST FIVE (5) DAYS DURATION ARE WORKED. WHEN TWO (2) OR THREE (3) SHIFTS ARE WORKED THE FOLLOWING RATES APPLY:

1ST SHIFT	REGULAR RATE
2ND SHIFT	REGULAR RATE PLUS 10%
3RD SHIFT	REGULAR RATE PLUS 15%

SUPPLEMENTAL BENEFITS
Per hour:

Journeyworker	$ 5.77 *plus 3% of the hour wage paid

*The 3% is based on the hourly wage paid, straight time rate or premium rate.

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE
WAGE CAP - Double the straight time hourly base wage shall be the maximum hourly wage compensation for any hour worked. Contractor is still responsible to pay the hourly benefit amount for each hour worked.

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 16) on HOLIDAY PAGE

6-1249LT - Teledata

Lineman Electrician - Traffic Signal, Lighting 02/01/2026

JOB DESCRIPTION Lineman Electrician - Traffic Signal, Lighting **DISTRICT** 6

ENTIRE COUNTIES
Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Cortland, Delaware, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orleans, Oswego, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Warren, Washington, Wayne, Wyoming, Yates

WAGES

Lineman/Technician shall perform all overhead aerial work. A Lineman/Technician on the ground will install all electrical panels, connect all grounds, install and connect all electrical conductors which includes, but is not limited to road loop wires; conduit and plastic or other type pipes that carry conductors, flex cables and connectors, and to oversee the encasement or burial of such conduits or pipes.

Crane Operators: Operation of any type of crane on Traffic Signal/Lighting projects.
Crawler Backhoe: Operation of tracked excavator/crawler backhoe with 1/2 yard bucket or larger on Traffic Signal/Lighting projects.
Digging Machine Operator: All other digging equipment and augering on Traffic Signal/Lighting projects.

A Groundman/Truck Driver shall: Build and set concrete forms, handle steel mesh, set footer cages, transport concrete in a wheelbarrow, hand or machine concrete vibrator, finish concrete footers, mix mortar, grout pole bases, cover and maintain footers while curing in cold weather, operate jack hammer, operate hand pavement breaker, tamper, concrete and other motorized saws, as a drill helper, operate and maintain generators, water pumps, chainsaws, sand blasting, operate mulching and seeding machine, air tools, electric tools, gas tools, load and unload materials, hand shovel and/or broom, prepare and pour mastic and other fillers, assist digger operator/equipment operator in ground excavation and restoration, landscape work and painting. Only when assisting a lineman technician, a groundman/truck driver may assist in installing conduit, pipe, cables and equipment.

A flagger's duties shall consist of traffic control only.

Per hour:	07/01/2025	05/04/2026	05/03/2027	05/01/2028
Group A:				
Lineman, Technician	$ 52.86	$ 55.31	$ 57.40	$ 59.64
Crane, Crawler Backhoe	52.86	55.31	57.40	59.64
Certified Welder	55.50	58.08	60.27	62.62
Group B:				
Digging Machine	$ 47.57	$ 49.78	$ 51.66	$ 53.68
Group C:				
Tractor Trailer Driver	$ 44.93	$ 47.01	$ 48.79	$ 50.69
Groundman, Truck Driver	42.29	44.25	45.92	47.71
Equipment Mechanic	42.29	44.25	45.92	47.71
Group D:				
Flagger	$ 31.72	$ 33.19	$ 34.44	$ 35.78

Above rates are applicable for installation, testing, operation, maintenance and repair on all Traffic Control (Signal) and Illumination (Lighting) projects, Traffic Monitoring Systems, and Road Weather Information Systems. Includes digging of holes for poles, anchors, footer foundations for electrical equipment; assembly of all electrical materials or raceway; placing of fish wire; pulling of cables, wires or fiber optic cable through such raceways; splicing of conductors; dismantling of such structures, lines or equipment.

SHIFT WORK

THE FOLLOWING RATES WILL APPLY ON ALL CONTRACTING AGENCY MANDATED MULTIPLE SHIFTS OF AT LEAST FIVE (5) DAYS DURATION WORKED BETWEEN THE HOURS LISTED BELOW:

1ST SHIFT	8:00 AM TO 4:30 PM	REGULAR RATE
2ND SHIFT	4:30 PM TO 1:00 AM	REGULAR RATE PLUS 17.3%
3RD SHIFT	12:30 AM TO 9:00 AM	REGULAR RATE PLUS 31.4%

SUPPLEMENTAL BENEFITS

Per hour worked:

	07/01/2025	05/04/2026	05/03/2027	05/01/2028
Group A	$ 31.90*	$ 32.90*	$ 34.40*	$ 35.90*
Group B	$ 27.90*	$ 28.90*	$ 30.40*	$ 31.90*
Group C	$ 27.70*	$ 28.50*	$ 29.70*	$ 30.90*
Group D	$ 27.65*	$ 28.40*	$ 29.53*	$ 30.66*

* Plus 7% of the hourly wage paid. The 7% is based on straight time or premium time.

OVERTIME PAY

See (B, E, Q, X) on OVERTIME PAGE. NOTE: Double time for all emergency work designated by the Dept. of Jurisdiction.
WAGE CAP - Double the straight time hourly base wage shall be the maximum hourly wage compensation for any hour worked. Contractor is still responsible to pay the hourly benefit amount for each hour worked.

HOLIDAY

Paid: See (5, 6, 8, 15, 25) on HOLIDAY PAGE

Overtime: See (5, 6, 8, 15, 25) on HOLIDAY PAGE
NOTE: All paid holidays falling on Saturday shall be observed on the preceding Friday. All paid holidays falling on Sunday shall be observed on the following Monday. Supplements for holidays paid at straight time.

REGISTERED APPRENTICES
WAGES per hour: 1000 hour terms at the following percentage of the applicable Journeyworker's Lineman wage.

1st	2nd	3rd	4th	5th	6th	7th
60%	65%	70%	75%	80%	85%	90%

SUPPLEMENTAL BENEFITS per hour:

	07/01/2025	05/04/2026	05/03/2027	05/01/2028
All terms:	$ 27.65*	$ 28.40*	$ 29.53*	$ 30.66*

* Plus 7% of the hourly wage paid. The 7% is based on straight time or premium time.

6-1249a-LT

Lineman Electrician - Tree Trimmer — 02/01/2026

JOB DESCRIPTION Lineman Electrician - Tree Trimmer **DISTRICT** 6

ENTIRE COUNTIES
Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Rensselaer, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Wyoming, Yates

WAGES
Applies to line clearance, tree work and right-of-way preparation on all new or existing energized overhead or underground electrical, telephone and CATV lines. This also includes stump removal near underground energized electrical lines including telephone and CATV lines.

Per hour:	07/01/2025	01/01/2026	01/04/2026	01/03/2027
Tree Trimmer	$ 33.18	$ 33.18	$ 34.67	$ 36.23
Equipment Operator	29.35	29.35	30.67	32.05
Equipment Mechanic	29.35	29.35	30.67	32.05
Truck Driver	23.85	23.85	24.93	26.05
Groundman	19.64	19.64	20.53	21.45
Flagger	15.50	16.00	16.20	16.93

SUPPLEMENTAL BENEFITS
Per hour:

Journeyworker	$ 10.98*	$ 10.98*	$ 11.23*	$ 11.48*

* Plus 4.5% of the hourly wage paid. The 4.5% is based on straight time rate or premium rate.

OVERTIME PAY
See (B, E, Q, X) on OVERTIME PAGE
WAGE CAP - Double the straight time hourly base wage shall be the maximum hourly wage compensation for any hour worked. Contractor is still responsible to pay the hourly benefit amount for each hour worked.

HOLIDAY
Paid: See (5, 6, 8, 15, 16, 25) on HOLIDAY PAGE
Overtime: See (5, 6, 8, 15, 16, 25) on HOLIDAY PAGE
NOTE: All paid holidays falling on a Saturday shall be observed on the preceding Friday. All paid holidays falling on a Sunday shall be observed on the following Monday.

6-1249TT

Mason - Building — 02/01/2026

JOB DESCRIPTION Mason - Building **DISTRICT** 5

ENTIRE COUNTIES
Broome, Chenango, Delaware, Otsego, Tioga

WAGES

Per hour:	07/01/2025
Building:	
Bricklayer, Cement	$ 34.34

Mason, Plasterer, Stone
Mason, Tuck Pointer

SUPPLEMENTAL BENEFITS
Per hour:

Journeyman	$ 29.76

OVERTIME PAY
See (B,E,E2*,Q) on OVERTIME PAGE
*Note - Or other conditions beyond the employer's control such as fire or natural disaster.

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES
Wages per hour:

One year terms at the following rates:

1st	2nd	3rd	4th
$ 21.89	$ 27.04	$ 28.22	$ 30.91

Supplemental benefits per hour:

1st	2nd	3rd	4th
$ 23.69	$ 24.70	$ 27.64	$ 29.07

5-3B - Bing - Z2

Mason - Heavy&Highway 02/01/2026

JOB DESCRIPTION Mason - Heavy&Highway **DISTRICT** 5

ENTIRE COUNTIES
Allegany, Broome, Chautauqua, Chemung, Chenango, Cortland, Delaware, Genesee, Livingston, Monroe, Ontario, Orleans, Otsego, Schuyler, Seneca, Steuben, Tioga, Tompkins, Wayne, Wyoming, Yates

PARTIAL COUNTIES
Cattaraugus: Enitre county except in the Township of Perrysburg and the Village of Gowanda only the Bricklayer classification applies.
Erie: Only the Bricklayer classification applies.
Niagara: Only the Bricklayer classification applies.

WAGES
Per hour: 07/01/2025
Heavy & Highway:

Cement Mason	$ 38.63
Bricklayer	38.63

SUPPLEMENTAL BENEFITS
Per hour:

Journeyman	$ 26.28

OVERTIME PAY
See (B, E, E2, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES
Wages per hour:

1500 hour terms at the following percentage of Journeyman's wage:

1st	2nd	3rd	4th
50%	60%	70%	80%

Supplemental benefits per hour:

1st term	$ 15.40
2nd term	$ 24.62
3rd term	$ 25.04

4th term $ 25.45

5-3h

Mason - Tile Finisher 02/01/2026

JOB DESCRIPTION Mason - Tile Finisher **DISTRICT** 5

ENTIRE COUNTIES
Broome, Chemung, Chenango, Cortland, Delaware, Otsego, Schuyler, Steuben, Tioga, Tompkins

PARTIAL COUNTIES
Allegany: Towns of Alfred, Almond, Andover and Burns in Allegany County

WAGES
Wages
Per hour: 07/01/2025
Building:
Marble, Slate, Terrazzo and Tile Finisher $ 32.45

SUPPLEMENTAL BENEFITS
Per hour:

Journeyman $ 23.52

OVERTIME PAY
See (B,E,E2*,Q) on OVERTIME PAGE
*Note - Or other conditions beyond the employer's control such as fire or natural disaster.

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES
Wages per hour:

One year terms at the following wage:

1st	2nd	3rd
$ 19.47	$ 22.72	$ 25.96

Supplemental benefits per hour:

1st	2nd	3rd
$ 15.12	$ 15.72	$ 20.37

5-3TF - Z4

Mason - Tile Setter 02/01/2026

JOB DESCRIPTION Mason - Tile Setter **DISTRICT** 5

ENTIRE COUNTIES
Broome, Chemung, Chenango, Cortland, Delaware, Otsego, Schuyler, Steuben, Tioga, Tompkins

PARTIAL COUNTIES
Allegany: Towns of Alfred, Almond, Andover and Burns.

WAGES
Wages
Per Hour: 07/01/2025
Building:
Marble, Slate, Terrazzo and Tile Setter $ 34.69

SUPPLEMENTAL BENEFITS
Per hour:

Journeyman $ 27.06

OVERTIME PAY
See (B,E,E2*,Q) on OVERTIME PAGE
*Note - Or other conditions beyond the employer's control such as fire or natural disaster.

HOLIDAY
Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES
Wages per hour:

One year terms at the following wage:

1st	2nd	3rd	4th
$ 20.81	$ 24.28	$ 27.75	$ 31.22

Supplemental benefits per hour:

1st	2nd	3rd	4th
$ 15.59	$ 16.26	$ 25.70	$ 26.38

5-3TS - Z4

Millwright 02/01/2026

JOB DESCRIPTION Millwright **DISTRICT** 6

ENTIRE COUNTIES
Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orleans, Oswego, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Wyoming, Yates

WAGES
THE FOLLOWING RATE APPLIES TO ANY GAS/STEAM TURBINE AND OR RELATED COMPONENT WORK, INCLUDING NEW INSTALLATIONS OR MAINTENANCE AND ANY/ALL WORK PERFORMED WITHIN THE PROPERTY LIMITS OF A NUCLEAR FACILITY.

Per hour:	07/01/2025
Millwright - Power Generation	$ 47.00

NOTE: ADDITIONAL PREMIUMS PAID FOR THE FOLLOWING WORK LISTED BELOW (amount subject to any overtime premiums):
- Certified Welders shall receive an additional $1.75 per hour provided they are directed to perform Certified Welding.
- If a work site has been declared a hazardous site by the Owner and the use of protective gear (including, as a minimum, air purifying canister-type chemical respirators) is required, then that employee shall receive an additional $1.50 per hour.
- An employee performing the work of a machinist shall receive an additional $2.00 per hour. For the purposes of this premium to apply, a "machinist" is a person who uses a lathe, Bridgeport, milling machine or similar type of tool to make or modify parts.
- When performing work underground at 500 feet and below, the employee shall receive an additional $1.00 per hour.

SUPPLEMENTAL BENEFITS
Per hour paid:

Journeyworker	$ 28.45*

*NOTE: Subject to OT premium

OVERTIME PAY
See (B, E, E2, Q, V) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE
NOTE: Any holiday that falls on Sunday shall be observed the following Monday. Any holiday that falls on Saturday shall be observed the preceding Friday.

REGISTERED APPRENTICES
WAGES per hour: One year terms at the following percentage of Journeyworker's wage:

Appr. 1st year	65%*
Appr. 2nd year	75%*
Appr. 3rd year	80%*
Appr. 4th year	90%*

*NOTE: Additional premium for the following work listed below:

Certified Welder	$ 1.75
Hazardous Waste Work	1.50
Machinist	2.00
Underground	1.00

(500' and below)

SUPPLEMENTAL BENEFITS per hour:

Appr. 1st year	$ 11.95
Appr. 2nd year	23.50
Appr. 3rd year	25.15
Appr. 4th year	26.80

6-1163Power

Millwright 02/01/2026

JOB DESCRIPTION Millwright **DISTRICT** 6

ENTIRE COUNTIES
Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Herkimer, Madison, Seneca, Tioga, Yates

WAGES
Per hour: 07/01/2025

Building	$ 38.00
Heavy & Highway	41.50

NOTE: ADDITIONAL PREMIUMS PAID FOR THE FOLLOWING WORK LISTED BELOW (amount subject to any overtime premiums):
- Certified Welders shall receive an additional $1.75 per hour provided he/she is directed to perform certified welding.
- On Building projects, If a work site has been declared a hazardous site by the Owner and the use of protective gear (including, as a minimum, air purifying canister-type chemical respirators) are required, then that employee shall receive an additional $1.50 per hour.
- H/H work performed on hazardous waste sites where employees are required to wear protective gear shall receive an additional $2.00 per hour over the Millwright H/H rate for all hours worked on the day protective gear was worn.
- An employee performing the work of a machinist shall receive an additional $2.00 per hour. For the purposes of this premium to apply, a "machinist" is a person who uses a lathe, Bridgeport, milling machine or similar type of tool to make or modify parts.
- When performing work underground at 500 feet and below, the employee shall receive an additional $1.00 per hour.

SUPPLEMENTAL BENEFITS
Per hour:

Journeyworker	$ 26.54

OVERTIME PAY
See (B, E, E2, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE
NOTE: Any holiday that falls on Sunday shall be observed the following Monday. Any holiday that falls on a Saturday shall be observed the preceding Friday.

REGISTERED APPRENTICES
WAGES per hour: One year terms at the following percentage of Journeyworker's wage:

Appr. 1st year	65%*
Appr. 2nd year	75%*
Appr. 3rd year	80%*
Appr. 4th year	90%*

*NOTE: Additional premium for the following work listed below:

Certified Welder	$ 1.75
Hazardous Waste (Bldg)	1.50
Hazardous Waste (H/H)	2.00
Machinist	2.00
Underground (500' and below)	1.00

SUPPLEMENTAL BENEFITS per hour:

Appr. 1st year	$ 11.95
Appr. 2nd year	22.16
Appr. 3rd year	23.62
Appr. 4th year	25.08

6-1163 Zone 2

Operating Engineer - Building 02/01/2026

JOB DESCRIPTION Operating Engineer - Building **DISTRICT** 1

ENTIRE COUNTIES
Broome, Chenango, Tioga

PARTIAL COUNTIES
Dutchess: Defined as north of the northern boundary line of City of Poughkeepsie then due east to Route 115 to Bedell Road then east along Bedell Road to VanWagner Road then north along VanWagner Road to Bower Road then east along Bower Road to Rte. 44 east to Route 343 then along Route 343 east to the northern boundary of Town of Dover Plains and east along the northern boundary of Town of Dover Plains to Connecticut.

WAGES
NOTE:
--In the event that equipment listed below is operated by robotic control, the classification covering the operation will be the same as if manually operated.
--If a second employee is required by the employer for operation of any covered machine, they shall be an Engineer Class C

CLASS A1*: All cranes that require NYS crane license, tower cranes**(including self erecting), hydraulic cranes, locomotive crane, piledriver, cableway, derricks, whirlies, dragline, boom trucks, cherry pickers, overhead cranes (gantry or saddle type), truck cranes

CLASS A:
Shovel, Excavators 18,001 lbs. and above(including rubber tire full swing), Gradalls, power road grader, all CMI equipment, front-end rubber tire loader, tractor-mounted drill (quarry master), mucking machine, concrete central mix plant, concrete pump, belcrete system, automated asphalt concrete plant, and tractor road paver, boom trucks 5 tons and under, maintenance engineer, self-contained crawler drill-hydraulic rock drill, Profiler/Milling machine.

CLASS B:
Excavators 18,000 lbs. and under, Backhoes (rubber tired backhoe/loader combination), bulldozer, pushcat, tractor, traxcavator, scraper, LeTourneau grader, form fine grader, self-propelled soil compactor (fill roller), asphalt roller, blacktop spreader, power brooms, sweepers, trenching machine, Barber Green loader, side booms, hydro hammer, concrete spreader, concrete finishing machine, one drum hoist, power hoisting (single drum), hoist two drum or more, three drum engine, power hoisting (two drum and over), two drum and swinging engine, three drum swinging engine, hod hoist, A-L frame winches, core and well drillers (one drum), post hole digger, model CHB Vibro-Tamp or similar machine, batch bin and plant operator, dinky locomotive, skid steer loader, track excavator 5/8 cubic yard or smaller, front end rubber tired loader under four cubic yards, vacum machine (mounted or towed).

CLASS C:
Fork lift, high lift, all terrain fork lift: or similar, oiler, fireman and heavy-duty greaser, boilers and steam generators, pump, vibrator, motor mixer, air compressor, dust collector, welding machine, well point, mechanical heater, generators, temporary light plants, electric submersible pumps 4" and over, murphy type diesel generator, conveyor, elevators, concrete mixer, beltcrete power pack (belcrete system), seeding, and mulching machines, pumps, rotating telehandler (that does not require NYS crane license).

WAGES per hour

	07/01/2025
Class A1*	$ 51.71
Class A	$ 49.31
Class B	$ 48.85
Class C	$ 46.54

(*) TONNAGE RATING PREMIUMS:
Note: Additional value subject to same premiums as shown for OT
All cranes 1000 tons and over, A1 rate plus $7.00
All cranes 800-999 tons, A1 rate plus $6.00
All cranes 600-799 tons, A1 rate plus $5.00
All cranes 400-599 tons, A1 rate plus $4.00
All cranes 200-399 tons, A1 rate plus $3.00
All cranes 111-199 tons, A1 rate plus $2.25
All cranes 110 tons and under, A1 rate only

(**)Additional $0.50 per hr over A1 rate for Tower Cranes (no tonnage premium applies)
Additional $2.50 per hr over B rate for Nuclear Leader work.
Additional $2.50 per hour if work requires Personal Protective Equipment for hazardous waste site activities with a level C or over rating.

SUPPLEMENTAL BENEFITS
Per hour

	07/01/2025
Journeyworker	$ 32.95

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE
NOTE: All hours worked on designated holidays shall be paid a double the hourly rate of pay plus 8 hours of straight time.
NOTE: If a holiday falls on Sunday, it will be celebrated on Monday. If the holiday falls on Saturday, it will be celebrated on Friday.

REGISTERED APPRENTICES
Wages per hour

1000 hours terms at the following percentage of Journeyworker's wage Class B:

1st	2nd	3rd	4th
60%	70%	80%	90%

Supplemental Benefits per hour worked

	07/01/2025
All terms	$ 28.35

1-158 BCT

Operating Engineer - Heavy&Highway — 02/01/2026

JOB DESCRIPTION Operating Engineer - Heavy&Highway **DISTRICT** 1

ENTIRE COUNTIES
Albany, Broome, Chenango, Clinton, Columbia, Essex, Franklin, Fulton, Greene, Hamilton, Herkimer, Montgomery, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Tioga, Warren, Washington

PARTIAL COUNTIES
Dutchess: Defined as north of the northern boundary line of City of Poughkeepsie then due east to Route 115 to Bedell Road then east along Bedell Road to VanWagner Road then north along VanWagner Road to Bower Road then east along Bower Road to Rte. 44 east to Route 343 then along Route 343 east to the northern boundary of Town of Dover Plains and east along the northern boundary of Town of Dover Plains to Connecticut.

WAGES
NOTE:
-– In the event that equipment listed below is operated by robotic control, the classification covering the operation will be the same as if manually operated.
-– If a second employee is required by the employer for operation of any covered machine, they shall be an Engineer Class C

CLASSIFICATION A1*: All Cranes that require a NYS Crane License; tower cranes(including self erecting)**, hydraulic cranes, locomotive crane, piledriver, cableway, derricks, whirlies, dragline, boom trucks, cherry pickers, overhead cranes (gantry or saddle type), truck cranes

CLASSIFICATION A:
Asphalt Curb Machine (Self Propelled, Slipform), Asphalt Paver, Automated Concrete Spreader (CMI Type), Automatic Fine Grader, Backhoe (Except Tractor Mounted, Rubber Tired), Backhoe Excavator Full Swing (CAT 212 or similar type), Back Filling Machine, Belt Placer (CMI Type), Blacktop Plant (Automated), Blacktop Roller, Boom truck, GPS operated Bull Dozer, Cableway, Caisson Auger, Central Mix Concrete Plant (Automated), Concrete Curb Machine (Self Propelled, Slipform), Concrete Pump, Crane, Cherry Picker, Derricks (steel erection), Dragline, Overhead Crane (Gantry or Straddle type), Pile Driver, Truck Crane, Directional Drilling Machine, Dredge, Dual Drum Paver, Excavator (All Purpose Hydraulically Operated) (Gradall or Similar), Front End Loader (4 cu. yd. and Over), Head Tower (Sauerman or Equal), Hoist (Two or Three Drum), Holland Loader, Maintenance Engineer, Mine Hoist, Mucking Machine or Mole, PB-4 and similar type, Power Grader, Profiler/Milling Machine (over 105 H.P.), Quad 9, Quarry Master (or equivalent), Rotating Telehandler, Scraper (Including Challenger Type), Shovel, Side Boom, Slip Form Paver (If a second man is needed, he shall be an Oiler), Tractor Drawn BeltType Loader, Truck or Trailer Mounted Log Chipper (Self Feeder), Tug Operator (Manned Rented Equipment Excluded), Tunnel Shovel

CLASSIFICATION B:
Backhoe (Tractor Mounted, Rubber Tired), Bituminous Recycler Machine, Bituminous Spreader and Mixer, Blacktop Plant (Non-Automated), Blast or Rotary Drill (Truck or Tractor Mounted), Brokk, Boring Machine, Cage Hoist, Central Mix Plant [(Non-Automated) and All Concrete Batching Plants], Concrete Paver (Over 16S), Crawler Drill (Self-contained), Crusher, Diesel Power Unit, Drill Rigs, Tractor Mounted, Front End Loader (Under 4 cu. yd.), Greaseman/Lubrication Engineer, Hi Pressure Boiler (15 lbs. and over), Hoist (One Drum), Hydro-Axe, Kolman Plant Loader and Similar Type Loaders (If Employer requires another man to clean the screen or to maintain the equipment, he shall be an Oiler), L.C.M. Work Boat Operator, Locomotive, Material handling knuckle boom, Mini Excavator (under 18,000 lbs.), Mixer (for stabilized base self-propelled), Monorail Machine, Plant Engineer, Prentice Loader, Profiler/Milling Machine (105 H.P. and under), Pug Mill, Pump Crete, Ready Mix Concrete Plant, Refrigeration Equipment (for soil stabilization), Road Widener, Roller (all above subgrade), Sea Mule, Self-contained Ride-on Rock Drill(Excluding Air-Track Type Drill), Skidder, Tractor with Dozer and/or Pusher, Trencher, Tugger Hoist, Vacum machine (mounted or towed), Vermeer saw (ride on, any size or type), Welder, Winch, Winch Cat

CLASSIFICATION C:

A Frame Winch Hoist on Truck, Articulated Heavy Hauler, Aggregate Plant, Asphalt or Concrete Grooving Machine (ride on), Ballast Regulator(Ride-on), Boiler (used in conjunction with production), Bituminous Heater (self-propelled), Boat (powered), Cement and Bin Operator, Concrete Pavement Spreader and Finisher Concrete Paver or Mixer (16' and under), Concrete Saw (self-propelled), Conveyor, Deck Hand, Directional Drill Machine Locator, Drill (Core and Well), Farm Tractor with accessories, Fine Grade Machine, Fireman, Fork Lift, Form Tamper, Grout Pump, Gunite Machine, Hammers (Hydraulic self-propelled), Hydra-Spiker (ride-on), Hydraulic Pump (jacking system), Hydro-Blaster (Water), Mulching Machine, Oiler, Parapet Concrete or Pavement Grinder, Post Hole Digger and Post Driver, Power Broom (towed), Power Heaterman, Power Sweeper, Revinius Widener, Roller (Grade and Fill), Scarifier (ride-on), Shell Winder, Skid steer loader (Bobcat or similar; including all attachments), Span-Saw (ride-on), Steam Cleaner, Tamper (ride-on), Tie Extractor (ride-on), Tie Handler (ride-on), Tie Inserter (ride-on), Tie Spacer (ride-on), Tire Repair, Track Liner (ride-on), Tractor, Tractor (with towed accessories), Vibratory Compactor, Vibro Tamp, Well Point, and the following hands-off equipment: Compressors, Dust Collectors, Generators, Pumps, Welding Machines, Light Plants and Heaters

WAGES per hour

	07/01/2025
Class A1*	$ 60.30
Class A	57.30
Class B	56.39
Class C	53.82

(*) TONNAGE RATING PREMIUMS:
Cranes over 1000 tons, A1 rate plus $7.00
Cranes from 800-999 tons, A1 rate plus $6.00
Cranes from 600-799 tons, A1 rate plus $5.00
Cranes from 400-599 tons, A1 rate plus $4.00
Cranes from 200-399 tons, A1 rate plus $3.00
Cranes from 111-199 tons, A1 rate plus $2.00
Cranes from 65-110 tons, A1 rate plus $1.50
Cranes from 0-64 Tons, A1 rate only
NOTE: Additional value subject to same premiums as shown for OT

(**) Tower Cranes, A1 rate plus $3.00 (no tonnage premiums apply)
-- Cranes in Luffer Configuration, A1 rate plus $5.00
-- Cranes with external ballast (tray or wagon), A1 rate plus $5.00
NOTE: Additional value subject to same premiums as shown for OT

Additional $2.50 per hr. for hazardous waste removal work on State and/or Federally designated waste site which require employees to wear Level C or above forms of personal protection.

SHIFT WORK
Additional $2.50 per hour for All Employees who work a single irregular work shift, of at least 5 consecutive days, starting from 5:00 PM to 1:00 AM that is mandated by the Contracting Agency.

SUPPLEMENTAL BENEFITS
Per hour

	07/01/2025
Journeyworker	$ 33.70

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (5, 6) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE
Note: If the holiday falls on Sunday, it will be observed on Monday. If the observed Monday Holiday is worked, pay shall be double time plus Holiday pay for time worked. If the Holiday falls on a Saturday and is worked pay shall be double time plus Holiday pay for time worked. If the Holiday falls on a Saturday employer can choose to observe the paid holiday Saturday or give Friday off with holiday pay.

REGISTERED APPRENTICES
Wages per hour

1000 hours terms at the following percentage of Journeyworker's wage Class B

1st	2nd	3rd	4th
60%	70%	80%	90%

Supplemental Benefits per hour worked

	07/01/2025
All Terms	$ 28.30

1-158H/H Alb

Operating Engineer - Survey Crew — 02/01/2026

JOB DESCRIPTION Operating Engineer - Survey Crew **DISTRICT** 12

ENTIRE COUNTIES
Albany, Allegany, Broome, Cayuga, Chemung, Chenango, Clinton, Columbia, Cortland, Essex, Franklin, Fulton, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Oneida, Onondaga, Ontario, Oswego, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Tioga, Tompkins, Warren, Washington, Wayne, Yates

PARTIAL COUNTIES
Dutchess: The northern portion of the county from the northern boundary line of the City of Poughkeepsie, north.
Genesee: Only the portion of the county that lies east of a line down the center of Route 98 to include all area that lies within the City of Batavia.

WAGES
These rates apply to Building, Tunnel and Heavy Highway.

Per hour:
SURVEY CLASSIFICATIONS:

Party Chief - One who directs a survey party.
Instrument Person - One who operates the surveying instruments.
Rod Person - One who holds the rods and assists the Instrument Person.

	07/01/2025
Party Chief	$ 52.91
Instrument Person	48.67
Rod Person	36.29
Additional $3.00/hr. for Tunnel Work	
Additional $2.50/hr. for Hazardous Work Site	

SUPPLEMENTAL BENEFITS
Per hour worked:

Journeyman	$ 30.10

OVERTIME PAY
See (B, E, P, *X) on OVERTIME PAGE
*Note: $25.10/Hr. Only for "ALL" premium hours paid when worked.

HOLIDAY
Paid: See (5, 6) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES
WAGES: 1000 hour terms based on the Percentage of Rod Persons Wage:

	07/01/2025
0-1000	60%
1001-2000	70%
2001-3000	80%

SUPPLEMENTAL BENEFIT per hour worked:

0-1000	$ 21.88 / PHP $18.03
1001-2000	24.90 / " 20.45
2001-3000	27.93/ " 22.93

NOTE: PHP is premium hours paid when worked.

12-158-545 D.H.H.

Operating Engineer - Survey Crew - Consulting Engineer — 02/01/2026

JOB DESCRIPTION Operating Engineer - Survey Crew - Consulting Engineer **DISTRICT** 12

ENTIRE COUNTIES
Albany, Allegany, Broome, Cayuga, Chemung, Chenango, Clinton, Columbia, Cortland, Essex, Franklin, Fulton, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Oneida, Onondaga, Ontario, Oswego, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Tioga, Tompkins, Warren, Washington, Wayne, Yates

PARTIAL COUNTIES
Dutchess: The northern portion of the county from the northern boundary line of the City of Poughkeepsie, north.

Genesee: Only the portion of the county that lies east of a line down the center of Route 98 to include all area that lies within the City of Batavia.

WAGES

These rates apply to feasibility and preliminary design surveying, line and grade surveying for inspection or supervision of construction when performed under a Consulting Engineer Agreement.

Per hour:
SURVEY CLASSIFICATIONS:

Party Chief - One who directs a survey party.
Instrument Person - One who operates the surveying instruments.
Rod Person - One who holds the rods and assists the Instrument Person.

	07/01/2025
Party Chief	$ 52.91
Instrument Person	48.67
Rod Person	36.29

Additional $3.00/hr. for Tunnel Work.
Additional $2.50/hr. for EPA or DEC certified toxic or hazardous waste work.

SUPPLEMENTAL BENEFITS

Per hour worked:

Journeyman	$ 30.10

OVERTIME PAY

See (B, E, Q, *X) on OVERTIME PAGE
*Note: $25.10/Hr. Only for "ALL" premium hours paid when worked.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

WAGES: 1000 hour terms based on percentage of Rod Persons Wage:

	07/01/2025
0-1000	60%
1001-2000	70%
2001-3000	80%

SUPPLEMENTAL BENEFIT per hour worked:

0-1000	$ 21.88 / PHP $18.03
1001-2000	$ 24.90 / " 20.45
2001-3000	$ 27.93 / " 22.93

NOTE: PHP is premium hours paid when worked.

12-158-545 DCE

Operating Engineer - Tunnel — 02/01/2026

JOB DESCRIPTION Operating Engineer - Tunnel **DISTRICT** 7

ENTIRE COUNTIES

Albany, Allegany, Broome, Cayuga, Chemung, Chenango, Clinton, Columbia, Cortland, Essex, Franklin, Fulton, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Oneida, Onondaga, Ontario, Oswego, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Tioga, Tompkins, Warren, Washington, Wayne, Yates

PARTIAL COUNTIES

Dutchess: Northern part of Dutchess, to the northern boundary line of the City of Poughkeepie, then due east to Route 115 to Bedell Road, then east along Bedell Road to VanWagner Road, then north along VanWagner Road to Bower Road, then east along Bower Road to Rte. 44 east to Rte. 343, then along Rte. 343 east to the northern boundary of the Town of Dover Plains and east along the northern boundary of the Town of Dover Plains, to the borderline of the State of Connecticut.
Genesee: Only that portion of the county that lies east of a line drawn down the center of Route 98 and the entirety of the City of Batavia.

WAGES

CLASS A: Automatic Concrete Spreader (CMI Type); Automatic Fine Grader; Backhoe (except tractor mounted, rubber tired); Belt Placer (CMI Type); Blacktop Plant (automated); Cableway; Caisson Auger; Central Mix Concrete Plant (automated); Concrete Curb Machine (self-propelled slipform); Concrete Pump (8" or over); Dredge; Dual Drum Paver; Excavator; Front End Loader (4 cu. yd & over); Gradall; Head Tower (Sauerman or Equal); Hoist (shaft); Hoist (two or three Drum); Log Chipper/Loader (self-feeder); Maintenance Engineer (shaft and tunnel); any Mechanical Shaft Drill; Mine Hoist; Mining Machine(Mole and similar types); Mucking Machine or Mole; Overhead Crane (Gantry or Straddle Type); Pile Driver; Power Grader; Remote Controlled Mole or Tunnel Machine; Scraper; Shovel; Side Boom; Slip Form Paver (If a second man is needed, they shall be an Oiler); Tripper/Maintenance Engineer (shaft & tunnel); Tractor Drawn Belt-Type Loader; Tug Operator (manned rented equipment excluded); Tunnel Shovel.

CLASS B: Automated Central Mix Concrete Plant; Backhoe (topside); Backhoe (track mounted, rubber tired); Backhoe (topside); Bituminous Spreader and Mixer, Blacktop Plant (non-automated); Blast or Rotary Drill (truck or tractor mounted); Boring Machine; Cage Hoist; Central Mix Plant(non-automated); all Concrete Batching Plants; Compressors (4 or less exceeding 2,000 c.f.m. combined capacity); Concrete Pump; Crusher; Diesel Power Unit; Drill Rigs (tractor mounted); Front End Loader (under 4 cu. yd.); Grayco Epoxy Machine; Hoist (One Drum); Hoist (2 or 3 drum topside); Knuckle Boom material handler; Kolman Plant Loader & similar type Loaders (if employer requires another person to clean the screen or to maintain the equipment, they shall be an Oiler); L.C.M. Work Boat Operator; Locomotive; Maintenance Engineer (topside); Maintenance Grease Man; Mixer (for stabilized base-self-propelled); Monorail Machine; Plant Engineer; Personnel Hoist; Pump Crete; Ready Mix Concrete Plant; Refrigeration Equipment (for soil stabilization); Road Widener; Roller (all above sub-grade); Sea Mule; Shotcrete Machine; Shovel (topside); Tractor with Dozer and/or Pusher; Trencher; Tugger Hoist; Tunnel Locomotive; Vacuum Machine (mounted or towed); Welder; Winch; Winch Cat.

CLASS C: A Frame Truck; All Terrain Telescoping Material Handler; Ballast Regulator (ride-on); Compressors (4 not to exceed 2,000 c.f.m. combined capacity; or 3 or less with more than 1200 c.f.m. but not to exceed 2,000 c.f.m.); Compressors ((any size, but subject to other provisions for compressors), Dust Collectors, Generators, Pumps, Welding Machines, Light Plants (4 or any type combination)); Concrete Pavement Spreaders and Finishers; Conveyor; Drill (core); Drill (well); Electric Pump used in conjunction with Well Point System; Farm Tractor with Accessories; Fine Grade Machine; Fork Lift; Grout Pump (over 5 cu. ft.); Gunite Machine; Hammers (hydraulic-self-propelled); Hydra-Spiker (ride-on); Hydra-Blaster (water); Hydro-Blaster; Motorized Form Carrier; Post Hole Digger and Post Driver; Power Sweeper; Roller grade & fill); Scarifer (ride-on); Span-Saw (ride-on); Submersible Electric Pump (when used in lieu of well points); Tamper (ride-on); Tie-Extractor (ride-on), Tie Handler (ride-on), Tie Inserter (ride-on), Tie Spacer (ride-on); Track Liner (ride-on); Tractor with towed accessories; Vibratory Compactor; Vibro Tamp, Well Point.

CLASS D: Aggregate Plant; Cement & Bin Operator; Compressors (3 or less not to exceed 1,200 c.f.m. combined capacity); Compressors ((any size, but subject to other provisions for compressors), Dust Collectors, Generators, Pumps, Welding Machines, Light Plants (3 or less or any type or combination)); Concrete Saw (self-propelled); Form Tamper; Greaseman; Hydraulic Pump (jacking system); Junior Engineer; Light Plants; Mulching Machine; Oiler; Parapet Concrete or Pavement Grinder; Power Broom (towed); Power Heaterman (when used for production); Revinius Widener; Shell Winder; Steam Cleaner; Tractor.

Per hour:	07/01/2025
CLASS A	$ 58.44
CLASS B	57.22
CLASS C	54.43
CLASS D	51.42

Additional $5.00 per hour for Hazardous Waste Work on a state or federally designated hazardous waste site where the Operating Engineer is in direct contact with hazardous material and when personal protective equipment is required for respiratory, skin and eye protection.

CRANES:
Crane 1: All cranes, including self-erecting.
Crane 2: All Lattice Boom Cranes and all cranes with a manufacturer's rating of fifty (50) ton and over.
Crane 3: All hydraulic cranes and derricks with a manufacturer's rating of forty nine (49) ton and below, including boom trucks.

Crane 1	$ 62.44
Crane 2	61.44
Crane 3	60.44

SUPPLEMENTAL BENEFITS

Per hour:

$ 25.90
+ 10.10*

* This portion of the benefits subject to SAME PREMIUM as shown for overtime wages.

OVERTIME PAY

See (B, B2, E, Q, X) on OVERTIME PAGE

HOLIDAY

Paid: See (5, 6) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE
NOTE: If a holiday falls on Sunday, it shall be observed on Monday.

REGISTERED APPRENTICES
WAGES:(1000) hours terms at the following percentage of Journeyworker's Class B wage.

1st term	60%
2nd term	65%
3rd term	70%
4th term	75%

SUPPLEMENTAL BENEFITS per hour: Same as Journeyworker

7-158-832TL.

Painter 02/01/2026

JOB DESCRIPTION Painter **DISTRICT** 2

ENTIRE COUNTIES
Broome, Chenango, Tioga

WAGES
Per hour:

	07/01/2025	05/01/2026 Additional
Painter	$ 28.20	$ 1.85*
Taper, Paperhangers, and Vinyl hangers	29.61	1.90*

*To be allocated at a later date.

ADDITIONAL AMOUNTS FOR SPECIFIC TYPES OF JOBSITE CONDITIONS (amount subject to any overtime premiums):
- Additional $ 1.10 per hour for Brush and Roll Epoxy (Solvent Base Only)
- Additional $ 0.60 per hour for Swing Scaffold, Boatswain chair, Spray helper, Steam cleaning acid and high pressure water, Power grinders with respirator
- Additional $ 0.60 per hour for Structural steel (buildings) defined as new or old construction where ceilings, walls or the steel itself is to be painted from open trusses which require climbing or crawling without the support of solid scaffolding or scaffolding starting at the floor or ground level.
- Additional $ 1.00 per hour for Spray Painting
- Additional $ 1.00 per hour for Steeple Jack (Over 100 feet)
- Additional $ 1.50 per hour for Spray Epoxy (Solvent Based)
- Additional $ 0.90 per hour for Sandblasting

NOTE - SEE BRIDGE PAINTER RATES FOR BRIDGES & TANKS

SUPPLEMENTAL BENEFITS
Per hour:
Journeyworker $ 24.98

OVERTIME PAY
See (B, E2, F, R) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE
A Holiday that falls on a Sunday will be celebrated on Monday, a holiday that falls on a Saturday will be celebrated on Friday.

REGISTERED APPRENTICES
WAGES:

Painter: 750 hour terms at the Painter Apprentice wage rate:

1st	2nd	3rd	4th	5th	6th	7th	8th
$ 18.00	$ 19.00	$ 20.00	$ 21.00	$ 22.00	$ 23.00	$ 24.00	$ 25.00

Taper: 750 hour terms at the following Journeyworker Taper Apprentice wage rate:

1st	2nd	3rd	4th	5th	6th
$ 20.00	$ 21.00	$ 22.00	$ 23.00	$ 24.00	$ 25.00

ADDITIONAL AMOUNTS FOR SPECIFIC TYPES OF JOBSITE CONDITIONS (amount subject to any overtime premiums):
- Additional $ 1.10 per hour for Brush and Roll Epoxy (Solvent Base Only)
- Additional $ 0.60 per hour for Swing Scaffold, Boatswain chair, Spray helper, Steam cleaning acid and high pressure water, Power grinders with respirator

- Additional $ 0.60 per hour for Structural steel (buildings) defined as new or old construction where ceilings, walls or the steel itself is to be painted from open trusses which require climbing or crawling without the support of solid scaffolding or scaffolding starting at the floor or ground level.
- Additional $ 1.00 per hour for Spray Painting
- Additional $ 1.00 per hour for Steeple Jack (Over 100 feet)
- Additional $ 1.50 per hour for Spray Epoxy (Solvent Based)
- Additional $ 0.90 per hour for Sandblasting

SUPPLEMENTAL BENEFITS per hour:
Painter/Decorator:

1st	2nd	3rd	4th	5th	6th	7th	8th
$ 6.00	$ 7.00	$ 8.00	$ 9.10	$ 11.00	$ 11.00	$ 13.00	$ 14.00

Taper/Drywall Finisher:

1st	2nd	3rd	4th	5th	6th
$ 6.00	$ 7.00	$ 8.00	$ 10.00	$ 13.00	$ 14.00

2-178 B

Painter 02/01/2026

JOB DESCRIPTION Painter **DISTRICT** 3

ENTIRE COUNTIES
Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Cortland, Delaware, Erie, Genesee, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Niagara, Oneida, Onondaga, Ontario, Orleans, Oswego, Otsego, Schuyler, Seneca, St. Lawrence, Steuben, Tioga, Tompkins, Wayne, Wyoming, Yates

WAGES

Per hour:	07/01/2025	05/01/2026 Additional
Bridge	$ 46.19	$ 2.50
Tunnel	46.19	
Tank*	44.19	

For Bridge Painting Contracts, ALL WORKERS on and off the bridge (including Flagmen) are to be paid Painter's Rate; the contract must be ONLY for Bridge Painting.

*Tank rate applies to indoor and outdoor tanks, tank towers, standpipes, digesters, waste water treatment tanks, chlorinator tanks, etc. Covers all types of tanks including but not limited to steel tanks, concrete tanks, fiberglass tanks, etc.

SHIFT WORK
Note an additional $1.50 per hour is required when the contracting agency or project specification requires any shift to start prior to 6:00am or after 12:00 noon.

SUPPLEMENTAL BENEFITS
Per hour:
$ 31.51

OVERTIME PAY
Exterior work only See (B, E2, E4, F, R) on OVERTIME PAGE.
All other work See (B, F, R) on OVERTIME PAGE.

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES
Wages per hour:

750 hour terms at the following wage:

1st	2nd	3rd	4th	5th	6th
$ 24.00	$ 26.00	$ 28.00	$ 30.00	$ 34.00	$ 38.00

Supplemental benefits per hour:

1st	2nd	3rd	4th	5th	6th
$ 6.60	$ 6.95	$ 7.30	$ 7.65	$ 8.00	$ 8.35

3-4-Bridge, Tunnel, Tank

Painter - Metal Polisher 02/01/2026

JOB DESCRIPTION Painter - Metal Polisher **DISTRICT** 8

ENTIRE COUNTIES
Albany, Allegany, Bronx, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Kings, Lewis, Livingston, Madison, Monroe, Montgomery, Nassau, New York, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Queens, Rensselaer, Richmond, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Suffolk, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Westchester, Wyoming, Yates

WAGES

	07/01/2025
Metal Polisher	$ 40.33
Metal Polisher*	41.43
Metal Polisher**	44.33

*Note: Applies on New Construction & complete renovation
** Note: Applies when working on scaffolds over 34 feet.

SUPPLEMENTAL BENEFITS

Per Hour:	07/01/2025
Journeyworker:	
All classification	$ 13.44

OVERTIME PAY
See (B, E, P, T) on OVERTIME PAGE

HOLIDAY
Paid: See (5, 6, 11, 15, 16, 25, 26) on HOLIDAY PAGE
Overtime: See (5, 6, 11, 15, 16, 25, 26) on HOLIDAY PAGE

REGISTERED APPRENTICES
Wages per hour:
One (1) year term at the following wage rates:

	07/01/2025
1st year	$ 20.17
2nd year	22.18
3rd year	24.20
1st year*	$ 20.56
2nd year*	22.62
3rd year*	24.74
1st year**	$ 22.67
2nd year**	24.68
3rd year**	26.70

*Note: Applies on New Construction & complete renovation
** Note: Applies when working on scaffolds over 34 feet.

Supplemental benefits:
Per hour:

1st year	$ 8.94
2nd year	8.94
3rd year	8.94

8-8A/28A-MP

Plumber — 02/01/2026

JOB DESCRIPTION Plumber **DISTRICT** 2

ENTIRE COUNTIES
Broome, Chenango

PARTIAL COUNTIES
Cortland: Only the Township of Marathon.
Delaware: Only the Townships of Andes, Bovina, Colchester, Davenport, Delhi, Deposit, Franklin, Hamden, Hancock, Harpersfield, Kortright, Masonville, Meredith, Sidney, Stamford, Tompkins and Walton.
Madison: Only the Township of Georgetown.
Otsego: Only the Townships of Burlington, Butternuts, Decatur, Edmeston, Hartwick, Laurens, Maryland, Milford, Morris, New Lisbon, Oneonta, Otego, Pittsfield, Unadilla, Westford and Worchester.
Tioga: Only the Townships of Newark Valley and Owego.

WAGES

Per hour:	07/01/2025	05/01/2026 Additional
Plumber	$ 44.91	$ 3.45*
Steamfitter	44.91	3.45*

*To be allocated at a later date

SHIFT WORK
Agency-mandated shift operations:

1. Shift work shall start no earlier than 6AM Monday and will conclude no later than 9AM Saturday (overtime premiums applicable after 8 hours in a shift).

2. Single irregular shiftwork, less than 3 consecutive days will be paid at the rate of time and one-half of the regular hourly rate.

3. 3 consecutive work days or more:
First Shift - No Premium (Starting 6AM-9AM)
Second Shift - Regular hourly rate plus 12%
Third Shift - Regular hourly rate plus 18%

SUPPLEMENTAL BENEFITS
Per hour:

Journeyworker	$ 15.15
	+18.21*

*This portion of the benefit is subject to the SAME PREMIUM as shown for overtime on projects over $100 million in total construction costs (including engineering & architecture).

OVERTIME PAY
See (B, E, Q, *V) on OVERTIME PAGE
*portion of supplemental benefits subject to V code when project cost is over $100 million (including engineering & architecture).

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE
When a Holiday falls on Sunday, it will be celebrated the following day. If the holiday falls on a Saturday, it will be observed that day unless so determined by the Federal Government to be celebrated on a different day.

REGISTERED APPRENTICES
WAGES: One year terms at the following percentage of Journeyworker's wage.

1st.	2nd.	3rd.	4th.	5th.
50%	55%	60%	70%	85%

SUPPLEMENTAL BENEFITS per hour:

1st term	$ 15.15
	+8.92*
All other terms	$ 15.15
	+14.21*

*This portion of the benefit is subject to the SAME PREMIUM as shown for overtime on projects over $100 million in total construction costs (including engineering & architecture).

2-112s-SF

Roofer — 02/01/2026

JOB DESCRIPTION Roofer **DISTRICT** 2

ENTIRE COUNTIES
Broome, Chemung, Chenango, Delaware, Otsego, Schoharie, Schuyler, Steuben, Tioga, Tompkins

WAGES

Per hour:	07/01/2025
Roofer, Waterproofer	$ 30.33
	+ 1.02*

*This amount is paid for all hours worked, whether regular or premium hours.

NOTE ADDITIONAL PREMIUMS PAID FOR THE FOLLOWING WORK LISTED BELOW (amount not subject to overtime premiums):
- On days where more than one shift is worked on the job, the hours worked after 4:30 PM and before 6:30 AM will be paid an additional $1.90 per hour premium. This premium is not for use in emergency repair situations.
- Premium of $1.25 per hour will be paid for the application, rip-off or handling of pitch products. The premium will be paid for pitch that is showing, covered or buried on the roof.
- Premium of $1.25 per hour will be paid for asbestos abatement requiring a half face respirator.

SUPPLEMENTAL BENEFITS
Per hour:

Journeyworker	$ 23.99

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES
Wages:

Hours per term	
0-667 Hrs.	$ 21.24 + 0.71*
668-1335 Hrs.	22.76 + 0.76*
1336-2002 Hrs.	24.27 + 0.81*
2003-2669 Hrs.	25.79 + 0.86*
2670-3336 Hrs.	27.30 + 0.92*
3337-4000 Hrs.	28.82 + 0.97*

*This amount is paid for all hours worked, whether regular or premium hours.

NOTE ADDITIONAL PREMIUMS PAID FOR THE FOLLOWING WORK LISTED BELOW (amount not subject to overtime premiums):
- On days where more than one shift is worked on the job, the hours worked after 4:30 PM and before 6:30 AM will be paid an additional $1.90 per hour premium. This premium is not for use in emergency repair situations.
- Premium of $1.25 per hour will be paid for the application, rip-off or handling of pitch products. The premium will be paid for pitch that is showing, covered or buried on the roof.
- Premium of $1.25 per hour will be paid for asbestos abatement requiring a half face respirator.

Supplemental Benefits:

0-667 Hrs.	$ 19.93
668-1335 Hrs.	20.62
1336-2002 Hrs.	21.29
2003-2669 Hrs.	21.96
2670-3336 Hrs.	22.65
3337-4000 Hrs.	23.32

2-203elmi

Sheetmetal Worker — 02/01/2026

JOB DESCRIPTION Sheetmetal Worker **DISTRICT** 2

ENTIRE COUNTIES
Allegany, Broome, Chemung, Delaware, Otsego, Schuyler, Steuben, Tioga, Tompkins

WAGES
Per hour:

	07/01/2025	05/01/2026 Additional	05/01/2027 Additional
Sheetmetal Worker	$ 39.74 + 0.99*	$ 4.00**	$ 4.00**

NOTE: Ten cents ($0.10) per hour additional premium to be paid when working polyresin fiberglass.
*Amount is paid for every hour worked (amount not subject to overtime premium)
**To be allocated at a later date

SUPPLEMENTAL BENEFITS
Per hour:

Journeyworker:	$ 22.41

OVERTIME PAY
See (*B1, Q) on OVERTIME PAGE

*On Saturday, time and one half of the hourly rate for the first ten (10) hours, then two (2) times the hourly wage rate for all hours after ten (10) hours worked.

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE
Note: Holidays are observed on the Holiday, not on the day that it is locally observed.

REGISTERED APPRENTICES
WAGES per hour:
Indentured after 05/01/2025 (1-year Terms):

1st	2nd	3rd	4th	5th
$ 23.84	$ 25.83	$ 27.82	$ 31.79	$ 33.78
+0.60*	+0.65*	+0.70*	+0.79*	+0.84*

Indentured prior to 05/01/2025 (Half Year Terms):

1st	2nd	3rd	4th	5th	6th	7th	8th
$ 23.84	$ 23.84	$ 25.83	$ 27.82	$ 29.81	$ 31.79	$ 33.78	$ 35.77
+0.60*	+0.60*	+0.65*	+0.70*	+0.75*	+0.79*	+0.84*	+0.89*

*Amount is paid for every hour worked (amount not subject to overtime premium)

SUPPLEMENTAL BENEFITS per hour:
Indentured after 05/01/2025:

1st	2nd	3rd	4th	5th
$ 2.12	$ 18.64	$ 18.72	$ 18.88	$ 22.17

Indentured prior to 05/01/2025:

1st	2nd	3rd	4th	5th	6th	7th	8th
$ 2.12	$ 2.12	$ 18.64	$ 18.72	$ 18.80	$ 18.88	$ 18.97	$ 19.05

2-112

Sprinkler Fitter — 02/01/2026

JOB DESCRIPTION Sprinkler Fitter **DISTRICT** 1

ENTIRE COUNTIES
Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orleans, Oswego, Otsego, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Tioga, Tompkins, Washington, Wayne, Wyoming, Yates

WAGES
Per hour 07/01/2025

Sprinkler Fitter $ 45.06

SUPPLEMENTAL BENEFITS
Per hour

Journeyworker $ 29.41

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE
Note: When a holiday falls on Sunday, the following Monday shall be considered a holiday and all work performed on either day shall be at the double time rate. When a holiday falls on Saturday, the preceding Friday shall be considered a holiday and all work performed on either day shall be at the double time rate.

REGISTERED APPRENTICES
Wages per hour

One Half Year terms at the following wage.

1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
$ 23.28	$ 25.98	$ 28.15	$ 30.31	$ 31.94	$ 34.64	$ 36.81	$ 38.97	$ 41.14	$ 43.30

Supplemental Benefits per hour

1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
$ 9.57	$ 9.57	$ 21.49	$ 21.49	$ 21.74	$ 21.74	$ 21.74	$ 21.74	$ 21.74	$ 21.74

1-669

Teamster - Building 02/01/2026

JOB DESCRIPTION Teamster - Building **DISTRICT** 6

ENTIRE COUNTIES
Broome, Cayuga, Cortland, Delaware, Onondaga, Seneca, Tompkins, Yates

PARTIAL COUNTIES
Allegany: Only the Townships of Alfred, Almond, Burns.
Chenango: Only the Townships of Afton, Bainbridge, Coventry, Greene, Guilford, Oxford and Smithville.
Madison: Only the Townships of Cazenovia, DeRuyter, Fenner, Georgetown, Lenox, Nelson and Sullivan.
Oswego: All Townships except Boylston, Redfield and Sandy Creek.
Otsego: Only the Townships of Butternuts, Laurens, Maryland, Millford, Morris, Oneonta, Otego, Unadilla, and Worchester.
Steuben: Only the Townships of Canisteo, Cohoctan, Dansville, Fremont, Greenwood, Hornell, Hartsville, Jasper, Prattsburg, Troupsburg, and West Union.
Tioga: Only the Townships of Berkshire, Candor, Newark Valley, Nichols, Owego, Richford, and Tioga. All territory east of Nichols/Smithboro to Broome County, within the State of New York.

WAGES
GROUP A: Straight Trucks.
GROUP B: Tractor Trailer, Farm Tractor, Fuel Truck.
GROUP C: Euclid.
GROUP D: On site Mechanic.

Per hour:	07/01/2025
Building: (under $ 5 million*)	
GROUP A, B, C, D	$ 34.43
Building: (over $ 5 million*)	
GROUP A, B	$ 35.48
GROUP C	35.83
GROUP D	35.63

* Total project cost including General Construction, Plumbing, HVAC and Electrical

SUPPLEMENTAL BENEFITS
Per hour:

(under $5 million*)	$ 30.87
(over $5 million*)	31.67

* Total project cost including General Construction, Plumbing, HVAC and Electrical

OVERTIME PAY
(D, O) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

6-317

Teamster - Heavy&Highway 02/01/2026

JOB DESCRIPTION Teamster - Heavy&Highway **DISTRICT** 2

ENTIRE COUNTIES
Broome, Delaware

PARTIAL COUNTIES
Chenango: Only the Townships of Smithville, Greene, Coventry, Oxford, Afton, Bainbridge and Guilford.
Otsego: Only the Townships of Butternuts, Laurens, Maryland, Milford, Morris, Oneonta, Otego, Unadilla and Worchester.
Tioga: Only the Townships of Nichols, Tioga, Candor, Richford, Berkshire, Newark Valley and Owego.

WAGES
Per hour:

GROUP #1: Warehousemen, Yardmen, Truck Helpers, Pickups, Panel Trucks, Flatboy Material Trucks (straight jobs), Single Axle Dump Trucks, Dumpsters, Material Checkers and Receivers, Greasers, Truck Tiremen, Mechanic Helpers and Parts Chasers, Tandems and Batch Trucks, Mechanics, Dispatcher. Semi-Trailers, Low-boy Trucks, Asphalt Distributor Trucks, Agitator, Mixer Trucks and Dumpcrete type vehicles, Truck Mechanic.

GROUP #2: Specialized Earth Moving Equipment-Euclid type or similar off-highway where not self-loading. Straddle (Ross) Carrier, and self-contained concrete mobile truck. Off-highway Tandem Back-Dump, Twin Engine Equipment and Double-Hitched Equipment where not self-loading.

GROUP #3: Fuel Truck that requires a HazMat license endorsement.

	07/01/2025	07/01/2026	07/01/2027
Group #1	$ 36.63	$ 39.98	$ 43.64
Group #2	36.72	40.07	43.73
Group #3	41.63	44.98	48.64

NOTES
- An additional $1.50 per hour shall be paid to an employee who performs hazardous waste removal work on a City, County, State and/or Federally designated waste site where employee is required to use or wear personal protective equipment.

SHIFT WORK
- A single irregular work shift can start any time between 5:00pm and 1:00am. All employees who work a single irregular shift on governmental mandated night work shall be paid an additional $5.00 per hour (applicable on projects bid on or after 07/01/2020).

SUPPLEMENTAL BENEFITS
Per hour paid:

$ 28.20	$ 28.85	$ 29.69

OVERTIME PAY
See (B, E, Q, X) on OVERTIME PAGE

HOLIDAY
Paid: See (5, 6) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE
If a holiday falls on Sunday, it will be celebrated Monday.
Any employee laid off within the week in which a holiday falls shall receive holiday pay.

2-317(Bing)

Welder — 02/01/2026

JOB DESCRIPTION Welder **DISTRICT** 1

ENTIRE COUNTIES
Albany, Allegany, Bronx, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Kings, Lewis, Livingston, Madison, Monroe, Montgomery, Nassau, New York, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Queens, Rensselaer, Richmond, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Suffolk, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Westchester, Wyoming, Yates

WAGES
Per hour 07/01/2025

Welder: To be paid the same rate of the mechanic performing the work.*

*EXCEPTION: If a specific welder certification is required, then the 'Certified Welder' rate in that trade tag will be paid.

OVERTIME PAY

HOLIDAY

1-As Per Trade

Overtime Codes

Following is an explanation of the code(s) listed in the OVERTIME section of each classification contained in the attached schedule. Additional requirements may also be listed in the HOLIDAY section.

NOTE: Supplemental Benefits are 'Per hour worked' (for each hour worked) unless otherwise noted

(AA)	Time and one half of the hourly rate after 7 and one half hours per day
(A)	Time and one half of the hourly rate after 7 hours per day
(B)	Time and one half of the hourly rate after 8 hours per day
(B1)	Time and one half of the hourly rate for the 9th & 10th hours week days and the 1st 8 hours on Saturday. Double the hourly rate for all additional hours
(B2)	Time and one half of the hourly rate after 40 hours per week
(B3)	Time and one half of the hourly rate after 40 straight hours per week
(C)	Double the hourly rate after 7 hours per day
(C1)	Double the hourly rate after 7 and one half hours per day
(D)	Double the hourly rate after 8 hours per day
(D1)	Double the hourly rate after 9 hours per day
(E)	Time and one half of the hourly rate on Saturday
(E1)	Time and one half 1st 4 hours on Saturday; Double the hourly rate all additional Saturday hours
(E2)	Saturday may be used as a make-up day at straight time when a day is lost during that week due to inclement weather
(E3)	Between November 1st and March 3rd Saturday may be used as a make-up day at straight time when a day is lost during that week due to inclement weather, provided a given employee has worked between 16 and 32 hours that week
(E4)	Sunday may be used as a make-up day at straight time when a day is lost during that week due to inclement weather
(E5)	Double time after 8 hours on Saturdays
(F)	Time and one half of the hourly rate on Saturday and Sunday
(G)	Time and one half of the hourly rate on Saturday and Holidays
(H)	Time and one half of the hourly rate on Saturday, Sunday, and Holidays
(I)	Time and one half of the hourly rate on Sunday
(J)	Time and one half of the hourly rate on Sunday and Holidays
(K)	Time and one half of the hourly rate on Holidays
(L)	Double the hourly rate on Saturday
(M)	Double the hourly rate on Saturday and Sunday
(N)	Double the hourly rate on Saturday and Holidays
(O)	Double the hourly rate on Saturday, Sunday, and Holidays
(P)	Double the hourly rate on Sunday
(Q)	Double the hourly rate on Sunday and Holidays
(R)	Double the hourly rate on Holidays

(S)	Two and one half times the hourly rate for Holidays
(S1)	Two and one half times the hourly rate the first 8 hours on Sunday or Holidays One and one half times the hourly rate all additional hours.
(T)	Triple the hourly rate for Holidays
(U)	Four times the hourly rate for Holidays
(V)	Including benefits at SAME PREMIUM as shown for overtime
(W)	Time and one half for benefits on all overtime hours.
(X)	Benefits payable on Paid Holiday at straight time. If worked, additional benefit amount will be required for worked hours. (Refer to other codes listed.)

Holiday Codes

PAID Holidays:

Paid Holidays are days for which an eligible employee receives a regular day's pay, but is not required to perform work. If an employee works on a day listed as a paid holiday, this remuneration is in addition to payment of the required prevailing rate for the work actually performed.

OVERTIME Holiday Pay:

Overtime holiday pay is the premium pay that is required for work performed on specified holidays. It is only required where the employee actually performs work on such holidays. The applicable holidays are listed under HOLIDAYS: OVERTIME. The required rate of pay for these covered holidays can be found in the OVERTIME PAY section listings for each classification.

Following is an explanation of the code(s) listed in the HOLIDAY section of each classification contained in the attached schedule. The Holidays as listed below are to be paid at the wage rates at which the employee is normally classified.

(1)	None
(2)	Labor Day
(3)	Memorial Day and Labor Day
(4)	Memorial Day and July 4th
(5)	Memorial Day, July 4th, and Labor Day
(6)	New Year's, Thanksgiving, and Christmas
(7)	Lincoln's Birthday, Washington's Birthday, and Veterans Day
(8)	Good Friday
(9)	Lincoln's Birthday
(10)	Washington's Birthday
(11)	Columbus Day
(12)	Election Day
(13)	Presidential Election Day
(14)	1/2 Day on Presidential Election Day
(15)	Veterans Day
(16)	Day after Thanksgiving
(17)	July 4th
(18)	1/2 Day before Christmas
(19)	1/2 Day before New Years
(20)	Thanksgiving
(21)	New Year's Day
(22)	Christmas
(23)	Day before Christmas
(24)	Day before New Year's
(25)	Presidents' Day
(26)	Martin Luther King, Jr. Day
(27)	Memorial Day
(28)	Easter Sunday

(29) Juneteenth

New York State Department of Labor - Bureau of Public Work
State Office Building Campus
Building 12 - Room 130
Albany, New York 12226

REQUEST FOR WAGE AND SUPPLEMENT INFORMATION

As Required by Articles 8 and 9 of the NYS Labor Law

Fax (518) 485-1870 or mail this form for new schedules or for determination for additional occupations.

This Form Must Be Typed

Submitted By: (Check Only One) ☐ Contracting Agency ☐ Architect or Engineering Firm ☐ Public Work District Office Date:

A. Public Work Contract to be let by: (Enter Data Pertaining to Contracting/Public Agency)

1. Name and complete address ☐ (Check if new or change)

Telephone Fax

E-Mail:

2. NY State Units (see Item 5).

- ☐ 01 DOT
- ☐ 02 OGS
- ☐ 03 Dormitory Authority
- ☐ 04 State University Construction Fund
- ☐ 05 Mental Hygiene Facilities Corp.
- ☐ 06 OTHER N.Y. STATE UNIT
- ☐ 07 City
- ☐ 08 Local School District
- ☐ 09 Special Local District, i.e., Fire, Sewer, Water District
- ☐ 1O Village
- ☐ 11 Town
- ☐ 12 County
- ☐ 13 Other Non-N.Y. State (Describe)

3. SEND REPLY TO ☐ (check if new or change)
Name and complete address:

Telephone Fax

E-Mail:

4. SERVICE REQUIRED. Check appropriate box and provide project information.

☐ New Schedule of Wages and Supplements.

APPROXIMATE BID DATE :

☐ Additional Occupation and/or Redetermination

PRC NUMBER ISSUED PREVIOUSLY FOR THIS PROJECT :

OFFICE USE ONLY

B. PROJECT PARTICULARS

5. Project Title

Description of Work

Contract Identification Number

Note: For NYS units, the OSC Contract No.

6. Location of Project:
Location on Site

Route No/Street Address

Village or City

Town

County

7. Nature of Project - Check One:

- ☐ 1. New Building
- ☐ 2. Addition to Existing Structure
- ☐ 3. Heavy and Highway Construction (New and Repair)
- ☐ 4. New Sewer or Waterline
- ☐ 5. Other New Construction (Explain)
- ☐ 6. Other Reconstruction, Maintenance, Repair or Alteration
- ☐ 7. Demolition
- ☐ 8. Building Service Contract

8. OCCUPATION FOR PROJECT :

- ☐ Construction (Building, Heavy Highway/Sewer/Water)
- ☐ Tunnel
- ☐ Residential
- ☐ Landscape Maintenance
- ☐ Elevator maintenance
- ☐ Exterminators, Fumigators
- ☐ Fire Safety Director, NYC Only
- ☐ Fuel Delivery
- ☐ Guards, Watchmen
- ☐ Janitors, Porters, Cleaners, Elevator Operators
- ☐ Moving furniture and equipment
- ☐ Trash and refuse removal
- ☐ Window cleaners
- ☐ Other (Describe)

9. Does this project comply with the Wicks Law involving separate bidding? YES ☐ NO ☐

10. Name and Title of Requester

Signature

SEE PAGE TWO FOR LAWS RELATING TO PUBLIC WORK CONTRACTS

NEW YORK STATE DEPARTMENT OF LABOR
Bureau of Public Work - Debarment List

LIST OF EMPLOYERS INELIGIBLE TO BID ON OR BE AWARDED ANY PUBLIC WORK CONTRACT

Under Article 8 and Article 9 of the NYS Labor Law, a contractor, sub-contractor and/or its successor shall be debarred and ineligible to submit a bid on or be awarded any public work or public building service contract/sub-contract with the state, any municipal corporation or public body for a period of five (5) years from the date of debarment when:

- Two (2) final determinations have been rendered within any consecutive six-year (6) period determining that such contractor, sub-contractor and/or its successor has WILLFULLY failed to pay the prevailing wage and/or supplements;
- One (1) final determination involves falsification of payroll records or the kickback of wages and/or supplements.

The agency issuing the determination and providing the information, is denoted under the heading 'Fiscal Officer'. DOL = New York State Department of Labor; NYC = New York City Comptroller's Office; AG = New York State Attorney General's Office; DA = County District Attorney's Office.

Debarment Database: To search for contractors, sub-contractors and/or their successors debarred from bidding or being awarded any public work contract or subcontract under NYS Labor Law Articles 8 and 9, or under NYS Workers' Compensation Law Section 141-b, access the database at this link: https://apps.labor.ny.gov/EDList/searchPage.do

For inquiries please call 518-457-5589.

NYSDOL Bureau of Public Work Debarment List 02/02/2026

Article 8

AGENCY	Fiscal Officer	FEIN	EMPLOYER NAME	EMPLOYER DBA NAME	ADDRESS	DEBARMENT START DATE	DEBARMENT END DATE
DOL	DOL	*****5754	0369 CONTRACTORS, LLC		515 WEST AVE UNIT PH 13NORWALK CT 06850	05/12/2021	05/12/2026
DOL	DOL	*****5784	A.J.M. TRUCKING, INC.		PO BOX 2064 MONROE NY 10950	02/12/2024	02/12/2029
DOL	DOL		AKHLAQ OULAKH		4307 28TH AVE ASTORIA NY 11103	10/11/2024	10/11/2029
DOL	DOL		ALEXANDER DELISA		411 THEODORE FREMND SUITE 206RYE NY 10580	09/03/2025	09/03/2030
DOL	NYC		ALL COUNTY SEWER & DRAIN, INC.		7 GREENFIELD DR WARWICK NY 10990	03/25/2022	03/25/2027
DOL	DOL	*****8387	AMERICAN PAVING & MASONRY, CORP.		8 FOREST AVE GLEN COVE NY 11542	05/24/2024	05/24/2029
DOL	DOL	*****8654	AMERICAN PAVING, INC.		8 FORREST AVE. GLEN COVE NY 11542	05/24/2024	05/24/2029
DOL	DOL		ANGELO GARCIA		515 WEST AVE UNIT PH 13NORWALK CT 06850	05/12/2021	05/12/2026
DOL	DOL		ANGELO STANCO		8 FOREST AVE. GLEN COVE NY 11542	05/24/2024	05/24/2029
DOL	DOL		ANGELO TONDO		449 WEST MOMBSHA ROAD MONROE NY 10950	06/06/2022	06/06/2027
DOL	DOL	*****4231	ANKER'S ELECTRIC SERVICE, INC.		10 SOUTH 5TH ST LOCUST VALLEY NY 11560	09/26/2022	09/26/2027
DOL	DOL		ANTHONY CASALE		20 HEATHER RIDGE ROAD TROY NY 12180	05/20/2025	05/20/2030
DOL	DOL		ANTHONY MONGELLI		PO BOX 2064 MONROE NY 10950	02/12/2024	02/12/2029
DOL	DOL	*****8421	B & B DRYWALL, INC		206 WARREN AVE APT 1WHITE PLAINS NY 10603	12/14/2021	12/14/2026
DOL	DA	*****2404	BJA RENOVATION, CORP		33 DOLLARD DR NORTH BABYLON NY 11703	03/19/2025	03/19/2030
DOL	DOL	*****5078	BLACK RIVER TREE REMOVAL, LLC		29807 ANDREWS ROAD BLACK RIVER NY 13032	10/17/2023	10/17/2028
DOL	DOL		C.M.C CONTRACTORS, INC.		500 WEST PUTNAM AVE SUITE 400GREENWICH CT 06830	09/03/2025	09/03/2030
DOL	DOL	*****5161	CALADRI DEVELOPMENT CORP.		1223 PARK ST. PEEKSKILL NY 10566	05/17/2021	05/17/2026
DOL	DOL	*****3391	CALI ENTERPRISES, INC.		1223 PARK STREET PEEKSKILL NY 10566	05/17/2021	05/17/2026
DOL	DOL		CARLOS F. ESCOBAR		411 THEODORE FREMD AVE SUITE 206RYE NY 10580	09/03/2025	09/03/2030
DOL	DOL		CARLOS FIGUEROA		411 THEODORE FREMND AVE SUITE 206RYE NY 10580	09/03/2025	09/03/2030
DOL	DOL	*****4155	CASA BUILDERS, INC.	FRIEDLANDER CONSTRUCTION	64 N PUTT CONNERS ROAD NEW PALTZ NY 12561	05/10/2023	05/10/2028
DOL	AG	*****7247	CENTURY CONCRETE CORP		2375 RAYNOR ST RONKONKOMA NY 11779	08/04/2021	08/04/2026
DOL	DOL		CESAREO TULA		120 SEARS AVE ELMSFORD NY 10523	09/26/2025	09/26/2030
DOL	DOL	*****2292	CHAMPION MAINTENANCE CONTRACTORS, INC.		211 SOUTH RIDGE STREET RYE BROOK NY 10573	09/03/2025	09/03/2030
DOL	NYC	*****2117	CHARAN ELECTRICAL ENTERPRISES		9-11 40TH AVENUE LONG ISLAND CITY NY 11101	09/26/2023	09/26/2028
DOL	DOL		CHARLES CASALE		55 MAIN AVENUE WYNANTSKILL NY 12198	05/20/2025	05/20/2030
DOL	DOL		CHARLES CASALE		55 MAIN AVENUE WYNANTSKILL NY 12198	05/20/2025	05/20/2030
DOL	DOL		CHRISTOPHER GRECO		26 NORTH MYRTLE AVENUE SPRING VALLEY NY 10956	02/18/2021	02/18/2026
DOL	DOL		CHRISTOPHER PEROSI		5507 NESCONSET HIGHWAY MT. SINAI NY 11766	07/17/2025	07/17/2030
DOL	DOL	*****2281	CORRAO TRUCKING, INC.		PO BOX 393 NANUET NY 10954	09/17/2024	09/17/2029
DOL	DOL		CRAIG JOHANSEN		10 SOUTH 5TH ST LOCUST VALLEY NY 11560	09/26/2022	09/26/2027
DOL	DOL	*****3228	CROSS-COUNTY LANDSCAPING AND TREE SERVICE, INC.	ROCKLAND TREE SERVICE	26 NORTH MYRTLE AVENUE SPRING VALLEY NY 10956	02/18/2021	02/18/2026
DOL	DOL	*****7619	DANCO CONSTRUCTION UNLIMITED INC.		485 RAFT AVENUE HOLBROOK NY 11741	10/19/2021	10/19/2026

DOL	DOL		DANIEL DELISA		211 SOUTH RIDGE STREET RYE BROOK NY 10573	09/03/2025	09/03/2030
DOL	DOL		DANIEL ROBERT MCNALLY		7 GREENFIELD DRIVE WARWICK NY 10990	03/25/2022	03/25/2027
DOL	DOL		DARWIN PEGUESE		6400 BALTIMORE NATIONAL SUITE 602CANTONSVILLE NY 21228	10/24/2024	10/24/2029
DOL	DOL		DAVID FRIEDLANDER		64 NORTH PUTT CORNERS RD NEW PALTZ NY 12561	05/10/2023	05/10/2028
DOL	DOL		DENISE NAGLE		36 OAKWOOD TRAIL S AL MONROE NY 10950	10/29/2025	10/29/2030
DOL	DOL		DINA TAYLOR		64 N PUTT CONNERS RD NEW PALTZ NY 12561	05/10/2023	05/10/2028
DOL	AG		EDWIN HUTZLER		23 NORTH HOWELLS RD BELLPORT NY 11713	08/04/2021	08/04/2026
DOL	DA		EDWIN HUTZLER		2375 RAYNOR STREET RONKONKOMA NY 11779	08/04/2021	08/04/2026
DOL	DOL	*****2337	EGL DRAINAGE SOLUTION & REPAIRS LLC		5507 NESCONSET HIGHWAY MT. SINAI NY 11766	07/17/2025	07/17/2030
DOL	DOL	*****0780	EMES HEATING & PLUMBING CONTR		5 EMES LANE MONSEY NY 10952	01/20/2002	01/20/3002
DOL	DOL		EMIL KISZKO		84 DIAMOND ST BROOKLYN NY 11222	07/18/2024	07/18/2029
DOL	DOL	*****3298	EMJACK CONSTRUCTION CORP.		84 DIAMOND ST BROOKLYN NY 11222	07/18/2024	07/18/2029
DOL	DOL	*****3298	EMJACK CONSTRUCTION LLC		4192 SIR ANDREW CIRCLE DOYLESTOWN PA 18902	07/18/2024	07/18/2029
DOL	DOL		EUGENIUSZ "GINO" KUCHAR		195 KINGSLAND AVE BROOKLYN NY 11222	12/22/2023	12/22/2028
DOL	DA		FREDERICK HUTZLER		2375 RAYNOR STREET RONKONKOMA NY 11779	08/04/2021	08/04/2026
DOL	DOL	*****2998	G.E.M. AMERICAN CONSTRUCTION CORP.		195 KINGSLAND AVE BROOKLYN NY 11222	12/22/2023	12/22/2028
DOL	DA		GEORGE LUCEY		150 KINGS STREET BROOKLYN NY 11231	01/19/1998	01/19/2998
DOL	DA		GIOVANNA TRAVALJA		3735 9TH ST LONG ISLAND CITY NY 11101	01/05/2023	01/05/2028
DOL	DA		GIOVANNI NAPOLITANO		2501 BAYVIEW AVENUE WANTAGH NY 11793	02/21/2024	02/21/2029
DOL	DA	*****0213	GORILLA CONTRACTING GROUP, LLC		505 MANHATTAN AVE WEST BABYLON NY 11704	10/05/2023	10/05/2028
DOL	DA	*****4760	GTX CONSTRUCTION ASSOCIATES, CORP		2501 BAYVIEW AVE WANTAGH NY 11793	02/21/2024	02/21/2029
DOL	DOL		HENRY WICKE A/K/A HENRY WICKE, JR.		36 OAKWOOD TRAIL S AL MONROE NY 10950	10/29/2025	10/29/2030
DOL	DOL		HERBERT CLEMEN		42 FOWLER AVENUE CORTLAND MANOR NY 10567	01/24/2023	01/24/2028
DOL	DOL		HERBERT CLEMEN		42 FOWLER AVENUE CORTLAND MANOR NY 10567	10/25/2022	10/25/2027
DOL	DOL	*****6961	HUNTER ELEVATOR COMPANY, INC.		36 OAKWOOD TRAIL S AL MONROE NY 10950	10/29/2025	10/29/2030
DOL	DOL	*****2397	ISLAND BREEZE MARINE, INC.		6400 BALTIMORE NATIONAL CANTONSVILLE MD 21228	10/24/2024	10/24/2029
DOL	DOL	*****5010	J. LINDSLEY ENTERPRISE, LLC		1002 STATE ROUTE 176 FULTON NY 13069	07/30/2025	07/30/2030
DOL	DOL	*****0241	J. LINDSLEY ROOFING, LLC		211 NORTH 2ND STREET FULTON NY 13069	07/30/2025	07/30/2030
DOL	DOL	*****9211	J. WASE CONSTRUCTION CORP.		8545 RT 9W ATHENS NY 12015	03/09/2021	03/09/2026
DOL	DOL		J.M.J CONSTRUCTION		151 OSTRANDER AVENUE SYRACUSE NY 13205	11/21/2022	11/21/2027
DOL	DOL		J.R. NELSON CONSTRUCTION		531 THIRD STREET ALBANY NY 12206	11/07/2023	11/07/2028
DOL	DOL		J.R. NELSON CONSTRUCTION		531 THIRD STREET ALBANY NY 12206	12/22/2022	12/22/2027
DOL	DOL		J.R. NELSON CONSTRUCTION		531 THIRD STREET ALBANY NY 12206	10/25/2022	10/25/2027
DOL	DOL		J.R. NELSON, LLC		531 THIRD STREET ALBANY NY 12206	12/22/2022	12/22/2027
DOL	DOL		J.R. NELSON, LLC		531 THIRD STREET ALBANY NY 12206	11/07/2023	11/07/2028
DOL	DOL		J.R. NELSON, LLC		531 THIRD STREET ALBANY NY 12206	10/25/2022	10/25/2027
DOL	DOL		J.R.N COMPANIES, LLC		531 THIRD STREET ALBANY NY 12206	12/12/2022	12/12/2027

DOL	DOL		J.R.N COMPANIES, LLC		531 THIRD STREET ALBANY NY 12206	11/07/2023	11/07/2028
DOL	DOL		J.R.N COMPANIES, LLC		531 THIRD STREET ALBANY NY 12206	10/25/2022	10/25/2027
DOL	DOL	*****1147	J.R.N. CONSTRUCTION, LLC		531 THIRD ST ALBANY NY 12206	11/07/2023	11/07/2028
DOL	DOL	*****1147	J.R.N. CONSTRUCTION, LLC		531 THIRD ST ALBANY NY 12206	12/22/2022	12/22/2027
DOL	DOL	*****1147	J.R.N. CONSTRUCTION, LLC		531 THIRD ST ALBANY NY 12206	10/25/2022	10/25/2027
DOL	DOL		JAMES J. BAKER		7901 GEE ROAD CANASTOTA NY 13032	08/17/2021	08/17/2026
DOL	DOL		JAMES LINDSLEY		211 NORTH 2ND STREET FULTON NY 13069	07/30/2025	07/30/2030
DOL	DOL		JASON P. RACE		3469 STATE RT. 69 PERISH NY 13131	09/29/2021	09/29/2026
DOL	DOL		JASON P. RACE		3469 STATE RT. 69 PERISH NY 13131	02/09/2022	02/09/2027
DOL	DOL		JASON P. RACE		3469 STATE RT. 69 PERISH NY 13131	11/15/2022	11/15/2027
DOL	DOL		JASON P. RACE		3469 STATE RT. 69 PERISH NY 13131	03/01/2022	03/01/2027
DOL	DOL	*****7993	JBS DIRT, INC.		7901 GEE ROAD CANASTOTA NY 13032	08/17/2021	08/17/2026
DOL	DOL	*****2435	JEFFEL D. JOHNSON	JMJ7 AND SON	5553 CAIRNSTRAIL CLAY NY 13041	11/21/2022	11/21/2027
DOL	DOL		JEFFEL JOHNSON ELITE CARPENTER REMODEL AND CONSTRUCTION		C2 EVERGREEN CIRCLE LIVERPOOL NY 13090	11/21/2022	11/21/2027
DOL	DOL	*****2435	JEFFREY M. JOHNSON	JMJ7 AND SON	5553 CAIRNS TRAIL CLAY NY 13041	11/21/2022	11/21/2027
DOL	DOL		JENNIFER LINDSLEY		211 NORTH 2ND STREET FULTON NY 13069	07/30/2025	07/30/2030
DOL	DOL		JERRY DASTON		36 OAKWOOD TRAIL S AL MONROE NY 10950	10/29/2025	10/29/2030
DOL	DOL		JIM PLAUGHER		17613 SANTE FE LINE ROAD WAYNEFIELD OH 45896	07/16/2021	07/16/2026
DOL	DOL		JMJ7 & SON CONSTRUCTION, LLC		5553 CAIRNS TRAIL LIVERPOOL NY 13041	11/21/2022	11/21/2027
DOL	DOL		JMJ7 AND SONS CONTRACTORS		5553 CAIRNS TRAIL CLAY NY 13041	11/21/2022	11/21/2027
DOL	DOL		JMJ7 CONTRACTORS		7014 13TH AVENUE BROOKLYN NY 11228	11/21/2022	11/21/2027
DOL	DOL		JMJ7 CONTRACTORS AND SONS		5553 CAIRNS TRAIL CLAY NY 13041	11/21/2022	11/21/2027
DOL	DOL		JMJ7 CONTRACTORS, LLC		5553 CAIRNS TRAIL CLAY NY 13041	11/21/2022	11/21/2027
DOL	DOL		JOHN MARKOVIC		47 MANDON TERRACE HAWTHORN NJ 07506	03/29/2021	03/29/2026
DOL	DOL		JOHN NAGLE A/K/A JOHN NAGLE, JR.		36 OAKWOOD TRAIL S AL MONROE NY 10950	10/29/2025	10/29/2030
DOL	DOL		JOHN WASE		8545 RT 9W ATHENS NY 12015	03/09/2021	03/09/2026
DOL	DOL		JONATHAN DELISA		411 THEODORE FREMND AVE SUITE 206RYE NY 10580	09/03/2025	09/03/2030
DOL	DOL		JORGE FIGUEROA		411 THEODORE FRMND AVE SUITE 206RYE NY 10580	09/03/2025	09/03/2030
DOL	DOL		JORGE RAMOS		8970 MIKE GARCIA DR MANASSAS VA 20109	07/16/2021	07/16/2026
DOL	DA		JOSEPH DEMASCO		33 DOLLARD DRIVE NORTH BABYLON NY 11703	03/19/2025	03/19/2030
DOL	DOL		JOSEPH HALL		937 US ROUTE 11 CENTRAL SQUARE NY 13036	10/21/2024	10/21/2029
DOL	DOL	*****2271	JOSEPH HALL COMPANIES LLC		937 US ROUTE 11 CENTRAL SQUARE NY 13036	10/21/2024	10/21/2029
DOL	DOL		JOSEPH K. SALERNO		1010 TILDEN AVE UTICA NY 13501	07/24/2023	07/24/2028
DOL	DOL		JOSEPH K. SALERNO II		1010 TILDEN AVE UTICA NY 13501	07/24/2023	07/24/2028
DOL	DOL	*****5116	JP RACE PAINTING, INC. T/A RACE PAINTING		3469 STATE RT. 69 PERISH NY 13131	02/09/2022	02/09/2027
DOL	DOL	*****5116	JP RACE PAINTING, INC. T/A RACE PAINTING		3469 STATE RT. 69 PERISH NY 13131	11/15/2022	11/15/2027
DOL	DOL	*****5116	JP RACE PAINTING, INC. T/A RACE PAINTING		3469 STATE RT. 69 PERISH NY 13131	09/29/2021	09/29/2026

DOL	DOL	*****5116	JP RACE PAINTING, INC. T/A RACE PAINTING		3469 STATE RT. 69 PERISH NY 13131	03/01/2022	03/01/2027
DOL	DOL	*****5116	JP RACE PAINTING, INC. T/A RACE PAINTING		3469 STATE RT. 69 PERISH NY 13131	03/01/2022	03/01/2027
DOL	DOL		JRN CONSTRUCTION CO, LLC		1024 BROADWAY ALBANY NY 12204	11/07/2023	11/07/2028
DOL	DOL	*****1147	JRN CONSTRUCTION, LLC		531 THIRD STREET ALBANY NY 12206	10/25/2022	10/25/2027
DOL	DOL	*****1147	JRN CONSTRUCTION, LLC		531 THIRD STREET ALBANY NY 12206	12/22/2022	12/22/2027
DOL	DOL	*****1147	JRN CONSTRUCTION, LLC		531 THIRD STREET ALBANY NY 12206	11/07/2023	11/07/2028
DOL	DOL		JRN PAVING, LLC		531 THIRD STREET ALBANY NY 12206	10/25/2022	10/25/2027
DOL	DOL		JRN PAVING, LLC		531 THIRD STREET ALBANY NY 12206	12/22/2022	12/22/2027
DOL	DOL		JRN PAVING, LLC		531 THIRD STREET ALBANY NY 12206	11/07/2023	11/07/2028
DOL	DOL		JULIUS AND GITA BEHREND		5 EMES LANE MONSEY NY 10952	11/20/2002	11/20/3002
DOL	DOL		KATE E. CONNOR		7088 INTERSTATE ISLAND RD SYRACUSE NY 13209	03/31/2021	03/31/2026
DOL	DOL		KEAN INDUSTRIES, LLC		2345 RT. 52 SUITE 2NHOPEWELL JUNCTION NY 12533	12/18/2023	12/18/2028
DOL	DOL	*****2959	KELC DEVELOPMENT, INC		7088 INTERSTATE ISLAND RD SYRACUSE NY 13209	03/31/2021	03/31/2026
DOL	DOL		KEVIN FUNEZ URBINA A/K/A KEVIN FUNEZ		1009 LYNDALE AVE TRENTON NJ 08629	12/16/2024	12/16/2029
DOL	DOL		KIMBERLY F. BAKER		7901 GEE ROAD CANASTOTA NY 13032	08/17/2021	08/17/2026
DOL	DOL	*****8760	KJ&J CONSTRUCTION, LLC		1009 LYNDALE AVE TRENTON NJ 08629	12/16/2024	12/16/2029
DOL	DOL		KMA GROUP II, INC.		29-10 38TH AVENUE LONG ISLAND CITY NY 11101	10/11/2023	10/11/2028
DOL	DOL	*****1833	KMA GROUP INC.		29-10 38TH AVENUE LONG ISLAND CITY NY 11101	10/11/2023	10/11/2028
DOL	DOL		KMA INSULATION, INC.		29-10 38TH AVENUE LONG ISLAND CITY NY 11101	10/11/2023	10/11/2028
DOL	DOL		KRIN HEINEMANN		2345 ROUTE 52, SUITE 2N HOPEWELL JUNCTION NY 12533	12/18/2023	12/18/2028
DOL	NYC		KULWANT S. DEOL		9-11 40TH AVENUE LONG ISLAND CITY NY 11101	09/26/2023	09/26/2028
DOL	DA	*****8816	LAKE CONSTRUCTION AND DEVELOPMENT CORPORATION		150 KINGS STREET BROOKLYN NY 11231	08/19/1998	08/19/2998
DOL	DOL		LEROY E. NELSON JR		531 THIRD ST ALBANY NY 12206	10/25/2022	10/25/2027
DOL	DOL		LEROY E. NELSON JR		531 THIRD ST ALBANY NY 12206	12/22/2022	12/22/2027
DOL	DOL		LEROY E. NELSON JR		531 THIRD ST ALBANY NY 12206	11/07/2023	11/07/2028
DOL	DOL	*****3716	LIGHTNIN ELECTRIC INC.		3418 NORTHERN BLVD SUITE 5-27LONG ISLAND CITY NY 11101	12/13/2024	12/13/2029
DOL	AG	*****3291	LINTECH ELECTRIC, INC.		3006 TILDEN AVE BROOKLYN NY 11226	02/16/2022	02/16/2027
DOL	DOL		LIZETTE PONCE		411 THEODORE FREMND AVE SUITE 206RYE NY 10580	09/03/2025	09/03/2030
DOL	DOL		LOUIS A. CALICCHIA		1223 PARK ST. PEEKSKILL NY 10566	05/17/2021	05/17/2026
DOL	DOL	*****2196	MAINSTREAM SPECIALTIES, INC.		11 OLD TOWN RD SELKIRK NY 12158	02/02/2021	02/02/2026
DOL	DA		MANUEL P TOBIO		150 KINGS STREET BROOKLYN NY 14444	08/19/1998	08/19/2998
DOL	DA		MANUEL TOBIO		150 KINGS STREET BROOKLYN NY 11231	08/19/1998	08/19/2998
DOL	DOL	*****1320	MJC MASON CONTRACTING, INC.		42 FOWLER AVENUE CORTLAND MANOR NY 10567	10/25/2022	10/25/2027
DOL	DOL	*****1320	MJC MASON CONTRACTING, INC.		42 FOWLER AVENUE CORTLAND MANOR NY 10567	01/24/2023	01/24/2028
DOL	DOL		MOHAMMAD MIAN		8269 21ST ST BELLEROSE NY 11426	12/22/2022	12/22/2027

DOL	NYC		NASEER CHAUDHRY		2349 BRAGG STREET BROOKLYN NY 11229	04/22/2025	04/22/2030
DOL	DOL	*****7790	NATIONAL BUILDING & RESTORATION CORP		1010 TILDEN AVE UTICA NY 13501	07/24/2023	07/24/2028
DOL	DOL	*****1797	NATIONAL CONSTRUCTION SERVICES, INC		1010 TILDEN AVE UTICA NY 13501	07/24/2023	07/24/2028
DOL	NYC		NAVIT SINGH		402 JERICHO TURNPIKE NEW HYDE PARK NY 11040	08/10/2022	08/10/2027
DOL	DOL		NELCO CONTRACTING, LLC		1024 BROADWAY ALBANY NY 12204	11/07/2023	11/07/2028
DOL	DA		NICHOLAS BARNETT		33 DOLLARD DR BABYLON NY 11703	03/04/2025	03/04/2030
DOL	DOL		NICHOLAS RAO		411 THEODORE FREMND AVE SUITE 206RYE NY 10580	09/03/2025	09/03/2030
DOL	DA		NICHOLAS T. ANALITIS		505 MANHATTAN AVE WEST BABYLON NY 11704	10/05/2023	10/05/2028
DOL	DOL		NICHOLE E. FRASER A/K/A NICHOLE RACE		3469 STATE RT. 69 PERISH NY 13131	03/01/2022	03/01/2027
DOL	DOL		NICHOLE E. FRASER A/K/A NICHOLE RACE		3469 STATE RT. 69 PERISH NY 13131	11/15/2022	11/15/2027
DOL	DOL		NICHOLE E. FRASER A/K/A NICHOLE RACE		3469 STATE RT. 69 PERISH NY 13131	09/29/2021	09/29/2026
DOL	DOL		NICHOLE E. FRASER A/K/A NICHOLE RACE		3469 STATE RT. 69 PERISH NY 13131	02/09/2022	02/09/2027
DOL	DOL		NIKOLA NTONI		3418 NORTHERN BLVD SUITE 5-27LONG ISLAND CITY NY 11101	12/13/2024	12/13/2029
DOL	NYC	*****6971	NN CONSTRUCTION, INC.		2349 BRAGG STREET BROOKLYN NY 11229	04/22/2025	04/22/2030
DOL	NYC	*****5643	NYC LINE CONTRACTORS, INC.		402 JERICHO TURNPIKE NEW HYDE PARK NY 11040	08/10/2022	08/10/2027
DOL	DOL		PATRICK PENNACCHIO		2345 RT. 52 SUITE 2NHOPEWELL JUNCTION NY 12533	12/18/2023	12/18/2028
DOL	DOL		PATRICK PENNACCHIO		2345 RT. 52 SUITE 2NHOPEWELL JUNCTION NY 12533	12/18/2023	12/18/2028
DOL	DOL		PAULINE CHAHALES		935 S LAKE BLVD MAHOPAC NY 10541	03/02/2021	03/02/2026
DOL	DOL		PETER STEVENS		11 OLD TOWN ROAD SELKIRK NY 12158	02/02/2021	02/02/2026
DOL	DOL	*****4168	PHANTOM CONSTRUCTION CORP.		95-27 116TH STREET QUEENS NY 11419	07/12/2024	07/12/2029
DOL	DOL	*****4168	PHANTOM CONSTRUCTION CORP.		95-27 116TH STREET QUEENS NY 11419	05/28/2024	05/28/2029
DOL	DOL	*****4772	R.W. LOBDELL CONSTRUCTION LLC		635 WEST DRYDEN ROAD FREEVILLE NY 13068	01/31/2025	01/31/2030
DOL	DOL	*****2633	RAW POWER ELECTRIC CORP.		3 PARK CIRCLE MIDDLETOWN NY 10940	07/11/2022	07/11/2027
DOL	DOL		ROBBYE BISSESAR		89-51 SPRINGFIELD BLVD QUEENS VILLAGE NY 11427	01/11/2003	01/11/3003
DOL	DOL		ROMEO WARREN		161 ROBYN RD MONROE NY 10950	07/11/2022	07/11/2027
DOL	DOL		ROSA GARCIA		411 THEODORE FRMND AVE SUITE 206RYE NY 10580	09/03/2025	09/03/2030
DOL	DOL	*****7172	RZ & AL INC.		198 RIDGE AVENUE VALLEY STREAM NY 11581	06/06/2022	06/06/2027
DOL	DOL		SAL FRESINA MASONRY CONTRACTORS, INC.		1935 TEALL AVENUE SYRACUSE NY 13206	07/16/2021	07/16/2026
DOL	DOL		SAL MASONRY CONTRACTORS, INC.		(SEE COMMENTS) SYRACUSE NY 13202	07/16/2021	07/16/2026
DOL	DOL	*****9874	SALFREE ENTERPRISES INC		P.O BOX 14 2821 GARDNER RDPOMPEI NY 13138	07/16/2021	07/16/2026
DOL	DOL		SALVATORE A FRESINA A/K/A SAM FRESINA		107 FACTORY AVE P.O BOX 11070SYRACUSE NY 13218	07/16/2021	07/16/2026
DOL	DOL		SAM FRESINA		107 FACTORY AVE P.O BOX 11070SYRACUSE NY 13218	07/16/2021	07/16/2026
DOL	DA	*****0476	SAMCO ELECTRIC CORP.		3735 9TH ST LONG ISLAND CITY NY 11101	01/05/2023	01/05/2028
DOL	DA		SILVANO TRAVALJA		3735 9TH ST LONG ISLAND CITY NY 11101	01/05/2023	01/05/2028
DOL	DOL	*****0440	SOLAR GUYS INC.		8970 MIKE GARCIA DR MANASSAS VA 20109	07/16/2021	07/16/2026

NYSDOL Bureau of Public Work Debarment List 02/02/2026

Article 8

DOL	NYC	*****3661	SPANIER BUILDING MAINTENANCE CORP		200 OAK DRIVE SYOSSET NY 11791	03/14/2022	03/14/2027
DOL	DOL		STANADOS KALOGELAS		485 RAFT AVENUE HOLBROOK NY 11741	10/19/2021	10/19/2026
DOL	DOL	*****3496	STAR INTERNATIONAL INC		89-51 SPRINGFIELD BLVD QUEENS VILLAGE NY 11427	08/11/2003	08/11/3003
DOL	DOL	*****9528	STEEL-IT, LLC.		17613 SANTE FE LINE ROAD WAYNESFIELD OH 45896	07/16/2021	07/16/2026
DOL	DOL		STEVEN DELISA		411 THEODORE FREMND AVE SUITE 206RYE NY 10580	09/03/2025	09/03/2030
DOL	DOL	*****3800	SUBURBAN RESTORATION CO. INC.		5-10 BANTA PLACE FAIR LAWN PLACE NJ 07410	03/29/2021	03/29/2026
DOL	DOL	*****9150	SURGE INC.		8269 21ST STREET BELLEROSE NY 11426	12/22/2022	12/22/2027
DOL	DOL		SYED MUHAMMAD S. JAFRI A/K/A SHARRUKH JAFRI		4307 28TH AVE ASTORIA NY 11103	10/11/2024	10/11/2029
DOL	DOL		SYED RAZA		198 RIDGE AVENUE NY 11581	06/06/2022	06/06/2027
DOL	DOL		TARLOK SINGH		95-27 116TH STREET QUEENS NY 11419	05/28/2024	05/28/2029
DOL	DOL		TARLOK SINGH		95-27 116TH STREET QUEENS NY 11419	07/12/2024	07/12/2029
DOL	DOL	*****4855	TECH INDUSTRIES LLC		20 HEATHER RIDGE ROAD TROY NY 12180	05/20/2025	05/20/2030
DOL	DOL	*****9733	TERSAL CONSTRUCTION SERVICES INC		107 FACTORY AVE P.O BOX 11070SYRACUSE NY 13208	07/16/2021	07/16/2026
DOL	DOL		TERSAL CONTRACTORS, INC.		221 GARDNER RD P.O BOX 14POMPEI NY 13138	07/16/2021	07/16/2026
DOL	DOL		TERSAL DEVELOPMENT CORP.		1935 TEALL AVENUE SYRACUSE NY 13206	07/16/2021	07/16/2026
DOL	DOL	*****2426	THE MATRUKH GROUP, INC.		4307 28TH AVE PO BOX 9082ASTORIA NY 11103	10/11/2024	10/11/2029
DOL	DOL		THOMAS LOBDELL		635 WEST DRYDEN ROAD FREEVILLE NY 13068	01/31/2025	01/31/2030
DOL	DOL		TIMOTHY PERCY		29807 ANDREWS ROAD BLACK RIVER NY 13612	10/17/2023	10/17/2028
DOL	DA	*****1050	TRI STATE CONSTRUCTION OF NY CORP.		50-39 175TH PLACE FRESH MEADOWS NY 11365	03/28/2022	03/28/2027
DOL	DA	*****4106	TRIPLE H CONCRETE CORP		2375 RAYNOR STREET RONKONKOMA NY 11779	08/04/2021	08/04/2026
DOL	DOL	*****8485	TULA PLUMBING AND HEATING LLC		120 SEARS AVE ELMSFORD NY 10523	09/26/2025	09/26/2030
DOL	DOL	*****8210	UPSTATE CONCRETE & MASONRY CONTRACTING CO INC		449 WEST MOMBSHA ROAD MONROE NY 10950	06/06/2022	06/06/2027
DOL	DOL		VINCENT CORRAO		PO BOX 393 NANUET NY 10954	09/17/2024	09/17/2029
DOL	DOL	*****8266	WILLIAM CHRIS MCCLENDON	MCCLENDON ASPHALT PAVING	1646 FALLS STREET NIAGARA FALLS NY 14303	05/01/2023	05/01/2028
DOL	DOL		WILLIAM CHRIS MCCLENDON		1646 FALLS STREET NIAGARA FALLS NY 14303	05/01/2023	05/01/2028
DOL	DOL		WILLIAM SCRIVENS		4192 SIR ANDREW CIRCLE DOYELSTOWN PA 18902	07/18/2024	07/18/2029
DOL	DOL	*****9494	WND CONSTRUCTION LLC		411 THEODORE FREMD AVENUE SUITE 206RYE NY 10580	09/03/2025	09/03/2030
DOL	DOL		XENOFON EFTHIMIADIS		29-10 38TH AVENUE LONG ISLAND CITY NY 11101	10/11/2023	10/11/2028

00 73 43 Wage Rate Requirements

Wage Rates and Supplements

The following are the rates of wages and supplements determined by the Industrial Commissioner of the State of New York as prevailing in the locality of the site at which the work will be performed:

*Effective 7/1/01, NYSDOL stopped providing individually printed copies of the **updated** schedules on existing contracts. Updated schedules may be obtained on the NYSDOL website:*

https://dol.ny.gov/

010000 General Requirements

010000 General Requirements Reference Documents bound after 017900

1. Construction Fire Safety Weekly Review form
2. Submittal Log
3. Campus specific general requirements, if any

01 11 00 Description of Work (Section A)

1. Work to be Done
    a. The Work to be done under the Contract, in accordance with the Contract Documents, consists of performing, installing, furnishing and supplying all materials, equipment, labor and incidentals necessary or convenient for the construction of SUCF Project No 071095-00 titled Upgrade Electrical Distribution and carrying out all of the duties and obligations imposed upon the Contractor by the Contract Documents.
    b. The main features of the Work shall include, but not be limited to the following: electrical ductbank and manholes, site demolition and restoration, electrical medium voltage feeders, replacement of transformers and switches, modification of doorways, and electrical service connection to buildings per the Contract Documents.
2. Work Not Included:
    a. Work not included in the Work of the Contract are those items marked "N.I.C"; movable furnishings, except those specifically specified or indicated on the Drawings; and items marked "by others".

01 11 13 Coordination with Other Contracts

1. There may be other contracts let for work to be done in and/or adjacent to Work areas of this Contract during the Work period of this Contract. This Contractor and such other contractors shall coordinate their work to conform to the progressive operation of all the work covered by such contracts and afford each other reasonable opportunities for the introduction and storage of their supplies, materials, equipment, and the execution of their work. Refer to Section 2.16 of the Agreement.

2. Where Work is turned over from/to others, perform the following:
    a. At least two weeks prior to the turnover date, inspect the work provided by others with the Consultant. In accordance with Section 2.12(2) of the Agreement, notify the Consultant of apparent discrepancies or defects in such other construction that would render it unsuitable for the proper execution and results required by this Contract.

3. At least two weeks prior to the turnover date, inspect the Work of this Contract to be turned over to others with the Consultant and perform corrective work, if any, as determined by the Consultant, prior to the scheduled turnover date.

4. If there are other contracts let for work to be done in and/or adjacent to Work areas, those contracts will have requirements for policies of insurance that are similar to Article V of the Contractor's Agreement, but with coverage and limits commensurate with the work of those other contracts, as determined by the Campus and/or letting agency. If requested by the Contractor, a copy of the contract documents will be made available for review within 15 calendar days after the receipt of the request.
    a. Adjacent Projects:
        i. 071085 – University Hall
        ii. 071086 – East Gym Addition
        iii. 071096 – East Gym Track Renovations
        iv. 071099 – Replace Storefront and Exterior Doors
        v. 071108 – Replace Roofs: West Gym, Couper Admin, Decker Health
        vi. 071109 – Replace Roofs: Garage, Physical Facilities, Warehouse, Central Heating Plant
        vii. WO273238 – Oneida Hall Renovation
        viii. WO409609 – Grace Hall
        ix. WO415363 – NAR Expansion
        x. WO425736 – New Bus Stop
        xi. WO466132 – Brandywine & Choconut

01 18 13 Utility Shutdowns and Cutovers

1. Except as otherwise expressly provided in the Contract Documents, the Contractor shall be responsible for submitting to the Consultant and the Fund, for their approval, a proposed schedule of all utility shutdowns and cutovers of all types which will be required to complete the Project; said schedule should contain a minimum of eight (8) weeks' advance notice prior to the time of the proposed shutdown and cutover. Most campuses of the State University of New York are in full operation 12 months of the year, and shutdowns and cutovers, depending upon their type, generally must be scheduled on weekends, at night, or during holiday periods. The Contract consideration is deemed to include all necessary overtime and all premium time, if any, that is required by the Contractor to complete the shutdowns or cutovers.

2. In the event the Contractor shall disrupt any existing services, the Contractor shall immediately make temporary connection to place such service back into operation and maintain the temporary connection until the Contractor makes the permanent connection. All Work must be acceptable to the Consultant and the Fund.

01 21 43 Time Allowances

1. Time Delay Allowance: In addition to the requirements of Article III of the Agreement, the base bid Contract duration to perform the Work specified in the proposal shall include not less than five (5) consecutive and/or non-consecutive eight hour working days in the Time Progress Schedule for Delays that are of no fault of the Contractor or any of its subcontractors or suppliers or caused by events or conditions that could not be reasonably anticipated. Provide notice of Delay per Section 3.04 and request use of this time allowance. When approved by Consultant, the time allowance is expended for each workday that the contractor is unable to work and all Delay time used is tracked in the Time Progress Schedule. After this base bid time allowance for Delay is expended, comply with the requirements of Article III for any additional Delays.

01 23 00 Alternates (Section B)

1. General
   a. The extent and details of the Alternates are indicated on the Drawings and described in the Project Manual.
   b. Where reference is made in the description of the Alternate to products, materials, or workmanship, the specification requirements applicable to products, materials or workmanship in the Total Bid shall govern the products, materials, and workmanship of the Alternate as if these specification requirements were included in full in the description of the Alternates.

2. Alternates
   a. None.

01 26 13 Requests for Information

1. In the event that the Contractor determines that some portion of the Drawings and Project Manual for the project requires clarification or interpretation by the Consultant per Sections 2.01 and/or 2.08 of the Agreement, the Contractor shall submit a Request for Information (RFI) in writing to the Consultant. The Contractor shall create an RFI log in a format approved by the Consultant. Submit the RFI log to the consultant prior to each periodic Field Meeting. Update the RFI log to reflect comments received at the Field Meetings. The Contractor shall define the issue that requires clarification or interpretation in clear and concise language as follows:
   a. The Contractor shall customize RFI forms and logs for this project and submit them to the Consultant for review and approval prior to submission of any RFIs.
   b. Forms should include provisions for the Consultant's response, Contractor acceptance of response or rephrasing of question, and the Consultant's additional response if requested.
   c. Forms should include provisions for locating the issue within the building, by room number, name and nearest columns.
   d. RFIs shall confirm that reasonable locations for the information required have been reviewed and document those locations by specific references to the Drawings and Project Manual on the RFI.
   e. The Contractor shall review the RFI for systemic or global implications, including review of other pending RFIs and work of other phases, so that the final RFI submitted represents a reasonable consolidation of similar requests.
   f. The Contractor shall coordinate and review the RFIs originating from its trades, subcontractors, suppliers, manufacturers, etc. for compliance with this process, including polling them and meeting with them onsite to review the issue prior to its submission as an RFI. The Consultant may attend such meetings.
   g. Contractor to coordinate response from Consultant with subcontractors.
   h. The RFI shall contain a description of what the Contractor believes to be the intent of the design documents, with due regard to Section 1.06 of the Agreement, along with reasons why the RFI is required.
   i. RFIs shall only be submitted on the approved forms.

j. RFIs that do not comply with the above requirements will be returned to the Contractor for revision and resubmission.

2. The Consultant will review all RFIs to determine whether they are RFIs within the meaning of this term as defined above. If the Consultant determines that the document submitted is not an RFI, it will be returned to the Contractor un-reviewed as to content, for resubmission in the proper manner and it will be removed from the RFI log.
3. The Consultant will respond to all RFIs within 10 business days of its receipt, unless the Consultant determines that a longer time is required for an adequate, coordinated response. If the longer response time is deemed necessary, the Consultant will notify the Contractor of that necessity and indicate when the response will be completed within 10 business days of its original receipt.
4. Based on projects of similar complexity, it is anticipated that there may be up to 250 RFIs on this project and that multiple responses may be required to adequately answer each RFI.
5. Responses to RFIs shall not change any requirements of the documents.

01 26 43 Amendments (Section E)

1. Amend the Agreement as follows:

In Article I, Section 1.12, Notices, after the "The State University Construction Fund" in the line starting with Name, insert "Nicole Bouteiller"; in the line starting with Title, insert "Associate Project Coordinator"; in the line starting with Address, insert "H. Carl McCall SUNY Building, 353 Broadway, Albany New York 12246"; and in the line starting with Telephone Number, insert "(518)-320-1804" and in the line starting with E-mail address, insert "nicole.bouteiller@suny.edu".

2. Amend the AGREEMENT as follows:

In Article II, Section 2.20, paragraph 1(b), 12th line, after the word "Section" ADD the following:

"except for the single / sole source shown in Specification Sections 262413 Switchboards where the use of another product is not permitted."

3. Amend the Agreement as follows

a. In Article VI, Section 6.03, Part (2) Contract Goals, DELETE paragraph (a) in its entirety and replace with the following:

"a. For purposes of this **Contract**, the Fund hereby establishes goals of 5% for Minority-Owned Business Enterprises ("MBE") participation and 5% for Women-Owned Business Enterprises ("WBE") participation **(collectively, "MWBE Contract Goals")**.

i. The 5% goal for Minority-Owned Business Enterprise participation shall be applied as follows: a maximum of one third (1/3) of the goal may be applied to purchases of materials, supplies, and equipment from MBEs.

ii. The 5% goal for Women-Owned Business Enterprise participation shall be applied as follows: a maximum of one third (1/3) of the goal may be applied to purchases of materials, supplies, and equipment from WBEs."

4. Amend the Agreement as follows:

   a. In Article IX, Use of Service-Disabled Veteran-Owned Business Enterprises in Contract Performance, paragraph (5), change "«SDVOB_goal»%" to "3%"

01 29 00 10 Payment to Campus for Utilities

1. For unmetered utilities used during the work, Contractor's use shall be at no cost to the Contractor for usage that is reasonable and directly related to the work.

01 31 00 Project Management Procedures

1. The SUCF booklet titled "*Management of Design & Construction Manual*" contains forms, schedules sample documents, communications protocols, procedural requirements for meetings, submittals, reporting, testing, inspection, demonstration, acceptance, payments, changes, turnover, closeout and other administrative requirements. With specific direction from the Fund, the Contractor shall comply with the applicable construction phase requirements in the "*Management of Design & Construction Manual*" during the Work of the Contract. Current versions of the forms are available at the SUCF website:

https://sucf.suny.edu/sites/default/files/docs/ManagementOfDesignConstructionManual_1-2023.pdf

01 31 00 10 Single Contract Responsibility

1. The Agreement with the Contractor is for a single Contract to provide all Work shown and specified. Any reference to separate electrical, communications, mechanical, plumbing, etc. contracts, unless clearly designated with another contract number or as "NIC", shall refer to the Contractor. Any reference to "Consultant", "Engineer", "Landscape Consultant", etc. shall be deemed to refer to the Consultant defined in Article 1.01 of the Agreement."

01 31 00 20 Sheet-metal Fittings and Ductwork

None

01 31 10 Language Requirement

1. All spoken and written communications, submittals, signage, and other media regarding the Project shall be in the English language unless otherwise agreed to by the Fund. If any original documents required for the Project are in any other language, provide an English translation, which shall take precedence in the event of conflict with the original language. When technically feasible, use gender neutral terminology in lieu of gendered.

01 31 13 10 Exploratory Demolition

1. Perform exploratory demolition to discover subsurface and other physical conditions that differ substantially from those shown on or described or indicated on the Contract Drawings. Exploratory demolition shall begin upon receipt of the Notice to Proceed and occur in locations selected in coordination with the Consultant. Exploratory demolition includes

removal of portions of the building and site construction, improvements, systems, fixtures and finishes. Perform demolition in a controlled manner so as to not affect Asbestos Containing Materials, Presumed Asbestos Containing Materials, Mechanical, Electrical, Plumbing and other building systems in ceilings, wall cavities, pipe chases and other concealed spaces. Where required to expose existing conditions, perform selective abatement of asbestos and other Work in Divisions 2 through 28 of the technical specifications. Provide access to the Consultant to visually inspect conditions uncovered. As required by Section 2.12 of the Agreement, notify the Consultant of physical conditions discovered during exploratory demolition. Provide temporary barriers and coverings over the uncovered areas. Provide control measures to properly limit the spread of dust, debris, and other materials. Legally dispose of debris generated during the selective exploratory demolition.

2. Exploratory demolition shall be paid for as a Field Order in accordance with Section 4.05A of the Agreement, except for the following work, which is part of the base bid:
   a. 150 vacuum excavated test pits indicated on Drawing C0.00, General Notes 2 & 3 at existing utility crossing locations (except storm, sanitary, and site lighting) shown on C2 and C3 series drawings.

01 31 19 Field Meetings

1. Periodic job meetings will be scheduled by the Consultant during the course of construction. The Contractor, and, upon request of the Consultant or the Fund, its principal subcontractors and manufacturer's representatives, shall attend such meetings and be prepared to furnish answers to questions on progress, workmanship, requests for Information, supplementary information, scope and price for extra work, if any, or any other subject on which the Consultant or the Fund might reasonably require information.

2. In addition to the requirements of Section 3.06 of the Agreement, the Contractor shall submit bi-weekly reports to the Consultant summarizing the last two weeks of Work and next two weeks of Work anticipated, listing the percent of Work complete by trade, tabulating manpower utilized / projected, relevant shop drawing and submittals progress, relevant offsite fabrication progress and providing other information which may be reasonably required to understand the progress of the work.

3. In addition to the above referenced meetings, the Contractor shall schedule and manage periodic coordination meetings at the site between it and all its trades, subcontractors, suppliers, manufacturers, etc. to settle the allotment of Work per Article I, Section 1.07 of the Agreement and to review progress on submittals and shop drawing, progress on installation of the work, conflicts between work of trades, compliance with the design intent, adherence to the Contractor’s schedule, quality control, planning for commissioning and training of Campus personnel, and other items which require coordination and sharing of information. Representatives of the Consultant and the Fund may attend these meetings to observe and make comments. These meetings shall be held a minimum of once per month and more frequently where required to effectively coordinate the construction. The Contractor shall prepare and distribute summary minutes of these meetings within 5 working days of the meeting, in accordance with the “Document Tracking and Change Control Paragraph” of this section. Distribution of the coordination meeting minutes shall be to all attendees with copies to the Fund and Consultant whether they are in attendance or not.

4. The personnel representing the Contractor and its principal subcontractors shall have the authority to make decisions directly affecting the work.

5. In addition to the above meetings, meet to review fire safety periodically during the Work and, starting approximately sixteen weeks prior to the scheduled date of substantial completion, the Contractor's principals, project manager and those of its significant subcontractors shall attend additional weekly meetings with the Owner and its consultant(s) to review the progress on preparing close out deliverables, including those in Sections 01 78 23, Operating Instructions and Manuals, 01 78 36, Warranties and 01 79 00, Training of Campus Personnel.

01 31 19 10 Mock ups

None

01 31 19 33 Pre-Installations Meetings

1. Attend meetings to coordinate the efforts of all concerned parties with construction activities and to demonstrate that adequate preparations for particular construction activities have been completed. These meetings are required for any mobilization, demolition work, excavation, removal of any demolished or excavated material from the site, LEED related work, concrete work, steel erection, waterproofing, roofing, utility shutdowns or taps, commissioning or Campus training related Work and where required within each specific section of the specifications. The meeting should be attended by the following:

    a. Consultant
    b. Construction Fund
    c. Campus
    d. Contractor's Superintendent
    e. Subcontractor's Superintendent / Foreman, as applicable.
    f. Material and/or Equipment Manufacturer's Representatives, as applicable.

2. Agenda: Review and discuss applicable requirements of the Work for the following:
    a. Compliance with Contract Documents and related field or change orders
    b. Submittals, products, and mock-ups
    c. Manufacturer's recommendations
    d. Warranty requirements
    e. Employment of competent and suitable workers and equipment
    f. Deliveries, storage, and handling
    g. Possible conflicts and compatibility problems
    h. Schedule
    i. Weather limitations
    j. Compatibility of materials
    k. Acceptance of substrates
    l. Quality Assurance
    m. Testing and inspecting requirements (including Special Inspections)
    n. Temporary facilities and controls

o. Space and access limitations
p. Regulations of authorities having jurisdiction
q. Required performance results
r. Protection of completed construction
s. Other factors that may reasonably apply to the work

01 31 26 Document Tracking and Change Control

1. The Contractor shall maintain a computerized document and change control system to prepare, monitor status, and electronically file and send all documents and changes associated with, and required for the Project. If this system is different than the system required in Section 01 33 23, Shop Drawings and Samples, customize and configure this system as required to provide optimal coordination with the system required in Section 01 33 23.

2. The Contractor must have a MAPI-compliant e-mail system, such as Microsoft Outlook or Exchange.

3. The Contractor must provide experienced and trained personnel to maintain the document control system per this requirement. If the Consultant or the Fund determines that experienced personnel are not operating the control system, then the Contractor's personnel must attend the minimum training at Contractor's sole expense.

01 32 13 Special Project Schedule/Phasing

1. The Contractor shall be permitted to start field-Work subject to the following.

    a. In accordance with Section 2.06 of the Agreement, provide onsite the approved dedicated superintendent who has documented experience on three (3) other projects of similar size and scope where he/she effectively lead and managed crews of the size required to perform the similar work, planned and implemented a similar sequence of Work that minimized the impact to Campus/building occupants and deployed and managed the workers required to meet the schedule and the specified level of quality for the completed similar work.

    b. Demonstrate that all materials required for the complete performance of the proposed field work are on site, inspected, inventoried and deemed readily available for installation of the work.

    c. Provide a sequenced, summary list of field activities related to the transfer of the Work areas from the Campus to the contractor and related mobilization activities. Include those related to posting and notification to Campus, erection of temporary signage for code, directional and informational purposes, and other activities required to facilitate the start up of construction activities. Review the list with the Campus and the consultant and modify it to incorporate their comments. Follow the sequence of the approved list during field activities.

    d. Submit the Safety Procedures Manual required in Paragraph 01 35 23, "Safety and Protective Facilities," below.

2. In order to assist the Contractor in the planning and scheduling of construction activities, the Contract Documents have diagrams and narratives depicting a preferred sequence for closing off portions of the buildings and Campus and for performing and completing portions of the work. The preferred sequence provides for continuity of Campus operations and describes certain Work necessary for continuity of Campus operations. Provide all sequencing and minor phasing that may not be specifically indicated on the phasing documents but is reasonably inferable from the way the Campus operates. The Contractor may propose alternative construction phasing, provided such phasing satisfies the requirement of continuous Campus operation.

   a. The Contractor shall schedule the Work for expeditious completion in accordance with Section 3.01(2) of the Agreement. The proposed schedule must be established in cooperation with the Campus and account for Campus calendar restrictions listed in this section that affect the Contractor's access to the Work areas and construction activities. At each periodic meeting, the Time Progress Schedule required by Section 3.02 of the Agreement shall be reviewed for compliance with phasing requirements. Revise and update the Time Progress Schedule to properly depict the Work required to maintain continuity of Campus operations.
      i. First phases of Work shall include appropriate time in the schedule for: (1) understanding Campus operations, training crews, acclimating trades and Campus to sequence and apportionment of activities; (2) additional meetings (up to twice a week during the first twelve weeks after the Notice to Proceed) with the Owner, consultant and the Contractor's principals, project manager and those of its significant subcontractors; (3) re-sequencing activities to recover from start up delays in the progressive operation of interrelated work and (4) other activities commonly associated with the start up of field work.
      ii. See Drawing C6.00 for overall project site phasing.

   b. Academic Calendar: The Contractor is advised that the Campus intends to maintain a full institutional program throughout the Project duration. The Campus will make continuous use of adjacent spaces, buildings and site, except where Work is scheduled or specified to occur. All Contract Work must be scheduled and performed without causing unscheduled interruption of the normal institutional activities and processes. The Contractor shall coordinate their work with the following Campus Calendar, and No Utility shutdowns will be permitted during Registration, Study Periods, Exam Periods, or Commencement.

      i. https://www.binghamton.edu/academics/academic-calendar.html
      ii. Dates referenced on the C6.00 series, EU2.00 series, and E8.03 drawings shall be defined by the Campus Academic Calendar.

   c. The Work Site will be available to begin construction immediately upon Notice to Proceed. Unless otherwise indicated, normal working hours on the Campus are between 7:00 AM and 4:00 PM. Sequence the Work in phases to meet the following interim milestones dates:

      i. See C6.00 series, EU2.00 series, and E8.03 drawings for project phasing requirements.

d. On the Date of Substantial Completion in the Proposal, access to the Work area for any uncompleted Work and for punch list items shall be restricted to after 5:00 PM and prior to 7:00 AM, or other times that are convenient for the Campus, and comply with the following:

i. Methods of performing Work shall not hinder or disrupt the Campus' occupancy, reduce Campus provided levels of cleanliness and ambient environmental conditions and affect building systems, services, and utilities serving the building unless, upon completion of each shift's work that is performed outside of normal Campus work hours, the Contractor provides cleaning to return the Work areas to a similar level of cleanliness as normally provided by the Campus, returns spaces to their normal ambient environmental conditions and restores building systems, services, and utilities serving the occupancy.

ii. No material or equipment shall remain inside the building unless in the active use and control of Contractor personnel.

iii. The Contractor shall provide all utility relocations and re-routings necessary to maintain the existing utilities at their level of service being used by the occupants, including limiting their shutdowns for tie-ins and cutovers to those periods specified. All new Work shall be in place, tested and accepted prior to performing a shutdown for the required tie in.

01 32 13 10 Scheduling of Work - Contractor's Coordination with locality

Not Applicable

01 32 13 20 Scheduling of Work - Contractor's Coordination with the with utility companies

Not Applicable

01 32 16 Project Schedule

1. Project Schedule shall include the following:
   a. The Contractor shall prepare a construction progress schedule which shall consist of a Critical Path Method (CPM) schedule as described below and shall incorporate the Schedule Summary Activities and Milestone Dates as indicated in item j below.

   b. The development and updating of the Construction Progress Schedule shall be by the critical path method (CPM) and shall be computer generated using the latest version of PRIMAVERA Systems scheduling software. Other computer software will not be accepted.

   c. The CPM Schedule shall consist of time-scaled logic diagrams and other data specified herein. The diagrams shall show activities of the project in detail and in summary format. Diagrams shall also show the order and interdependence of activities and the sequence in which the Work is to be accomplished, incorporating the schedule summary activities and milestone dates indicated in item j below, and as further planned by the contractor. All logical relationships shall be finish to start, with the following exceptions: (1) Activities at the start of the project may be start to start (2) At a milestone or project finish, activities

may be finish to finish. Lag factor use will be limited, and if used, identified as a functional activity. The use of imposed start dates will also be limited. The retained logic mode shall be used for calculations.

d. In addition to construction activities the CPM schedule shall include, but not be limited to, the following:

   i. Testing activities / required inspections (Show Contractor provided tests that are specified in Divisions 1 through 48, inclusive, and Consultant performed tests, where applicable).
   ii. Subcontractor selection and approvals (major subcontractors submitted within 48 hours of bid).
   iii. Shop drawing preparation and approval activities. Sequence submissions to provide sufficient time for the coordination of shop drawings of one trade that impact other trades, as required by Section 2.19 of the Agreement. Also include mock ups and pre-installation meetings where specified. Where practical, submittals shall be broken into smaller review packages of approximately 50 to 75 drawings. Each package will have its own activities in the schedule for submission, review and procurement. Package and schedule submission of shop drawings in sequence with the procurement schedule to spread submittal review periods out over the greatest time period practical.
   iv. Procurement schedule (order dates, fabrication, deliveries, and long lead items – specifically list any significant product whose source is outside of the United States).
   v. Special Campus restrictions, i.e., Campus approvals for Work site access, shutdowns and other impacts (noise/ testing & examination/ site and building access etc.).
   vi. Requirements for any on site shutdowns that may impact work.
   vii. Status of LEED credits
   viii. Training and/or instruction of Campus personnel.
   ix. Commissioning of major building systems including pre-functional testing, startup, functional testing, operational scenario testing and retesting as required.
   x. Campus furnished products installed by the Contractor.
   xi. Periodic meetings on construction fire safety with the Campus Fire Prevention Program Superintendent and other interested parties.
   xii. Meetings on site with Consultant to review mock ups and detailing. Include time for the Consultant to review and consider the work of mock ups, which may be up to two weeks before mockups can be approved and installation of the material or systems may begin.

e. The detail of information shall be such that activity duration, in general, will range from 3 to 30 days. Activity description and duration shall be shown for each activity on the diagrams. The critical path shall be determined and shall be clearly indicated on the diagrams.

f. A Summary Schedule of the entire Work of the Contract shall be provided along with the initial submittal and each update using PRIMAVERA software. The contractor shall code the activities on the initial detailed schedule to summarize the same so that the resulting Summary Schedule Activities match those listed in item j below.

g. A CPM Report shall be provided along with the initial submittal and each update and shall include a tabulation of each activity shown on the CPM schedule. The following information shall be furnished as a minimum for each activity: Activity I.D., Description, Duration, Early/Late Start, Early/Late Finish, and Total Float. Reports and updating will indicate actual start and completion for completed activities and actual start and percentage complete and remaining duration for activities in progress.

h. Initial phases of Work shall include time in the schedule for training crews, acclimating trades to the sequence and apportionment of activities, additional meetings with the owner, Consultant, Contractor and the significant subcontractors, and re-sequencing activities to recover from start-up delays typically caused by normal activities associated with the start up of field work.

i. Submission and review of the schedule shall be as follows:

    i. A preliminary CPM schedule, consisting of time-scaled logic diagrams and other data specified herein, defining the contractor's planned operations during the first 120 days, shall be submitted after receipt of the Notice of Award but before receipt of the Notice to Proceed. The CPM schedule shall be sufficiently detailed to show clearly, in sequence, all salient features of the work of each trade including: the anticipated time of commencement and completion of such work and the interrelationship between such work, submission of Shop Drawings and Samples for approval, approval of Shop Drawings and Samples, placing of orders of materials, fabrication and delivery of materials, installation and testing of materials, contiguous or related work under other contracts, and other items pertinent to the Work that may occur in the first 120 days. The Notice to Proceed may be withheld until this schedule is received and is deemed responsive to the project requirements.

    ii. The complete CPM Schedule, including the time-scaled logic diagrams, narrative, summary schedule, manpower schedule if applicable and activity reports shall be submitted within 60 calendar days after receipt of the Notice to Proceed but before processing second progress payment application. The Fund's Consultant will review The Schedule to ascertain that it meets the overall project objectives and that it contains all necessary milestone dates or other required elements. At that time the schedule will become the Schedule of Record (SOR) and the established "Base-Line" for project monitoring purposes. In addition to the requirements in 4.10 (1) of the Agreement, the second progress payment application will not be acted on until this schedule is received and is deemed responsive to the project requirements.

    iii. This review of the Schedule of Record is for the sole purpose of determining whether it meets the overall project objectives and milestone dates and to whether all related phasing, restrictions, Campus supplied fixturing/equipment, or any other potential impact(s), have been addressed. Agreement on the "SOR" does not constitute approval of the Contractor's means, methods, sequencing, or duration of activities. THIS IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

iv. Float is defined as the amount of time between the early start date and the late start date or the early finish date and the late finish of any of the activities in the CPM Schedule. Float is not time for the exclusive use or benefit of either the Fund or the Contractor.

v. Initial submittal, complete revisions and updates shall be submitted in four (4) copies (minimum 18" X 24"), one PDF and in native electronic format with all input data formatted for PRIMAVERA software.

vi. The Schedule of Record shall be revised by the Contractor until it is satisfactory to the Fund and the Consultant, and the same shall be periodically revised thereafter and submitted by the Contractor to the Fund and the Consultant for acceptance at such time or times the Fund or the Consultant may request.

vii. Whether or not the Consultant and the Fund have accepted the Project Schedule, the Schedule of Record shall be updated monthly and shall be submitted along with the Contractor's application for payment. For the two intervening month periods the Contractor may "mark for progress" the SOR and submit with the applications for payment.

viii. If the actual progress of the Work is behind the timeline of the Schedule of Record by more than 15 working days, then the Contractor shall provide a new and completely revised schedule that shall be called the recovery schedule. The recovery schedule shall be provided as follows: 1.) if more than 120 calendar days remains until the date of Substantial Completion then provide within 30 calendar days after the Consultant's request, 2.) if less than 120 calendar days remains until the date of Substantial Completion, provide within 15 calendar days after the Consultant's request. The recovery schedule's purpose is to change the sequencing of activities, duration of activities, and /or other factors as required to return the actual projected schedule completion date to that of the SOR. The recovery schedule is in addition to the regular updates. If the actual progress of the Work is behind the timeline of the submitted recovery schedule by more than 15 working days, then the Contractor shall provide a new and completely revised recovery schedule.

ix. Provide a historic schedule as requested by the Fund that shows the actual activity descriptions and durations that occurred during the work for each activity on the diagrams. The actual critical path shall be documented and shall be clearly indicated on the historic diagrams.

j. Milestone Start and Finish Dates & Summary Activities
   i. Notice to Proceed (Milestone Date)
   ii. Mobilization
   iii. Environmental & Abatement
   iv. Site Preparation & Foundations
   v. M-E-P-S (Mechanical, Electrical, Plumbing, Sprinkler & Fire Systems) Rough-In & Major Equipment Installation
   vi. M-E-P-S Systems-Fixtures/Trim/Accessories
   vii. Interior General Construction

viii. Equipment & Specialties
ix. Exterior Walks, Parking, Roads, & Landscape
x. Testing, Training & Commissioning
xi. Life Safety Systems Tested & Accepted (Milestone Date)
xii. Substantial Completion/ C of O (Milestone Date)
xiii. Campus Installed/Furnished FF&E (Fixtures, Furnishing & Equipment)
xiv. Start of Guarantee Period
xv. SUCF Contract Completion Date (if different from above)
xvi. Final Completion - All punch list/outstanding items satisfied (Milestone Date)
xvii. Field Order Work (multiple periods of work proportional to the dollar value of the field order allowance starting at the Notice to Proceed and ending at Substantial Completion.)
xviii. Other milestones as may be required by the Fund, the Consultant or the Contractors.

01 32 29 Notice of Non-Compliance

1. In the event the Consultant views the Work or some portion thereof and finds that it has not been performed in accordance with the requirements of the Contract documents, a Notice of Non-Compliance will be issued to the Contractor for action. Payment shall not be made for any portion of the Work for which a Non-Compliance Notice has been issued and the Work not corrected to the satisfaction of the Consultant.

2. Upon receipt of a Non-Compliance Notice the Contractor shall provide a written response to the Notice within ten (10) working days after receipt of the Notice. The Contractor's response shall detail either:

   a. Why they believe that the Work was performed in accordance with the Contract documents, or,
   b. What corrective action they intend to take, at their sole expense, to correct the non-conforming work.

3. Refer to Article II Section 2.02 for Contractor's contention to the decision.

01 32 33 Project Photographs

1. Prior to beginning work, the contractor shall schedule with the Consultant, the Campus, and the Fund sufficient periods of time in which the Contractor shall photographically record existing conditions for all project areas using digital video in MPEG-2 format. Video shall be made at high resolution (1440 x 1152) and shall adequately zoom in on selected elements for clear representation of existing conditions. All video recording shall be done in the presence of the Consultant. Submit the completed video on DVD disk(s) to the Consultant for the record.

2. Photograph any and all damaged or misaligned materials or surfaces which may in any way be misconstrued as having occurred during the implementation of this Contract. Inspect all existing conditions on all paths of travel on the site, adjacent right of ways, and within the building with the Consultant. With clear labeling and convenient indexing, provide written documentation for each video disk referencing both the disk and site locations of recorded images of any and all damage that

could be misconstrued as being caused by the Contractor's Work and/or access. Repair all damage to existing conditions and along the paths of travel caused by Contractor's Operations.

01 32 33 10 Photo Documentation Services

Not Applicable

01 32 33 30 Roof Inspection

Not Applicable

01 33 23 Shop Drawings, Samples, Submittals and other information - (Refer to Section 2.19 of the Agreement)

1) In addition to the requirements of Section 2.19 of the Agreement and as specified in Divisions 1 through 48, inclusive, comply with the submittal requirements of this section. In addition, where the term "or equal" is specified in Divisions 1 through 48, inclusive, refer to and comply with the requirements of Section 2.20 of the Agreement. Shop Drawings required Divisions 1 through 48, inclusive, may include drawings, diagrams, schedules, product data and other information or materials specially prepared for the Work by the Contractor to illustrate some portion of the work. Product data required by Divisions 1 through 48, inclusive, are standard illustrations, schedules, performance charts, instructions, brochures diagrams and other information amended by the Contractor to illustrate materials or equipment for some portion of the work.

ELECTRONIC SUBMITTALS

1. The Contractor shall set up and maintain a web-based submittal service to log, transmit and track (in real time) all project related documents.

   a. All project submittals, reviews and re-submittals shall uploaded in Portable Document Format (PDF) and, if approved by the Consultant, other electronic formats requested by the Contractor. Divide, package and submit all submittals in accordance with Section 01 32 16, Project Schedule.

   b. The service will also post, track and store RFI's (Request for Information), Supplemental Information, safety procedures manual, emergency contact and action plans, coordination drawings, traffic plans, utility cutover plans, schedule documents, meeting minutes, look-aheads, daily activity reports, project photo documentation, material safety data sheets, waste manifests, diesel emissions, field surveys, utility bills payable to the Campus, Campus furnished products, testing activities and results, closeout, Operating Instructions and Manuals, planting maintenance, commissioning submittals, SWPPP documents and other non-product related submittals required in the technical specifications. The service will review the Contract Documents and provide the list of items to be tracked.

   c. The PDF files shall be created at a minimum resolution of 200 dots per inch utilizing the original document size and full color. Increase the resolution of the scanned file or images being submitted as required to properly present the information. PDFs created by

scanning are not acceptable unless all images of text are properly and completely transformed into the electronic characters representing the text.

d. The Contractor shall include the full cost of Submittals Website project (all contracts) subscription in their proposal. When approved by the Consultant, all other project related consultants, Campus staff, other contractors and vendors will utilize the Submittals Website at no additional charge (unlimited number of users). Web-based training and support shall be available, free of charge from the Submittals Website, for all project participants.

e. Acceptable Submittal Website shall document conformance with the following requirements:

    i. Independently hosted, web-based system for automated tracking, storage and distribution of Contract submittals and other Contract related documents. FTP sites, e-mail exchanges, and server-based systems hosted from inside a contractor's office will not be considered.
    ii. Utilize 256-bit SSL encryption and hosted at SAS70 Type II compliant data centers.
    iii. Minimum four (4) years' experience of use on comparable commercial construction projects.
    iv. Website requirements:
        1. Minimum of four years documented 99.5% website uptime.
        2. b) Minimum on-line storage required for the duration of this Contract (until final closeout).
        3. c) Redundant storage of all project information (all contracts) at a minimum of two geographically separate storage sites (not in the same building).

f. At completion of project, provide PDF/A copies of all submittals (except physical samples) stored and labeled on four (4) sets of archival optical discs, Universal Serial Bus (USB) flash drives or other electronic data storage devices approved by the Consultant, which include all documents and tracking logs in a navigable format.

g. Contractor Copies: The Contractor will be responsible for making copies, for the Contractor's own use and for use by its subcontractors and suppliers.
h. Those marked *"REJECTED"* are not in accordance with the Contract Documents and shall be resubmitted.
i. *"REVISE AND RESUBMIT"* Contractor shall correct and resubmit.
j. *"MAKE CORRECTIONS NOTED"*: The contractor shall comply with corrections and may proceed. Resubmittal is not required.
k. *"APPROVED - NO EXCEPTIONS TAKEN"*: The contractor may proceed.

l. All shop drawings and/or submittals used on the construction site must bear the impression of the Consultant's review stamp as well as the Contractor's review stamp, indicating the status of review and the date of review. Contractor Copies: The Contractor will be responsible for making copies, for the Contractor's own use and for use by its subcontractors and suppliers.

m. All shop drawings shall reflect actual site conditions and accurate field dimensions. Dimensioned shop drawings shall be submitted for all fabricated items. Incomplete

submittals will be rejected without review. Using electronic copies of the Contract Documents to prepare shop drawings, if permitted in the technical specifications, doesn't relieve the contractor of its responsibility for the accuracy of all information contained on the shop drawings. Verify and coordinate all information necessary to produce accurate and complete shop drawings.

i. All shop drawings, submittals and samples shall include:
ii. Date and revision dates.
iii. Project title and number.
iv. Names of:
v. Contractor
vi. Subcontractor
vii. Supplier
viii. Manufacturer

n. Provide information regarding shop drawings, submittals and samples at the Periodic Meetings.

o. The project specific submittal log is bound after the General Requirements. Note: The bound submittal log provides a general submittals (shop drawings, samples, mock-ups, O&M manuals, training, extra stock, maintenance during the guarantee period, warranties, test reports and other submittals) in the technical specifications and may not be all inclusive. In case of conflict or omission, the requirements of the technical specifications take precedence over the bound log.

p. At completion of project, provide PDF/A copies of all submittals (except physical samples) stored and labeled on four (4) sets of archival optical discs, Universal Serial Bus (USB) flash drives or other electronic data storage devices approved by the Consultant that include all documents and tracking logs in a navigable format. PDFs created by scanning are not acceptable unless all images of text are properly and completely transformed into the electronic characters representing the text.

01 33 23 20 Coordination Drawings

Not Required

01 33 29 - Sustainable Design Reporting

When submission of environmental product declarations (EPDs) is required by the technical specifications, in addition to the individual EPD submittals, submit a list summarizing the materials/products covered by each EPD submittal and the estimated total quantities used/installed of such covered materials during the Work completed to date. As directed by the Consultant, the list shall be submitted/updated annually and at Substantial Completion. If the submitted EPDs do not show the kgCO2 per the quantity unit used/installed for a covered material, provide such information upon request of the Consultant. Using the list and other information, the Consultant will calculate the estimated total kgCO2 (kilograms of carbon dioxide) emission equivalent for each covered material/product used/installed.

01 35 10 Archeological or Historical Finds

1. In the event that any relics or items with archeological or historical value or other valuable materials are discovered on the site or in a building by the Contractor or any subcontractor, the Contractor shall immediately notify Owner and appropriate authorities in accordance with applicable Laws and await the decision of Owner before proceeding with any further Work that might harm or destroy such relics. Neither Contractor nor any subcontractor shall have any property rights to such relics.

01 35 13 Conducting Work

1. All Work is to be conducted in such a manner as to cause a minimum degree of interference with the Campus' operation and academic schedule. Prior to any excavation, demolition or other work that may impact Campus and/or building utilities, systems and infrastructure by causing alarm(s), failure(s) or interfering with the ability of utilities, systems and infrastructure to serve the Campus, provide a written emergency action plan that clearly describes the steps required to safely shut down utilities, systems and infrastructure that are within the Work area and those outside the Work area and within approximately 25 feet of the Work area limits, as approved by the Consultant. The plan shall comply with the Fire Code of New York State. The emergency action plan shall identify the shut off point(s) for each utility, system and infrastructure and secondary shut off point(s) if the primary points fail or inaccessible. To identify shut off points, trace each utility, system and infrastructure in the presence of the Campus representative from the Work area to the shut off points. The emergency action plan shall describe the shutdown procedure, identity tools required for shutdown, sequence of activities required for proper shutdown, the name of the person(s) or trade(s) deemed competent to perform each activity in the shutdown sequence and names and telephone numbers of the Campus staff required to provide access to shut off points, assist in the shut off or perform portions of the shutdown activities. Submit the emergency action plan for review and approval at least two weeks prior to field work in the Work area. Field work shall not begin until the emergency action plan is approved.

2. By the end of each workday, the Contractor shall submit daily manpower counts and a brief description/location of the day's activities. *PLEASE NOTE: FOREMAN MAY HAVE TO STAY PAST NORMAL QUITTING TIME TO PROPERLY COMPLETE THIS PAPERWORK.* Manpower shall be broken down by job classification (foreman, journeyman or apprentice), and also by number of minority and women workers, including information for all subcontractors, suppliers or other workers. The report shall also note all deliveries, equipment on site, whether inspections passed or failed, visitors and inspections.

3. Proper attire is required on-site. Full-length pants, shirts with sleeves and hard sole work boots are required. No shorts, tank tops or sneakers are allowed. Workers not properly dressed will be sent home.

4. Safe and direct ADA accessible entrance to and exiting from the existing buildings shall be maintained at all times during regular hours while construction is in progress. Means of egress for construction workers shall comply with the Fire Code of New York State. Prior to performing any removals or construction that impairs free egress from existing building exits to refuge areas remote from the buildings, complete the installation of all temporary fencing, barricades and walkways. Install temporary egress, stairs, ramps and paths around Work areas that comply with the Protection of Pedestrians section of the Safeguards During Construction chapter the New York State Uniform Fire Prevention and Building Code.

5. Unless otherwise permitted by the Consultant and the Fund, the removal and/or demolition of given work items shall not occur until the Contractor has all the required replacement materials on-site.

6. Code of Conduct: The Contractor and its employees shall comply with College regulations governing conduct, background checks, access to the premises, and operation of equipment. In addition:
   a. All employees of the Contractor and every subcontractor must comply with all site access control and security procedures prescribed by the Campus which may include, but are not limited to, the wearing of identification badges, ingress and egress through controlled entry and exit points, and use of card readers or other electronic identity verification devices. In the event said identification badge has not been issued by the Contractor, all employees of the Contractor and every subcontractor must produce a valid form of government-issued photo identification promptly upon request of the Campus. Failure to display such identification or to display or produce such identification in the manner as prescribed by the Campus may result in the employee's non-admittance to or immediate removal from the Site.
   b. The Contractor and his/her workers, employees, subcontractors and their workers, etc., will not fraternize with any building or Campus occupants. This includes, but is not limited to, students, faculty, and employees of the State other than those designated contacts for this Project, visitors and guests.
   c. At no time will it be appropriate to say, write, or gesture anything derogatory to or about any individual(s). Harassment, verbal or otherwise, of any individuals will not be tolerated. Within two business days after receipt of the Consultant's direction, remove any postings, defacement, marking, carving, graffiti, or other non-Contract related information on Site at no additional cost to the Fund.
   d. Alcoholic beverages or illegal drugs are not permitted on this Project. Smoking may be permitted where it is permitted by Campus regulations and controlled in accordance with the Fire Code of New York State, except that smoking shall be prohibited throughout demolition work areas and where recommended by NFPA 241 Annex A, Explanatory Material.
   e. Radio playing is disruptive to building occupants and is not permitted.
   f. If worker(s) fail to properly adhere to the Code of Conduct or fail to follow safety or other regulations, the Contractor will be directed to permanently remove the worker(s) from the site and replace the worker(s) at no additional cost to the Project.

7. The building shall not be left "open" overnight or during any period of inclement weather. Temporary weather tight closures shall be provided for by the Contractor to protect the structure and its contents.

   a. Provide an emergency plan to secure the Work site during severe weather.

   b. As part of the base bid, for ambient exterior weather conditions, include all reasonable materials, labor and equipment, which may be in addition to those required for the work, to implement the emergency plan for conditions up to the 95th percentile recorded seasonal conditions recorded at the nearest National Weather Service site.

      i. For conditions meeting or exceeding the 95th percentile, the additional reasonable labor, material and equipment required to implement the emergency plan may be paid for by Field/Change Order when the Consultant determines that such additional labor, material

and equipment could not have been reasonably anticipated in the base bid emergency plan.

c. As part of the base bid and Article V of the Agreement, for damages caused by ambient exterior weather conditions, provide all reasonable materials, labor and equipment, which may be in addition to those required for the Work and/or required to perform stabilization, removals and corrective Work caused by severe weather.

   i. For conditions meeting or exceeding the 95th percentile, the additional time required for corrective Work may be paid for by Field/Change Order when the Consultant determines that such time could not have been reasonably anticipated in the base bid emergency plan.

d. The plan shall describe:
   i. how weather conditions will be monitored,
   ii. which forecast weather conditions require emergency preparations,
   iii. what emergency preparations are required during the anticipated conditions of the job site during the time of the work, including removal of precipitation, securing materials, chemicals, temporary facilities work in place and other steps that could be reasonable anticipated,
   iv. when such emergency preparations will be implemented,
   v. who will implement the preparations,
   vi. who will check the completed preparations to confirm they meet the intent of the plan,
   vii. who will communicate the plans to local emergency responders,
   viii. how the site will be monitored during severe weather,
   ix. who will be on standby to return to the site when permitted by local emergency responders,
   x. how the damage, if any, will be assessed.

e. The emergency plan shall be available for review by the Consultant within four (4) hours or less notice during non-working hours and within thirty (30) minutes during working hours.

01 35 13 10 Salvage of Materials

1. Remove and legally dispose of all debris and other materials resulting from the alterations to State University property. The following items shall remain the property of the Campus and shall be stored at the site as directed by the Consultant:
   a) None

01 35 23 Safety and Protective Facilities

1. The Contractor shall provide the necessary safeguards to prevent accidents, to avoid all necessary hazards and protect the public, the Campus staff, students, visitors, the work, and property at all times, including Saturdays, Sundays, holidays and other times when no Work is being done. The Contractor's Safety Procedures Manual shall be certified by a Certified Safety Professional from the Board of Certified Safety Professionals (www.bcsp.org).

   a) Prior to beginning any Work on site, submit an OSHA compliant site specific Safety Procedures Manual that identifies all site-specific safety issues related to this Work and details how each will

be addressed. In accordance with OSHA, hold weekly "Tool Box" meetings with jobsite personnel to discuss safety and fire prevention topics as required by NFPA 241 and as recommended in its Annex A, Explanatory Material.

b) Provide the appropriate "competent" person(s) (as defined by OSHA) on site during the performance of work.

2. The Contractor shall erect, maintain and remove appropriate barriers or other devices, including mechanical ventilation systems, as required by the conditions of the Work for the protection of users of the project area, the protection of the Work being done, or the containment of dust and debris. All such barriers or devices shall be provided in conformance with all applicable codes, laws and regulations, including OSHA and National Fire Prevention Association (NFPA) 241, for safeguarding of structures during construction. Provide a copy of NFPA 241 for use on site during the work. Barriers shall be made from noncombustible and/or fire retardant materials. As appropriate to the risk and when requested, provide periodic inspections of the safety and protective facilities by competent individuals. Promptly correct any deficiencies observed.
   a) Prior performing any removals or construction that impairs free egress from existing building exits to areas of refuge remote from the buildings, complete the installation of all temporary fencing, barricades and walkways. Install temporary egress, stairs, ramps and paths around Work areas that comply with the Existing Building Code of NYS, Chapter 15 - Construction Safeguards.
   b) Sequence the construction Work to minimize the relocation of the above barriers and walkways. Install, relocate and modify the construction safeguards, barriers and covered walkways as required to perform the Work in a manner that limits the temporary closure of any egress path to the least amount of time possible. If any egress path requires closure that is not shown on the drawings, that closure may not be able to occur during normal business hours of the buildings. Where permitted by the Code and if approved by the Campus and the Consultant, portions of interior corridors, aisles and passageways may be closed for limited time periods if such portions are under continuous supervision of the Contractor and the Contractor has a reasonable plan to divert and direct exiting occupants during an emergency.
   c) When existing stairs are not available for the Contractor's use, provide a stair when construction Work areas are four stories above or below the exit to staging areas on the adjacent grade. The existing/permanent stairs of the Project may be used by the Contractor if the stairs are in essentially new/repaired condition prior to the Fund's acceptance of the structure. Where the existing/permanent stairs are not available for the Contractor's use, provide a noncombustible temporary stair meeting the following requirements:
      1) Clear width of stair and landings shall be 36" with 6'-8" clear headroom.
      2) Riser height shall not exceed 7" and tread width shall not be less than 11".
      3) Handrails shall be on both sides between 34" and 38" above tread/landing, be continuously graspable and have a 1 ¼" circular cross section.
      4) Each level will have clear signage identifying the level, stair and exit path.

   d) Prior to starting demolition, to maintain occupied spaces with their current services and utilities, trace all services and utilities, identify their respective areas and zones of service, both within the Work area and outside to Work area. Two weeks prior to start of demolition, submit a written plan for each service and utility describing how such services and utilities will be temporarily maintained, shutdown, disconnected and cut, and/or permanently reconnected. Field tracing, testing and identification of services and utilities that requires their temporary shutdown will be done after hours or on weekends.

1) The plan should clearly identify any impairment of fire protection system(s), exit signs, exit lighting and/or other code required life safety systems. Add dates and durations of impairments to the Project Schedule.
2) The Project Schedule should allow for the presence of the Campus Fire Prevention Program Superintendent at the time fire protection system(s), exit signs, exit lighting and/or other code required life safety systems are shut off and at the time such systems are restored to partial/full service.
3) Confirm not needed, then delete

e) When moving any items (materials, equipment, supplies, tools or other items) through exits, exit access spaces and site areas shared with the Campus during occupied hours, provide radio equipped flagger(s) whose sole responsibilities are: (1) to direct pedestrian and vehicular traffic as required to permit the safe transport of the items from the staging area to the Work area; (2) to inspect the paths traversed to confirm that they are clean, safe and ready for the Campus to resume using; and (3) to confirm that gates, doors, fences, barricades and other temporary controls intended to separate the public from the area(s) controlled by the Contractor are properly restored.

f) Other than materials required for a work shift, storage of materials shall not be permitted in building spaces shared with the Campus. Do not leave any materials, equipment, partially installed work, etc. in a manner that prevents full operational access by the Campus to the spaces outside the areas controlled exclusively by the Contractor. Only the material which can be used in one shift shall be moved into the spaces shared with the Campus. All other material shall be stored in the areas exclusively controlled by the Contractor. During the work shift, materials, tool boxes, etc. may be dispersed throughout the Work locations shared with the Campus, as required to perform the work, but shall be continuously attended to, neatly organized and located in a manner that does not create tripping hazards and/or reduce the clear travel path of exits and exit access spaces. All tools and excess material, if any, dispersed through the Work locations shared with the Campus shall be collected prior to the end of each shift and moved to the approved staging area.

g) The contractor shall leave the interior building access path to and from the Work areas vacuum clean after the completion of each day's work.

3. Fire safety during construction:
   a) If required by the nature of the Work and Campus regulations, the Contractor shall obtain from the Campus and pay all costs associated with "Confined Space Permits" or "Hot Permits" to execute the Work of its contract. Perform hot work in accordance with the Fire Code of New York State and the Hot Work Program approved for the work. Prior to, during and after performing hot work, inspect the hot work area for compliance with the requirements of the permitted Hot Work Program. See applicable permits and conditions bound elsewhere in this Manual (01 00 00 General Requirement Reference Documents).
      i) Confined space access and monitoring shall be coordinated with the Campus. Typical hours for confined space access are between 8:30am-3:00pm Monday-Thursday in absence of rescue team provided by the contractor.

   b) Take all reasonable precautions against fire in accordance with good fire engineering practice. Provide all temporary plans, maintenance, programs, equipment, labor and material required for compliance with the applicable provisions of the Fire Safety During Construction and Demolition

chapter of the Fire Code of New York State (FCNYS) in the New York State Uniform Fire Prevention and Building Code.

c) For areas and spaces under their control, the Contractor shall comply with applicable provisions of the Fire Safety During Construction and Demolition chapter of the Fire Code of New York State (FCNYS) in the New York State Uniform Fire Prevention and Building Code. The Campus Fire Prevention Program Superintendent will develop a project specific Fire Prevention Program required by Chapter 33 of the FCNYS. The Contractor's superintendent shall be responsible for reviewing the Fire Prevention Program for coordination with the Contractor's Work plan, adhering to the provisions of the Fire Prevention Program and implementing the minimum safeguards for construction, alteration, and demolition operations that provide reasonable safety to life and property from fire during the Contractor's operations. The Contractor's superintendent shall also cooperate with the Campus Fire Prevention Program Superintendent, respond to questions raised concerning fire safety and take prompt action to correct conditions which do not meet the applicable provisions of the Fire Safety During Construction and Demolition chapter of the Fire Code of New York State (FCNYS) in the New York State Uniform Fire Prevention and Building Code and the project specific Fire Prevention Program.

d) Use noncombustible material (metal or fire retardant material) for scaffold, trash chutes, forms, shoring, bracing, temporary stairs, ramps, platforms and boxes when such items are required during the work.

e) When permanent sprinkler and/or standpipe systems are installed as part of the work, sequence the installation of these systems in a manner that closely follows the construction work, allowing the systems to be partially or fully operational within construction Work areas, as required by NFPA 241 and as recommended in its Annex A, Explanatory Material. When permanent/existing sprinkler and/or standpipe systems are modified as part of the work, sequence the modifications of these systems in a manner that minimizes the duration of time for impairment of the systems.

f) The "Construction Fire Safety Weekly Review" form and other documents that may be developed by the Campus Fire Prevention Program Superintendent may be used during the inspection program required by NFPA 241 7.2.4.4. A copy of the Construction Fire Safety Weekly Review is bound elsewhere in this Manual.

g) Be responsible for dust control and cleanup. Provide dust curtains, ventilation and negative air machines when grinding or cutting inside the building. Use enclosed chutes whenever materials are dropped more than 10 (ten) feet.

h) All extension cords, cables and hoses shall be maintained at least 6 feet 6 inches above the working floor. Where this is impossible, these items shall be inspected daily and repaired immediately or tagged and removed from use until repaired.

i) Store flammable and combustible liquids and flammable gases used during the Work in compliance with the Fire Code of New York State.

01 35 23 10 Safety Data Sheet

1. The contractor shall submit SDS (Safety Data Sheet) for all chemicals, solvents, and materials specified or proposed to be used on this project.

01 35 29 10 Public Health/Safety Requirements and Guidance for Construction Jobsites

1. The Contractor shall comply with any and all health and safety requirements issued by federal, state or local entities, including but not limited to New York State Governor Office Executive Orders, New York State Department of Health rules, regulations and guidance, and other New York State, Fund or Campus laws, rules, regulations or requirements in effect at the time of the bid. Such health and safety requirements are made a part of the Contract Work for this Project. All costs and time associated with compliance with such health and safety requirements are included in the Contract consideration in Article IV of the Agreement.

01 35 43 Environmental Procedures

1. Employ measures to prevent creation of air pollution and odors.

    a) On interior Work and Work adjacent to occupied areas, all passageways and vent systems will be sealed to prevent dust, air pollution, and odors from traveling into occupied areas. Take measures to ensure proper separation in accordance with Section 01 35 23. Ensure that the integrity of the separation is maintained throughout the period of the work. In the event any trade must remove a barrier in whole or in part, it is their responsibility that the barrier is reconstructed at the end of each Work period.

    b) Perform exterior Work adjacent to air intakes, doors, windows and/or other passageways that may convey odors but cannot be sealed without impacting Campus operations during weekends, second or third shift or other off hour periods that mitigates the impact to Campus operations. Seal openings with fire-retardant poly tenting or equivalent. Allow sufficient time to install temporary barriers at the beginning of each off-hour period and remove barriers at the end of each off hour period.

    c) If the emission of construction related odors is found to be offensive by building staff, Work will stop and effects to effectively exhaust the odors will begin immediately. Continuance of the odor causing Work will be permitted during non-occupied times.

    d) No gasoline/diesel powered engines are permitted inside a Campus building.

01 35 73 Delegated Design

1. At the request of the Consultant and in compliance with the Rules of the New York State Board of Regents, the Fund has allowed the Consultant to delegate to the Contractor certain portions of the design of the work. These portions are listed below in the Schedule of Delegated Design. For portions of the Work where design has been delegated, the Consultant has provided, elsewhere in this Project Manual, the complete parameters which the design must satisfy and other requirements. The Contractor shall assign responsibility for the design of the delegated portions of the Work to person(s) who are New York licensee(s), or otherwise authorized, who shall sign and certify his/her design work and who are approved by the Consultant.
2. **Schedule of Delegated Design in the Technical Specifications:**

Project No.	071095-00
Project Title:	Upgrade Electrical Distribution

Section Number	Section Name	Description of Delegated Design (See Section for complete details)
034100	Precast Structural Concrete	Contractor's concrete pre-caster shall design precast underground concrete manholes and vaults to meet dimensions and capacities indicated.
260543	Underground Ducts and Raceways for Electrical Systems	
3150000	Excavation Support and Protection	Contractor shall design temporary shoring of excavation meeting requirements of specifications.

Note: The above list provides a general summary of work delegated in the technical specifications an may not be all inclusive. In case of conflict or omission, the requirements of the technical specifications take precedence over the above list.

01 41 13 Code Compliance and Testing (In addition to Section 2.10 of the Agreement)

1. The Fund, if the same is required by law, will issue a Building Permit for this Project. The project is not subject to any local building code or permit requirements, except for Work that the Contractor is to perform on property located outside of the boundaries of the campuses of the State University of New York or on systems or equipment within the boundaries that are owned or controlled by others such as utility companies.

2. Special Inspections: This project may contain Work requiring Special Inspections in accordance with the Building Code of New York. The Fund and the Consultant shall exercise control to verify that the construction conforms to the Contract documents. In addition to the requirements of Section 2.17 of the Agreement, cooperate with and provide safe access for inspection and testing agencies, as reasonable to allow inspections and tests to be performed. This will require the Contractor to provide and attend to / operate scaffolding, ladders, or lifts. This project may also contain Work requiring the construction of a main wind- or seismic-force-resisting system, designated seismic system or a wind- or seismic-resisting components and the Contractor shall have provisions for quality control.

    a) Prior to start of Work that requires code inspections, schedule pre-inspection meeting with the Consultant, Fund and Campus review required inspections and how and when they will be performed.

3. All Work involving installation and modification to fire alarm systems shall be performed by individuals or firms currently licensed by the NYS Department of State, Division of Licensing Services and shall be coordinated with the campus. The contractor shall provide copies of the individual's or firm's current license and identification cards for all unlicensed employees performing work for the licensed individual or firm for this project. The Contractor shall post a copy of the license at a location approved by the Consultant.

4. In addition to the requirements of Section 2.17 of the Agreement, before performing system tests, partial system tests or scheduling inspections for fire alarm, fire suppression, electrical, mechanical, plumbing, elevator, site infrastructure and other work that must be completed for a Temporary

Authorization to Occupy and/or a Code Compliance Certificate, attend pre-test and inspection meetings for each system with the Consultant.

a) Provide a list of all Contractor provided tests that are specified in Divisions 1 through 48, inclusive, and list portions of large systems tested separately (see 01 74 00, Clean-Up, for separation criteria), who will perform a test, when it will be done, who witnessed it and when, results (pass/fail), follow up action, comments and other information requested by the Consultant.

b) The Consultant will review the scope of inspection of the as built installation, review the completeness of the record drawings per Section 2.24 of the Agreement, review the scope applicable tests and review the applicable forms that will be completed as part of the testing and inspection.

c) Immediately after completion of tests, provide original forms with all information filled out plus six copies to the Consultant. Systems required for Substantial Completion will not be considered completed and accepted until all code required forms are completed, submitted and reviewed by Consultant for completeness. For fire protection systems, provide the Statement(s) of Compliance required by Fire Code part 901.2.1.

d) Where portions of systems are completed and ready for testing and inspection, those portions will not be considered completed and accepted until all code required forms are completed to the extent applicable to the portion of Work completed, submitted and reviewed by Consultant for completeness.

e) Where portions of systems are excluded from the portions being tested, provide additional Work required to functionally extend systems around the excluded portions and to fully separate the tested portions from the excluded portions.

f) Schedule testing that requires safety clearance or impacts Campus activities (such as, but not limited to, x-ray testing of welds) and/or testing that requires utility shutdowns for weekends, holidays and/or 2nd or 3rd shift, as appropriate to accommodate the Campus and mitigate disruption to Campus activities.

g) Unless otherwise approved by the Fund, all Contractor provided tests that are specified in Divisions 1 through 48, inclusive, must be witnessed and signed off by the Consultant prior to acceptance of the tested work; and, in the Contract Breakdown required by Section 4.08 of the Agreement, the scheduled value of Contractor provided tests shall be 5% of the amount estimated for the Work being tested.

h) In addition to the above testing, and if mechanical, hot water and/or lighting control systems are included in the work, cooperate with the Consultant to complete the commissioning of mechanical, hot water systems and functional testing of lighting controls. Provide a single competent person as the point of contact for all commissioning required in this contract. As applicable, provide workers, equipment, computer programming, fuel, power, means of access, operating instructions and manuals (see Section 01 78 23) and other work required to demonstrate installation, operation, functionality, calibration and other performance criteria of such systems.

1. "Diesel Emissions Reduction Act of 2006 (the “Act”):

   a. Contractor certifies and warrants that all heavy duty vehicles, as defined in New York State Environmental Conservation Law (ECL) section 19-0323, to be used by the Contractor, its Agents or Subcontractors under this Contract, will comply with the specifications and provisions of ECL section 19-0323 and any regulations promulgated pursuant thereto, which requires the use of Best Available Retrofit Technology (“BART”) and Ultra Low Sulfur Fuel (“ULSD”), unless specifically waived by DEC. Qualification for a waiver under this law will be the responsibility of the Contractor.

   b. Annually, in the cycle determined by DEC and the Fund, the Contractor shall complete and submit directly to the Fund, via electronic mail, the Regulated Entity Vehicle Inventory Form and Regulated Entity and Contractors Annual Report forms at the Department of Environmental Conservation (“DEC”) website for heavy duty vehicles used in the performance of this Contract for the preceding calendar year. Periodically, as requested by the Fund, the Contractor shall certify and submit the Contractor and SubContractor Certifications form, which states that the Contractor will comply with the provisions of Section 20.23.

Website:	http://www.dec.ny.gov/chemical/4754.html
Inventory Form:	https://www.dec.ny.gov/fs/docs/spreadsheets/248inventory.xlsx
Annual Report Form	https://www.dec.ny.gov/fs/docs/spreadsheets/248annrptfrm.xlsx

2. Comply with Labor Law Section 220-h; provide workers certified as having successfully completed the OSHA 10-hour construction safety and health course; and comply with the applicable NYS DOL rules and regulations for monitoring and reporting compliance.

3. Title 10 of the New York Codes of Rules and Regulations (10 NYCRR), Part 4, “Protection against Legionella”
   a. If the project involves the installation or modification to a “Cooling Tower” as defined per the NYCRR, the Contractor is responsible to provide maintenance, testing and reporting. These responsibilities begin upon startup and operation of the “Cooling Tower” or anytime it contains water, it shall continue until the date of the end of the “one-year guarantee period” as defined per Section 2.25 of the Agreement.

      i. The Contractor’s maintenance program and testing plan shall be submitted to the Fund, Campus and the Consultant for review and approval.
      ii. The Contractors testing services shall include routine and immediate bacteriological and Legionella culture sampling and analysis as required per the NYCRR. It shall also meet all the requirements in the Campuses “Cooling Tower” maintenance program and plan developed for compliance with 10 NYCRR.
         1. Documentation of all maintenance, testing and reporting of the results shall be provided to the Fund and the Campus.
      iii. Copies of all maintenance and testing records shall be kept on the premises where the “Cooling Tower” is located.

4. Comply with Labor Law Section 220-i, which requires contractors and subcontractors engaged in public work to be registered with the New York Department of Labor.

5. State Finance Law 136-d*2

    a. Contractors shall certify for each of the low embodied concrete mixes utilized on the project that they comply with all the requirements listed in contract documents. Submit an environmental product declaration (EPD), and documentation identifying the Global Warming Potential (GWP) for each of the concrete mixes.

01 51 13 Temporary Power for Construction Activities

1. Electrical energy, as/if it exists within the Work area may be used for small power tools, etc. (≤1/2 HP), without metering and at no cost to the Contractor. Usage shall be limited to existing outlets and/or panels within the Work areas shown or as approved by the Campus. The Contractor shall not exceed the capacity of the existing circuits being used. The Contractor shall be responsible for providing all necessary connections, cables, etc. and removal of the same at completion of construction with approval from the Fund. The Contractor shall in no way modify the existing circuits at the panel boards to increase capacities of the circuits. If the required power load exceeds the capacities of the available power sources, the Contractor shall provide and maintain all necessary items to provide temporary power for the project and remove at completion. Install all temporary wiring and equipment and make all connections in conformity with NYS Uniform Fire Prevention and Building Code, National Fire Protection Association, National Electric Code, and all other applicable codes. Make all replacements required by temporary use of the permanent wiring system. Provide ground fault protection.
2. If, for any reason, the permanent power with necessary cable and connections is not available in time to test out the various mechanical and electrical systems of the Project at the time of its scheduled completion, the Contractor shall provide, maintain, and keep in use sufficient temporary power facilities until such permanent power is tied in and fully energized.

01 51 16 Temporary Fire Protection

1. If the existing building is to be partially occupied during the course of the project, all existing exits except those shown for closure, fire walls, fire barriers and fire protection systems shall be continuously maintained in the occupied phases in compliance with the Fire Code of New York State and as required by NFPA 241 and as recommended in its Annex A, Explanatory Material, or other measures must be taken which in the opinion of the Consultant will provide equal safety. Those portions occupied by the Campus must be available for their use 24 hours a day, seven days a week during the Contract period unless otherwise scheduled in these documents. Comply with all applicable State and Federal codes and regulations. Prior to removal of existing fire walls, fire barriers and fire protection systems, if such removal is part of the work, install equivalent temporary fire walls, fire barriers and fire protection systems. The cost of all labor, fire watches, variances, materials, installations, maintenance and removal of such temporary fire protection systems or modifications to the existing systems are the responsibility of the Contractor. Install permanent fire walls, fire barriers and fire protection systems, if provided as part of the work, as soon as practical and as required by NFPA 241 and as recommended in its Annex A, Explanatory Material.

2. Solid fuel salamanders and heaters shall not be used by the Contractor or any of its subcontractors. For all other salamanders used by the Contractor or any of its subcontractors, attend to their operation with competent persons in each space where in use.

3. All temporary fabric used by the Contractor or any of its subcontractors for curtains, awnings or other uses shall be either non-combustible or flame retarded so that it will not burn or propagate flame.

01 51 23 Temporary Heating and Cooling

None

01 51 26 Temporary Light

1. Provide temporary lighting in the entire Work area(s) as soon as practical. Existing lighting, if available, may be utilized to provide some or all temporary lighting. Extend/relocate/modify/maintain temporary lighting to suit progress of work.
2. Provide a minimum of 10-foot candles in the entire Work area(s) as measured at the floor level. In stairs and exit aisles/paths/ways, maintain lighting levels for 24 hours, 7 days per week; in all other spaces, maintain temporary lighting during working hours.
3. All temporary lighting shall comply with the NYS Uniform Fire Prevention and Building Code, National Fire Protection Association, National Electric Code, and all other applicable codes.
4. Unless otherwise directed by the Consultant, operate and maintain temporary lighting until Substantial Completion.

01 51 36 Temporary Water for Construction Purposes

1. Water for construction is available through the Campus system without charge to the Contractor from location designated by the College. The Contractor shall obtain the necessary permission, make all connections, as required, furnish and install all pipes, fittings and reduced pressure zone backflow prevention device (tested before use), insulate piping, and remove the same at completion of work. The Contractor must provide for waste water discharge and shall take due care to prevent damage to existing structures or site and the waste of water. All pipes and fittings must be maintained to the satisfaction of the Campus at all times. Temporary water system shall comply with the Fire Code of New York State.

01 52 13 Field Office for the Consultant

The Contractor, until all work covered by the Contract is accepted by the Fund, shall provide the following:

1. Office supplies shall be new and consist of the following items:
    a. iPad – 9th generation iPad with otter box defender case; Include Bluebeam review. iPad shall have cellular communication enabled and be provided with a cellular plan for the duration of the project.
    b. Epson Workforce Pro WF-7840, with printer cable, network card, ink cartridges and support.
        1. Provide 1 box of 8-1/2”x11” paper and 1-box of 11”x17” paper, every 6-months, for the duration of the project.
    c. One (1) digital camera equal to an Olympus Stylus Tough TG-6 digital camera with two (2) additional compatible 32 GB memory cards.

d. Supplies: (1) stapler, (6) boxes of staples, (3) boxes each of black, blue and red pens, (2) boxes of pencils, (2) boxes of multicolor highlighters, a 3-sided scale ruler.

01 52 19 Temporary Sanitary Facilities

1. The Contractor shall install, maintain and, at the completion of all Work or at such earlier time as the Consultant may approve, remove temporary sanitary facilities. From the commencement of Work until the frame of the structure, if the Project involves a structure, is erected, such facilities shall be of the chemical type, shall be placed at locations approved by the Consultant and shall be screened from the Campus population/public. As soon as the frame of the structure has been erected, water supply and sanitary drainage connections shall be promptly made by the Contractor and temporary toilets, using the permanent piping system of the structure, shall be installed by the Contractor and maintained by it until completion, at which time they are to be removed by it. Permanent toilets and room finishes installed under the Contract shall not be used during construction of the Project unless the Contractor has an approved plan for periodic custodial services that maintain toilets and finishes in like new condition until their acceptance by the Fund.

a. The amount of sanitary facilities required shall be based on the total number of workers employed on the Project and shall be in accordance with the provisions of the Health and Sanitary Codes of the State of New York. Maintain all units in a clean and sanitary condition. At the minimum, clean on a weekly basis, and more often as required by the applicable sanitary codes for this occupancy. Provide all toilet supplies as required, including toilet paper, soap, paper towels, and waste receptors.

01 54 13 Use of Elevator(s) for Construction

Not Applicable

01 55 19 Temporary Parking

1. Unless otherwise specifically noted, there is no free parking available on Site. The Contractor and its employees shall be subject to all the rules and regulations of the SUNY Campus, including parking regulations. Parking violations are subject to fines and are the sole responsibility of the Contractor or its employees. Parking within Contract limit lines as shown on the drawings will be at no cost for the Contractor and its employees. However, if there is not enough space for all its employee parking and /or its employees choose on their own to use Campus parking spaces, additional Contractor employee parking may be permitted and arranged within Campus parking lots on a limited basis, as approved by the Campus and subject to applicable Campus traffic regulations and parking fees.

2. All vehicles are required at all times to be registered with the Campus' Public Safety Unit. Campus roads are subject to the New York State Vehicle and Traffic Laws, which shall be followed at all times by the Contractor's vehicle operators. All unlicensed work vehicles used by the Contractor shall be moved on Campus roads through one of the following methods only:

    a) Escort the unlicensed vehicle with two licensed vehicles with flashers, one in front and one behind the unlicensed vehicle.
    b) Transport the unlicensed vehicle on a licensed flatbed or other licensed transport vehicle.

3. All costs associated with temporary parking, both direct and indirect, shall be considered included in the base bid. Costs may include staging area improvements, permits, wage premiums, and contractor time, labor, effort, etc.

01 55 26 Traffic Control during Construction

1. With the award of a Contract the Campus will, unless otherwise specified, designate the sections of roadway under Contract a Restricted Highway pursuant to Section 104A of the Highway Law and Section 1625 of the Vehicle and Traffic Law. Pursuant to these legal sections, the Campus has the authority to (1) establish maximum and minimum speed limits at which vehicles may proceed along any such Restricted Highway; (2) establish weight and dimension limits of vehicles; (3) regulate the use of such Restricted Highway by pedestrians, equestrians, and animals; (4) regulate parking, standing, stopping, and backing of vehicles; (5) control persons and equipment engaged in work on such highway. When used on such Restricted Highways, all contractor-provided traffic control devices shall be considered as official traffic control devices and shall conform to the MUTCD. Signs indicating such restrictions shall be placed at such points as deemed necessary for the safe use of the Restricted Highway. The traveling public and Contractor must observe and comply with these restrictions, as posted, except that the Contractor may be allowed greater latitude with respect to size and weight of construction equipment.

2. The Manual on Uniform Traffic Control Devices (MUTCD) consists of the Manual on Uniform Traffic Control Devices for Streets and Highways (approved by the FHWA) and the New York State Supplement to the National Manual on Uniform Traffic Control Devices for Streets and Highways, as currently amended. These documents prescribe standards for the design, location, use, and operation of traffic control devices required by this work.

3. Prepare and submit Temporary Traffic Control plans. Plan shall be prepared by persons knowledgeable (for example, trained and/or certified) about the fundamental principles of Temporary Traffic Control and work activities to be performed. Traffic control planning shall be completed for all road construction, utility work, contractor operations, and incident management prior to occupying the Temporary Traffic Control zone.

4. The Contractor shall provide all temporary signage for traffic control when necessitated by the Work in conformance with the MUTCD. Lane closures on Campus roads shall be permitted provided the Contractor maintains one lane with full access and provides radio equipped flaggers in compliance with NYS DOT “Standard Specifications”.

01 55 29 Staging Area and Storage of Materials

1. The Contractor shall store materials and equipment within the Contract Limit Lines as designated on the drawings or as approved by the Consultant, and in compliance with the Fire Code of New York State and Section 302 Property Maintenance Code of New York State. Sequence and manage the Work to account for the extremely limited space for storage and work-related activities provided in the available staging area.
   a) No additional storage area is available on Campus. Contractor shall plan deliveries accordingly, utilizing as-needed deliveries if required.
2. All materials shall be stored in a neat and orderly manner and shall be protected against the weather by a weatherproof temporary storage facility or trailer. Protect material during shipping against any damage from weather, including road salt.
3. Security for stored materials shall be the responsibility of the Contractor.

4. Storage of materials is not permitted on the roof of any building.
5. The Contractor, at its expense and in compliance with the Fire Code of New York State, will be permitted to place its storage, trailer/field office(s) with appropriate utilities, and other temporary structures within the Contract Limit Lines as indicated on the drawing or as approved by the Consultant. Prior to installing and/or relocating any such structure, provide a layout showing separation distances in accordance with NFPA 241, Table 4.2.1.
6. Access to the construction Site for delivery of materials and equipment shall be as indicated on the drawings or as approved by the Consultant. Temporary parking for the loading and unloading of the same shall be arranged with prior approval of the Campus.

7. The Contractor shall always keep access routes, and parking and staging areas clean of debris and other obstructions resulting from the work.
8. If petroleum products are brought on Campus in stationary containers of 55 gallons or larger, the Contractor shall provide a certification to the Campus, stamped by a professional engineer currently licensed in New York State, that product storage, spill prevention, training, testing, inspections, handling and dispensing methods are incompliance with all applicable federal and state rules and regulations, including EPA rule 40 C.F.R. Part 112. The Campus may add the contractor's certification(s) to their Oil Spill Prevention Control and Countermeasure (SPCC) Plan as an amendment. This certification shall be provided to the Fund two weeks ahead of any product or container(s) delivery and the Campus shall be notified promptly of the removal of any container(s).

9. Prior to utilization on this project, the locations of cranes, mixers, boom trucks, forklifts, welding machines, generators, field offices, workbenches, cutters, hose lines, etc., must be reviewed in a pre-installation meeting with the Consultant. In addition, submit a complete lifting procedure safety plan, operator's license, an annual inspection report, and a current inspection certificate for each crane, boom or lift proposed. Prior to and during any lifting, properly erect, remove, maintain and replace any required safety and/or traffic barriers.
10. Provide a chain link fence around staging, storage, parking, etc. areas that is 8'-0" high. Cover all fence fabric with black closed mesh woven polypropylene with 95% blockage and finished with binding and grommets. Reinforce posts and add additional posts and braces as required to support the additional wind load created by installation of the fabric. Secure fabric at 2'-0" by 2'-0" grid intervals and inspect and repair all attachments points monthly. Tears or holes greater than 6" in one dimension shall be repaired weekly. Minimum post size shall be as required for a 70 mph wind. Gates shall be a minimum of 20 feet across, double swing leaves with a drop rod to secure them in place while in the closed position. All gates shall include heavy duty padlocks, keyed alike, with 10 spare keys for each given to the Consultant for distribution. Provide continuous top and bottom rails. All areas within the fence shall have all grass, weeds, etc. mowed when it exceeds 6" in height. Contractor shall clear snow as necessary within fenced areas. Snow from within the fenced areas shall be moved outside the fenced areas, transported and legally disposed of offsite. Snow outside the Contract Limits will be removed by the Campus. Set fence posts and supports in the manner that facilitates the removal of snow by the Campus. True and plumb the fence posts on a monthly basis.

11. Use of Site: Limit use of Project Site to areas within the Contract limits indicated. Do not disturb portions of Project Site beyond areas in which the Work is indicated. The use of drone(s) during Work on Site is contingent on written approval from the Campus.

12. Contractor shall clear extraneous matter (snow, precipitation, wind bourn organic matter, bird/animal carcasses, etc.) from Work areas as necessary to perform work. Extraneous matter from within the

Work areas shall be moved outside the Work areas, transported and legally disposed of offsite. Extraneous matter outside the Contract Limits will be removed by the Campus.

01 56 19 Noise Mitigation Measures

1. Employ the following measures during the Work of this contract:

2. Maintain all construction tools and equipment so that they operate at normal manufacturer's operating specifications, including at peak loading. Maintain noise created by tools and equipment below the levels in the noise level guidelines in the Federal Highway Administration Roadway Construction Noise Model User's Guide, as currently amended, page 3 (the Guide). If an individual piece of equipment exceeds the level specified in the Guide, then either perform maintenance to demonstrate a good faith effort, notwithstanding the model year of the equipment, to mitigate the noise by a measurable level acceptable to the Consultant, or to replace the equipment with equipment that complies with the level in the Guide.

3. Equip all tools and equipment being operated on Site with the appropriate manufacturer's recommended noise reduction device(s), including a muffler and jacket, free from air or exhaust leaks.

4. Equip specialized vehicles with noise-insulating material that does not interfere with the engine operation and/or other manufacturer recommended techniques to reduce noise. Prevent all unnecessary vehicle engine-idling on Site. Equip all vehicles with the installation of quieter backup warning devices where permitted by OSHA.

5. Cover portable compressors, generators, pumps and other such devices with noise-insulating fabric, employed so as not to interfere with engine operations, or employ other manufacturer recommended techniques to reduce noise.

    a) Implement a formal noise mitigation training program for all field-worker supervisory personnel including sub-contractor supervisors. Supervisory personnel shall field-train all field workers in an effort to minimize construction noise.

    b) Cooperate with the Campus to coordinate the Work whenever possible so as to minimize the impact on the facility and use quieter devices and other noise mitigation methods, such as blankets and barriers.

01 57 23 Storm Water Construction Permit Responsibilities

1. The Fund is the “Operator” in accordance with the “SPDES General Permit for Stormwater Runoff from Construction Activity, GP-”, as currently amended, and has obtained the specific permit for this project.

2. The Contractor and applicable subcontractors shall certify acceptance of the approved Storm Water Pollution Prevention Plan (SWPPP), provide supervision by individual(s) employed by a company who has attended a DEC-endorsed 4-hour Erosion and Sediment Control Training, provide a Trained Inspector during all periods of earth disturbance to perform the required inspections, and provide daily actions and modifications required to comply with the permit.

3. Provide the erosion and sediment controls and best management practices required to prevent soil or vegetative materials from leaving the Contract Limit Lines due to erosion by wind or water. For compliance with this permit, the Contract Limit Lines shall include the entrances to the existing and proposed storm sewer system shown on the documents. Attend a pre-construction meeting to discuss SWPPP compliance with the Campus and the consultant.
   a) The Owner will retain an independent Qualified Inspector to provide weekly inspections, provide written reports, and notifications to the Owner as applicable.

   b) The Contractor shall schedule and sequence the Work so that the exposed, unprotected surface area of any earth material that is subject to erosion by wind or water will be kept at a minimum. At all locations, initiate the installation of permanent erosion control work at the earliest possible time prior to and during construction work. Submit plans documenting significant modifications to the SWPPP, as required to accommodate the preferred means and methods employed, at least two weeks prior to starting any field work.

   c) All material eroded by wind or water from within the Contract Limit Lines shall be retrieved by the Contractor. All siltation deposits in storm sewers, surface waters streams or wetlands resulting from the discharge water from the project Site shall be removed to restore profiles and conditions to that existing prior to the commencement of the work. All catch basins within the Contract Limit Lines shall be cleaned prior to the start of site work and upon completion of the project.

   d) The Contractor shall keep traveled ways outside the Contract Limit Lines free of foreign objects and other items that may fall from vehicles. Promptly remove materials spilled or dropped from the undercarriage or wheels of any vehicle traveling along or across any such way.
      i) On a daily basis for the duration of the earthwork, employ an experienced firm to clean pavements and roadways with a New York State licensed vacuum sweeping vehicle (Elgin or equal) that has low drive-by noise levels, is capable of sweeping debris into a vacuum nozzle with mechanical brooms located underneath the machine, has a vacuum system powered by an auxiliary engine, has a separate debris hopper and employs water for dust suppression.

   e) The Qualified Inspector shall inspect the site erosion and sediment controls weekly and devote particular attention to all earthwork activities and drainage facilities, keeping them fully operational at all times. Any violation or discrepancies shall be bought to the immediate attention of the Owner and Campus. Maintain a log of all inspections, daily rainfall on-site, corrective actions and maintenance. Submit written inspection logs weekly or as otherwise directed and review site management practices at the periodic meetings.

   f) Disturbed areas or stockpiled materials that will not be restored or redistributed within 21 days shall be stabilized within 14 days by use of mulching, seeding, geo-textile fabric or other approved methods.

   g) The Contractor shall continue to address sedimentation and erosion control issues related to the Contract through the final acceptance of the Site, at which time the Fund shall file the Notice of Termination to cancel the permit.

   h) The Contractor shall reimburse the Fund for all costs associated with regulatory action resulting from the Contractor's failure to comply with the SWPPP.

01 58 13 Project Sign

1. No Contractor identification signage shall be erected or hung from fencing or other construction without the approval of the Fund. Contractor shall provide specific text, size, location, and number of signs for approval of the Fund.
2. The Contractor shall furnish, erect and maintain, at the Site of the work, the exact location thereof to be designated by the Consultant, a construction sign, in the form prescribed by the Contract Documents, containing the title of the Project, the Fund's name, the names of the Consultant, Contractor and subcontractors engaged in Work on the Project and such other data and information as may elsewhere be prescribed in the Contract Documents.

01 60 00 10 U.S. Steel

1. All structural steel, reinforcing steel, or other major steel items to be incorporated in the Work shall, if this Contract is in excess of $100,000, be produced or made in whole or substantial part in the United States, its territories or possessions. Upon request from the Consultant, provide information from suppliers, fabricators and installers identifying the place of manufacturer and the country of origin for all steel items incorporated into the work.

01 60 00 20 Non-Asbestos Products

1. All materials specified herein shall contain no asbestos.
2. Provide "Contains No Asbestos" permanent labels applied to the exterior jacket of all pipe insulation at 20 foot intervals with a minimum of one (1) label for each service in each Work area.
3. The use of vermiculite in products and systems installed in the Work is acceptable if the product /system manufacturer provides the MSDS sheet showing that no asbestos is present and submits a certification of the origins of the vermiculite showing that it is not from a mine contaminated with asbestos.

01 60 00 30 Products

1. All products shall be new and installed on the project within one year of manufacture, and no recycled, reconditioned, or reused products shall be used unless expressly noted otherwise in the technical specifications.

01 64 00 Campus-Furnished Products

None

01 66 00 Equipment Storage and Handling Requirements

1. Store equipment in accordance with the manufacturer's recommendations, including, but not limited to, providing anti-condensation heaters for electrical or other equipment, or other temporary measures to mitigate impact of environmental conditions in the storage location when such conditions vary from manufacturer recommendations. In addition to the requirements of the technical specifications and Sections 4.13 and 4.14 of the Agreement, for equipment that is stored, delivered and/or installed for Work not yet accepted by the Fund, provide and maintain a preventive

maintenance log (Log) that documents maintenance activities performed. (See Sections 4.13 and 4.14 of the Agreement, which requires the Contractor to perform these maintenance activities.)

2. In the Log, list equipment individually. For equipment listed, list the manufacturers' recommended maintenance activities; recommended maintenance tools, lubricants, parts and other items needed to perform maintenance; recommended frequency for performing maintenance activities; the qualifications of the workers performing the maintenance activity; anticipated/scheduled dates for performing the maintenance activity; the actual date the maintenance activity was performed; the name of the Contractor's employee who supervised performance and other information requested by the Consultant. See sample layout below:

preventive maintenance log									
Equipment	manufacturers' recommended maintenance activities	maintenance tools, lubricants, parts and other items	frequency of activity	qualifications of the workers	anticipated/ scheduled dates	actual date performed	Name of supervisor	Other	Comments
Item name	Lubicate lubrication points	ISO Grade 32 synthetic lubricant	after each 50 hours of use	Trained in accordance with manufacturer's guidelines	xx/xx/xxxx	xx/xx/xxxx	Mr. Contractor		May need to perform every 25 hours due to jobsite environmental conditions

   a. Prior to delivery of equipment to the Site or storage location, submit the Log to the Consultant for approval.
   b. After delivery of equipment, upon periodic requests of the Consultant, submit the Log for inspection and review.
   c. Prior to acceptance of equipment, submit the Log showing all maintenance activities completed for the equipment proposed for acceptance.
   d. Provide timely notification and access for the Consultant and the Fund to witness any preventive maintenance activities listed in the Log.
   e. In addition to the above maintenance, where equipment or systems are used during construction for temporary purposes (such as heating, cooling, or other construction uses), provide additional maintenance, cleaning and other activities recommended by the manufacturer for the environmental conditions in which their equipment operates.

01 71 23 Field Engineering

1. In addition to Section 2.24 of the Agreement, employ an independent Land Surveyor (a person not in the regular employment of the Contractor or having any vested interest in the Contractor's business), licensed to practice in the State of New York, for the duration of the Work, to supervise and certify the accuracy of the survey work, including the following:

   a. During the work, submit progress copies when requested by the Consultant. Upon completion of the Work, submit a certificate signed and sealed by the Land Surveyor, stating that the elevations and locations of the Work are in conformance with the Contract Documents.
   b. Maintain a complete and accurate log of control and survey work as it progresses. Utilize recognized engineering survey practices. Furnish all tools, equipment, and materials required to perform the work.
   c. Verify locations of control points prior to starting work. Control datum for survey is indicated on the Drawings. Confirm permanent survey markers to be used as benchmarks

for vertical control on the Site where indicated on the Drawings and referenced to established control points. Record locations, with horizontal and vertical data to within one one-hundredth of a foot, on Project Record Documents.

d. Establish elevations, lines and levels. Locate and lay out by instrumentation and similar appropriate means.

2. Survey and record locations of site improvements including utility locations and invert elevations and

a. Power distribution and drainage structures: provide as built inverts at each end of each pipe or conduit.
b. Pipes and conduits ending without structures: provide as built inverts at each end of each pipe or conduit.
c. Structures: as built centerlines and frame elevation.

01 71 36 Non-Destructive Building Examination

1. Prior to drilling, coring, cutting or demolishing existing or previously installed substrates, such as concrete and masonry, employ an experienced firm to investigate and locate items concealed in substrates that may be impacted by the work. Locate items such as reinforcing bars, tendons and other structural steel; conduits, piping, ducts and other concealed trade work; voids, substrate thickness and layers; and other concealed conditions within the substrates. Locate by scanning existing substrates with a radar system having a 2.7 GHz antenna (or equivalent system appropriate for the work). As concealed items are discovered and as needed to coordinate with new work, mark out location of such items on the substrate surfaces. Record and save all electronic data acquired during the scanning. If conditions are discovered that differ substantially from those anticipated, provide all electronic data to the Consultant with the notice required by Section 2.12 of the Agreement.

01 73 00 10 Information required for Rebates, Grants, Awards and/or other Programs

Not Applicable

01 73 29 Cutting, Patching and Repairs

1. The Contractor shall do all cutting, fitting, and patching of its Work that may be required to make its several parts come together properly and fitted to receive or be received by work of other Contractors as shown upon or reasonably implied from the Drawings and Specifications for the completed project.

2. Any cost caused by defective or ill-timed Work or service disruption shall be borne by the party responsible therefor. Except as otherwise expressly provided in the Contract Documents, the Contractor shall not cut or alter the work of any other Contractor or existing work without the consent of the Consultant and the Fund.

3. Existing construction finishes, equipment, wiring, etc., that is to remain and which is damaged or defaced by reason of Work done under this Contract shall be restored by the Contractor to a condition satisfactory to the Fund, or replaced with new, at no additional cost.

4. Existing surfaces, materials, and Work shall be prepared as necessary to receive the new installations. Such preparatory work shall be as required by the conditions, and in each case shall be subject to approval by the Consultant and the Fund.

5. Newly exposed work or surfaces which are presently concealed shall be made to match existing corresponding or adjoining new surfaces as directed, and the materials and methods to be employed shall be subject to approval by the Consultant and the Fund.

6. All new, altered, or restored Work in the building and on the Site shall match existing corresponding work in the material, construction finish, etc., unless otherwise specified or required by the drawings.

7. Holes, openings, gaps and voids created by removals shall be filled solid to match existing corresponding or adjoining new surfaces as directed, and the materials and methods to be employed shall be subject to approval by the Consultant and the Fund.

8. Do not cut and patch structural elements in a manner that would reduce their load carrying capacity or load-deflection ratio. Do not cut and patch operating elements or safety related components in a manner that would result in reducing their capacity to perform as intended, or result in increased maintenance, or decreased operational life or safety.

9. If possible, retain the original installer or fabricator employed under this Contract to repair, cut and patch exposed Work or, if it is not possible to engage the original installer or fabricator, engage another recognized experienced and specialized firm acceptable to the Consultant.

10. Where cutting is required use hand or small power tools designed for sawing or grinding, not hammering and chopping. Cut holes and slots neatly to size required to minimum disturbance of adjacent surface. Temporarily cover openings when not in use. To avoid marring existing finished surfaces, cut or drill from the exposed or finished side into concealed surfaces.

11. Where removal of walls or partitions extends one finished area into another: Patch and repair floor and wall surfaces in the new space to provide an even surface of uniform color and appearance; Remove existing floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance. Where patching occurs in a smooth painted surface: extend final paint coat over entire unbroken surface containing the patch, after the patched area has received.

12. Where the extent of patching of portions of the Project is significant and the need for this significant patching is due to the Contractor's means and methods, skill and labor, equipment operations, sequence of trades, lack of temporary protective facilities and/or other actions during the performance of the work, then the significant patching shall be replaced with new work.

    a. The Consultant will determine if patching must be replaced with new work using the following process.

        i. Step 1: The Consultant will evaluate the risks associated with the Patching (such as water or water vapor infiltration into the work), the esthetic impact of visible Patching, the impact that Patching has on future maintenance, custodial or other Campus operations and/or other objective criteria that it may deem reasonable

during the evaluation of the Patching. Based on this evaluation, the Consultant may recommend moving on to Step 2.

ii. Step 2: The Consultant will count and measure the amount of Patching using the most reasonable unit of measurement applicable. The sum of these counts and measurements will be the total amount of Patching.

1. The Consultant will determine the overall limits (Limits) of the portion of the Project with the Patching. The Limits will include all the Patching counted and measured above plus reasonably adjacent portions of the Project that may be without Patching.
2. The Consultant will measure the Limits using same unit of measurement used to measure the Patching. This quantity will define the extent of the Limits of the portion of the Project with the Patching.
3. Using the figures calculated above, the Consultant determines the number of Patches and the percentage of Patching that exists within the Limits. The Work within Limits shall be replaced with new Work if:
4. If the number count of Patches within the Limits exceeds 2 (two) per 100 (one hundred) square feet (or other appropriate unit of measurement), or
5. If the percentage of Patching exceeds 15% (fifteen percent) within Limits.

b. The Consultant will determine the reasonable extent and type of Work required to replace the Patching and issued detailed drawings and instructions to the Contractor for its use in completing the corrective work.

01 74 00 Clean-Up

1. Periodic Cleaning: The Contractor shall at all times during the progress of the Work keep the Site free from accumulation of waste matter or rubbish and shall confine its apparatus, materials and operations of its workers to limits prescribed by law or by the Contract Limit Lines, except as the latter may be extended with the approval of the Consultant and the Fund. Provide cleaning and waste disposal in accordance with the Fire Code of New York State and as required by NFPA 241 and as recommended in its Annex A, Explanatory Material. Cleaning of the structure(s), once enclosed, must be performed daily and removal of waste matter or rubbish must be performed at least once a week unless more frequent performance is required by NFPA 241 and recommended in its Annex A, Explanatory Material.

a. If open topped dumpsters are within 35 feet of any structure, empty and remove combustible contents from these dumpsters at the end of each shift.

b. Provide periodic pest and vermin control as required to deliver the completed building completely free of any infestation.

c. Waste Disposal: Do not dispose of, bury, or burn waste materials on-Site. Grinding of concrete, asphalt or masonry for disposal shall not occur on-Site. Do not wash waste materials down sewers or into waterways.

d. Demolition and removal Work on Site shall be limited to the minimum work required to create debris that allows for reasonable handling and transport. Additional work on

debris, such as grinding, cutting or crushing, which may be desired by the Contractor to make the material ready for reuse off-site, shall be performed off-site.

e. Prior to installation of ceilings, inspect all above ceiling areas and leave the completed above ceiling work and areas without the need of further cleaning of any kind and with all Work in new condition and perfect order.

f. In addition to and in coordination with testing and cleaning specified in Divisions 2 through 48 inclusive, periodically flush and clean air and fluid new and existing systems in portions (sections) as the Work is installed. Flushing and cleaning of existing systems is limited to portion modified in this Work and portions shut down by this project (dead legs), where such portions were left without flow. Such dead legs shall be flushed and cleaned prior to restoration of use.
    i. Submit a flushing and cleaning plan to the Consultant for approval prior to beginning installation of a system.
    ii. Unless otherwise approved by the Consultant, select portions of systems for cleaning in a manner that limits the maximum size of a portion cleaned in a single effort to an individual riser, to individual floor system and to not more than 1,000 linear feet in length of the installed portion of a riser or individual floor system, whichever is less.
    iii. Where portions of systems are excluded from the portions being cleaned, provide all additional Work required to functionally extend systems around the excluded and/or uncompleted portions and to fully separate the portions being cleaned from the excluded and/or uncompleted portions.
    iv. Unless otherwise approved by the Consultant, fully separate fixtures, appliances, and equipment from the portions being cleaned by providing all additional Work required to functionally extend systems around the excluded fixtures, appliances, and equipment and to fully separate the portions being cleaned from the excluded fixtures, appliances, and equipment.
    v. Provide temporary means for providing and moving air and/or fluid at the rate required to flush and clean the portions of systems being cleaned unless use of permanent equipment is specifically approved by the consultant. If the permanent equipment is permitted to be used, provide a letter from the manufacturer's technical representative agreeing to such use, stating that its use shall not limit their warranty and excluding the time their system is used from the project specific warranty period. See 01 78 36, Warranties, for additional requirements.
    vi. Capture, treat and legally dispose of air and fluid discharges, effluent and any materials cleaned from a systems or portions of a system. When approved by the consultant, the Campus sanitary system may be used to convey discharges if the local treatment facility provides written confirmation to the Contractor that it will accept such discharges.

g. In addition, during the course of the work, the Contractor shall remove dust, debris, rubbish, and other materials scattered and dispersed from its Work area into other spaces, sites, equipment or materials owned or controlled by others. Engage qualified firms and competent workers to restore the use or appearance of such spaces, sites, equipment or materials to their original condition and to the satisfaction their owner or controller. If such scattering or dispersal occurs, provide qualified workers during all

periods of subsequent Work to provide daily monitoring, containment, continuous cleaning, and other actions or modifications to work activities as required to mitigate future scattering or dispersal.

h. Provide and maintain sweeping compound to assist in daily cleanup as needed for the duration of the project. Provide, maintain and replace as necessary general use construction push brooms (soft bristle), construction push brooms (course bristle), heavy-duty, flat edge shovels and dustpans.
i. Prior to Substantial Completion of the work, when directed by the Consultant, route and flush all storm drain lines located in the staging area to the next catch basin, include those off site, and clean catch basins of all mud, silt, and debris.

2. Final Clean Up: Upon completion of the Work covered by the Contract, the Contractor shall leave the completed project ready for use without the need of further cleaning of any kind and with all Work in new condition and perfect order. At least two weeks prior to the start of Final Clean Up, submit a written implementation plan describing cleaning methods, staff, sequence and schedule of activities and other information requested by the Consultant. In addition, upon completion of all work, the Contractor shall remove from the vicinity of the Work and from the property owned or occupied by the State of New York, the State University of New York or the Fund, all plant, buildings, rubbish, unused materials, concrete forms and other materials belonging to it or used under its direction during construction or impairing the use or appearance of the property and shall restore such areas affected by the Work to their original condition, and, in the event of its failure to do so, the same shall be removed by the Fund at the expense of the Contractor, and it and its surety shall be liable therefor.

01 74 16 Payment for Planting Maintenance

Not applicable

01 74 19 Construction Waste Management

1. In addition to the requirements of the above Sections 01 35 13, Conducting Work, and 01 74 00, Clean Up, implement a construction and demolition (C&D) waste management plan which recycles at least 50% of the non-hazardous building C&D waste generated.
   a. In conjunction with monthly payment applications, submit a waste management reporting form for all materials transferred from the project site for recycling or disposal. Reporting form shall:
      i. Include receipts or other documentation from the disposal and/or recycling facility of the quantity and type of materials transferred.
      ii. Provide the name and address of the disposal facilities and/or recycling facilities where materials will be disposed or recycled.
      iii. Report all the material quantities either by weight or volume. To convert volume into weight use the US EPA conversion rates.
      iv. Provide documentation for materials or equipment to be removed from the site for sale or reuse, or turned over to the Campus, which are classified as recycled materials. Documentation shall include the description of the materials or equipment, weight or quantity of materials or equipment, and a receipt for the sale, a letter on Contractor's letterhead indicating the reuse or the Campus'

signed receipt of materials or equipment, and the applicable fee(s) paid or payment(s) received.

v. Show the percentage of recycling achieved to date.

b. Within 30 days after Substantial Completion, submit the total quantities for all C&D and the percentage of materials which were recycled.

c. Any money received by the Contractor for materials recycled, sold or reused off site was considered when the Bid Proposal submitted to the Fund and may be retained by the Contractor. The Contractor is solely responsible for the security of any materials that may be recycled, sold, or reused.

2. For all construction and demolition waste that leaves Campus with a manifest, provide copies of manifests in the monthly reports. For each manifest that requires the Campus EPA ID number as the generator of the waste, submit a draft copy for the review by the Campus, make any reasonable corrections that the Campus requests, and allow one week for the Campus to review and sign each completed manifest.

01 75 10 Consumables used during the Work.

Except for energy, fuel, and/or water specified as provided by the Campus, provide all consumable parts, fluids, gases, materials, products, energy, and fuel(s) required for transporting, assembling, erecting, installing, start-up and commissioning, and testing of the materials prior to Substantial Completion, including consumable supplies normally consumed in the assembly, erection, installation, start-up and commissioning, and testing, and maintenance of the Work until Substantial Completion of the Project. Such consumable parts shall not include any spare parts, attic stock, or any consumable parts specified in Divisions 1 through 48, inclusive, for turnover to the Campus.

01 78 23 Operations and Maintenance Manuals (O&M's)

1. O&M's Submissions
   a. The O&M's applicable to this Contract must be substantially completed before the Project can be used for the purpose for which it was intended.
   b. In accordance with the approved submittal schedule in Section 01 32 16 Project Schedule, provide the applicable O&M's as required per the Submittal sections of the Technical Specifications for review, concurrent with all other required submittals.
   c. Assemble and submit final O&M's prior to requesting inspection for Substantial Completion and at least 45 days before the training detailed in section 01 79 00 Training of Campus Personnel and the applicable Technical Specifications. Consultant and Commissioning Authority (CxA) will provide comments on the final O&M's within 15 days of receipt.
      i. Correct or revise each manual to comply with Consultants and CxA's comments. Submit copies of each corrected O&M's within 15 days of receipt of the Consultant's and CxA's comments and at least 15 days prior to commencing training detailed in section 01 79 00 Training of Campus Personal and the applicable Technical Specifications.
   d. Unless otherwise approved by the Fund, in the Contract Breakdown required by Section 4.08 of the Agreement, the scheduled value of Contractor provided O&M's shall be 5% of the estimated value for the Work covered in the O&M's

e. The Contractor shall furnish two (2) complete bound paper copies and PDF/A files of O&M's for all systems, subsystems, and pieces of equipment involved in the Contract. O&M's include definite and specific instructions on the proper operation and maintenance of the systems. The requirements of this section are in addition to the requirements of Section 01 33 23 Shop Drawings and Samples.

i. PDF/A copies shall be stored and labeled on four (4) sets of archival optical discs, Universal Serial Bus (USB) flash drives or other electronic data storage devices approved by the Consultant. All documents shall be indexed, text searchable, navigable format. PDFs created by scanning are not acceptable unless all images of text are properly and completely transformed into the electronic characters representing the text.

f. Final copies shall be complete except for copies of original warranties and other items approved by the Consultant for turnover on the date of Substantial Completion.

2. General requirements for O&M's:

a. Organization: Organize the O&M's into separate volumes/sections by CSI number based on the table of contents of the Project Manual, for each system and subsystem, and a separate section for each piece of equipment not part of a system. Arrange content within volumes/sections alphabetically. Each volume shall contain the following materials, in the order listed:

i. Title Page.
ii. Table of Contents.
iii. Volume Contents:
1. Operation Data.
2. Product Maintenance Data.
3. Systems and Equipment Data.

b. Title Page: Include the following information:

i. Subject matter included in volume
ii. Name and address of Project and Owner
iii. Date of submittal
iv. Name and contact information for:
1. Contractor and Major Subcontractors.
2. Construction Manager.
3. Consultant and Major Subconsultant.
4. Commissioning Agent.
5. Cross-references to related system in other O&M's

c. Table of Contents: List each product included in O&M's, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.

i. If O&M's documentation requires more than one volume to accommodate data, include a comprehensive table of contents for all volumes in each volume of the set.

d. Volume Contents: Organize into sets of manageable size. Arrange contents alphabetically by CSI number, system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single volume.

e. Manufacturers' Data: Where O&M's contains manufacturers' standard printed data: include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data includes more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.
    i. Prepare supplementary customized narrative text if manufacturers' standard printed data are not available or where project specific information is necessary for proper operation and maintenance of equipment or systems.
f. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of standard component parts of equipment and systems and to illustrate actual control sequences and flow diagrams. Coordinate these drawings with information contained in Record Drawings to ensure correct illustration of completed installation.
    i. Do not bind as part of O&M's the Record Drawings provided in accordance with Section 2.24 of the Agreement.
g. When multiple binders are required, use the same type and size of binder for each volume
h. Internally subdivide the binder contents with permanent page dividers, logically organized as described below, with tab titles clearly printed under reinforced laminated plastic tabs:
i. Use 8-1/2 x 11-inch text pages bound in spring post binders with durable plastic covers and sides identified with printed titles "OPERATION AND MAINTENANCE MANUALS", title of project, and subject matter of binder. 11 x 17 paper may be used if each page is folded three times to fit the 8-1/2 x 11 format

3. Operation Data
    a. Content: Organize Operation Data into a separate section, within the O&M's.
    b. Engage a manufacturer authorized service representative(s) to provide and prepare the information.
    c. Prepare a separate section indicating operation of each system and subsystem, and piece of equipment not part of a system in the form of an instructional manual for use by operating personnel.
    d. In addition to requirements in this section include operation data as required in the Technical Specification sections.
        i. System, subsystem, and equipment descriptions. Use designations for systems, subsystems and equipment indicated on Contract Documents.
        ii. Operating standards.
        iii. Operating procedures.
        iv. Operating logs.
        v. Wiring diagrams, as installed.
        vi. Control diagrams, as installed. Describe the sequence of operation, and diagram controls as/where required for identification.
        vii. Piped system diagrams, as installed and identify color-coding as installed.
        viii. Precautions against improper use.

ix. License requirements, if any, including inspection and renewal dates.

e. Description of system, subsystem, or equipment, as applicable, including:
   i. Product name and model number. Use designations for products indicated on Contract Documents.
   ii. Manufacturer's name.
   iii. Equipment identification with serial number of each component.
   iv. Equipment function.
   v. Operating characteristics.
   vi. Limiting conditions.
   vii. Performance curves.
   viii. Engineering data and tests.
   ix. Complete nomenclature and number of replacement parts.

f. Operating instructions and procedures, including:
   i. Startup procedures.
   ii. Equipment or system break-in procedures.
   iii. Routine and normal operating instructions.
   iv. Regulation and control procedures.
   v. Instructions on stopping.
   vi. Normal shutdown instructions.
   vii. Seasonal and weekend operating instructions.
   viii. Required sequences for electric or electronic systems.
   ix. Special operating instructions and procedures.

4. Product Maintenance Data
   a. Content: Organize Product Maintenance Data into separate section, within the O&M's, for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.
   b. Source Information: List each product included in section identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross reference specification section number and title in Project Manual and drawing or schedule designation or identifier where applicable.
   c. Product Information: Include the following, as applicable:
      i. Product name and model number.
      ii. Manufacturer's name.
      iii. Color, pattern, and texture.
      iv. Material and chemical composition.
      v. Reordering information for specially manufactured products
   d. Maintenance Procedures: Include manufacturer's written recommendations and the following:
      i. Inspection procedures.
      ii. Types of cleaning agents to be used and methods of cleaning.
      iii. List of cleaning agents and methods of cleaning detrimental to product.
      iv. Schedule for routine cleaning and maintenance.
      v. Repair instructions.

e. Repair Materials and Sources: Include a list of materials and local sources of materials and related services.
f. Warranties and Guarantees: Include copies of warranties and guarantees lists of circumstances and conditions that would affect validity of warranties.
    i. Include procedures to follow and required notifications for warranty claims.

5. Systems and Equipment Maintenance Data
    a. Content: For each system, subsystem, and piece of equipment not part of a system, include source information, manufacturers maintenance and documentation, maintenance procedures, maintenance and service schedules, spare parts list and source information, maintenance service contracts, and warranty and bond information, as described below.
    b. Source Information: List each system, subsystem, and piece of equipment included in a separate section within the O&M's identified by product name, and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual and drawing or schedule designation or identifier where applicable.
    c. Manufacturers' Maintenance Documentation: Manufacturers' maintenance documentation including the following information for each component part or piece of equipment:
        i. Standard maintenance and repair instructions and bulletins.
        ii. Drawings, diagrams, and instructions required for maintenance, including disassembly and component removal, replacement, and assembly.
        iii. Identification and nomenclature of parts and components.
        iv. List of items recommended to be stocked as spare parts with parts identified and cross-referenced to manufacturers' maintenance documentation.
    d. Maintenance procedures: Include the following information and items that detail essential maintenance procedures:
        i. Test and inspection instructions.
        ii. Troubleshooting guide.
        iii. Precautions against improper maintenance.
        iv. Disassembly; component removal, repair, and replacement; and reassembly instructions.
        v. Aligning, adjusting, and checking instructions.
        vi. Demonstration and training video recording, if specified.
    e. Maintenance and Service Schedules: Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.
        i. Scheduled Maintenance and Service: Tabulate actions for daily, weekly, monthly, quarterly, semiannual, and annual frequencies.
        ii. Maintenance and Service Record: Include manufacturers' forms for recording maintenance and inspection.
    f. Spare parts list and source information: Include list of replacement repair parts, with parts identified and cross referenced to manufacturers' maintenance documentation and local sources and maintenance materials and related services.

g. Warranties: Include copies of warranties and list of circumstances and conditions that would affect validity of warranties.
    i. Include procedures to follow and required notifications for warranty claims.

01 78 36 Warranties

1. In addition to the requirements of Section 2.25 of the Agreement, provide warranties for products, equipment, systems and installations required by other technical sections of Contract Documents for duration indicated. Warranties shall be individually listed in the project specific submittal log required by 01 33 23, Shop Drawings and Samples.

    a. All warranties required by Contract Documents shall commence on date / time of Substantial Completion shown on Page A-1 of the Agreement.

        i. At no additional cost to the Fund, for products, equipment, systems and installations completed prior to the date of Substantial Completion, obtain and pay for warranty extensions that cover the additional time between the earlier date of their completion and the date of Substantial Completion.

    b. Provide a list of all Contractor provided warranties that are specified in Divisions 1 through 48, inclusive, and list who will inspect the Work covered by the warranty (if applicable), when it will be done, who witnessed it and when, results (pass/fail), follow up action, comments and other information requested by the Consultant.

        i. Unless otherwise approved by the Fund, all inspections must be witnessed and signed off by the Consultant prior to acceptance of Contractor provided warranties that are specified in Divisions 1 through 48, inclusive.

        ii. The Consultant will reject a Warranty issued prior to or without the manufacturer's field inspection of the work, if required in Divisions 1 through 48, inclusive.

    c. Unless otherwise approved by the Consultant and if required in Divisions 1 through 48, inclusive, the scheduled value of a Contractor provided warranty in the Contract Breakdown required by Section 4.08 of the Agreement shall be 5% of the amount estimated for the Work being warrantied.

    d. Furnish and organize original warranties in a separate binder with a durable plastic cover. Organize the binder into separate sections by CSI number based on the table of contents of the project manual. Internally subdivide the binder contents with permanent page dividers, logically organized as described below, with tab titles clearly printed under reinforced laminated plastic tabs. Provide a printed Table of Contents.

        i. Warranties shall be in the form required by the applicable technical sections of Contract Documents. Include procedures to follow and required notifications for warranty claims.

ii. Warranty Certification: Written certification from the warrantor that the warranty is in effect and non-retractable due to any of the specified conditions. Warranties submitted without warranty certification will not be accepted.

iii. Deliver the binder to the Consultant with the written notice of Substantial Completion required by Section 2.23(2) of the Agreement.

e. For uncompleted Work delayed beyond date of Substantial Completion, provide updated binder submittal within 10 days after acceptance, indicating date of acceptance as start of warranty period for any Work delayed beyond date of Substantial Completion.

2. Applications for payment after the date of Substantial Completion may not be approved until the warranty certification and warranty documents are delivered to the Consultant.

01 78 39 Project Record Documents

1. In addition to Section 2.24 of the Agreement, provide the Records Information required by Fire Code part 901.6.3.1 and the Operating Adjustments and Instructions required by Mechanical Code part 1004.7.

01 79 00 Training of Campus Personnel

1. Training of Campus personnel in the use of the Work of this Project must be substantially completed before the Project can be used for the purpose for which it was intended. The information required by Section 01 78 23 Operating Instructions and Manuals is required for training to occur and be completed.

2. The Contractor shall be responsible for training coordination and scheduling and ultimately for ensuring that training is completed. A draft schedule of all training shall be submitted three months prior to any training and finalized one month prior to the actual training. In addition to these general requirements, additional specific training requirements of Campus personnel by the Contractor are specified in other the applicable specifications. The Campus will designate the personnel who will be trained, and some personnel may not be direct employees of the Campus.

3. The Contractor shall provide individual training sessions for each piece of equipment furnished under this Contract. The Contractor shall provide factory authorized representatives for each training session. Training shall include operation and maintenance, preventative maintenance and troubleshooting. Operation and maintenance manuals shall be furnished to the Campus personnel three weeks prior to the associated training session.

   a. The Contractor shall schedule all training sessions. A minimum of 48-hour notice is required for scheduling. Training for each piece of equipment shall be provided in two separate sessions for each shift, one week apart. Each training session shall be no less than four hours in duration (total of 8 hours training per shift for each piece of equipment).
   b. The Contractor shall provide an additional four-hour refresher training session. The refresher training shall be provided three months after the respective equipment has been accepted.

4. The Consultant shall review and approve an outline of the content and adequacy of the training of Campus personnel for the equipment. The outline will be reviewed for content to ensure adequate coverage of the material. The Contractor will be required to revise the outline and training session based on comments by the Consultant. After approval of the training outline, submit draft PowerPoints (or equivalent) for the training. These project-specific PowerPoint presentations will integrate photos of as-built conditions, images of project specific diagrams and project specific visual cues for applicable systems. The Campus shall be responsible for providing the appropriate personnel at each session. Sessions once held may not be repeated, unless deficient or improperly taped, without additional cost to the Contractor. Contractor shall assign a person other than the training session instructor to operate the videotaping equipment. Tape of the first session shall be reviewed immediately with the Consultant to confirm that the taping method provides suitable, clear documentation of the training session, and shall become the sample against which all future tapes are judged. Tapes with substantial deficiencies, as compared to that sample, shall be redone in a repeated session of training. Tapes shall be copied for insertion into each manual and shall be indexed and titled as to their contents with type written labels. The Campus personnel in attendance shall be documented with a sign in sheet for each session, to be included in the O & M Manuals. Attendance sign-in shall constitute their certification that full training in the subjects was covered. Where training occurs off Campus, provide confirmation vouchers showing attendance paid in full.

5. Refer to technical specification sections for additional training.

****End of 01 00 00 General Requirements***

Campus Specific General Requirements

1. Temporary Access and Parking

a. Access to the building sites for delivery of construction material, personnel and/or equipment shall be made only from the Bunn Hill service entrance drive.

b. The Contractor and his employees shall protect all permanent improvements to remain, all curbs, pavements and other improvements adjacent to work areas liable to injury. Contractor will be responsible for restoring any damaged areas to the satisfaction of the University.

c. Parking Services shall be contacted, prior to Contractor bidding, to obtain current costs and regulations regarding parking. Permits are required to be obtained in order to park on Campus – For All Vehicles.

d. Permits can be obtained by contacting the TAPS Office:
(Transportation and Parking Services)
Couper Administration Building – Ground Floor (AD-G8)
Binghamton University
PO Box 6000
Binghamton, NY 13902-6000
Office Hours: 8:30am – 3:30pm Monday-Friday
Email: parking@binghamton.edu
Phone: (607) 777-2279
Fax: (607) 777-4646

e. **Parking Violations** – contractors must follow all rules and regulations regarding parking and vehicle traffic laws and regulations. These rules and regulations can be found on our website at https://www.binghamton.edu/services/transportation-and-parking/parking. Contractors will be responsible for all violations.

2. Additional Parking Requirements

a. Loading Dock Regulations:

Campus loading docks may be used for intermittent loading and unloading of Contractor's materials, personnel and tools but not for parking of the delivery vehicle. All other vehicles (workers and company owned) are to use University parking lots and be subject to all applicable campus parking regulations and fees. Loading and unloading at campus loading docks is to be coordinated with the University's Project Coordinator. Temporary parking for loading or unloading at locations other than an existing loading dock shall be arranged, with prior approval, by the campus and should also be coordinated with the University's Project Coordinator.

b. ADA Parking Spaces:
ADA spaces are highly utilized and must remain available for the University's use. ADA access to the building must be maintained. Taking any ADA parking space, or impeding access to the building must be approved and coordinated with the University's Project Coordinator and Parking Services. Contractors parked in, or impeding ADA access to the building without prior authorization, will be subject to applicable campus fines.

3. Protection of Existing Structures, Vegetation and Utilities

The Contractor, during the course of its work, shall not damage any buildings, structures and

utilities, public or private, including poles, signs, services to buildings, utilities in the street, gas pipes, water pipes, hydrants, sewers, drains and electric power and lighting and telephone cables, lawns, curbs, plants and other improvements. Any damage resulting from the Contractor's operations shall be repaired or replaced at its expense.

4. Architect's/Engineer's Seal

In accordance with Rules and Regulations of the New York State Education Law, Title 8, Part 69.5(b), to all plans, specifications and reports to which the seal of an architect has been applied, there shall also be applied a stamp with appropriate wording warning that it is a violation of the law for any person, unless acting under the direction of a licensed architect, to alter an item in any way. If an item bearing the seal of an architect is altered, the altering architect shall affix to his item the seal and the notation "altered by" followed by his signature and the date of such alteration, and a specific description of the alteration.

5. Asbestos

If the work to be done under this contract contains the abatement of asbestos the following shall apply:

a. Testing - The University and Campus reserve the right to employ an independent testing laboratory to perform testing on the work and air sampling. The Contractor shall be required to cooperate with the testing laboratory.

6. Emergency Notification Roster

a) Emergency Phone Numbers to be used for Life or Property Emergencies. The following phone numbers must be used to contact Ambulance, Fire Department, and Police.
   1) On Campus Phone: # 911, will connect with campus University Law Enforcement Department (ULED)
   1) Cell Phone: # 777-2222, will connect with on campus (ULED)
   2) Reporting Instructions are as follows: "Identify yourself and say where you are: My name is _____, I am at (Building and room, or address), and I want to report a (Fire, Accident)."

b) Project Roster: The Contractor shall produce, distribute and maintain a Project Roster of Primary contacts, Contractors and Sub-contractors. The Roster shall list the following: The Campus will make a form available to the contractor for this information.
   1) Project Title
   2) Project Construction Fund number
   3) Anticipated Date of Completion
   4) Date and revised dates
   5) Line Numbers for individual contacts
   6) Function of Contact (Individual title)
   7) Name of Contact
   8) Company Name & Business Address
   9) Business Phone #'s: Telephone, Fax, Pager, Car and E-Mail address
   10) Emergency Phone #: for 24 hour emergency

7. Unacceptable Materials and Products

a) All materials and products specified herein and /or used on Work of this Project shall not contain Asbestos, Lead, or PCB, and their packaging shall be labeled accordingly by manufacturers.

b) Provide “Contains No Asbestos” permanent labels applied to the exterior jacket of all pipe insulation at 20 foot intervals with a minimum of one (1) label for each service in each work area.

8. Worker Protection

a) General and regulatory requirements

   1) Comply with requirements of worker protection.

   2) Comply with governing codes, laws and regulations and industry standards.

b) Respirators and Filters

   1) Respirators and filters shall be selected by Contractor.

   2) Choice of respirators and cartridges shall correspond to type of Work performed to protect workers from hazardous exposure during removal of lead-based paint, from fibers during handling of non-combustible filler blanket, from respirable dust during sanding of wood moorings from chemical vapors during sealing/finishing the new flooring and painting game lines and logo.

   3) Packing boxes of the respirators (masks) and of disposable filters shall show the logo of NIOSH & of MSHA and shall also indicate that this equipment are for use in environments encountered or expected to be encountered during the Work

c) Personal protective equipment (PPE).

   1) Provide per OSHA regulations.

9. Services of Licensed Electrician

a) Provide and maintain electrical mechanical shutdown and lockout tag-out of applicable system during construction.

b) Provide all necessary electrical disconnections of relocated/removed existing equipment and reconnections of reinstalled equipment (as applicable).

c) Provide and maintain a correct and a safe utilization by Contractor of all electrical power supplies, of connected tools and equipment, of portable lighting.

d) All electrically powered tools, equipment and portable lighting shall be connected only to circuitry protected at source by Ground Fault Interrupters (GFI).

e) Where Contractor’s cords or temporary wiring traverses through areas outside Contract Limit Lines, provide “pancake” protections to eliminate tripping hazards.

f) Conduct periodic inspections of both electrical wiring and electrically powered equipment to identity damaged, worn-out or “tired” equipment

10. Temporary Power

a) Supplied by Owner

1) Electrical Power will be available at no cost to the Contractor from existing outlets or panels from locations approved by the University.

2) Electrical Usage:

   (a) Convenience outlets maybe utilized at any location

   (b) The Ampacity of the connected equipment may not exceed 50% of the branch circuit rating.

      (i) 120vac. 30A.circuit = max. usage 15Amps

      (ii) 120vac. 20A circuit = max. usage 10Amps

      (iii) 120vac. 15A circuit = max usage 7.5Amps

3) Branch Circuits

   (a) If the Contractor requires a hard-wired branch circuit, the University will provide the panel-board locations and circuit numbers for the required usage.

   (b) All temporary wiring methods shall be in compliance with N.E.C., chapters 2 & 3.

   (c) Type NMC (Romex) is strictly prohibited for temporary branch circuit wiring.

   (d) All GFCI protection will be the responsibility of the Contractor.

   (e) No existing GFCI branch circuits or receptacles (Property of the University) shall be used for personnel protection for the Contractor.

   (f) If the required ampacity exceeds 40% of the panel-board rating and is continuous in nature (3 hours or more). The contractor shall be required to provide a temporary service from the local Utility.

   (g) In lieu of the above, if available and approved by the University the Contractor may utilize (spare) secondary circuit breaker at building distribution equipment. The distance from the distribution equipment to temporary equipment to panel-boards shall not exceed 500 feet.

   (h) Main circuit breaker rating shall not exceed 225 Amps.

4) The Contractor shall be responsible for providing all necessary connections, cables, etc., and removing of the same at completion of construction with approval from the University.

5) The Contractor shall in no way modify the existing circuits at the panel-board to increase capacities of the circuits. If the required power load exceeds the capacities of the available power sources, the Contractor shall be responsible for furnishing, and installing all necessary temporary power poles, cables, fused disconnect switches, transformers and electric meters necessary to provide a temporary power system for the project, and remove same at completion.

b) Provided by Contractor

1) If the Ampacity of the temporary service requirement exceeds 60 amps, for temporary usage, the following will apply:

   (a) The contractor shall provide all necessary temporary power for exterior site construction activities, temporary facilities, construction trailers and staging area as required. The contractor shall be responsible for furnishing and installing all necessary generators, or temporary power poles, cables, fused disconnect, switches, transformers and electric meters.

(b) Temporary power and distribution shall be removed when directed by the University.

11. Temporary Materials

Materials may be new or used, but must be adequate in capacity for the required usage, must not create unsafe conditions and must not violate requirements of applicable codes and standards.

12. Temporary Stairs, Ladders, Runways, Ramps, and Hoists

a) Comply with governing regulations and applicable standards.

b) Provide and maintain all equipment such as temporary stairs, ladders, ramps, runways, chutes, etc. as required for the proper execution of the Work. Use of Owner's equipment is prohibited.

c) Contractor's responsibilities and liabilities include providing, and proper use, of temporary stairs, ladders, ramps, scaffolding, lifts and other construction aids encompassing all related safety issues.

13. Temporary Enclosures

Provide and be responsible for all temporary enclosures required for protecting the Project from the exterior, for providing passageways, for the protection of openings both exterior and interior and any other location where temporary enclosures and protection may be required.

14. Temporary Fence, Cordoning-Off, and Warning Signs

a) Provide, install and maintain 8' high construction fencing around construction/staging area as indicated on the contract documents. Such fencing shall effectively enclose the designated construction/staging area and prevent unauthorized entry into the construction area.

b) Construction fence shall be installed prior to the start of any work and shall be maintained in accordance with University standards throughout the entire duration of the project. Coordinate discrepancies between site conditions and contract documents with the University's Representative. Upon completion of project, unless otherwise noted, Contractor is responsible for the disassembly and removal of construction fencing from campus, as well as restoration of lawns, pavement, and/or concrete areas under which the fencing was installed.

c) Maintenance of fencing is required at all times during the entire duration of the project. Contractor shall insure, at minimum, at the start and finish of every shift, that top rails are even, panels are straight with adjacent panels, panels are perpendicular/level with the ground, and wire-tires holding panels together are present and adequately tied. Contractor shall re-inspect and adjust fencing after heavy rains and/or winds, or as otherwise required. Where portable chain-link fencing is authorized by the University, adequate sand bags shall be provided in order to secure/hold fencing in place.

d) Areas in and around the fencing shall be maintained in accordance with University standards; including but not limited to mowing of lawn, snow removal, dust mediation, etc. Staging areas shall be neat and orderly; unneeded materials and debris shall be removed from the staging areas at a minimum of weekly, or more often as deemed necessary. Storm manholes within construction fencing shall be properly maintained to prevent debris from entering the manhole.

Contractor will be held responsible to clean manholes if they are found to have debris relating to construction activity.

e) Utility Markings - Prior to the installation of any post-driven permanent fence, the Contractor is responsible for hiring a Utility Marking company to identify and mark underground utilities which may exist below the purposed fencing/staging footprint. If utilities are found to impede the installation of fence, as is shown on the contract documents, the University's Representative shall be contacted. The University's Representative will assist the contractor, to the best of its ability, to provide the contractor with existing site surveys. Damage done to underground utilities due to inadequate investigation or markings will be the responsibility of the contractor to remediate.

f) Provide warning signs, securely anchored to the fence with galvanized steel, tamperproof anchor bolts at each entrance to the site. Sign shall read; ***Construction Area. Do Not Enter. Authorized Personnel Only.*** Provide additional warning signs, as required by governing codes, laws and regulations.

g) The costs associated with this section shall be included in the Base Bid and shall be broken out as a separate line item in the Schedule of Values.

h) Do not fence in Yard Fire Hydrants or other utilities that may require access.

Permanent Chain-Link Fence

1) Minimum 2", 1.048 thick, black coated galvanized steel chain link fence. No fabric or vinyl privacy slats.

2) Minimum 8' high fence with black coated galvanized steel pipe posts.
   a) Posts- Minimum 2-3/8" OD line posts and 2-7/8" OD corner and pull posts. Terminal and corner posts of fence shall be post driven, 24" into ground. Spacing of line posts at 8' maximum.
   b) Top Rail – 1-5/8" OD, black coated steel.
   c) Gate Posts – 3" OD, SS40 Steel, black coated, set in concrete 14" diameter and 42" deep.
   d) Gate – 1-5/8" OD. Double leaf with mid-rail, heavy duty strap hinges, drop bar, latch/hasp, black coated steel.
   e) Tension wire – black coated to match fence and posts. Sufficiently spaced to provide adequate support in holding panels together and upright. Minimum 3 ties per panel connection.
   f) Accessories – stretcher bars, rail ends, post caps, etc., as needed to complete work.

Portable Chain-Link Fencing

1) Acceptable only at the discretion of the University's Representative, in locations were Permanent Chain Link Fencing cannot be used.

2) Minimum 2", 1.048 thick, black coated galvanized steel chain link fence. No fabric or vinyl privacy slats.

3) Minimum 8' high fence with black coated galvanized steel pipe posts.

a) Posts- Minimum 2-3/8" OD line posts and 2-7/8" OD corner and pull posts. Sand bags at base of all posts to adequately hold posts/panels in place. Spacing of line posts at 8' maximum.
b) Top Rail – 1-5/8" OD, black coated steel.
c) Gate Posts – 3" OD, SS40 Steel, black coated.
d) Gate – 1-5/8" OD. Double leaf with mid-rail, heavy duty strap hinges, drop bar, latch/hasp, black coated steel.
e) Tension wire – black coated to match fence and posts. Sufficiently spaced to provide adequate support in holding panels together and upright. Minimum 3 ties per panel connection.
f) Accessories – stretcher bars, rail ends, post caps, etc., as needed to complete work.

Plastic "Snow" Fence

1) The use of green 48" high plastic/polyresin perimeter fence will be authorized for use at the discretion of the University's Representative. The use of orange plastic/polyresin fence is strictly prohibited on campus.

2) 60" high, 14 gauge, steel U-Posts, powder coated green or black shall be used. No wood stakes/posts will be permitted. Maximum post spacing 8'.

3) Maintenance of the vinyl fence is required at all times during its use. Contractor shall inspect fencing at the start and finish of every shift. Contractor shall re-inspect and adjust fencing after heavy rains or winds, or as otherwise required. Fencing shall be installed taught to prevent the fabric from falling over. Posts shall be adequately spaced and driven into the ground.

15. Temporary Access and Directions

a) SUNY Binghamton is located on Route 434 in Vestal, New York. The University can be approached from Route 17, via exit 70 south (route 201), travel about one mile south on route 201 to traffic circle, bear right around the circle and cross the Susquehanna River via the C. Fred Johnson Memorial Bridge. Once across the bridge the University can be seen directly ahead. Stay in the right lane and exit (Route 434 west). The first traffic light after the exit is Bunn Hill road, turn left onto Bunn Hill, the University entrance is on the left. Routes on Campus, to and from the construction site shall be as directed by the Owner or the Owner's Representative.

b) Delivery Instructions: The Contractor / Sub-Contractors shall provide the Project Name and Contractors Name on all deliveries to the Campus and Construction Site. The University will not accept deliveries at Campus Central Receiving.

c) Access to the building sites for delivery of construction material, personnel, and /or equipment shall be made only from Bunn Hill Road service entrance drive on the west side of the campus.

d) In the moving of materials and equipment over existing roadways and adjacent areas, the contractor shall at all times observe the posted speed limit and / or as otherwise directed the maximum loads allowed. Movement over underground facilities that may be damaged from excessive loads, is prohibited at all times.

16. Repair of Parking Areas

a) Contractor shall protect all permanent improvements to remain, including curbs, pavement and other improvements adjacent to work areas liable to injury.

b) Repair of any damage caused to the parking lot assigned to the Contractor as a result of the Contractor's action shall be the responsibility of the Contractor

c) Asphalt pavement specs need to include minimum pavement depths as follows:
   1) gravel base, 10" compacted item # 4
   2) asphalt binder, 3" type # 3
   3) asphalt topping, 1-1/2" type # 6

d) All curbing along roadsides is to be granite curb to match existing.

e) 4' wide curb cuts with texture identification are to be included at intersections of walks and roads.

15. Cooperation with the University

a) Adjacent buildings and grounds will be in use during the term of this Contract. The Contractor shall cooperate with the University in order that the work shall cause as little disturbance and inconvenience as possible. The University's representative shall be local contact for the coordination. The Contractor shall anticipate that certain conditions may develop during construction, which will necessitate changes in procedures and scheduling of work to meet such conditions.

b) The Contractor shall coordinate all construction activities to allow adequate access to and from building doors. The location and method of access may be varied by the Contractor to allow for his operations but shall always be coordinated with the College and Architect's Representative. The Contractor shall provide all barricades, bridges, warning lights and other safety methods to maintain continuous safe access to the public.

BINGHAMTON UNIVERSITY
State University of New York

Environmental Health & Safety
Ground Floor
Health Services Building
Phone 777-2211 Fax 777-4444

HOT WORK PERMIT

Date:	Building:
Location:	

Work To Be Done:

- ☐ Abrasive Saw
- ☐ Cut / Grind
- ☐ Heat Tile
- ☐ Solder
- ☐ Welding _____ (type)
- ☐ Other _____

Fumes / Vapors

Location of nearest air intake:

_____

_____

Type of control in place to prevent spread of fumes/vapors in air intake:

_____

_____

Permit Valid:

From: _____ To: _____

Start Time:	Completion Time:
Contractor Name & Cell/Pager #:	Supervisor Name & Cell/Pager #:
B.U. Department:	B.U. Contact Name & Cell/Pager #:

EH&S Authorization:

Person Completing Work:

Person Responsible for Fire Watch:

EH&S **must** be notified immediately upon completion of work 777-2211

EMERGENCY

911 From a Campus Phone or 777-2393

SEE ADDITIONAL REQUIREMENTS ON BACK

BINGHAMTON UNIVERSITY
State University of New York

Environmental Health & Safety
Ground Floor
Health Services Building
Phone 777-2211 Fax 777-4444

FIRE PROTECTION IMPAIRMENT PERMIT

Date:	Building:
Area Protected:	
Reason For Impairment:	

Check If Effected:
- ❑ Sprinkler
- ❑ Smoke Detector
- ❑ Heat Detector
- ❑ Halon
- ❑ Hydrant
- ❑ Fire Panel
- ❑ Other _____

Precautions Taken:
- ❑ Fire Department Notified
- ❑ System Backfed
- ❑ All Hazardous Operations Stopped
- ❑ Fire Watch
- ❑ Other _____

Out of Service:

Date: _____ Time: _____

In Service:

Date: _____ Time: _____

Contractor Name & Cell:	Supervisor Name & Cell:
B.U. Department:	B.U. Contact Name & Cell:

Person In Charge of Fire Watch (Name, Cell):

BU Authorization to begin work (signature):

BU Verification of full system restoration (signature):

EH&S **must** be notified immediately upon completion of work 777-2211

PROJECT No. 071095-00

Contractor Job #:

Project Name: Upgrade Electrical Distribution
Revised By:
DATE: 6/12/2026

Contractor ID No.	CSI Section No.	Paragraph No.	Revision / Version No. (if appl.)	Description / subject of Submittal	Submittal Action Category
	00 52 00	Section 2.18		List of Subcontractors	Action
	00 52 00	Section 2.12		Site Conditions	Informational
	00 52 00	A-Sec 2.24(3)		Record Drawings	Informational
	00 52 00	A-Sec 3.06		Monthly Reports	Informational
	00 52 00	A-Sec 4.08		Schedule of Values	Action
	00 52 00	A-Sec 6.07-1		MBE/WBE Monthly Utilization Reports (online only)	Informational
	00 52 00	A-Sec 2.06		Superintendent Submission	Action
	01 18 13			Utility Shutdown Schedule	Action
	01 26 13			Request for Information (RFI) log	Action
	01 29 00 10			Meter readings	Informational
	01 31 13 10			Existing Conditions reports	Informational
	01 31 19			bi-weekly reports	Informational
	01 32 13 10			Off campus street access	Informational
	01 32 16			Project Schedule and Submittal Schedule	Action
	01 32 33			Project Photographs	Informational
	01 33 23			Submittal management website	Action
	01 33 23			Archival submittals	Informational
	01 33 23 10			Coordination Drawings	Action
	01 33 29			Sustainable Design Reporting	
	01 35 13			emergency action plan	Informational
	01 35 13			daily reports	Informational
	01 35 13			ID Badge Format	Informational
	01 35 13			daily manpower counts	Informational
	01 35 23			Safety Procedures Manual	Informational
	01 35 23			Names of "competent" persons	Informational
	01 35 23			Pre-Demolition utility plan	Informational
	01 35 23			Approved Confined Space Permits	
	01 35 23			Temporary Egress / Barrier Plan	Informational
	01 35 23 10			MSDS sheets	Informational
	01 41 13			Special Inspection submissions	Action
	01 41 13			Fire Alarm System License	Informational
	01 41 13			Code test and inspection forms	Action
	01 41 13			Name of Commissioning contact	Action
	01 41 16			Diesel vehicle forms	Informational
	01 41 16			Cooling tower maintenance plan	Action
	01 51 16			Fire watch plan	Action
	01 52 13			Field Office equipment information	Action
	01 54 13			Plan for Use of Elevator(s) for Construction	Action
	01 55 26			Temporary Traffic Control plans	Action
	01 55 29			lifting procedure safety plan	Informational
	01 55 29			Petolium Spill Compliance Certification	Informational
	01 57 23			SWPPP modifications	Informational
	01 57 23			SWPPP inspection logs	Informational
	01 60 00 20			Vermiculite origins certification	Informational
	01 64 00			Campus-Furnished Products submittals	Action
	01 66 00			Preventive maintenance log	Action
	01 71 23			Field Engineering surveys	Informational
	01 73 00 10			Information for Rebates/Grants/Awards/Programs	Informational
	01 74 00			Fluid system flushing and Clean Up plan	Informational
	01 74 00			Final Cleanup Plan	Informational
	01 74 16			Planting Maintenance logs	Informational

PROJECT No. 071095-00

Contractor Job #:

Project Name: Upgrade Electrical Distribution
Revised By:
DATE: 6/12/2026

Contractor ID No.	CSI Section No.	Paragraph No.	Revision / Version No. (if appl.)	Description / subject of Submittal	Submittal Action Category
	01 74 19			Construction Waste Management Plan	Action
	01 74 19			Construction Waste manifests/monthly reports	Action
	01 78 23			Operating Instructions and Manuals	Action
	01 78 36			Warranties	Action
	01 79 00			Schedule of Campus training	Action
	01 79 00			Outlines of actual training	Action
	Consultant adds submittals listed in Technical specs after the above				
	Consultant should also adjust print area to only include rows with text				
	02 41 19	Section 1.5/A		Proposed Preotection Measures: Submit report, includir	Informational
	02 41 19	Section 1.5/B-1		Detailed sequence of selective demolition and removal	Informational
	02 41 19	Section 1.5/B-2		Interruption of utility services will not be permitted.	Informational
	02 41 19	Section 1.5/B-3		Coordination of Owner's continuing occupancy of existir	Informational
	02 41 19	Section 1.5/C		Inventory: Submit a list of items to be removed and sal	Informational
	02 41 19	Section 1.5/D		Predemolition Photographs or Video: Submit before W	Informational
	02 41 19	Section 1.5/E		Warranties: Documentation indicated that existing warr	Informational
	02 41 19	Section 1.6/A		Inventory: Submit a list of items that have been remove	Informational
	02 41 19	Section 1.6/B		Landfill Records: Indicate receipt and acceptance of ha	Informational
	02 82 13	Section 1.7/A-1		Copy of original insurance policy	Action
	02 82 13	Section 1.7/A-2		Copy of Department of Labor notification	Action
	02 82 13	Section 1.7/A-3		Copy of EPA notification	Action
	02 82 13	Section 1.7/A-4		Abatement Plan Layout - Decon, Negative Air Lines, Va	Action
	02 82 13	Section 1.7/A-5		SUCF Asbestos Removal Fact Sheet	Action
	02 82 13	Section 1.7/A-6		Product Information - Encapsulant, Mask, etc.	Action
	02 82 13	Section 1.7/A-7		Material Safety Data Sheets	Action
	02 82 13	Section 1.7/A-8		Asbestos Handling License	Action
	02 82 13	Section 1.7/A-9		Waste Transporter Permits	Action
	02 82 13	Section 1.7/A-10		Dumping Receipt - Waste Manifest	Action
	02 82 13	Section 1.7/A-11		Testing Lab - License, Certification	Action
	02 82 13	Section 1.7/A-12		Employees - Workers Acknowledgement, Certification	Action
	02 82 13	Section 1.7/A-13		Supervisor's Certification	Action
	03 30 00	Section 1.4/A		Product Data: For each type of product indicated.	Action
	03 30 00	Section 1.4/B		Design Mixtures: For each concrete mixture. Submit alte	Action
	03 30 00	Section 1.4/B-1		Indicate amounts of mixing water to be withheld for later	Action
	03 30 00	Section 1.4/C		Steel Reinforcement Shop Drawings: Placing drawings	Action
	03 30 00	Section 1.4/D		Formwork Shop Drawings: Prepared by or under the su	Action
	03 30 00	Section 1.5/A		Qualification Data: For Installer, manufacturer and testi	Informational
	03 30 00	Section 1.5/B-1		Cementitious materials.	Informational
	03 30 00	Section 1.5/B-2		Admixtures.	Informational
	03 30 00	Section 1.5/B-3		Form materials and form-release agents.	Informational
	03 30 00	Section 1.5/B-4		Steel reinforcement and accessories.	Informational
	03 30 00	Section 1.5/B-5		Curing compounds.	Informational
	03 30 00	Section 1.5/B-6		Floor and slab treatments.	Informational
	03 30 00	Section 1.5/B-7		Bonding agents.	Informational
	03 30 00	Section 1.5/B-8		Adhesives.	Informational
	03 30 00	Section 1.5/B-9		Repair materials	Informational
	03 30 00	Section 1.5/C		Aggregates	Informational
	03 30 00	Section 1.5/D		Floor surface flatness and levelness measurements ind	Informational
	03 30 00	Section 1.5/E		Field quality-control reports.	Informational
	03 30 00	Section 1.5/F		Minutes of preinstallation conference.	Informational
	03 41 00	Section 1.4/A		Product Data: For each type of product indicated.	Action
	03 41 00	Section 1.4/B		Design Mixtures: For each precast concrete mixture. In	Action

PROJECT No. 071095-00

Contractor Job #:

Project Name: Upgrade Electrical Distribution
Revised By:
DATE: 6/12/2026

Contractor ID No.	CSI Section No.	Paragraph No.	Revision / Version No. (if appl.)	Description / subject of Submittal	Submittal Action Category
	03 41 00	Section 1.4/C		Shop drawings prepared by or under the supervision of	Informational
	03 41 00	Section 1.4/C-1		Indicate layout and dimensions, and identify each preca	Action
	03 41 00	Section 1.4/C-2		For precast concrete units indicated to comply with desi	Action
	03 41 00	Section 1.4/D		Material certificates signed by fabricator certifying that e	Action
	07 11 13	Section 1.3/A		Product Data: For each type of product.	Action
	08 11 13	Section 1.6/B		Product Test Reports: For wach type of fire-rated hollov	Informational
	08 11 13	Section 1.6/C		Field quality control reports	Informational
	08 11 13	Section 1.7/A		Record Documents: For fire-rated doors, list of door nur	Closeout
	08 11 13	Section 1.8/A		Fire-Rated Door Inspector Qualifications	Informational
	08 11 13	Section 1.8/B		Egress Door Inspector Qualifications	Informational
	08 71 00	Section 1.3/A-1		Installation Details	Action
	08 71 00	Section 1.3/A-1		Material Descriptions	Action
	08 71 00	Section 1.3/A-1		Dimensions of individual componenets and profiles	Action
	08 71 00	Section 1.3/A-1		Operational descriptions	Action
	08 71 00	Section 1.3/A-1		Finishes	Action
	08 71 00	Section 1.3/B-3a		Type, style, function, size, label, hand, and finihs of eac	Action
	08 71 00	Section 1.3/B-3b		Manufaturer of each item	Action
	08 71 00	Section 1.3/B-3c		Fastenings and other pertinent information	Action
	08 71 00	Section 1.3/B-3d		Location of door hardware set, cross referenced to Drav	Action
	08 71 00	Section 1.3/B-3e		Explanation of abbreviations, symbols, and codes conta	Action
	08 71 00	Section 1.3/B-3f		Mounting locations for door hardware	Action
	08 71 00	Section 1.3/B-3g		Door and frame sizes and materials	Action
	08 71 00	Section 1.3/B-3h		Warranty information for each product	Action
	08 71 00	Section 1.3/C-1a		Elevation diagram of each unique access controlled ope	Action
	08 71 00	Section 1.3/C-1b		Complete (risers, point-to-point) access control system	Action
	08 71 00	Section 1.3/C-1c		Wiring instructions for each electronic componenet sche	Action
	08 71 00	Section 1.3/D		Keying Schedule	Action
	08 71 00	Section 1.3/E		Operating and Maintenance Manuals	Action
	08 71 00	Section 1.4/A		Manufacturers Qualifications	Action
	08 71 00	Section 1.4/B		Installer Qualifications	Action
	08 71 00	Section 1.4/C		Door Hardware Supplier Qualifications	Action
	26 05 13	Section 1.4/A		Product Data: For each type of cable indicated. Include	Action
	26 05 13	Section 1.4/B		Samples: 16-inch lengths of each type of cable indicate	Action
	26 05 13	Section 1.4/C		Qualification Data: For Installer and Splicer.	Action
	26 05 13	Section 1.4/D		Material Certificates: For each cable and accessory typ	Action
	26 05 13	Section 1.4/E		Source quality-control test reports.	Action
	26 05 13	Section 1.4/F		Field quality-control test reports.	Action
	26 05 19	Section 1.4/A		Product Data: For each type of product indicated.	Action
	26 05 19	Section 1.4/B		Qualification Data: For testing agency.	Action
	26 05 19	Section 1.4/C		Field quality-control test reports.	Action
	26 05 26	Section 1.3/A		Product Data: For each type of product indicated.	Action
	26 05 26	Section 1.3/B-1		Other Informational Submittals: Ground rods	Informational
	26 05 26	Section 1.3/B-2		Other Informational Submittals: Ground conductors	Informational
	26 05 26	Section 1.3/B-3		Other Informational Submittals: Bonding hardware and	Informational
	26 05 26	Section 1.3/C		Operation and Maintenance Data: For grounding to inc	Action
	26 05 29	Section 1.5/A-1		Trapeze hangers. Include Product Data for component	Action
	26 05 29	Section 1.5/A-2		Steel slotted support systems. Include Product Data for	Action
	26 05 29	Section 1.5/A-3		Equipment supports.	Action
	26 05 29	Section 1.5/B-1		Trapeze hangers. Include Product Data for component	Action
	26 05 29	Section 1.5/B-2		Steel slotted support systems. Include Product Data for	Action
	26 05 29	Section 1.5/B-3		Equipment supports.	Action
	26 05 33	Section 1.4/A		Product Data: For surface raceways, wireways and fitti	Action
	26 05 33	Section 1.4/B-1		Building Entrance Pullbox layout, including supports for	Action
	26 05 33	Section 1.4/B-2		Custom enclosures and cabinets.	Action

PROJECT No. 071095-00

Contractor Job #:

Project Name: Upgrade Electrical Distribution
Revised By:
DATE: 6/12/2026

Contractor ID No.	CSI Section No.	Paragraph No.	Revision / Version No. (if appl.)	Description / subject of Submittal	Submittal Action Category
	26 05 33	Section 1.4/C-1		Coordination Drawings: Structural members in the path	Action
	26 05 33	Section 1.4/C-2		Coordination Drawings: HVAC and plumbing items and	Action
	26 05 33	Section 1.4/D		Qualification Data: For professional engineer and testin	Action
	26 05 33	Section 1.4/E		Source quality-control test reports.	Action
	26 05 43	Section 1.5/A-1		Duct-bank materials, including separators and miscellar	Action
	26 05 43	Section 1.5/A-2		Ducts and conduits and their accessories, including elb	Action
	26 05 43	Section 1.5/A-3		Accessories for manholes, boxes.	Action
	26 05 43	Section 1.5/A-4		Warning tape.	Action
	26 05 43	Section 1.5/B-1		Duct entry provisions, including locations and duct sizes	Action
	26 05 43	Section 1.5/B-2		Reinforcement details.	Action
	26 05 43	Section 1.5/B-3		Frame and cover design and manhole frame support rin	Action
	26 05 43	Section 1.5/B-4		Grounding details.	Action
	26 05 43	Section 1.5/B-5		Dimensioned locations of cable rack inserts, pulling-in a	Action
	26 05 43	Section 1.5/B-6		Joint details.	Action
	26 05 43	Section 1.5/C		Product Certificates: For concrete and steel used in pre	Action
	26 05 43	Section 1.5/D		Source quality-control test reports.	Action
	26 05 43	Section 1.5/E		Field quality-control test reports.	Action
	26 05 43	Section 1.5/F-1		Environmental Product Declarations (EPD), including kg	Action
	26 05 43	Section 1.5/F-2		Estimated total material quantity.	Action
	26 05 43	Section 1.5/F-3		Annual material quantity update.	Action
	26 05 44	Section 1.5/A		Product Data: For each type of product.	Action
	26 05 53	Section 1.3/A		Product Data: For each electrical identification product	Action
	26 05 53	Section 1.3/B		Identification Schedule: An index of nomenclature of el	Action
	26 05 53	Section 1.3/C		Samples: For each type of label and sign to illustrate si	Action
	26 05 53	Section 1.3/D		Submit legend / Name plate schedule for University app	Action
	26 05 73	Section 1.2/A-1		Submit reports after approval of system protective devic	Action
	26 05 73	Section 1.2/A-2		Submit short-circuit study input data, including complete	Action
	26 05 73	Section 1.2/A-3		Submit coordination study input data, including complet	Action
	26 05 73	Section 1.2/A-4		Submit arc-flash study input data, including completed c	Action
	26 05 73	Section 1.2/A-5		Submit study report for action prior to receiving final app	Action
	26 05 73	Section 1.2/A-6		Submit revised one-line diagram, reflecting field investig	Action
	26 05 73	Section 1.2/B		Data files for studies in format compatible with Owner's	Action
	26 12 16	Section 1.4/A		For each type of product.	Action
	26 12 16	Section 1.4/B		For dry-type, medium-voltage transformers.	Action
	26 12 16	Section 1.4/C		Field Quality-Control Submittals: Field quality-control re	Action
	26 12 16	Section 1.4/D		Product Certificates: For transformers, signed by produ	Action
	26 12 16	Section 1.4/E		Source quality-control reports.	Action
	26 12 19	Section 1.3/A		For each type of product.	Action
	26 12 19	Section 1.3/B		For pad-mounted, liquid-filled, medium-voltage transfor	Action
	26 12 19	Section 1.3/C		Field Quality-Control Submittals: Field quality-control re	Action
	26 12 19	Section 1.3/D		Product Certificates: For transformers, signed by produ	Action
	26 12 19	Section 1.3/E		Source quality-control reports.	Action
	26 13 02	Section 1.5/A		Compliance statement as described under Quality Assu	Action
	26 13 02	Section 1.5/B		Product data sheets: showing manufacturer's standard	Action
	26 13 02	Section 1.5/C		For each type of switches and related equipment	Action
	26 13 02	Section 1.5/D		Qualification Data: For testing agency.	Action
	26 13 02	Section 1.5/E		Source quality-control test reports and Factory test repo	Action
	26 13 02	Section 1.5/F		Field quality-control test reports.	Action
	26 13 02	Section 1.5/G		Field As-Built Drawings including field installed control v	Action
	26 13 02	Section 1.5/H		Electrical acceptance test reports.	Action
	26 13 02	Section 1.5/I		Operation and Maintenance Data: For switches and co	Action
	26 13 02	Section 1.5/J		Time-current characteristic curves for RFI devices.	Action
	26 24 13	Section 1.3/A		Product Data: For each switchboard, overcurrent protec	Action
	26 24 13	Section 1.3/B		Shop Drawings: For each switchboard and related equi	Action

PROJECT No. 071095-00

Contractor Job #:

Project Name: Upgrade Electrical Distribution
Revised By:
DATE: 6/12/2026

Contractor ID No.	CSI Section No.	Paragraph No.	Revision / Version No. (if appl.)	Description / subject of Submittal	Submittal Action Category
	26 24 13	Section 1.4/A		Field Quality-Control Reports:	Informational
	26 24 13	Section 1.5/A		Operation and Maintenance Data: For switchboards and	Action
	26 24 13	Section 1.6/A		Furnish extra materials that match products installed an	Action
	26 24 16	Section 1.4/A		Product Data: For each type of panelboard.	Action
	26 24 16	Section 1.4/B		Shop Drawings: For each panelboard and related equip	Action
	26 24 16	Section 1.4/C		Qualification Data: For testing agency.	Action
	26 24 16	Section 1.4/D		Panelboard Schedules: For installation in panelboards.	Action
	26 24 16	Section 1.4/E		Operation and Maintenance Data: For panelboards and	Action
	26 24 16	Section 1.5/A		Furnish extra materials that match products installed an	Action
	31 00 00	Section 1.4/A-1		Permanent Sheeting, Shoring, and Bracing: Specificatio	Action
	31 00 00	Section 1.4/A-2		Filter Fabric: Manufacturer's catalog sheets, specificatio	Action
	31 00 00	Section 1.4/B-1		Select Granular Material: 50 - 60 lb. (Two Samples)	Action
	31 00 00	Section 1.4/B-2		Selected Fill: 40 - 50 lb	Action
	31 00 00	Section 1.4/B-3		Crushed Stone: 40 - 50 lb	Action
	31 00 00	Section 1.4/B-4		Pea Gravel: 40 - 50 lb	Action
	31 00 00	Section 1.4/B-5		Subbase Course Type 2: 50 - 60 lb. (Two Samples)	Action
	31 00 00	Section 1.4/B-6		Cushion Material: 30lb	Action
	31 00 00	Section 1.4/C-1a		Aggregates: Name and location of source	Action
	31 00 00	Section 1.4/C-1b		Aggregates: Stockpile number (if applicable)	Action
	31 00 00	Section 1.4/C-1c		Aggregates: Date of testing. Must be within the last 2 ye	Action
	31 00 00	Section 1.4/C-1d		Aggregates: Material description	Action
	31 00 00	Section 1.4/C-1e		Aggregates: Gradation results	Action
	31 00 00	Section 1.4/C-1f		Aggregates: Latest DOT test results and approvals (if a	Action
	31 00 00	Section 1.4/C-2		Sheeting, Shoring, and Bracing (Not shown on the Draw	Action
	31 00 00	Section 1.4/C-3		Excavation Procedure	Action
	31 20 00	Section 1.4/A-1		Controlled low-strength material, including design mixtu	Action
	31 20 00	Section 1.4/A-2		Warning tapes	Action
	31 20 00	Section 1.5/A		Qualification Data: For qualified testing agency	Informational
	31 20 00	Section 1.5/B-1		Material Test Reports: Classification according to ASTM	Informational
	31 20 00	Section 1.5/B-2		Material Test Reports: Laboratory compaction curve ac	Informational
	31 20 00	Section 1.5/C		Pre-excavation Photographs or Videotape	Informational
	31 25 13	Section 1.4/A-1		Product Data: Silt fence	Action
	31 25 13	Section 1.4/A-2		Product Data: Compost filter sock	Action
	31 25 13	Section 1.4/A-3		Product Data: Temporary inlet protection	Action
	31 25 13	Section 1.4/A-4		Product Data: Rolled erosion control blanket	Action
	31 50 00	Section 1.3/A-1		Lists of material to be used, including design mixes	Action
	31 50 00	Section 1.3/A-2		Sequence of operations	Action
	31 50 00	Section 1.3/A-3		Detailed sections clearly illustrating the scope of work	Action
	31 50 00	Section 1.3/A-4		Relationship of piles, lagging, walls, and bracing to new	Action
	31 50 00	Section 1.3/A-5		Location of utilities and details of support when required	Action
	31 50 00	Section 1.3/A-6		Procedures and details of testing	Action
	31 50 00	Section 1.3/B		Shop drawings and calculations	Action
	31 50 00	Section 1.3/C		Qualification Data: For firms and person specified in "Q	Action
	31 50 00	Section 1.3/D		Photographs or videotape, sufficiently detailed, of existi	Action
	32 11 23	Section 1.3/A-1		Name and location of source	Action
	32 11 23	Section 1.3/A-2		Stockpile number if applicable	Action
	32 11 23	Section 1.3/A-3		Date of testing - Must be within the last 2 years	Action
	32 11 23	Section 1.3/A-4		Material Description	Action
	32 11 23	Section 1.3/A-5		Gradation results	Action
	32 11 23	Section 1.3/A-6		Latest DOT test reslts and approvals (if any)	Action
	32 12 16	Section 1.3/A-1		Asphalt Job Mix Designs - technical data and tested ph	Action
	32 12 16	Section 1.3/A-2		Material Certificates	Action
	32 12 16	Section 1.3/A-3		Certification letter from asphalt supplier certifying that a	Action
	32 13 13	Section 1.2/A		Letter from Concrete Supplier / Manufacturer	Action

PROJECT No. 071095-00

Contractor Job #:

Project Name: Upgrade Electrical Distribution
Revised By:
DATE: 6/12/2026

Contractor ID No.	CSI Section No.	Paragraph No.	Revision / Version No. (if appl.)	Description / subject of Submittal	Submittal Action Category
	32 13 13	Section 1.2/B-1		Concrete design mix for each classification of concrete	Action
	32 13 13	Section 1.2/B-2		Alternate design mixtures when characteristics of mater	Action
	32 13 13	Section 1.2/C-1		Steel Reinforcement	Action
	32 13 13	Section 1.2/C-2		Admixtures	Action
	32 13 13	Section 1.2/C-3		Curing Compounds	Action
	32 13 13	Section 1.2/C-4		Sealing Compounds	Action
	32 13 13	Section 1.2/C-5		Expansion Joint Materials	Action
	32 13 13	Section 1.2/C-6		Joint Filling Caulk	Action
	32 13 13	Section 1.2/C-7		Detectable Warning Tiles	Action
	32 13 13	Section 1.2/D-1		Submit a list of 10 previously completed projects of simi	Action
	32 13 13	Section 1.2/D-2		Submit a signed letter from the concrete installer indicat	Action
	32 13 13	Section 1.2/E-1		The testing laboratory shall submit written reports of all	Action
	32 14 00	Section 1.2/A-1		Granite suppliers name, address, and contact informatio	Action
	32 14 00	Section 1.2/A-2		Geometric sections of standard straight curb sections	Action
	32 14 00	Section 1.2/A-3		Geometric layout of any radius curbs	Action
	32 14 00	Section 1.2/A-4		Geometric layout of transitional curbs for accessible cur	Action
	32 14 00	Section 1.2/A-5		Description of suppliers tolerances for granite top, face,	Action
	32 14 00	Section 1.2/A-6		Standard finish description for each face of curb	Action
	32 91 13	Section 1.4/A		Testing laboratory analysis for all topsoil amendments s	Action
	32 91 13	Section 1.4/B		Submit location plan and number of compaction tests to	Action
	32 92 00	Section 1.4/A-1		Sod producer's qualifications data: Name, business, and	Action
	32 92 00	Section 1.4/A-2		Sod producer's qualifications data: Statement certifying	Action
	32 92 00	Section 1.4/B-1		Sod producer's product data: Statement of grass specie	Action
	32 92 00	Section 1.4/B-2		Sod producer's product data: Sod certificate of compliar	Action
	32 92 00	Section 1.4/C		Submit manufacturer's certification of fertilizer composit	Action
	32 92 00	Section 1.4/D		Written guarantee on all newly installed lawn areas for 1	Action
	32 92 00	Section 1.4/E-1		Written plan for how sod will be watered that includes th	Action
	32 92 00	Section 1.4/E-2		Written plan for how sod will be watered that includes th	Action
	32 92 00	Section 1.4/E-3		Written plan for how sod will be watered that includes th	Action
	32 93 00	Section 1.5/B-1a		Submit one-pound samples, packaged in plastic bags, t	Action
	32 93 00	Section 1.5/B-1b		Submit one-pound samples, packaged in plastic bags, t	Action
	32 93 00	Section 1.5/B-1c		Submit one-pound samples, packaged in plastic bags, t	Action
	32 93 00	Section 1.5/B-1d		Submit one-pound samples, packaged in plastic bags, t	Action
	32 93 00	Section 1.5/B-1e		Submit one-pound samples, packaged in plastic bags, t	Action
	32 93 00	Section 1.5/C-a		Material Certificates: Submit the following manufacturer	Action
	32 93 00	Section 1.5/C-b		Material Certificates: Submit the following manufacturer	Action
	32 93 00	Section 1.5/C-c		Material Certificates: Submit the following manufacturer	Action
	32 93 00	Section 1.5/C-d		Material Certificates: Submit the following manufacturer	Action
	32 93 00	Section 1.5/C-e		Material Certificates: Submit the following manufacturer	Action
	32 93 00	Section 1.5/C-f		Material Certificates: Submit the following manufacturer	Action
	32 93 00	Section 1.5/C-g		Material Certificates: Submit the following manufacturer	Action
	32 93 00	Section 1.5/D		Qualification Data: For landscape installer	Action
	32 93 00	Section 1.5/E		Material Test Reports: For existing surface soil and imp	Action
	32 93 00	Section 1.5/F		Planting Schedule: Indicating anticipated planting dated	Action
	32 93 00	Section 1.5/G		Maintenance instructions: Recommeded procedures to	Action
	33 41 00	Section 1.3/A		Product Data: For each typre of product indicated	Action
	33 41 00	Section 1.3/B		Coordination Drawings: Show pipe sizes, locations, and	Action
	33 41 00	Section 1.3/C		Electronic files of video inspection	Action

SUNY State University Construction Fund

Weekly Fire Code Review

SUCF Project No. _____

Contractor: _____ Firm ID: _____

Location(s): _____

Contractor Fire Prevention Program Superintendent: _____

Campus Fire Prevention Program Manager: _____

Code Enforcement Official (CEO): _____

#	*All bracketed references are from* **NFPA 241,** ***Standard for Safeguarding Construction, Alteration, and Demolition Operations, unless otherwise noted. This is not a complete list of requirements.***	YES	NO	N/A
1	**Temporary Separation Walls** {8.6.2}: Is there adequate separation between the work area and the rest of the building (One hour separation walls and 45 min opening protectives are often required by 8.6.2)?	☐	☐	☐
2	**Temporary Enclosures** {4.3.1}: Are all panels, tarps, plastic sheeting, etc. flame retardant?	☐	☐	☐
3	**Impairments** {IFC Section 1003}:			
	☐ Have paths of egress from occupied areas been maintained? {IFC Section 1003}:	☐	☐	☐
	☐ If fire alarm/detection systems in occupied areas have been temporarily impaired. Has the Campus Fire Prevention Program Manager approved the impairments/restrictions? {IFC Section 901}	☐	☐	☐
4	**Fire Extinguishers** {4.3.4}:			
	☐ Are appropriate fire extinguishers readily available, with a maximum travel distance of 50 feet?	☐	☐	☐
	☐ Have fire extinguishers been provided within temporary enclosures?	☐	☐	☐
5	**Internal Combustion Devices** {4.4}:			
	☐ Are all internal combustion devices, where required, exhausted outside, with a least 9 inches between exhaust and combustible materials?	☐	☐	☐
	☐ Is refueling only done on cool engines?	☐	☐	☐
6	**Temporary Heating** {5.2}: Is temporary heating equipment listed and being used according to the manufacturer's requirements?	☐	☐	☐
7	**Hot Work Programs** {5.1}:			
	☐ Is there a current permit for ongoing operations?	☐	☐	☐
	☐ Are all precautions required by the permit in place?	☐	☐	☐
	☐ Is there a dedicated fire watch?	☐	☐	☐
	☐ Does the fire watch extend after the completion for work (e.g., usually minimum of 30 min. in general or 2 hrs for roofs)?	☐	☐	☐
8	**Waste** {5.4}: Are accumulations of waste materials, dust, and debris removed at the end of each shift (or more frequently as needed)?	☐	☐	☐
	☐ Are materials subject to spontaneous ignition (e.g., oily rags) stored in listed disposal containers?	☐	☐	☐
9	**Trash Chutes** {5.4}: Are trash chutes non-combustible, or provided with sprinkler protection?	☐	☐	☐
10	**Flammable/Combustible Liquids** {5.5}: Are flammable/combustible liquids in proper containers and is there less than a total of 60 gallons inside and within 50 feet of the structure?	☐	☐	☐
11	**Compressed Gases** { IFC Chapter 53}: Are compressed gases properly stored and being used?	☐	☐	☐

SUCF Project No. _____

#	*All bracketed references are from* **NFPA 241,** ***Standard for Safeguarding Construction, Alteration, and Demolition Operations, unless otherwise noted. This is not a completed list of requirements.***	YES	NO	N/A
12	**Electrical** {6.1}:			
	☐ Are extension cords rated and free from damage?	☐	☐	☐
	☐ Do all branch circuits originate in approved power outlets or panel boards with over-current protection?	☐	☐	☐
	☐ Are all circuits grounded?	☐	☐	☐
13	**Lighting** {6.1.3}:			
	☐ Do all temporary lights have guards?	☐	☐	☐
	☐ Are lights only suspended by their cords when designated to be so suspended?	☐	☐	☐
	☐ Are they fastened securely, if necessary, to prevent ignition of combustible materials?	☐	☐	☐
14	**Fire Safety Plan** {7.1}: Has a fire safety plan been established and has a Fire Prevention Program Superintendent been designated?	☐	☐	☐
15	**Fire Alarms {7.4}:**			
	☐ Is there a readily available pull box for fire alarms?	☐	☐	☐
	☐ If a telephone is used, are instructions clearly posted?	☐	☐	☐
16	**Command Post/Evac Area {7.5}**			
	☐ Is there a designated command post provided with plans, emergency info., keys, communication, and other equipment as needed?	☐	☐	☐
	☐ Is there a clear post-evacuation muster location?	☐	☐	☐
17	**Fire Access** {7.5}:			
	☐ Are pre-approved fire department access routes being maintained?	☐	☐	☐
	☐ Is there clear access to hydrants, standpipe and fire department connections?	☐	☐	☐
18	**Standpipes** {7.6, 8.7.4}: Are standpipes ready for use, and remain within one floor of the top level during construction/demolition?	☐	☐	☐
19	**Egress** {7.8}: Is the means of egress acceptable (e.g. properly marked, clear, safe, lighted)?	☐	☐	☐
20	**Sprinkler** {8.7.3}:			
	☐ Is the sprinkler in place as son as practicable following construction?	☐	☐	☐
	☐ Are sprinkler valves checked at the end of each shift?	☐	☐	☐
21	**Fire Cutoffs** {8.6.1}:			
	☐ Are fire walls and exit stairwells, where required for the completed building, given construction priority for installation?	☐	☐	☐
	☐ Are fire doors installed as soon as practicable?	☐	☐	☐
22	**Stairs** {7.5.6}: Is a stairwell provided for the building?	☐	☐	☐
	☐ Is the stairwell extended upward as each floor is installed in new construction and maintained for each floor still remaining in demolotion?	☐	☐	☐
	☐ Is it lighted?	☐	☐	☐
	☐ Is it enclosed when the building exterior walls are in place?	☐	☐	☐
	☐ Is signage provided indicating floor level, stair designation, and exit path directions?	☐	☐	☐
	☐ Are extinguishers provided at each floor?	☐	☐	☐
23	**Impairments to fire protection systems or fire alarm, detection or communication systems {7.2.4.6}:**			
	☐ Are temporary impairments of all fire protection devices and alarm/detection systems immediately removed upon completion of work in the area and at the end of each shift?	☐	☐	☐
	☐ Is there an impairment coordinator?	☐	☐	☐
	Number of Violations:			

SUCF Project No.

Notes:

Completed Report Submission Information:

Distribution: Contractor, Campus, CEO, Project File

Submitted to:

Submission Date:

Reviewer:

Date of Review:

SECTION 02 41 19 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Demolition and removal of selected portions of building or structure.
2. Demolition and removal of selected site elements.
3. Salvage of existing items to be reused or recycled.

B. Related Requirements:

1. Section 01 73 29 "Cutting, Patching and Repairs" for cutting and patching procedures.
2. Section 31 10 00 "Site Clearing" for site clearing and removal of above- and below-grade improvements.

1.3 DEFINITIONS

A. Remove: Detach items from existing construction and legally dispose of them off-site unless indicated to be removed and salvaged or removed and reinstalled.

B. Remove and Salvage: Carefully detach from existing construction, in a manner to prevent damage, and deliver to Owner.

C. Remove and Reinstall: Detach items from existing construction, prepare for reuse, and reinstall where indicated.

D. Existing to Remain: Existing items of construction that are not to be permanently removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

1.4 MATERIALS OWNERSHIP

A. Unless otherwise indicated, demolition waste becomes property of Contractor.

B. Historic items, relics, antiques, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, and other items of interest or value to Owner that may be uncovered during demolition remain the property of Owner.

1. Carefully salvage in a manner to prevent damage and promptly return to Owner.

1.5 INFORMATIONAL SUBMITTALS

A. Proposed Protection Measures: Submit report, including drawings, that indicates the measures proposed for protecting individuals and property. Indicate proposed locations and construction of barriers.

B. Schedule of Selective Demolition Activities: Indicate the following:

1. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity. Ensure Owner's on-site operations are uninterrupted.
2. Interruption of utility services will not be permitted.
3. Coordination of Owner's continuing occupancy of existing buildings.

C. Inventory: Submit a list of items to be removed and salvaged and deliver to Owner prior to start of demolition.

D. Predemolition Photographs or Video: Submit before Work begins.

E. Warranties: Documentation indicated that existing warranties are still in effect after completion of selective demolition.

1.6 CLOSEOUT SUBMITTALS

A. Inventory: Submit a list of items that have been removed and salvaged.

B. Landfill Records: Indicate receipt and acceptance of hazardous wastes by a landfill facility licensed to accept hazardous wastes.

1.7 FIELD CONDITIONS

A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.

B. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.

C. Notify the Owner of discrepancies between existing conditions and Drawings before proceeding with selective demolition.

D. Hazardous Materials: It is not expected that hazardous materials will be encountered in the work.

1. If suspected hazardous materials are encountered, do not disturb; immediately notify Engineer and Owner.
2. If applicable and as required, the Contractor shall enlist the services of a subcontractor that is licensed in the State of New York to perform asbestos abatement. All work associated with the handling and disposal of asbestos-containing materials shall be conducted by the licensed subcontractor.
3. Subcontractor shall comply with all laws, ordinances, codes, rules and regulations of the local, state, and federal authorities.
4. Subcontractor shall execute all notifications and manifests, and obtain all permits and licenses for removing, handling, and disposing of the asbestos-containing materials where shown on the Drawings, or where required to perform the new work.
5. Subcontractor shall submit to the Consultant the following items prior to performing the work associated with asbestos-containing materials.

a. Submit a copy of the subcontractor's licenses to perform asbestos abatement work.
b. Submit the OSHA medical surveillance documents conducted within the last 12 months for each worker.
c. Submit the plan describing the method for performing air monitoring and sampling to be in compliance with OSHA Asbestos Standards.
d. Submit the name, address, and applicable licenses from the transporter and the landfill that will handle and dispose of the asbestos-containing material.

E. Storage or sale of removed items or materials on-site is not permitted.

F. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.

1. Maintain fire-protection facilities in service during selective demolition operations.

1.8 WARRANTY

A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials so as not to void existing warranties. Notify warrantor before proceeding.

B. Notify warrantor on completion of selective demolition, and obtain documentation verifying that existing system has been inspected and warranty remains in effect. Submit documentation at Project closeout.

PART 2 - PRODUCTS

2.1 PEFORMANCE REQUIREMENTS

A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

B. Standards: Comply with ANSI/ASSE A10.6 and NFPA 241.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Review record documents of existing construction provided by Owner. Owner does not guarantee that existing conditions are same as those indicated in record documents.

B. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.

C. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Consultant.

D. Survey of Existing Conditions: Record existing conditions by use of preconstruction photographs.

1. Comply with requirements specified in Section 01 32 33 "Project Photographs."
2. Inventory and record the condition of items to be removed and salvaged. Provide photographs of conditions that might be misconstrued as damage caused by salvage operations.
3. Before selective demolition, make permanent record of measurements, materials, and construction details required to make exact reproduction.

3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.

B. Existing Services/Systems to Be Removed: Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished.

3.3 PREPARATION

A. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

B. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.

1. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.
2. Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas.
3. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.

C. Temporary Shoring: Provide and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.

1. Strengthen or add new supports when required during progress of selective demolition.

3.4 SELECTIVE DEMOLITION, GENERAL

A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:

1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.
2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
4. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.
5. Maintain adequate ventilation when using cutting torches.
6. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.

7. Dispose of demolished items and materials promptly.

B. Removed and Salvaged Items:

1. Clean salvaged items.
2. Store items in a secure area until delivery to Owner.
3. Transport items to Owner's storage area designated by Owner.
4. Protect items from damage during transport and storage.

C. Removed and Reinstalled Items:

1. Clean and repair items to functional condition adequate for intended reuse.
2. Protect items from damage during transport and storage.
3. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.

D. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition.

3.5 SELECTIVE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS

A. Concrete: Demolish in sections. Cut concrete full depth at junctures with construction to remain and at regular intervals using power-driven saw, then remove concrete between saw cuts.

B. Masonry: Demolish in small sections. Cut masonry at junctures with construction to remain, using power-driven saw, then remove masonry between saw cuts.

C. Concrete Slabs-on-Grade: Saw-cut perimeter of area to be demolished, then break up and remove.

3.6 DISPOSAL OF DEMOLISHED MATERIALS

A. General: Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site and legally dispose.

1. Do not allow demolished materials to accumulate on-site.
2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

B. Burning: Do not burn demolished materials.

C. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

3.7 CLEANING

A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION 02 41 19

SECTION 02 82 13 - ASBESTOS ABATEMENT

PART 1 – GENERAL

1.1 APPLICABLE REGULATIONS

A. The following shall apply to the abatement of asbestos being done under this contract:

1. All work to be done under this Contract shall be in compliance with Part 56 of Title 12 of the Official Compilation of Codes, Rules and Regulations of the State of New York (cited as 12 NYCRR Part 56), as currently amended, and applicable federal and state regulations.

1.2 PRESUMED ASBESTOS-CONTAINING MATERIAL

A. During any work of this contract that disturbs existing material, all material that can be defined as "presumed asbestos-containing material" according to 29 CFR Part 1926 **and guidance documents published by New York State Department of Health's (NYSDOH) Environmental Laboratory Approval Program (ELAP) and Bureau of Occupational Health (BOH), and the NYS Department of Labor (DOL)** shall be considered asbestos-containing materials unless asbestos test results bound at the end of this section indicated otherwise; or if the Contractor, at its own expense, tests the presumed asbestos-containing material and rebuts the presumption, as permitted by 29 CFR Part 1926.

1.3 APPLICABLE VARIANCE

A. During the performance of the work, comply with the requirements of variance(s), if any, obtained by the Owner and/or consultant, which are bound after this section. The Contractor is responsible for the cost and the time required to obtain any additional variance(s) that they deem desirable in the performance of the work and feel may be consistent with the policies/ procedures as set forth in 12 NYCRR Part 56. **Prior to requesting any additional variance(s), submit a draft(s) of the request to the Consultant and the Fund for review and approval.** Copies of all additional variance(s) obtained by the Contractor shall be provided to the Consultant, Fund and the Campus prior to performing any work affected by the additional variance(s).

1.4 OWNER PROJECT FACT SHEET

A. The Contractor shall complete and submit three copies of the Asbestos Material Fact Sheet (appended to this Section) to the Fund prior to the project startup. If the initial submission is not

complete for a reason approved by the Fund, the complete Asbestos Material Fact Sheet shall be submitted prior to acceptance of the applicable work.

1.5 AIR MONITORING

A. The Owner shall be responsible for hiring and paying an independent third party firm to perform the requirements of air monitoring as called for in 12 NYCRR Part 56 and as permitted in Section 2.17 of the Agreement. The Owner's air monitoring firm shall provide 24 hour turn around on tests, will work during the hours between 7 AM and 4 PM on Monday through Friday unless otherwise agreed to by the Owner, and may inspect the work for cleanliness prior to performing sampling. Cooperate with the Owner's air monitoring firm in sequencing and scheduling the work in concert with the air monitor's availability. Provide access, electrical power and lighting, cleaning, and other work required to facilitate successful air monitoring activities. Provide additional air monitoring, at no expense to the Owner, as required to protect and monitor on site workers if required by applicable safety regulation or the contractor's safety plan.

1.6 DISPOSAL PROCEDURES

A. It is the responsibility of the Contractor to determine and comply with the waste handling, transportation and disposal regulations in effect at the time the work is performed, as applicable to the work site(s) and proposed waste disposal facility/landfill(s). The asbestos contractor must comply fully with the latter regulations and all other applicable U.S. Department of Transportation, Environmental Protection Agency (EPA), and other Federal, State and local rules and regulations in effect at the time the work is performed. Submit three copies of all pertinent manifests to the Owner. Use a single source facility for disposal of all waste of similar type and category.

1.7 SUBMITTALS

A. Prior to commencement of the work on this project, the Contractor must submit the following to the Owner:

1. Copy of original insurance policy.
2. Copy of Department of Labor notification.
3. Copy of EPA notification.
4. Abatement Plan Layout - Decon, Negative Air Lines, Variances.
5. SUCF Asbestos Removal Fact Sheet.
6. Product Information - Encapsulant, Mask, etc.
7. Material Safety Data Sheets.
8. Asbestos Handling License.
9. Waste Transporter Permits.
10. Dumping Receipt - Waste Manifest.
11. Testing Lab - License, Certification.

12. Employees - Workers Acknowledgement, Certification.
13. Supervisor's Certification

1.8 SPECIAL REQUIREMENTS

A. The drawings, schedules and specifications indicate the applicable scope of abatement work.

B. The Contractor shall have at least one English-speaking supervisor on the job site at all times while the project is in progress.

C. Prior to the commencement of work involving asbestos demolition, removal, and/or renovation, the Contractor must submit to the Owner the name of its on-site asbestos supervisor responsible for such work and the named supervisor's NYS certification documentation showing completion of an EPA approved training course for asbestos supervisors. The approved supervisor shall maintain such certification during the work and be on site at all times when abatement work is being performed.

D. If a waste shipment record has not been returned to the Owner within 45 days, a report must be filed by the Owner with the EPA describing the steps the Owner has taken to determine the status of the shipment. During the Owner's preparation of the latter report, the Contractor shall give its constant personal attention and assistance in determining the status and disposition of the shipment.

As required by Directive 1D-6, show the specific scope of work on the drawings, with measurable quantities of asbestos containing material. Pipe sizes, runs, elbows, and joints, etc. shall be shown, with schedules used only when piping is too congested for graphic clarity. For concealed spaces, shafts, chases, etc., which will be exposed during the work, provide conservative estimates of quantities that can be reasonably inferred from the actual sampling performed in such concealed spaces, from the extent of exposed piping entering chases, and from other investigative techniques. When approved by the Fund, add schedules of quantities to this specification section.

Note: In Code Rule 56 there is no requirement that the person doing the abatement design documents has to be a PE or an RA. If this is the case, provide the person's certification data in lieu of the PE/RA seal.

Bind test results for materials within in the project work area after this section.
If bound report showing test results also shows costs and quantities for abatement of asbestos containing materials, then delete, redact or remove cost information entirely and confirm that the quantities listed are also clearly shown on the drawings.

Ask Campus if it has a facility wide variance(s) approved by the DOL that may be applicable to this scope. Reference(s) variance in 02 82 13. Bind variances, if any, obtained for the project after this section.

When approved by the Fund, additional items may be added to this section when required to provide a complete specifications of the work.

When approved by the Fund, classify all demolition work as asbestos abatement work by adding the following:

h.5) Scope of Work: All portions of the work being removed, renovated and/or demolished are either asbestos containing material, presumed asbestos containing material, or other material contaminated with tightly adhered asbestos containing material. Therefore, the work includes the removal, renovation and/or demolition of all existing materials as asbestos containing material. The Contractor may refute this assumption, either through reliance on its own testing or on the test results bound after this section, and remove, renovate and/or demolish portions of the work as ordinary construction and demolition waste, at no change in the contract sum. If the Contractor chooses the latter approach, it shall retain its asbestos abatement firm on call and mobilized for return to the site within 24 hours during the course of the work until the completion all removals, renovations and/or demolition of existing material shown for removal. In addition, existing material shown to remain is considered contaminated with tightly adhered asbestos containing material that shall be removed in a manner that causes the least impact to the existing material shown to remain. Existing material shown to remain shall not be removed unless approved by the Consultant.

STATE UNIVERSITY CONSTRUCTION FUND
ASBESTOS MATERIAL REMOVAL FACT SHEET

_____ _____ _____
SUCF PROJ NO. PROJECT TITLE DATE

SCOPE OF WORK:_____
_____

ASBESTOS CONTRACTOR:
Name/Address _____
_____
_____
Phone No.: _____

PRIME CONTRACTOR:
(If applicable) _____
_____
_____
Phone No. _____

Contract Award Amount: _____
Contract Completion Date: _____

Asbestos Lic No. _____
Expiration Date: _____

ASBESTOS ABATEMENT PERSONNEL: *(Attach Additional Sheets as Required)*

	Name	Title/Function	Social Security No.	Certificate No.	Expir. Date
1.					
2.					
3.					
4.					
5.					

ASBESTOS ABATEMENT WORK: *(Attach Additional Sheets as Required)*

	Bldg (1) Usage	Removal Location (Bldg/Room)	Mat'l (2) Removed.	Methods Quantity (3)	of Removal
1.					
2.					
3.					
4.					
5.					

Date Removal Begins: _____ Date Removal Ends _____

Asbestos Carrier _____ Disposal Site _____
_____ _____
_____ _____
Phone No. _____ Phone No. _____

Hauler Permit No.(s): _____
_____

NOTE: ***In addition to the above information, the contractor shall submit all required documentation as stipulated by the New York State Labor Law Article 30; Part 56, 12NYCRR, which includes a copy of the asbestos contractor license and all asbestos handling certificates, waste transporters permits, disposal receipt acknowledgement, and air test reports (prior, during, and after abatement)***

STATE UNIVERSITY CONSTRUCTION FUND
ASBESTOS MATERIAL REMOVAL FACT SHEET

KEY

BUILDING USAGE

A	Administration	F	Dormitory
B	Academic	G	Mechanical Room
C	Library	H	Steam Tunnel
D	Health/Physical Education	I	Other
E	Dining Halls		

MATERIAL REMOVED

Acoustical/Decorative Plasters =	ADP
Fireproofing Materials =	FM
Troweled Wall/Ceiling Plasters =	TCP
Mud Joints/Tees =	MJT
Pipe Covering =	PC (List Pipe Size)
Boiler/Hot Water Tank Insulations =	BHTI
Panels/Ceiling Tiles =	PCT
Transite Panels =	TP
Vent/Drain Pipes =	VDP (List Size)
In-Place Gaskets =	IPG
Vinyl Asbestos Siding =	VAS
Vinyl Asbestos Tile =	VAT
Vinyl Asbestos Roofing =	VAR
Other (Describe) =	0: _____

QUANTITY OF MATERIAL

S.F. = Square Feet i.e. Walls, Ceiling, etc.
L.F. = Linear Feet i.e. Pipe, etc.

WET
DRY
GLOVEBAG
TENT
OTHER _____

SECTION 03 30 00 - CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes cast-in-place concrete, including formwork, reinforcement, concrete materials, mixture design, placement procedures, and finishes, for the following:

1. Concrete encased electric ductbanks.

B. Related Sections:

1. Section 31 00 00 “Earthwork” for soil materials, excavating, backfilling, and site grading.
2. Section 32 13 00 “Concrete Walks” for materials, reinforcement, and execution.
3. Section 07 11 13 “Bituminous Damp-proofing” for cast-in-place damp-proofing.
4. Section 26 05 29 “Hangers and Supports for Electrical Systems” for mixes and reinforcement.

1.3 DEFINITIONS

A. Cementitious Materials: Portland cement alone or in combination with one or more of the following: blended hydraulic cement, fly ash and other pozzolans, ground granulated blast-furnace slag, and silica fume; subject to compliance with requirements.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product indicated.

B. Design Mixtures: For each concrete mixture. Submit alternate design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.

1. Indicate amounts of mixing water to be withheld for later addition at Project site.

C. Steel Reinforcement Shop Drawings: Placing drawings that detail fabrication, bending, and placement. Include bar sizes, lengths, material, grade, bar schedules, stirrup spacing, bent bar diagrams, bar arrangement, splices and laps, mechanical connections, and supports for concrete reinforcement.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer, manufacturer and testing agency.

B. Material Certificates: For each of the following, signed by manufacturers:

1. Cementitious materials.
2. Admixtures.
3. Form materials and form-release agents.
4. Steel reinforcement and accessories.
5. Curing compounds.
6. Floor and slab treatments.
7. Bonding agents.
8. Adhesives.
9. Repair materials.

C. Material Test Reports: For the following, from a qualified testing agency, indicating compliance with requirements:

1. Aggregates.

D. Floor surface flatness and levelness measurements indicating compliance with specified tolerances.

E. Field quality-control reports.

F. Minutes of preinstallation conference.

1.6 QUALITY ASSURANCE

A. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.

1. Manufacturer certified according to NRMCA's "Certification of Ready Mixed Concrete Production Facilities."

B. Testing Agency Qualifications: An independent agency, qualified according to ASTM C 1077 and ASTM E 329 for testing indicated.

1. Personnel conducting field tests shall be qualified as ACI Concrete Field Testing Technician, Grade 1, according to ACI CP-1 or an equivalent certification program.
2. Personnel performing laboratory tests shall be ACI-certified Concrete Strength Testing Technician and Concrete Laboratory Testing Technician - Grade I. Testing Agency laboratory supervisor shall be an ACI-certified Concrete Laboratory Testing Technician - Grade II.

C. Source Limitations: Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant, obtain aggregate from single source, and obtain admixtures from single source from single manufacturer.

D. ACI Publications: Comply with the following unless modified by requirements in the Contract Documents:

1. ACI 301, "Specifications for Structural Concrete," Sections 1 through 5.
2. ACI 117, "Specifications for Tolerances for Concrete Construction and Materials."

E. Concrete Testing Service: The Owner shall engage a qualified independent testing agency to perform material evaluation tests.

F. Preinstallation Conference: Conduct conference at Project site.

1. Before submitting design mixtures, review concrete design mixture and examine procedures for ensuring quality of concrete materials. Require representatives of each entity directly concerned with cast-in-place concrete to attend, including the following:

a. Contractor's superintendent.
b. Independent testing agency responsible for concrete design mixtures.
c. Ready-mix concrete manufacturer.
d. Concrete subcontractor.

2. Review testing and inspecting agency procedures for field quality control, concrete finishes and finishing, curing procedures, cold joint bonding agent procedures, forms and form removal limitations, steel reinforcement installation, floor and slab flatness and levelness measurement, concrete repair procedures, and concrete protection.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Steel Reinforcement: Deliver, store, and handle steel reinforcement to prevent bending and damage.

PART 2 - PRODUCTS

2.1 FORM-FACING MATERIALS

A. Smooth-Formed Finished Concrete: Form-facing panels that will provide continuous, true, and smooth concrete surfaces. Furnish in largest practicable sizes to minimize number of joints.

1. Plywood, metal, or other approved panel materials.
2. Exterior-grade plywood panels, suitable for concrete forms, complying with DOC PS 1, and as follows:

a. High-density overlay, Class 1 or better.
b. Medium-density overlay, Class 1 or better; mill-release agent treated and edge sealed.
c. Structural 1, B-B or better; mill oiled and edge sealed.
d. B-B (Concrete Form), Class 1 or better; mill oiled and edge sealed.

B. Chamfer Strips: Wood, metal, PVC, or rubber strips, 3/4 by 3/4 inch, minimum.

C. Form-Release Agent: Commercially formulated form-release agent that will not bond with, stain, or adversely affect concrete surfaces and will not impair subsequent treatments of concrete surfaces.

1. Formulate form-release agent with rust inhibitor for steel form-facing materials.

2.2 STEEL REINFORCEMENT

A. Recycled Content of Steel Products: Use recycled content when available.

B. Reinforcing Bars: ASTM A 615/A 615M, Grade 60, deformed.

2.3 REINFORCEMENT ACCESSORIES

A. Joint Dowel Bars: ASTM A 615/A 615M, Grade 60, plain-steel bars, cut true to length with ends square and free of burrs.

B. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded wire reinforcement in place. Manufacture bar supports from steel wire, plastic, or precast concrete according to CRSI's "Manual of Standard Practice," of greater compressive strength than concrete.

2.4 CONCRETE MATERIALS

A. Cementitious Material: Use the following cementitious materials, of the same type, brand, and source, throughout Project:

1. Portland Cement: ASTM C 150, Type I or Type II

a. Fly Ash: ASTM C 618, Class F.
b. Ground Granulated Blast-Furnace Slag: ASTM C 989, Grade 100 or 120.

B. Silica Fume: ASTM C 1240, amorphous silica.

C. Normal-Weight Aggregates: ASTM C 33, coarse aggregate or better, graded. Provide aggregates from a single source.

1. Maximum Coarse-Aggregate Size: 1 inch nominal.
2. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.

D. Water: Potable.

2.5 ADMIXTURES

A. Chemical Admixtures: Provide admixtures certified by manufacturer to be compatible with other admixtures and that will not contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride or admixtures containing calcium chloride.

1. Water-Reducing Admixture: ASTM C 494/C 494M, Type A.
2. High-Range, Water-Reducing Admixture: ASTM C 494/C 494M, Type F.

B. Water-Based Hydrophobic Pore Blocking Concrete Admixture: Hydrophobic concrete shall have the following design characteristics/performance criteria:

1. Admixture to meet guidelines for permeability reducing admixtures suitable for hydrostatic (PRAH) and non-hydrostatic (PRAN) service conditions per ACI 212 chapter 15 “Report on Chemical Admixtures”.
2. Admixture not to contain Portland cement, sodium silicate, potassium silicate, flyash, silica fume, ground-granulated blast furnace slag, fillers, or other mineral type cementitious constituents.
3. Admixture to meet or exceed British Standards Institute (BSI) 1881-122 testing to performance of <1% water absorption.
4. Admixture to meet 50% or greater reduction in sorptivity compared to control at seven days according to ASTM C1585.
5. Admixture to demonstrate sulfate expansion resistance in concrete with 0.45 water/cement of less than 0.05% expansion at 18 months per ASTM C1012.
6. Admixture to demonstrate 60% or greater reduction in depth of water penetration under pressure after at least 30 days compared to control in concrete per BS EN 12390-8.
7. Admixture to demonstrate 55% or greater reduction in water sorptivity compared to control per ASTM C1757.

2.6 CURING MATERIALS

A. Refer to Section 32 13 00 Concrete Walks for allowable curing materials for Concrete Walks.

B. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. when dry.

C. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.

D. Water: Potable.

E. Curing compounds shall not be used, except as specified in Section 32 13 00 Concrete Walks.

2.7 RELATED MATERIALS

A. Bonding Agent: ASTM C 1059/C 1059M, Type II, non-redispersible, acrylic emulsion or styrene butadiene.

B. Epoxy Bonding Adhesive: ASTM C 881, two-component epoxy resin, capable of humid curing and bonding to damp surfaces, of class suitable for application temperature and of grade to suit requirements, and as follows:

1. Types I and II, non-load bearing for bonding hardened or freshly mixed concrete to hardened concrete.

2.8 REPAIR MATERIALS

A. Repair Underlayment: Cement-based, polymer-modified, self-leveling product that can be applied in thicknesses from 1/8 inch and that can be feathered at edges to match adjacent floor elevations.

1. Cement Binder: ASTM C 150, portland cement or hydraulic or blended hydraulic cement as defined in ASTM C 219.
2. Primer: Product of underlayment manufacturer recommended for substrate, conditions, and application.
3. Aggregate: Well-graded, washed gravel, 1/8 to 1/4 inch or coarse sand as recommended by underlayment manufacturer.
4. Compressive Strength: Not less than 4000 psi at 28 days when tested according to ASTM C 109/C 109M.

B. Repair Overlayment: Cement-based, polymer-modified, self-leveling product that can be applied in thicknesses from 1/4 inch and that can be filled in over a scarified surface to match adjacent floor elevations.

1. Cement Binder: ASTM C 150, portland cement or hydraulic or blended hydraulic cement as defined in ASTM C 219.

2. Primer: Product of topping manufacturer recommended for substrate, conditions, and application.
3. Aggregate: Well-graded, washed gravel, 1/8 to 1/4 inch or coarse sand as recommended by topping manufacturer.
4. Compressive Strength: Not less than 5000 psi at 28 days when tested according to ASTM C 109/C 109M.

2.9 CONCRETE MIXTURES, GENERAL

A. Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, according to ACI 301.

1. Minimum Compressive Strength:

   a. Concrete encased electric ductbank: 3000psi
   b. Concrete sidewalk and pavement: 4500psi
   c. Concrete curb and gutter: 3000psi
   d. Concrete elevated slabs, columns, pile caps, piles, and equipment pads: 4000psi.

2. Use a qualified independent testing agency for preparing and reporting proposed mixture designs based on laboratory trial mixtures.

B. Cementitious Materials: Limit percentage, by weight, of cementitious materials other than portland cement in concrete as follows:

1. Fly Ash: 10 percent.
2. Ground Granulated Blast-Furnace Slag: 15 percent.
3. Silica Fume: 5 percent.

C. Limit water-soluble, chloride-ion content in hardened concrete to 0.04 percent by weight of cement.

D. Admixtures: Use admixtures according to manufacturer's written instructions.

1. Use water-reducing, high-range water-reducing or plasticizing admixture in concrete, as required, for placement and workability.
2. Use water-reducing admixture in pumped concrete and concrete with a water-cementitious materials ratio below 0.50.

2.10 CONCRETE MIXING

A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94/C 94M[and ASTM C 1116/C 1116M, and furnish batch ticket information.

1. When air temperature is between 85 and 90 deg F, reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F, reduce mixing and delivery time to 60 minutes.

B. Project-Site Mixing: Measure, batch, and mix concrete materials and concrete according to ASTM C 94/C 94M. Mix concrete materials in appropriate drum-type batch machine mixer.

1. For mixer capacity of 1 cu. yd. or smaller, continue mixing at least 1-1/2 minutes, but not more than 5 minutes after ingredients are in mixer, before any part of batch is released.
2. For mixer capacity larger than 1 cu. yd., increase mixing time by 15 seconds for each additional 1 cu. yd..
3. Provide batch ticket for each batch discharged and used in the Work, indicating Project identification name and number, date, mixture type, mixture time, quantity, and amount of water added. Record approximate location of final deposit in structure.

PART 3 - EXECUTION

3.1 FORMWORK

A. Design, erect, shore, brace, and maintain formwork, according to ACI 301, to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until structure can support such loads.

B. Construct formwork so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits of ACI 117.

C. Limit concrete surface irregularities, designated by ACI 347 as abrupt or gradual, as follows:

1. Class B, 1/4 inch for rough-formed finished surfaces.

D. Construct forms tight enough to prevent loss of concrete mortar.

E. Fabricate forms for easy removal without hammering or prying against concrete surfaces. Provide crush or wrecking plates where stripping may damage cast concrete surfaces.

1. Do not use rust-stained steel form-facing material.

F. Chamfer exterior corners and edges of permanently exposed concrete.

G. Clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, and other debris just before placing concrete.

H. Retighten forms and bracing before placing concrete, as required, to prevent mortar leaks and maintain proper alignment.

I. Coat contact surfaces of forms with form-release agent, according to manufacturer's written instructions, before placing reinforcement.

3.2 EMBEDDED ITEMS

A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.

3.3 REMOVING AND REUSING FORMS

A. General: Formwork for sides of slabs and concrete topping that does not support weight of concrete may be removed after cumulatively curing at not less than 50 deg F for 24 hours after placing concrete. Concrete has to be hard enough to not be damaged by form-removal operations and curing and protection operations need to be maintained.

B. Clean and repair surfaces of forms to be reused in the Work. Split, frayed, delaminated, or otherwise damaged form-facing material will not be acceptable for exposed surfaces. Apply new form-release agent.

C. When forms are reused, clean surfaces, remove fins and laitance, and tighten to close joints. Align and secure joints to avoid offsets. Do not use patched forms for exposed concrete surfaces unless approved by Architect.

3.4 STEEL REINFORCEMENT

A. General: Comply with CRSI's "Manual of Standard Practice" for placing reinforcement.

B. Clean reinforcement of loose rust and mill scale, earth, ice, and other foreign materials that would reduce bond to concrete.

C. Accurately position, support, and secure reinforcement against displacement. Locate and support reinforcement with bar supports to maintain minimum concrete cover. Do not tack weld crossing reinforcing bars.

1. Weld reinforcing bars according to AWS D1.4/D 1.4M, where indicated.

D. Set wire ties with ends directed into concrete, not toward exposed concrete surfaces.

3.5 CONCRETE PLACEMENT

A. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections have been performed.

B. Do not add water to concrete during delivery, at Project site, or during placement unless approved by Engineer.

C. Before test sampling and placing concrete, water may be added at Project site, subject to limitations of ACI 301.

1. Do not add water to concrete after adding high-range water-reducing admixtures to mixture.

D. Deposit concrete continuously in one layer. Deposit concrete to avoid segregation.

1. Deposit concrete in horizontal layers of depth to not exceed formwork design pressures and in a manner to avoid inclined construction joints.
2. Consolidate placed concrete with mechanical vibrating equipment according to ACI 301.
3. Do not use vibrators to transport concrete inside forms.

E. Deposit and consolidate concrete for floors and slabs in a continuous operation until placement is complete.

1. Consolidate concrete during placement operations so concrete is thoroughly worked around reinforcement and other embedded items and into corners.
2. Maintain reinforcement in position on chairs during concrete placement.
3. Screed slab surfaces with a straightedge and strike off to correct elevations.
4. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane, before excess bleedwater appears on the surface. Do not further disturb slab surfaces before starting finishing operations.

F. Cold Weather Placement: Comply with ACI 306.1 and as follows. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.

1. When average high and low temperature is expected to fall below 40 deg F for three successive days, maintain delivered concrete mixture temperature within the temperature range required by ACI 301.
2. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.
3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise specified and approved in mixture designs.

G. Hot Weather Placement: Comply with ACI 301 and as follows:

1. Maintain concrete temperature below 90 deg F at time of placement. Chilled mixing water or chipped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is contractor’s option.
2. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade uniformly moist without standing water, soft spots, or dry areas.

3.6 FINISHING FORMED SURFACES

A. Smooth-Formed Finish: As-cast concrete texture imparted by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Repair and patch tie holes and defects. Remove fins and other projections that exceed specified limits on formed-surface irregularities.

3.7 FINISHING FLOORS AND SLABS

A. General: Comply with ACI 302.1R recommendations for screeding, restraightening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.

B. Float Finish: Consolidate surface with power-driven floats or by hand floating if area is small or inaccessible to power driven floats. Restraighten, cut down high spots, and fill low spots. Repeat float passes and restraightening until surface is left with a uniform, smooth, granular texture.

C. Trowel Finish: After applying float finish, apply first troweling and consolidate concrete by hand or power-driven trowel. Continue troweling passes and restraighten until surface is free of trowel marks and uniform in texture and appearance. Grind smooth any surface defects that would telegraph through applied coatings or floor coverings.

1. Apply a trowel finish to surfaces exposed to view or to be covered with resilient flooring, ceramic or quarry tile.
2. Finish surfaces to the following tolerances, according to ASTM E 1155.

3.8 MISCELLANEOUS CONCRETE ITEMS

A. Filling In: Fill in holes and openings left in concrete structures after work of other trades is in place unless otherwise indicated. Mix, place, and cure concrete, as specified, to blend with in-place construction. Provide other miscellaneous concrete filling indicated or required to complete the Work.

3.9 CONCRETE PROTECTING AND CURING

A. Refer to Section 32 13 00 Concrete Walks for allowable curing materials for Concrete Walks.

B. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.

C. Formed Surfaces: Cure formed concrete surfaces. If forms remain during curing period, moist cure after loosening forms. If removing forms before end of curing period, continue curing for the remainder of the curing period.

D. Unformed Surfaces: Begin curing immediately after finishing concrete. Cure unformed surfaces, including floors and slabs, concrete floor toppings, and other surfaces.

E. Cure concrete according to ACI 308.1, by one or a combination of the following methods:

1. Moisture Curing: Keep surfaces continuously moist for not less than seven days with the following materials:
2. Water.
3. Continuous water-fog spray.
4. Absorptive cover, water saturated, and kept continuously wet. Cover concrete surfaces and edges with 12-inch lap over adjacent absorptive covers.

F. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches, and sealed by waterproof tape or adhesive. Cure for not less than seven days. Immediately repair any holes or tears during curing period using cover material and waterproof tape.

1. Moisture cure or use moisture-retaining covers to cure concrete surfaces to receive floor coverings.

3.10 COLD JOINT

A. Prepare, clean, and install bonding adhesive according to manufacturer's written instructions; Apply adhesive to full depth.

B. Remove dirt, debris, saw cuttings, curing compounds, and sealers from exposed contact faces, and leave clean and dry prior to application of bonding adhesive.

3.11 CONCRETE SURFACE REPAIRS

A. Defective Concrete: Repair and patch defective areas when approved by Engineer. Remove and replace concrete that cannot be repaired and patched to Engineer's approval.

B. Patching Mortar: Mix dry-pack patching mortar, consisting of one part portland cement to two and one-half parts fine aggregate passing a No. 16 sieve, using only enough water for handling and placing.

C. Repairing Formed Surfaces: Surface defects include color and texture irregularities, cracks, spalls, air bubbles, honeycombs, rock pockets, fins and other projections on the surface, and stains and other discolorations that cannot be removed by cleaning.

1. Immediately after form removal, cut out honeycombs, rock pockets, and voids more than 1/2 inch in any dimension to solid concrete. Limit cut depth to 3/4 inch. Make edges of cuts perpendicular to concrete surface. Clean, dampen with water, and brush-

coat holes and voids with bonding agent. Fill and compact with patching mortar before bonding agent has dried. Fill form-tie voids with patching mortar or cone plugs secured in place with bonding agent.

2. Repair defects on surfaces exposed to view by blending white portland cement and standard portland cement so that, when dry, patching mortar will match surrounding color. Patch a test area at inconspicuous locations to verify mixture and color match before proceeding with patching. Compact mortar in place and strike off slightly higher than surrounding surface.

D. Repairing Unformed Surfaces: Test unformed surfaces, such as floors and slabs, for finish and verify surface tolerances specified for each surface. Correct low and high areas. Test surfaces sloped to drain for trueness of slope and smoothness; use a sloped template.

1. Repair finished surfaces containing defects. Surface defects include spalls, popouts, honeycombs, rock pockets, crazing and cracks in excess of 0.01 inch wide or that penetrate to reinforcement or completely through unreinforced sections regardless of width, and other objectionable conditions.
2. After concrete has cured at least 14 days, correct high areas by grinding.
3. Correct localized low areas during or immediately after completing surface finishing operations by cutting out low areas and replacing with patching mortar. Finish repaired areas to blend into adjacent concrete.
4. Correct other low areas scheduled to receive floor coverings with a repair underlayment. Prepare, mix, and apply repair underlayment and primer according to manufacturer's written instructions to produce a smooth, uniform, plane, and level surface. Feather edges to match adjacent floor elevations.
5. Repair defective areas, except random cracks and single holes 1 inch or less in diameter, by cutting out and replacing with fresh concrete. Remove defective areas with clean, square cuts and expose steel reinforcement with at least a 3/4-inch clearance all around. Dampen concrete surfaces in contact with patching concrete and apply bonding agent. Mix patching concrete of same materials and mixture as original concrete except without coarse aggregate. Place, compact, and finish to blend with adjacent finished concrete. Cure in same manner as adjacent concrete.
6. Repair random cracks and single holes 1 inch or less in diameter with patching mortar. Groove top of cracks and cut out holes to sound concrete and clean off dust, dirt, and loose particles. Dampen cleaned concrete surfaces and apply bonding agent. Place patching mortar before bonding agent has dried. Compact patching mortar and finish to match adjacent concrete. Keep patched area continuously moist for at least 72 hours.

E. Perform structural repairs of concrete, subject to Engineer's approval, using epoxy adhesive and patching mortar.

F. Repair materials and installation not specified above may be used, subject to Engineer's approval.

3.12 FIELD QUALITY CONTROL

A. Testing and Inspecting: Engage a qualified testing and inspecting agency to perform tests and inspections and to submit reports.

B. Inspections:

1. Steel reinforcement placement.
2. Verification of use of required design mixture.
3. Concrete placement, including conveying and depositing.
4. Curing procedures and maintenance of curing temperature.

C. Concrete Tests: Testing of composite samples of fresh concrete obtained according to ASTM C 172 shall be performed according to the following requirements:

1. Testing Frequency: Obtain one composite sample of four (4) specimens for each day's pour of each concrete mixture exceeding 5 cu. yd., but less than 25 cu. yd., plus one sample for each additional 50 cu. yd. or fraction thereof, and in any case not less than four (4) specimens for any one day's operation.

    a. When frequency of testing will provide fewer than five compressive-strength tests for each concrete mixture, testing shall be conducted from at least five randomly selected batches or from each batch if fewer than five are used.

2. Slump: ASTM C 143/C 143M; one test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mixture. Perform additional tests when concrete consistency appears to change.
3. Air Content: ASTM C 231, pressure method, for normal-weight concrete; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
4. Concrete Temperature: One test for each composite sample.
5. Compression Test Specimens: ASTM C 31/C 31M.

    a. Cast and laboratory cure two sets of two standard cylinder specimens for each composite sample.
    b. Cast and field cure two sets of two standard cylinder specimens for each composite sample.

6. Compressive-Strength Tests: ASTM C 39/C 39M; test one set of two laboratory-cured specimens at 7 days and one set of two specimens at 28 days.

    a. Test one set of two field-cured specimens at 7 days and one set of two specimens at 28 days.
    b. A compressive-strength test shall be the average compressive strength from a set of two specimens obtained from same composite sample and tested at age indicated.

7. When strength of field-cured cylinders is less than 85 percent of companion laboratory-cured cylinders, Contractor shall evaluate operations and provide corrective procedures for protecting and curing in-place concrete.
8. Strength of each concrete mixture will be satisfactory if every average of any three consecutive compressive-strength tests equals or exceeds specified compressive strength and no compressive-strength test value falls below specified compressive strength by more than 500 psi.
9. Test results shall be reported in writing to Engineer, concrete manufacturer, and Contractor within 48 hours of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing and inspecting agency, location of concrete batch in Work, design compressive strength at 28 days, concrete mixture proportions and materials, compressive breaking strength, and type of break for both 7- and 28-day tests.
10. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Architect but will not be used as sole basis for approval or rejection of concrete.
11. Additional Tests: Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by Architect. Testing and inspecting agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42/C 42M or by other methods as directed by Architect.
12. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
13. Correct deficiencies in the Work that test reports and inspections indicate do not comply with the Contract Documents.

D. Measure floor and slab flatness and levelness according to ASTM E 1155 within 48 hours of finishing.

END OF SECTION 03 30 00

SECTION 03 41 00 - PRECAST STRUCTURAL CONCRETE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Precast Electric manholes and handholes.

B. Related Requirements:

1. Section 03 30 00 "Cast-in-Place Concrete" for placing connection anchors in concrete.
2. Section 07 11 13 “Bituminous Dampproofing” for manhole waterproofing.

1.3 PERFORMANCE REQUIREMENTS

A. Structural Performance: Precast structural concrete units and connections shall withstand HS 20 design loadings within limits and under conditions indicated.

B. Engage a fabricator who assumes undivided responsibility for engineering structural precast concrete units by employing a qualified professional engineer to prepare design calculations, shop drawings, and other structural data.

1.4 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Design Mixtures: For each precast concrete mixture. Include compressive strength and water-absorption tests.

C. Shop drawings prepared by or under the supervision of a qualified professional engineer detailing fabrication and installation of precast concrete units. Indicated member dimensions and cross-sections; locations, sizes, and types of reinforcement, including special reinforcement; and lifting devices necessary for handling and erection.

1. Indicate layout and dimensions, and identify each precast concrete unit corresponding to sequence and procedure of installation. Indicate welded connections by AWS standard symbols. Detail loose, cast-in, and field hardware inserts, connections, and joints, including accessories and construction at openings in precast units.
2. For precast concrete units indicated to comply with design loadings or calculated fire-resistance requirements, include structural analysis data sealed and signed by the qualified professional engineer responsible for their preparation.

D. Material certificates signed by fabricator certifying that each material item complies with requirements.

1.5 QUALITY ASSURANCE

A. Fabricator Qualifications: A firm that assumes responsibility for engineering precast structural concrete units to comply with performance requirements. Responsibility includes preparation of Shop Drawings and comprehensive engineering analysis by a qualified professional engineer.

1. Must participate in Precast/Prestressed Concrete Institute's (PCI) Plant Certification program and be designated a PCI-certified plant as follows:

a. Group C, Category C2 - Prestressed Hollowcore and Repetitively Produced Products

B. Installer Qualifications: A precast concrete installer who has completed structural precast concrete work similar in material, design, and extent to that indicated for this Project and with a record of successful in-service performance.

C. Testing Agency Qualifications: Qualified according to ASTM C 1077 and ASTM E 329 for testing indicated.

D. Design Standards: Comply with ACI 318 and design recommendations in PCI MNL 120, "PCI Design Handbook - Precast and Prestressed Concrete," applicable to types of precast structural concrete units indicated.

E. Quality-Control Standard: For manufacturing procedures and testing requirements, quality-control recommendations, and dimensional tolerances for types of units required, comply with PCI MNL 116, "Manual for Quality Control for Plants and Production of Structural Precast Concrete Products."

1.6 DELIVERY, STORAGE, AND HANDLING

A. Support units during shipment on nonstaining shock-absorbing material in same position as during storage.

B. Store units with adequate bracing and protect units to prevent contact with soil, to prevent staining, and to prevent cracking, distortion, warping or other physical damage.

1. Store units with dunnage across full width of each bearing point unless otherwise indicated.
2. Place adequate dunnage of even thickness between each unit.
3. Place stored units so identification marks are clearly visible, and units can be inspected.

C. Handle and transport units in a position consistent with their shape and design in order to avoid excessive stresses that would cause cracking or damage.

D. Lift and support units only at designated points shown on Shop Drawings.

E. Deliver precast concrete units to Project site in such quantities and at such times to ensure continuity of installation. Store units at Project site to prevent cracking, distorting, warping, staining, or other physical damage, and so that markings are visible.

1.7 COORDINATION

A. Furnish loose connection hardware and anchorage items to be embedded in or attached to other construction before starting that Work. Provide locations, setting diagrams, templates, instructions, and directions, as required, for installation.

PART 2 - PRODUCTS

2.1 MOLD MATERIALS

A. Molds: Rigid, dimensionally stable, non-absorptive material, warp and buckle free, that will provide continuous and true precast concrete surfaces within fabrication tolerances indicated; nonreactive with concrete and suitable for producing required finishes.

1. Mold-Release Agent: Commercially produced liquid-release agent that will not bond with, stain or adversely affect precast concrete surfaces and will not impair subsequent surface or joint treatments of precast concrete.

B. Form Liners: Units of face design, texture, arrangement, and configuration. Furnish with manufacturer's recommended liquid-release agent that will not bond with, stain, or adversely affect precast concrete surfaces and will not impair subsequent surface or joint treatments of precast concrete.

C. Surface Retarder: Chemical set retarder, capable of temporarily delaying final hardening of newly placed concrete mixture to depth of reveal specified.

2.2 REINFORCING MATERIALS

A. Reinforcing Bars: ASTM A 615, Grade 60, deformed.

B. Plain-Steel Welded Wire Reinforcement: ASTM A 185, cold-drawn.

C. Supports: Suspend reinforcement from back of mold or use bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded wire reinforcement in place according to PCI MNL 116.

2.3 CONCRETE MATERIALS

A. Portland Cement: ASTM C 150, Type I or Type III, gray, unless otherwise indicated.

B. Normal-Weight Aggregates: Except as modified by PCI MNL 116, ASTM C 33, with coarse aggregates complying with Class 5S. Stockpile fine and coarse aggregates for each type of exposed finish from a single source (pit or quarry) for Project.

C. Water: Potable; free from deleterious material that may affect color stability, setting, or strength of concrete and complying with chemical limits of PCI MNL 116.

D. Air-Entraining Admixture: ASTM C 260, certified by manufacturer to be compatible with other required admixtures.

E. Chemical Admixtures: Certified by manufacturer to be compatible with other admixtures and to not contain calcium chloride, or more than 0.10 percent chloride ions or other salts by weight of admixture.

1. Water-Reducing Admixtures: ASTM C 494/C 494M, Type A.
2. Retarding Admixture: ASTM C 494/C 494M, Type B.
3. Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type D.
4. Water-Reducing and Accelerating Admixture: ASTM C 494/C 494M, Type E.
5. High-Range, Water-Reducing Admixture: ASTM C 494/C 494M, Type F.
6. High-Range, Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type G.

F. Corrosion-Inhibiting Admixture: Commercially formulated, anodic inhibitor or mixed cathodic and anodic inhibitor; capable of forming a protective barrier and minimizing chloride reactions with steel reinforcement in concrete.

2.4 CONNECTION MATERIALS

A. Accessories: Provide embedded lifting inserts to facilitate both initial installation and future removal and reinstallation of hollow core plank panels. Insert material shall be stainless steel and installed flush with the top surface of the panel. The insert shall accommodate a threaded rod/eyebolt or other similar device for attaching a crane hook or chain. Provide a plastic or stainless steel threaded lug which can be easily removed for use in protecting the female ends

of the lifting insert device while in place. The lug shall be flush with the panel. The size, capacity, spacing and number of inserts shall be determined by the precast manufacturer.

2.5 GROUT MATERIALS

A. Nonmetallic, Nonshrink Grout: Premixed, nonmetallic, noncorrosive, nonstaining grout containing selected silica sands, portland cement, shrinkage-compensating agents, plasticizing and water-reducing agents, complying with ASTM C 1107, Grade A for drypack and Grades B and C for flowable grout and of consistency suitable for application within a 30-minute working time.

2.6 CONCRETE MIXTURES

A. Prepare design mixtures for each type of precast concrete required.

B. Design mixtures may be prepared by a qualified independent testing agency or by qualified precast plant personnel at precast structural concrete fabricator's option.

C. Normal-Weight Concrete Mixtures: Proportion mixtures by either laboratory trial batch or field test data methods according to ACI 211.1, and ACI 301, using materials to be used on the Project, to provide normal-weight concrete with the following properties:

1. Compressive Strength (28 Days): 5000 psi.
2. Maximum Water-Cementitious Materials Ratio: 0.40.

D. Add air-entraining admixture at manufacturer's prescribed rate to result in concrete at point of placement having an air content complying with PCI MNL 116

1. Absorption: 6 percent by weight or 14 percent by volume, tested according to PCI MNL 116.

E. Other Admixtures: Use water-reducing, high-range water-reducing, water-reducing and accelerating, or water-reducing and retarding admixtures according to manufacturer's directions.

F. Concrete Mix Adjustments: Concrete mix design adjustments may be proposed if characteristics of materials, Project conditions, weather, test results, or other circumstances warrant.

2.7 MOLD FABRICATION

A. Molds: Accurately construct molds, mortar tight, of sufficient strength to withstand pressures due to concrete-placement operations and temperature changes and for prestressing and detensioning operations. Coat contact surfaces of molds with release agent before reinforcement is placed. Avoid contamination of reinforcement and prestressing tendons by release agent.

1. Place form liners accurately to provide finished surface texture indicated. Provide solid backing and supports to maintain stability of liners during concrete placement. Coat form liner with form-release agent.

B. Maintain molds to provide completed precast structural concrete units of shapes, lines, and dimensions indicated, within fabrication tolerances specified.

1. Form joints are not permitted on faces exposed to view in the finished work.
2. Edge and Corner Treatment: Uniformly chamfered.

2.8 FABRICATION

A. Cast-in Anchors, Inserts, Plates, Angles, and Other Anchorage Hardware: Fabricate anchorage hardware with sufficient anchorage and embedment to comply with design requirements. Accurately position for attachment of loose hardware, and secure in place during precasting operations. Locate anchorage hardware where it does not affect position of main reinforcement or concrete placement.

1. Weld-headed studs and deformed bar anchors used for anchorage according to AWS D1.1/D1.1M and AWS C5.4, "Recommended Practices for Stud Welding."

B. Furnish loose hardware items including steel plates, clip angles, seat angles, anchors, dowels, cramps, hangers, and other hardware shapes for securing precast structural concrete units to supporting and adjacent construction.

C. Cast-in reglets, slots, holes, and other accessories in precast structural concrete units as indicated on the Contract Drawings.

D. Cast-in openings larger than 10 inches in any dimension. Do not drill or cut openings or prestressing strand without Engineer's approval.

E. Reinforcement: Comply with recommendations in PCI MNL 116 for fabricating, placing, and supporting reinforcement.

1. Clean reinforcement of loose rust and mill scale, earth, and other materials that reduce or destroy the bond with concrete. When damage to epoxy-coated reinforcement exceeds limits specified, repair with patching material compatible with coating material and epoxy coat bar ends after cutting.
2. Accurately position, support, and secure reinforcement against displacement during concrete-placement and consolidation operations. Completely conceal support devices to prevent exposure on finished surfaces.
3. Place reinforcement to maintain at least the minimum coverage for concrete protection. Arrange, space, and securely tie bars and bar supports to hold reinforcement in position while placing concrete. Direct wire tie ends away from finished, exposed concrete surfaces.

4. Install welded wire fabric in lengths as long as practicable. Lap adjoining pieces at least one full mesh spacing and wire tie laps, where required by design. Offset laps of adjoining widths to prevent continuous laps in either direction.

F. Reinforce precast structural concrete units to resist handling, transportation, and erection stresses.

G. Prestress tendons for precast structural concrete units by either pretensioning or post-tensioning methods. Comply with PCI MNL 116.

1. Delay detensioning or post-tensioning of precast, prestressed structural concrete units until concrete has reached its indicated minimum design release compressive strength as established by test cylinders cured under same conditions as concrete.
2. Detension pretensioned tendons either by gradually releasing tensioning jacks or by heat cutting tendons, using a sequence and pattern to prevent shock or unbalanced loading.
3. If concrete has been heat cured, detension while concrete is still warm and moist to avoid dimensional changes that may cause cracking or undesirable stresses.
4. Protect strand ends and anchorages with bituminous, zinc-rich, or epoxy paint to avoid corrosion and possible rust spots.
5. Protect strand ends and anchorages with a minimum of 1-inch- thick, nonmetallic, non-shrink, grout mortar and sack rub surface. Coat or spray the inside surfaces of pocket with bonding agent before installing grout.

H. Comply with requirements in PCI MNL 116 and in this Section for measuring, mixing, transporting, and placing concrete. After concrete batching, no additional water may be added.

I. Place face mixture to a minimum thickness after consolidation of the greater of 1 inch or 1.5 times the maximum aggregate size, but not less than the minimum reinforcing cover specified.

J. Place concrete in a continuous operation to prevent seams or planes of weakness from forming in precast concrete units.

1. Place backup concrete mixture to ensure bond with face-mixture concrete.

K. Thoroughly consolidate placed concrete by internal and external vibration without dislocating or damaging reinforcement and built-in items, and minimize pour lines, honeycombing, or entrapped air on surfaces. Use equipment and procedures complying with PCI MNL 116.

1. Place self-consolidating concrete without vibration according to PCI TR-6, "Interim Guidelines for the Use of Self-Consolidating Concrete in Precast/Prestressed Concrete Institute Member Plants."

L. Comply with ACI 306.1 procedures for cold-weather concrete placement.

M. Comply with PCI MNL 116 procedures for hot-weather concrete placement.

N. Identify pickup points of precast structural concrete units and orientation in structure with permanent markings, complying with markings indicated on Shop Drawings. Imprint or permanently mark casting date on each precast structural concrete unit on a surface that will not show in finished structure.

O. Cure concrete, according to requirements in PCI MNL 116, by moisture retention without heat or by accelerated heat curing using low-pressure live steam or radiant heat and moisture. Cure units until compressive strength is high enough to ensure that stripping does not have an effect on performance or appearance of final product.

P. Discard and replace precast structural concrete units that do not comply with requirements, including structural, manufacturing tolerance, and appearance, unless repairs meet requirements in PCI MNL 116 and meet Architect's approval.

2.9 FABRICATION TOLERANCES

A. Fabricate precast structural concrete units straight and true to size and shape with exposed edges and corners precise and true so each finished unit complies with PCI MNL 116 product dimension tolerances.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine supporting structural frame or foundation and conditions for compliance with requirements for installation tolerances, true and level bearing surfaces, and other conditions affecting performance of the Work.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

C. Do not install precast concrete units until supporting, cast-in-place, building structural framing has attained minimum allowable design compressive strength or until supporting steel or other structure is complete.

3.2 INSTALLATION

A. Install clips, hangers, bearing pads, and other accessories required for connecting precast structural concrete units to supporting members and backup materials.

B. Erect precast structural concrete level, plumb, and square within specified allowable tolerances. Provide temporary structural framing, supports, and bracing as required to maintain position, stability, and alignment of units until permanent connection.

1. Install temporary steel or plastic spacing shims or bearing pads as precast structural concrete units are being erected. Tack weld steel shims to each other to prevent shims from separating.
2. Maintain horizontal and vertical joint alignment and uniform joint width as erection progresses.
3. Remove projecting lifting devices and grout fill voids within recessed lifting devices flush with surface of adjacent precast surfaces when recess is exposed.
4. For hollow-core slab voids used as electrical raceways or mechanical ducts, align voids between units and tape butt joint at end of slabs.

C. Connect precast structural concrete units in position by bolting, welding, grouting, or as otherwise indicated on Shop Drawings. Remove temporary shims, wedges, and spacers as soon as practical after connecting and grouting are completed.

1. Do not permit connections to disrupt continuity of roof flashing.

D. Field cutting of precast units is not permitted without approval of the Engineer.

E. Fasteners: Do not use drilled or powder-actuated fasteners for attaching accessory items to precast, prestressed concrete units.

F. Grouting: Grout connections and joints and open spaces at keyways, connections, and joints where required or indicated on Shop Drawings. Retain grout in place until hard enough to support itself. Pack spaces with stiff grout material, tamping until voids are completely filled.

1. Place grout to finish smooth, level, and plumb with adjacent concrete surfaces.
2. Fill joints completely without seepage to other surfaces.
3. Trowel top of grout joints on roofs smooth and uniform. Finish transitions between different surface levels not steeper than 1 to 12.
4. Place grout end cap or dam in voids at ends of hollow-core slabs.
5. Promptly remove grout material from exposed surfaces before it affects finishes or hardens.
6. Keep grouted joints damp for not less than 24 hours after initial set.

3.3 ERECTION TOLERANCES

A. Erect precast structural concrete units level, plumb, square, true, and in alignment without exceeding the noncumulative erection tolerances of PCI MNL 135.

B. Minimize variations between adjacent slab members by jacking, loading, or other method recommended by fabricator and approved by Architect.

3.4 CLEANING

A. Clean mortar, plaster, fireproofing, weld slag, and other deleterious material from concrete surfaces and adjacent materials immediately.

B. Clean exposed surfaces of precast concrete units after erection and completion of joint treatment to remove weld marks, other markings, dirt, and stains.

1. Perform cleaning procedures, if necessary, according to precast concrete fabricator's written recommendations. Clean soiled precast concrete surfaces with detergent and water, using stiff fiber brushes and sponges, and rinse with clean water. Protect other work from staining or damage due to cleaning operations.
2. Do not use cleaning materials or processes that could change the appearance of exposed concrete finishes or damage adjacent materials.

END OF SECTION 03 41 00

SECTION 07 11 13 - BITUMINOUS DAMPPROOFING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Cold-applied asphalt dampproofing for precast electric manholes.

B. Related Requirements:

1. Section 03 41 00 "Precast Structural Concrete" for manhole dampproofing.

1.3 SUBMITTALS

A. Product Data: For each type of product.

1.4 FIELD CONDITIONS

A. Weather Limitations: Proceed with application only when existing and forecasted weather conditions permit dampproofing to be performed according to manufacturers' written instructions.

B. Ventilation: Provide adequate ventilation during application of dampproofing in enclosed spaces. Maintain ventilation until dampproofing has cured.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

A. Source Limitations: Obtain primary dampproofing materials and primers from single source from single manufacturer. Provide auxiliary materials recommended in writing by manufacturer of primary materials.

B. VOC Content: Products shall comply with VOC content limits of authorities having jurisdiction unless otherwise required.

2.2 COLD-APPLIED, EMULSIFIED-ASPHALT DAMPPROOFING

A. Trowel Coats: ASTM D 1227, Type II, Class 1.

B. Fibered Brush and Spray Coats: ASTM D 1227, Type II, Class 1.

C. Brush and Spray Coats: ASTM D 1227, Type III, Class 1.

D. VOC Content: 30 g/L or less.

E. Low-Emitting Materials: Dampproofing shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

2.3 AUXILIARY MATERIALS

A. General: Furnish auxiliary materials recommended in writing by dampproofing manufacturer for intended use and compatible with bituminous dampproofing.

B. Cut-Back-Asphalt Primer: ASTM D 41.

C. Emulsified-Asphalt Primer: ASTM D 1227, Type III, Class 1, except diluted with water as recommended in writing by manufacturer.

1. Primer shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

D. Asphalt-Coated Glass Fabric: ASTM D 1668, Type I.

E. Patching Compound of type recommended in writing by dampproofing manufacturer.

F. Protection Course: Extruded-polystyrene board insulation, unfaced, ASTM C 578, Type X, 1/2 inch thick.

G. Protection Course: Smooth-surfaced roll roofing complying with ASTM D 6380, Class S, Type III.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions with Applicator present, for compliance with requirements for surface smoothness, surface moisture, and other conditions affecting performance of bituminous dampproofing work.

1. Test for surface moisture according to ASTM D 4263.

B. Proceed with application only after substrate construction and penetrating work have been completed and unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Mask or otherwise protect adjoining exposed surfaces from being stained, spotted, or coated with dampproofing. Prevent dampproofing materials from entering and clogging weep holes and drains.

B. Clean substrates of projections and substances detrimental to the dampproofing work; fill voids, seal joints, and remove bond breakers if any, as recommended in writing by prime material manufacturer.

C. Apply patching compound to patch and fill tie holes, honeycombs, reveals, and other imperfections.

3.3 APPLICATION, GENERAL

A. Comply with manufacturer's written instructions for dampproofing application, cure time between coats, and drying time before backfilling unless more stringent requirements are indicated.

1. Apply dampproofing to provide continuous plane of protection.
2. Apply additional coats if recommended in writing by manufacturer or to achieve a smooth surface and uninterrupted coverage.

3.4 COLD-APPLIED, EMULSIFIED-ASPHALT DAMPPROOFING

A. Concrete Manholes: Apply two brush or spray coats at not less than 2 gal./100 sq. ft. for first coat and 1 gal./100 sq. ft. for second coat. The final thickness of dampproofing shall be 60 mils thick.

3.5 INSTALLATION OF PROTECTION COURSE

A. Where indicated, install protection course over completed-and-cured dampproofing. Comply with dampproofing-material and protection-course manufacturers' written instructions for attaching protection course.

1. Support protection course over cured coating with spot application of adhesive type recommended in writing by protection-board manufacturer.

3.6 CLEANING

A. Clean spillage and soiling from adjacent construction using cleaning agents and procedures recommended in writing by manufacturer of affected construction.

END OF SECTION 07 11 13

SECTION 08 11 13 - HOLLOW METAL DOORS AND FRAMES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes:

1. Interior standard steel doors and frames.
2. Exterior standard steel doors and frames.

B. Related Requirements:

1. Section 087100 "Door Hardware" for door hardware for hollow-metal doors.

1.3 DEFINITIONS

A. Minimum Thickness: Minimum thickness of base metal without coatings according to NAAMM-HMMA 803 or ANSI/SDI A250.8.

1.4 COORDINATION

A. Coordinate anchorage installation for hollow-metal frames. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors. Deliver such items to Project site in time for installation.

B. Coordinate requirements for installation of door hardware, electrified door hardware, and access control and security systems.

1.5 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, material descriptions, core descriptions, fire-resistance ratings, temperature-rise ratings, and finishes.

B. Shop Drawings: Include the following:

1. Elevations of each door type.
2. Details of doors, including vertical- and horizontal-edge details and metal thicknesses.
3. Frame details for each frame type, including dimensioned profiles and metal thicknesses.
4. Locations of reinforcement and preparations for hardware.
5. Details of each different wall opening condition.
6. Details of electrical raceway and preparation for electrified hardware, access control systems, and security systems.
7. Details of anchorages, joints, field splices, and connections.
8. Details of accessories.
9. Details of moldings, removable stops, and glazing.

C. Samples for Initial Selection: For hollow-metal doors and frames with factory-applied color finishes.

D. Product Schedule: For hollow-metal doors and frames, prepared by or under the supervision of supplier, using same reference numbers for details and openings as those on Drawings. Coordinate with final door hardware schedule.

1.6 INFORMATIONAL SUBMITTALS

A. Qualification Data: For door inspector.

1. Fire-Rated Door Inspector: Submit documentation of compliance with NFPA 80, Section 5.2.3.1.
2. Egress Door Inspector: Submit documentation of compliance with NFPA 101, Section 7.2.1.15.4.
3. Submit copy of DHI Fire and Egress Door Assembly Inspector (FDAI) certificate.

B. Product Test Reports: For each type of fire-rated hollow-metal door and frame assembly for tests performed by a qualified testing agency indicating compliance with performance requirements.

C. Field quality control reports.

1.7 CLOSEOUT SUBMITTALS

A. Record Documents: For fire-rated doors, list of door numbers and applicable room name and number to which door accesses.

1.8 QUALITY ASSURANCE

A. Fire-Rated Door Inspector Qualifications: Inspector for field quality control inspections of fire-rated door assemblies shall meet the qualifications set forth in NFPA 80, section 5.2.3.1 and the following:

1. Door and Hardware Institute Fire and Egress Door Assembly Inspector (FDAI) certification.

B. Egress Door Inspector Qualifications: Inspector for field quality control inspections of egress door assemblies shall meet the qualifications set forth in NFPA 101, Section 7.2.1.15.4 and the following:

1. Door and Hardware Institute Fire and Egress Door Assembly Inspector (FDAI) certification.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Deliver hollow-metal doors and frames palletized, packaged, or crated to provide protection during transit and Project-site storage. Do not use nonvented plastic.

1. Provide additional protection to prevent damage to factory-finished units.

B. Deliver welded frames with two removable spreader bars across bottom of frames, tack welded to jambs and mullions.

C. Store hollow-metal doors and frames vertically under cover at Project site with head up. Place on minimum 4-inch- high wood blocking. Provide minimum 1/4-inch space between each stacked door to permit air circulation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. Ceco Door; ASSA ABLOY.
2. DCI Hollow Metal.
3. Steelcraft; an Allegion brand.

2.2 PERFORMANCE REQUIREMENTS

A. Fire-Rated Door Assemblies: Assemblies complying with NFPA 80 that are listed and labeled by a qualified testing agency acceptable to authorities having jurisdiction for fire-protection

ratings and temperature-rise limits indicated on Drawings, based on testing at positive pressure according to NFPA 252 or UL 10C.

1. Smoke- and Draft-Control Door Assemblies: Listed and labeled for smoke and draft control by a qualified testing agency acceptable to authorities having jurisdiction, based on testing according to UL 1784 and installed in compliance with NFPA 105.
2. Oversize Fire-Rated Door Assemblies: For units exceeding sizes of tested assemblies, provide certification by a qualified testing agency that doors comply with standard construction requirements for tested and labeled fire-rated door assemblies except for size.
3. Temperature-Rise Limit: At vertical exit enclosures and exit passageways, provide doors that have a maximum transmitted temperature end point of not more than 450 deg F above ambient after 30 minutes of standard fire-test exposure.

B. Thermally Rated Door Assemblies: Provide door assemblies with U-factor of not more than 0.40 deg Btu/F x h x sq. ft. when tested according to ASTM C518.

2.3 INTERIOR STANDARD STEEL DOORS AND FRAMES

A. Construct hollow-metal doors and frames to comply with standards indicated for materials, fabrication, hardware locations, hardware reinforcement, tolerances, and clearances, and as specified.

B. Heavy-Duty Doors and Frames: ANSI/SDI A250.8, Level 2; ANSI/SDI A250.4, Level B. .

1. Doors:
   a. Type: As indicated in the Door and Frame Schedule.
   b. Thickness: 1-3/4 inches.
   c. Face: Uncoated steel sheet, minimum thickness of 0.042 inch.
   d. Edge Construction: Model 1, Full Flush .
   e. Edge Bevel: Provide manufacturer's standard beveled or square edges.
   f. Core: Manufacturer's standard .
   g. Fire-Rated Core: Manufacturer's standard vertical steel stiffener core for fire-rated and temperature-rise-rated doors.
2. Frames:
   a. Materials: Uncoated steel sheet, minimum thickness of 0.053 inch.
   b. Sidelite and Transom Frames: Fabricated from same thickness material as adjacent door frame.
   c. Construction: Face welded.
3. Exposed Finish: Prime.

2.4 EXTERIOR STANDARD STEEL DOORS AND FRAMES

A. Construct hollow-metal doors and frames to comply with standards indicated for materials, fabrication, hardware locations, hardware reinforcement, tolerances, and clearances, and as specified.

B. Heavy-Duty Doors and Frames: ANSI/SDI A250.8, Level 2; ANSI/SDI A250.4, Level B. .

1. Doors:
   a. Type: As indicated in the Door and Frame Schedule.
   b. Thickness: 1-3/4 inches.
   c. Edge Construction: Model 1, Full Flush.
   d. Edge Bevel: Provide manufacturer's standard beveled or square edges.
   e. Top Edge Closures: Close top edges of doors with flush closures of same material as face sheets. Seal joints against water penetration.
   f. Bottom Edges: Close bottom edges of doors where required for attachment of weather stripping with end closures or channels of same material as face sheets. Provide weep-hole openings in bottoms of exterior doors to permit moisture to escape.
   g. Core: Manufacturer's standard.
2. Frames:
   a. Materials: Metallic-coated steel sheet, minimum thickness of 0.053 inch, with minimum A40 coating.
   b. Construction: Face welded.
3. Exposed Finish: Prime.

2.5 FRAME ANCHORS

A. Jamb Anchors:

1. Type: Anchors of minimum size and type required by applicable door and frame standard, and suitable for performance level indicated.
2. Quantity: Minimum of three anchors per jamb, with one additional anchor for frames with no floor anchor. Provide one additional anchor for each 24 inches of frame height above 7 feet.
3. Postinstalled Expansion Anchor: Minimum 3/8-inch- diameter bolts with expansion shields or inserts, with manufacturer's standard pipe spacer.

B. Floor Anchors: Provide floor anchors for each jamb and mullion that extends to floor.

C. Floor Anchors for Concrete Slabs with Underlayment: Adjustable-type anchors with extension clips, allowing not less than 2-inch height adjustment. Terminate bottom of frames at top of underlayment.

D. Material: ASTM A879/A879M, Commercial Steel (CS), 04Z coating designation; mill phosphatized.

1. For anchors built into exterior walls, steel sheet complying with ASTM A1008/A1008M or ASTM A1011/A1011M; hot-dip galvanized according to ASTM A153/A153M, Class B.

2.6 MATERIALS

A. Cold-Rolled Steel Sheet: ASTM A1008/A1008M, Commercial Steel (CS), Type B; suitable for exposed applications.

B. Hot-Rolled Steel Sheet: ASTM A1011/A1011M, Commercial Steel (CS), Type B; free of scale, pitting, or surface defects; pickled and oiled.

C. Metallic-Coated Steel Sheet: ASTM A653/A653M, Commercial Steel (CS), Type B.

D. Inserts, Bolts, and Fasteners: Hot-dip galvanized according to ASTM A153/A153M.

E. Power-Actuated Fasteners in Concrete: Fastener system of type suitable for application indicated, fabricated from corrosion-resistant materials, with clips or other accessory devices for attaching hollow-metal frames of type indicated.

F. Mineral-Fiber Insulation: ASTM C665, Type I (blankets without membrane facing); consisting of fibers manufactured from slag or rock wool; with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively; passing ASTM E136 for combustion characteristics.

G. Glazing: Comply with requirements in Section 088000 "Glazing."

2.7 FABRICATION

A. Door Astragals: Provide overlapping astragal on one leaf of pairs of doors where required by NFPA 80 for fire-performance rating or where indicated. Extend minimum 3/4 inch beyond edge of door on which astragal is mounted or as required to comply with published listing of qualified testing agency.

B. Hollow-Metal Frames: Fabricate in one piece except where handling and shipping limitations require multiple sections. Where frames are fabricated in sections, provide alignment plates or angles at each joint, fabricated of metal of same or greater thickness as frames.

1. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners unless otherwise indicated.
2. Door Silencers: Except on weather-stripped frames, drill stops to receive door silencers as follows. Keep holes clear during construction.
   a. Single-Door Frames: Drill stop in strike jamb to receive three door silencers.
   b. Double-Door Frames: Drill stop in head jamb to receive two door silencers.
3. Terminated Stops (Hospital Stops): Terminate stops 6 inches above finish floor with a 45 -degree angle cut, and close open end of stop with steel sheet closure. Cover opening in

extension of frame with welded-steel filler plate, with welds ground smooth and flush with frame.

C. Hardware Preparation: Factory prepare hollow-metal doors and frames to receive templated mortised hardware, and electrical wiring; include cutouts, reinforcement, mortising, drilling, and tapping according to ANSI/SDI A250.6, the Door Hardware Schedule, and templates.

1. Reinforce doors and frames to receive nontemplated, mortised, and surface-mounted door hardware.
2. Comply with BHMA A156.115 for preparing hollow-metal doors and frames for hardware.

D. Glazed Lites: Provide stops and moldings around glazed lites where indicated. Form corners of stops and moldings with butted or mitered hairline joints.

1. Provide stops and moldings flush with face of door, and with beveled stops unless otherwise indicated.
2. Multiple Glazed Lites: Provide fixed and removable stops and moldings so that each glazed lite is capable of being removed independently.
3. Provide fixed frame moldings on outside of exterior and on secure side of interior doors and frames. Provide loose stops and moldings on inside of hollow-metal doors and frames.
4. Coordinate rabbet width between fixed and removable stops with glazing and installation types indicated.
5. Provide stops for installation with countersunk flat- or oval-head machine screws spaced uniformly not more than 9 inches o.c. and not more than 2 inches o.c. from each corner.

2.8 STEEL FINISHES

A. Prime Finish: Clean, pretreat, and apply manufacturer's standard primer.

1. Shop Primer: Manufacturer's standard, fast-curing, lead- and chromate-free primer complying with ANSI/SDI A250.10; recommended by primer manufacturer for substrate; compatible with substrate and field-applied coatings despite prolonged exposure.

B. Factory Finish: Clean, pretreat, and apply manufacturer's standard two-coat, baked-on finish consisting of prime coat and thermosetting topcoat, complying with ANSI/SDI A250.3.

1. Color and Gloss: As selected by Architect from manufacturer's full range .

PART 3 - EXECUTION

3.1 PREPARATION

A. Remove welded-in shipping spreaders installed at factory. Restore exposed finish by grinding, filling, and dressing, as required to make repaired area smooth, flush, and invisible on exposed faces. Touch up factory-applied finishes where spreaders are removed.

B. Drill and tap doors and frames to receive nontemplated, mortised, and surface-mounted door hardware.

3.2 INSTALLATION

A. Install hollow-metal doors and frames plumb, rigid, properly aligned, and securely fastened in place. Comply with approved Shop Drawings and with manufacturer's written instructions.

B. Hollow-Metal Frames: Comply with ANSI/SDI A250.11 .

1. Set frames accurately in position; plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is complete, remove temporary braces without damage to completed Work.
    a. Where frames are fabricated in sections, field splice at approved locations by welding face joint continuously; grind, fill, dress, and make splice smooth, flush, and invisible on exposed faces. Touch-up finishes.
    b. Install frames with removable stops located on secure side of opening.
2. Fire-Rated Openings: Install frames according to NFPA 80.
3. Floor Anchors: Secure with postinstalled expansion anchors.
    a. Floor anchors may be set with power-actuated fasteners instead of postinstalled expansion anchors if so indicated and approved on Shop Drawings.
4. Solidly pack mineral-fiber insulation inside frames.
5. Masonry Walls: Coordinate installation of frames to allow for solidly filling space between frames and masonry with grout or mortar.
6. In-Place Concrete or Masonry Construction: Secure frames in place with postinstalled expansion anchors. Countersink anchors, and fill and make smooth, flush, and invisible on exposed faces.
7. Installation Tolerances: Adjust hollow-metal frames to the following tolerances:
    a. Squareness: Plus or minus 1/16 inch, measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
    b. Alignment: Plus or minus 1/16 inch, measured at jambs on a horizontal line parallel to plane of wall.
    c. Twist: Plus or minus 1/16 inch, measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
    d. Plumbness: Plus or minus 1/16 inch, measured at jambs at floor.

C. Hollow-Metal Doors: Fit and adjust hollow-metal doors accurately in frames, within clearances specified below.

1. Non-Fire-Rated Steel Doors: Comply with ANSI/SDI A250.8 .
2. Fire-Rated Doors: Install doors with clearances according to NFPA 80.
3. Smoke-Control Doors: Install doors according to NFPA 105.

D. Glazing: Comply with installation requirements in Section 088000 "Glazing" and with hollow-metal manufacturer's written instructions.

3.3 FIELD QUALITY CONTROL

A. Inspection Agency: Engage a qualified inspector to perform inspections and to furnish reports to Architect.

B. Commissioning of all doors by installer supervised by an Architectural Hardware consultant.

1. Include Testing of opening force, closing device, complete closure of the door within clearance tolerances, and full engagement of latches where required by door type. Verify cleanliness of labels, fusible links, and other components that cannot be painted.

2. Functional testing of automatic closing or power-operated fire door assemblies and electronically controlled latching hardware or release devices must be coordinated with the other electronically controlled system specified by the consultant.

3. After all doors have been commissioned and prior to their acceptance, the consultant, consultation with the campus and fund, with select doors (at least one for each operational type) whose full range operation must be demonstrated by the contractor to the satisfaction of the consultant.

C. Inspections:

1. Fire-Rated Door Inspections: Inspect each fire-rated door according to NFPA 80, Section 5.2.
2. Egress Door Inspections: Inspect each door equipped with panic hardware, each door equipped with fire exit hardware, each door located in an exit enclosure, each electrically controlled egress door, and each door equipped with special locking arrangements according to NFPA 101, Section 7.2.1.15.

D. Repair or remove and replace installations where inspections indicate that they do not comply with specified requirements.

E. Reinspect repaired or replaced installations to determine if replaced or repaired door assembly installations comply with specified requirements.

F. Prepare and submit separate inspection report for each fire-rated door assembly indicating compliance with each item listed in NFPA 80 and NFPA 101.

3.4 REPAIR

A. Prime-Coat Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat and apply touchup of compatible air-drying, rust-inhibitive primer.

END OF SECTION 081113

SECTION 08 71 00 – DOOR HARDWARE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes commercial door hardware for the following:

1. Swinging doors.

B. Door hardware includes, but is not necessarily limited to, the following:

1. Mechanical door hardware.
2. Electromechanical door hardware.
3. Cylinders specified for doors in other sections.

C. Codes and References: Comply with the version year adopted by the Authority Having Jurisdiction.

1. ANSI A117.1 - Accessible and Usable Buildings and Facilities.
2. ICC/IBC - International Building Code.
3. NFPA 70 - National Electrical Code.
4. NFPA 80 - Fire Doors and Windows.
5. NFPA 101 - Life Safety Code.
6. NFPA 105 - Installation of Smoke Door Assemblies.
7. State Building Codes, Local Amendments.

D. Standards: All hardware specified herein shall comply with the following industry standards:

1. ANSI/BHMA Certified Product Standards - A156 Series
2. UL10C – Positive Pressure Fire Tests of Door Assemblies

1.3 SUBMITTALS

A. Product Data: Manufacturer's product data sheets including installation details, material descriptions, dimensions of individual components and profiles, operational descriptions and finishes.

B. Door Hardware Schedule: Prepared by or under the supervision of supplier, detailing fabrication and assembly of door hardware, as well as procedures and diagrams. Coordinate the final Door Hardware Schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.

1. Format: Comply with scheduling sequence and vertical format in DHI's "Sequence and Format for the Hardware Schedule."

2. Organization: Organize the Door Hardware Schedule into door hardware sets indicating complete designations of every item required for each door or opening. Organize door hardware sets in same order as in the Door Hardware Sets at the end of Part 3. Submittals that do not follow the same format and order as the Door Hardware Sets will be rejected and subject to resubmission.

3. Content: Include the following information:

    a. Type, style, function, size, label, hand, and finish of each door hardware item.
    b. Manufacturer of each item.
    c. Fastenings and other pertinent information.
    d. Location of door hardware set, cross-referenced to Drawings, both on floor plans and in door and frame schedule.
    e. Explanation of abbreviations, symbols, and codes contained in schedule.
    f. Mounting locations for door hardware.
    g. Door and frame sizes and materials.
    h. Warranty information for each product.

4. Submittal Sequence: Submit the final Door Hardware Schedule at earliest possible date, particularly where approval of the Door Hardware Schedule must precede fabrication of other work that is critical in the Project construction schedule. Include Product Data, Samples, Shop Drawings of other work affected by door hardware, and other information essential to the coordinated review of the Door Hardware Schedule.

C. Shop Drawings: Details of electrified access control hardware indicating the following:

1. Wiring Diagrams: Upon receipt of approved schedules, submit detailed system wiring diagrams for power, signaling, monitoring, communication, and control of the access control system electrified hardware. Differentiate between manufacturer-installed and field-installed wiring. Include the following:

    a. Elevation diagram of each unique access controlled opening showing location and interconnection of major system components with respect to their placement in the respective door openings.
    b. Complete (risers, point-to-point) access control system block wiring diagrams.

c. Wiring instructions for each electronic component scheduled herein.

2. Electrical Coordination: Coordinate with related sections the voltages and wiring details required at electrically controlled and operated hardware openings.

D. Keying Schedule: After a keying meeting with the owner has taken place prepare a separate keying schedule detailing final instructions. Submit the keying schedule in electronic format. Include keying system explanation, door numbers, key set symbols, hardware set numbers and special instructions. Owner must approve submitted keying schedule prior to the ordering of permanent cylinders/cores.

E. Operating and Maintenance Manuals: Provide manufacturers operating and maintenance manuals for each item comprising the complete door hardware installation in quantity as required in Division 01, Closeout Submittals.

1.4 QUALITY ASSURANCE

A. Manufacturers Qualifications: Engage qualified manufacturers with a minimum 5 years of documented experience in producing hardware and equipment similar to that indicated for this Project and that have a proven record of successful in-service performance.

B. Installer Qualifications: A minimum 3 years documented experience installing both standard and electrified door hardware similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.

C. Door Hardware Supplier Qualifications: Experienced commercial door hardware distributors with a minimum 5 years documented experience supplying both mechanical and electromechanical hardware installations comparable in material, design, and extent to that indicated for this Project. Supplier recognized as a factory direct distributor by the manufacturers of the primary materials with a warehousing facility in Project's vicinity. Supplier to have on staff a certified Architectural Hardware Consultant (AHC) available during the course of the Work to consult with Contractor, Architect, and Owner concerning both standard and electromechanical door hardware and keying.

D. Each unit to bear third party permanent label demonstrating compliance with the referenced standards.

E. Keying Conference: Conduct conference to comply with requirements in Division 01 Section "Project Meetings." Keying conference to incorporate the following criteria into the final keying schedule document:

1. Function of building, purpose of each area and degree of security required.
2. Plans for existing and future key system expansion.
3. Requirements for key control storage and software.

4. Installation of permanent keys, cylinder cores and software.
5. Address and requirements for delivery of keys.

F. Pre-Submittal Conference: Conduct coordination conference in compliance with requirements in Division 01 Section "Project Meetings" with attendance by representatives of Supplier(s), Installer(s), and Contractor(s) to review proper methods and the procedures for receiving, handling, and installing door hardware.

G. Pre-Installation Conference: Prior to installation of door hardware, conduct a project specific training meeting to instruct the installing contractors' personnel on the proper installation and adjustment of their respective products. Product training to be attended by installers of door hardware (including electromechanical hardware) for aluminum, hollow metal and wood doors. Training will include the use of installation manuals, hardware schedules, templates and physical product samples as required.
1. Inspect and discuss electrical roughing-in, power supply connections, and other preparatory work performed by other trades.
2. Review sequence of operation narratives for each unique access controlled opening.
3. Review and finalize construction schedule and verify availability of materials.
4. Review the required inspecting, testing, commissioning, and demonstration procedures

H. At completion of installation, provide written documentation that components were applied to manufacturer's instructions and recommendations and according to approved schedule.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Inventory door hardware on receipt and provide secure lock-up and shelving for door hardware delivered to Project site. Do not store electronic access control hardware, software or accessories at Project site without prior authorization.

B. Tag each item or package separately with identification related to the final Door Hardware Schedule, and include basic installation instructions with each item or package.

C. Deliver, as applicable, permanent keys, cylinders, cores, access control credentials, software and related accessories directly to Owner via registered mail or overnight package service. Instructions for delivery to the Owner shall be established at the "Keying Conference".

1.6 COORDINATION

A. Templates: Obtain and distribute to the parties involved templates for doors, frames, and other work specified to be factory prepared for installing standard and electrified hardware. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing hardware to comply with indicated requirements.

B. Door Hardware and Electrical Connections: Coordinate the layout and installation of scheduled electrified door hardware and related access control equipment with required connections to source power junction boxes, low voltage power supplies, detection and monitoring hardware, and fire and detection alarm systems.

C. Door and Frame Preparation: Doors and corresponding frames are to be prepared, reinforced and pre-wired (if applicable) to receive the installation of the specified electrified, monitoring, signaling and access control system hardware without additional in-field modifications.

1.7 WARRANTY

A. General Warranty: Reference Division 01, General Requirements. Special warranties specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.

B. Warranty Period: Written warranty, executed by manufacturer(s), agreeing to repair or replace components of standard and electrified door hardware that fails in materials or workmanship within specified warranty period after final acceptance by the Owner. Failures include, but are not limited to, the following:

1. Structural failures including excessive deflection, cracking, or breakage.
2. Faulty operation of the hardware.
3. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
4. Electrical component defects and failures within the systems operation.

C. Standard Warranty Period: One year from date of Substantial Completion, unless otherwise indicated.

D. Special Warranty Periods:
1. Seven years for heavy duty cylindrical (bored) locks and latches.
2. Five years for exit hardware.
3. Fifteen years for manual surface door closer bodies.
4. Two years for electromechanical door hardware.

1.8 MAINTENANCE SERVICE

A. Maintenance Tools and Instructions: Furnish a complete set of specialized tools and maintenance instructions as needed for Owner's continued adjustment, maintenance, and removal and replacement of door hardware.

PART 2 - PRODUCTS

2.1 SOURCE LIMITATIONS

A. The Campus is standardized on the following hardware and will purchase and provide hardware for these devices. The door hardware contractor to install:
   1. Panic Exit Devices: Von Duprin (VD) - 9954 Series.
   2. Door Closers: LCN Closers (LC) - 4040 Series
   3. Cylinders & Keying: Best Cormax (BE).

B. Obtain each type of the remaining door hardware from single manufacturer.

   1. Provide electrified door hardware from same manufacturer as mechanical door hardware unless otherwise indicated. Manufacturers that perform electrical modifications and that are listed by a testing and inspecting agency acceptable to authorities having jurisdiction are acceptable.

2.2 PERFORMANCE REQUIREMENTS

A. Fire-Rated Door Assemblies: Where fire-rated doors are indicated, provide door hardware complying with NFPA 80 that is listed and labeled by a qualified testing agency, for fire-protection ratings indicated, based on testing at positive pressure in accordance with NFPA 252 or UL 10C.

B. Electrified Door Hardware: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

C. Means of Egress Doors: Latches do not require more than 15 lbf (67 N) to release the latch. Locks do not require use of a key, tool, or special knowledge for operation.

2.3 SCHEDULED DOOR HARDWARE

A. General: Provide door hardware for each door to comply with requirements in Door Hardware Sets and each referenced section that products are to be supplied under.

B. Designations: Requirements for quantity, item, size, finish or color, grade, function, and other distinctive qualities of each type of door hardware are indicated in the Door Hardware Sets at the end of Part 3. Products are identified by using door hardware designations, as follows:

   1. Named Manufacturer's Products: Product designation and manufacturer are listed for each door hardware type required for the purpose of establishing requirements. Manufacturers' names are abbreviated in the Door Hardware Schedule.

C. Substitutions: Requests for substitution and product approval for inclusive mechanical and electromechanical door hardware in compliance with the specifications must be submitted in writing and in accordance with the procedures and time frames outlined in Division 01, Substitution Procedures. Approval of requests is at the discretion of the architect, owner, and their designated consultants.

2.4 HANGING DEVICES

A. Hinges: ANSI/BHMA A156.1 certified butt hinges with number of hinge knuckles and other options as specified in the Door Hardware Sets.

1. Quantity: Provide the following hinge quantity:

    a. Two Hinges: For doors with heights up to 60 inches.
    b. Three Hinges: For doors with heights 61 to 90 inches.
    c. Four Hinges: For doors with heights 91 to 120 inches.
    d. For doors with heights more than 120 inches, provide 4 hinges, plus 1 hinge for every 30 inches of door height greater than 120 inches.

2. Hinge Size: Provide the following, unless otherwise indicated, with hinge widths sized for door thickness and clearances required:

    a. Widths up to 3’0”: 4-1/2” standard or heavy weight as specified.
    b. Sizes from 3’1” to 4’0”: 5” standard or heavy weight as specified.

3. Hinge Weight and Base Material: Unless otherwise indicated, provide the following:

    a. Exterior Doors: Heavy weight, non-ferrous, ball bearing or oil impregnated bearing hinges unless Hardware Sets indicate standard weight.
    b. Interior Doors: Standard weight, steel, ball bearing or oil impregnated bearing hinges unless Hardware Sets indicate heavy weight.

4. Hinge Options: Comply with the following:

    a. Non-removable Pins: Provide set screw in hinge barrel that, when tightened into a groove in hinge pin, prevents removal of pin while door is closed; for the all out-swinging lockable doors.
    b. Electrical Options: Provide as specified in hardware set.

5. Manufacturers:

    a. Stanley Hardware (ST) - FBB Series.
    b. McKinney (MK) – TB Series
    c. Hager (HA) – BB Series

2.5 DOOR OPERATING TRIM

A. Flush Bolts and Surface Bolts: ANSI/BHMA A156.3 and A156.16, Grade 1, certified.

1. Flush bolts to be furnished with top rod of sufficient length to allow bolt retraction device location approximately six feet from the floor.
2. Furnish dust proof strikes for bottom bolts.
3. Surface bolts to be minimum 8” in length and U.L. listed for labeled fire doors and U.L. listed for windstorm components where applicable.
4. Provide related accessories (mounting brackets, strikes, coordinators, etc.) as required for appropriate installation and operation.

5. Manufacturers:

    a. Ives (IV).
    b. Rockwood Products (RO).
    c. Trimco (TC).

B. Door Push Plates and Pulls: ANSI/BHMA A156.6 certified door pushes and pulls of type and design specified in the Hardware Sets. Coordinate and provide proper width and height as required where conflicting hardware dictates.

1. Push/Pull Plates: Minimum .050 inch thick, size as indicated in hardware sets, with beveled edges, secured with exposed screws unless otherwise indicated.
2. Fasteners: Provide manufacturer's designated fastener type as indicated in Hardware Sets.

3. Manufacturers:

    a. Ives (IV).
    b. Rockwood Products (RO).
    c. Trimco (TC).

2.6 CYLINDERS AND KEYING

A. General: Cylinder manufacturer to have minimum (10) years’ experience designing secured master key systems and have on record a published security keying system policy.

B. Source Limitations: Obtain each type of keyed cylinder and keys from the same source manufacturer as locksets and exit devices, unless otherwise indicated.

1. Manufacturers:

a. Stanley Best (BE). **(Provided by owner, Installed by GC)**
b. No Substitution.

C. Cylinders: Original manufacturer cylinders complying with the following:

1. Mortise Type: Threaded cylinders with rings and cams to suit hardware application.
2. Rim Type: Cylinders with back plate, flat-type vertical or horizontal tailpiece, and raised trim ring.
3. Bored-Lock Type: Cylinders with tailpieces to suit locks.
4. Mortise and rim cylinder collars to be solid and recessed to allow the cylinder face to be flush and be free spinning with matching finishes.
5. Keyway: Match Facility Standard.

D. Permanent Cores: Manufacturer's standard; finish face to match lockset; complying with the following:

1. Interchangeable Cores: Core insert, removable by use of a special key; usable with other manufacturers' cylinders.

E. Keying System: Each type of lock and cylinders to be factory keyed.

1. Conduct specified "Keying Conference" to define and document keying system instructions and requirements.
2. Furnish factory cut, nickel-silver large bow permanently inscribed with a visual key control number as directed by Owner.
3. Existing System: Key locks to Owner's existing system.

F. Key Quantity: Provide the following minimum number of keys:

1. Change Keys per Cylinder: Two (2)
2. Master Keys (per Master Key Level/Group): Five (5).
3. Construction Keys (where required): Ten (10).

G. Construction Keying: Provide construction master keyed cores.

H. Key Registration List (Bitting List):

1. Provide transcript list in writing or electronic file as directed by the Owner.

2.7 MECHANICAL LOCKS AND LATCHING DEVICES

A. Cylindrical Locksets, Grade 1 (Heavy Duty): ANSI/BHMA A156.2, Series 4000, Grade 1 certified.

1. Furnish with solid cast levers, standard 2 3/4” backset, and 1/2" (3/4" at rated paired openings) throw brass or stainless steel latchbolt.

2. Locks are to be non-handed and fully field reversible.

3. Manufacturers:

    a. Stanley Best (BE) – 9K Series. **(Provided by owner, Installed by GC)**
    b. No Substitution.

2.8 LOCK AND LATCH STRIKES

A. Strikes: Provide manufacturer's standard strike with strike box for each latch or lock bolt, with curved lip extended to protect frame, finished to match door hardware set, unless otherwise indicated, and as follows:

1. Flat-Lip Strikes: For locks with three-piece antifriction latchbolts, as recommended by manufacturer.
2. Extra-Long-Lip Strikes: For locks used on frames with applied wood casing trim.
3. Aluminum-Frame Strike Box: Provide manufacturer's special strike box fabricated for aluminum framing.
4. Double-lipped strikes: For locks at double acting doors. Furnish with retractable stop for rescue hardware applications.

B. Standards: Comply with the following:

1. Strikes for Mortise Locks and Latches: BHMA A156.13.
2. Strikes for Bored Locks and Latches: BHMA A156.2.
3. Strikes for Auxiliary Deadlocks: BHMA A156.36.
4. Dustproof Strikes: BHMA A156.16.

2.9 EXIT DEVICES

A. General Requirements: ANSI/BHMA A156.3, Grade 1 certified panic and fire exit hardware devices furnished in the functions specified in the Hardware Sets.

B. All exit devices specified herein shall meet or exceed the following criteria:

1. At doors not requiring a fire rating, provide devices complying with NFPA 101 and listed and labeled for "Panic Hardware" according to UL305. Provide proper fasteners as required by manufacturer including sex nuts and bolts at openings specified in the Hardware Sets.

2. Exit device latch to be stainless steel, pullman type, with deadlock feature.

3. Where exit devices are required on fire rated doors, provide devices complying with NFPA 80 and with UL labeling indicating "Fire Exit Hardware". Provide devices with the proper fasteners for installation as tested and listed by UL. Consult manufacturer's catalog and template book for specific requirements.

4. Except on fire rated doors, provide exit devices with keyed cylinder dogging device to hold the pushbar and latch in a retracted position, provide cylinder

5. Motorized Electric Latch Retraction: Devices with an electric latch retraction feature must use motors. Solenoid driven latch retraction is not acceptable.

6. Lever Operating Trim: Where exit devices require lever trim, furnish manufacturer's heavy duty escutcheon trim with threaded studs for thru-bolts.

    a. Where function of exit device requires a cylinder, provide a cylinder.

7. Narrow Stile Applications: At doors constructed with narrow stiles, or as specified in Hardware Sets, provide devices designed for maximum 2" wide stiles.

8. Rail Sizing: Provide exit device rails factory sized for proper door width application.

9. Through Bolt Installation: For exit devices and trim as indicated in Door Hardware Sets.

10. Manufacturers:

    a. Von Duprin (VD) - 98 Series. **(Provided by owner, Installed by GC)**

C. Tube Steel Removable Mullions: ANSI/BHMA A156.3 removable steel mullions with malleable-iron top and bottom retainers and a primed paint finish.

1. Provide keyed removable feature and cylinder.

2. Manufacturers:

    a. Von Duprin (VD) - 9954 Series. **(Provided by owner, Installed by GC)**

2.10 DOOR CLOSERS

A. Door Closers, ANSI/BHMA A156.4, Grade 1 surface mounted, heavy duty door closers with complete spring power adjustment, sizes 1 thru 6; and fully operational adjustable according to door size, frequency of use, and opening force. Closers to be supplied with adjustable backcheck and separate non-critical valves for closing sweep and latch speed control.

1. Standards: Closers to comply with UL-10C for Positive Pressure Fire Test and be U.L. listed for use of fire rated doors.

2. Size of Units: Comply with manufacturer's written recommendations for sizing of door closers depending on size of door, exposure to weather, and anticipated frequency of use. Where closers are indicated for doors required to be accessible to the physically handicapped, provide units complying with ANSI ICC/A117.1.

3. Closers shall not be installed on exterior or corridor side of doors; where possible install closers on door for optimum aesthetics.

4. Closer Accessories: Provide door closer accessories including custom templates, special mounting brackets, spacers and drop plates as required for proper installation.

5. Manufacturers:

    a. LCN Closers (LC) - 4040 Series. **(Provided by owner, Installed by GC)**

2.11 DOOR STOPS AND HOLDERS

A. General: Door stops and holders to be of type and design as specified below or in the Hardware Sets.

B. Door Stops and Bumpers: ANSI/BHMA A156.16, Grade 1 certified door stops and wall bumpers. Provide wall bumpers, either convex or concave types with anchorage as indicated, unless floor or other types of door stops are specified in Hardware Sets. Do not mount floor stops where they will impede traffic. Where floor or wall bumpers are not appropriate, provide overhead type stops and holders.

1. Manufacturers:

    a. Ives (IV).
    b. Rockwood Products; ASSA ABLOY Architectural Door Accessories (RO).
    c. Trimco (TC).

C. Overhead Door Stops and Holders: ANSI/BHMA A156.6, Grade 1 certified overhead stops and holders to be surface or concealed types as indicated in Hardware Sets. Track, slide, arm and jamb bracket to be constructed of extruded bronze and shock absorber spring of heavy tempered steel. Provide non-handed design with mounting brackets as required for proper operation and function.

1. Manufacturers:

    a. Architectural Builders Hardware (AH).
    b. Glynn Johnson (GJ).
    c. Rixson Door Controls (RF).

2.12 ARCHITECTURAL SEALS

A. General: Thresholds, weatherstripping, and gasket seals to be of type and design as specified below or in the Hardware Sets. Provide continuous weatherstrip gasketing on exterior doors and provide smoke, light, or sound gasketing on interior doors where indicated. At exterior applications provide non-corrosive fasteners and elsewhere where indicated.

B. Fire Labeled Gasketing: Assemblies complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire ratings indicated, based on testing according to UL-10C.

1. Provide intumescent seals as indicated to meet UL10C Standard for Positive Pressure Fire Tests of Door Assemblies, and NPFA 252, Standard Methods of Fire Tests of Door Assemblies.

C. Manufacturers:

1. National Guard Products (NG).
2. Pemko Products (PE).
3. Reese Enterprises, Inc. (RE).

2.13 FABRICATION

A. Fasteners: Provide door hardware manufactured to comply with published templates generally prepared for machine, wood, and sheet metal screws. Provide screws according to manufacturers recognized installation standards for application intended.

2.14 FINISHES

A. Standard: Designations used in the Hardware Sets and elsewhere indicate hardware finishes complying with ANSI/BHMA A156.18, including coordination with traditional U.S. finishes indicated by certain manufacturers for their products.

B. Provide quality of finish, including thickness of plating or coating (if any), composition, hardness, and other qualities complying with manufacturer's standards, but in no case less than specified by referenced standards for the applicable units of hardware

C. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine scheduled openings, with Installer present, for compliance with requirements for installation tolerances, labeled fire door assembly construction, wall and floor construction, and other conditions affecting performance.

B. Notify architect of any discrepancies or conflicts between the door schedule, door types, drawings and scheduled hardware. Proceed only after such discrepancies or conflicts have been resolved in writing.

3.2 PREPARATION

A. Hollow Metal Doors and Frames: Comply with ANSI/DHI A115 series.

B. Wood Doors: Comply with ANSI/DHI A115-W series.

3.3 INSTALLATION

A. Install each item of mechanical and electromechanical hardware and access control equipment to comply with manufacturer's written instructions and according to specifications.

1. Installers are to be trained and certified by the manufacturer on the proper installation and adjustment of fire, life safety, and security products including: hanging devices; locking devices; closing devices; and seals.

B. Mounting Heights: Mount door hardware units at heights indicated in following applicable publications, unless specifically indicated or required to comply with governing regulations:

1. Standard Steel Doors and Frames: DHI's "Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames."
2. Wood Doors: DHI WDHS.3, "Recommended Locations for Architectural Hardware for Wood Flush Doors."
3. Where indicated to comply with accessibility requirements, comply with ANSI A117.1 "Accessibility Guidelines for Buildings and Facilities."
4. Provide blocking in drywall partitions where wall stops or other wall mounted hardware is located.

C. Retrofitting: Install door hardware to comply with manufacturer's published templates and written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal,

storage, and reinstallation of surface protective trim units with finishing work specified in Division 9 Sections. Do not install surface-mounted items until finishes have been completed on substrates involved.

D. Thresholds: Set thresholds for exterior and acoustical doors in full bed of sealant complying with requirements specified in Division 7 Section "Joint Sealants."

E. Storage: Provide a secure lock up for hardware delivered to the project but not yet installed. Control the handling and installation of hardware items so that the completion of the work will not be delayed by hardware losses before and after installation.

3.4 FIELD QUALITY CONTROL

A. Field Inspection: Supplier will perform a final inspection of installed door hardware and state in report whether work complies with or deviates from requirements, including whether door hardware is properly installed, operating and adjusted.

3.5 ADJUSTING

A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.

3.6 CLEANING AND PROTECTION

A. Protect all hardware stored on construction site in a covered and dry place. Protect exposed hardware installed on doors during the construction phase. Install any and all hardware at the latest possible time frame.

B. Clean adjacent surfaces soiled by door hardware installation.

C. Clean operating items as necessary to restore proper finish. Provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of owner occupancy.

3.7 DEMONSTRATION

A. Instruct Owner's maintenance personnel to adjust, operate, and maintain mechanical and electromechanical door hardware. Re-adjust door operation as requested by the campus staff.

3.8 DOOR HARDWARE SETS

A. The hardware sets represent the design intent and direction of the owner and architect. They are a guideline only and should not be considered a detailed hardware schedule. Discrepancies, conflicting hardware and missing items should be brought to the attention of the architect with corrections made prior to the bidding process. Omitted items not included in a hardware set should be scheduled with the appropriate additional hardware required for proper application and functionality.

B. The supplier is responsible for handing and sizing all products and providing the correct option for the appropriate door type and material where more than one is presented in the hardware sets. Quantities listed are for each pair of doors, or for each single door.

Hardware Sets

Set: 1.0

[A13 – Roosevelt Double HM with removable astragal]

6	Hinge	FBB199	US32D	ST
1	Flush Bolt	1855P	US32D	AH
1	Exit (Nightlatch) **(Supplied by Owner)**	9875L-F-NL 996L-NL	US32D	VD
1	Cylinder (Supplied by Owner)	1E type as required. Less Core	626	BE
1	Core **(Supplied by Owner)**	Supplied by Owner	626	BE
2	Conc Overhead Friction Stay	1033	US32D	AH
1	Door Closer **(Supplied by Owner)**	4041 Rw/PA	AL	LC
2	Kick plate	K1050 10" High	630	RO
1	Threshold	Per Architects Detail - Pemkote	A	PE
1	Perimeter Gasket	2891S (Install prior to closer and exit)	A	PE
2	Sweep	3452NB	C	PE
1	Astragal Gasket	S771BL		PE
1	Metal Astragal	553 of 563 as required	T	NG

Set: 2.0

[G01-1 – Tech Hub Double HM door with Fixed Leaf]

1	Electrified Hinge	CS CE FBB199-58	US26D	ST

6	Hinge	FBB199	US32D	ST
1	Flush Bolt	1855P	US32D	AH
1	Dust Proof Strike	1870	US32D	AH
1	Exit (Nightlatch) **(Supplied by Owner)**	OEL RX 9875L-F-NL 996L-NL	US32D	VD
1	Cylinder **(Supplied by Owner)**	1E type as required. Less Core	626	BE
2	Conc Overhead Stop	1023	US32D	AH
1	Door Closer **(Supplied by Owner)**	4041 Rw/PA	AL	LC
2	Kick plate	K1050 10" High	630	RO
1	Gasketing	PK33		PE
1	Power Supply	Supplied by Owner		AS

Notes: Theory of Operation:
Door to be closed and locked at all times.
Entry allowed through the access control system.
Upon valid credentials the exit device shall unlock for 5 seconds, then lock.
Remote access is allowed through access control system.
Free egress at all times.
Upon power failure the door shall remain secure (fail secure).

Set: 3.0 – Not Used

Set: 4.0

[326-1 – Library Penthouse Double HM door]

6	Hinge	FBB199	US32D	ST
1	Flush Bolt	1855P	US32D	AH
1	Dust Proof Strike	1870	US32D	AH
1	Exit (Nightlatch)	9875L-F-NL 996L-NL	US32D	VD
1	Cylinder **(Supplied by Owner)**	1E type as required. Less Core	626	BE
2	Conc Overhead Friction Stay	1033	US32D	AH
1	Door Closer **(Supplied by Owner)**	4041 Rw/PA	AL	LC
1	Threshold	Per Architect's detail - Pemko	A	PE
2	Kick plate	K1050 10" High	630	RO
1	Perimeter Gasket	2891S (Install prior to closer and exit)	A	PE
1	Astragal Gasket	S771BL		PE
2	Sweep	3452NB	C	PE

1	Metal Astragal	553 or 563 as required	T	NG

Set:5.0

[326-2 – Library Penthouse Existing HM double door]

1	Exit (Nightlatch) **(Supplied by Owner)**	9875L-F-NL 996L-NL	US32D	VD
1	Cylinder **(Supplied by Owner)**	1E type as required. Less Core	626	BE
1	Core (Supplied by Owner)	Supplied by Owner	626	BE
2	Door Closer **(Supplied by Owner)**	4041 Rw/PA	AL	LC
1	Dust Proof Strike	1870	US32D	AH

SECTION 26 05 00 –COMMON WORK RESULTS FOR ELECTRICAL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Provide complete, tested and fully functional electrical systems as shown on the Drawings and as specified herein.

B. Electrical equipment and installed systems shall be suitable for the intended application, shall be safe for the intended use, shall be fully rated for the available fault current, and shall conform to local building codes and statutory requirements.

C. Electrical requirements specified in this Section apply to electrical equipment and materials described in other Sections of Division 26 of the contract documents.

D. Section Includes:

1. General Provisions
2. Electrical equipment coordination and installation.
3. Common electrical installation requirements.
4. Selective demolition of existing equipment and structures.
5. Contact Information for site specific services required.

1.3 SCOPE OF WORK

A. The work includes, but is not limited to, the following:

1. Primary electrical service
2. Underground duct banks, manholes, and handholes
3. Basic electrical materials and methods
4. Grounding and bonding
5. Electrical identification
6. Wire and cable
7. Medium voltage cables
8. Raceways, boxes, and fittings
9. Cable trays

10. Medium voltage switches
11. Removal and/or relocation of existing equipment
12. Temporary lighting and power as required for construction and as hereinafter specified
13. Field wiring for equipment provided under other Sections of the Specification
14. Thorough cleaning of all equipment prior to energization
15. Acceptance testing of all equipment installed under this Section
16. Protection of all equipment under this Division until the final acceptance of the job

B. Submit preconstruction submittals, shop drawings, product data, samples, design data, test reports, certificates, manufacturer's instructions, manufacturer's field reports, operation and maintenance data, closeout submittals and other specified documents to the Engineer for review and approval as described in Division 01, in this Section, and in other Sections of Divisions 26 and 27.

C. The following principal items of work will be performed under other Sections unless otherwise noted:

1. Cutting and patching referred to in Division 1.
2. Motors for mechanical equipment will be furnished under other Divisions.

1.4 PROJECT CONDITIONS

A. Ambient temperature, humidity, and elevation ranges: Equipment other than transformers shall be rated for continuous operation at full rated load without derating, under the following conditions:

1. Ambient Temperature: 0 to 40 deg C.
2. Humidity: Less than 90 percent (non-condensing).
3. Altitude: Not exceeding 3300 feet.

B. Product Selection for Restricted Space: Drawings show allowable space to scale for anticipated equipment sizes. Comply with NESC, NEC and University requirements for working

clearances and with manufacturer's recommendations for access for maintenance. Notify the Engineer if insufficient space is available for available products.

1.5 DEFINITIONS

A. Field wiring: on-site installation of raceways & conductors to connect equipment in accordance with approved drawings

B. Medium Voltage: Voltages less than 35kV (thirty-five kilo-volts) and higher than 600V (six hundred volts). 13.2kV (thirteen point two kilo-volts) and 4160V (four-thousand one hundred sixty volts) are medium voltages.

C. Primary: 4.16 kV power distribution system

1.6 REFERENCE STANDARDS

A. Notwithstanding revision dates shown in this and other Sections of Division 26, the codes and standards applicable to this project shall be those in effect at the time of bid submittal.

1.7 QUALITY ASSURANCE

A. In consultation with the equipment and materials Suppliers, the Contractor shall prepare and submit a Compliance Statement as described in "SUBMITTALS" below with each submittal requiring approval, unless otherwise stated in other Division 26 sections of the contract documents.

B. The Engineer's approval of a submittal shall not relieve the Contractor of any Contractor responsibilities under the Contract. Approval of a submittal that is incomplete, or one that has nonconformities that are not described in the Compliance Statement that is specified to be included with each submittal, followed by the discovery of unapproved nonconformities, will result in replacement of the non-conforming items at no additional cost to the University. Substitutions require the approval of the Engineer.

C. Manufacturers of electrical equipment shall have quality certification to ISO 9000:2000 or an equivalent Quality Management System acceptable to the Engineer and University.

D. Equipment, materials, and installation shall conform to NESC and NEC requirements and shall be National Recognized Testing Laboratory (NTRL)-listed and labeled.

E. On-site testing prior to energization and electrical acceptance testing shall be performed as specified in other Sections.

F. Manufacturers, manufacturer's representatives, subcontractors, supervisors, installers, and testing agencies shall have qualifications and experience as described in other Sections of the

Specification. Qualifications and experience submittals for firms and individuals shall be submitted, re-submitted, or updated whenever requested by the University's Representative.

1.8 COORDINATION

A. Coordinate arrangement, mounting, and support of electrical equipment:

1. To allow access for operation and maintenance.
2. To provide for ease of disconnecting the equipment with minimum interference to other installations.
3. To allow right of way for piping and pre-existing conditions.
4. Maintain raceways, clear of obstructions and clear of the working and access space of other equipment or utilities.
5. When installing the equipment, specific attention shall be given to the projected centerlines of the terminal plans to ensure proper cable alignment and sufficient space to make up terminations and so that no stress is imposed on the terminals by pressure from the cables.

B. Coordinate installation of required supporting devices and set sleeves in cast-in-place concrete, masonry walls, and other structural components as they are constructed.

C. Coordinate Selective demolition activities with the Project and University requirements of Division 02 Section "Selective Structure Demolition".

D. In case of conflict between the found conditions and contract drawings and specifications, the Contractor shall promptly notify the A/E through the RFI Process.

1.9 SAFETY IN THE WORKPLACE

A. Electrical equipment and materials, and the Contractor's installation practices, shall conform to the following:

1. Current edition of OSHA sections of the Code of Federal Regulations (CFR): Part 29 CFR 1910 for General Industry and Part 19 CFR 1926 for Construction Activities
2. NFPA 70, the National Electrical Code
3. Current edition of NFPA 70E, Standard for Electrical Safety Requirements for Employee Workplaces
4. Current edition of the National Electrical Safety Code (NESC)

B. These regulations and standards impose obligations on equipment manufacturers to obtain NRTL certification, listing, and labeling to comply with OSHA (Occupational Safety and Health Act) and Department of Labor regulations.

C. All electrical equipment for which NRTL test procedures have been established shall be certified, listed, and labeled, or otherwise determined to be safe for its intended use, by a

NRTL. The absence of a specific reference to NRTL-listing in other Sections shall not relieve the Contractor of the requirement to provide NRTL-listed equipment, and to obtain certification as required by the University in cases where NRTL listing and labeling is not a manufacturer's standard offering for a particular product.

D. Equipment shall not be modified in any manner adversely affecting safety for the intended use, nor shall any equipment be modified on-site without the approval of the manufacturer, the engineer, and the University.

E. Equipment with moving parts shall be fully guarded in compliance with OSHA rules and regulations.

F. The proposed work shall be done in proximity of live medium voltage feeders. All workers shall be properly qualified for such work and appropriate safety measures shall be observed.

1.10 INSPECTIONS BY THE UNIVERSITY

A. The Contractor shall make arrangements for electrical inspections of the project as required by the University for in-process inspections and witnessing.

B. The Contractor shall coordinate required testing and check out activities of the third party testing agents. Each piece of equipment shall be tested and approved for energization by the third part testing agent. Based on information from the testing agent, the A/E and the University shall approve energization of the equipment.

C. The Contractor shall be responsible to request and coordinate all inspections required by the State of New York.

1.11 WORKMANSHIP AND MATERIALS

A. Materials and equipment shall be new and undamaged, shall be marked by the manufacturer, and shall be delivered to the construction site in the original factory packaging.

B. Materials and equipment shall be installed in accordance with the Drawings, the Specification, and the manufacturer's installation, operation, and maintenance instructions. In the event of apparent conflicts or discrepancies, the Engineer shall be informed of the apparent conflict or discrepancy through the RFI process.

1.12 RESOURCES AND CONSTRUCTION SCHEDULE

A. The Contractor shall provide sufficient resources, including qualified and experienced project managers, superintendents, technicians, supervisors, electricians, tools, and construction

equipment to complete the electrical work in accordance with the activity durations and sequences shown on the Construction Schedule for this project.

B. The Contractor shall provide the as-built information from the equipment vendors in a timely manner to allow detailed construction drawings (point to point wiring diagrams) to be created and issued by the Engineer prior to equipment installation.

C. General Requirements:

1. All switchovers of existing circuit pairs and building loads shall be performed in an orderly manner.
2. Once work has started at any switch site, work shall be maintained utilizing multiple shifts until the new switch is installed, operational and energized.
3. To the extent possible, the switchover shall be coordinated to occur during normal working hours, however overtime and shift work will be required.

D. The construction schedule shall include the following activities and milestones, in realistic sequence, for the work indicated:

1. Submittal review and approval including detailed as-built drawings of the equipment.
2. Equipment installation
3. University and 3rd party testing agent inspections
4. Energization

E. Tests on completion of installation (Start Up Testing)

1. Functional testing
2. Acceptance testing
3. Installation, testing, and commissioning complete (milestone)

1.13 CONTRACT DRAWINGS

A. The Electrical Drawings provide scaled layouts of representative equipment and key building dimensions, for example, structural gridlines, but do may include approved manufacturer dimensions for equipment.

1.14 COORDINATION OF WORK

A. Work under this Division shall be performed in conjunction with the work of other trades. Coordinate electrical installation work with the overall construction schedule. Examine the plans and specifications prior to commencement of work and become familiar with all phases

of work involved prior to commencing installation work. Note, there will be an engineered set of installation drawings issued for final installation.

B. The Contractor shall be responsible for coordinating dimensions of equipment and working clearances in accordance with NEC and NESC requirements, and in all cases bring to the attention of the Engineer any discrepancies on the plans and in the specifications prior to installation. Any work that is installed without proper coordination shall be removed and reinstalled at the Contractor's expense. The layout for sleeves, chases, openings, etc., must be arranged prior to construction in order to prevent unnecessary cutting. Examine Architectural drawings for doors swings, countertop heights, built-in furniture and casework, and other

factors which may interfere with the Electrical installation. Coordinate all work with the work described in Division 27 and 28.

C. Coordinate arrangement, mounting, and support of electrical equipment:

1. To allow maximum possible headroom unless specific mounting heights that reduce headroom are indicated.
2. To provide for ease of disconnecting the equipment with minimum interference to other installations.
3. To allow right of way for piping and conduit installed at required slope.
4. So connecting raceways, cables, wireways, cable trays, and busways will be clear of obstructions and of the working and access space of other equipment.

D. Coordinate installation of required supporting devices and set sleeves in cast-in-place concrete, masonry walls, and other structural components as they are constructed.

1.15 CODES AND STANDARDS

A. All equipment and materials shall be manufactured, tested, and installed in accordance with the National Electric Safety Code (NESC), National Electrical Code (NEC) and all applicable portions of local codes, in accordance with the requirements of the University.

B. In addition, work shall be in accordance with the versions of the following referenced standards in effect at the time of bid opening:

1. American Association for Laboratory Accreditation (A2LA)
2. American Society for Testing and Materials (ASTM)
3. American National Standards Institute (ANSI)
4. Americans with Disabilities Act (ADA)
5. Code of Federal Regulations (29 CFR 1903, 1910, and 1926)
6. Factory Mutual Engineering & Research (FME&R)
7. Illuminating Engineering Society of North America (IESNA)
8. Insulated Cable Engineers Association (ICEA)
9. International Organization for Standardization (ISO)
10. National Electrical Manufacturers Architect/Engineer (A/E)s (NEMA)
11. Institute of Electrical and Electronic Engineers (IEEE)
12. National Fire Protection Association (NFPA)
13. Occupational Safety and Health Act (OSHA)
14. Underwriters Laboratory, Inc. (UL) and other NRTL standards and test procedures

1.16 SUBMITTALS

A. Compliance Statement: with each submittal, include a Compliance Statement listing each Specification Section, and Part 1, 2, and 3 Sub-Sections, stating, paragraph-by-paragraph, compliance with the Specification, each minor nonconformity that is within the intent of the

Specification, and proposed nonconformities. Provide short description of minor nonconformities, and detailed explanation of other nonconformities.

B. Coordination Drawings: Submit dimensioned layout and final coordination drawings of electrical equipment room(s) and electrical equipment area(s) for approval sufficiently in advance to allow for review by the Engineer prior to starting related work, in accordance with the Construction Schedule.

C. Record Drawings: Maintain a full size paper set of “red-line” working drawings throughout the project, and shall carefully record in red ink the actual locations including dimensions to locate each piece of electrical equipment, raceways, boxes, & fittings, and electrical outlets. This shall include the information from the Testing Agent check outs based upon the detailed commissioning drawings. Upon Substantial Completion of the work, deliver the marked-up set of prints to the Engineer. The Engineer reserves the right to withhold final payment until "As-Built" drawings are received.

D. Operation and Maintenance Manuals: Prior to acceptance of the finished project, provide copies of electrical Operation and Maintenance Manuals in conformance with Division 01 Section “Operation and Maintenance Data”. O&M Manuals shall be organized according to Division 26 Section numbers. Each copy shall be bound in a durable, 3-ring hardback binder, with data sheets individually punched and reinforced to prevent tearout. Data sheets shall be

grouped, and binder dividers shall be provided to match the Table of Contents. Each Manual shall have an identifying label on the spine and front cover and shall include the following:

1. List of all O&M Manuals in the front of each manual.
2. Table of Contents for each manual and each binder
3. Copy of each of the following:

    a. Preconstruction Submittals
    b. Shop Drawings
    c. Product Data
    d. Design Data
    e. Test Reports
    f. Certificates
    g. Manufacturer's Instructions
    h. Manufacturer's Field Reports
    i. Operation and Maintenance Data
    j. Closeout Submittals
    k. Spare Parts and Special Tools
    l. Panelboard directories (as-built)

E. Product Data: For sleeve seals.

1.17 ELECTRICAL SERVICE

A. Provide primary electrical service as shown on the Drawings and specified herein.

B. Coordinate the installation of the building electrical service with the Owner.

1.18 OUTAGES

A. Electrical outages: Do not interrupt electrical service to facilities occupied by the University.

1. Coordinate all required outages with the University. Submit step-by-step sequence and schedule for proposed interruption, and when required, proposed method of providing temporary electrical service, to the University for approval.
2. Interruption of electrical service shall not be planned without written approval from the University.

1.19 TEMPORARY LIGHTING AND POWER

A. Contractor shall provide all cabling to connect temporary service. Contractor shall supply transformer and secondary service switchboards where needed. This equipment shall be acceptable to the Owner.

B. The Contractor shall provide all temporary electrical service for power and lighting from the secondary Construction Distribution Switchboards including panels, feeders, lighting, outlets, branch circuits, etc. as needed for the project.

C. All temporary work shall be in accordance with the NEC, OSHA, and NFPA safety requirements and shall be completely removed upon completion of the project.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 DELIVERY AND HANDLING

A. Equipment delivered to site shall be handled in accordance with manufacturer's recommendations by experienced riggers, crane operators, and fork lift truck operators.

3.2 STORAGE AND PROTECTION OF EQUIPMENT

A. All electrical equipment to be used in construction shall be properly stored and protected against the elements. General construction materials shall be stored in covered trailers. Switchgear, panelboards, and emergency lighting shall be stored in a clean, dry, indoor location, under cover, until the building is weathertight and the area where the equipment is to be installed has been completed to the satisfaction of the Engineer, including completion of overhead work by other trades.

B. Equipment with anti-condensation heaters shall have the 120VAC anti-condensation heaters energized from temporary 120VAC supplies as soon the factory packaging has been opened.

C. Equipment enclosures exposed to construction damage such as paint spots, spackling, waterproofing, insulation etc. shall be covered and protected against damage.

3.3 COMMON REQUIREMENTS FOR ELECTRICAL INSTALLATION

A. Install in compliance with IEEE C2 (NESC) and NFPA 70 where applicable.

B. Perform selective Demolition of existing equipment and structures in accordance with Division 02 Section "Selective Demolition".

C. Equipment: Install to facilitate service, maintenance, and repair or replacement of components of both electrical equipment and other nearby installations. Connect in such a

way as to facilitate future disconnecting with minimum interference with other items in the vicinity.

D. All work shall be performed in accordance with the contract construction drawings and specifications.

E. Installed equipment, raceways, and wiring shall be inspected on completion of installation for compliance with the Specification and approved installation drawings.

F. Comply with NECA 1.

G. Measure indicated mounting heights to bottom of unit for suspended items and to center of unit for wall-mounting items.

H. Headroom Maintenance: If mounting heights or other location criteria are not indicated, arrange and install components and equipment to provide maximum possible headroom consistent with these requirements.

I. Right of Way: Give to piping systems installed at a required slope.

3.4 INSPECTIONS PRIOR TO COVERING-UP

A. Raceways embedded in concrete or otherwise concealed shall be inspected in the presence of the University Utilities' Representative prior to placement of concrete. Sufficient time shall be allowed to make corrections if required.

3.5 ON-SITE INSPECTIONS AND NONCONFORMITIES

A. Equipment shall be inspected on delivery to site for physical damage and for compliance with the Specification and approved equipment shop drawings.

B. Installed equipment, raceways, and wiring shall be inspected on completion of installation for compliance with the Specification and approved installation drawings.

C. A Punch List will be prepared by the Owner during inspections and testing, and issued to the Contractor for corrective action.

D. Conform to Division 01 Section "Contract Closeout".

E. Repairs, replacement, and other corrective action that requires de-energizing any part of the Electrical Power Distribution and Control System shall be completed prior to the scheduled date for substantial completion of the project.

3.6 CUTTING AND PATCHING

A. Conform to Division 01 Section “Cutting and Patching”.

3.7 CLEANING

A. Conform to Division 01 Section “Closeout Procedures”.

B. After installation and wiring work is completed, all dust and debris shall be removed from the interior and exterior of each electrical equipment enclosure and motor by vacuum-cleaning with circuits de-energized. Do not use compressed air for cleaning. Vacuum cleaner wands and brushes shall be non-conducting. Anti-static protection shall be provided for static-sensitive devices.

C. Clean and remove all rust, scale, oil, grease, and dirt from panelboard enclosures, conduits, pull, junction and terminal boxes, fittings and hangers.

D. Equipment furnished with a factory finish coat shall have finish carefully touched-up where it is scratched or otherwise damaged. Touch-up work shall be match the color and type of the original finish.

3.8 FIRESTOPPING

A. Apply firestopping to penetrations of fire-rated floor and wall assemblies for electrical installations to restore original fire-resistance rating of assembly as required by the contract drawings.

3.9 ALTERATIONS AND REMOVAL OF EXISTING WORK

A. Perform selective Demolition of existing equipment and structures in accordance with Division 02 Section “Selective Demolition.”

END OF SECTION 26 05 00

SECTION 26 05 13 - MEDIUM-VOLTAGE CABLES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes cables and related splices, terminations, and accessories for medium-voltage electrical distribution systems.

B. Related Requirements:

1. Section 26 05 26 “Grounding and Bonding for Electrical Systems”
2. Section 26 05 29 “Hangers and Supports for Electrical Systems”
3. Section 26 05 33 “Raceway and Boxes for Electrical Systems”
4. Section 26 05 43 “Underground Ducts and Raceways for Electrical Systems”
5. Section 26 05 53 “Identification for Electrical Systems”

1.3 DEFINITIONS

A. NETA ATS: International Electrical Testing Association Acceptance Testing Specification.

B. Medium Voltage: Voltages less than 35kV (thirty-five kilo-volts) and higher than 600V (six hundred volts) are medium voltages.

C. Utilities: Facilities Operations and Planning Division, at the State University of New York at Geneseo.

D. Corona: With regard to cables, an electrical discharge across a void in the insulation.

E. Discharge-free: Cable corona properties in compliance with NEC Article 310.6.

F. Ozone-resistant: Cable ozone resistance properties in compliance with NEC Article 310.6.

G. Stress Relief: Application of semiconducting and insulating materials where shields are cut for splicing and terminations, to reduce the voltage gradient in the cable insulation system.

H. Stress Cone: A cable termination device for shielded medium voltage cable that reduces the voltage gradient across the insulation where the cable shield is cut to make the cable termination.

1.4 SUBMITTALS

A. Product Data: For each type of cable indicated. Include splices and terminations for cables and cable accessories. A warranty statement on medium voltage power cable splices and terminations shall be included in the submittal package.

B. Samples: 16-inch lengths of each type of cable indicated.

C. Qualification Data: For Installer and Splicer.

D. Material Certificates: For each cable and accessory type, signed by manufacturers.

E. Source quality-control test reports.

F. Field quality-control test reports.

1. All testing forms and procedures are to be submitted for approval prior to testing.

1.5 QUALITY ASSURANCE

A. Testing Agency Qualifications: An independent agency, with the experience and capability to conduct the testing indicated, that is a member company of the InterNational Electrical Testing Association or is a nationally recognized testing laboratory (NRTL) as defined by OSHA in 29 CFR 1910.7, and that is acceptable to authorities having jurisdiction and the engineer.

1. Testing Agency's Field Supervisor: Person currently certified by the InterNational Electrical Testing Association or the National Institute for Certification in Engineering Technologies to supervise on-site testing specified in Part 3.

B. Installer: Engage a cable splicer, trained and certified by splice material manufacturer, to install, splice, and terminate medium-voltage cable.

C. Installer: All work performed on non-lead, medium voltage cables shall be performed by personnel with adequate training and experience and certified as qualified by the University, SUCF and the engineer. To be considered qualified for cable splicing, the cable splicing installer must submit a resume with past training and experience supported by documentation or their having had the appropriate formal training in the preparation of relevant medium voltage splices prior to the cable splicing installer performing any work. Splicing experience shall be recent (one to five years depending on extent of prior experience) and relevant to the type of splice and cables being spliced.

D. Source Limitations: Obtain cables and accessories through one source from a single manufacturer.

E. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

F. The Contractor(s) and its sub-contractor(s) shall purchase only Underwriter's Laboratories listed equipment, assemblies, and materials when such items are available and technically acceptable to the design. The equipment and materials shall be installed in accordance with its listing.

G. Comply with IEEE C2 (NESC) and NFPA 70.

1.6 PROJECT CONDITIONS

A. Interruption of Existing Electric Service: Do not interrupt electric service to facilities occupied by the University unless permitted under the following conditions and then only after arranging to provide temporary electric service according to requirements indicated:

1. Submit request to the University for any Utility Interruptions a minimum of three weeks in advance for review, approval and scheduling.
1. Do not proceed with interruption of electric service without University's written permission.

1.7 WARRANTY

A. To demonstrate long term reliability and performance of the cable, the manufacturer shall issue a warranty with replacement cost provisions on the product. The warranty shall be signed by an officer of the company and submitted with the product data sheet submittal to the Engineer.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Cables:

a. Okonite Company (The)
b. Southwire Company.

c. Kerite Co. (The).
d. Prysmian Cables & Systems.
e. General Cable.

2. Cable Splicing and Terminating Products and Accessories:

a. Raychem Corp.; Telephone Energy and Industrial Division; Tyco International Ltd.
b. Thomas & Betts Corporation/Elastimold.

2.2 CABLES

A. Cable Type: MV105.

B. Comply with UL 1072, AEIC CS 8, ICEA S-93-639, ICEA S-97-682, and NEMA WC-74.

C. Conductor: Copper, 98 percent conductivity. Aluminum conductors are prohibited.

D. Conductor Stranding: One conductor compressed soft-annealed copper per ASTM B-3, stranding per ASTM B-8.

E. Conductor Insulation: 220mil Ethylene-propylene rubber (EPR).

1. Voltage Rating: 15 kV.
2. Insulation Thickness: 133 percent insulation level.

F. Shielding: 5 mil bare copper tape, helically applied over semiconducting insulation shield with a minimum overlap of 25 percent of the tape width.

G. The insulation must be compounded and mixed by the cable manufacturer in its own facilities using a closed, clean process to ensure maximum control and continuity of quality.

H. Cable shall be suitable for normal installation in conduit and in cable tray and shall be suitable for continuous submersion in water. The cable shall be capable of continuous operation in both a wet or dry environment at a conductor temperature of 105 degrees C in normal operation, 130 degrees C in emergency overload operation, and 250 degrees C in short-circuit operation.

I. Cable Jacket: Sunlight-resistant PVC.

2.3 SPLICE KITS

A. Heat Shrink Splice kits shall be used for all straight splices unless otherwise indicated on the contract drawings.

B. Connectors and Splice Kits: Comply with IEEE 404; type as recommended by cable or splicing kit manufacturer for the application.

1. Heat-shrink splicing kit of uniform, cross-section, polymeric construction with outer heat-shrink jacket.

C. Polymeric Splices – straight shall meet the requirements of ANSI/IEEE 404 (Standard for Extruded and Laminated Dielectric Shielded Cable Joints Rated 2,500 V to 500,000 V, most current version) for 15 kV 133% voltage rating.

1. It must be rated for continuous operation at 105 degrees C, with an emergency overload rating of 130 degrees C.
2. The joint manufacturer shall provide a test report, upon request, demonstrating the joint performance is equivalent to the cables per relevant sections of IEEE -48 (Standard Test Procedures and Requirements for Alternating-Current Cable Terminations 2.5 kV through 765 kV, most current version), IEEE 404 (Standard for Extruded and Laminated Dielectric Shielded Cable Joints Rated 2500 to 500,000 V, most current version), AEIC-1, most current version.
3. The joints shall be subjected to an approved voltage withstand test sequence.
4. The splice shall include a solder-less mechanical ground jumper.
5. The splice shall be designed for splicing the types and sizes of power cable used.
6. The splice shall be rated for indoor, outdoor, and immersion in water.
7. A 360 deg crimped connector shall be used to join the cable conductors.
8. A single triple extruded heat-shrinkable radiation cross-linked tube shall also be permitted.
9. The splice shall be rejacketed with a heavy wall, heat-shrinkable, sealant-lined wrap-around sleeve to provide a waterproof hot melt adhesive seal.

D. Cable conductor splicing shall employ a 360 degree crimp compatible to the conductor material and configuration. The crimping tool shall be a tool recommended by the barrel lug manufacturer and shall make the crimp in one continuous operation and not require multiple applications of the tool to complete the crimp on any one conductor. A split tinned solder connecter shall not be used to join the cable conductors.

E. Every splice shall be labeled with an engraved plastic tag containing the following information:

1. Date of Splicing.
2. Name of company that performed splicing; this shall include both lead and non-lead splices.

F. Factory-manufactured heat shrink splice kits shall be used for all straight splices unless otherwise indicated on the drawings.

G. Kits shall be factory-engineered to contain all necessary materials, except connector, to provide an oil block and oil seal electrical stress control, insulation, shielding, and environmental sealing. The kit shall allow for external grounding.

H. Cold shrink splice kits are prohibited for use on 15 kV class cables.

2.4 SOLID TERMINATIONS

A. Shielded-Cable Terminations: Comply with Class 1 requirements and be design-proof tested to IEEE 48, most current edition. The terminations shall also be capable of passing a test sequence per IEEE 404, most current edition. Termination kits shall be approved for the type and size of cables used and rated for 15kV, 133%. Include shield ground strap for all cable terminations.

1. Polymeric Terminations: Heat-shrink type with inner stress control and outer nontracking silicone rubber insulation tubes; multiple, silicone rubber, nontracking skirt modules; and compression-type connector. A single heat-shrinkable tube coated internally with high permittivity stress control material fabricated of UV stable, non-tracking materials and heat-activated sealant to prevent ingress of moisture and contaminants is also permitted.
2. Heat-shrinkable tubing shall have high relative permittivity stress relief mastic for insulation shield cutback treatment with a heat-activated sealant for environmental sealing.

2.5 SEPARABLE INSULATED CONNECTORS

A. Description: Modular system, complying with IEEE 386, with disconnecting, single-pole, cable terminators and with matching, stationary, plug-in, dead-front terminals designed for cable voltage and for sealing against moisture.

B. Terminations at Distribution Points: Modular type, consisting of terminators installed on cables and modular, dead-front, terminal junctions for interconnecting cables.

C. Load-Break Cable Terminators: Elbow-type units with 200-A load make/break and continuous-current rating; coordinated with insulation diameter, conductor size, and material of cable being terminated. Include test point on terminator body that is capacitance coupled.

D. Dead-Break Cable Terminators: Elbow-type unit with 600-A continuous-current rating; designed for de-energized disconnecting and connecting; coordinated with insulation diameter, conductor size, and material of cable being terminated. Include test point on terminator body that is capacitance coupled.

E. Dead-Front Terminal Junctions: Modular bracket-mounted groups of dead-front stationary terminals that mate and match with above cable terminators. Two-, three-, or four-terminal units as indicated, with fully rated, insulated, watertight conductor connection between terminals and complete with grounding lug, manufacturer's standard accessory stands, stainless-steel mounting brackets, and attaching hardware.

1. Protective Cap: Insulating, electrostatic-shielding, water-sealing cap with drain wire.

2. Portable Feed-Through Accessory: Two-terminal, dead-front junction arranged for removable mounting on accessory stand of stationary terminal junction.
3. Grounding Kit: Jumpered elbows, portable feed-through accessory units, protective caps, test rods suitable for concurrently grounding three phases of feeders, and carrying case.
4. Standoff Insulator: Portable, single dead-front terminal for removable mounting on accessory stand of stationary terminal junction. Insulators suitable for fully insulated isolation of energized cable-elbow terminator.

F. Test-Point Fault Indicators: Applicable current-trip ratings and arranged for installation in test points of load-break separable connectors, and complete with self-resetting indicators capable of being installed with shotgun hot stick and tested with test tool.

1. Basis of Design: SEL type TPR, or equal.

G. Tool Set: Shotgun hot stick with energized terminal indicator, fault-indicator test tool, and carrying case.

H. Surge Arrestors: Distribution class, 5kV, 6.1kV MCOV (Maximum Continuous line to neutral Operating Voltage) dead break type.

2.6 CABLE TIES

A. General-Purpose Cable Ties: UV resistant, self extinguishing, one piece, self locking, Type 6/6 nylon.

1. Minimum Width: 3/16 inch.
2. Tensile Strength at 73 deg F, According to ASTM D 638: 12,000 psi.
3. Temperature Range: Minus 40 to plus 185 deg F.

a. Color: Black except where used for color-coding.

2.7 ARC-PROOFING MATERIALS

A. Arc-Proofing Tape: Provide Scotch #771 Fire Retardant Electric Arc Proofing tape or equivalent.

2.8 FAULT INDICATORS

A. Indicators: Automatically reset fault indicators with inrush restraint feature, arranged to clamp to cable sheath and provide a display after a fault has occurred in cable. Instrument shall not be affected by heat, moisture, and corrosive conditions and shall be recommended by manufacturer for installation conditions.

B. Resetting Tool: Designed for use with fault indicators, with moisture-resistant storage and carrying case.

2.9 SOURCE QUALITY CONTROL

A. Test and inspect cables according to ICEA S-97-682 before shipping.

B. Certified factory test reports shall be furnished for all cables.

PART 3 - EXECUTION

3.1 INSPECTION

A. Ensure that conduits, duct banks, manholes, and pullboxes are clean and clear of construction debris prior to cable installation.

3.2 DELIVERY, STORAGE, AND HANDLING

A. Deliver cables to construction site just prior to installation.

B. Store cables on reels and transport reels in compliance with manufacturer’s printed instructions.

C. Cable ends shall be capped and taped watertight until terminations and splices are installed.

3.3 INSTALLATION

A. Install cables according to IEEE 576.

B. Pull Conductors: Do not exceed manufacturer's recommended maximum pulling tensions and sidewall pressure values.

1. Where necessary, use manufacturer-approved pulling compound or lubricant that will not deteriorate conductor or insulation.
2. Use pulling means, including fish tape, cable, rope, and basket-weave cable grips that will not damage cables and raceways. Do not use rope hitches for pulling attachment to cable.

C. Install exposed cables parallel and perpendicular to surfaces of exposed structural members and follow surface contours where possible.

D. Support cables according to Division 26 Section "Hangers and Supports for Electrical Systems"

E. In manholes, handholes, pull boxes, junction boxes, and cable vaults, train cables around walls by the longest route from entry to exit and support cables at intervals adequate to prevent sag. Cables shall be tied to racks using cable ties.

F. Cable on conductor bending radius shall not be less than eight times the overall diameter for non-shielded cable and twelve times the diameter of shielded cable during or after installation. On systems operating above 1kV to ground, cables installed in conduit shall have an effectively grounded shield, and one 4/0 single conductor 600V green-insulated ground wire run with the three-phase circuit in the same conduit.

G. Install cable splices at pull points and elsewhere as indicated; use required kits. There shall be at least 4" of straight cable extending beyond each splice. Where a splice is made close to the cable entrance or exit, at least 1 ½ inches of cable shall extend from the face of the conduit end bell before the splice. In cases where conduit bells are not installed the cable shall extend 3 inches from the face of the duct before the splice.

H. Install terminations at ends of conductors and seal multiconductor cable ends with standard kits.

I. Install separable insulated-connector components as follows:

1. Protective Cap: At each terminal junction, with one on each terminal to which no feeder is indicated to be connected.
2. Portable Feed-Through Accessory: Three.
3. Standoff Insulator: Three.
4. Surge Arresters: Installed on line side of each switch. Mount to provide ease of disconnecting for Hi Pot testing.

J. Arc Proofing: Unless otherwise indicated, arc proof medium-voltage cable at locations not protected by conduit or termination materials. All cables in cable trays and cable trenches shall be arc proofed. In addition to arc-proofing tape manufacturer's written instructions, apply arc proofing as follows:

1. Clean cable sheath.
2. Wrap metallic cable components with 10-mil pipe-wrapping tape.
3. Smooth surface contours with electrical insulation putty.
4. Apply arc-proofing tape in one half-lapped layer with coated side toward cable.
5. Band arc-proofing tape with 1-inch- wide bands of half-lapped, adhesive, glass-cloth tape 2 inches o.c.

K. Seal around cables passing through fire-rated elements using UL approved firestopping method.

L. Install fault indicators on each phase, where indicated. Fault indicators shall be installed at each building radial switch to monitor the entire feeder.

M. Ground shields of shielded cable at terminations, splices, and separable insulated connectors. Ground metal bodies of terminators, splices, cable and separable insulated-connector fittings, and hardware.

N. Identify cables according to Division 26 Section "Identification for Electrical Systems."

O. Every splice shall be labeled with an engraved plastic tag (black on white) containing the following information:

1. Date of splicing.
2. Name of company that performed splicing; this shall include both lead and non-lead splices.

P. Primary circuits shall have the power conductors arranged in three phase arrays in separate ducts. Each three conductor array shall include within its duct a #4/0 AWG (600V) insulation (green) class ground wire bonded to all splices and terminations and grounded in substation(s) and manholes.

Q. Due to the large amount of phasing required, the contractor is responsible to seal and cap all cable during intermediate phases of the work. This includes live and de-energized cable.

3.4 FIELD QUALITY CONTROL

A. Testing: Engage a qualified testing and inspecting agency to perform the following field tests and inspections and prepare test reports:

B. Tests and Inspections:

1. Perform each visual and mechanical inspection and electrical test stated in NETA ATS. Certify compliance with test parameters.
2. After installing medium-voltage cables and before electrical circuitry has been energized, test for compliance with requirements.
3. Perform direct-current High Potential test of each new conductor according to NETA ATS, Ch. 7.3.3. Do not exceed cable manufacturer's recommended maximum test voltage. This test shall be conducted for a 15kV system voltage.

C. Medium-voltage cables will be considered defective if they do not pass tests and inspections.

D. Remove and replace malfunctioning units and retest as specified above.

E. Prepare test and inspection reports.

END OF SECTION 26 05 13

SECTION 26 05 19 - LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following:

1. Building wires and cables rated 600 V and less for power circuits.
2. Connectors, splices, and terminations rated 600 V and less.
3. Sleeves and sleeve seals for cables.

B. Related Requirements:

1. Section 26 05 13 "Medium-Voltage Cables" for single-conductor cables, cable splices, and terminations for electrical distribution systems with 2001 to 35,000 V.

1.3 DEFINITIONS

A. EPDM: Ethylene-propylene-diene terpolymer rubber.

B. NBR: Acrylonitrile-butadiene rubber.

1.4 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Qualification Data: For testing agency.

C. Field quality-control test reports.

1. All testing forms and procedures are to be submitted for approval prior to testing.

1.5 QUALITY ASSURANCE

A. Testing Agency Qualifications: An independent agency, with the experience and capability to conduct the testing indicated, that is a member company of the InterNational Electrical Testing Association or is a nationally recognized testing laboratory (NRTL) as defined by OSHA in 29 CFR 1910.7, and that is acceptable to authorities having jurisdiction.

1. Testing Agency's Field Supervisor: Person currently certified by the InterNational Electrical Testing Association or the National Institute for Certification in Engineering Technologies to supervise on-site testing specified in Part 3.

B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

C. Comply with NFPA 70.

1.6 COORDINATION

A. Set sleeves in cast-in-place concrete, masonry walls, and other structural components as they are constructed.

PART 2 - PRODUCTS

2.1 CONDUCTORS AND CABLES

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. Southwire Company.
2. General Cable Corporation.
3. Senator Wire & Cable Company.

B. Copper Conductors: Stranded conductors with 98 percent conductivity. Minimum size shall be #12 AWG.

C. Conductor Insulation: Type XHHW-2 (600V)

D. Cable Jacket: Continuously extruded, PVC.

E. Conductors installed in cable tray shall be rated for the intended application.

2.2 CONNECTORS AND SPLICES

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. AFC Cable Systems, Inc.
2. Hubbell Power Systems, Inc.
3. O-Z/Gedney; EGS Electrical Group LLC.
4. 3M; Electrical Products Division.
5. Tyco Electronics Corp.

B. Description: Factory-fabricated connectors and splices of size, ampacity rating, material, type, and class for application and service indicated.

2.3 SLEEVES FOR CABLES

A. Steel Pipe Sleeves: ASTM A 53/A 53M, Type E, Grade B, Schedule 40, galvanized steel, plain ends.

B. Sleeves for Rectangular Openings: Galvanized sheet steel with minimum 0.052- or 0.138-inch thickness as indicated and of length to suit application.

C. Coordinate sleeve selection and application with selection and application of firestopping to match rating of the surface to be penetrated.

2.4 SLEEVE SEALS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. Advance Products & Systems, Inc.
2. Calpico, Inc.
3. Metraflex Co.
4. Pipeline Seal and Insulator, Inc.

B. Description: Modular sealing device, designed for field assembly, to fill annular space between sleeve and cable.

1. Sealing Elements: EPDM interlocking links shaped to fit surface of cable or conduit. Include type and number required for material and size of raceway or cable.
2. Pressure Plates: Plastic. Include two for each sealing element.
3. Connecting Bolts and Nuts: Carbon steel with corrosion-resistant coating of length required to secure pressure plates to sealing elements. Include one for each sealing element.

PART 3 - EXECUTION

3.1 CONDUCTOR INSULATION, CABLE APPLICATIONS AND WIRING METHODS

A. Branch and Feeder Circuits: Type XHHW-2, single conductors in raceway or cable tray as indicated on the drawings.

3.2 INSTALLATION OF CONDUCTORS AND CABLES

A. Installation: Install cables inside exposed conduit mounted on wall or ceiling or in cable tray as indicated on the Drawings.

B. Use manufacturer-approved pulling compound or lubricant where necessary; compound used must not deteriorate cable jacket. Do not exceed manufacturer's recommended maximum pulling tensions and sidewall pressure values.

C. Use pulling means; including fish tape, cable, rope, and basket-weave wire/cable grips, which will not damage cables or raceway.

D. Install cables in conduit or tray parallel and perpendicular to surfaces of exposed structural members, and follow surface contours where possible.

E. Support cables according to Division 26 Section "Hangers and Supports for Electrical Systems."

F. Identify and color-code conductors and cables according to Division 26 Section "Identification for Electrical Systems."

3.3 CONNECTIONS

A. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A.

B. There shall be no splices or taps make to low voltage conductors unless approved by the Engineer.

C. Wiring at Outlets: Install conductors at each outlet, with at least 6 inches of slack.

3.4 SLEEVE INSTALLATION FOR ELECTRICAL PENETRATIONS

A. Coordinate sleeve selection and application with selection and application of firestopping to match rating of the surface to be penetrated.

B. Concrete Slabs and Walls: Install sleeves for penetrations unless core-drilled holes or formed openings are used. Install sleeves during erection of slabs and walls.

C. Use pipe sleeves unless penetration arrangement requires rectangular sleeved opening.

D. Rectangular Sleeve Minimum Metal Thickness:

1. For sleeve rectangle perimeter less than 50 inches and no side greater than 16 inches, thickness shall be 0.052 inch.
2. For sleeve rectangle perimeter equal to, or greater than, 50 inches and 1 or more sides equal to, or greater than, 16 inches, thickness shall be 0.138 inch.

E. Fire-Rated Assemblies: Install sleeves for penetrations of fire-rated floor and wall assemblies unless openings compatible with firestop system used are fabricated during construction of floor or wall.

F. Cut sleeves to length for mounting flush with both wall surfaces.

G. Extend sleeves installed in floors 2 inches above finished floor level.

H. Size pipe sleeves to provide 1/4-inch annular clear space between sleeve and cable unless sleeve seal is to be installed or unless seismic criteria require different clearance.

I. Seal space outside of sleeves with grout for penetrations of concrete and masonry.

J. Interior Penetrations of Non-Fire-Rated Walls and Floors: Seal annular space between sleeve and cable, using joint sealant appropriate for size, depth, and location of joint.

K. Fire-Rated-Assembly Penetrations: Maintain indicated fire rating of walls, partitions, ceilings, and floors at cable penetrations. Install sleeves and seal with firestop materials according manufactures directions to maintain fire rating.

L. Aboveground Exterior-Wall Penetrations: Seal penetrations using sleeves and mechanical sleeve seals. Size sleeves to allow for 1-inch annular clear space between pipe and sleeve for installing mechanical sleeve seals.

M. Underground Exterior-Wall Penetrations: Install cast-iron "wall pipes" for sleeves. Size sleeves to allow for 1-inch annular clear space between cable and sleeve for installing mechanical sleeve seals.

3.5 SLEEVE-SEAL INSTALLATION

A. Install to seal exterior-wall penetrations.

B. Use type and number of sealing elements recommended by manufacturer for cable material and size. Position cable in center of sleeve. Assemble mechanical sleeve seals and install in annular space between cable and sleeve. Tighten bolts against pressure plates that cause sealing elements to expand and make watertight seal.

3.6 FIRESTOPPING

A. Apply firestopping to electrical penetrations of fire-rated floor and wall assemblies to restore original fire-resistance rating of assembly.

3.7 FIELD QUALITY CONTROL

A. Testing Agency: Engage a qualified testing agency to perform tests and inspections and prepare test reports.

B. Perform tests and inspections and prepare test reports.

C. Tests and Inspections:

1. After installing conductors and cables and before electrical circuitry has been energized, test feeder and branch conductors for compliance with requirements.
2. Perform each visual and mechanical inspection and electrical test stated in NETA Acceptance Testing Specification Section 7.3.2. Certify compliance with test parameters.

D. Test Reports: Prepare a written report to record the following:

1. Test procedures used.
2. Test results that comply with requirements.
3. Test results that do not comply with requirements and corrective action taken to achieve compliance with requirements.

E. Remove and replace malfunctioning units and retest as specified above.

END OF SECTION 26 05 19

SECTION 26 05 26 - GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes methods and materials for grounding systems and equipment, plus the following special applications:

1. Underground distribution grounding.

B. Provide a complete system of grounding electrodes, grounding electrode conductors, main bonding jumpers, equipment grounding conductors, and bonding in accordance with NEC requirements, in conformance with this Section and as shown on the Drawings.

C. Design and installation of grounds shall follow IEEE 142 Recommended Practice for Grounding of Industrial and Commercial Power Systems, most current edition.

D. Related Requirements:

1. Section 25 05 13 “Medium Voltage Cables” for additional grounding and bonding requirements.
2. Section 26 05 36 “Cable Trays for Electrical Systems”
3. Section 26 05 43 “Underground Ducts and Raceways for Electrical Systems”

1.3 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Other Informational Submittals: Plans showing dimensioned as-built locations of grounding features specified in Part 3 "Field Quality Control" Article, including the following:

1. Ground rods.
2. Ground conductors
3. Bonding hardware and systems

C. Operation and Maintenance Data: For grounding to include in operation, and maintenance manuals. In addition to items specified in Division 01 Section "Operation and Maintenance Data," include the following:

1. Instructions for testing and inspection of grounding features based on NETA MTS.

a. Tests shall determine if ground-resistance or impedance values remain within specified maximums, and instructions shall recommend corrective action if values do not.
b. Include recommended testing intervals.
c. All testing forms and procedures are to be submitted for approval prior to testing.

1.4 QUALITY ASSURANCE

A. Testing Agency Qualifications: Member company of NETA or an NRTL.

1. Testing Agency's Field Supervisor: Currently certified by NETA to supervise on-site testing.

B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a qualified testing agency acceptable to the University.

C. Comply with UL 467 for grounding and bonding materials and equipment.

D. Comply with National Electric Safety Code (NESC) for grounding and bonding requirements.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with the requirements described in this Section, provide products by one of the listed manufacturers in the Sub-Sections below.

1. Ground Rods:

a. Copperweld Corp.
b. Eritech / Erico International Corporation
c. Galvan Industries, Inc.
d. Harger Lightning and Grounding, Inc.
e. Robbins Lightning, Inc.

2. Grounding electrode connectors:

a. Exothermic type:

1) Cadweld / Erico International Corporation
2) Furseweld
3) Harger Lightning and Grounding, Inc. (Ultraweld)
4) ThermOweld, a division of Continental Industries

b. Copper compression type:

1) Dossert Corp.
2) Framatome Connectors / Burndy
3) Harger Lightning and Grounding, Inc.
4) ILSCO
5) O. Z. Gedney / EGS Electrical Group
6) Panduit Corp.
7) Robbins Lightning, Inc.

2.2 CONDUCTORS

A. Insulated Conductors: Copper cable insulated for 600 V (THWN) unless otherwise required by applicable Code, contract drawings and specifications, or authorities having jurisdiction. Insulation color shall be green.

B. Bare Copper Conductors:

1. Solid Conductors: ASTM B 3.
2. Stranded Conductors: ASTM B 8.
3. Sizes and types of conductors in four subparagraphs below are typical examples. 28-kcmil bonding cable in first subparagraph is slightly larger than No. 6 AWG.
4. Bonding Cable: 4/0 solid conductor, 4/0 medium stranded (7 conductor), 4/0 high stranded (19 conductor) as required for each application.
5. Bonding Conductor: No. 2, No. 4 or No. 6 AWG, stranded conductor.

C. Grounding Bus: Predrilled rectangular bars of annealed copper, 1/4 by 2 inch in cross section, unless otherwise indicated; with insulators

2.3 CONNECTORS

A. Listed and labeled by an NRTL acceptable to authorities having jurisdiction for applications in which used and for specific types, sizes, and combinations of conductors and other items connected.

B. Bolted Connectors for Conductors and Pipes: Copper or copper alloy, pressure type with at least two bolts.

C. Welded Connectors: Exothermic-welding kits of types recommended by kit manufacturer for materials being joined and installation conditions.

D. Bus-bar Connectors: Mechanical type, cast silicon bronze, solderless compression-type wire terminals, and long-barrel, two-bolt connection to ground bus bar.

2.4 GROUNDING ELECTRODES

A. Ground Rods: Copper-clad steel 3/4 inch diameter by 10 feet.

B. Ground Ring: 4/0 AWG Class A stranded copper conductor (7 strand) or solid conductor. 19 strand ground wire is not acceptable in contact with earth.

PART 3 - EXECUTION

3.1 APPLICATIONS

A. Conductors: Install stranded conductors unless otherwise indicated.

B. Underground Grounding Conductors: Install bare copper conductor, No. 4/0 AWG minimum.

1. Bury at least 24 inches below grade.

C. Grounding Bus: Install in electrical vaults (new and existing), and elsewhere as indicated.

1. Install bus on insulated spacers 2 inches minimum from wall, 6 inches below finished ceiling unless otherwise indicated.

D. Conductor Terminations and Connections:

1. Equipment Grounding Conductor Terminations: Bolted connectors.
2. Underground Connections: Only exothermic welded connections are permitted (Cadweld or equivalent)
3. 4/0 bare solid conductor shall be used in applications where the conductor is placed below grade or in a corrosive environment.
4. 4/0 bare medium stranded (7 conductor) may be used in lieu of solid conductor in below grade applications and in mildly corrosive environments, and where conductor flexibility is a consideration.
5. 4/0 bare high stranded (up to 19 strands) is permitted in all above grade applications where exposure to corrosives is not a concern.

3.2 GROUNDING UNDERGROUND DISTRIBUTION SYSTEM COMPONENTS

A. Grounding system applied shall at a minimum conform to applicable requirements of the National Electric Safety Code (NESC) for medium voltage installations (4.16kV) and the NEC for low voltage installations. Where NEC requirements conflict with this specification, this

specification shall govern. The installations shall also comply with IEEE C2 grounding requirements.

B. All connections in the primary grounding system shall be clamped, exothermic welded (Cadweld® or equivalent). Individual grounding rods connected to the grounding system shall have a measured ground resistance of ten ohms (10Ω) or less. This measurement may be made by any of the commonly accepted methods for measuring ground rod resistance to earth. Grounding for power equipment power circuit neutral grounding shall be no greater than one-tenth ohm (0.1Ω) measured from the neutral bus to the local ground bus or building structural steel. Primary circuit (4.16kV system) grounding shall conform to the NESC for potential rise during ground fault. Ground resistance shall be no greater than three ohms (3Ω) for cabinet and control circuit grounds. Only copper to copper ground connections may be clamped or bolted. All other terminations shall be exothermic weld except as noted on the contract drawings and specifications.

C. Grounding Manholes and Handholes: Install a driven ground rod through manhole or handhole floor, close to wall, and set rod depth so 4 inches will extend above finished floor. If necessary, install ground rod before manhole is placed and provide No. 4/0 AWG bare, tinned-copper conductor from ground rod into manhole through a waterproof sleeve in manhole wall. Protect ground rods passing through concrete floor with a double wrapping of pressure-sensitive insulating tape or heat-shrunk insulating sleeve from 2 inches above to 6 inches below concrete. Seal floor opening with waterproof, nonshrink grout.

D. Grounding Manholes and Handholes (Where Rock Interferes with Ground Rod): If ground rod cannot be installed vertically, at up to a maximum of 45 degrees from vertical, the ground rod must be installed horizontally. Install an 8 foot ground rod in a trench at least 30 inches deep. Provide No. 4/0 AWG bare, tinned-copper conductor from ground rod into manhole through a waterproof sleeve in manhole wall.

E. Grounding Connections to Manhole Components: Bond exposed-metal parts such as inserts, cable racks, pulling irons, ladders, and cable shields within each manhole or handhole, to ground bus. Make connections with No. 2 AWG minimum, stranded, hard-drawn copper bonding conductor. Train conductors level or plumb around corners and fasten to manhole walls.

3.3 FEEDER GROUNDING

A. All feeder circuit conduits shall include a No. 4/0 AWG grounding conductor. Grounding conductors shall be 600V green PVC-insulated installed in rigid PVC or rigid galvanized conduit along with the circuit phase conductors.

3.4 EQUIPMENT GROUNDING

A. Install insulated equipment grounding conductors with all feeders and branch circuits.

B. Install insulated equipment grounding conductors with the following items, in addition to those required by NFPA 70:

1. Feeders and branch circuits.
2. Lighting circuits.
3. Receptacle circuits.
4. Single-phase motor and appliance branch circuits.
5. Three-phase motor and appliance branch circuits.
6. Flexible raceway runs.
7. Computer and Rack-Mounted Electronic Equipment Circuits: Install insulated equipment grounding conductor in branch-circuit runs from equipment-area power panels and power-distribution units.

C. Signal and Communication Equipment: In addition to grounding and bonding required by NFPA 70, provide a separate grounding system complying with requirements in TIA/ATIS J-STD-607-A.

1. For telephone, alarm, voice and data, and other communication equipment, provide No. 4 AWG minimum insulated grounding conductor in raceway from grounding electrode system to each service location, terminal cabinet, wiring closet, and central equipment location.
2. Service and Central Equipment Locations and Wiring Closets: Terminate grounding conductor on a 1/4-by-4-by-12-inch grounding bus.
3. Terminal Cabinets: Terminate grounding conductor on cabinet grounding terminal.

D. Metal Poles Supporting Outdoor Lighting Fixtures: Install grounding electrode and a separate insulated equipment grounding conductor in addition to grounding conductor installed with branch-circuit conductors.

3.5 INSTALLATION

A. Grounding Conductors: Route along shortest and straightest paths possible unless otherwise indicated or required by Code. Avoid obstructing access or placing conductors where they may be subjected to strain, impact, or damage.

B. All ground cables shall be properly supported:

1. Solid: supported at 4 foot maximum spacing.
2. Medium stranding: supported at 3 foot maximum spacing.
3. High stranding: supported at 2 foot maximum spacing.

C. Ground Rods: Drive rods until tops are 2 inches below finished floor or final grade unless otherwise indicated.

1. Interconnect ground rods with grounding electrode conductor below grade and as otherwise indicated. Make connections without exposing steel or damaging coating if any.
2. For grounding electrode system, install at least two rods spaced at least one-rod length from each other and located at least the same distance from other grounding electrodes, and connect to the service grounding electrode conductor.
3. Ground rods shall not be placed in back-fill.

D. Test Wells: Ground rod driven through drilled hole in bottom of handhole. Handholes are specified in Section 26 05 43 "Underground Ducts and Raceways for Electrical Systems," and shall be at least 12 inches (300 mm) deep, with cover.

1. Test Wells: Install at least one test well for each service unless otherwise indicated. Install at the ground rod electrically closest to service entrance. Set top of test well flush with finished grade or floor.

E. Bonding Straps and Jumpers: Install in locations accessible for inspection and maintenance except where routed through short lengths of conduit.

1. Bonding to Structure: Bond straps directly to basic structure, taking care not to penetrate any adjacent parts.
2. Bonding to Equipment Mounted on Vibration Isolation Hangers and Supports: Install bonding so vibration is not transmitted to rigidly mounted equipment.
3. Use exothermic-welded connectors for outdoor locations; if a disconnect-type connection is required, use a bolted clamp.

F. Ground Ring: Install a grounding conductor, electrically connected to each building structure ground rod and to each indicated item, extending around the perimeter of area or item indicated.

3.6 FIELD QUALITY CONTROL

A. Prepare for Acceptance Tests as follows:

1. Verify that electrical wiring installation complies with the Contract Drawings and applicable codes and standards.
2. Verify completeness and tightness of all grounding connections.
3. Verify that equipment is ready for pre-commissioning checks in accordance with the University requirements.

B. Testing: Engage a qualified Testing Company to perform field tests and inspections. Contractor shall coordinate testing activities and notify the University ten days prior to testing.

C. The Contractor shall provide experienced electricians to assist the Testing Company in performing visual and mechanical inspection and electrical tests according to NETA ATS .

D. Excessive Ground Resistance: If resistance to ground exceeds specified value(s) as stated in Section 3.2B, drive rods deeper with a connecting rod. If driving the rods to twice the original depth does not yield specified values, notify the Engineer and include recommendations to reduce ground resistance.

END OF SECTION 26 05 26

SECTION 26 05 29 - HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following:

1. Hangers and supports for electrical equipment and systems.
2. Construction requirements for concrete bases.

B. Related Requirements:

1. Section 03 30 00 “Cast-In-Place Concrete” for concrete support systems.
2. Section 26 05 33 “Raceway and Boxes for Electrical Systems” for types of systems.

1.3 DEFINITIONS

A. RMC: Rigid metal conduit.

1.4 PERFORMANCE REQUIREMENTS

A. Design supports for multiple raceways capable of supporting combined weight of supported systems and its contents.

B. Design equipment supports capable of supporting combined operating weight of supported equipment and connected systems and components.

C. Rated Strength: Adequate in tension, shear, and pullout force to resist maximum loads calculated or imposed for this Project, with a minimum structural safety factor of five times the applied force.

1.5 SUBMITTALS

A. Product Data: For the following:

1. Trapeze hangers. Include Product Data for components.
2. Steel slotted support systems. Include Product Data for components.
3. Equipment supports.

B. Shop Drawings: Show fabrication and installation details and include calculations for the following:

1. Trapeze hangers. Include Product Data for components.
2. Steel slotted channel systems. Include Product Data for components.
3. Equipment supports.

1.6 QUALITY ASSURANCE

A. Comply with NFPA 70.

1.7 COORDINATION

A. Coordinate size and location of concrete bases. Cast anchor-bolt inserts into bases. Concrete, reinforcement, and formwork requirements are specified together with concrete Specifications.

B. Coordinate installation of hangers and supports with existing conditions. Provide minimum clearances between mechanical and electrical equipment.

PART 2 - PRODUCTS

2.1 SUPPORT, ANCHORAGE, AND ATTACHMENT COMPONENTS

A. Steel Slotted Support Systems: Comply with MFMA-4, factory-fabricated components for field assembly.

1. Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

a. Allied Tube & Conduit.
b. Cooper B-Line, Inc.; a division of Cooper Industries.
c. ERICO International Corporation.
d. GS Metals Corp.
e. Thomas & Betts Corporation.
f. Unistrut; Tyco International, Ltd.
g. Wesanco, Inc.

2. Metallic Coatings: Hot-dip galvanized after fabrication and applied according to MFMA-4.
3. Nonmetallic Coatings: Manufacturer's standard PVC, polyurethane, or polyester coating applied according to MFMA-4.
4. Painted Coatings: Manufacturer's standard painted coating applied according to MFMA-4.
5. Channel Dimensions: Selected for applicable load criteria.

B. Raceway and Cable Supports: As described in NECA 1 and NECA 101.

C. Conduit and Cable Support Devices: Steel or malleable-iron hangers, clamps, and associated fittings, designed for types and sizes of raceway or cable to be supported.

D. Support for Conductors in Vertical Conduit: Factory-fabricated assembly consisting of threaded body and insulating wedging plug or plugs for non-armored electrical conductors or cables in riser conduits. Plugs shall have number, size, and shape of conductor gripping pieces as required to suit individual conductors or cables supported. Body shall be malleable iron.

E. Structural Steel for Fabricated Supports and Restraints: ASTM A 36/A 36M, steel plates, shapes, and bars; black and galvanized.

F. Mounting, Anchoring, and Attachment Components: Items for fastening electrical items or their supports to building surfaces include the following:

1. Mechanical-Expansion Anchors: Insert-wedge-type, stainless steel, for use in hardened portland cement concrete with tension, shear, and pullout capacities appropriate for supported loads and building materials in which used.

    a. Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

        1) Cooper B-Line, Inc.; a division of Cooper Industries.
        2) Empire Tool and Manufacturing Co., Inc.
        3) Hilti Inc.
        4) ITW Ramset/Red Head; a division of Illinois Tool Works, Inc.
        5) MKT Fastening, LLC.

2. Concrete Inserts: Steel or malleable-iron, slotted support system units similar to MSS Type 18; complying with MFMA-4 or MSS SP-58.
3. Clamps for Attachment to Steel Structural Elements: MSS SP-58, type suitable for attached structural element.
4. Through Bolts: Structural type, hex head, and high strength. Comply with ASTM A 325.
5. Toggle Bolts: All-steel springhead type.
6. Hanger Rods: Threaded steel.

2.2 FABRICATED METAL EQUIPMENT SUPPORT ASSEMBLIES

A. Description: Welded or bolted, structural-steel shapes, shop or field fabricated to fit dimensions of supported equipment.

B. Materials: Comply with requirements in Section 05 50 00 "Metal Fabrications" for steel shapes and plates.

PART 3 - EXECUTION

3.1 APPLICATION

A. Comply with NECA 1 and NECA 101 for application of hangers and supports for electrical equipment and systems except if requirements in this Section are stricter.

B. Maximum Support Spacing and Minimum Hanger Rod Size for Raceway: Space supports as scheduled in NECA 1, where its Table 1 lists maximum spacings less than stated in NFPA 70. Minimum rod size shall be 3/8 inch in diameter.

C. Multiple Raceways or Cables: Install trapeze-type supports fabricated with steel slotted support system, sized so capacity can be increased by at least 25percent in future without exceeding specified design load limits.

1. Secure raceways and cables to these supports with two-bolt conduit clamps

3.2 SUPPORT INSTALLATION

A. Comply with NECA 1 and NECA 101 for installation requirements except as specified in this Article.

B. Strength of Support Assemblies: Where not indicated, select sizes of components so strength will be adequate to carry present and future static loads within specified loading limits. Minimum static design load used for strength determination shall be weight of supported components plus 200 lb.

C. Mounting and Anchorage of Surface-Mounted Equipment and Components: Anchor and fasten electrical items and their supports to building structural elements by the following methods unless otherwise indicated by code:

1. To New Concrete: Bolt to concrete inserts.
2. To Masonry: Approved toggle-type bolts on hollow masonry units and expansion anchor fasteners on solid masonry units.
3. To Existing Concrete: Expansion anchor fasteners. In overhead applications use anchors specifically rated for use in cracked concrete.

4. Retain first subparagraph below if powder-actuated devices are allowed. Consider deleting if Project contains both lightweight and standard-weight concrete or more than one thickness of concrete slab.
5. To Steel: Beam clamps (MSS Type 19, 21, 23, 25, or 27) complying with MSS SP-69.
6. Items Mounted on Hollow Walls and Nonstructural Building Surfaces: Mount cabinets, panelboards, disconnect switches, control enclosures, pull and junction boxes, transformers, and other devices on slotted-channel racks attached to substrate by means that meet seismic-restraint strength and anchorage requirements.

D. Drill holes for expansion anchors in concrete at locations and to depths that avoid reinforcing bars.

3.3 INSTALLATION OF FABRICATED METAL SUPPORTS

A. Comply with installation requirements in Section 05 50 00 "Metal Fabrications" for site-fabricated metal supports.

B. Cut, fit, and place miscellaneous metal supports accurately in location, alignment, and elevation to support and anchor electrical materials and equipment.

C. Field Welding: Comply with AWS D1.1/D1.1M.

3.4 CONCRETE BASES

A. Construct concrete bases of dimensions indicated but not less than 4 inches larger in both directions than supported unit, and so anchors will be a minimum of 10 bolt diameters from edge of the base.

B. Use 3000-psi, 28-day compressive-strength concrete. Concrete materials, reinforcement, and placement requirements are specified in Section 03 30 00 "Cast-in-Place Concrete." Concrete mix shall be designed so that the pads shall be a minimum of 2500 psi within 24 hours of pouring/setting.

C. Anchor equipment to concrete base.

1. Place and secure anchorage devices. Use supported equipment manufacturer's setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
2. Install anchor bolts to elevations required for proper attachment to supported equipment.
3. Install anchor bolts according to anchor-bolt manufacturer's written instructions.

3.5 PAINTING

A. Galvanized Surfaces: Clean welds, bolted connections, and abraded areas and apply galvanizing-repair paint to comply with ASTM A 780.

END OF SECTION 26 05 29

SECTION 26 05 33 - RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes raceways, fittings, boxes, enclosures, and cabinets for electrical wiring.

B. Related Requirements:

1. Section 26 05 43 "Underground Ducts and Raceways for Electrical Systems" for exterior ductbanks, manholes, and underground utility construction.
2. Section 26 05 29 “Hangers and Supports for Electrical Systems”

C. Provide a complete system of raceways, including conduit, fittings, pull boxes, junction boxes, hangers, supports, and accessories, as shown on the Drawings and in conformance with the requirements in this Section.

1.3 DEFINITIONS

A. EPDM: Ethylene-propylene-diene terpolymer rubber.

B. FMC: Flexible metal conduit.

C. LFMC: Liquidtight flexible metal conduit.

D. LFNC: Liquidtight flexible nonmetallic conduit.

E. NBR: Acrylonitrile-butadiene rubber.

1.4 SUBMITTALS

A. Product Data: For surface raceways, wireways and fittings, floor boxes, hinged-cover enclosures, and cabinets.

B. Shop Drawings: For the following raceway components. Include plans, elevations, sections, details, and attachments to other work.

1. Building Entrance Pullbox layout, including supports for each building.
2. Custom enclosures and cabinets.

C. Coordination Drawings: Conduit routing plans, drawn to scale, on which the following items are shown and coordinated with each other, based on input from installers of the items involved:

1. Structural members in the paths of conduit groups with common supports.
2. HVAC and plumbing items and architectural features in the paths of conduit groups with common supports.

D. Qualification Data: For professional engineer and testing agency.

E. Source quality-control test reports.

1.5 QUALITY ASSURANCE

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

B. Comply with NFPA 70.

PART 2 - PRODUCTS

2.1 METAL CONDUIT AND TUBING

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. AFC Cable Systems, Inc.
2. Alflex Inc.
3. Allied Tube & Conduit; a Tyco International Ltd. Co.
4. Anamet Electrical, Inc.; Anaconda Metal Hose.
5. Electri-Flex Co.
6. Manhattan/CDT/Cole-Flex.
7. Maverick Tube Corporation.
8. O-Z Gedney; a unit of General Signal.
9. Wheatland Tube Company.

B. Rigid Steel Conduit: ANSI C80.1.

C. Fittings for Conduit: All fittings shall be listed for type and size raceway with which used, and for application and environment in which installed.

D. Joint Compound for Rigid Steel Conduit: Listed for use in cable connector assemblies, and compounded for use to lubricate and protect threaded raceway joints from corrosion and enhance their conductivity.

E. LFMC: Flexible steel conduit with PVC jacket.

F. Fittings for Conduit (Including all Types Flexible and Liquidtight): NEMA FB 1; listed for type and size raceway with which used, and for application and environment in which installed.

2.2 NONMETALLIC CONDUIT AND TUBING

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. AFC Cable Systems, Inc.
2. Anamet Electrical, Inc.; Anaconda Metal Hose.
3. Arnco Corporation.
4. CANTEX Inc.
5. CertainTeed Corp.; Pipe & Plastics Group.
6. Condux International, Inc.
7. ElecSYS, Inc.
8. Electri-Flex Co.
9. Lamson & Sessions; Carlon Electrical Products.
10. Manhattan/CDT/Cole-Flex.
11. RACO; a Hubbell Company.
12. Thomas & Betts Corporation.

B. RNC: NEMA TC 2, Type EPC-40-PVC, unless otherwise indicated.

C. Fittings for RNC: NEMA TC 3; match to conduit or tubing type and material.

2.3 METAL WIREWAYS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Cooper B-Line, Inc.
2. Hoffman.
3. Square D; Schneider Electric.

B. Description: Sheet metal sized and shaped as indicated, NEMA 250, Type 1, unless otherwise indicated.

C. Fittings and Accessories: Include couplings, offsets, elbows, expansion joints, adapters, hold-down straps, end caps, and other fittings to match and mate with wireways as required for complete system.

D. Wireway Covers: Hinged type.

E. Finish: Manufacturer's standard enamel finish.

2.4 BOXES, ENCLOSURES, AND CABINETS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. Cooper Crouse-Hinds; Div. of Cooper Industries, Inc.
2. EGS/Appleton Electric.
3. Erickson Electrical Equipment Company.
4. Hoffman.
5. Hubbell Incorporated; Killark Electric Manufacturing Co. Division.
6. O-Z/Gedney; a unit of General Signal.
7. RACO; a Hubbell Company.
8. Robroy Industries, Inc.; Enclosure Division.
9. Scott Fetzer Co.; Adalet Division.
10. Spring City Electrical Manufacturing Company.
11. Thomas & Betts Corporation.
12. Walker Systems, Inc.; Wiremold Company (The).
13. Woodhead, Daniel Company; Woodhead Industries, Inc. Subsidiary.

B. Sheet Metal Outlet and Device Boxes: NEMA OS 1.

C. Small Sheet Metal Pull and Junction Boxes: NEMA OS 1.

D. Hinged-Cover Enclosures: NEMA 250, Type 1, with continuous-hinge cover with flush latch, unless otherwise indicated.

1. Metal Enclosures: Steel, finished inside and out with manufacturer's standard enamel.

E. Cabinets:

1. NEMA 250, Type 12, galvanized-steel box with removable interior panel and removable front, finished inside and out with manufacturer's standard enamel.
2. Hinged door in front cover with flush latch and concealed hinge.
3. Metal barriers to separate wiring of different systems and voltage.
4. Accessory feet where required for freestanding equipment.

2.5 SLEEVES FOR RACEWAYS

A. Steel Pipe Sleeves: ASTM A 53/A 53M, Type E, Grade B, Schedule 40, galvanized steel, plain ends.

B. Sleeves for Rectangular Openings: Galvanized sheet steel with minimum 0.052- or 0.138-inch thickness as indicated and of length to suit application.

C. Coordinate sleeve selection and application with selection and application of firestopping to match rating of the surface to be penetrated.

2.6 SLEEVE SEALS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. Advance Products & Systems, Inc.
2. Calpico, Inc.
3. Metraflex Co.
4. Pipeline Seal and Insulator, Inc.

B. Description: Modular sealing device, designed for field assembly, to fill annular space between sleeve and cable.

1. Sealing Elements: EPDM interlocking links shaped to fit surface of cable or conduit. Include type and number required for material and size of raceway or cable.

C. Pressure Plates: Plastic. Include two for each sealing element.

D. Connecting Bolts and Nuts: Carbon steel with corrosion-resistant coating of length required to secure pressure plates to sealing elements. Include one for each sealing element. Include one for each sealing element.

PART 3 - EXECUTION

3.1 RACEWAY APPLICATION

A. Outdoors: Apply raceway products as specified below, unless otherwise indicated:

1. Exposed Conduit: Rigid steel conduit.

B. Underground or in-slab Conduit: RNC, Type EPC-40-PVC, direct buried or installed in slab.

C. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): LFMC.

D. Boxes and Enclosures, Aboveground: NEMA 250, Type 3R.

E. Comply with the following indoor applications, unless otherwise indicated:

1. Exposed: Rigid Steel Conduit.

F. Connection to Vibrating Equipment (Including Transformers, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): LFMC.

G. Boxes and Enclosures, Interior: NEMA 250, Type 1

H. Minimum Raceway Size:

1. 3/4-inch trade size for low-voltage applications.
2. 5-inch trade size for medium voltage applications unless otherwise noted.

I. Raceway Fittings: Compatible with raceways and suitable for use and location.

1. Rigid Steel Conduit: Use threaded rigid steel conduit fittings, unless otherwise indicated.

3.2 INSTALLATION

A. Comply with NECA 1 for installation requirements applicable to products specified in Part 2 except where requirements on Drawings or in this Article are stricter.

B. Keep raceways at least 6 inches away from parallel runs of flues and steam or hot-water pipes. Install horizontal raceway runs above water and steam piping.

C. Complete raceway installation before starting conductor installation.

D. Support raceways as specified in Division 26 Section "Hangers and Supports for Electrical Systems."

E. Arrange stub-ups so curved portions of bends are not visible above the finished slab.

F. Install no more than the equivalent of three 90-degree bends in any conduit run except for communications conduits, for which fewer bends are allowed.

G. Conceal conduit within finished walls, ceilings, and floors, unless otherwise indicated.

H. Raceways Embedded in Slabs:

1. Run conduit larger than 1-inch trade size, parallel or at right angles to main reinforcement. Where at right angles to reinforcement, place conduit close to slab support.

2. Arrange raceways to cross building expansion joints at right angles with expansion fittings.
3. Change from RNC, Type EPC-40-PVC, to rigid steel conduit before rising above the floor. The change shall be made prior to the 90 degree bend. All 90 degree bends shall be made in rigid steel conduit.

I. Threaded Conduit Joints, Exposed to Wet, Damp, Corrosive, or Outdoor Conditions: Apply listed compound to threads of raceway and fittings before making up joints. Follow compound manufacturer's written instructions.

J. Penetrations through concrete shall have a PVC insulating insert installed around opening to protect MV cables. Steel sleeves for LV cable.

K. Use PVC conduit manufacturers recommended cement.

L. Raceway Terminations at Locations Subject to Moisture or Vibration: Use insulating bushings to protect conductors, including conductors smaller than No. 4 AWG.

M. Cut conduits square with roller-wheel pipe cutter. Hacksaw cuts are acceptable only if the entire conduit is swabbed clean after cutting and threading is completed. Conduits cut in the field shall be threaded with sharp, standard NPT dies to achieve a fully cut tapered thread with a minimum of five full tapered threads at the end of the conduit. Running threads are not acceptable. Over- and under-threading are not acceptable. After threading, ream conduit ends, remove cuttings and debris from inside and outside of conduit, degrease, and apply cold spray-on zinc-rich paint.

N. Conduit bends shall be made with conduit bending tools manufactured for the purpose. Comply with conduit and bending tool manufacturers' instructions.

O. Do not cut or drill holes in structural beams and columns, or other structural members. Do not weld raceway supports to structural steel.

P. Join raceways with fittings designed and approved for that purpose and make joints wrench tight.

Q. Terminations:

1. Where raceways are terminated with locknuts and bushings, align raceways to enter squarely and install locknuts with dished part against box. Use two locknuts, one inside and one outside box. Install bushings wrench-tight.
2. Where raceways are terminated with threaded hubs, screw raceways or fittings tightly into hub so end bears against wire protection shoulder. Where chase nipples are used, align raceways so coupling is square to box; tighten chase nipple so no threads are exposed.

    a. Install temporary closures to prevent foreign matter from entering raceways.

R. Install pull wires in empty raceways. Use polypropylene or monofilament plastic line with not less than 200-lb tensile strength. Leave at least 12 inches of slack at each end of pull wire.

S. Flexible Conduit Connections: Use maximum of 72 inches of flexible conduit equipment subject to vibration, noise transmission, or movement; and for transformers and motors.

1. Use LFMC for all flexible connections.

T. Bond all metal boxes with a dedicated ground conductor, serving no other purpose.

U. Bond conduits at each end of each conduit run using a #4/0 AWG bare copper ground conductor using a bronze conduit-to-wire grounding fitting. Bond conduits to ground system.

3.3 SLEEVE INSTALLATION FOR ELECTRICAL PENETRATIONS

A. Coordinate sleeve selection and application with selection and application of firestopping to match rating of the surface to be penetrated.

B. Concrete Slabs and Walls: Install sleeves for penetrations unless core-drilled holes or formed openings are used. Install sleeves during erection of slabs and walls.

C. Use pipe sleeves unless penetration arrangement requires rectangular sleeved opening.

D. Rectangular Sleeve Minimum Metal Thickness:

1. For sleeve cross-section rectangle perimeter less than 50 inches and no side greater than 16 inches, thickness shall be 0.052 inch.
2. For sleeve cross-section rectangle perimeter equal to, or greater than, 50 inches and 1 or more sides equal to, or greater than, 16 inches, thickness shall be 0.138 inch.

E. Fire-Rated Assemblies: Install sleeves for penetrations of fire-rated floor and wall assemblies unless openings compatible with firestop system.

F. Cut sleeves to length for mounting flush with both surfaces of walls.

G. Extend sleeves installed in floors 2 inches above finished floor level.

H. Size pipe sleeves to provide 1/4-inch annular clear space between sleeve and raceway unless sleeve seal is to be installed or unless seismic criteria require different clearance.

I. Seal space outside of sleeves with grout for penetrations of concrete and masonry.

J. Interior Penetrations of Non-Fire-Rated Walls and Floors: Seal annular space between sleeve and raceway, using joint sealant appropriate for size, depth, and location of joint.

K. Fire-Rated-Assembly Penetrations: Maintain indicated fire rating of walls, partitions, ceilings, and floors at raceway penetrations. Install sleeves and seal with firestop materials.

L. Aboveground, Exterior-Wall Penetrations: Seal penetrations using sleeves and mechanical sleeve seals. Select sleeve size to allow for 1-inch annular clear space between pipe and sleeve for installing mechanical sleeve seals.

M. Underground, Exterior-Wall Penetrations: Install cast-iron "wall pipes" for sleeves. Size sleeves to allow for 1-inch annular clear space between raceway and sleeve for installing mechanical sleeve seals.

3.4 SLEEVE-SEAL INSTALLATION

A. Install to seal exterior wall penetrations.

B. Use type and number of sealing elements recommended by manufacturer for raceway material and size. Position raceway in center of sleeve. Assemble mechanical sleeve seals and install in annular space between raceway and sleeve. Tighten bolts against pressure plates that cause sealing elements to expand and make watertight seal.

3.5 FIRESTOPPING

A. Apply firestopping to electrical penetrations of fire-rated floor and wall assemblies to restore original fire-resistance rating of assembly

3.6 PROTECTION

A. Provide final protection and maintain conditions that ensure coatings, finishes, and cabinets are without damage or deterioration at time of Project Completion.

1. Repair damage to galvanized finishes with zinc-rich paint recommended by manufacturer.

END OF SECTION 26 05 33

SECTION 26 05 43 - UNDERGROUND DUCTS AND RACEWAYS FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following:

1. Conduit, ducts, and duct accessories for direct-buried and concrete-encased duct banks.
2. Manholes
3. Above ground termination cabinet (slice box)

B. Related Requirements:

1. Section 03 30 00 “Cast-In-Place Concrete”
2. Section 03 41 00 “Precast Structural Concrete”
3. Section 26 05 13 “Medium Voltage Cables”
4. Section 26 05 29 “Hangers and Supports for Electrical Systems”
5. Section 07 11 13 “Bituminous Dampproofing”
6. Section 26 05 26 “Grounding and Bonding for Electrical Systems”
7. Section 26 05 53 “Identification for Electrical Systems”
8. Section 31 20 00 “Earth Moving”
9. Section 31 00 00 “Earthwork”

1.3 DEFINITION

A. RNC: Rigid nonmetallic conduit.

1.4 SUBMITTALS

A. Product Data: For the following:

1. Duct-bank materials, including separators and miscellaneous components.
2. Ducts and conduits and their accessories, including elbows, end bells, bends, fittings, and solvent cement.
3. Accessories for manholes, boxes.

4. Warning tape.

B. Shop Drawings for Precast or Factory-Fabricated Underground Utility Structures: In accordance with requirements in Section 03 41 00, include plans, elevations, sections, details, attachments to other work, and accessories, including the following:

1. Duct entry provisions, including locations and duct sizes.
2. Reinforcement details.
3. Frame and cover design and manhole frame support rings.
4. Grounding details.
5. Dimensioned locations of cable rack inserts, pulling-in and lifting irons, and sumps.
6. Joint details.

C. Product Certificates: For concrete and steel used in precast concrete manholes, as required by ASTM C 858.

D. Source quality-control test reports.

E. Field quality-control test reports.

F. Sustainable Design Reporting: For concrete mixes, steel reinforcement, and precast concrete structures, in accordance with Section 01 33 29 – Sustainable Design Reporting:

1. Environmental Product Declarations (EPD), including kgCO2 per unit.
2. Estimated total material quantity.
3. Annual material quantity update.

1.5 QUALITY ASSURANCE

A. Testing Agency Qualifications: Qualified according to ASTM E 329 for testing indicated.

B. Comply with ANSI C2.

C. Comply with NFPA 70.

D. Comply with IEEE C2 (NESC).

E. The Contractor shall be responsible for ensuring ductbank installation is coordinated with other utilities and underground structures. The coordinated installation shall be submitted as a component of the final Red-Line As-Built drawings.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver ducts to Project site with ends capped. Store nonmetallic ducts with supports to prevent bending, warping, and deforming.

B. Store precast concrete underground utility structures at Project site as recommended by manufacturer to prevent physical damage. Arrange so identification markings are visible.

C. Lift and support precast concrete units only at designated lifting or supporting points.

1.7 PROJECT CONDITIONS

A. Interruption of Existing Electrical Service: Do not interrupt electrical service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary electrical service according to requirements indicated:

1. Submit request to the University for any Utility Interruptions a minimum of two weeks in advance for review, approval and scheduling.
1. Do not proceed with interruption of electrical service without Owner's written permission.

1.8 COORDINATION

A. Coordinate layout and installation of ducts, manholes, equipment pads and boxes with final arrangement of other utilities, site grading, and surface features as determined in the field. Propose revision to locations and elevations from those indicated as required to suit field conditions through the RFI process for approval by the Project and by the Owner.

B. Coordinate elevations of ducts and duct-bank entrances into manholes, and boxes with final locations and profiles of ducts and duct banks as determined by coordination with other utilities, underground obstructions, and surface features. Revise locations and elevations from those indicated as required to suit field conditions and to ensure that duct runs drain to manholes and as approved by Engineer.

C. Protection

1. Provide electrical insulating blankets, sleeves, gloves, etc., to protect workmen from electrical hazards as required.

D. In case of conflict between the as found conditions and contract drawings and specifications, the Contractor shall promptly notify the A/E through the RFI Process.

1.9 EXTRA MATERIALS

A. Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Furnish cable-support stanchions, arms, insulators, and associated fasteners in quantities equal to 5 percent of quantity of each item installed.

PART 2 - PRODUCTS

2.1 CONDUIT (PVC)

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. Cantex, Inc.
2. CertainTeed Corp.
3. IPEX Inc.
4. JM Manufacturing Co., Inc.
5. Lamson & Sessions; Carlon Electrical Products.
6. Underground Devices.

B. METAL CONDUIT AND FITTINGS

1. GRC: Comply with ANSI C80.1 and UL 6.
2. Listed and labeled as defined in NFPA 70, by a nationally recognized testing laboratory, and marked for intended location and application.
3. Manufactured Bends: Not less than a 4-foot radius

C. RIGID NONMETALLIC CONDUIT

1. Underground Plastic Utilities Duct: Type EPC-40-PVC RNC, complying with NEMA TC 2 and UL 651, with matching fittings complying with NEMA TC 3 by same manufacturer as duct.
2. PVC conduit fittings: solvent-weld, NEMA TC 3, match to conduit type and material, UL 514B. Provide end bells at manholes, building penetrations, and cable vaults unless otherwise indicated on the Drawings.
3. Listed and labeled as defined in NFPA 70, by a nationally recognized testing laboratory, and marked for intended location and application.
4. Solvents and Adhesives: As recommended by conduit manufacturer.
5. Manufactured Bends: Not less than a 4-foot radius

2.2 DUCT ACCESSORIES

A. Duct Separators: Factory-fabricated rigid PVC interlocking spacers, sized for type and sizes of ducts with which used, and selected to provide minimum duct spacings indicated while supporting ducts during concreting or backfilling.

2.3 PRECAST MANHOLES

A. Comply with ASTM C 858, and with interlocking mating sections, complete with accessories, hardware, and features.

1. Windows: Precast openings in walls, arranged to match dimensions and elevations of approaching ducts and duct banks plus an additional 12 inches vertically and horizontally to accommodate alignment variations.

    a. Windows shall be located no less than 6 inches from interior surfaces of walls, floors, or roofs of manholes, but close enough to corners to facilitate racking of cables on walls.
    b. Window opening shall have cast-in-place, welded wire fabric reinforcement for field cutting and bending to tie in to concrete envelopes of duct banks.
    c. Window openings shall be framed with at least two additional No. 4 steel reinforcing bars in concrete around each opening.

2. Duct Entrances in Manhole Walls: Cast end-bell or duct-terminating fitting in wall for each entering duct.

    a. Type and size shall match fittings to duct or conduit to be terminated.
    b. Fittings shall align with elevations of approaching ducts and be located near interior corners of manholes to facilitate racking of cable.

B. Concrete Knockout Panels: 1-1/2 to 2 inches thick, for future conduit entrance and sleeve for ground rod.

C. Minimum interior dimensions of the manhole shall be 8 feet wide by 8 feet long by 7 feet high.

D. Structural Design Loading: As specified in Part 3 "Underground Enclosure Application" Article.

E. Joint Sealant: Asphaltic-butyl material with adhesion, cohesion, flexibility, and durability properties necessary to withstand maximum hydrostatic pressures at the installation location with the ground-water level at grade.

2.4 UTILITY STRUCTURE ACCESSORIES

A. Manhole Frames, Covers, and Chimney Components: Comply with structural design loading specified for manhole.

1. Frame and Cover: Weatherproof, gray cast iron complying with ASTM A 48/A 48M, Class 30B with milled cover-to-frame bearing surfaces; 36-inches in diameter, meeting HS-20 traffic loading requirements.

    a. Cover Finish: Nonskid finish shall have a minimum coefficient of friction of 0.50.
    b. Special Covers: Recess in face of cover designed to accept finish material in paved areas.
    c. Covers shall not have gaskets or be bolted down. Two slots, on opposite edges, shall be provided to permit using manhole hooks to remove cover.

2. Cover Legend: Cast in. Selected to suit system.

a. Legend: "ELECTRIC" for duct systems with medium-voltage cables.
b. Legend: "TELCOM" for duct systems with telephone and data cables.

3. Manhole Chimney Components: Precast concrete rings with dimensions matched to those of roof opening.

a. Mortar for Chimney Ring and Frame and Cover Joints: Comply with ASTM C 270, Type M, except for quantities less than 2.0 cu. ft. where packaged mix complying with ASTM C 387, Type M, may be used.

B. Pulling Eyes in Concrete Walls: Eyebolt with reinforcing-bar fastening insert, 2-inch- diameter eye, and 1-by-4-inch bolt.

1. Working Load Embedded in 6-Inch, 4000-psi Concrete: 13,000-lbf minimum tension.

C. Pulling-In and Lifting Irons in Concrete Floors: 7/8-inch- diameter, hot-dip galvanized, bent steel rod; stress relieved after forming; and fastened to reinforcing rod. Exposed triangular opening.

1. Ultimate Yield Strength: 40,000-lbf shear and 60,000-lbf tension.

D. Expansion Anchors for Installation after Concrete Is Cast: Zinc-plated, carbon-steel-wedge type with stainless-steel expander clip with 1/2-inch bolt, 5300-lbf rated pullout strength, and minimum 6800-lbf rated shear strength.

E. Bolting Inserts for Concrete Utility Structure Cable Racks and Other Attachments: Flared, threaded inserts of noncorrosive, chemical-resistant, nonconductive thermoplastic material; 1/2-inch ID by 2-3/4 inches deep, flared to 1-1/4 inches minimum at base.

1. Tested Ultimate Pullout Strength: 12,000 lbf minimum.

F. Cable Rack Assembly: Nonmetallic. Components fabricated from nonconductive, fiberglass-reinforced polymer.

1. Stanchions: Nominal 36 inches high by 4 inches wide, with minimum of 9 holes for arm attachment. UD model number CR36-B or approved equal.
2. Arms: Arranged for secure, drop-in attachment in horizontal position at any location on cable stanchions, and capable of being locked in position. Arms shall be 14 inches with 250-lb minimum capacity. Top of arm shall be nominally 4 inches wide, and arm shall have slots along full length for cable ties. UD model number RA14 or approved equal.

G. Duct-Sealing Compound: Nonhardening, safe for contact with human skin, not deleterious to cable insulation, and workable at temperatures as low as 35 deg F. Capable of withstanding temperature of 300 deg F without slump and adhering to clean surfaces of plastic ducts, metallic conduits, conduit coatings, concrete, masonry, lead, cable sheaths, cable jackets, insulation materials, and common metals.

H. Inflatable bladder-type, lubricated duct seal, capable of sealing both empty and occupied ducts from hydrostatic pressure of up to 15 feet. For ducts occupied by more than two cables, provide sealing clip compatible with inflatable duct seal. Inflatable seal and sealing clips shall be of the same manufacturer.

I. Arc Flash PPE: Tested, rated, and certified. Face shield, gloves, and jumpsuit. Two sets required. Additional guidelines (sizes, caloric ratings, etc.) to follow based on the preliminary power study.

J. Gravity Drain: Provide 6-inch HDPE gravity drain at the bottom of each manhole, sloping a minimum 1% to a storm drain structure as shown on plans.

1. The drain pipe shall be corrugated High Density PE Pipe and Fittings NPS 12 to NPS 60: AASHTO M 294M, Type S, with smooth waterway for coupling joints.

a. Silttight Couplings: PE sleeve with ASTM D 1056, Type 2, Class A, Grade 2 gasket material that mates with pipe and fittings.
b. Soiltight Couplings: AASHTO M 294M, corrugated, matching pipe and fittings.

2. The drain shall include an inline check valve to prevent backflow into the manhole. The inline check valve shall be made of 100% fabric and elastomer construction and with an unibody construction so that there are no mechanical components that trap debris, corrode or fail. The inline check valve shall remain in the closed position at all times until forward differential pressure opens it.

K. Cover Hooks: Heavy duty, designed for lifts 60 lbf and greater. Two required.

2.5 TERMINATION BOXES

1. Description: Enclosure for termination base consisting of lengths of bus bars, terminal strips, or terminal blocks with provision for wire connectors to accommodate incoming or outgoing conductors or both.
2. UL XCKT - Termination Boxes and Termination Bases:

a. Manufacturers: Subject to compliance with requirements, provide products by the following:

1) ABB, Electrification Business
2) Appleton; Emerson Electric Co., Automation Solutions
3) Cooper B-line; brand of Eaton, Electrical Sector
4) Erickson Electrical Equipment Company
5) Hoffman; brand of nVent Electrical plc
6) Metron; brand of Hubbell Electrical Solutions; Hubbell Incorporated
7) Milbank Manufacturing Company
8) N J Sullivan Company
9) Square D; Schneider Electric USA

3. Listing Criteria:

    1) UL CCN XCKT; including UL 1773.
    2) Non-Environmental Characteristics: UL 50.
    3) Environmental Characteristics: UL 50E.

4. Standard Features:

    1) Listed and labeled for installation on load side of service equipment.
    2) Outdoor Degree of Protection: Type 3R
    3) Lockable and tamperproof.

5. Ratings:

    1) Ratings as shown on drawings equivalent to rating of downstream main distribution equipment bus rating.
    2) Provide cable termination size and quantity per phase to match cable schedule on drawings.

2.6 SOURCE QUALITY CONTROL

A. Test and inspect precast concrete utility structures according to ASTM C 1037.

PART 3 - EXECUTION

3.1 PREPARATION

A. Coordinate layout and installation of duct, duct bank, manholes, and boxes with final arrangement of other utilities, site grading, and surface features as determined in the field. Notify Owner and Engineer if there is a conflict between areas of excavation and existing structures or archaeological sites to remain.

B. Coordinate elevations of duct and duct-bank entrances into manholes and boxes with final locations and profiles of duct and duct banks, as determined by coordination with other utilities, underground obstructions, and surface features. Revise locations and elevations as required to suit field conditions and to ensure that duct and duct bank will drain to manholes and handholes, and as approved by Engineer.

C. Clear and grub vegetation to be removed, and protect vegetation to remain according to Section 31 10 00 "Site Clearing." Remove and stockpile topsoil for reapplication according to Section 31 10 00 "Site Clearing."

3.2 UNDERGROUND DUCT APPLICATION

A. Ducts for Electrical Cables Over 600 V: RNC, NEMA Type EPC-40-PVC, in concrete-encased duct bank, unless otherwise indicated.

3.3 MANHOLES: PRECAST CONCRETE.

A. All Units: H-20 structural load rating according to AASHTO HB 17.

3.4 INSTALLATION OF ELECTRICAL CABINETS AND ENCLOSURES

1. Comply with manufacturer's published instructions.
2. Reference Standards for Installation: Unless more stringent installation requirements are specified in Contract Documents or manufacturers' published instructions, comply with the following:

    a. Electrical Construction: ICC IBC, ICC IFC, NFPA 1, NFPA 70, and NECA NEIS 1.
    b. Electrical Safety: NFPA 70E.
    c. Grounding and Bonding: NECA NEIS 331 and Article 250 of NFPA 70.
    d. Communications Work: BICSI N1.
    e. Work in ITE Rooms: NFPA 75.
    f. Work in Basements and Other Developed Subterranean Spaces: NFPA 520.
    g. Cabinets and Cutout Boxes: Article 312 of NFPA 70.
    h. Consult Architect for resolution of conflicting requirements.
    i. Identification: Provide labels for cabinets, enclosures, racks and associated electrical equipment.

        1) Identify field-installed conductors, interconnecting wiring, and components.
        2) Provide warning signs.
        3) Label each cabinet, enclosure, and rack with engraved metal or laminated-plastic nameplate.

3.5 EARTHWORK

A. Excavation and Backfill: Comply with Division 31 Section "Earth Moving," but do not use heavy-duty, hydraulic-operated, compaction equipment.

B. Restore surface features at areas disturbed by excavation and reestablish original grades, unless otherwise indicated. Replace removed sod immediately after backfilling is completed.

C. Restore areas disturbed by trenching, storing of dirt, cable laying, and other work. Restore vegetation and include necessary topsoiling, fertilizing, liming, seeding, sodding, sprigging, and mulching. Comply with Division 02 Sections "Seeding & Sodding" and "Planting."

D. Cut and patch existing pavement in the path of underground ducts and utility structures according to Division 01 Section "Cutting and Patching."

3.6 DUCT INSTALLATION

A. Where indicated on Drawings, install duct, spacers, and accessories into the duct-bank configuration shown. Duct installation requirements in this Section also apply to duct bank.

B. Install duct according to NEMA TCB 2.

C. Slope: Pitch duct a minimum slope of 1:300 down toward manholes and handholes and away from buildings and equipment. Slope duct from a high point between two manholes, to drain in both directions.

D. Curves and Bends: Use 5-degree angle couplings for small changes in direction. Use manufactured long sweep bends with a minimum radius of 48 inches, both horizontally and vertically, at other locations, unless otherwise indicated. Alignment modifications to the Bid Document ductbank drawings shall be analyzed for pulling stresses on the cable by the contractor. Ensure that 15kV MV-105 EPR shielded cable (consisting of 3-500kcmil phase conductors and a 4/0, 600V XHHW ground cable) can be pulled with a safety factor of 20%. Pulling stress calculations shall be submitted to the Engineer, for review and approval as part of the as-built submittals.

1. Duct shall have maximum of two 90 degree bends or the total of all bends shall be no more 180 degrees between pull points, unless otherwise indicated on the drawings. When indicated on the drawings, the bend will not exceed 270 degrees.

E. Joints: Use solvent-cemented joints in ducts and fittings and make watertight according to manufacturer's written instructions. Stagger couplings so those of adjacent ducts do not lie in same plane.

F. Installation Adjacent to Underground Heating Utilities: Where duct is installed parallel to underground steam, condensate, high- or low-temperature hot water heating lines, perform calculations showing the duct will not be subject to environmental temperatures above 40 deg C. Where environmental temperatures are calculated to rise above 40 deg C, and anywhere the duct crosses above an underground heating utility, install insulation blankets listed for direct burial to isolate the duct bank from the heating utility.

G. End Bell Entrances to Manholes and Building Foundation Walls: Use end bells, spaced approximately 12 inches o.c. for 5-inch duct, and vary proportionately for other duct sizes.

1. Begin change from regular spacing to end-bell spacing 10 feet from the end bell, without reducing duct slope and without forming a trap in the line.
2. Expansion and Deflection Fittings: Install an expansion and deflection fitting in each duct in the area of disturbed earth adjacent to manhole. Install an expansion fitting near the

center of all straight line direct-buried duct with calculated expansion of more than 3/4 inch.

3. Grout end bells into structure walls from both sides to provide watertight entrances.

H. Building Wall Penetrations: Make a transition from underground duct to GRC at least 10 feet outside the building wall, without reducing duct line slope away from the building and without forming a trap in the line. Use fittings manufactured for RNC-to-GRC transition. Install GRC penetrations of building walls as specified in Section 26 05 33 "Sleeves and Sleeve Seals for Electrical Raceways and Cabling."

I. Sealing: Provide temporary closure at terminations of ducts that have cables pulled. Seal spare ducts at terminations. Use sealing compound and plugs and/or an inflatable sealing system designed to withstand at least 15-psig hydrostatic pressure.

J. Pulling Cord: Install 200-lbf-test nylon cord in ducts, including spares.

K. Concrete-Encased Ducts: Support ducts on duct separators.

1. Excavate trench bottom to provide firm and uniform support for duct. Prepare trench bottoms as specified in Section 31 20 00 "Earth Moving".
2. Depth: Install so top of duct envelope is at least 30 inches below finished grade.
3. Support duct on duct spacers coordinated with duct size, duct spacing, and outdoor temperature.
4. Separator Installation: Space separators close enough to prevent sagging and deforming of ducts, a maximum of 5-feet of conduit run, on either side of conduit joints. Secure separators to earth and to ducts to prevent floating during concreting. Stagger separators approximately 6 inches between tiers. Tie entire assembly together using fabric straps; do not use tie wires or reinforcing steel that may form conductive or magnetic loops around ducts or duct groups.
5. Minimum Space between Duct: 3 inches between edge of duct and exterior envelope wall, 2 inches between ducts for like services, and 4 inches between power and communications ducts.
6. Elbows: Use manufactured RGS elbows for stub-ups, at building entrances, and at changes of direction in duct run.

    a. Couple RNC duct to RGS with adapters designed for this purpose, and encase coupling with 3 inches of concrete.
    b. Stub-ups to Indoor Equipment: Extend concrete-encased RGS horizontally a minimum of 60 inches from edge of wall. Install insulated grounding bushings on terminations at equipment.

        1) Stub-ups shall be flush with finished floor and minimum 3 inches from conduit side to edge of slab.

7. Reinforcement: Reinforce concrete-encased duct where crossing disturbed earth and where indicated. Arrange reinforcing rods and ties without forming conductive or magnetic loops around ducts or duct groups.
8. Forms: Use walls of trench to form side walls of duct bank where soil is self-supporting and concrete envelope can be poured without soil inclusions; otherwise, use forms.
9. Concrete Cover: Install a minimum of 3 inches of concrete cover between edge of duct to exterior envelope wall, 2 inches between duct of like services, and 4 inches between power and communications ducts.
10. Concreting Sequence: Pour each run of envelope between manholes or other terminations in one continuous operation.

    a. Start at one end and finish at the other, allowing for expansion and contraction of ducts as their temperature changes during and after the pour. Use expansion fittings installed according to manufacturer's written recommendations, or use other specific measures to prevent expansion-contraction damage.
    b. If more than one pour is necessary, terminate each pour in a diagonal plane and install 3/4-inch reinforcing rod dowels extending 18 inches into concrete on both sides of joint near corners of envelope.

11. Pouring Concrete: Spade concrete carefully during pours to prevent voids under and between conduits and at exterior surface of envelope. Do not allow a heavy mass of concrete to fall directly onto ducts. Use a plank to direct concrete down sides of bank assembly to trench bottom. Allow concrete to flow to center of bank and rise up in middle, uniformly filling all open spaces. Do not use power-driven agitating equipment unless specifically designed for duct-bank application. Concrete shall be compacted so as to avoid inclusion of air pockets or areas where concrete doesn’t completely cover ducts and reinforcements.
12. Tracer wire: Bury tracer wire 6” above encased conduits. Extend tracer wire through manhole and wall penetrations, leaving 25’ of slack. Coil the slack neatly and hang it in the manhole neck, accessible from the surface without entering the manhole. Bury an additional tracer wire for the 6x6 fiberglass hand holes adjacent to manholes.
13. Warning Tape: Bury warning tape approximately halfway between grade and all concrete-encased ducts and duct banks. A single tape is suitable for ductbanks less than two feet wide. Install tape above the edges of ductbanks wider than two feet, and above the edges and center of ductbanks wider than four feet.

3.7 INSTALLATION OF CONCRETE MANHOLES AND BOXES

A. Precast Concrete Manhole Installation:

1. Comply with ASTM C 891, unless otherwise indicated.
2. Install units level and plumb and with orientation and depth coordinated with connecting ducts to minimize bends and deflections required for proper entrances.

3. Unless otherwise indicated, support units on a level bed of crushed stone or gravel, graded from 1-inch sieve to No. 4 sieve and compacted to same density as adjacent undisturbed earth.

B. Elevations:

1. Manhole Roof: Install with rooftop at least 24 inches below finished grade.
2. Manhole Frame: In paved areas and trafficways, set frames flush with finished grade. Set other manhole frames 1 inch above finished grade, and scope grade away from frame.

C. Drainage: Install drains in bottom of manholes where indicated. Coordinate with drainage provisions indicated.

D. Manhole Access: Circular opening in manhole roof; sized to match cover size.

1. Install chimney, constructed of precast concrete collars and rings to support frame and cover and to connect cover with manhole roof opening. Provide moisture-tight masonry joints and waterproof grouting for cast-iron frame to chimney.

E. Dampproofing: Apply dampproofing to exterior surfaces of manholes after concrete has cured at least three days. Dampproofing materials and installation are specified in Division 07 Section "Bituminous Dampproofing." After ducts have been connected and grouted, and before backfilling, dampproof joints and connections and touch up abrasions and scars. Dampproof exterior of manhole chimneys after mortar has cured at least three days.

F. Hardware: Install removable hardware, including pulling eyes, cable stanchions, cable arms, and insulators, as required for installation and support of cables and conductors and as indicated. Conduit end bells shall have their wide end positioned flush with the interior of the manhole wall.

G. Field-Installed Bolting Anchors in Manholes: Do not drill deeper than 3-7/8 inches for manholes and 2 inches for anchor bolts installed in the field. Use a minimum of two anchors for each cable stanchion.

3.8 INSTALLATION OF HANDHOLES

A. Install handholes and boxes level and plumb and with orientation and depth coordinated with connecting ducts to minimize bends and deflections required for proper entrances. Use box extension if required to match depths of ducts, and seal joint between box and extension as recommended by the manufacturer.

B. Unless otherwise indicated, support units on a level bed of crushed stone or gravel, graded from 1/2-inch sieve to No. 4 sieve and compacted to same density as adjacent undisturbed earth.

C. Elevation: In paved areas and trafficways, set so cover surface will be flush with finished grade. Set covers of other handholes 1 inch above finished grade.

D. Install handholes and boxes with bottom below the frost line, 30” below grade.

E. Install removable hardware, including pulling eyes, cable stanchions, cable arms, and insulators, as required for installation and support of cables and conductors and as indicated. Select arm lengths to be long enough to provide spare space for future cables, but short enough to preserve adequate working clearances in the enclosure.

F. Field-cut openings for ducts and conduits according to enclosure manufacturer's written instructions. Cut wall of enclosure with a tool designed for material to be cut. Size holes for terminating fittings to be used, and seal around penetrations after fittings are installed.

3.9 GROUNDING

A. Ground underground ducts and utility structures according to Division 26 Section "Grounding and Bonding for Electrical Systems."

B. Install ground rods in accordance with Division 26 "Grounding and Bonding for Electrical Systems."

C. Install bus bar and ground metallic components in accordance with Division 26 Section "Grounding and Bonding for Electrical Systems."

3.10 FIELD QUALITY CONTROL

A. Perform the following tests and inspections and prepare test reports:

1. Demonstrate capability and compliance with requirements on completion of installation of underground ducts and utility structures.
2. A properly sized steel mandrel shall be pulled through all new or repaired ducts. Mandrel shall be 1/4 inch to 1/2 inch smaller in diameter than the duct. Follow with round bristle brush with a diameter ½ inch greater than the internal diameter of the duct for final cleaning and to assist in spreading lubricant throughout ducts, where required. Each duct shall be proved clear and usable, cleaned, have a pull string left in place, and spare ducts shall have duct plugs installed.
3. Test manhole grounding to ensure electrical continuity of grounding and bonding connections. Measure and report ground resistance as specified in Division 26 Section "Grounding and Bonding for Electrical Systems."

B. Correct deficiencies and retest as specified above to demonstrate compliance.

3.11 CLEANING

A. Clean internal surfaces of manholes, including sump. Remove foreign material.

END OF SECTION 26 05 43

SECTION 26 05 44 - SLEEVES AND SLEEVE SEALS FOR ELECTRICAL RACEWAYS AND CABLING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Round sleeves.
2. Rectangular sleeves.
3. Sleeve seal systems.
4. Grout.
5. Pourable sealants.
6. Foam sealants.

B. Related Requirements:

1. Section 078413 "Penetration Firestopping" for penetration firestopping installed in fire-resistance-rated walls, horizontal assemblies, and smoke barriers, with and without penetrating items.

1.2 SUBMITTALS

A. Product Data: For each type of product.

PART 2 - PRODUCTS

2.1 ROUND SLEEVES

A. Wall Sleeves, Steel:

1. Description: ASTM A53/A53M, Type E, Grade B, Schedule 40, zinc coated, plain ends and integral waterstop.

B. Wall Sleeves, Cast Iron:

1. Description: Cast or fabricated "wall pipe," equivalent to ductile-iron pressure pipe, with plain ends and integral waterstop.

C. Pipe Sleeves, PVC:

1. Description: ASTM D1785, Schedule 40.

D. Molded Sleeves, PVC:

1. Description: With nailing flange for attaching to wooden forms.

E. Molded Sleeves, PE or PP:

1. Description: Removable, tapered-cup shaped, and smooth outer surface with nailing flange for attaching to wooden forms.

F. Sheet Metal Sleeves, Galvanized Steel, Round:

1. Description: Galvanized-steel sheet; thickness not less than 0.0239 inch; round tube closed with welded longitudinal joint, with tabs for screw-fastening the sleeve to the board.

2.2 RECTANGULAR SLEEVES

A. Sheet Metal Sleeves, Galvanized Steel, Rectangular:

1. <Double click here to find, evaluate, and insert list of manufacturers and products.>
2. Description:

a. Material: Galvanized sheet steel.
b. Minimum Metal Thickness:

1) For sleeve cross-section rectangle perimeter less than 50 inch and with no side larger than 16 inch, thickness must be 0.052 inch.
2) For sleeve cross-section rectangle perimeter not less than 50 inch or with one or more sides larger than 16 inch, thickness must be 0.138 inch.

2.3 GROUT

A. Description: Nonshrink; recommended for interior and exterior sealing openings in non-fire-rated walls or floors.

1. Standard: ASTM C1107/C1107M, Grade B, post-hardening and volume-adjusting, dry, hydraulic-cement grout.
2. Design Mix: 5000 psi, 28-day compressive strength.
3. Packaging: Premixed and factory packaged.

2.4 POURABLE SEALANTS

A. Description: Single-component, neutral-curing elastomeric sealants of grade indicated below.

1. Grade: Pourable (self-leveling) formulation for openings in floors and other horizontal surfaces that are not fire rated.

2.5 FOAM SEALANTS

A. Description: Multicomponent, liquid elastomers that, when mixed, expand and cure in place to produce a flexible, nonshrinking foam. Foam expansion must not damage cables or crack penetrated structure.

PART 3 - EXECUTION

3.1 INSTALLATION OF SLEEVES FOR NON-FIRE-RATED ELECTRICAL PENETRATIONS

A. Sleeves for Conduits Penetrating Above-Grade, Non-Fire-Rated, Concrete and Masonry-Unit Floors and Walls:

1. Interior Penetrations of Non-Fire-Rated Walls and Floors:

   a. Seal space outside of sleeves with mortar or grout. Pack sealing material solidly between sleeve and wall or floor so no voids remain. Tool exposed surfaces smooth; protect material while curing.
   b. Seal annular space between sleeve and raceway or cable, using joint sealant appropriate for size, depth, and location of joint. Comply with requirements in Section 079200 "Joint Sealants."

2. Use pipe sleeves unless penetration arrangement requires rectangular sleeved opening.
3. Size pipe sleeves to provide 1/4 inch annular clear space between sleeve and raceway or cable, unless sleeve seal system is to be installed.
4. Install sleeves for wall penetrations unless core-drilled holes or formed openings are used. Install sleeves during erection of walls. Cut sleeves to length for mounting flush with both surfaces of walls. Deburr after cutting.
5. Install sleeves for floor penetrations. Extend sleeves installed in floors 2 inch above finished floor level. Install sleeves during erection of floors.

B. Sleeves for Conduits Penetrating Non-Fire-Rated Wall Assemblies:

1. Use circular metal sleeves unless penetration arrangement requires rectangular sleeved opening.
2. Seal space outside of sleeves with approved joint compound for wall assemblies.

C. Aboveground, Exterior-Wall Penetrations: Seal penetrations using [**steel**] [**cast-iron**] pipe sleeves and mechanical sleeve seal systems. Size sleeves to allow for 1 inch annular clear space between pipe and sleeve for installing mechanical sleeve seals.

3.2 INSTALLATION OF RECTANGULAR SLEEVES AND SLEEVE SEALS

A. Install sleeves in existing walls without compromising structural integrity of walls. Do not cut structural elements without reinforcing the wall to maintain the designed weight bearing and wall stiffness.

B. Install conduits and cable with no crossings within the sleeve.

C. Fill opening around conduits and cables with expanding foam without leaving voids.

D. Provide metal sheet covering at both wall surfaces and finish to match surrounding surfaces. Metal sheet must be same material as sleeve.

END OF SECTION 26 05 44

SECTION 26 05 53 - IDENTIFICATION FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following:

1. Identification for Electrical equipment.
2. Identification for raceways.
3. Identification for power conductors.
4. Splicing date identification.
5. Warning labels and signs.
6. Instruction signs.
7. Equipment identification labels.
8. Miscellaneous identification products.

B. Related Requirements:

1. Section 26 05 43 “Underground Ducts and Raceways for Electrical Systems” for direct-buried and concrete-encased duct banks.
2. Section 31 00 00 “Earthwork” for identification of underground electrical ductbanks.
3. Section 26 13 02 “Medium-Voltage Padmount Switches”

1.3 SUBMITTALS

A. Product Data: For each electrical identification product indicated.

B. Identification Schedule: An index of nomenclature of electrical equipment and system components used in identification signs and labels.

C. Samples: For each type of label and sign to illustrate size, colors, lettering style, mounting provisions, and graphic features of identification products.

D. Submit legend / Name plate schedule for University approval. Include letter size and nameplate size on schedule along with wording.

1.4 QUALITY ASSURANCE

A. Comply with ANSI A13.1 and ANSI C2.

B. Comply with NFPA 70.

C. Comply with 29 CFR 1910.145.

D. Comply with ANSI Z535.4 for safety signs and labels.

E. Adhesive-attached labeling materials, including label stocks, laminating adhesives, and inks used by label printers, shall comply with UL 969.

1.5 COORDINATION

A. Coordinate identification names, abbreviations, colors, and other features with requirements in the Contract Documents, Shop Drawings, manufacturer's wiring diagrams, and the Operation and Maintenance Manual, and with those required by codes, standards, and 29 CFR 1910.145. Use consistent designations throughout Project.

B. Coordinate installation of identifying devices with completion of covering and painting of surfaces where devices are to be applied.

C. Coordinate installation of identifying devices with location of access panels and doors.

PART 2 - PRODUCTS

2.1 RACEWAY AND METAL-CLAD CABLE IDENTIFICATION MATERIALS

A. Comply with ANSI A13.1 for minimum size of letters for legend and for minimum length of color field for each raceway and cable size.

B. Colors for 5kV Raceways Carrying Circuits:

1. Black letters on a white field labeled “DANGER 4,160 VOLTS”.

C. Snap-Around Labels for Raceways: Slit, pretensioned, flexible, preprinted, color-coded acrylic sleeves, with diameter sized to suit diameter of raceway or cable it identifies and to stay in place by gripping action.

2.2 POWER AND CONTROL CABLE IDENTIFICATION MATERIALS

A. Comply with ANSI A13.1 for minimum size of letters for legend and for minimum length of color field for each raceway and cable size.

B. Vinyl Labels: Preprinted, heat shrink flexible label with circuit identification legend machine printed by ink. Do not shrink labels in place to allow for some movement.

2.3 CONDUCTOR IDENTIFICATION MATERIALS

A. Color-Coding Conductor Tape: Colored, self-adhesive vinyl tape not less than 3 mils thick by 1 to 2 inches wide.

B. Engraved, Laminated Acrylic or Melamine Label: Punched or drilled for mounting to cable with plastic tie wraps. 1 inch x 3 inches; black letters on a white background. Minimum letter height shall be 3.8 inch. Minimum letter thickness shall be 1/16 inch.

2.4 WARNING LABELS AND SIGNS

A. Comply with NFPA 70 and 29 CFR 1910.145.

B. Metal-Backed, Butyrate Warning Signs: Weather-resistant, nonfading, preprinted, cellulose-acetate butyrate signs with 0.0396-inch galvanized-steel backing; and with colors, legend, and size required for application. 1/4-inch grommets in corners for mounting. Nominal size, 10 by 14 inches.

2.5 EQUIPMENT IDENTIFICATION LABELS

A. Engraved, Laminated Acrylic or Melamine Label: Punched or drilled for screw mounting. Black letters on white background.

1. Indoor & Outdoor Equipment: Engraved, laminated acrylic or melamine label. Unless otherwise indicated, provide a single line of text with 1/2 –inch- high letters on 1-1/2-inch-high label; where 2 lines of text are required, use labels 2 inches high. Labels shall be clearly readable from 3 feet away.
2. Elevated Components: Increase sizes of labels and letters to those appropriate for viewing from the floor.

B. Provide labels on all equipment disconnecting means, enclosed starters, panelboards, medium voltage switches, etc.

2.6 MISCELLANEOUS IDENTIFICATION PRODUCTS

A. Cable Ties: Fungus-inert, UV stabilized, self-extinguishing, 1-piece, self-locking, Type 6/6 nylon cable ties.

1. Minimum Width: 3/16 inch.
2. Tensile Strength: 50 lb, minimum.

3. Temperature Range: Minus 40 to plus 185 deg F.
4. Color: Black, except where used for color-coding.

B. Fasteners for Labels and Signs: Self-tapping, stainless-steel screws or stainless-steel machine screws with nuts and flat and lock washers.

PART 3 - EXECUTION

3.1 APPLICATION

A. Medium Voltage Conductor Identification: For 5kV conductors in vaults, pull and junction boxes, manholes and cable trays use color-coding conductor tape to identify phase. Use acrylic tags to identify phase and feeder number of each set of conductors.

B. Low Voltage Feeder Conductor Identification: For feeder conductors in pull and junction boxes, and cable trays use color-coding conductor tape to identify phase. Use acrylic tags to identify phase and feeder number of each set of conductors.

C. Branch-Circuit Conductor Identification: Where there are conductors for more than three branch circuits in same junction or pull box, use color-coding conductor tape and write-on tags. Identify each ungrounded conductor according to source and circuit number.

D. Conductors to Be Extended in the Future: Attach marker tape to conductors and list source and circuit number.

E. Warning Labels for Indoor Cabinets, Boxes, and Enclosures for Power and Lighting: Comply with 29 CFR 1910.145 and apply metal-backed, butyrate warning signs. Identify system voltage with black letters on an orange background. Apply to exterior of door, cover, or other access.

F. Equipment with Multiple Power or Control Sources: Apply to door or cover of equipment including, but not limited to, the following:

1. Controls with external control power connections.

G. Accessible Raceways More Than 600 V: Identify with “DANGER-4160V” in black letters at least 2 inches high, with self-adhesive vinyl labels. Repeat legend at 10-foot maximum intervals.

H. Splices shall be identified with acrylic tags and shall include the date of the splice and the name of the company performing the splice.

3.2 INSTALLATION

A. Verify identity of each item before installing identification products.

B. Location: Install identification materials and devices at locations for most convenient viewing without interference with operation and maintenance of equipment.

C. Apply identification devices to surfaces that require finish after completing finish work.

D. Self-Adhesive Identification Products: Clean surfaces before application, using materials and methods recommended by manufacturer of identification device. Self-adhesive labels shall not be used for equipment and shall only be installed on conduits or cable tray.

E. Attach non-adhesive signs and plastic labels with screws and auxiliary hardware appropriate to the location and substrate.

F. System Identification Color Banding for Raceways and Cables: Each color band shall completely encircle cable or conduit. Place adjacent bands of two-color markings in contact, side by side. Locate bands at changes in direction, at penetrations of walls and floors, at 50-foot maximum intervals in straight runs, and at 25-foot maximum intervals in congested areas.

G. Cable Ties: For attaching tags.

3.3 IDENTIFICATION SCHEDULE

A. Accessible Raceways Medium Voltage Circuits: Identify with snap around label. Install labels at 50-foot maximum intervals.

B. Accessible Raceways and Cables within Buildings and Tunnels: Identify the covers of each junction and pull box with self-adhesive vinyl labels with the wiring system legend and system voltage.

C. Color-Coding for Phase Identification, greater than 600 V: Use the colors listed below for ungrounded feeder and branch-circuit conductors.

1. Primary Cables: Cables running in cable tray shall be marked with the circuit name for identification using plastic (lamacoid) tags with engraved ½" high by 1/16" thick lettering (black on white).

a. Color-Coding Conductor Tape: White, self-adhesive vinyl tape not less than 3 mils (0.08 mm) thick by 1 to 2 inches (25 to 50 mm) wide.

1) Phase A – 1 Individual Wrap of Tape
2) Phase B – 2 Individual Wraps of Tape
3) Phase C – 3 Individual Wraps of Tape
4) Equipment Ground: Green

D. Color-Coding for Phase and Voltage Level Identification, 600 V and Less: Use the colors listed below for ungrounded feeder and branch-circuit conductors.

1. Color shall be factory applied or, for sizes larger than No. 10 AWG, field applied.
2. Colors for 208/120-V Circuits:

    a. Phase A: Black.
    b. Phase B: Red.
    c. Phase C: Blue.
    d. Neutral: White.
    e. Equipment Ground: Green

3. Colors for 480/277-V Circuits:

    a. Phase A: Brown.
    b. Phase B: Orange.
    c. Phase C: Yellow.
    d. Neutral: White or Grey.
    e. Equipment Ground: Green w/ Yellow Strip

E. Field-Applied, Color-Coding Conductor Tape: Apply in half-lapped turns for a minimum distance of 6 inches from terminal points and in boxes where splices or taps are made. Apply last two turns of tape with no tension to prevent possible unwinding. Locate bands to avoid obscuring factory cable markings. Each cable shall have an identifiable colored stripe.

F. Warning Labels for Cabinets, Boxes, and Enclosures for Power and Lighting: Metal-backed, butyrate warning signs.

1. Comply with 29 CFR 1910.145.
2. Identify system voltage with black letters on a white background.
3. Apply to exterior of door, cover, or other access.

G. Equipment Identification Labels: On each unit of equipment, install unique designation label that is consistent with wiring diagrams, schedules, and the Operation and Maintenance Manual. Apply labels to all switchgear, disconnect switches and protection equipment, control panels, ATS control stations, etc.

1. Labeling Instructions:

    a. Equipment: Engraved, laminated acrylic or melamine label.
    b. Elevated Components: Increase sizes of labels and letters to those appropriate for viewing from the floor.
    c. Unless provided with self-adhesive means of attachment, fasten labels with appropriate mechanical fasteners that do not change the NEMA or NRTL rating of the enclosure.

2. Equipment to Be Labeled:

    a. Electrical cabinets, and enclosures.
    b. Electrical switchgear.

c. Transformers.
d. Electrical substations.
e. Voice and data cable terminal equipment.
f. Monitoring and control equipment.
g. Terminals, racks, and patch panels for voice and data communication and for signal and control functions.

H. Plastic Tags: Secure tight to surface of conductor or cable at a location with high visibility and accessibility.

END OF SECTION 26 05 53

SECTION 26 05 73 - POWER SYSTEM STUDIES

PART 1 - GENERAL

1.1 SUMMARY

A. The Work of this Section Includes:

1. Short-circuit study.
2. Overcurrent protective device coordination study.
3. ~~Load-flow and voltage-drop study.~~
4. ~~Motor-starting study.~~
5. ~~5.~~3. Arc-flash hazard study.
6. ~~Digital-twin modeling.~~

B. Related Requirements:

~~Always retain subparagraph below.~~

1. Section 260010 "Supplemental Requirements for Electrical" specifies additional requirements applicable to coordinating, scheduling, and sequencing of the Work specified in this Section.

~~1.2 DEFINITIONS~~

~~Retain terms that remain after this Section has been edited for the Project. Include only essential definitions or acronyms not well understood by the affected industry or trade.~~

~~A. Digital Twin: The digital representation of a real-world entity, concept, or notion, either physical or perceived.~~

~~1.3~~1.2 ACTION SUBMITTALS

~~Action submittals are submittals requiring responsive action and return of reviewed documents to Contractor.~~

~~Coordinate this article with submittal requirements retained in Section 013300 "Submittal Procedures."~~

~~A. Product Data: For power system analysis software to be used for studies.~~

~~Retain "Product Certificates" Subparagraph below if product certificates issued by the manufacturer are required.~~

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~~1. Product Certificates: For power system study software applications, include certificate stating compliance with specified requirements, signed by software manufacturer.~~

~~B.~~A. Power System Study Reports:

1. Submit reports after approval of system protective devices submittals. Submittals ~~[must]~~ [may] be in digital form.
2. Submit short-circuit study input data, including completed computer-program input data sheets.
3. Submit coordination study input data, including completed computer-program input data sheets.

   ~~a. Submit load-flow, voltage-drop, and motor-starting data with coordination study.~~

4. Submit arc-flash study input data, including completed computer-program input data sheets.

~~Submittal of Short-Circuit Study Report prior to final approval of equipment requires some level of confidence that equipment will be approved, because the purpose of this study submittal is to confirm that short-circuit rating of equipment to be installed complies with requirements. There is a balancing act of early submission of study so equipment can be ordered, and risk that equipment the study is based on will not be approved.~~

5. Submit study report for action prior to receiving final approval of distribution equipment submittals. If formal completion of studies will cause delay in equipment manufacturing, obtain approval from ~~Architect~~ Owner for preliminary submittal of sufficient study data to ensure that selection of devices and associated characteristics is satisfactory.

~~Include one-line diagram on Drawings as scope document for short-circuit study.~~

6. Submit revised one-line diagram, reflecting field investigation results and results of short-circuit study.

~~C.~~B. Data files for studies in format compatible with Owner's power system analysis software.

~~D. Digital twin models.~~

~~1.4~~1.3 QUALITY ASSURANCE

A. Submittals for power system studies must be signed and sealed by qualified electrical professional engineer responsible for their preparation.

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B. Studies must be performed using commercially developed and distributed software designed specifically for power system analysis.

C. Software algorithms must comply with requirements of standards and guides specified in this Section.

D. Manual calculations are unacceptable.

PART 2 - PRODUCTS

2.1 POWER SYSTEM ANALYSIS SOFTWARE

~~If Owner already uses power system analysis software, coordinate software tool selection for the Project with Owner's requirement for delivery of a compatible power system model.~~

~~Retain "Manufacturers" Paragraph and list of manufacturers below to require products from manufacturers listed or a comparable product from other manufacturers.~~

A. Manufacturers: Subject to compliance with requirements, ~~provide products by the following~~provide products by one of the following~~available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following~~:

~~1. CYME International T&D Inc.; subsidiary of Eaton Corporation plc~~
~~2. EasyPower; brand of Bentley Systems, Inc.~~
~~3.~~1. ETAP; brand of Operation Technology, Inc.; subsidiary of Schneider Electric
~~4. Paladin DesignBase; brand of Bentley Systems, Inc.~~
~~5.~~2. Power Tools for Windows (PTW); brand of SKM Systems Analysis, Inc.

B. Standard Features:

1. Power System Analysis:

~~Retain first subparagraph below if software used for this study should have capability of protective device coordination and arc-flash studies. See the Evaluations for more information.~~

~~a. Power-systems-analysis software applications must have analytical capability to calculate "mandatory," "very desirable," and "desirable" features as listed in IEEE 3002 series standards.~~

~~b.~~a. Computer software application must be capable of plotting and diagramming time-current-characteristic curves as part of its output. Computer software program must report device settings and ratings of overcurrent protective devices and must demonstrate selective coordination by computer-generated, time-current coordination plots.

~~c.~~b. Computer software application must be designed to perform arc-flash

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analysis or have function, component, or add-on module designed to perform arc-flash analysis.

2. Analysis Standards:

   a. Short-Circuit Current Analysis: In accordance with IEEE 3002.3.
   b. Device Coordination Analysis: In accordance with IEEE 3004.3 and IEEE 3004.5.
   ~~c. Load-Flow Analysis: In accordance with IEEE 3002.2.~~
   ~~d. Motor-Starting Analysis: In accordance with IEEE 3002.7.~~
   ~~e. Harmonic Analysis: In accordance with IEEE 3002.8.~~
   ~~f. Transient Stability Analysis: In accordance with IEEE P3002.9.~~
   ~~g.~~c. Arc-Flash Hazard Analysis: In accordance with IEEE 1584.

3. Capable of printing arc-flash hazard warnings for equipment on ~~[**polyester**]~~ [vinyl~~]~~, weather- and UV-resistant, pressure-sensitive adhesive labels complying with NFPA 70E.

   a. Label must have orange header with wording, "WARNING, ARC-FLASH HAZARD," and must include the following information taken directly from arc-flash hazard study:

      1) Equipment designation.
      2) Nominal voltage.
      3) Protection boundaries.

         a) Arc-flash boundary.
         b) Restricted approach boundary.
         c) Limited approach boundary.

      4) Arc-flash PPE category.
      5) Required minimum arc rating of PPE in Cal/cm squared.
      6) Available incident energy.
      7) Working distance.
      8) Engineering report ~~number, revision number, and~~ issue date.

~~C. Other Available Features Required by the Project:~~

~~Retain subparagraphs below if additional features are needed to suit the Project.~~

~~1. Simultaneous faults.~~
~~2. Explicit negative sequence.~~
~~3. Mutual coupling in zero sequence.~~
~~4. Digital Twin Model: Ability to create a [**cloud-based,**]digital twin model for life-cycle operation and maintenance of the facility's electrical power system.~~

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PART 3 - EXECUTION

3.1 EXAMINATION

A. Collect and analyze data for power system studies.

1. Verify completeness of data supplied in one-line diagram on Drawings. Call discrepancies to ~~Architect's~~ Owner's attention.
2. For equipment included as Work on the Project, use characteristics submitted under provisions of action submittals and information submittals for the Project.
3. For ~~[relocated equipment and]~~equipment that is existing to remain, obtain required electrical distribution system data by field investigation and surveys, conducted by qualified technicians and engineers in accordance with NFPA 70E.
4. Gather and tabulate required input data to support power system studies. Comply with requirements in Section 017839 "Project Record Documents" for recording circuit protective device characteristics. Record data on Record Document copy of one-line diagram. Comply with recommendations in IEEE 3002 series standards as to amount of detail that is required to be acquired in field. Field data gathering must be by, or under supervision of, qualified electrical professional engineer. Data include, but are not limited to, the following:

    a. Product data for the Project's overcurrent protective devices involved in overcurrent protective device coordination studies. Use equipment designation tags that are consistent with electrical distribution system diagrams, overcurrent protective device submittals, input and output data, and recommended device settings.
    b. Electrical power utility impedance at service.
    c. Power sources and ties.
    d. Short-circuit current at each system bus (three phase and line to ground).
    e. Full-load current of loads.
    f. Voltage level at each bus.
    g. For transformers, include kVA, primary and secondary voltages, connection type, impedance, X/R ratio, taps measured in percent, and phase shift.
    h. For reactors, provide manufacturer and model designation, voltage rating, and impedance.
    i. For circuit breakers and fuses, provide manufacturer and model designation. List type of breaker, type of trip and available range of settings, SCCR, current rating, and breaker settings.
    ~~j. Generator short-circuit current contribution data, including short-circuit reactance, rated kVA, rated voltage, and X/R ratio.~~
    ~~k.~~j. For relays, provide manufacturer and model designation, current transformer ratios, potential transformer ratios, and relay settings.
    ~~l. Maximum demands from service meters.~~
    ~~m. Busway manufacturer and model designation, current rating, impedance, lengths, and conductor material.~~

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~~n. Motor horsepower and NEMA MG 1 code letter designation.~~
~~o.~~k. Low-voltage cable sizes, lengths, number, conductor material, and conduit material (magnetic or nonmagnetic).
~~p.~~l. Medium-voltage cable sizes, lengths, conductor material, cable construction, metallic shield performance parameters, and conduit material (magnetic or nonmagnetic).
~~q.~~m. Derating factors.

3.2 PREPARATION

A. Preparation of Data for Short-Circuit Study:

1. Verify completeness of data supplied on one-line diagram. Call discrepancies to ~~Architect's~~ Owner's attention.
2. For equipment included as Work on the Project, use characteristics submitted under provisions of action submittals and information submittals for the Project.
3. Prepare one-line diagram of modeled power system, showing the following:

a. Protective device designations and ampere ratings.
b. Conductor types, sizes, and lengths.
c. Transformer kVA and voltage ratings.
d. ~~Motor and generator designations and kVA ratings.~~
e. Switchgear, switchboard, motor-control center, and panelboard designations and ratings.
f. Derating factors and environmental conditions.
g. Revisions to electrical equipment required by study.

B. Preparation of Data for Overcurrent Protective Device Coordination Study:

1. Prepare data sheets to supplement electrical distribution system one-line diagram, cross-referenced with tag numbers on diagram, indicating the following:

a. Special load considerations, including starting inrush currents and frequent starting and stopping.
b. Transformer characteristics, including primary protective device, magnetic inrush current, and overload capability.
~~c. Motor full-load current, locked rotor current, service factor, starting time, type of start, and thermal damage curve.~~
~~d. Generator thermal damage curve.~~
~~e.~~c. Ratings, types, and settings of utility company's overcurrent protective devices.
~~f.~~d. Special overcurrent protective device settings or types stipulated by utility company.
~~g.~~e. Time-current-characteristic curves of devices indicated to be coordinated.
~~h.~~f. Manufacturer, frame size, interrupting rating in amperes root mean square

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(rms) symmetrical, ampere or current sensor rating, long-time adjustment range, short-time adjustment range, and instantaneous adjustment range for circuit breakers.

~~i.~~g. Manufacturer and type, ampere-tap adjustment range, time-delay adjustment range, instantaneous attachment adjustment range, and current transformer ratio for overcurrent relays.

~~j.~~h. Switchgear, switchboards, motor-control centers, and panelboards ampacity, and SCCR in amperes rms symmetrical.

~~k.~~i. Identify series-rated interrupting devices for condition where available fault current is greater than interrupting rating of downstream equipment. Obtain device data details to allow verification that series application of these devices complies with NFPA 70 and UL 489 requirements.

2. Examine the Project's overcurrent protective device submittals for compliance with electrical distribution system coordination requirements and other conditions affecting performance of the Work. Devices to be coordinated are indicated on Drawings.
3. Proceed with coordination study only after relevant equipment submittals have been assembled. Overcurrent protective devices that have not been submitted and approved prior to coordination study may not be used in study.

C. Preparation of Data for Arc-Flash Hazard Study:

1. Assemble data from short-circuit study and overcurrent protective device coordination study.
2. Proceed with arc-flash study only after relevant equipment submittals have been assembled. Overcurrent protective devices that have not been submitted and approved prior to arc-flash study may not be used in study.

3.3 SHORT-CIRCUIT STUDY

A. Base study on device characteristics supplied by device manufacturer.

~~Coordinate first two paragraphs below with Drawings. See the Evaluations for discussion on one-line diagram.~~

~~B. Extent of electrical power system to be studied is indicated on Drawings.~~

~~See the Evaluations for discussion of what data should be indicated on one-line diagram, where the study should stop, and what data should be obtained and verified by Contractor.~~

~~C.~~B. Begin short-circuit current analysis at service, extending down to system overcurrent protective devices as follows:

~~1.~~ To ~~normal system low-voltage load buses where fault current is 5 kA or less.~~

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~~Retain first subparagraph below when authorities having jurisdiction do not require inclusion of all equipment.~~

~~2. Exclude equipment supplied by single transformer smaller than 75 kVA.~~
~~3.~~1. ~~<Insert description>.~~first protective device on the secondary of transformers with a secondary voltage of less than 1000V.

~~D.~~C. Study electrical distribution system from normal and alternate power sources throughout electrical distribution system for the Project. Study cases of system-switching configurations and alternate operations that could result in maximum fault conditions.

~~E. Include AC fault-current decay from induction motors, synchronous motors, and asynchronous generators and apply to low- and medium-voltage, three-phase AC systems. Also account for fault-current DC decrement to address asymmetrical requirements of interrupting equipment.~~

~~F.~~D. Calculate short-circuit momentary and interrupting duties for three-phase bolted fault and single line-to-ground fault at equipment indicated on one-line diagram.

1. For grounded systems, provide bolted line-to-ground fault-current study for areas as defined for three-phase bolted fault short-circuit study.

~~G.~~E. Include in report identification of protective device applied outside its capacity.

3.4 OVERCURRENT PROTECTIVE DEVICE COORDINATION STUDY

A. Base study on device characteristics supplied by device manufacturer.~~[**When analysis of full range of device is impractical, limiting scope of analysis from 10 to 100 percent of device range is acceptable.**]~~

~~Coordinate first two paragraphs below with Drawings. See the Evaluations for discussion on one-line diagram.~~

~~B. Extent of electrical power system to be studied is indicated on Drawings.~~

~~See the Evaluations for discussion of what data should be indicated on one-line diagram, where the study should stop, and what data should be obtained and verified by Contractor.~~

~~C.~~B. Begin analysis at service, extending down to system overcurrent protective devices as follows:

1. To first protective device on the secondary of transformers with a secondary voltage of less than 1000V.
~~1. normal system low-voltage load buses where fault current is 5 kA or less.~~
2. ~~<Insert description>.~~

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~~D.~~C. Study electrical distribution system from normal and alternate power sources throughout electrical distribution system for the Project. Study cases of system-switching configurations and alternate operations that could result in maximum fault conditions.

~~E.~~D. Transformer Primary Overcurrent Protective Devices:

1. Device must not operate in response to the following:
   a. Inrush current when first energized.
   b. Self-cooled, full-load current or forced-air-cooled, full-load current, whichever is specified for that transformer.
   c. Permissible transformer overloads in accordance with IEEE C57.96 if required by unusual loading or emergency conditions.
2. Device settings must protect transformers in accordance with IEEE C57.12.00, for fault currents.

~~F. Motor Protection:~~

~~1. Select protection for low-voltage motors in accordance with IEEE 3004.8 and NFPA 70.~~
~~2. Select protection for motors served at voltages more than 600 V in accordance with IEEE 620.~~

~~G.~~E. Conductor Protection: Protect cables against damage from fault currents in accordance with ICEA P-32-382, ICEA P-45-482, and protection recommendations in IEEE 3004.7. Demonstrate that equipment withstands maximum short-circuit current for time equivalent to tripping time of primary relay protection or total clearing time of fuse. To determine temperatures that damage insulation, use curves from cable manufacturers or from listed standards indicating conductor size and short-circuit current.

~~H. Generator Protection: Select protection in accordance with manufacturer's published instructions and IEEE C37.102.~~

~~I. Include AC fault-current decay from induction motors, synchronous motors, and asynchronous generators and apply to low- and medium-voltage, three-phase AC systems. Also account for fault-current DC decrement, to address asymmetrical requirements of interrupting equipment.~~

~~J.~~F. Include coordination of ground-fault protection devices.

~~K.~~G. Calculate short-circuit momentary and interrupting duties for three-phase bolted fault and single line-to-ground fault at equipment indicated on one-line diagram.

1. For grounded systems, provide bolted line-to-ground fault-current study for areas as defined for three-phase bolted fault short-circuit study.

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~~L.~~H. Protective Device Evaluation:

1. Evaluate equipment and protective devices and compare to short-circuit ratings.
2. Adequacy of switchgear, motor-control centers, and panelboard bus bars to withstand short-circuit stresses.

~~See "Coordination Study" Article in the Evaluations for discussion of series-rated devices.~~

3. Application of series-rated devices must be recertified, complying with requirements in NFPA 70.
4. Include in report identification of protective device applied outside its capacity.

~~3.5 LOAD-FLOW AND VOLTAGE-DROP STUDY~~

~~A. Perform load-flow and voltage-drop study to determine steady-state loading profile of system. Analyze power system performance two times as follows:~~

~~1. Determine load flow and voltage drop based on full-load currents.~~
~~2. Determine load flow and voltage drop based on 80 percent of design capacity of load buses.~~
~~3. Prepare load-flow and voltage-drop analysis and report to show power system components that are overloaded, or might become overloaded; show bus voltages that are less than as prescribed by NFPA 70.~~

~~3.6 MOTOR-STARTING STUDY~~

~~A. Perform motor-starting study to analyze transient effect of system's voltage profile during motor starting. Calculate significant motor-starting voltage profiles and analyze effects of motor starting on power system stability.~~

~~Objectionable light flicker and voltage sags are occupancy dependent. See the Evaluations for discussion of IEEE standards, and insert additional requirements on reporting study results based on the Project's requirements.~~

~~B. Prepare motor-starting study report, noting light flicker for limits proposed by IEEE 1453, and <**Insert applicable standards**>, and voltage sags so as not to affect operation of other utilization equipment on system supplying motor.~~

~~3.7~~3.5 ARC-FLASH HAZARD STUDY

A. Comply with NFPA 70E, including Annex D, for arc-flash hazard study.

B. Preparatory Studies: Obtain short-circuit study and overcurrent protective device coordination study results prior to starting arc-flash hazard study.

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C. Calculate maximum and minimum contributions of fault-current size.

1. Maximum calculation must assume maximum contribution from utility and must assume motors to be operating under full-load conditions.

~~Retain one or more of three subparagraphs below. 85 percent of maximum is IEEE-recommended level for second short-circuit value. NFPA 70E states that 38 percent of maximum is lowest sustaining arcing current and that it creates highest arcing energy. Some clients and engineers request calculation at minimum short circuit to prolong clearing time of protective device.~~

~~2. Calculate arc-flash energy at 85 percent of maximum short-circuit current in accordance with IEEE 1584 recommendations.~~
~~3. Calculate arc-flash energy at 38 percent of maximum short-circuit current in accordance with NFPA 70E recommendations.~~
~~4.~~2. Calculate arc-flash energy with utility contribution at minimum and assume no motor contribution.

D. Calculate arc-flash protection boundary and incident energy at locations in electrical distribution system where personnel could perform work on energized parts.

E. Include medium- and low-voltage equipment locations~~[, except nominal arc-flash hazard warning data may be provided for equipment fed from transformers rated below 240 V(ac), 2000 A, instead of documenting precise calculations]~~.

F. Calculate limited, restricted, and prohibited approach boundaries for each location.

G. Incident energy calculations must consider accumulation of energy over time when performing arc-flash calculations on buses with multiple sources. Iterative calculations must account for changing current contributions, as sources are interrupted or decremented with time. Fault contribution from motors and generators must be decremented as follows:

~~1. Fault contribution from induction motors must not be considered beyond three to five cycles.~~
~~2. Fault contribution from synchronous motors and generators must be decayed to match actual decrement of each as closely as possible (for example, contributions from permanent magnet generators will typically decay from 10 p.u. to 3 p.u. after 10 cycles).~~

H. Arc-flash energy must generally be reported for maximum of line or load side of circuit breaker. However, arc-flash computation must be performed and reported for both line and load side of circuit breaker as follows:

1. When circuit breaker is in separate enclosure.
2. When line terminals of circuit breaker are separate from work location.

I. Base arc-flash calculations on actual overcurrent protective device clearing time. Cap

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maximum clearing time at two seconds based on IEEE 1584, Section B.1.2.

~~3.8~~3.6 POWER SYSTEM STUDY REPORTS

A. Preparation of Power System Study Reports: Prepare and submit the following:

1. Short-Circuit Study Report Contents:

a. Executive summary of study findings.
b. Study descriptions, purpose, basis, and scope. Include case descriptions, definition of terms, and guide for interpretation of results.
c. One-line diagram of modeled power system, showing the following:

1) Protective device designations and ampere ratings.
2) Conductor types, sizes, and lengths.
3) Transformer kVA and voltage ratings.
~~4) Motor and generator designations and kVA ratings.~~
~~5)~~4) Switchgear, switchboard, motor-control center, and panelboard designations and ratings.
~~6)~~5) Derating factors and environmental conditions.
~~7)~~6) Revisions to electrical equipment required by study.

d. Comments and recommendations for system improvements or revisions in written document, separate from one-line diagram.
e. Short-Circuit Study Input Data:

~~NFPA 111 states that stored energy power supply system must be coordinated for maximum available short-circuit current from both utility and emergency energy sources to ensure selective tripping of overcurrent protective devices.~~

1) One-line diagram of system being studied.
2) Power sources available.
3) Manufacturer, model, and interrupting rating of protective devices.
4) Conductors.
5) Transformer data.

f. Protective Device Evaluation:

1) Evaluate equipment and protective devices and compare to available short-circuit currents. Verify that equipment withstand ratings exceed available short-circuit current at equipment installation locations.
2) Tabulations of circuit breaker, fuse, and other protective device ratings versus calculated short-circuit duties.
3) For 600 V overcurrent protective devices, ensure that interrupting ratings are equal to or higher than calculated 1/2-cycle symmetrical

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fault current.

4) For devices and equipment rated for asymmetrical fault current, apply multiplication factors listed in standards to 1/2-cycle symmetrical fault current.
5) Verify adequacy of phase conductors at maximum three-phase bolted fault currents; verify adequacy of equipment grounding conductors and grounding electrode conductors at maximum ground-fault currents. Ensure that short-circuit withstand ratings are equal to or higher than calculated 1/2-cycle symmetrical fault current.

g. Short-Circuit Study Output Reports:

1) Low-Voltage Fault Report: Three-phase and unbalanced fault calculations, showing the following for each overcurrent device location:

a) Voltage.
b) Calculated fault-current magnitude and angle.
c) Fault-point X/R ratio.
d) Equivalent impedance.

2) Momentary Duty Report: Three-phase and unbalanced fault calculations, showing the following for each overcurrent device location:

a) Voltage.
b) Calculated symmetrical fault-current magnitude and angle.
c) Fault-point X/R ratio.
d) Calculated asymmetrical fault currents based on fault-point X/R ratio; based on calculated symmetrical value multiplied by 1.6; and based on calculated symmetrical value multiplied by 2.7.

3) Interrupting Duty Report: Three-phase and unbalanced fault calculations, showing the following for each overcurrent device location:

a) Voltage.
b) Calculated symmetrical fault-current magnitude and angle.
c) Fault-point X/R ratio.
d) No AC Decrement (NACD) ratio.
e) Equivalent impedance.
f) Multiplying factors for 2-, 3-, 5-, and 8-cycle circuit breakers rated on symmetrical basis.
g) Multiplying factors for 2-, 3-, 5-, and 8-cycle circuit breakers

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rated on total basis.

2. Overcurrent Protection Device Coordination Study Report Contents:

a. Executive summary of study findings.
b. Study descriptions, purpose, basis, and scope. Include case descriptions, definition of terms, and guide for interpretation of results.
c. One-line diagram of modeled power system, showing the following:

1) Protective device designations and ampere ratings.
2) Conductor types, sizes, and lengths.
3) Transformer kVA and voltage ratings.
~~4) Motor and generator designations and kVA ratings.~~
~~5)~~4) Switchgear, switchboard, motor-control center, and panelboard designations.
~~6)~~5) Revisions to electrical equipment required by study.

d. Report recommended settings of protective devices, ready to be applied in field. Use manufacturer's data sheets for recording recommended setting of overcurrent protective devices when available.

1) Phase and Ground Relays:

a) Device tag.
b) Relay current transformer ratio and tap, time dial, and instantaneous pickup value.
c) Recommendations on improved relaying systems, if applicable.

2) Circuit Breakers:

a) Adjustable pickups and time delays (long time, short time, and ground).
b) Adjustable time-current characteristic.
c) Adjustable instantaneous pickup.
d) Recommendations on improved trip systems, if applicable.

~~Low-voltage fuse classes are defined in UL 248-1 through UL 248-20. Medium-voltage fuses are defined in IEEE C37.40.~~

3) Fuses: Show current rating, voltage, and class.

e. Time-Current Coordination Curves: Determine settings of overcurrent protective devices to achieve selective coordination. Graphically illustrate that adequate time separation exists between devices installed in series, including power utility company's upstream devices. Prepare separate sets of curves for switching schemes and for emergency periods where power

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source is local generation. Show the following information:

1) Device tag and title, one-line diagram with legend identifying portion of system covered.
2) Terminate device characteristic curves at point reflecting maximum symmetrical or asymmetrical fault current to which device is exposed.
3) Identify device associated with each curve by manufacturer type, function, and, if applicable, tap, time delay, and instantaneous settings recommended.
4) Plot the following listed characteristic curves, as applicable:
    a) Power utility's overcurrent protective device.
    b) Medium-voltage equipment overcurrent relays.
    c) Medium- and low-voltage fuses including manufacturer's minimum melt, total clearing, tolerance, and damage bands.
    d) Low-voltage equipment circuit-breaker trip devices, including manufacturer's tolerance bands.
    e) Transformer full-load current, magnetizing inrush current, and ANSI through-fault protection curves.
    f) Cables and conductors damage curves.
    g) Ground-fault protective devices.
    ~~h) Motor-starting characteristics and motor damage points.~~
    ~~i) Generator short-circuit decrement curve and generator damage point.~~
    ~~j) Largest feeder circuit breaker in each motor control center and panelboard.~~
5) Maintain selectivity for tripping currents caused by overloads.

~~Series rating on equipment allows application of two series interrupting devices for condition where available fault current is greater than interrupting rating of downstream equipment. Both devices share in interruption of fault, and selectivity is sacrificed at high fault levels.~~

6) Maintain maximum achievable selectivity for tripping currents caused by overloads on series-rated devices.
7) Provide adequate time margins between device characteristics such that selective operation is achieved.
8) Comments and recommendations for system improvements.

3. Arc-Flash Hazard Study Report Contents:
    a. Executive summary of study findings.
    b. Study descriptions, purpose, basis, and scope. Include case descriptions, definition of terms, and guide for interpretation of results.
    c. One-line diagram, showing the following:

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1) Protective device designations and ampere ratings.
2) Conductor types, sizes, and lengths.
3) Transformer kVA and voltage ratings, including derating factors and environmental conditions.
4) Motor and generator designations and kVA ratings.
5) Switchgear, switchboard, motor-control center, panelboard designations, and ratings.

d. Short-circuit study output data.

~~Retain first subparagraph below if coordination study is required.~~

e. Overcurrent protective device coordination study report contents.
f. Arc-Flash Study Output Reports:

1) Interrupting Duty Report: Three-phase and unbalanced fault calculations, showing the following for each equipment location included in report:

a) Voltage.
b) Calculated symmetrical fault-current magnitude and angle.
c) Fault-point X/R ratio.
d) No AC Decrement (NACD) ratio.
e) Equivalent impedance.
f) Multiplying factors for 2-, 3-, 5-, and 8-cycle circuit breakers rated on symmetrical basis.
g) Multiplying factors for 2-, 3-, 5-, and 8-cycle circuit breakers rated on total basis.

g. Incident Energy and Flash Protection Boundary Calculations:

1) Arcing fault magnitude.
2) Protective device clearing time.
3) Duration of arc.
4) Arc-flash boundary.
5) Restricted approach boundary.
6) Limited approach boundary.
7) Working distance.
8) Incident energy.
9) Hazard risk category.
10) Recommendations for arc-flash energy reduction.

h. Fault study input data, case descriptions, and fault-current calculations including definition of terms and guide for interpretation of computer printout.

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~~3.9 DIGITAL-TWIN MODELING~~

~~There are several draft standards in development for digital-twin models; however, none of them had been approved and issued at the time that this Section was written.~~

~~A. [**Create**][**Update existing**][**cloud-based,**]digital-twin model of as-constructed facility's electrical power system.~~

~~1. <**Insert Owner's requirements**>~~

~~3.10~~3.7 FIELD ADJUSTMENT FOR DEVICE COORDINATION

A. Adjust relay and protective device settings in accordance with recommended settings provided by coordination study. Field adjustments must be completed by engineering service division of equipment manufacturer under "Startup and Acceptance Testing" contract portion.

B. Make minor modifications to equipment as required to accomplish compliance with ~~[~~short-circuit and~~]~~protective device coordination studies.

~~See the Evaluations for data on qualifications of Field Adjusting Agency.~~

C. Testing and adjusting must be by qualified ~~[~~medium-voltage and~~]~~low-voltage electrical testing and inspecting agency.

~~Retain subparagraph below with one of last two paragraphs above. Revise to suit the Project. Delete subparagraph if testing is performed by Owner-engaged testing and inspecting agency.~~

1. Perform each visual and mechanical inspection and electrical test stated in NETA ATS. Certify compliance with test parameters. Perform NETA tests and inspections for adjustable overcurrent protective devices.

~~3.11~~3.8 WARNING LABELING OF ARC-FLASH HAZARDS

A. Apply ~~[~~one~~]~~arc-flash label on front cover ~~[**of each section of equipment**][**and on side or rear covers with accessible live parts and hinged doors or removable plates**]~~ for each equipment included in study, including each piece of equipment listed below:

~~Revise list of equipment below to indicate equipment requiring arc-flash labels.~~

1. Medium-voltage switchgear.
2. Medium-voltage switches.
~~3. Medium-voltage transformers.~~
~~4.~~3. Low-voltage switchgear.
~~5.~~4. Switchboards.

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~~6.~~5. Panelboards.
~~7. Motor-control centers.~~
~~8. Low voltage transformers.~~
~~9. Safety switches.~~
~~10. Control panels.~~
~~11. **<Insert equipment>.**~~

B. Base arc-flash label data on highest values calculated at each location.

C. Machine print warning labels with no handwritten or field-applied markings.

D. Install arc-flash warning labels under direct supervision and control of qualified electrical professional engineer.

~~See Section 017839 "Project Record Documents" for recording circuit protective device characteristics.~~

E. Indicate on record Drawings location of equipment where personnel could be exposed to arc-flash hazard during their work.

1. Indicate arc-flash energy.
2. Indicate protection level required.

END OF SECTION 260573

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SECTION 26 12 16 - DRY-TYPE, MEDIUM-VOLTAGE TRANSFORMERS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Dry-type, medium-voltage transformers, with primary and secondary bushings within or without air-terminal enclosures.
2. Warning labels and signs.

1.2 DEFINITIONS

A. VPE: Vacuum Pressure Encapsulation.

B. VPI: Vacuum Pressure Impregnation.

1.3 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

B. Preinstallation Coordination Meeting(s): For dry-type, medium-voltage transformers. Conduct meeting(s) as videoconference or at Project site before delivery and rigging.

1. Attendees: Installers, fabricators, representatives of manufacturers, and administrants for field tests and inspections. Notify Campus, SUCF, and EOR of scheduled meeting dates.

1.4 SUBMITTALS

A. Product Data:

1. For each type of product.

a. Include rated capacities, operating characteristics, and furnished specialties and accessories.

B. Shop Drawings:

1. For dry-type, medium-voltage transformers.

a. Include plans and elevations showing major components and features.

1) Include plan view and cross section of equipment base, showing clearances, manufacturer's recommended workspace, and locations of penetrations for grounding and conduits.

b. Include details of equipment assemblies and indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of field connections.
c. Include single-line diagram.
d. Include list of materials.
e. Include nameplate legends.

C. Field Quality-Control Submittals:

1. Field quality-control reports.

D. Product Certificates: For transformers, signed by product manufacturer.

1. Field-assembled units: For transformers field assembled, manufacturer shall certify the installation in the field.

E. Source quality-control reports.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Federal Pacific

B. General Electric

C. Eaton/ABB

D. Olsun Electric

E. Maddox Transformers

2.2 SYSTEM DESCRIPTION

A. Electrical Components, Devices, and Accessories: Listed and labeled in accordance with NFPA 70, by qualified electrical testing laboratory recognized by authorities having jurisdiction, and marked for intended location and application.

B. Comply with IEEE C2.

C. Comply with IEEE C57.12.01.

2.3 PERFORMANCE REQUIREMENTS

A. Windings Material: Copper.

B. Surge Arresters: Comply with IEEE C62.11, Distribution Class; metal-oxide-varistor type, connected in each phase of incoming circuit and ahead of disconnecting device.

C. Cooling Systems: Comply with IEEE C57.12.01 for cooling class.

D. Coils Insulation Systems:

1. Primary and secondary coil assemblies must be manufactured using polyester VPI system.

E. Winding Connections: Connection of windings and terminal markings must comply with IEEE C57.12.70.

F. Efficiency: Comply with 10 CFR 431, Subpart K.

G. Bushings must comply with IEEE C57.19.01 requirements for impulse and low-frequency insulation levels.

H. Tap Changer: External, for de-energized operation.

1. Taps: Two 2-1/2 percent, full-capacity taps above and two 2-1/2 percent, full-capacity taps below rated voltage. Comply with IEEE C57.12.36 requirements.

I. Enclosure:

1. Provide with provisions for lifting and anchoring frame to concrete pad.
2. With integral skid-mounting frame, suitable to allow skidding or rolling of transformer in any direction.
3. Ventilated power transformer, NEMA 250 Type 1 enclosure.
4. Enclosure Finish:

a. Indoor Transformer Enclosure Finish: Factory-applied finish in manufacturer's standard gray over rust-inhibiting primer on treated metal surface.

J. Sound level must comply with requirements of NEMA TR 1.

K. Capacities and Characteristics:

1. Physical Size Constraints: Maximum size restraints indicated on drawings. All transformers must be able to be broken down to a separate core and coil assembly. The manufacturer shall provide field support to reinstall the enclosure around the transformer core and coil assembly and certify the installation.

    a. Contractor can propose deviation of specific dimensional constraints if they field verify and provide valid rigging plan and coordination of the equipment into the space.

2. Additional IEEE Standards: Comply with IEEE C57.12.51.
3. Comply with UL 1562 listing requirements.
4. Connections:

    a. Primary: Air-filled terminal cabinet for cable connection.
    b. Secondary: Air-filled terminal cabinet for cable connection

5. Transformer Ratings.

    a. Impedance: Not less than 5.75 percent.
    b. Temperature Rise: 150 deg C.
    c. Coils Connection:

        1) Line-Side Winding: Delta.
        2) Load-Side Winding: Wye.

    d. Voltage and BIL Ratings:

        1) Nominal primary phase-to-phase voltage and BIL: 4160 V / 13,200 V dual primary, 60 kV / 95kV.
        2) Nominal secondary voltage and BIL: Voltage per drawings, 10 kV

6. Taps: Two 2-1/2 percent, full-capacity taps above and two 2-1/2 percent, full-capacity taps below rated voltage. Comply with IEEE C57.12.51 requirements.
7. Transformer Accessories:

    a. Dial-type analog thermometer with alarm contacts.
    b. At least four stainless steel ground connection pads.
    c. Provisions for jacking, lifting, and towing.
    d. Machine-engraved nameplate made of anodized aluminum or stainless steel.

2.4 WARNING LABELS AND SIGNS

A. Comply with requirements for labels and signs specified in Section 26 05 53 "Identification for Electrical Systems."

1. Warning signs must be made of baked enamel.
2. Equipment Identification Labels: Engraved Stenciled legend 4 inch (100 mm) high.

2.5 SOURCE QUALITY CONTROL

A. Campus will witness required factory tests. Notify EOR at least 14 days before date of tests and indicate their approximate duration.

B. Testing Administrant: Engage qualified electrical testing agency to evaluate transformer.

C. Testing: Test and inspect transformer in accordance with IEEE C57.12.91.

D. Factory Tests and Inspections: Perform the following factory-certified routine tests by, or under supervision of, qualified electrical testing laboratory recognized by authorities having jurisdiction, before delivering to site. Affix label with name and date of certification of system compliance on control units.

1. Tests for transformers 500 kVA and smaller:

    a. Turns ratio, polarity, and phase relation on rated voltage connection.
    b. Transformer no-load losses and excitation current at 100 percent of ratings. This test may be based on a statistical sample.
    c. Applied voltage and induced voltage.
    d. Partial discharge.
    e. Impedance voltage and load loss at rated current and rated frequency on rated voltage connection and at tap extremes.
    f. Temperature rise at minimum and maximum ratings.
    g. Impulse.
    h. Insulation power factor.
    i. Insulation resistance.
    j. Audible sound level.
    k. Short-circuit capability.

2. Tests for transformers 501 kVA and larger:

    a. Resistance measurements of windings on rated voltage tap and at tap extremes.
    b. Turns ratio, polarity, and phase relation on rated voltage connection.
    c. Transformer no-load losses and excitation current at 100 percent of ratings.
    d. Impedance voltage and load loss at rated current and rated frequency on rated voltage connection and at tap extremes.
    e. Applied voltage and induced voltage.
    f. Partial discharge.
    g. Temperature rise at minimum and maximum ratings.
    h. Impulse.
    i. Insulation power factor.

j. Insulation resistance.
k. Audible sound level.
l. Short-circuit capability.

E. Nonconforming Work:

1. Equipment that does not pass tests and inspections will be considered defective.

F. Prepare test and inspection reports.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine dry-type, medium-voltage transformers upon delivery.

1. Upon delivery of transformers and prior to unloading, inspect equipment for damage that may have occurred during shipment or storage.
2. Verify that tie rods and chains are undamaged and tight, and that blocking and bracing is tight. Verify that there is no evidence of load shifting in transit, and that readings from transportation shock recorders, if equipped, are within manufacturer's recommendations.
3. Verify that there is no indication of external damage and no dents or scratches in doors and sill, tank walls, radiators and fins, or termination provisions.
4. Compare transformers and accessories received with bill of materials to verify that shipment is complete. Verify that transformers and accessories conform with manufacturer's quotation and shop drawings. If shipment is incomplete or does not comply with Project requirements, notify manufacturer in writing immediately.
5. Unload transformers carefully, observing packing label warnings and handling instructions.
6. Open termination compartment doors and inspect components for damage or displaced parts, loose or broken connections, cracked or chipped insulators, bent mounting flanges, dirt or foreign material, and water or moisture.

B. Handling:

1. Handle transformers carefully, in accordance with manufacturer recommendations, to avoid damage to enclosure, termination compartments, base, frame, and internal components. Do not subject transformers to impact, jolting, jarring, or rough handling.
2. Protect transformer against entrance of dust, rain, and snow.
3. Transport transformers upright, to avoid internal stresses on core and coil mounting assembly and transformer case.
4. Verify that transformer weights are within rated capacity of handling equipment.
5. Use only manufacturer-recommended points for lifting, jacking, and pulling. Use lifting lugs when lifting transformers.

6. Use jacks only at corners of base plate of transformer case.
7. Use nylon straps of same length to balance and distribute weight when handling transformers with crane.
8. Use spreaders or lifting beam to obtain vertical lift and to protect transformer from straps bearing against enclosure. Lifting cable pull angles may not be greater than 15 degrees from vertical.
9. Exercise care not to damage base structure of case when handling transformer using skids or rollers. Use skids to distribute stresses over case base when using rollers under large transformers.

C. Storage:

1. Store transformers in accordance with manufacturer's recommendations.
2. Transformers may be stored outdoors. If possible, store transformers at final installation locations on concrete pads. If dry concrete surfaces are unavailable, use pallets of adequate strength to protect transformers from direct contact with ground. Ensure transformer is level.
3. Ensure that transformer storage location is clean and protected from severe conditions. Protect transformers from dirt, water, contamination, and physical damage. Do not store transformers in presence of corrosive or explosive gases. Protect transformers from weather when stored for more than three months.
4. Store transformers with compartment doors closed.
5. Regularly inspect transformers while in storage and maintain documentation of storage conditions, noting discrepancies or adverse conditions. Visually check for rust spots.

D. Examine areas and space conditions for compliance with requirements for dry-type, medium-voltage transformers and other conditions affecting performance of the Work.

E. Examine roughing-in of conduits and grounding systems to verify the following:

1. Wiring entries comply with layout requirements.
2. Entries are within conduit-entry tolerances specified by manufacturer, and no feeders may cross section barriers to reach load or line lugs.

F. Examine walls, floors, roofs, and concrete bases for suitable conditions for transformer installation.

G. Pre-Installation Checks:

1. Verify removal of shipping bracing after placement.

H. Verify that ground connections are in place and that requirements in Section 26 05 26 "Grounding and Bonding for Electrical Systems" have been met. Ground resistance at transformer location may not be greater than 5 Ω.

I. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Install transformers on cast-in-place concrete equipment base(s). Comply with requirements for equipment bases and foundations specified in Section 03 30 00 "Cast-in-Place Concrete."

B. Transformer must be installed level and plumb and must tilt less than 1.5 degrees while energized.

C. Maintain minimum clearances and workspace at equipment in accordance with manufacturer's published instructions and NFPA 70.

3.3 CONNECTIONS

A. Ground equipment in accordance with Section 26 05 26 "Grounding and Bonding for Electrical Systems."

1. At Interior Locations: For grounding to grounding electrodes, provide bare copper cable not smaller than 4/0 AWG. Bond surge arrester and neutrals directly to transformer enclosure and then to grounding electrode system with bare copper conductors. Keep leads as short as practicable, with no kinks or sharp bends. Make joints in grounding conductors and loops by exothermic weld or compression connector.
2. At Exterior Locations:

    a. For counterpoise, provide tinned bare copper cable not smaller than 4/0 AWG, buried not less than 30 inch (765 mm) below grade interconnecting grounding electrodes. Bond surge arrester and neutrals directly to transformer enclosure and then to grounding electrode system with bare copper conductors. Keep lead lengths as short as practicable, with no kinks or sharp bends.
    b. Fence and equipment connections may not be smaller than 4 AWG. Ground fence at gate posts and corner post and at intervals not exceeding 10 ft (3 m). Bond gate sections to fence posts using 1/8 by 1 inch (3 by 25 mm) flexible braided copper strap and clamps.
    c. Make joints in grounding conductors and loops by exothermic weld or compression connector.

3. Terminate grounding and bonding conductors on common equipment grounding terminal on transformer enclosure. Install supplemental terminal bars, lugs, and bonding jumpers as required to accommodate number of conductors for termination.
4. Complete transformer tank grounding and lightning arrester connections prior to making other electrical connections.

B. Connect wiring in accordance with Section 26 05 19 "Low-Voltage Electrical Power Conductors and Cables."

1. Maintain air clearances between energized live parts and between live parts and ground for exposed connections in accordance with manufacturer recommendations.
2. Bundle associated phase, neutral, and equipment grounding conductors together within transformer enclosure. Arrange conductors such that there is not excessive strain that could cause loose connections. Allow adequate slack for expansion and contraction of conductors.

C. Terminate medium-voltage cables in incoming section of substations in accordance with Section 26 05 13 "Medium-Voltage Cables."

3.4 SIGNS AND LABELS

A. Comply with installation requirements for labels and signs specified in Section 26 05 53 "Identification for Electrical Systems."

B. Install warning signs as required to comply with 29 CFR 1910.269.

3.5 FIELD QUALITY CONTROL

A. Field tests and inspections must be witnessed by Campus site representative.

B. Tests and Inspections:

1. General Field-Testing Requirements:

a. Comply with provisions of "Testing and Test Methods" Chapter in NFPA 70B.
b. Perform visual and mechanical inspections and electrical tests. Certify compliance with test parameters.
c. After installing transformer but before primary is energized, verify that grounding system at substation is tested at specified value or less.
d. After installing transformer and after electrical circuitry has been energized, test for compliance with requirements.
e. Visual and Mechanical Inspection:

1) Verify equipment nameplate data complies with Contract Documents.
2) Inspect bolted electrical connections for high resistance using one of the following two methods:

a) Use low-resistance ohmmeter to compare bolted connection resistance values to values of similar connections. Investigate values that deviate from those of similar bolted connections by more than 50 percent of lowest value.

b) Verify tightness of accessible bolted electrical connections by calibrated torque-wrench method in accordance with manufacturer's published data or NETA ATS, Table 100.12. Bolt-torque levels must be in accordance with manufacturer's published data. In absence of manufacturer's published data, use NETA ATS, Table 100.12.

2. Medium-Voltage Surge Arrester Field Tests:

a. Visual and Mechanical Inspection:

1) Inspect physical and mechanical condition.
2) Inspect anchorage, alignment, grounding, and clearances.
3) Verify arresters are clean.
4) Verify that ground leads on devices are individually attached to ground bus or ground electrode.
5) Verify that stroke counter is correctly mounted and electrically connected if applicable. Record stroke counter reading.

b. Electrical Test:

1) Perform insulation-resistance test on arresters, phase terminal-to-ground. Apply voltage in accordance with manufacturer's published data. In the absence of manufacturer's published data, comply with NETA ATS, Table 100.1. Replace units that fail to meet recommended minimum insulation resistance listed in that table.
2) Perform watts-loss test. Evaluate watts-loss values by comparison with similar units and test equipment manufacturer's published data.

3. Dry-Type Transformer Field Tests:

a. Visual and Mechanical Inspection:

1) Test dew point of tank gases if applicable.
2) Inspect anchorage, alignment, and grounding.
3) Verify that resilient mounts are free and that shipping brackets have been removed.
4) Verify bushings are clean.
5) Verify that alarm, control, and trip settings on temperature and level indicators are set and operate within manufacturer's recommended settings.
6) Verify that cooling fans operate correctly and have appropriate overcurrent protection.
7) Perform specific inspections and mechanical tests recommended by manufacturer.
8) Verify that as-left tap connections are as specified.

b. Electrical Tests:

1) Perform insulation-resistance tests winding-to-winding and each winding-to-ground. Apply voltage in accordance with manufacturer's published data. In the absence of manufacturer's published data, comply with NETA ATS, Table 100.5. Calculate polarization index; value of index may not be less than 1.0.
2) Perform power-factor or dissipation-factor tests on windings in accordance with test equipment manufacturer's published data.
3) Perform applied-voltage test on high- and load-side windings-to-ground. Comply with IEEE C57.12.91 provisions for field-deployed dielectric teats. Measurements must be made only when voltage and current have reached stable value. Test must be discontinued immediately in the event current begins to increase without stabilizing. Record test values in Operations and Maintenance Manual.
4) Verify correct secondary voltage, phase-to-phase and phase-to-neutral, after energization and prior to loading.

C. Nonconforming Work:

1. Equipment and devices will be considered defective if they do not pass tests and inspections.
2. Remove and replace malfunctioning units and retest.

D. Assemble and submit test and inspection reports. Record as-left set points of adjustable devices.

E. Manufacturer Services:

1. Engage factory-authorized service representative to support field tests and inspections.
2. For transformers installed core and coil first in the field and enclosures installed in place, manufacturer shall provide field testing and certify the field assembly. Field certification shall be submitted for record for quality control.

3.6 FOLLOW-UP SERVICE

A. Voltage Monitoring and Adjusting: After Substantial Completion, but not more than six months after Final Acceptance, perform the following voltage monitoring:

1. During period of normal load cycles as evaluated by Owner, perform seven days of three-phase voltage recording at outgoing section of transformers. Use voltmeters with calibration traceable to National Institute of Science and Technology standards and with chart speed of not less than 1 inch (25 mm) per hour. Voltage unbalance greater than 1 percent between phases, or deviation of phase voltage from nominal value by more than plus or minus 5 percent during test period, is unacceptable.

2. Corrective Action: If test results are unacceptable, perform the following corrective action, as appropriate:

    a. Adjust transformer taps.
    b. Prepare written request for voltage adjustment by electric utility.

3. Retests: Repeat monitoring, after corrective action is performed, until satisfactory results are obtained.
4. Report:

    a. Prepare written report covering monitoring performed and corrective action taken.

B. Infrared Inspection: Perform survey during periods of maximum possible loading. Remove necessary covers prior to inspection.

1. After Substantial Completion, but not more than 60 days after Final Acceptance, perform infrared inspection of transformer's electrical power connections.
2. Instrument: Inspect distribution systems with imaging equipment capable of detecting a minimum temperature difference of 1 deg C at 30 deg C.
3. Record of Infrared Inspection: Prepare a certified report that identifies testing technician and equipment used, and lists results as follows:

    a. Description of equipment to be tested.
    b. Discrepancies.
    c. Temperature difference between area of concern and reference area.
    d. Probable cause of temperature difference.
    e. Areas inspected. Identify inaccessible and unobservable areas and equipment.
    f. Identify load conditions at time of inspection.
    g. Provide photographs and thermograms of deficient area.

4. Act on inspection results in accordance with recommendations of NETA ATS, Table 100.18. Correct possible and probable deficiencies as soon as Owner's operations permit. Retest until deficiencies are corrected.

END OF SECTION 26 12 16

SECTION 26 12 19 - PAD-MOUNTED, LIQUID-FILLED, MEDIUM-VOLTAGE TRANSFORMERS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Pad-mounted, liquid-filled, medium-voltage distribution transformers, with primary and secondary bushings within or without air-terminal enclosures.

1.2 DEFINITIONS

A. Bushing: An insulating structure including a central conductor, or providing a central passage for a conductor, with provision for mounting on a barrier, conducting or otherwise, for the purpose of insulating the conductor from the barrier and conducting current from one side of the barrier to the other.

B. Bushing Elbow: An insulated device used to connect insulated conductors to separable insulated connectors on dead-front, pad-mounted transformers and to provide a fully insulated connection. This is also called an "elbow connector."

C. Bushing Insert: That component of a separable insulated connector that is inserted into a bushing well to complete a dead-front, load break or nonload break, separable insulated connector (bushing).

D. Bushing Well: A component of a separable insulated connector, either permanently welded or clamped to an enclosure wall or barrier, having a cavity that receives a replaceable component (bushing insert) to complete the separable insulated connector (bushing).

E. Elbow Connector: See "bushing elbow" above.

1.3 SUBMITTALS

A. Product Data:

1. For each type of product.

a. Include rated capacities, operating characteristics, and furnished specialties and accessories.

B. Shop Drawings:

1. For pad-mounted, liquid-filled, medium-voltage transformers.

    a. Include plans and elevations showing major components and features.

        1) Include plan view and cross section of equipment base, showing clearances, required workspace, and locations of penetrations for grounding and conduits.

    b. Include details of equipment assemblies and indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of field connections.
    c. Include single-line diagram.
    d. Include list of materials.
    e. Include nameplate data.
    f. Manufacturer's published time-current curves of transformer line-side fuses, with transformer damage curve, inrush curve, and thru fault current indicated.

C. Field Quality-Control Submittals:

    1. Field quality-control reports.

D. Product Certificates: For transformers, signed by product manufacturer.

E. Source quality-control reports.

PART 2 - PRODUCTS

2.1 SYSTEM DESCRIPTION

A. Electrical Components, Devices, and Accessories: Listed and labeled in accordance with NFPA 70, by qualified electrical testing laboratory recognized by authorities having jurisdiction, and marked for intended location and application.

B. Comply with IEEE C2.

C. Comply with IEEE C57.12.00.

2.2 PERFORMANCE REQUIREMENTS

A. Windings Material: Copper.

B. Surge Arresters: Comply with IEEE C62.11, Distribution Class; metal-oxide-varistor type, fully shielded, separable-elbow type, suitable for plugging into inserts provided in line-side section

of transformer. Connected in each phase of incoming circuit and ahead of disconnecting device.

C. Winding Connections: Connection of windings and terminal markings must comply with IEEE C57.12.70.

D. Efficiency: Comply with 10 CFR 431, Subpart K.

E. Insulation: Transformer kVA rating must be as follows: Average winding temperature rise above 30 deg C ambient temperature must not exceed 65 deg C and 80 deg C hottest-spot temperature rise at rated kVA when tested in accordance with IEEE C57.12.90, using combination of connections and taps that give highest average winding temperature rise.

F. Tap Changer: External handle, for de-energized operation.

G. Enclosure Integrity: Comply with IEEE C57.12.28 for pad-mounted enclosures that contain energized electrical equipment in excess of 600 V that may be exposed to public.

H. Mounting: Integral skid mounting frame, suitable to allow skidding or rolling of transformer in any direction, and with provision for anchoring frame to pad.

I. Insulating Liquids:

1. Mineral Oil: ASTM D3487, Type II, and tested for compliance with ASTM D117.
2. Less-Flammable Liquids:

a. Edible-Seed-Oil-Based Dielectric: Listed and labeled by qualified electrical testing laboratory recognized by authorities having jurisdiction as complying with NFPA 70 requirements for fire point of not less than 300 deg C when tested in accordance with ASTM D92. Liquid must be biodegradable and nontoxic, having passed Organisation for Economic Co-operation and Development G.L.203 with zero mortality, and must be certified by U.S. Environmental Protection Agency as biodegradable, meeting Environmental Technology Verification requirements.
b. Biodegradable and Nontoxic Dielectric: Listed and labeled by qualified electrical testing laboratory recognized by authorities having jurisdiction as complying with NFPA 70 requirements for fire point of not less than 300 deg C when tested in accordance with ASTM D92.

J. Sound level must comply with NEMA TR 1 requirements.

K. Corrosion Protection:

1. Transformer coating system must be factory applied, complying with requirements of IEEE C57.12.28, in manufacturer's standard color green

2.3 THREE-PHASE TRANSFORMERS

A. Manufacturers:

1. Federal Pacific
2. General Electric
3. Eaton/ABB
4. Olsun Electric

B. Description:

1. Electrical Components, Devices, and Accessories: Listed and labeled in accordance with NFPA 70, by qualified electrical testing laboratory recognized by authorities having jurisdiction, and marked for intended location and application.
2. Comply with IEEE C57.12.26.

C. Compartment Construction:

1. Double-Compartment Construction: Individual compartments for line- and load-side sections, formed by steel isolating barriers that extend full height and depth of compartments, with hinged, lift-off doors and three-point latching, with stop in open position and provision for padlocking.

D. Primary Fusing: Designed and rated to provide thermal protection of transformer by sensing overcurrent and high liquid temperature.

1. 150 kV BIL current-limiting fuses, conforming to requirements of IEEE C37.47.
2. Interrupting Rating: 50 000 A(rms sym) at system voltage.
3. Fuse Assembly: Bayonet-type, liquid-immersed, expulsion fuses in series with liquid-immersed, partial-range, current-limiting fuses. Bayonet fuse must sense both high currents and high oil temperature to provide thermal protection to transformer.
4. Provide bayonet fuse assembly with oil retention valve and external drip shield inside housing to eliminate or minimize oil spills. Valve must close when fuse holder is removed and external drip shield is installed.
5. Provide conspicuously displayed warning adjacent to bayonet fuse(s), cautioning against removing or inserting fuses unless transformer has been de-energized and tank pressure has been released.

E. Line-Side Section: Dead-front design.

1. To connect primary cable, use separable insulated connectors; coordinated with and complying with requirements of Section 26 05 13 "Medium-Voltage Cables." Bushings must be one-piece units, with ampere and BIL ratings same as connectors.
2. Bushing inserts and feed-through inserts:

a. Conform to requirements of IEEE 386.

b. Rated at 200 A, with voltage class matching connectors. Provide parking stand near bushing wells. Parking stands must be equipped with insulated standoff bushings for parking of energized load-break elbow connectors on parking stands.
c. Provide insulated protective caps for insulating and sealing out moisture from un-used bushing inserts and insulated standoff bushings.

3. Bushing wells configured for loop-feed application.
4. Access to liquid-immersed fuses.
5. Dead-front surge arresters.
6. Tap-changer operator.
7. Ground pad.

F. Load-Side Section:

1. Bushings with spade terminals drilled for terminating number of conductors indicated on Drawings, and lugs that comply with requirements of Section 26 05 19 "Low-Voltage Electrical Power Conductors and Cables."

G. Capacities and Characteristics:

1. Lauderdale Health Center Transformer

a. Power Rating: 112.5 KVA
b. Voltage Ratings: 4160V/13200V Primary Voltage – 208/120V Secondary Voltage
c. Taps: Comply with IEEE C57.12.26 requirements.
d. Transformer BIL (kV): Comply with IEEE C57.12.26 requirements.
e. Minimum Tested Impedance (Percent) at 85 deg C: 5.75.
f. Comply with UL listing requirements for combination classification and listing for transformer and less-flammable insulating liquid.

H. Transformer Accessories:

1. IR Windows: Provide Fluke’s 4-inch IR CV400 Type, or equivalent viewing windows for each compartment. IR windows shall be factory-installed and incorporated into the equipment construction design by the transformer Manufacturer.
2. Drain and filter connection.
3. Filling and top filter press connections.
4. Pressure-vacuum gauge.
5. Dial-type analog thermometer with alarm contacts.
6. Magnetic liquid level indicator with high and low alarm contacts.
7. Automatically resetting pressure-relief device. Device flow must be as recommended by manufacturer.
8. Stainless steel ground connection pads.
9. Machine-engraved nameplate, made of anodized aluminum or stainless steel.
10. Sudden pressure relay for remote alarm or trip when internal transformer pressure rises at field-set rate. Provide with seal-in delay.

2.4 WARNING LABELS AND SIGNS

A. Comply with requirements for labels and signs specified in Section 26 05 53 "Identification for Electrical Systems."

1. High-Voltage Warning Label: Provide self-adhesive warning signs on outside of line-side compartment door(s). Sign legend must be "DANGER HIGH VOLTAGE" printed in two lines of nominal 2 inch (50 mm) high letters. Word "DANGER" must be in white letters on red background and words "HIGH VOLTAGE" must be in black letters on white background.
2. Arc Flash Warning Label: Provide self-adhesive warning signs on outside of line-side compartment door(s), warning of potential electrical arc flash hazards and appropriate personal protective equipment required.

2.5 SOURCE QUALITY CONTROL

A. Owner will witness required factory tests. Notify Architect at least 14 days before date of tests and indicate their approximate duration.

B. Testing Administrant: Engage qualified electrical testing agency to evaluate transformer.

C. Testing: Test and inspect transformer in accordance with IEEE C57.12.90.

D. Factory Tests and Inspections: Perform the following tests and inspections, by, or under supervision of, qualified electrical testing laboratory recognized by authorities having jurisdiction, before delivering to site. Affix label with name and date of certification of system compliance on control units.

1. Resistance.
2. Turns ratio, polarity, and phase relation.
3. Transformer no-load losses and excitation current at 100 percent of ratings.
4. Transformer impedance voltage and load loss.
5. Operation of devices.
6. Lightning impulse.
7. Low frequency.
8. Leak.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine pad-mounted, liquid-filled, medium-voltage transformers upon delivery.

1. Upon delivery of transformers and prior to unloading, inspect equipment for damage that may have occurred during shipment or storage.
2. Verify that tie rods and chains are undamaged and tight, and that blocking and bracing is tight. Verify that there is no evidence of load shifting in transit, and that readings from transportation shock recorders, if equipped, are within manufacturer's recommendations.
3. Verify that there is no indication of external damage and no dents or scratches in doors and sill, tank walls, radiators and fins, or termination provisions.
4. Verify that there is no evidence of insulating-liquid leakage on transformer surfaces, at weld seams, on line- or load-side bushing parts, and at transformer base.
5. Verify that there is positive pressure or vacuum on tank. Check pressure gauge; it is required to read other than zero.
6. Compare transformers and accessories received with bill of materials to verify that shipment is complete. Verify that transformers and accessories conform with manufacturer's quotation and shop drawings. If shipment is incomplete or does not comply with Project requirements, notify manufacturer in writing immediately.
7. Verify presence of polychlorinated biphenyl content labeling.
8. Unload transformers carefully, observing packing label warnings and handling instructions.
9. Open termination compartment doors and inspect components for damage or displaced parts, loose or broken connections, cracked or chipped insulators, bent mounting flanges, dirt or foreign material, and water or moisture.

B. Handling:

1. Handle transformers carefully, in accordance with manufacturer recommendations, to avoid damage to enclosure, termination compartments, base, frame, tank, and internal components. Do not subject transformers to impact, jolting, jarring, or rough handling.
2. Protect transformer termination compartments against entrance of dust, rain, and snow.
3. Transport transformers upright, to avoid internal stresses on core and coil mounting assembly and to prevent trapping air in windings. Do not tilt or tip transformers.
4. Verify that transformer weights are within rated capacity of handling equipment.
5. Use only manufacturer-recommended points for lifting, jacking, and pulling. Use lifting lugs when lifting transformers.
6. Use jacks only at corners of tank base plate.
7. Use nylon straps of same length to balance and distribute weight when handling transformers with crane.
8. Use spreaders or lifting beam to obtain vertical lift and to protect transformer from straps bearing against enclosure. Lifting cable pull angles may not be greater than 15 degrees from vertical.
9. Exercise care not to damage tank base structure when handling transformer using skids or rollers. Use skids to distribute stresses over tank base when using rollers under large transformers.

C. Storage:

1. Store transformers in accordance with manufacturer's recommendations.
2. Transformers may be stored outdoors. If possible, store transformers at final installation locations on concrete pads. If dry concrete surfaces are unavailable, use pallets of adequate strength to protect transformers from direct contact with ground. Ensure transformer is level.
3. Ensure that transformer storage location is clean and protected from severe conditions. Protect transformers from dirt, water, contamination, and physical damage. Do not store transformers in presence of corrosive or explosive gases. Protect transformers from weather when stored for more than three months.
4. Store transformers with compartment doors closed.
5. Regularly inspect transformers while in storage and maintain documentation of storage conditions, noting discrepancies or adverse conditions. Verify that effective pressure seal is maintained using pressure gauges. Visually check for insulating-liquid leaks and rust spots.

D. Examine areas and space conditions for compliance with requirements for pad-mounted, liquid-filled, medium-voltage transformers and other conditions affecting performance of the Work.

E. Examine roughing-in of conduits and grounding systems to verify the following:

1. Wiring entries comply with layout requirements.
2. Entries are within conduit-entry tolerances specified by manufacturer, and no feeders will cross section barriers to reach load or line lugs.

F. Examine concrete bases for suitable conditions for transformer installation.

G. Pre-Installation Checks:

1. Verify removal of shipping bracing after placement.
2. Remove sample of insulating liquid in accordance with ASTM D923. Insulating-liquid values must comply with NETA ATS, Table 100.4. Sample must be tested for the following:

a. Dielectric Breakdown Voltage: ASTM D877 or ASTM D1816.
b. Acid Neutralization Number: ASTM D974.
c. Interfacial Tension: ASTM D971.
d. Color: ASTM D1500.
e. Visual Condition: ASTM D1524.

H. Verify that ground connections are in place and that requirements in Section 26 05 26 "Grounding and Bonding for Electrical Systems" have been met. Maximum ground resistance must be 5 Ω at transformer location.

I. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Install transformers on cast-in-place concrete equipment base(s). Comply with requirements for equipment bases and foundations specified in Section 26 05 29 "Hangers and Supports for Electrical Systems."

B. Transformer must be installed level and plumb and must tilt less than 1.5 degrees while energized.

C. Comply with requirements for vibration isolation and seismic control devices specified in Section 26 05 29 "Hangers and Supports for Electrical Systems".

D. Maintain minimum clearances and workspace at equipment in accordance with manufacturer's published instructions and IEEE C2.

3.3 CONNECTIONS

A. Ground equipment in accordance with Section 26 05 26 "Grounding and Bonding for Electrical Systems."

1. For counterpoise, use tinned bare copper cable not smaller than 4/0 AWG, buried not less than 30 inch (765 mm) below grade interconnecting grounding electrodes. Bond surge arrester and neutrals directly to transformer enclosure and then to grounding electrode system with bare copper conductors, sized as shown. Keep lead lengths as short as practicable, with no kinks or sharp bends.
2. Fence and equipment connections may not be smaller than 4 AWG. Ground fence at gate posts and corner posts and at intervals not exceeding 10 ft (3 m). Bond gate sections to fence posts using 1/8 by 1 inch (3 by 25 mm) tinned flexible braided copper strap and clamps.
3. Make joints in grounding conductors and loops by exothermic weld or compression connector.
4. Terminate grounding and bonding conductors on common equipment grounding terminal on transformer enclosure.
5. Complete transformer tank grounding and lightning arrester connections prior to making other electrical connections.

B. Connect wiring in accordance with Section 26 05 19 "Low-Voltage Electrical Power Conductors and Cables."

1. Maintain air clearances between energized live parts and between live parts and ground for exposed connections in accordance with manufacturer recommendations.
2. Bundle associated phase, neutral, and equipment grounding conductors together within transformer enclosure. Arrange conductors such that there is not excessive strain that

could cause loose connections. Allow adequate slack for expansion and contraction of conductors.

C. Terminate medium-voltage cables in incoming section of transformers in accordance with Section 26 05 13 "Medium-Voltage Cables."

3.4 SIGNS AND LABELS

A. Comply with installation requirements for labels and signs specified in Section 26 05 53 "Identification for Electrical Systems."

B. Install warning signs as required to comply with 29 CFR 1910.269.

3.5 FIELD QUALITY CONTROL

A. Field tests and inspections must be witnessed by Campus site representative.

B. Tests and Inspections:

1. General Field-Testing Requirements:

   a. Comply with provisions of "Testing and Test Methods" Chapter in NFPA 70B.
   b. Perform visual and mechanical inspections and electrical tests. Certify compliance with test parameters.
   c. After installing transformer but before primary is energized, verify that grounding system at transformer is tested at specified value or less.
   d. After installing transformer and after electrical circuitry has been energized, test for compliance with requirements.
   e. Visual and Mechanical Inspection:

      1) Verify equipment nameplate data complies with Contract Documents.
      2) Inspect bolted electrical connections for high resistance using one of the following two methods:

         a) Use low-resistance ohmmeter to compare bolted connection resistance values to values of similar connections. Investigate values that deviate from those of similar bolted connections by more than 50 percent of lowest value.

         b) Verify tightness of accessible bolted electrical connections by calibrated torque-wrench method in accordance with manufacturer's published data or NETA ATS, Table 100.12. Bolt-torque levels must be in accordance with manufacturer's published data. In absence of manufacturer's published data, use NETA ATS, Table 100.12.

2. Medium-Voltage Surge Arrester Field Tests:

   a. Visual and Mechanical Inspection:

      1) Inspect physical and mechanical condition.
      2) Verify arresters are clean.
      3) Verify that ground leads on devices are individually attached to ground bus or ground electrode.

   b. Electrical Test:

      1) Perform insulation-resistance test on arresters, phase terminal-to-ground. Apply voltage in accordance with manufacturer's published data. In absence of manufacturer's published data, comply with NETA ATS, Table 100.1. Replace units that fail to comply with recommended minimum insulation resistance listed in that table.
      2) Perform watts-loss test. Evaluate watts-loss values by comparison with similar units and test equipment manufacturer's published data.

3. Liquid-Filled Transformer Field Tests:

   a. Visual and Mechanical Inspection:

      1) Test dew point of tank gases if applicable.
      2) Inspect anchorage, alignment, and grounding.
      3) Verify bushings are clean.
      4) Verify that alarm, control, and trip settings on temperature and level indicators are set and operate within manufacturer's recommended settings.
      5) Verify that liquid level in tanks is within manufacturer's published tolerances.
      6) Perform specific inspections and mechanical tests recommended by manufacturer.
      7) Verify presence of transformer surge arresters and that their ratings are as specified.
      8) Verify that as-left tap connections are as specified.

   b. Electrical Tests:

      1) Perform insulation-resistance tests winding-to-winding and windings-to-ground. Apply voltage in accordance with manufacturer's published data. In absence of manufacturer's published data, comply with NETA ATS, Table 100.5. Calculate polarization index; value of index may not be less than 1.0.
      2) Perform power-factor or dissipation-factor tests on windings in accordance with test equipment manufacturer's published data. Maximum winding in-

sulation power-factor/dissipation-factor values must be in accordance with manufacturer's published data. In absence of manufacturer's published data, comply with NETA ATS, Table 100.3.

3) Measure core insulation resistance at 500 V(dc) if core is insulated and core ground strap is removable. Core insulation-resistance values may not be less than 1 MΩ at 500 V(dc).
4) Verify correct secondary voltage, phase-to-phase and phase-to-neutral, after energization and prior to loading.
5) Remove sample of insulating liquid in accordance with ASTM D923, and perform dissolved-gas analysis in accordance with IEEE C57.104 or ASTM D3612.

C. Nonconforming Work:

1. Equipment and devices will be considered defective if they do not pass tests and inspections.
2. Remove and replace malfunctioning units and retest.

D. Prepare test and inspection reports. Record as-left set points of adjustable devices.

E. Manufacturer Services:

1. Engage factory-authorized service representative to support field tests and inspections.

3.6 FOLLOW-UP SERVICE

A. Voltage Monitoring and Adjusting: After Substantial Completion, but not more than six months after Final Acceptance, perform the following voltage monitoring:

1. During period of normal load cycles as evaluated by Owner, perform seven days of three-phase voltage recording at outgoing section of transformers. Use voltmeters with calibration traceable to National Institute of Science and Technology standards and with chart speed of not less than 1 inch (25 mm) per hour. Voltage unbalance greater than 1 percent between phases, or deviation of phase voltage from nominal value by more than plus or minus 5 percent during test period, is unacceptable.
2. Corrective Action: If test results are unacceptable, perform the following corrective action, as appropriate:

a. Adjust transformer taps.
b. Prepare written request for voltage adjustment by electric utility.

3. Retests: Repeat monitoring, after corrective action is performed, until satisfactory results are obtained.
4. Report:

a. Prepare written report covering monitoring performed and corrective action taken.

B. Infrared Inspection: Perform survey during periods of maximum possible loading. Remove necessary covers prior to inspection.

1. After Substantial Completion, but not more than 60 days after Final Acceptance, perform infrared inspection of transformer's electrical power connections.
2. Instrument: Inspect distribution systems with imaging equipment capable of detecting minimum temperature difference of 1 deg C at 30 deg C.
3. Record of Infrared Inspection: Prepare certified report that identifies testing technician and equipment used, and lists results as follows:

a. Description of equipment to be tested.
b. Discrepancies.
c. Temperature difference between area of concern and reference area.
d. Probable cause of temperature difference.
e. Areas inspected. Identify inaccessible and unobservable areas and equipment.
f. Identify load conditions at time of inspection.
g. Provide photographs and thermograms of deficient area.

4. Act on inspection results in accordance with recommendations of NETA ATS, Table 100.18. Correct possible and probable deficiencies as soon as Owner's operations permit. Retest until deficiencies are corrected.

END OF SECTION 26 12 19

SECTION 26 13 02 - MEDIUM-VOLTAGE PADMOUNT SWITCHES

PART 1 - GENERAL

1.1 SCOPE OF WORK

A. Provide medium voltage padmount switches as shown on the Drawings, and in conformance with the requirements in this Section.

1.2 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

B. Switchgear components and related requirements are also specified in the following Sections:

1. Section 03 30 00 “Cast-In-Place Concrete”
2. Section 26 05 13 “Medium Voltage Cables “
3. Section 26 05 26 “Grounding and Bonding”
4. Section 26 05 53 “Identification for Electrical Systems”

1.3 SUMMARY

A. This Section includes medium voltages switches with the following optional components, features, and accessories:

1. Surge arresters.

1.4 DEFINITIONS

A. ATS: Acceptance Testing Specifications.

1.5 SUBMITTALS

A. Compliance statement as described under Quality Assurance section of this Specification.

B. Product data sheets: showing manufacturer’s standard products, and marked to show equipment selected for this project.

1. Equipment nameplate data and electrical ratings
2. Weights and overall dimensions

3. Proof that enclosure integrity and finish meets latest ANSI C57.12.28, or C57.12.29 (as modified).

C. Shop Drawings: For each type of switches and related equipment, include the following:

1. Dimensioned plans, elevations and details, including required clearances and service space around equipment. Show method of field assembly and location and size of each field connection. Include the following:

a. Tabulation of installed devices with features and ratings.
b. Outline and general arrangement drawing showing dimensions, shipping sections, and weights of each assembled section.
c. Drawing of cable termination compartments showing preferred locations for conduits and indicating space available for cable terminations.
d. Floor plan drawing showing locations for anchor bolts and leveling channels.
e. Current ratings of buses.
f. Short-time and short-circuit ratings of switchgear assembly.
g. Nameplate legends.
h. Non-standard option for each type and size of switch

2. Wiring Diagrams: For each type of switchgear and related equipment.

D. Qualification Data: For testing agency.

E. Source quality-control test reports and Factory test reports.

1. All testing forms and procedures are to be submitted for approval prior to testing.

F. Field quality-control test reports.

1. All testing forms and procedures are to be submitted for approval prior to testing.

G. Field As-Built Drawings including field installed control wiring.

H. Electrical acceptance test reports.

1. All testing forms and procedures are to be submitted for approval prior to testing.

I. Operation and Maintenance Data: For switches and components to include in operation, and maintenance manuals.

J. Time-current characteristic curves for RFI devices.

1.6 QUALITY ASSURANCE

A. Compliance Statement: The Manufacturer shall include a Compliance Statement, listing each Specification Section, and Part 1, 2, and 3 Sub-Sections, stating, paragraph-by-paragraph, compliance with the Specification, each minor nonconformity that is within the intent of the Specification, and proposed nonconformities. Provide short description of minor nonconformities, and detailed explanation of other nonconformities.

B. Testing Agency Qualifications: An independent agency, with the experience and capability to conduct the testing indicated, that is a member company of the InterNational Electrical Testing Association or is a nationally recognized testing laboratory (NRTL) as defined by OSHA in 29 CFR 1910.7, and that is acceptable to authorities having jurisdiction.

1. Testing Agency's Field Supervisor: Person currently certified by the InterNational Electrical Testing Association or the National Institute for Certification in Engineering Technologies to supervise on-site testing specified in Part 3.

C. Source Limitations: Obtain each type of switch and associated components through one source from a single manufacturer.

D. Quality Certification: The switch manufacturer shall have quality certification to ISO 9000:2000 or an equivalent Quality Management System acceptable to the Engineer. Evidence of certification shall be submitted with equipment shop drawings.

E. Product Options: Drawings indicate size, profiles, and dimensional requirements of switchgear and are based on the specific system indicated. Refer to Division 01 Section "Product Requirements."

F. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

G. Comply with IEEE C2.

1.7 DELIVERY, STORAGE, AND HANDLING

A. The Contractor shall coordinate delivery of the switches to allow movement into designated space. The Contractor is responsible for all rigging required to off-load the equipment from the delivery truck and move it to the location shown on the drawings or to a designated staging area.

B. The Contractor may attempt to coordinate delivery of equipment such that equipment may be set in place on the same day it is delivered on site. If this is not possible, the Contractor will arrange for offloading at a staging area and will arrange and pay for subsequent transfer to the site, when equipment can be set in place.

C. The Contractor is responsible for providing suitable long term storage (in accordance with the switch manufacturer's recommendations) after delivery until the units are energized.

1. Store switch in clean dry indoor rooms with a temporary dehumidifier and electric heating to maintain the storeroom between 5 and 40 deg C with humidity less than 90%. Comply with manufacturer's additional written instructions for storing and periodic inspection and testing.
2. The Contractor shall handle the switch components according to manufacturer's written instructions. Use factory-installed lifting provisions.

1.8 PROJECT CONDITIONS

A. Environmental Limitations: Rate equipment for continuous operation at indicated ampere ratings for the following conditions:

1. Ambient temperature not exceeding 104 deg F.

B. Interruption of Existing Electrical Service: Do not interrupt electrical service to facilities occupied by Owner or others unless permitted and then only after arranging to provide temporary electrical service according to requirements indicated:

1. Notify Owner no fewer than 10 days in advance of proposed interruption of electrical service.
2. Do not proceed with interruption of electrical service without Owner's written permission.

1.9 COORDINATION

A. Coordinate size and location of concrete equipment pads, pad windows/conduit openings, and medium-voltage switch mounting requirements with the actual products provided. Follow the medium-voltage switch manufacturer's installation instructions. Set inserts into concrete formwork prior to placement of concrete, and check that inserts remain in place during placement of concrete.

1.10 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of the switches that fail in materials or workmanship within specified warranty period.

1. Warranties include, but are not limited to, the following:

a. Entire 15kV switch including all components.

b. Parts and labor.

2. Warranty Period: 12 months from date of substational completion.

PART 2 - PRODUCTS

2.1 MEDIUM VOLTAGE SWITCHES

A. Manufacturers: Subject to compliance with requirements, provide equipment from the following manufacturers:

1. Basis: G&W Electric. VFI Type with Type III controller.
2. S&C
3. Canada Power Products Corp. Puffer Pak, with stand.
4. Height to first bushing: 36”

B. Description: Factory assembled and tested, and complying with IEEE.

C. Ratings: Suitable for application in 3-phase, 60-Hz, solidly grounded system. Switches shall be either 3-way or 4-way switches as shown on the contract documents.

D. The load-interrupting switch shall be tested and rated per ANSI C37.72 and IEC 265. The ratings for the integrated pad-mounted gear shall be as designated below.

1. 15 KV, Maximum 14.4kV Nominal.
2. 15 KV, Withstand BIL 95 kV
3. Open Gap BIL Flashover Withstand, kV 200
4. Main bus Continuous, Amperes 600
5. Three-pole Load-Interrupter Switches
6. Continuous, Amperes 600
7. Load Breaking, Amperes 630A
8. Overload interrupting, Amperes 3000A
9. One Second Symmetrical Amperes 14,000A
10. Three-time Duty-Cycle Fault-Closing, Fault Close Amperes Rms. Asymmetrical 40,000A

2.2 SWITCH FABRICATION

A. The completed unit must be capable of withstanding internal failure without explosion or fire for a 12 kA symmetrical three phase internal fault lasting 10 cycles (supported by test or analysis) and shall be capable of being mounted in any position for best cable training and operation.

B. Switch shall be front accessible only.

C. The switch shall be rated electrically and mechanically for a minimum of 1,000 load break operations.

D. The switch shall be three-phase with 3-way and 5-way circuit configurations as required.

1. The VFI switches shall be 3-position switches to provide a maintenance earth grounding switch position.

E. The switch shall use deadfront, compact, sealed construction. The contact system, interconnecting bus, operating mechanisms, and bushings shall be enclosed by a corrosion-resistant stainless steel tank. The switch must be maintenance free, all welded construction, eliminating the use of gasketed seals. T.I.G. inert gas welding with stainless steel filler rod shall be used to eliminate pinhole leaks and corrosion.

F. The operating shafts must be sealed by a flexible metal bellows (O-ring type seals are not acceptable)

G. Cable connections, and operating accessories shall be located so only single side access is required for operation and installation. Operating handles shall be capable of being removed and stored or permanently attached. Movement of the operating handles will actuate an internal spring mechanism causing the switch contacts to open or close and latch into position.

H. The spring operator will use compression springs for long life and will provide positive position indication. The switch contacts and interconnecting bus shall be plated copper with Belleville washers and locking fasteners to provide consistent pressure at bolted connections. The contacts shall be self-aligning, wiping type, incorporating tungsten copper arcing tips to prevent wear.

I. A puffer contact system for fast arc extinction along with a special internal absorbent shall be used for improved performance and to prevent arc by-products.

J. The primary switches shall include provisions to have intermediate class, 5kV, 6.1kV MCOV (Maximum Continuous Line-to-Neutral Operating Voltage) polymer enclosed surge arresters inside the switchgear compartment with the line side cables they are protecting. Arresters shall be mounted and connected in a manner to be easily disconnected for Hi-potting or Hi-potential testing of cables.

K. Switches shall include:

1. Operating handles with padlock provisions in the open and closed positions, capable of operation by hookstick or gloves with a push pull motion from the front of the switch. Direction shall be clearly indicated.
2. Stainless steel nameplates providing information including ratings, contact position indication of normal operating range, serial number, date of manufacture, catalog number, etc.
3. 304L Stainless steel switch tank

4. 200 Amp deepwell loadbreak or 600 Amp apparatus bushings per the requirements in Section 2.3, O, with protective shipping caps.
5. Lifting and mounting provisions.
6. 4/0 AWG clamp type ground lugs, one for each switched way

L. The load-interrupting switch shall be tested and rated per ANSI C37.72 and IEC 265. The ratings for the integrated pad-mounted gear shall be as designated below.

1. KV, Maximum 15.5
2. KV, Withstand BIL 110 kV
3. Open Gap BIL Flashover Withstand, kV 200
4. Main bus Continuous, Amperes 600
5. Three-pole Load-Interrupter Switches
6. Continuous, Amperes 600
7. Load Breaking, Amperes 630A
8. Overload interrupting, Amperes 3000A
9. One Second Symmetrical Amperes 25,000
10. Three-time Duty-Cycle Fault-Closing, Fault Close Amperes Rms. Asymmetrical 40,000

M. The Fault Interrupting switch shall:

1. Be resettable with no consumable parts (e.g. fuses). As a safety precaution, the interrupter shall incorporate a trip free mechanism, which will cause the device to trip open in the event that the operator should close into a fault, with no effect felt through the operating handle.
2. The interrupter shall be a true three-phase internal mechanism. Devices that are mechanically ganged externally are not acceptable. The interrupter shall also act as a three-phase group operated load break switch.
3. Interrupter status shall be provided by means of a mechanical position indicator.
4. Over current sensing shall be accomplished with an electronic trip control. The control shall use integral current transformers to sense and monitor load currents. Trip and time-current curves shall be field selectable. Trip settings shall be capable of being changed while switch is energized so that service is not interrupted.
5. Ratings for the integrated pad-mounted gear shall be as designated below.

    a. Continuous, Amperes 600
    b. Load Dropping, Amperes 600
    c. Three-Time Duty-Cycle Fault-Closing, Amperes Rms. Asymmetrical 19,200
    d. Ten-Time Duty-Cycle Fault-Closing, Amperes Rms. Asymmetrical 12,000
    e. Short-Circuit Rating Amperes Rms. Symmetrical 12,000

N. Switch Configuration

1. Feeder Ways

a. The Switch shall be provided with two Feeder Ways.

2. Loadways

a. The switch shall be provided with the requisite number of Load Ways.
b. Each individual load-way shall have the following configurations:

1) SWITCHED LOADWAY, where fault interruption is accomplished external to the switch, typically in the primary disconnect switch powering the primary transformer, or external to the switch but at the switch load way elbow through the use of external dead front epoxy current limiting fuses with a 50,000 A symmetrical current interrupting rating. This alternative is applied when there is no primary disconnect switch provided and the primary select switch powers the primary transformer directly. The SF6 switch and view-port shall afford visual means of determining load circuit isolation.
2) RFI LOADWAY where provision for fault interruption is accomplished internal to the switch using a resettable vacuum fault interrupter (RFI). Typically, visual means of determining circuit isolation is provided external to the switch by other means such as a Primary Transformer fused disconnect switch.

c. The RFI control shall be supplied in a NEMA 4, EMI-hardened enclosure. It shall have a bolted and water-tight cover. The selection of fuse emulation shall be via multi-position selector switch.
d. The loadways shall be provided per the following schedule (4-way switch show, 3-way switch will have 1 loadway):

Load-way #	Type (Switched/RFI) / 200 amp deep well / 600 amp apparatus
1	_____Switched_____/_____600A amp apparatus_____
2	_____RFI_____/_____200A deep well _____
3	_____RFI_____/_____200A deep well _____
4	_____Switched_____/_____600A amp apparatus _____

2.3 ADDITIONAL COMPONENTS

A. Fungus Proofing: Permanent fungicidal treatment for switchgear interior, including instruments and instrument transformers.

2.4 IDENTIFICATION

A. Compartment Nameplates: Engraved, laminated-plastic or metal nameplate for each compartment, mounted with corrosion-resistant screws. Nameplates and label products are specified in Division 26 “Identification for Electrical Systems" of the contract documents.

2.5 SOURCE QUALITY CONTROL

A. Before shipment of equipment, perform the following tests and prepare test reports:

1. Production tests on completed switchgear assembly according to IEEE C37.20.2.

B. Prepare equipment for shipment.

1. Provide suitable crating, blocking, and supports so equipment will withstand expected domestic shipping and handling shocks and vibration.
2. Weatherproof equipment for shipment. Close connection openings to prevent entrance of foreign material during shipment and storage.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine elements and surfaces to receive switches for compliance with requirements for installation tolerances, required clearances, and other conditions affecting performance.

B. The Contractor shall examine roughing-in of conduits and grounding systems to verify the following:

1. Conduit stub-ups are within the limitations established by the switch manufacturer.
2. Each supply and feeder circuit conduit is stubbed up within the correct vertical section.

C. The Contractor shall verify that ground connections are in place and that requirements in Section 26 05 26 “Grounding and Bonding” have been met.

D. The Contractor shall proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Anchor switchgear assembly to concrete base and attach by bolting.

1. Anchor switch to concrete equipment pad or vault according to manufacturer's written instructions.
2. Place and secure anchorage devices. Use supported equipment manufacturer's setting drawings, templates, diagrams, instructions, and directions furnished with items to be installed.
3. Maintain minimum clearances and workspace at equipment according to manufacturer's written instructions and the NESC.

B. Temporary Lifting Provisions: Remove temporary lifting eyes, channels, and brackets and temporary blocking of moving parts from switchgear units and components.

3.3 IDENTIFICATION

A. Identify field-installed conductors, interconnecting wiring, and components; provide warning signs as specified in Section 26 05 53 "Identification for Electrical Systems."

3.4 CONNECTIONS

A. Cable terminations at switchgear are specified in Section 26 05 13 "Medium-Voltage Cables."

B. Tighten bus joints, electrical connectors, and terminals according to manufacturer's published torque-tightening values.

C. Ground equipment according to Division 26 Section "Grounding and Bonding for Electrical Systems."

3.5 FIELD QUALITY CONTROL

A. Testing Agency: Contractor shall include cost of engaging a qualified independent testing and inspecting agency to perform the following field tests and inspections and prepare test reports.

B. Perform the following field tests and inspections and prepare test reports:

1. Visual and Mechanical Inspections

a. Compare equipment nameplate data with drawings and specifications.
b. Inspect physical and mechanical condition.

c. Confirm correct application of manufacturer's recommended lubricants.
d. Verify appropriate anchorage and required area clearances.
e. Verify appropriate equipment grounding.
f. Verify correct blade alignment, blade penetration, travel stops, and mechanical operation.
g. Verify that fuse sizes and types are in accordance with drawings and short-circuit and coordination studies.
h. Verify that expulsion-limiting devices are in place on all holders having expulsion-type elements.
i. Verify that each fuse holder has adequate mechanical support.
j. Inspect all bolted electrical connections for high resistance as follows:

1) Use of low-resistance ohmmeter in accordance with Section "Electrical Tests."
2) Verify tightness of accessible bolted electrical connections by calibrated torque-wrench method in accordance with manufacturer's published data.

k. Test all interlocking systems for correct operation and sequencing.
l. Verify correct phase-barrier materials and installation.
m. Compare switchblade clearances with industry standards.
n. Inspect all indicating and control devices for correct operation.
o. Set the RFI trip settings per coordination study from the Engineer.

2. Electrical Tests

a. Perform insulation-resistance tests on each pole, phase-to-phase and phase-to-ground with switch closed and across each open pole for one minute. Test voltage shall be in accordance with manufacturer's published data.
b. Perform an overpotential test on each pole with switch closed. Test each pole-to-ground with all other poles grounded. Test voltage shall be in accordance with manufacturer's published data.
c. Perform resistance measurements through all bolted connections with low-resistance ohmmeter, if applicable, in accordance with NETA ATS Section "Visual and Mechanical Inspection."
d. Measure contact resistance across each switchblade and fuse holder.
e. Measure fuse resistance.
f. Verify heater operation, where applicable.
g. Test the RFI trip settings per coordination study from the Engineer.

3. Test Values

a. Compare bolted connection resistances to values of similar connections.
b. Bolt-torque levels should be in accordance with manufacturer's published data.
c. Microhm or millivolt drop values shall not exceed the high levels of the normal range as indicated in the manufacturer's published data. If manufacturer's data is

not available, investigate any values which deviate from similar connections by more than 50 percent of the lowest value.

d. The insulation shall withstand the overpotential test voltage applied.
e. Minimum insulation resistance shall be in accordance with manufacturer's published data.
f. Investigate fuse resistance values that deviate from each other by more than 15 percent.

C. Remove malfunctioning units, replace with new units, and retest as specified above.

D. Test Reports: Prepare written reports to record the following:

1. Test procedures used.
2. Test results that comply with requirements.
3. Test results that do not comply with requirements and corrective actions taken to achieve compliance with requirements.

3.6 CLEANING

A. On completion of installation, inspect interior and exterior of switchgear. Vacuum dirt and debris; do not use compressed air to assist in cleaning. Repair damaged finishes.

END OF SECTION 26 13 02

SECTION 262413 - SWITCHBOARDS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Service and distribution switchboards rated 600 V and less.
2. Surge protection devices.
3. Disconnecting and overcurrent protective devices.
4. Energy meter
5. Accessory components and features.
6. Identification.

1.3 ACTION SUBMITTALS

A. Product Data: For each switchboard, overcurrent protective device, surge protection device, ground-fault protector, accessory, and component.

1. Include dimensions and manufacturers' technical data on features, performance, electrical characteristics, ratings, accessories, and finishes.

B. Shop Drawings: For each switchboard and related equipment.

1. Include dimensioned plans, elevations, sections, and details, including required clearances and service space around equipment. Show tabulations of installed devices, equipment features, and ratings.
2. Detail enclosure types for types other than NEMA 250, Type 1.
3. Detail bus configuration, current, and voltage ratings.
4. Detail short-circuit current rating of switchboards and overcurrent protective devices.

1.4 INFORMATIONAL SUBMITTALS

A. Field Quality-Control Reports:

1. Test procedures used.

2. Test results that comply with requirements.
3. Results of failed tests and corrective action taken to achieve test results that comply with requirements.

1.5 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For switchboards and components to include in emergency, operation, and maintenance manuals.

1. In addition to items specified in Section 017823 "Operation and Maintenance Data," include the following:

   a. Routine maintenance requirements for switchboards and all installed components.
   b. Manufacturer's written instructions for testing and adjusting overcurrent protective devices.
   c. Time-current coordination curves for each type and rating of overcurrent protective device included in switchboards. Submit on translucent log-log graft paper; include selectable ranges for each type of overcurrent protective device.

1.6 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Potential Transformer Fuses: Equal to 10 percent of quantity installed for each size and type but no fewer than two of each size and type.
2. Control-Power Fuses: Equal to 10 percent of quantity installed for each size and type, but no fewer than two of each size and type.
3. Fuses and Fusible Devices for Fused Circuit Breakers: Equal to 10 percent of quantity installed for each size and type but no fewer than three of each size and type.
4. Fuses for Fused Switches: Equal to 10 percent of quantity installed for each size and type but no fewer than three of each size and type.
5. Fuses for Fused Power-Circuit Devices: Equal to 10 percent of quantity installed for each size and type but no fewer than three of each size and type.
6. Indicating Lights: Equal to 10 percent of quantity installed for each size and type but no less than one of each size and type.

1.7 QUALITY ASSURANCE

A. Installer Qualifications: An employer of workers qualified as defined in NEMA PB 2.1 and trained in electrical safety as required by NFPA 70E.

B. Testing Agency Qualifications: Accredited by NETA.

1. Testing Agency's Field Supervisor: Certified by NETA to supervise on-site testing.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Deliver switchboards in sections or lengths that can be moved past obstructions in delivery path.

B. Handle and prepare switchboards for installation according to NECA 400.

1.9 FIELD CONDITIONS

A. Installation Pathway: Remove and replace access fencing, doors, lift-out panels, and structures to provide pathway for moving switchboards into place.

B. Environmental Limitations:

1. Do not deliver or install switchboards until spaces are enclosed and weathertight, wet work in spaces is complete and dry, work above switchboards is complete, and HVAC system is operating and maintaining ambient temperature and humidity conditions at occupancy levels during the remainder of the construction period.
2. Rate equipment for continuous operation under the following conditions unless otherwise indicated:

    a. Ambient Temperature: Not exceeding 104 deg F (40 deg C).
    b. Altitude: Not exceeding 6600 feet (2000 m).

C. Interruption of Existing Electric Service: Do not interrupt electric service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary electric service according to requirements indicated:

1. Notify Owner no fewer than 21 calendar days in advance of proposed interruption of electric service.
2. Indicate method of providing temporary electric service.
3. Do not proceed with interruption of electric service without Owner's written permission.
4. Comply with NFPA 70E.

1.10 COORDINATION

A. Coordinate layout and installation of switchboards and components with other construction that penetrates walls or is supported by them, including electrical and other types of equipment, raceways, piping, encumbrances to workspace clearance requirements, and adjacent surfaces. Maintain required workspace clearances and required clearances for equipment access doors and panels.

1.11 WARRANTY

A. Manufacturer's Warranty: Manufacturer agrees to repair or replace switchboard enclosures, buswork, overcurrent protective devices, accessories, and factory installed interconnection wiring that fail in materials or workmanship within specified warranty period.

1. Warranty Period: Three years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 SWITCHBOARDS

A. Manufacturers: Subject to compliance with requirements, provide product by one (1) of the following:

1. Eaton Electrical Inc.; Cutler-Hammer Business Unit.
2. Siemens Energy & Automation, Inc.
3. Square D; a brand of Schneider Electric.

B. Source Limitations: Obtain switchboards, overcurrent protective devices, components, and accessories from single source from single manufacturer. The energy meter shall be from Siemens Energy & Automation, Inc.

C. Product Selection for Restricted Space: Drawings indicate maximum dimensions for switchboards including clearances between switchboards and adjacent surfaces and other items. Comply with indicated maximum dimensions.

D. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

E. Comply with NEMA PB 2.

F. Comply with NFPA 70.

G. Comply with UL 891.

H. Front-Connected, Front-Accessible Switchboards:

1. Main Devices: Fixed, individually mounted.
2. Branch Devices: Panel mounted.
3. Sections front and rear aligned.

I. Nominal System Voltage: As indicated on drawings.

J. Main-Bus Continuous: As indicated on drawings.

K. Indoor Enclosures: Steel, NEMA 250, Type 1.

L. Enclosure Finish for Indoor Units: Factory-applied finish in manufacturer's standard gray finish over a rust-inhibiting primer on treated metal surface.

M. Barriers: Between adjacent switchboard sections.

N. Insulation and isolation for main bus of main section and main and vertical buses of feeder sections.

O. Bus Transition and Incoming Pull Sections: Matched and aligned with basic switchboard.

P. Hinged Front Panels: Allow access to circuit breaker, metering, accessory, and blank compartments.

Q. Pull Box on Top of Switchboard:

1. Adequate ventilation to maintain temperature in pull box within same limits as switchboard.
2. Removable covers shall form top, front, and sides. Top covers at rear shall be easily removable for drilling and cutting.
3. Bottom shall be insulating, fire-resistive material with separate holes for cable drops into switchboard.
4. Cable supports shall be arranged to facilitate cabling and adequate to support cables indicated, including those for future installation.

R. Buses and Connections: Three phase, four wire unless otherwise indicated.

1. Provide phase bus arrangement A, B, C from front to back, top to bottom, and left to right when viewed from the front of the switchboard.
2. Phase- and Neutral-Bus Material: Hard-drawn copper of 98 percent conductivity, silver-plated.
3. Copper feeder circuit-breaker line connections.
4. Load Terminals: Insulated, rigidly braced, runback bus extensions, of same material as through buses, equipped with mechanical connectors for outgoing circuit conductors. Provide load terminals for future circuit-breaker positions at full-ampere rating of circuit-breaker position.
5. Ground Bus: Minimum-size required by UL 891, hard-drawn copper of 98 percent conductivity, equipped with mechanical connectors for feeder and branch-circuit ground conductors.
6. Main-Phase Buses and Equipment-Ground Buses: Uniform capacity for entire length of switchboard's main and distribution sections. Provide for future extensions from both ends.
7. Disconnect Links:

    a. Isolate neutral bus from incoming neutral conductors.

b. Bond neutral bus to equipment-ground bus for switchboards utilized as service equipment or separately derived systems.

8. Neutral Buses: 100 percent of the ampacity of phase buses unless otherwise indicated, equipped with mechanical connectors for outgoing circuit neutral cables. Brace bus extensions for busway feeder neutral bus.

2.2 SURGE PROTECTION DEVICES

A. SPDs: Comply with UL 1449, Type 1.

B. SPDs: Listed and labeled by an NRTL acceptable to authorities having jurisdiction as complying with UL 1449, Type 1.

C. Features and Accessories:

1. Integral disconnect switch.

D. Peak Surge Current Rating: The minimum single-pulse surge current withstand rating per phase shall not be less than 200 kA. The peak surge current rating shall be the arithmetic sum of the ratings of the individual MOVs in a given mode.

E. Protection modes and UL 1449 VPR for grounded wye circuits with 480Y/277 V or 208Y/120 V, three-phase, four-wire circuits shall not exceed the following:

1. Line to Neutral: 1200 V for 480Y/277 V or 700 V for 208Y/120 V.
2. Line to Ground: 1200 V for 480Y/277 V or 700 V for 208Y/120 V.
3. Line to Line: 2000 V for 480Y/277 V or 1000 V for 208Y/120 V.

F. SCCR: Equal or exceed 100 kA.

G. Nominal Rating: 20 kA.

2.3 DISCONNECTING AND OVERCURRENT PROTECTIVE DEVICES

A. Molded-Case Circuit Breaker (MCCB): Comply with UL 489, with interrupting capacity to meet available fault currents.

1. Thermal-Magnetic Circuit Breakers: Inverse time-current element for low-level overloads and instantaneous magnetic trip element for short circuits. Adjustable magnetic trip setting for circuit-breaker frame sizes 250 A and larger.
2. Adjustable Instantaneous-Trip Circuit Breakers: Magnetic trip element with front-mounted, field-adjustable trip setting.

2.4 INSTRUMENTATION

A. Instrument Transformers: NEMA EI 21.1, and the following:

1. Potential Transformers: NEMA EI 21.1; 120 V, 60 Hz, single secondary; disconnecting type with integral fuse mountings. Burden and accuracy must be consistent with connected metering and relay devices.
2. Current Transformers: NEMA EI 21.1; 5 A, 60 Hz, secondary; wound type; single secondary winding and secondary shorting device. Burden and accuracy must be consistent with connected metering and relay devices.

B. Multifunction Digital-Metering Monitor: Microprocessor-based unit suitable for three- or four-wire systems and with the following features:

1. Manufacturer: Siemens Energy & Automation

a. Meter Type: SICAM P850

2. Switch-selectable digital display of the following values with maximum accuracy tolerances as indicated:

a. Phase Currents, Each Phase: Plus or minus 0.5 percent.
b. Phase-to-Phase Voltages, Three Phase: Plus or minus 0.5 percent.
c. Phase-to-Neutral Voltages, Three Phase: Plus or minus 0.5 percent.
d. Megawatts: Plus or minus 1 percent.
e. Megavars: Plus or minus 1 percent.
f. Power Factor: Plus or minus 1 percent.
g. Frequency: Plus or minus 0.1 percent.
h. Accumulated Energy, Megawatt Hours: Plus or minus 1 percent; accumulated values unaffected by power outages up to 72 hours.
i. Megawatt Demand: Plus or minus 1 percent; demand interval programmable from five to 60 minutes.
j. Contact devices to operate remote impulse-totalizing demand meter.

3. Mounting: Display and control unit flush or semiflush mounted in instrument compartment door.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Receive, inspect, handle, and store switchboards according to NECA 400.

1. Lift or move panelboards with spreader bars and manufacturer-supplied lifting straps following manufacturer's instructions.
2. Use rollers, slings, or other manufacturer-approved methods if lifting straps are not furnished.
3. Protect from moisture, dust, dirt, and debris during storage and installation.
4. Install temporary heating during storage per manufacturer's instructions.

B. Examine switchboards before installation. Reject switchboards that are moisture damaged or physically damaged.

C. Examine elements and surfaces to receive switchboards for compliance with installation tolerances and other conditions affecting performance of the Work or that affect the performance of the equipment.

D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Install switchboards and accessories according to NECA 400.

B. Equipment Mounting: Install switchboards on concrete base, 4-inch (100-mm) nominal thickness. Comply with requirements for concrete base specified in Section 033000 "Cast-in-Place Concrete."

1. Install conduits entering underneath the switchboard, entering under the vertical section where the conductors will terminate. Install with couplings flush with the concrete base. Extend 2 inches (50-mm) above concrete base after switchboard is anchored in place.
2. Install dowel rods to connect concrete base to concrete floor. Unless otherwise indicated, install dowel rods on 18-inch (450-mm) centers around the full perimeter of concrete base.
3. For supported equipment, install epoxy-coated anchor bolts that extend through concrete base and anchor into structural concrete floor.
4. Place and secure anchorage devices. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
5. Install anchor bolts to elevations required for proper attachment to switchboards.
6. Anchor switchboard to building structure at the top of the switchboard if required or recommended by the manufacturer.

C. Temporary Lifting Provisions: Remove temporary lifting eyes, channels, straps and brackets, and temporary blocking of moving parts from switchboard units and components.

D. Install filler plates in unused spaces of panel-mounted sections.

E. Install overcurrent protective devices, surge protection devices, and instrumentation.

1. Set field-adjustable switches and circuit-breaker trip ranges.

F. Comply with NECA 1.

3.3 CONNECTIONS

A. Bond conduits entering underneath the switchboard to the equipment ground bus with a bonding conductor sized per NFPA 70.

B. Support and secure conductors within the switchboard according to NFPA 70.

C. Extend insulated equipment grounding cable to busway ground connection and support cable at intervals in vertical run.

3.4 IDENTIFICATION

A. Identify field-installed conductors, interconnecting wiring, and components; provide warning signs complying with requirements for identification specified in Section 260553 "Identification for Electrical Systems."

B. Switchboard Nameplates: Label each switchboard compartment with a nameplate complying with requirements for identification specified in Section 260553 "Identification for Electrical Systems."

C. Device Nameplates: Label each disconnecting and overcurrent protective device and each meter and control device mounted in compartment doors with a nameplate complying with requirements for identification specified in Section 260553 "Identification for Electrical Systems."

3.5 FIELD QUALITY CONTROL

A. Testing Agency: Engage a qualified testing agency to perform tests and inspections.

B. Perform tests and inspections.

C. Tests and Inspections:

1. Acceptance Testing:

a. Test insulation resistance for each switchboard bus, component, connecting supply, feeder, and control circuit. Open control and metering circuits within the switchboard, and remove neutral connection to surge protection and other electronic devices prior to insulation test. Reconnect after test.
b. Test continuity of each circuit.

2. Test ground-fault protection of equipment for service equipment per NFPA 70.
3. Perform each visual and mechanical inspection and electrical test stated in NETA Acceptance Testing Specification. Certify compliance with test parameters.
4. Correct malfunctioning units on-site where possible, and retest to demonstrate compliance; otherwise, replace with new units and retest.

D. Switchboard will be considered defective if it does not pass tests and inspections.

E. Prepare test and inspection reports, including a certified report that identifies switchboards included and that describes scanning results. Include notation of deficiencies detected, remedial action taken, and observations after remedial action.

F. Infrared Inspection: Perform the survey during periods of maximum possible loading. Remove all necessary covers prior to the inspection.

1. After Substantial Completion, but not more than 60 days after Final Acceptance, perform infrared inspection of the electrical power connections of the unit substation.
2. Follow-up Infrared Scanning: Perform an additional follow-up infrared scan of each switchgear 11 months after date of Substantial Completion.
3. Instrument: Inspect distribution systems with imaging equipment capable of detecting a minimum temperature difference of 1 deg C at 30 deg C.
4. Record of Infrared Inspection: Prepare a certified report that identifies the testing technician and equipment used, and lists the results as follows:

    a. Description of equipment to be tested.
    b. Discrepancies.
    c. Temperature difference between the area of concern and the reference area.
    d. Probable cause of temperature difference.
    e. Areas inspected. Identify inaccessible and unobservable areas and equipment.
    f. Identify load conditions at time of inspection.
    g. Provide photographs and thermograms of the deficient area.

5. Act on inspection results according to the recommendations of NETA ATS, Table 100.18. Correct possible and probable deficiencies as soon as Owner's operations permit. Retest until deficiencies are corrected.

3.6 ADJUSTING

A. Adjust moving parts and operable components to function smoothly, and lubricate as recommended by manufacturer.

B. Set field-adjustable circuit-breaker trip ranges as specified in Section 260573 "Power System Study."

END OF SECTION 262413

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SECTION 26 24 16 - PANELBOARDS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Distribution panelboards.
2. Lighting and appliance branch-circuit panelboards.

1.3 DEFINITIONS

A. ATS: Acceptance testing specification.

B. GFCI: Ground-fault circuit interrupter.

C. GFEP: Ground-fault equipment protection.

D. HID: High-intensity discharge.

E. MCCB: Molded-case circuit breaker.

F. SPD: Surge protective device.

G. VPR: Voltage protection rating.

1.4 SUBMITTALS

A. Product Data: For each type of panelboard.

1. Include materials, switching and overcurrent protective devices, SPDs, accessories, and components indicated.
2. Include dimensions and manufacturers' technical data on features, performance, electrical characteristics, ratings, and finishes.

B. Shop Drawings: For each panelboard and related equipment.

1. Include dimensioned plans, elevations, sections, and details.
2. Show tabulations of installed devices with nameplates, conductor termination sizes, equipment features, and ratings.
3. Detail enclosure types including mounting and anchorage, environmental protection, knockouts, corner treatments, covers and doors, gaskets, hinges, and locks.
4. Detail bus configuration, current, and voltage ratings.
5. Short-circuit current rating of panelboards and overcurrent protective devices.
6. Include evidence of NRTL listing for SPD as installed in panelboard.
7. Detail features, characteristics, ratings, and factory settings of individual overcurrent protective devices and auxiliary components.
8. Include wiring diagrams for power, signal, and control wiring.
9. Key interlock scheme drawing and sequence of operations.
10. Include time-current coordination curves for each type and rating of overcurrent protective device included in panelboards. Submit on translucent log-log graft paper; include selectable ranges for each type of overcurrent protective device. Include an Internet link for electronic access to downloadable PDF of the coordination curves.

C. Qualification Data: For testing agency.

D. Panelboard Schedules: For installation in panelboards.

E. Operation and Maintenance Data: For panelboards and components to include in emergency, operation, and maintenance manuals. In addition to items specified in Section 01 78 23 "Operation and Maintenance Data," include the following:

1. Manufacturer's written instructions for testing and adjusting overcurrent protective devices.
2. Time-current curves, including selectable ranges for each type of overcurrent protective device that allows adjustments.

1.5 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Keys: Two spares for each type of panelboard cabinet lock.
2. Circuit Breakers Including GFCI and GFEP Types: Two spares for each panelboard.

1.6 QUALITY ASSURANCE

A. Manufacturer Qualifications: ISO 9001 or ISO 9002 certified.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Remove loose packing and flammable materials from inside panelboards; install temporary electric heating (250 W per panelboard) to prevent condensation.

B. Handle and prepare panelboards for installation according to NEMA PB 1.

1.8 FIELD CONDITIONS

A. Environmental Limitations:

1. Do not deliver or install panelboards until spaces are enclosed and weathertight, wet work in spaces is complete and dry, work above panelboards is complete, and temporary HVAC system is operating and maintaining ambient temperature and humidity conditions at occupancy levels during the remainder of the construction period.
2. Rate equipment for continuous operation under the following conditions unless otherwise indicated:

    a. Ambient Temperature: Not exceeding minus 22 deg F to plus 104 deg F
    b. Altitude: Not exceeding 6600 feet.

B. Interruption of Existing Electric Service: Do not interrupt electric service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary electric service according to requirements indicated:

1. Notify Campus no fewer than two days in advance of proposed interruption of electric service.
2. Do not proceed with interruption of electric service without Campus' written permission.
3. Comply with NFPA 70E.

1.9 WARRANTY

A. Manufacturer's Warranty: Manufacturer agrees to repair or replace panelboards that fail in materials or workmanship within specified warranty period.

1. Panelboard Warranty Period: 18 months from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PANELBOARDS COMMON REQUIREMENTS

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

B. Comply with NEMA PB 1.

C. Comply with NFPA 70.

D. Enclosures: Surface-mounted, dead-front cabinets.

1. Rated for environmental conditions at installed location.

a. Outdoor Locations: Stainless Steel, Type 3R.

2. Height: 84 inches maximum.
3. Front: Secured to box with concealed trim clamps. For surface-mounted fronts, match box dimensions; for flush-mounted fronts, overlap box. Trims shall cover all live parts and shall have no exposed hardware.
4. Finishes:

a. Panels and Trim: Steel and galvanized steel, factory finished immediately after cleaning and pretreating with manufacturer's standard two-coat, baked-on finish consisting of prime coat and thermosetting topcoat.
b. Back Boxes: Same finish as panels and trim.

E. Incoming Mains:

1. Location: Bottom
2. Main Breaker: Main lug interiors up to 400 amperes shall be field convertible to main breaker.

F. Phase, Neutral, and Ground Buses:

1. Material: Hard-drawn copper, 98 percent conductivity

a. Plating shall run entire length of bus.
b. Bus shall be fully rated the entire length.

2. Interiors shall be factory assembled into a unit. Replacing switching and protective devices shall not disturb adjacent units or require removing the main bus connectors.
3. Equipment Ground Bus: Adequate for feeder and branch-circuit equipment grounding conductors; bonded to box.
4. Isolated Ground Bus: Adequate for branch-circuit isolated ground conductors; insulated from box.

G. Conductor Connectors: Suitable for use with conductor material and sizes.

1. Material: Hard-drawn copper, 98 percent conductivity.
2. Terminations shall allow use of 75 deg C rated conductors without derating.
3. Size: Lugs suitable for indicated conductor sizes, with additional gutter space, if required, for larger conductors.

4. Main and Neutral Lugs: Mechanical type, with a lug on the neutral bar for each pole in the panelboard.
5. Ground Lugs and Bus-Configured Terminators: Mechanical type, with a lug on the bar for each pole in the panelboard.

H. Future Devices: Panelboards or load centers shall have mounting brackets, bus connections, filler plates, and necessary appurtenances required for future installation of devices.

1. Percentage of Future Space Capacity: 10 percent.

I. Panelboard Short-Circuit Current Rating: Fully rated to interrupt symmetrical short-circuit current available at terminals. Assembly listed by an NRTL for 100 percent interrupting capacity.

1. Panelboards and overcurrent protective devices rated 240 V or less shall have short-circuit ratings as shown on Drawings, but not less than 10,000 A rms symmetrical.
2. Panelboards and overcurrent protective devices rated above 240 V and less than 600 V shall have short-circuit ratings as shown on Drawings, but not less than 14,000 A rms symmetrical.

2.2 POWER PANELBOARDS

A. Manufacturers:

1. Eaton
2. GE Power
3. Square D

B. Panelboards: NEMA PB 1, distribution type.

C. Doors: Secured with vault-type latch with tumbler lock; keyed alike.

1. For doors more than 36 inches high, provide two latches, keyed alike.

D. Mains: Circuit breaker

E. Branch Overcurrent Protective Devices for Circuit-Breaker Frame Sizes 125 A and Smaller: Bolt-on circuit breakers.

F. Branch Overcurrent Protective Devices for Circuit-Breaker Frame Sizes Larger Than 125 A: Bolt-on circuit breakers.

2.3 LIGHTING AND APPLIANCE BRANCH-CIRCUIT PANELBOARDS

A. Panelboards: NEMA PB 1, lighting and appliance branch-circuit type.

B. Mains: Main lugs only.

C. Branch Overcurrent Protective Devices: Bolt-on circuit breakers, replaceable without disturbing adjacent units.

D. Doors: Concealed hinges; secured with flush latch with tumbler lock; keyed alike.

E. Doors: Door-in-door construction with concealed hinges; secured with multipoint latch with tumbler lock; keyed alike. Outer door shall permit full access to the panel interior. Inner door shall permit access to breaker operating handles and labeling, but current carrying terminals and bus shall remain concealed.

2.4 DISCONNECTING AND OVERCURRENT PROTECTIVE DEVICES

A. MCCB: Comply with UL 489, with interrupting capacity to meet available fault currents.

1. Thermal-Magnetic Circuit Breakers:

    a. Inverse time-current element for low-level overloads.
    b. Instantaneous magnetic trip element for short circuits.
    c. Adjustable magnetic trip setting for circuit-breaker frame sizes 250 A and larger.

2. Adjustable Instantaneous-Trip Circuit Breakers: Magnetic trip element with front-mounted, field-adjustable trip setting.
3. GFCI Circuit Breakers: Single- and double-pole configurations with Class A ground-fault protection (6-mA trip).
4. GFEP Circuit Breakers: Class B ground-fault protection (30-mA trip).
5. Arc-Fault Circuit Interrupter Circuit Breakers: Comply with UL 1699; 120/240-V, single-pole configuration.
6. MCCB Features and Accessories:

    a. Standard frame sizes, trip ratings, and number of poles.
    b. Breaker handle indicates tripped status.
    c. UL listed for reverse connection without restrictive line or load ratings.
    d. Lugs: Mechanical style, suitable for number, size, trip ratings, and conductor materials.

2.5 IDENTIFICATION

A. Panelboard Label: Manufacturer's name and trademark, voltage, amperage, number of phases, and number of poles shall be located on the interior of the panelboard door.

B. Breaker Labels: Faceplate shall list current rating, UL and IEC certification standards, and AIC rating.

C. Circuit Directory: Directory card inside panelboard door, mounted in transparent card holder.

1. Circuit directory shall identify specific purpose with detail sufficient to distinguish it from all other circuits.

D. Circuit Directory: Computer-generated circuit directory mounted inside panelboard door with transparent plastic protective cover.

1. Circuit directory shall identify specific purpose with detail sufficient to distinguish it from all other circuits.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify actual conditions with field measurements prior to ordering panelboards to verify that equipment fits in allocated space in, and comply with, minimum required clearances specified in NFPA 70.

B. Receive, inspect, handle, and store panelboards according to NEMA PB 1.1.

C. Examine panelboards before installation. Reject panelboards that are damaged, rusted, or have been subjected to water saturation.

D. Examine elements and surfaces to receive panelboards for compliance with installation tolerances and other conditions affecting performance of the Work.

E. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Coordinate layout and installation of panelboards and components with other construction that penetrates walls or is supported by them, including electrical and other types of equipment, raceways, piping, encumbrances to workspace clearance requirements, and adjacent surfaces. Maintain required workspace clearances and required clearances for equipment access doors and panels.

B. Comply with NECA 1.

C. Install panelboards and accessories according to NEMA PB 1.1.

D. Equipment Mounting:

1. Install panelboards on cast-in-place concrete equipment base(s). Comply with requirements for equipment bases and foundations specified in Section 03 30 00 "Cast-in-Place Concrete."
2. Attach panelboard to the vertical finished or structural surface behind the panelboard.

E. Temporary Lifting Provisions: Remove temporary lifting eyes, channels, and brackets and temporary blocking of moving parts from panelboards.

F. Mount top of trim 90 inches above finished floor unless otherwise indicated.

G. Mount panelboard cabinet plumb and rigid without distortion of box.

H. Mount surface-mounted panelboards to steel slotted supports 1-1/4 inch in depth. Orient steel slotted supports vertically.

I. Install overcurrent protective devices and controllers not already factory installed.

1. Set field-adjustable, circuit-breaker trip ranges.
2. Tighten bolted connections and circuit breaker connections using calibrated torque wrench or torque screwdriver per manufacturer's written instructions.

J. Make grounding connections and bond neutral for services and separately derived systems to ground. Make connections to grounding electrodes, separate grounds for isolated ground bars, and connections to separate ground bars.

K. Install filler plates in unused spaces.

3.3 IDENTIFICATION

A. Identify field-installed conductors, interconnecting wiring, and components; install warning signs complying with requirements in Section 26 05 53 "Identification for Electrical Systems."

B. Create a directory to indicate installed circuit loads; incorporate Owner's final room designations. Obtain approval before installing. Handwritten directories are not acceptable. Install directory inside panelboard door.

C. Panelboard Nameplates: Label each panelboard with a nameplate complying with requirements for identification specified in Section 26 05 53 "Identification for Electrical Systems."

D. Device Nameplates: Label each branch circuit device in power panelboards with a nameplate complying with requirements for identification specified in Section 26 05 53 "Identification for Electrical Systems."

E. Install warning signs complying with requirements in Section 26 05 53 "Identification for Electrical Systems" identifying source of remote circuit.

3.4 FIELD QUALITY CONTROL

A. Testing Agency: Engage a qualified testing agency to perform tests and inspections.

B. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect, test, and adjust components, assemblies, and equipment installations, including connections.

C. Perform tests and inspections.

1. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect components, assemblies, and equipment installations, including connections, and to assist in testing.

D. Acceptance Testing Preparation:

1. Test insulation resistance for each panelboard bus, component, connecting supply, feeder, and control circuit.
2. Test continuity of each circuit.

E. Tests and Inspections:

1. Perform each visual and mechanical inspection and electrical test for low-voltage air circuit breakers stated in NETA ATS, Paragraph 7.6 Circuit Breakers. Perform optional tests. Certify compliance with test parameters.
2. Correct malfunctioning units on-site, where possible, and retest to demonstrate compliance; otherwise, replace with new units and retest.
3. Perform the following infrared scan tests and inspections and prepare reports:

a. Initial Infrared Scanning: After Substantial Completion, but not more than 60 days after Final Acceptance, perform an infrared scan of each panelboard. Remove front panels so joints and connections are accessible to portable scanner.
b. Follow-up Infrared Scanning: Perform an additional follow-up infrared scan of each panelboard 11 months after date of Substantial Completion.
c. Instruments and Equipment:

1) Use an infrared scanning device designed to measure temperature or to detect significant deviations from normal values. Provide calibration record for device.

F. Panelboards will be considered defective if they do not pass tests and inspections.

G. Prepare test and inspection reports, including a certified report that identifies panelboards included and that describes scanning results, with comparisons of the two scans. Include notation of deficiencies detected, remedial action taken, and observations after remedial action.

3.5 ADJUSTING

A. Adjust moving parts and operable components to function smoothly, and lubricate as recommended by manufacturer.

B. Set field-adjustable circuit-breaker trip ranges as indicated.

3.6 PROTECTION

A. Temporary Heating: Prior to energizing panelboards, apply temporary heat to maintain temperature according to manufacturer's written instructions.

END OF SECTION 26 24 16

SECTION 31 00 00 - EARTHWORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Dewatering.
2. Excavation for utility trenches, walks and pavements.
3. Subbase and base courses for walks and pavements.
4. Fill and backfill, and compaction requirements and procedures.

B. Related Requirements:

1. Section 31 10 00 “Site Clearing” for protection and removal of existing vegetation and utilities.
2. Section 03 30 00 “Cast-In-Place Concrete” for flowable concrete fill.
3. Section 26 05 53 “Identification for Electrical Systems”
4. Section 26 05 43 “Underground Raceways and Ducts for Electrical Systems”
5. Section 31 50 00 “Excavation Support and Protection”

1.3 DEFINITIONS

A. The following terms shall have the meanings ascribed to them in this Article, wherever they appear in this Section.

1. Earth Excavation: The removal of all surface and subsurface material not classified as rock (as defined below).
2. Rock: Limestone, sandstone, shale, granite, and similar material in solid beds or masses in its original or stratified position which can be removed only by blasting operations, drilling, wedging, or use of pneumatic tools, and boulders with a volume greater than 1.0 cu yd. Concrete building foundations and concrete slabs, not indicated, with a volume greater than 1.0 cu yd shall be classified as rock.

a. Limestone, sandstone, shale, granite, and similar material in a broken or weathered condition which can be removed with an excavator or backhoe equipped with a bucket with ripping teeth or any other style bucket shall be classified as earth excavation.
b. Masonry building foundations, whether indicated or not, shall be classified as earth excavation.

3. Subgrade Surface: Surface upon which subbase or topsoil is placed.
4. Subbase: Select granular material or subbase course Type 2, which is placed immediately beneath pavement or concrete slabs.
5. Foundation Bearing Grade: Grade/elevation at which the bottom-of-footings are constructed.
6. Maximum Density: The dry unit weight in pounds per cubic foot of the soil at "Optimum Moisture Content" when determined by ASTM D 698 (Standard Proctor), or ASTM D 1557 (Modified Proctor).
7. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below the ground surface.
8. Landscaped Areas: Areas not covered by structures, walks, roads, paving, or parking.
9. Unauthorized Excavation: The removal of material below required elevation indicated on the Drawings or beyond lateral dimensions indicated or specified without specific written direction by the University.
10. Grading Limit Line (Shown on Drawings): Limits of grading, excavations and filling required for the work of this contract. Unless specifically noted otherwise, the Grading Limit Line and Contract Limit Line shall be considered the same.

1.4 SUBMITTALS

A. Product Data:

1. Permanent Sheeting, Shoring, and Bracing: Specifications for materials and accessories.
2. Filter Fabric: Manufacturer's catalog sheets, specifications, and installation instructions.

B. Samples: Submit samples as follows. Take the samples in the presence of the Owner, and submit to the Owner the laboratory test results for gradation, proctors, and soundness tests, when required. These tests shall be performed in accordance with ASTM standards, shall be performed and signed by a certified soils laboratory, and shall be submitted as part of the original submittal. At a minimum the samples taken shall be of the following quantities:

1. Select Granular Material: 50 - 60 lb. (Two Samples).
2. Selected Fill: 40 - 50 lb.
3. Crushed Stone: 40 - 50 lb.
4. Pea Gravel: 40 - 50 lb.
5. Subbase Course Type 2: 50 - 60 lb. (Two Samples).
6. Cushion Material: 30 lb.

C. Quality Control Submittals:

1. Aggregates:

a. Name and location of source.
b. Stockpile number (if applicable).
c. Date of testing. Must be within the last 2 years.
d. Material description.
e. Gradation results.
f. Latest DOT test results and approvals (if any).

2. Sheeting, Shoring, and Bracing (Not shown on the Drawings): In accordance with Section 31 50 00, submit a detailed plan of intended sheeting, shoring and bracing, signed by a New York State licensed Professional Engineer, for the Owner's information. This submittal will not relieve the Contractor of responsibility for the successful performance of the intended sheeting, shoring and bracing methods.
3. Excavation Procedure: Submit a lay out drawing or detailed outline of intended excavation procedure for the Owner's information. This submittal will not relieve the Contractor of responsibility for the successful performance of intended excavation methods.

1.5 QUALITY ASSURANCE

1. Furnish all aggregate materials from a single source throughout the work. If alternate sources are required, submit new testing information for approval.
2. Submit a detailed traffic control plan, including pedestrian traffic, for approval prior to start of construction.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Protect filter fabric from sunlight during transportation and storage.

1.7 PROJECT CONDITIONS

A. Protect existing trees and plants during performance of the Work. Box trees and plants indicated to remain within the grading limit lines with temporary steel fencing or solidly constructed wood barricades as required. Protect root systems from smothering. Do not store excavated material, or allow vehicular traffic or parking within the branch drip line. Restrict foot traffic to prevent excessive compaction of soil over root systems.

B. Cold Weather Requirements:

1. When freezing temperatures are predicted, do not excavate to final required elevations for pipe, conduit, or equipment requiring concrete work unless concrete can be placed immediately. Retain enough earth over the bottom elevation of excavations to prevent frost penetration.
2. When freezing temperatures are anticipated, do not excavate to final required elevations for concrete work unless concrete can be placed immediately.
3. Backfilling: If backfill is being placed during freezing temperatures the backfilling operations shall be monitored by the Owner and the following procedures shall be followed:

    a. Frozen ground shall be removed in its entirety from beneath and five feet beyond the area of fill placement.
    b. The fill material placed shall consist of Selected Fill and shall be free of all frozen chunks that exceed four inches in size. The material transported to the project site shall only consist of material excavated from below the frost depth.
    c. At the end of the work day, the area of fill placement shall be covered with insulated blankets, or left unprotected. Other means of protection (hay, wood chips, etc.) may also be used for protection provided it is approved by the Owner.
    d. Following work day, remove the insulated blankets and/or strip the area of all frozen material as specified previously.
    e. Upon establishing the subgrade elevations, protect the grades with insulated blankets or place additional material that will adequately insulate the exposed earth surface from frost. This additional fill or protective material shall be stripped just prior to pouring concrete.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Select Granular Material: Stockpiled, sound, durable, sand, gravel, stone, or blends of these materials, free from organic and other deleterious materials. Comply with the gradation and material requirements specified below:

Sieve		Percent Passing
Sieve Size	Size opening (mm)	
2 inch	50.8	100
1/4 inch	6.35	30-65
No. 40	0.425	5-40
No. 200	0.075	0-10

1. Magnesium Sulfate Soundness Test: 20 percent maximum loss by weight after four test cycles.
2. Plasticity Index: The plasticity index of the material passing the No. 40 mesh sieve shall not exceed 5.0.

3. Elongated Particles: Not more than 30 percent, by weight, of the particles retained on a 1/2 inch sieve shall consist of flat or elongated particles. A flat or elongated particle is defined as one which has its greatest dimension more than three times its least dimension.

B. Stone Subbase Course (NYSDOT Subbase Course, Type 2):

1. Material consisting of stone which is the product of crushing or blasting ledge rock.
2. Sound, hard durable stone, run-of-bank gravel, sand or other acceptable structural material, free from organic and other deleterious materials conforming to the following gradation:

Sieve		Percent Passing
Sieve Size	Size opening (mm)	
2 inch	50.8	100
1/4 inch	6.35	25-60
No. 40	0.425	5-40
No. 200	0.075	0-10

3. Magnesium Sulfate Soundness Test: 20 percent maximum loss by weight after four test cycles.
4. Plasticity Index: The plasticity index of the material passing the No. 40 mesh sieve shall not exceed 5.0.
5. Elongated Particles: Not more than 30 percent, by weight, of the particles retained on a 1/2 inch sieve shall consist of flat or elongated particles. A flat or elongated particle is defined as one which has its greatest dimension more than three times its least dimension.

C. Selected Fill: Sound, durable, sand, gravel, stone, or blends of these materials, free from organic and other deleterious materials. Comply with the gradation requirements specified below:

Sieve		Percent Passing
Sieve Size	Size opening (mm)	
4 inch	101.6	100
No. 40	0.425	0-70
No. 200	0.075	0-15

D. Crushed Stone:

1. Clean, durable, sharp-angled fragments of rock of uniform quality meeting the following physical requirements as indicated in NYSDOT Table 703-3:

Material Designation	**Maximum Percent by Weight**
Shale and Shale-like Materials	3.0

Material Designation	Maximum Percent by Weight
Shale and Shale-like Materials	3.0
Coal/Lignite/Sulfides	1.0
Clay Lumps or Wood	0.2
Metal Ore	3.0
Other Deleterious Materials	3.0
Total Deleterious Materials	5.0

2. Crushed Washed Stone for Construction Entrances: Use material with the following approximate gradation:

Sieve		Percent Passing
Sieve Size	Size opening (mm)	
4 inch	101.6	100
3 inch	76.2	90-100
2 inch	50.8	0-15

3. Crushed Washed Stone for Temporary Roads and Staging Areas: Use material with the following gradation:

Sieve		Percent Passing
Sieve Size	Size opening (mm)	
3 inch	76.2	100
2-1/2 inch	63.5	90-100
2 inch	50.8	90-100
1-1/2 inch	38.1	35-100
1 inch	25.4	0-15
1/2 inch	12.7	0-1

E. Drainage Stone

1. Drainage stone shall be clean, washed, durable, fully-fractured on all sides, sharp-angled fragments of crushed rock of uniform quality, with a gradation that provides a balance between stability and permeability. The crushed stone shall be fractured by mechanical means. All surfaces of the individual aggregate particles shall be fractured. No worn or naturally-occurring faces will be present. Round material and contaminants such as construction debris, organic material, glass, metals, etc. shall not be acceptable. The size of the crushed stone used shall conform to the following gradation requirements:

Sieve		Percent Passing
Sieve Size	Size opening (mm)	
1-1/2 inch	38.1	100
1 inch	25.4	95-100
1/2 inch	12.7	60-80
3/8 inch	9.5	30-50
#4	4.75	0-10
#8	2.36	0-5

Sieve		Percent Passing
Sieve Size	Size opening (mm)	
#200	0.075	0-1

F. Pea Stone

1. Washed, round, stone, as specified in the NYSDOT Standard Specifications, latest issue, and the following gradation:

Sieve		Percent Passing
Sieve Size	Size opening (mm)	
1 inch	25.4	100
1/2 inch	12.7	90-100
1/4 inch	6.35	0-15
#200	0.075	0-1

G. Pipe Bedding Sand

1. As specified in the NYS DOT Standard Specifications meeting the requirements of Article 703-06 within the following limits:

Sieve		Percent Passing
Sieve Size	Size opening (mm)	
1/4 inch	6.35	100
#50	0.30	0-35
#100	0.075	0-10

H. Suitable Material (Fill and Backfill for Landscaped Areas): Material consisting of mineral soil (inorganic), blasted, or broken rock and similar materials of natural or man-made origin, including mixtures thereof. Maximum particle size shall not exceed 2/3 of the specified layer thickness prior to compaction. NOTE: Material containing cinders, industrial waste, sludge, building rubble, land fill, muck, and peat shall be considered unsuitable for fill and backfill, except topsoil and organic silt may be used as suitable material in landscaped areas provided it is placed in the top layer of the subgrade surface

2.2 GEOTECHNICAL FABRICS

A. Filter Fabric (GeoTextile):

1. Drainage and Erosion Control: Amoco 1199 & 2019, Maccaferri MacTex MX140 & MX155, Mirafi 140N & 160N, Fiberweave 403 & 404 or equivalent.
2. Separation for foundation drains, underdrains, undercuts: GeoTex 802, Contech Construction Products Inc. C-180, Synthetic Industries Geotex 250ST & 315ST, Mirafi Geolon HP570 & HP1500 or equivalent.

2.3 BRICK AND MORTAR

A. Manhole Brick: Standard size, ASTM C 32, Grade MS.

B. Mortar Materials: Dry packaged, proportioned for Type M unit masonry mortar, complying with ASTM C 387.

2.4 ACCESSORIES

A. Warning Tape: Acid- and alkali-resistant polyethylene film warning tape manufactured for marking and identifying underground utilities, 6 inches wide and 4 mils thick minimum, and continuously inscribed with a description of the utility.

1. Tape Colors: Provide tape colors to utilities as follows:

a. Electric Ductbank: Solid red with continuously printed caption in black letters "CAUTION - BURIED ELECTRIC DUCTBANK BELOW" or similar wording.

PART 3 - EXECUTION

3.1 CLEARING AND GRUBBING

A. Clear and grub trees, shrubs, brush, other prominent vegetation, debris, and obstructions except for those items indicated to remain. Completely remove stumps and roots protruding through the ground surface.

B. Fill depressions caused by the clearing and grubbing operations in accordance with the requirements for filling and backfilling, unless further excavation is indicated.

3.2 REMOVAL OF TOPSOIL

A. Remove and dispose of existing topsoil from areas where excavation or fill is required.

3.3 UNDERGROUND UTILITIES

A. Locate existing underground utilities prior to commencing excavation work. Determine exact utility locations by hand excavated test pits. Support and protect utilities to remain in place.

B. Do not interrupt existing utilities that are in service until temporary or new utilities are installed and operational.

C. Utilities to remain in service: avoid re-routing as shown on the Contract Drawings.

D. Utilities abandoned beneath and five feet laterally beyond the structure's proposed footprint shall be removed in their entirety. Excavations required for their removal shall be backfilled and compacted as specified herein.

E. Utilities located outside the limits specified above may be abandoned in place provided their ends are adequately plugged as described below.

1. Permanently close open ends of abandoned underground utilities exposed by excavations, which extend outside the limits of the area to be excavated.
2. Close open ends of metallic conduit and pipe with threaded galvanized metal caps or plastic plugs or other approved method for the type of material and size of pipe. Do not use wood plugs.
3. Close open ends of concrete and masonry utilities with concrete or flowable fill.
4. De-energize and abandon existing electric manholes by removing existing frame, rim, cover, and neck and backfilling abandoned structure with flowable fill concrete or sand.

3.4 EXCAVATION AND TRENCHING

A. Excavate earth as required for the Work.

B. Install and maintain all erosion and sedimentation controls during all earthwork operations as specified on the Contract Drawings or as directed by local officials. If the erosion and sedimentation controls specified by the local officials are more stringent than those specified on the Contract Drawings contact the Owner.

C. Maintain sides and slopes of excavations in a safe condition until completion of backfilling. Comply with Code of Federal Regulations Title 29 - Labor, Part 1926 (OSHA).

1. Trenches: In areas that there is enough sufficient space along side trench, deposit excavated material on uphill side of trench only. Trim banks of excavated material to prevent cave-ins and prevent material from falling or sliding into trench. Keep a clear footway between excavated material and trench edge. Maintain areas to allow free drainage of surface water.

D. Stockpile excavated materials classified as suitable material where directed, until required for fill. Place, grade, and shape stockpiles for proper drainage as approved by the Owner.

E. Testing of material to be excavated as part of the project indicates that the material cannot be used as "unrestricted fill." Excavated material can be reused at the construction site as backfill in the same area from which is was excavated if it meets the requirements of satisfactory soil. Excess material (spoils) cannot be reused as general fill at the site or off-site; the material shall be properly handled, transported, tracked, and disposed in accordance with the requirement of 6 NYCRR 360 and 6 NYCRR 375, as well as local and federal requirements. Transporters and disposal facilities must be pre-approved prior to loading, transportation, and disposal. Proper sampling and analyses is the responsibility of the Contractor.

F. Concrete Slabs, Floors, and Bases: Excavate to the following depths below bottom of concrete for addition of Subbase Course Type 2:

1. Interior: 6 inches unless otherwise indicated.
2. Exterior: 12 inches unless otherwise indicated.

G. Conduit, Cable, Tubing and Piping (other than Bell and Spigot): Provide sufficient trench width for installation and to accommodate special backfill when specified.

H. Pavement: Excavate to subgrade surface elevation.

I. Open Ditches: Cut ditches to cross sections and grades indicated.

J. Unauthorized Excavations: Unless otherwise directed, backfill unauthorized excavation under footings, foundation bases, and retaining walls with compacted select granular material without altering the required footing elevation. Elsewhere, backfill and compact unauthorized excavation as specified for authorized excavation of the same classification, unless otherwise directed by the Owner.

1. Unauthorized excavations under structural Work such as footings, foundation bases, and retaining walls shall be reported immediately to the Owner before any concrete or backfilling Work commences.

K. Notify the Owner upon completion of excavation operations. Do not proceed with the Work until the excavation is inspected and approved. Inspection of the excavation by the Owner will be made on 3 working days notice.

3.5 DEWATERING

A. Prevent surface water and subsurface or ground water from flowing into excavations and trenches. Pump out any accumulated water.

B. Do not allow water to accumulate in excavations or trenches. Remove water from all excavations immediately to prevent softening of foundation bottoms, undercutting footings, and soil changes detrimental to the stability of subgrades and foundations. Furnish and maintain pumps, sumps, suction and discharge piping systems, and other system components necessary to convey the water away from the Site.

C. Convey water removed from excavations, and rain water, to collecting or run-off area. Cut and maintain temporary drainage ditches and provide other necessary diversions outside excavation limits for each structure. Do not use trench excavations as temporary drainage ditches.

D. Provide temporary controls to restrict the velocity of discharged water as necessary to prevent erosion and siltation of receiving areas.

3.6 SHEETING, SHORING, AND BRACING

A. Temporary Sheeting: Install temporary sheeting (or sheet-piling) with shoring and bracing as required to create a safe working environment and prevent settlement or other damage to adjacent grounds and structures resulting from excavation operations. Shore and brace sheeting in a manner which will not interfere with progress of other Work or related contracts (if any) on this project. Check shoring and bracing for settlement, and adjust for settlement. Promptly remove temporary sheeting, shoring, and bracing when no longer required.

B. Permanent Sheeting: Install permanent steel sheet-piling or timber sheeting where shown. Cut off top of permanent sheeting 36 inches below finish grade.

3.7 SETTLEMENT DETECTION

A. Establish a settlement detection method approved by the Owner for structures subject to settlement from excavation, sheeting or sheet-piling operations. Maintain surveillance to detect any settlement.

3.8 PLACING FILL AND BACKFILL

A. Surface Preparation of Fill Areas: Strip topsoil, remaining vegetation, and other deleterious materials prior to placement of fill. Prior to placement of fill, smooth out and compact areas where wheel rutting has occurred due to stripping or earthwork operations.

B. Excavations: Backfill as promptly as Work permits, but not until completion of the following:

1. Inspection, testing, approval, and recording locations of underground utilities.
2. Removal of concrete formwork.
3. Removal of temporary sheeting (or sheet-piling) and backfilling of voids caused by removals.
4. Cutting off top of permanent sheeting (or sheet-piling).
5. Removal of trash and debris.

C. Place backfill and fill materials in layers not more than 8 inches thick in loose depth unless otherwise specified. Before compaction, moisten or aerate each layer as necessary to facilitate compaction to the required density. Do not place backfill or fill material on surfaces that are muddy, frozen, or covered with ice. Do not backfill with excavated material unless it meets the requirements of this Section.

1. Place fill and backfill against foundation walls, and in confined areas (such as trenches) not easily accessible by larger compaction equipment, in maximum 6 inch thick (loose depth) layers.
2. For Open Graded Stone/Clean Stone (Item B-12, No. 1 crushed stone, No. 2 crushed stone, etc.) in access of six inches: Material must be wrapped in separation fabric.

D. Excavated satisfactory soil materials used for backfill must be covered by a minimum of 12 inches of soil or fill material that meets the NYSDEC criteria for "General Fill" (i.e. 'clean material').

E. Under Exterior Concrete Slabs and Bases:

1. Up to Subgrade Surface Elevation: Place select granular fill when fill or backfill is required.
2. Subbase Material: Place 12 inches of Subbase Course Type 2 over subgrade surface.

F. Under Concrete Surface Pads:

1. Up to Subgrade Surface Elevation: Place select granular fill when fill or backfill is required.
2. Subbase Material: Place 12 inches of Subbase Course Type 2 over subgrade surface.

G. Under Exterior Pavement and Walks:

1. Up to Subgrade Surface Elevation: Place select granular fill when fill or backfill is required.
2. Subbase Material: Subbase Course Type 2 over subgrade surface.

H. Landscape Areas: Place suitable material when required to complete fill or backfill areas up to subgrade surface elevation. Do not use material containing rocks over 4 inches in diameter within the top 12 inches of suitable material.

I. Crushed Stone Areas Around Concrete Pads: Provide 6 inches minimum thickness of crushed stone around concrete pads extending to limits indicated.

J. Rigid Nonmetallic Conduit: Except where concrete encasement is required place cushion material a minimum of 4 inches deep under conduit, 4 inches on both sides, and 12 inches above top of conduit. Complete balance of backfill as specified.

K. Copper Pipe: Place cushion material a minimum of 6 inches deep under pipe, 6 inches on either side, and 12 inches above top of pipe. Complete balance of backfill as specified.

L. Direct Burial Cable: Place sand a minimum of 6 inches deep under cable, 6 inches on either side, and 12 inches above top of cable. Complete balance of backfill as specified.

M. Install warning tape directly above utilities, 12 inches below finished grade, except 6 inches below subgrade under pavements and slabs.

3.9 COMPACTION

A. All materials with exception of open graded stone (No. 2 Crushed Stone, No. 1 Crushed Stone, Item B-12, etc.):

1. Compact each layer of fill and backfill for the following area classifications to the percentage of maximum density specified below and at a moisture content suitable to obtain the required densities, but at not less than three percent drier or more than two percent wetter than the optimum content as determined by ASTM D 1557 (Modified Proctor).

    a. Structures (entire area within ten feet outside perimeter): 95 percent.
    b. Concrete Slabs and Steps: 95 percent.
    c. Landscaped Areas: 90 percent.
    d. Pavements and Walks: 95 percent.
    e. Pipes and Tunnels: 95 percent.
    f. Pipe Bedding: 95 percent.
    g. If a compacted layer fails to meet the specified percentage of maximum density, the layer will be re-compacted and retested. If compaction cannot be achieved the material/layer will be removed and replaced. No additional material may be placed over a compacted layer until the specified density is achieved.

B. Open graded Stone (Item B-12, No. 1 crushed stone, etc): Place material in maximum twelve inch lifts. Each lift shall be raked smooth and compacted through several passes of a walk behind vibratory roller. Compaction Testing is **not** required.

3.10 GRADING

A. Rough Grading: Trim and grade excavations required by this Contract to a level 4 inches below the finish grades unless otherwise indicated. Provide a smooth uniform transition to adjacent areas.

B. Finish Grading: Finish surfaces free from irregular surface changes, and as follows:

1. Grassed Areas: Finish areas to receive topsoil to within not more than 1 inch above or below the required subgrade surface elevations.
2. Walks and Pavements: Place and compact subbase material as specified. Shape surface of areas to required line, grade and cross section, with the finish surface not more than 1/2 inch above or below the required subbase elevation.
3. Building Slabs: Grade subbase material smooth and even, free of voids, compacted as specified, and to required subbase elevation. Finish final grades within a tolerance of 1/4 inch when tested with a 10 foot straightedge.

C. Spread approved topsoil, directly upon prepared subgrade surface to a depth measuring 4 inches after natural settlement of the topsoil has occurred in areas to be seeded or to receive sod. Provide greater depth to adjust grades when directed by the Owner.

D. Finish topsoil surface free of depressions which will trap water, free of stones over 1 inch in any dimension, and free of debris.

3.11 RESTORATION

A. Restore pavements, walks, curbs, lawns, and other exterior surfaces damaged during performance of the Work to match the appearance and performance of existing corresponding surfaces as closely as practicable.

B. Topsoil and seed or sod damaged lawn areas. Water as required until physical completion of the Work.

3.12 DISPOSAL OF EXCESS AND WASTE MATERIALS

A. Remove from State Property and dispose of excess and unsuitable materials, including materials resulting from clearing and grubbing and removal of existing improvements.

B. Transport excess and unsuitable materials, including materials resulting from clearing and grubbing and removal of existing improvements, to spoil areas on State property designated by the Owner, and dispose of such materials as directed.

C. Dispose of removed/excavated topsoil from State property.

3.13 FIELD QUALITY CONTROL

A. Compaction Testing: Notify the Owner at least 3 working days in advance of all phases of filling and backfilling operations. Compaction testing will be performed by the Owner to ascertain the compacted density of the fill and backfill materials. Compaction testing will be performed on certain layers of the fill and backfill as determined by the Owner. If a compacted layer fails to meet the specified percentage of maximum density, the layer shall be recompacted and will be retested. No additional material may be placed over a compacted layer until the specified density is achieved.

3.14 PROTECTION

A. Protect graded areas from traffic and erosion, and keep them free of trash and debris.

END OF SECTION 31 00 00

SECTION 31 10 00 - SITE CLEARING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Protecting existing vegetation to remain.
2. Removing existing vegetation.
3. Clearing and grubbing.
4. Stripping and disposing of topsoil.

B. Related Requirements:

1. Section 31 20 00 “Earth Moving”

1.3 DEFINITIONS

A. Subsoil: All soil beneath the topsoil layer of the soil profile, and typified by the lack of organic matter and soil organisms.

B. Surface Soil: Soil that is present at the top layer of the existing soil profile at the Project site. In undisturbed areas, the surface soil is typically topsoil; but in disturbed areas such as urban environments, the surface soil can be subsoil.

C. Topsoil: Top layer of the soil profile consisting of existing native surface topsoil or existing in-place surface soil and is the zone where plant roots grow. Its appearance is generally friable, pervious, and black or a darker shade of brown, gray, or red than underlying subsoil; reasonably free of subsoil, clay lumps, gravel, and other objects more than 2 inches in diameter; and free of subsoil and weeds, roots, toxic materials, or other nonsoil materials.

D. Plant-Protection Zone: Area surrounding individual trees, groups of trees, shrubs, or other vegetation to be protected during construction, and indicated on Drawings.

E. Tree-Protection Zone: Area surrounding individual trees or groups of trees to be protected during construction, as indicated on Drawings.

F. Vegetation: Trees, shrubs, groundcovers, grass, and other plants.

1.4 MATERIAL OWNERSHIP

A. Except for suitable native backfill and other materials indicated to be stockpiled or otherwise remain Owner's property, cleared materials shall become Contractor's property and shall be removed from Project site.

1.5 PROJECT CONDITIONS

A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during site-clearing operations.

1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
2. Provide alternate routes around closed or obstructed traffic ways if required by Owner or authorities having jurisdiction.

B. Salvable Improvements: Carefully remove items indicated to be salvaged and store on Owner's premises.

C. Utility Locator Service: Notify Dig Safely New York before site clearing.

D. Do not commence site clearing operations until temporary erosion- and sedimentation-control and plant-protection measures are in place.

E. The following practices are prohibited within protection zones:

1. Storage of construction materials, debris, or excavated material.
2. Parking vehicles or equipment.
3. Foot traffic.
4. Erection of sheds or structures.
5. Impoundment of water.
6. Excavation or other digging unless otherwise indicated.
7. Attachment of signs to or wrapping materials around trees or plants unless otherwise indicated.

F. Do not direct vehicle or equipment exhaust towards protection zones.

G. Prohibit heat sources, flames, ignition sources, and smoking within or near protection zones.

1.6 REGULATORY REQUIREMENTS

A. Herbicides: Comply with the rules and regulations of the Department of Environmental Conservation Title 6, Chapter 4 Quality Services, Parts 320 through 329.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Satisfactory Soil Material: Requirements for satisfactory soil material are specified in Section 31 20 00 "Earth Moving."

1. Obtain approved borrow soil material off-site when satisfactory soil material is not available on-site.

B. Tree Pruning Compound: Waterproof, antiseptic, elastic and free of kerosene, coal tar, creosote, and other substances harmful to plants.

C. Herbicides: A chemical or a combination of chemicals which, according to the manufacturer's label, will kill stumps and roots. Deliver herbicides to the site in original manufacturers containers indicating type and percentage of chemical, and application instructions.

PART 3 - EXECUTION

3.1 PREPARATION

A. Protect and maintain benchmarks and survey control points from disturbance during construction.

B. Protect existing site improvements to remain from damage during construction.

1. Restore damaged improvements to their original condition.

3.2 TEMPORARY EROSION AND SEDIMENTATION CONTROL

A. Provide temporary erosion- and sedimentation-control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to erosion- and sedimentation-control Drawings and requirements of authorities having jurisdiction.

B. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross protection zones.

C. Inspect, maintain, and repair erosion- and sedimentation-control measures during construction until permanent vegetation has been established.

D. Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

3.3 TREE AND PLANT PROTECTION

A. General: Protect trees and plants remaining on-site.

B. Repair or replace trees, shrubs, and other vegetation indicated to remain or be relocated that are damaged by construction operations, in a manner approved by Owner.

3.4 CLEARING AND GRUBBING

A. Remove obstructions, trees, shrubs, and other vegetation to permit installation of new construction.

1. Do not remove trees, shrubs, and other vegetation indicated to remain or to be relocated.
2. Grind down stumps and remove roots, obstructions, and debris to a depth of no less than 6 inches below exposed subgrade.
3. Use only hand methods for grubbing within protection zones.
4. Remove trees prior to 8 a.m. unless otherwise approved by the Owner.

B. Fill depressions caused by clearing and grubbing operations with satisfactory soil material unless further excavation or earthwork is indicated.

1. Place fill material in horizontal layers not exceeding a loose depth of 12 inches, and compact each layer to a density equal to adjacent original ground.

3.5 TOPSOIL STRIPPING

A. Remove sod and grass before stripping topsoil.

B. Strip topsoil to depth of 6 inches in a manner to prevent intermingling with underlying subsoil or other waste materials.

3.6 DISPOSAL OF SURPLUS AND WASTE MATERIALS

A. Remove surplus soil material, unsuitable topsoil, obstructions, demolished materials, and waste materials including trash and debris, and legally dispose of them off Owner's property.

B. Separate recyclable materials produced during site clearing from other nonrecyclable materials. Store or stockpile without intermixing with other materials and transport them to recycling facilities. Do not interfere with other Project work.

C. Remove and dispose of all logs, tree trimmings, and debris from State property. Leave Work area in a neat uncluttered condition.

END OF SECTION 31 10 00

SECTION 31 20 00 - EARTH MOVING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Preparing subgrades for slabs-on-grade, walks, pavements, turf and grasses, and plants.
2. Excavating and backfilling for buildings and structures.
3. Drainage course for concrete slabs-on-grade.
4. Subbase course for concrete walks and pavements.
5. Subbase course for asphalt paving.
6. Subsurface drainage backfill for walls and trenches.
7. Excavating and backfilling trenches for utilities and pits for buried utility structures.

B. Related Requirements:

1. Section 01 32 33 "Photographic Documentation" for recording pre-excavation and earth moving progress.
2. Section 03 30 00 "Cast-in-Place Concrete" for granular course if placed over vapor retarder and beneath the slab-on-grade.
3. Section 31 10 00 "Site Clearing" for site stripping, grubbing, stripping and stockpiling topsoil, and removal of above- and below-grade improvements and utilities.
4. Section 31 50 00 "Excavation Support and Protection" for shoring, bracing, and sheet piling of excavations.

1.3 DEFINITIONS

A. Backfill: Soil material or controlled low-strength material used to fill an excavation.

1. Initial Backfill: Backfill placed beside and over pipe in a trench, including haunches to support sides of pipe.
2. Final Backfill: Backfill placed over initial backfill to fill a trench.

B. Base Course: Aggregate layer placed between the subbase course and hot-mix asphalt paving.

C. Bedding Course: Aggregate layer placed over the excavated subgrade in a trench before laying pipe.

D. Borrow Soil: Satisfactory soil imported from off-site for use as fill or backfill.

E. Drainage Course: Aggregate layer supporting the slab-on-grade that also minimizes upward capillary flow of pore water.

F. Excavation: Removal of material encountered above subgrade elevations and to lines and dimensions indicated.

1. Bulk Excavation: Excavation more than 10 feet in width and more than 30 feet in length.
2. Unauthorized Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions without direction.

G. Fill: Soil materials used to raise existing grades.

H. Rock

1. Rock is defined as limestone, sandstone, granite or similar rocks in solid beds or masses in original or stratified position which can be removed only by continuous drilling, blasting or the use of pneumatic tools, and all boulders of 1 cubic yard in volume or larger.

2. The ability to rip or excavate rock is determined by the type of excavator capable of removing it without blasting (i.e. hydraulic excavator; equipped with a short-tip-radius rock bucket; rated at not less than 120-flywheel hp with bucket curling force of not less than 25,000 Ibf and stick-crowd force of not less than 18,700 Ibf ; measured according to International Organization for Standardization (ISO) 6165). The specification shall include a description of a mechanical method of removal which will serve this determination.

3. Material which can be loosened with a pick, frozen materials, soft laminated shale and hardpan, which for convenience or economy is loosened by drilling, blasting, wedging or the use of pneumatic tools, removal of concrete pavement and retaining walls shall not be classified as rock excavation.

I. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below the ground surface.

J. Subbase Course: Aggregate layer placed between the subgrade and base course for hot-mix asphalt pavement, or aggregate layer placed between the subgrade and a cement concrete pavement or a cement concrete or hot-mix asphalt walk.

K. Subgrade: Uppermost surface of an excavation or the top surface of a fill or backfill immediately below subbase, drainage fill, drainage course, or topsoil materials.

L. Utilities: On-site underground pipes, conduits, ducts, and cables, as well as underground services within buildings.

1.4 SUBMITTALS

A. Product Data: For each type of the following manufactured products required:

1. Controlled low-strength material, including design mixture.
2. Warning tapes.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For qualified testing agency.

B. Material Test Reports: For each borrow soil material proposed for fill and backfill as follows:

1. Classification according to ASTM D 2487.
2. Laboratory compaction curve according to ASTM D 698.

C. Pre-excavation Photographs or Videotape: Show existing conditions of adjoining construction and site improvements, including finish surfaces that might be misconstrued as damage caused by earth moving operations. Submit before earth moving begins.

1.6 QUALITY ASSURANCE

A. Blasting: Blasting is not permitted.

B. Pre-excavation Conference: Conduct conference at project site.

1.7 PROJECT CONDITIONS

A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during earth moving operations.

1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
2. Provide alternate routes around closed or obstructed traffic ways if required by Owner or authorities having jurisdiction.

B. Utility Locator Service: Notify Dig Safely New York for area where Project is located before beginning earth moving operations. Contractor is responsible for procuring the services of a third party utility locator, and shall not to rely only on the Dig Safely New York system.

C. Do not commence earth moving operations until temporary erosion- and sedimentation-control measures, specified in Section 31 10 00 "Site Clearing," are in place.

D. The following practices are prohibited within protection zones:

1. Storage of construction materials, debris, or excavated material.
2. Parking vehicles or equipment.
3. Foot traffic.
4. Erection of sheds or structures.
5. Impoundment of water.
6. Excavation or other digging unless otherwise indicated.
7. Attachment of signs to or wrapping materials around trees or plants unless otherwise indicated.

E. Do not direct vehicle or equipment exhaust towards protection zones.

F. Prohibit heat sources, flames, ignition sources, and smoking within or near protection zones.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

A. General: Provide approved borrow soil materials from off-site. Satisfactory soil materials are not available from excavations.

B. Satisfactory Soils: Soil Classification Groups GW, GP, GM, SW, SP, and SM according to ASTM D 2487, or a combination of these groups; free of rock or gravel larger than 2 inches in any dimension, debris, waste, frozen materials, vegetation, and other deleterious matter.

C. Unsatisfactory Soils: Soil Classification Groups GC, SC, CL, ML, OL, CH, MH, OH, and PT according to ASTM D 2487, or a combination of these groups.

1. Unsatisfactory soils also include satisfactory soils not maintained within 2 percent of optimum moisture content at time of compaction.

D. Base and Subbase Material: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 90 percent passing a 1-1/2-inch sieve and not more than 12 percent passing a No. 200 sieve.

E. Engineered Fill: Base or subbase material.

F. Drainage Course: Narrowly graded mixture of washed crushed stone, or crushed or uncrushed gravel; ASTM D 448; coarse-aggregate grading Size 57; with 100 percent passing a 1-1/2-inch sieve and 0 to 5 percent passing a No. 8 sieve.

G. Filter Material: Evenly graded mixture of natural or crushed gravel, or crushed stone and natural sand; ASTM D 448; coarse-aggregate grading Size 67; with 100 percent passing a 1-inch sieve and 0 to 5 percent passing a No. 4 sieve.

H. Sand: ASTM C 33; fine aggregate.

I. Impervious Fill: Clayey gravel and sand mixture capable of compacting to a dense state.

2.2 CONTROLLED LOW-STRENGTH MATERIAL

A. Controlled Low-Strength Material: Self-compacting, low-density, flowable concrete material produced from the following:

1. Portland Cement: ASTM C 150, Type I.
2. Fly Ash: ASTM C 618, Class C or F.
3. Normal-Weight Aggregate: ASTM C 33, 3/8-inch nominal maximum aggregate size.
4. Foaming Agent: ASTM C 869.
5. Water: ASTM C 94/C 94M.
6. Air-Entraining Admixture: ASTM C 260.

B. Produce conventional-weight, controlled low-strength material with 140-psi compressive strength when tested according to ASTM C 495.

2.3 ACCESSORIES

A. Warning Tape: Acid- and alkali-resistant, polyethylene film warning tape manufactured for marking and identifying underground utilities, 6 inches wide and 4 mils thick, continuously inscribed with a description of the utility; colored as follows:

1. Red: Electric.
2. Yellow: Gas, oil, steam, and dangerous materials.
3. Orange: Telephone and other communications.
4. Blue: Water systems.
5. Green: Sewer systems.

PART 3 - EXECUTION

3.1 PREPARATION

A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earth moving operations.

B. Protect and maintain erosion and sedimentation controls during earth moving operations.

C. Protect subgrades and foundation soils from freezing temperatures and frost. Remove temporary protection before placing subsequent materials.

3.2 DEWATERING

A. Prevent surface water and ground water from entering excavations, from ponding on prepared subgrades, and from flooding Project site and surrounding area.

B. Protect subgrades from softening, undermining, washout, and damage by rain or water accumulation.

1. Reroute surface water runoff away from excavated areas. Do not allow water to accumulate in excavations. Do not use excavated trenches as temporary drainage ditches.

3.3 EXPLOSIVES

A. Explosives: Do not use explosives.

3.4 EXCAVATION, GENERAL

A. Unclassified Excavation: Excavate to subgrade elevations regardless of the character of surface and subsurface conditions encountered. Unclassified excavated materials may include rock, soil materials, and obstructions. No changes in the Contract Sum or the Contract Time will be authorized for rock excavation or removal of obstructions.

1. Remove rock to lines and grades indicated to permit installation of permanent construction without exceeding the following dimensions:

a. 24 inches outside of concrete forms other than at footings.
b. 12 inches outside of concrete forms at footings.
c. 6 inches outside of minimum required dimensions of concrete cast against grade.
d. Outside dimensions of concrete walls indicated to be cast against rock without forms or exterior waterproofing treatments.
e. 6 inches beneath bottom of concrete slabs-on-grade.
f. 6 inches beneath pipe in trenches, and the greater of 24 inches wider than pipe or 42 inches wide.

B. Classified Excavation: Excavate to subgrade elevations. Material to be excavated will be classified as earth and rock. Do not excavate rock until it has been classified and cross sectioned by Architect. The Contract Sum will be adjusted for rock excavation according to unit prices included in the Contract Documents. Changes in the Contract Time may be authorized for rock excavation.

1. Earth excavation includes excavating pavements and obstructions visible on surface; underground structures, utilities, and other items indicated to be removed; together with soil, boulders, and other materials not classified as rock or unauthorized excavation.

    a. Intermittent drilling; ram hammering; or ripping of material not classified as rock excavation is earth excavation.

2. Rock excavation includes removal and disposal of rock. Remove rock to lines and subgrade elevations indicated to permit installation of permanent construction.

C. Testing of material to be excavated as part of the project indicates that the material cannot be used as “unrestricted fill.” Excavated material cannot be reused as general fill at the site or offsite; the material shall be properly handled, transported, tracked, and disposed in accordance with the requirement of 6 NYCRR 360 and 6 NYCRR 375, as well as local and federal requirements. Transporters and disposal facilities must be pre-approved prior to loading, transportation, and disposal. Proper sampling and analyses is the responsibility of the Contractor.

3.5 EXCAVATION FOR STRUCTURES

A. Excavate to indicated elevations and dimensions within a tolerance of plus or minus 1 inch. If applicable, extend excavations a sufficient distance from structures for placing and removing concrete formwork, for installing services and other construction, and for inspections.

1. Excavations for Footings and Foundations: Do not disturb bottom of excavation. Excavate by hand to final grade just before placing concrete reinforcement. Trim bottoms to required lines and grades to leave solid base to receive other work.
2. Excavation for Underground Tanks, Basins, and Mechanical or Electrical Utility Structures: Excavate to elevations and dimensions indicated within a tolerance of plus or minus 1 inch. Do not disturb bottom of excavations intended as bearing surfaces.

B. Excavations at Edges of Tree- and Plant-Protection Zones:

1. Excavate by hand to indicated lines, cross sections, elevations, and subgrades. Use narrow-tine spading forks to comb soil and expose roots. Do not break, tear, or chop exposed roots. Do not use mechanical equipment that rips, tears, or pulls roots.
2. Cut and protect roots according to requirements in Section 02 23 10 "Tree Protection, Removal, and Thinning."

3.6 EXCAVATION FOR WALKS AND PAVEMENTS

A. Excavate surfaces under walks and pavements to indicated lines, cross sections, elevations, and subgrades.

3.7 EXCAVATION FOR UTILITY TRENCHES

A. Excavate trenches to indicated gradients, lines, depths, and elevations.

1. Beyond building perimeter, excavate trenches to allow installation of top of pipe below frost line.

B. Excavate trenches to uniform widths to provide the following clearance on each side of pipe or conduit. Excavate trench walls vertically from trench bottom to 12 inches higher than top of pipe or conduit unless otherwise indicated.

C. Trench Bottoms: Excavate and shape trench bottoms to provide uniform bearing and support of pipes and conduit. Shape subgrade to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits. Remove projecting stones and sharp objects along trench subgrade.

1. For pipes and conduit less than 6 inches in nominal diameter, hand-excavate trench bottoms and support pipe and conduit on an undisturbed subgrade.
2. For flat-bottomed, multiple-duct conduit units, hand-excavate trench bottoms and support conduit on an undisturbed subgrade.
3. Excavate trenches 6 inches deeper than elevation required in rock or other unyielding bearing material to allow for bedding course.

D. Trench Bottoms: Excavate trenches 4 inches deeper than bottom of pipe and conduit elevations to allow for bedding course. Hand-excavate deeper for bells of pipe.

1. Excavate trenches 6 inches deeper than elevation required in rock or other unyielding bearing material to allow for bedding course.

E. Trenches in Tree- and Plant-Protection Zones:

1. Hand-excavate to indicated lines, cross sections, elevations, and subgrades. Use narrow-tine spading forks to comb soil and expose roots. Do not break, tear, or chop exposed roots. Do not use mechanical equipment that rips, tears, or pulls roots.
2. Do not cut main lateral roots or taproots; cut only smaller roots that interfere with installation of utilities.
3. Cut and protect roots according to requirements in Section 02 23 10 "Tree Protection, Removal, and Thinning."

3.8 UNAUTHORIZED EXCAVATION

A. Fill unauthorized excavation under foundations or wall footings by extending bottom elevation of concrete foundation or footing to excavation bottom, without altering top elevation. Lean concrete fill, with 28-day compressive strength of 2500 psi, may be used when approved by Engineer.

1. Fill unauthorized excavations under other construction, pipe, or conduit as directed by Engineer.

3.9 BACKFILL

A. Place and compact backfill in excavations promptly, but not before completing the following:

1. Construction below finish grade including, where applicable, subdrainage, dampproofing, waterproofing, and perimeter insulation.
2. Surveying locations of underground utilities for Record Documents.
3. Testing and inspecting underground utilities.
4. Removing concrete formwork.
5. Removing trash and debris.
6. Removing temporary shoring and bracing, and sheeting.
7. Installing permanent or temporary horizontal bracing on horizontally supported walls.

B. Place backfill on subgrades free of mud, frost, snow, or ice.

3.10 UTILITY TRENCH BACKFILL

A. Place backfill on subgrades free of mud, frost, snow, or ice.

B. Place and compact bedding course on trench bottoms and where indicated. Shape bedding course to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits.

C. Trenches under Footings: Backfill trenches excavated under footings and within 12 inches of bottom of footings with satisfactory soil; fill with flowable concrete to elevation of bottom of footings. Concrete is specified in Section 03 30 00 "Cast-in-Place Concrete"

D. Backfill voids with satisfactory soil while removing shoring and bracing.

E. Place and compact initial backfill of subbase material, free of particles larger than 1 inch in any dimension, to a height of 6 inches over the pipe or conduit.

1. Carefully compact initial backfill under pipe haunches and compact evenly up on both sides and along the full length of piping or conduit to avoid damage or displacement of piping or conduit. Coordinate backfilling with utilities testing.

F. Controlled Low-Strength Material: Place initial backfill of controlled low-strength material to a height of 12 inches over the pipe or conduit. Coordinate backfilling with utilities testing.

G. Place and compact final backfill of satisfactory soil to final subgrade elevation.

H. Controlled Low-Strength Material: Place final backfill of controlled low-strength material to final subgrade elevation.

I. Install warning tape directly above utilities, 12 inches below finished grade, except 6 inches below subgrade under pavements and slabs.

3.11 SOIL FILL

A. Plow, scarify, bench, or break up sloped surfaces steeper than 1 vertical to 4 horizontal so fill material will bond with existing material.

B. Place and compact fill material in layers to required elevations as follows:

1. Under grass and planted areas, use satisfactory soil material.
2. Under walks and pavements, use satisfactory soil material.
3. Under steps and ramps, use engineered fill.
4. Under building slabs, use engineered fill.
5. Under footings and foundations, use engineered fill.

C. Place soil fill on subgrades free of mud, frost, snow, or ice.

3.12 SOIL MOISTURE CONTROL

A. Uniformly moisten or aerate subgrade and each subsequent fill or backfill soil layer before compaction to within 2 percent of optimum moisture content.

1. Do not place backfill or fill soil material on surfaces that are muddy, frozen, or contain frost or ice.
2. Remove and replace, or scarify and air dry, otherwise satisfactory soil material that exceeds optimum moisture content by 2 percent and is too wet to compact to specified dry unit weight.

3.13 COMPACTION OF SOIL BACKFILLS AND FILLS

A. Place backfill and fill soil materials in layers not more than 6 inches in loose depth for material compacted by heavy compaction equipment, and not more than 4 inches in loose depth for material compacted by hand-operated tampers.

B. Place backfill and fill soil materials evenly on all sides of structures to required elevations, and uniformly along the full length of each structure.

C. Compact soil materials to not less than the following percentages of maximum dry unit weight according to ASTM D 698:

1. Under structures, building slabs, steps, and pavements, scarify and recompact top 12 inches of existing subgrade and each layer of backfill or fill soil material at 95 percent.
2. Under walkways, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill soil material at 90 percent.
3. Under turf or unpaved areas, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill soil material at 85 percent.

3.14 GRADING

A. General: Uniformly grade areas to a smooth surface, free of irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.

1. Provide a smooth transition between adjacent existing grades and new grades.
2. Cut out soft spots, fill low spots, and trim high spots to comply with required surface tolerances.

B. Site Rough Grading: Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to required elevations within the following tolerances:

1. Turf or Unpaved Areas: Plus or minus 1 inch.
2. Walks: Plus or minus 1 inch.
3. Pavements: Plus or minus 1/2 inch.

C. Grading inside Building Lines: Finish subgrade to a tolerance of 1/2 inch when tested with a 10-foot straightedge.

3.15 SUBBASE AND BASE COURSES UNDER PAVEMENTS AND WALKS

A. Place subbase course and base course on subgrades free of mud, frost, snow, or ice.

B. On prepared subgrade, place subbase course and base course under pavements and walks as follows:

1. Place base course material over subbase course under hot-mix asphalt pavement.
2. Shape subbase course and base course to required crown elevations and cross-slope grades.
3. Place subbase course and base course 6 inches or less in compacted thickness in a single layer.
4. Place subbase course and base course that exceeds 6 inches in compacted thickness in layers of equal thickness, with no compacted layer more than 6 inches thick or less than 3 inches thick.
5. Compact subbase course and base course at optimum moisture content to required grades, lines, cross sections, and thickness to not less than 90 percent of maximum dry unit weight according to ASTM D 698.

C. Pavement Shoulders: Place shoulders along edges of subbase course and base course to prevent lateral movement. Construct shoulders, at least 12 inches wide, of satisfactory soil materials and compact simultaneously with each subbase and base layer to not less than 90 percent of maximum dry unit weight according to ASTM D 698.

3.16 PROTECTION

A. Protecting Graded Areas: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris.

B. Repair and reestablish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.

1. Scarify or remove and replace soil material to depth as directed by Architect; reshape and recompact.

C. Where settling occurs before Project correction period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.

1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

3.17 DISPOSAL OF SURPLUS AND WASTE MATERIALS

A. Remove surplus satisfactory soil and waste materials, including unsatisfactory soil, trash, and debris, and legally dispose of them off Owner's property.

END OF SECTION 31 20 00

SECTION 312513 - EROSION AND SEDIMENT CONTROL

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:
   1. Temporary erosion control systems.

B. Related Sections:
   1. Earthwork: Section 310000.
   2. Topsoil: Section 329120.
   3. Seeding: Section 329219.

C. REFERENCES
   1. Erosion and Sediment Control Guidelines: Conform to the latest edition of “NEW YORK STANDARDS and SPECIFICATIONS for EROSION and SEDIMENT CONTROL” by NYS Department of Environmental Conservation DOW (i.e., Bluebook).

1.3 DEFINITIONS

A. Dust Control: Prevent surface and air movement of dust from disturbed soil surfaces.

B. Silt Fence: A barrier of geo-textile fabric installed on contours across the slope to intercept runoff by reducing velocity. Replace after 1 year.

C. Storm Drain Inlet Protection: A semi-permeable barrier installed around storm inlets to prevent sediment from entering a storm drainage system.

D. Mulches: Hay, straw, wood cellulose, fiber mats, flexible growth medium and other materials approved by the Engineer.

E. Protecting Vegetation: Protecting trees, shrubs, ground cover and other vegetation from damage.

F. Temporary Seeding: Erosion control protection to a critical area for an interim period. A critical area is any disturbed, denuded slope subject to erosion.

G. Topsoil: Placed before permanent seeding or sod is installed.

1.4 SUBMITTALS

A. Product Data: For each type of the following manufactured products required:

1. Silt fence.
2. Compost filter sock.
3. Temporary inlet protection.
4. Rolled erosion control blanket.

1.5 DESCRIPTION

A. The Work consists of furnishing, installing, inspecting, maintaining, and removing soil and erosion control measures as shown on the contract documents or as ordered by the Engineer during the contract to provide erosion and sediment control.

B. Conduct operations to prevent damage to waterbodies from pollution by debris, sediment, chemical or other foreign material, or from the manipulation of equipment and/or materials in or near a stream or ditch flowing directly to a stream. Water used for wash purposes or other similar operations which become polluted with sewage, silt, cement, concentrated chlorine, oil, fuels, lubricants, bitumens, or other impurities shall not be discharged into any waterbody.

1.6 QUALITY ASSURANCE

A. In the event of conflict between these specifications and the regulation of other Federal, State, or local jurisdictions, the more restrictive regulations apply. Comply with all applicable NYSDEC regulatory requirements.

B. Obtain all erosion control measures from a single source.

PART 2 PRODUCTS

2.1 MATERIALS

A. Silt fence or compost filter sock: As shown on Drawings.

B. Temporary inlet protection: As shown on Drawings.

C. Rolled erosion control blanket: As shown on Drawings.

D. Temporary seeding: As specified in Section 329219.

PART 3 EXECUTION

3.01 WORK AREAS

A. The Engineer may limit the surface area of erodible earth exposed by earthwork operations and direct the Contractor to provide immediate temporary or permanent erosion measures to minimize damage to property and contamination of watercourses and water impoundments. The area of erodible earth material exposed at one time may not exceed 50,000 sq. ft. The Engineer may increase or decrease this area of erodible earth material exposed at one time as determined by their analysis of project, weather, and other conditions. The Engineer may limit the area of clearing and grubbing and earthwork operations in progress.

B. Schedule the work to minimize the time that earth areas will be exposed to erosive conditions. Provide temporary structural measures immediately to prevent any soil erosion.

C. Provide temporary seeding on disturbed earth or soil stockpiles exposed for more than 7 days or for any temporary shutdown of construction. In spring, summer or early fall apply rye grass at a rate of 1 lb/ 1000 sq.ft. In late fall or early spring, apply certified Aroostook Rye at a rate of 2.5 lbs./ 1000 sq. ft.

D. Erosion and sediment control devices must be maintained in working order until the site is stabilized. All preventative and remedial maintenance work, including clean out, repair, replacement, re-grading, re-seeding, or re-mulching, must be performed immediately.

E. After final stabilization has been achieved temporary sediment and erosion controls must be removed. Areas disturbed during removal must be stabilized immediately.

END OF SECTION

SECTION 31 50 00 - EXCAVATION SUPPORT AND PROTECTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General Conditions, Supplemental General Conditions, and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes:

1. Installation of shoring and bracing required for construction of utilities, jacking and receiving pits, structures, and to support existing structures.
2. Inspection and acceptance of existing shoring and bracing.
3. Maintenance of shoring and bracing.
4. Removal of shoring and bracing, as required to a minimum of four feet below the surface.
5. Support of existing utilities, manholes, valves, and piping.
6. Monitoring existing structures.

B. Types of shoring and bracing system include, but are not limited to the following:

1. Steel soldier piles.
2. Timber lagging.
3. Steel sheet piles.

C. Driving or jetting of sheeting or piles by the use of vibratory equipment impact hammer, or water is prohibited.

D. Related Requirements:

1. Section 31 00 00 "Earthwork"
2. Section 31 20 00 “Earth Moving”
3. Section 01 32 33 “Photographic Documentation”

1.3 SUBMITTALS

A. Prior to starting work, submit for review and approval, calculations, and shop drawings showing each proposed method of supporting adjacent earth and structures; i.e. retention system and other methods of bracing. Include the following:

1. Lists of material to be used, including design mixes.

2. Sequence of operations.
3. Detailed sections clearly illustrating the scope of work.
4. Relationship of piles, lagging, walls, and bracing to new and existing structures.
5. Location of utilities and details of support when required.
6. Procedures and details of testing.

B. Shop drawings and calculations: Prepared by qualified Licensed Professional Engineers registered in the State of New York and bearing their seals and signatures.

C. Qualification Data: For firms and persons specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of complete projects with project names and addresses, names and addresses of architects and owners, and other information specified.

D. Photographs or videotape, sufficiently detailed, of existing conditions of adjoining construction and site improvements that might be misconstrued as damage caused by excavation support and protection systems.

1.4 QUALITY ASSURANCE

A. Comply with the Publications of the following agencies to the extent referenced and applicable:

1. ASTM - American Society for Testing and Materials.
2. AISC - American Institute of Steel Construction.
3. OSHA - Occupational Safety and Health Act.

B. Installer Qualifications: Engage an experienced installer to assume engineering responsibility and perform work of this Section who has specialized in installing excavation support and protection systems similar to those required for this Project and with a record of successful in-service performance.

C. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in the State of New York and who is experienced in providing engineering services for designing excavation support and protection systems that are similar to those indicated for this Project in material, design, and extent.

1. Engineering Responsibility: Engage a qualified professional engineer to prepare or supervise the preparation of data for the excavation support and protection system including drawings and comprehensive engineering analysis that shows the system's compliance with specified requirements.

D. Do not install excavation support and protection system until successfully reviewed by the Engineer.

1.5 JOB CONDITIONS

A. Before starting work, check and verify governing dimensions and elevations. Survey condition of adjoining surfaces. Photograph existing conditions to record any prior settlement or cracking of structures, pavements, and other deficiencies. Prepare a list of existing damages, verified by dated photographs and signed by the Owner.

B. Survey adjacent building, structures and improvements, establishing exact elevations at fixed points to act as bench marks. Clearly identify benchmarks and record existing elevations. Locate datum level used to establish benchmark elevations.

1.6 EXISTING UTILITIES

A. The contract drawings indicate the general location of underground utilities. All utility locations and elevations in the vicinity of work shall be verified by the contractor prior to the start of project work. Test pits shall be conducted in areas where conflicts may occur prior to any excavation, heavy equipment loading, drilling and setting the H-piles is performed so as to avoid damaging or interfering with these existing utilities.

B. Call Dig Safely New York 7 days prior to starting excavation operations.

C. Do not interrupt utilities serving facilities occupied by the Owner or others unless permitted in writing by the respective representative and then only after arranging to provide temporary utility service according to requirements indicated.

PART 2 - PRODUCTS

2.1 DESIGN CRITERIA

A. Design sheeting and bracing using the following criteria:

1. Design shoring and bracing systems using a safety factor of 2.0 minimum.
2. Select structural steel members on the basis of AISC specifications.
3. Select structural wood members on the basis of Timber Construction Standards of the American Institute of Timber Construction.
4. Existing building, valve vaults, manholes or foundations shall not be used for support of sheeting and shoring load. Sheeting and shoring shall be independent of the adjacent structure.
5. All shoring and bracing work shall comply with the applicable publications, codes standards and regulation of OSHA.

2.2 MATERIALS

A. General: Provide adequate shoring and bracing materials, which will support loads imposed. Materials need not be new, but should be in serviceable condition.

B. Structural Steel - ASTM designation A 36 or ASTM A 572 Grade 50.

C. Timber Lagging: Any species, rough-cut, mixed hardwood, nominal 3 inches thick, unless otherwise indicated. Maximum 0.5 inch space between individual pieces.

PART 3 - EXECUTION

3.1 SHORING

A. The Contractor shall design the sheeting and shoring to minimize disruption to existing utilities. The Contractor will be fully responsible for planning his work and designing the sheeting and shoring to avoid disrupting all utilities not indicated on the plans for relocation.

B. Cut and remove the top of shoring to 48 inches below existing ground prior to restoration of the area.

3.2 BRACING

A. Provide engineered bracing to support construction activities at the top of the excavation. Bracing shall be designed by an engineer registered in the State of New York in accordance with OSHA and included in the shop drawing.

B. Locate bracing to clear existing and proposed work. If necessary to move a brace, install new bracing prior to removal of original brace.

C. Install internal bracing, if required, to prevent spreading or distortion of braced frames.

D. Maintain bracing until structural elements are retraced by other bracing or until permanent construction is in place. Bracing shall be inspected for its ability to withstand lateral earth and hydrostatic pressure.

E. Remove sheeting, shoring, and bracing in stages to avoid disturbance to underlying soils and damage to structures, pavements, facilities, and utilities.

F. Repair or replace, as acceptable to the Owner, adjacent work damaged or displaced through the installation or removal of shoring and bracing work.

3.3 PROTECTION OF ADJOINING STRUCTURES

A. Do not begin any work until drawings and test procedures are approved by the Owner and Engineer.

B. Prior to shoring and bracing operations, take and record initial elevation readings of adjacent utilities, footings, pavements, buildings, and other structures.

C. Upon completion of shoring and bracing operations take and record elevation readings in identical location of initial readings. Settlement greater than 0.4 inch will require the Contractor to take remedial action.

D. Submit three certified copies of all elevation records for review by the Owner and Engineer.

E. If any of the following conditions occur during shoring and bracing operations, stop the work immediately and revise procedures to prevent further damage. Revised procedures will be subject to approval.

1. New cracking of existing footings, walls, floors, or pavements.
2. Settlement of 0.1 inch relative to adjoining areas.
3. Total settlement of 0.4 inch.
4. Signs of shifting in adjoining facilities or utilities.

3.4 INSTALLATION

A. Provide all piling, bracing, shoring, or other applicable form of temporary supports required to stabilize and protect from movement all existing facilities and utilities that are to remain undisturbed during the course of excavation and demolition operations. Comply with the requirements of OSHA for all work.

B. Perform the work in such a manner to prevent settlement or shifting of adjoining structure or pavement.

C. Install piles by means of drilling or boring to eliminate vibration and disturbance to adjacent structure. Jetting, vibratory, or impact hammers, or any other method causing vibration shall not be used. Voids between sheeting and earth shall be filled with lean concrete.

D. Where tiebacks are used, test each tieback with loads greater than design loads.

E. The Contractor shall be responsible for the installation of all shoring, and bracing and shall make good at his expense any damage caused by or due to failure of sheet piling, shoring, and bracing or other protection methods used.

F. Maintain sheet piling, shoring, and bracing in place until fill has been placed or permanent construction is in position. Remove shoring, and bracing as required in such a manner to avoid disturbance to underlying soils and structures, pavements, facilities and utilities. As a minimum, remove piling, and lagging to 48 inches below existing, and remove whalers, which interfere with wall placement, prior to final construction.

3.5 DEWATERING

A. Provide equipment to remove excess water as required to permit installation of new work in accordance with Section 31 00 00, "Earthwork".

END OF SECTION 31 50 00

SECTION 32 11 23 - AGGREGATES

PART 1 - GENERAL

1.1 DESCRIPTION

A. Provide and install aggregate materials of the types and sizes noted in this specification section where required by the contract documents, applicable codes, and good standard engineering practices.

B. Installation of aggregate materials described in this specification shall be per individual installation requirements described in specifications specific to intended use of materials.

1.2 REFERENCES

A. New York State Department of Transportation (NYSDOT) Standard Specifications (latest edition).

B. American Society for Testing and Materials

1.3 SUBMITTALS

A. Material Testing Information:
   1. Name and location of source
   2. Stockpile number if applicable
   3. Date of testing - Must be within the last 2 years
   4. Material description
   5. Gradation results
   6. Latest DOT test results and approvals (if any).

1.4 QUALITY ASSURANCE

A. Furnish each aggregate material from a single source throughout the Work. If alternate sources are required submit new testing information for approval.

PART 2 - PRODUCTS

2.1 AGGREGATE MATERIALS

A. Stone Subbase Course (NYSDOT Subbase Course, Type 2):

1. Material consisting of stone which is the product of crushing or blasting ledge rock.
2. Sound, hard, durable stone, run-of-bank gravel, sand or other acceptable structural material, free from organic and other deleterious materials conforming to the following gradation:

Sieve Designation	Percent Passing by Weight
2" (50mm)	100
¼" (6.3mm)	25 – 60
No. 40 (0.425mm)	5 – 40
No. 200 (0.075mm)	0 - 10

3. Magnesium Sulfate Soundness Test: 20 percent maximum loss by weight after 4 test cycles.

4. Plasticity Index: The plasticity index of the material passing the No. 40 mesh sieve shall not exceed 5.0.

5. Elongated Particles: Not more than 30 percent, by weight, of the particles retained on a ½ inch sieve shall consist of flat or elongated particles. A flat or elongated particle is defined as one, which has its greatest dimension more than 3 times its least dimension.

B. Crushed Stone:

1. Clean, durable, sharp-angled fragments of rock of uniform quality meeting the following physical requirements as indicated in NYSDOT Table 703-3:

Material Designation	Maximum Percent by Weight
Shale and Shale-like Materials	3.0
Coal/Lignite/Sulfides	1.0
Clay Lumps or Wood	0.2
Metal Ore	3.0

Other Deleterious Materials	3.0
Total Deleterious Materials	5.0

2. Crushed Washed Stone for Construction Entrances: Use material with the following approximate gradation:

Sieve Designation	Percent Passing by Weight
4”	100
3"	90-100
2”	0-15

3. Crushed Washed Stone for Temporary Roads and Staging Areas: Use material with the following gradation:

Sieve Designation	Percent Passing by Weight
3"	100
2-1/2"	90 - 100
2"	90 - 100
1-1/2"	35 - 100
1"	0 - 15
1/2"	0 - 1

C. Drainage Stone:

1. Drainage stone shall be clean, washed, durable, fully-fractured on all sides, sharp-angled fragments of crushed rock of uniform quality, with a gradation that provides a balance between stability and permeability. The crushed stone shall be fractured by mechanical means. All surfaces of the individual aggregate particles shall be fractured. No worn or naturally-occurring faces will be present. Round material and contaminants such as construction debris, organic material, glass, metals, etc. shall not be acceptable. The size of the crushed stone used shall conform to the following gradation requirements:

Sieve Designation	Percent Passing by Weight
1½” (38 mm)	100
1” (25 mm)	95-100

Sieve Designation	Percent Passing by Weight
½" (12.5 mm)	60-80
3/8" (9.5 mm)	30-50
US #4 (4.75 mm)	0-10
US #8 (2.36 mm)	0-5
US #200 (0.075 mm)	0-1

D. Pea stone:

1. Washed, round, stone, as specified in the NYSDOT Standard Specifications, latest issue, and the following gradation:

Sieve Designation	Percent Passing by Weight
1"	100
1/2"	90 - 100
1/4"	0 - 15
No. 200	0 – 1

E. Pipe Bedding Sand:

1. As specified in the NYS DOT Standard Specifications meeting the requirements of Article 703-06 within the following limits:

Sieve Designation	Percent Passing by Weight
1/4"	100
No. 50	0 - 35
No. 100	0 - 10

2.2 SOURCE QUALITY CONTROL

A. All Aggregates shall be from a NYSDOT Approved borrow pit.

PART 3 EXECUTION

3.1 EXCAVATION

A. Stockpile excavated material meeting requirements for coarse aggregate materials.

B. Remove excess excavated materials not intended for reuse, from site.

3.2 STOCKPILING

A. Stockpile materials at locations designated by Owner.

B. Stockpile in sufficient quantities to meet Project schedule and requirements.

C. Separate different aggregate materials with dividers or stockpile individually to prevent mixing.

D. Direct surface water away from stockpile site to prevent erosion or deterioration of materials.

3.3 STOCKPILE CLEANUP

A. Remove stockpile; leave area in clean and neat condition. Grade site surface to prevent freestanding surface water.

END OF SECTION

SECTION 32 12 16 – ASPHALT PAVING

PART 1 - GENERAL

1.1 DESCRIPTION

A. Provide all equipment, labor and materials necessary to perform all work required to install the extent of asphalt paving as shown on the drawings.

B. Paving work includes, but is not limited to, the following:

1. Hot-mix asphalt paving
2. Joint sealing or crack filling

C. Provide materials, labor, equipment and services required to accomplish related work in accordance with the drawings and specifications. Work shall meet NYSDOT Section 400 Hot Mix Asphalt Standard Specification latest issue.

1.2 PREINSTALLATION MEETING

A. Review methods and procedures related to hot-mix asphalt paving including the following:

1. Asphalt installation schedule. Review intended daily extents of asphalt pavement to be installed.

2. Anticipated joint layout and expectations for the look and performance of installed joints.

3. Requirements for protecting installed asphalt including restriction of traffic during installation period and for remainder of construction period.

1.3 SUBMITTALS

A. Provide material certificates showing content/mechanical analysis for approval prior to construction for the following:

1. Asphalt Job Mix Designs – technical data and tested physical performance properties

2. Material Certificates: For each paving material, from manufacturer

3. Certification letter from asphalt supplier certifying that all asphalt material supplied for this project meet New York State Department of Transportation requirements for asphalt pavements.

1.4 QUALITY ASSURANCE

A. Manufacturer Qualifications: A paving-mix manufacturer registered with and approved by the NYSDOT.

B. Regulatory Requirements: Comply with materials, workmanship, and other applicable requirements of the New York State DOT for asphalt paving work.

C. Construction Reviews: Notify the Engineer and arrange for inspections at the following installation milestones:

1. When the subgrade has been shaped and is ready for proof rolling. Engineer or representative will witness proof rolling of subgrade to verify no areas of unsuitable soils are present.

2. When the stone subbase course is fully installed and compacted and is ready for the asphalt binder course to be installed. Engineer or representative will witness compaction testing of the compacted stone subbase.

1.5 FIELD CONDITIONS

A. Atmospheric conditions for installation:

1. Do not install asphalt materials if subgrade is wet or excessively damp, if rain is imminent or expected before time required for adequate cure, or if the following conditions are not met:
    a. Place asphalt concrete top (wearing) course only when atmospheric temperature is above 50 degrees F. and rising, and when asphalt binder course is dry.

    b. Place binder course only when air temperature is above 45 degrees F. and rising and when asphalt base course or granular base course is dry.

    c. Place tack coat only when atmospheric temperature is 50 degrees F and rising.

2. Pavement-Marking Paint: Proceed with pavement marking only on clean, dry surfaces and at a minimum ambient or surface temperature of 55 deg F (12.8 deg C) for water-based materials, and not exceeding 95 deg F (35 deg C).

PART 2 – PRODUCTS

2.1 SOIL STABILIZATION (GEOTEXTILE) FABRIC

A. Shall be a heavy-duty, commercially manufactured woven polypropylene soil stabilization or separation geotextile, according to Specification Section - Geotextiles.

2.2 STONE SUBBASE COURSE

A. Shall be Stone Subbase Course as specified in Specification Section - Aggregates.
B. Use materials and gradations that have performed satisfactorily in previous installations.

2.3 ASPHALT MIXES

A. Shall conform to the requirements of the New York State Department of Transportation Standard Specifications, latest issue, with current additions and modifications.

B. Shall be dense graded, hot-laid, hot-mix asphalt plant mixes approved for use by the New York State Department of Transportation and complying with the following requirements:

1. Provide mixes with a history of proven satisfactory performance in the Binghamton, New York geographic area.
2. Top (Wearing) Course: NYSDOT Type 6
3. Binder Course: NYSDOT Type 3
4. Base Course (If called for): NYSDOT Type 1

2.4 JOINT SEALER / CRACK FILLER

A. Shall be a material meeting the requirements of ASTM D 6690

B. Shall be a Type II or Type III

C. Shall be a hot applied, single-component, polymer-modified bituminous sealant.

2.5 PAINTED LINE MARKINGS

A. Shall be according to Specification Section – Pavement Marking Paint.

2.6 TACK COAT

A. Shall conform to the requirements of the New York State Department of Transportation Standard Specifications, latest edition Item 407 Tack Coat, with current additions and modifications or be ASTM D 977 or AASHTO M 140 emulsified asphalt, or ASTM D 2397 or AASHTO M 208 cationic emulsified asphalt, slow setting, diluted in water, of suitable grade and consistency for application.
B. Shall be install per table 407-1 – Tack Coat Application Rates in the New York State Department of Transportation Standard Specifications, latest edition Item 407 Tack Coat

PART 3 - EXECUTION

3.1 PREPARE SUBGRADE

A. Saw cut existing asphalt pavements to contract limit line with straight, neat edge for joining with proposed asphalt pavement.

B. Install erosion and sedimentation control practices where shown on the drawings.

C. Proof Roll the Subgrade:

1. Prepare the subgrade for proof rolling by compacting the entire area that will be new asphalt pavement using a smooth drum compactor with a static weight of 10 tons. The subgrade shall be brought to line and grade and the edges of the subgrade shall be prepared to a width of 2 feet beyond the edge of the asphalt field edge. Subgrade shall be brought to a tolerance of plus or minus ½ inch of extrapolated subgrade elevation.

2. Notify the Engineer forty-eight (48) hours prior to commencing proof-rolling. Engineer or representative must be present to witness proof rolling operations. Proof-roll entire prepared subgrade surface with a fully-loaded, 10-wheel dump truck.

    i. Proof roll in one direction
    ii. Limit vehicle speed to 3 Mile Per Hour

3. Areas where subgrade soils are observed to roll, rutt, and or pump will require stabilization or removal and replacement with suitable soils. Engineer will outline the edges of unsuitable soils with spray paint. Contractor may be asked to dig a test pit to determine the extent and depth of unsuitable material. Engineer will give direction as to depth of required removal.

    i. At no time shall the contractor dig deeper than 2'-0" past the proposed subgrade elevation without specific direction from the Engineer in writing. Standard remediation practice for unsuitable soils that go deeper than 2 feet past subgrade elevation will be to install a 2' deep layer of 4" crushed rip rap. Unsuitable soils that are deeper than 2 feet must be reviewed on site with the Engineer before any action may be taken.

4. Protect subgrade at all times during construction and take any steps required to keep subgrade dry while exposed. The Contractor shall grade edges or install sump pumps to promote drainage away from the subgrade to facilitate drying of soils.

3.2 CONSTRUCT STONE SUBBASE COURSE

A. Install geotextile soil stabilization fabric after the subgrade has been acceptably compacted and proof rolled. Install geotextile as specified by manufacturer and the following requirements:

    1. Lay fabric in direction of construction traffic.

    2. Overlap fabric side to side and end to end a minimum of two feet.

    3. Establish reasonable compaction and rut stability before using heavy or vibratory compaction equipment.

B. Place stone subbase course material over geotextile stabilization fabric, in layers of uniform thickness, conforming to the asphalt pavement details on the drawings.
    1. Place stone subbase material in a maximum of six (6) inch layers and compact with a vibratory or 10 ton smooth wheeled roller.

    2. Compact subbase to at least 95 percent of the maximum dry density attainable through the modified Proctor compaction test.

3. Grade Control: During construction, protect grade stakes, maintain lines and grades including crown and cross-slope of each course.

4. Surface Smoothness: Test finished surface for smoothness. Surface will not be acceptable when it deviates more than 3/8" measured by a 10-foot straightedge.

5. It is the Contractor's responsibility to provide a material which meets this specification and is within the Contractor's capabilities to fine grade to the required tolerances. Should the aggregate base course become unstable at any time prior to the placement of an overlying course due to the gradation of the material furnished, the Contractor, at no additional expense to the Owner, correct the unstable condition to the satisfaction of the Engineer.

3.3 PLACING HOT-MIX ASPHALT

A. Machine Place hot-mix asphalt on prepared stone subbase course, spread uniformly, and strike off. Place asphalt by hand in areas inaccessible to equipment in a manner that prevents segregation of the aggregate from the asphalt mix.
B. Place each course of asphalt to the required grade and thickness when compacted.
    1. Place asphalt binder course in 1 lift.
    2. Place asphalt top course in 1 lift.
    3. Spread mixture at minimum temperature of 225 degrees F. Place inaccessible and small areas by hand.
    4. Begin applying asphalt mix along centerline of crown for crowned sections and on high side of one-way slopes unless otherwise indicated
    5. Regulate paver machine speed to obtain smooth, continuous surface free of pulls and tears in asphalt paving mat.
    6. Where possible, top course shall be placed at right angles to binder course and in the direction that the drainage flows. Where this is impractical, offset joints of the two courses by a minimum of two (2') feet so upper and lower joints do not align.
    7. Place asphalt in consecutive strips not less than 10 feet wide unless infill edge strips of a lesser width are required.
    8. After first strip has been placed and rolled, place succeeding strips and extend rolling to overlap previous strips. Overlap mix placement about 2 inches from strip to strip to ensure proper compaction of mix along longitudinal joints.
    9. Paving operations shall not be scheduled when ample time does not exist to place, compact, and finish roll the hot mix asphalt during daylight hours.

C. Compact installed asphalt with a nominal 10-ton steel wheel roller or pneumatic rubber tired roller. Use of vibratory compaction equipment is not permitted.
D. If phasing delays placement of the top course over the binder course, thoroughly clean existing surface of dirt, oil and other debris by power washing and sweeping. If delay exceeds 90 calendar days, place asphaltic emulsion tack coat on existing binder course before installing top course.

3.4 JOINTS

A. Saw cut vertical straight, neat edges for joints required. Joints shall be sharp and clean, conforming to shapes drawn on drawings. Ragged joints will not be accepted.

B. In placing each succeeding pass after the placement of the initial pass, the screed of the paver shall be set such that it overlaps the preceding pass by 2" and be sufficiently high such that when compacted, a smooth joint is produced. Prior to pinching the joint, the excess material shall be pushed onto the edge of the new pass with a lute. Excess material shall be removed.

C. When repairs or staging of work occurs, make neat vertical saw cut between old and new work to create butt joint.

D. Apply tack coat of asphaltic emulsion to vertical joints between old and new asphalt, also at concrete gutters and the face of curbs below the reveal. Immediately prior to applying the tack coat the surface shall be cleaned, such that the surface shall be free of any dust, dirt, grease, oil, wax, or any other foreign matter or loose material. The surface shall be clean, thoroughly dry, and at the proper temperature prior to applying the tack coat.

3.5 ROLLING INSTALLED ASPHALT

A. Begin rolling when mixture will bear roller weight without obvious or excessive displacement.
B. Compact mixture with hot hand tampers or vibrating plate compactors in areas inaccessible to rollers.
C. Perform finish rolling while mixture is still warm enough for removal of roller marks. Continue rolling until roller marks are eliminated and the course has attained maximum density. Finished asphalt pavement shall achieve maximum density as determined by Section 403 standards and methods of the New York State Department of Transportation Standard Specifications, latest issue
D. Patching: Remove and replace paving areas mixed with foreign materials and defective areas. Cutout such areas and fill with fresh, hot asphalt concrete. Compact by rolling to maximum surface density and smoothness.
E. Joints shall be neat, straight butt joints between successive passes.

F. Edges: Roll edges at 45 degrees as detailed, creating clean edge conforming to shapes indicated on the drawings. Ragged edges will not be accepted. Return and saw cut ragged edges at no additional cost to the Owner as directed by the Engineer.

3.6 FIELD QUALITY CONTROL

A. Comply with NYSDOT Standard Specifications for asphalt.
B. Remove and replace unacceptable paving as directed by the Engineer.
C. Thickness and Density: In-place compacted thickness will not be acceptable when it is less than 95% of the total thickness shown on the drawings.
D. Surface Smoothness: Test finished surface of each course for smoothness using a 10' straightedge. Surfaces will not be acceptable when exceeding the following tolerances for smoothness:
    1. Binder Course Surface: 1/4"
    2. Top (Wearing) Course Surface: 1/8"
E. Check the surface grades and drainage patterns. Small ponding areas (bird baths) larger than two (2') feet in any dimension are not acceptable. When this test proves that surface conditions are not acceptable, the Contractor will be responsible for correcting the problem areas. Install a one (1") inch shim coat of wearing course material, or other means acceptable to the Engineer.

3.7 SURFACE PROTECTION

A. After final rolling, do not permit vehicular traffic on pavement until it has cooled and hardened.
B. Provide protection including, but not limited to, lights, reflective signs, flag persons and barricades until mixture has cooled and attained its maximum degree of hardness.
C. Any damage caused to newly installed asphalt pavement due to contractor’s failure to protect asphalt will be corrected by the contractor at no additional cost to the owner.

3.8 PAINTED LINE MARKINGS, SHAPES, ARROWS AND HANDICAP SYMBOLS

A. Sweep and clean surface to eliminate loose material and dust. Remove dirt, oils and other foreign matter.
B. Locate new striping to alignment and dimensions as shown on drawings.
C. Painted arrows shall meet regulations described in the "Manual of Uniform Traffic Control Devices", latest edition, as published by NYSDOT
D. Protect adjacent surfaces and other items to remain with tape, drop cloths, or other approved means.

E. Install two coats of paint according to manufacturer's recommendations resulting in a dense, opaque application without any pavement showing through. Over spraying along edges will not be accepted. Edges shall be sharp and crisp, to the shapes required by the drawings.
F. Allow 48 hours minimum curing time for paint before allowing traffic on surfaces. Clean up thoroughly including all protective tape, spilled paint, and debris.

3.9 CLEAN UP

A. During the contract, and at intervals as directed by the Architect and/or Engineer, and as asphalt paving is completed, clear the site of extraneous fabric, gravel, asphalt and debris. Leave the site in a clean, safe, well draining, neat condition.

END OF SECTION

SECTION 32 13 13 – SITE CONCRETE PAVING

PART 1 - GENERAL

1.1 DESCRIPTION

A. Provide all equipment, labor, and materials necessary to perform all work required to install all Concrete at locations indicated on the Contract Drawings.

B. Section Includes the following:

1. Site concrete for pavements, curbs, and slabs
2. Sealing and curing materials
3. Expansion joints
4. Joint sealants
5. Tactile warning tiles

1.2 SUBMITTALS

A. Letter from Concrete Supplier / Manufacturer certifying that all concrete delivered to the project site will be in conformance for materials and procedures with the New York State Department of Transportations Specification Section 500 – Portland Cement Concrete.

B. Concrete Mix:

1. The Contractor shall submit the concrete design mix for each classification of concrete mix specified prior to use in the Work.
2. Alternate design mixtures when characteristics of materials, project conditions, weather, test results, or other circumstances warrant adjustments.

C. Product Information Sheets for the following from the manufacturer:

1. Steel Reinforcement (shop drawings)
2. Admixtures

3. Curing Compounds

4. Sealing Compounds

5. Expansion Joint Materials

6. Joint Filling Caulk

7. Detectable Warning Tiles

D. Concrete Installer Reference List and Scoring Acknowledgment Letter:

1. Submit a list of 10 previously completed projects of similar size and products in the approximate geographic location of the work shown on the contract documents. Include project name, location, contact person, and phone number of contact person.

2. Submit a signed letter from the concrete installer indicating that the proposed scoring patterns of the proposed concrete to be installed has been reviewed and will be installed as shown on the contract documents.

E. Test Results:

1. The testing laboratory shall submit written reports of all tests, investigations, and recommendations to the Owner's Representative. Compressive strength testing shall be performed in compliance with the requirements of the American Concrete Institute and shall include at least seven and twenty eight day strengths.

1.3 QUALITY ASSURANCE

A. Ready-Mix-Concrete Manufacturer Qualifications:

1. A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.

2. Manufacturer must have at least 5 years experience producing ready-mix concrete for projects of similar size and materials.

B. Concrete Installer Qualifications:

1. Concrete Installer must have at least 5 years experience installing ready-mix concrete for projects of similar size and materials.

C. Delivered Concrete:

1. A batch ticket signifying the concrete mix design and the presence of any admixtures shall accompany each load of ready-mixed concrete. These tickets shall accompany the ready-mix truck driver. The ticket shall be available on the site to the Owners representative. The Owners representative shall take the ticket of any concrete not in compliance with the concrete specified and any non-compliant concrete will be removed and replaced.

D. Compressive Strength Testing

1. The Owners testing agency will take three-cylinder test sets of concrete used on the project. One cylinder of each set will be tested at 7 day and a second cylinder will be tested at 28 days. The third cylinder will be tested only if the 28-day test fails to meet specified strength.

2. All concrete sampling and testing will be done in accordance with the procedures described in the New York State Department of Transportation Concrete Manual. A certified lab will conduct cylinder compressive tests.

3. Should the test set fail:

a. The Contractor, at its expense, shall have the right to challenge the test results by having the in place concrete tested by an independent, certified lab using a testing method approved by the Owners Representative. (Rebound Hammer testing and other non-destructive testing methods will not be approved as their testing results are no longer accepted by the American Concrete Institute (ACI) due to proven inaccuracy) The independent lab may not have any monetary ties, other than testing fees, to the contractor. All test results received from the concrete manufacturers own testing lab will not be accepted.

b. Concrete for which the tests fail shall be removed and replaced at the Contractor's expense.

1.4 PROPORTIONING AND DESIGN OF MIXES

A. Prepare design mixes for each type of strength of concrete by either laboratory trial batch or field experience methods as specified in ACI 301. Mix designs submitted for

review shall be less than one year old and shall be representative of the concrete materials currently being used. If trial batch method is used, use an independent testing facility acceptable to Landscape Architect for preparing and reporting proposed mix designs. The testing facility shall not be the same as used for field quality control testing.

B. Fly Ash or Ground Granulated Blast Furnace Slag: Use for replacement of 20% of Portland. Notify concrete floor finishers of floor slab concrete containing fly ash or ground granulated blast furnace slag.

C. Acceptance of design mix will require that average strength of test cylinders exceed the specified strength (f'c) established by ACI 318 Section 5.3. If a suitable record of strength test performance is not available from the concrete supplier, proportions of the design mix shall be selected to provide and average strength at least 1200 psi greater than the specified strength (f'c).

D. Adjustment to Concrete Mixes: Mix design adjustments may be requested by Contractor when characteristics of materials, job conditions, weather, test results, or other circumstances warrant at no additional cost to Owner and as accepted by Landscape Architect. Laboratory test data for revised mix design and strength results must be submitted to and accepted by Landscape Architect before using in work.

1. Admixtures:

a. Use water-reducing admixture in concrete as required for placement and workability.

b. Use air-entraining admixture in all concrete, Add air-entraining admixture at manufacturer's prescribed rate to result in concrete at point of placement having total air content of 5.5 percent with a tolerance of plus-or-minus 1.5 percent.

c. At Contractor's option, a strength-accelerating admixture may be used to assist in complying with Cold-Weather Concreting procedures.

E. Concrete Mixing

1. Ready-Mix Concrete: Comply with requirements of ASTM C 94 and as herein specified.

a. During hot weather, or under conditions contributing to rapid setting of concrete, a shorter mixing time than specified in ASTM C 94 may be required.

b. Remove excess water and debris from trucks before batching.

c. Account for wash water remaining in truck, per ASTM C94, in measurement of water per batch, or completely empty truck drum of wash water prior to adding batch materials to truck.

PART 2 - PRODUCTS

2.1 CONCRETE, GENERAL

A. ACI Publications: Comply with ACI 301 unless otherwise indicated.

2.2 FORMS

A. Form Materials: Plywood, metal, metal-framed plywood, or other approved panel-type materials to provide full-depth, continuous, straight, and smooth exposed surfaces.

1. Use flexible or uniformly curved forms for curves with a radius of 100 feet (30.5 m) or less. Do not use notched and bent forms.

B. Form-Release Agent: Commercially formulated form-release agent that will not bond with, stain, or adversely affect concrete surfaces and that will not impair subsequent treatments of concrete surfaces.

2.3 STEEL REINFORCEMENT

A. Plain-Steel Welded-Wire Reinforcement: ASTM A 1064/A 1064M, fabricated from galvanized steel wire into flat sheets.

B. Epoxy-Coated Welded-Wire Reinforcement: ASTM A 884/A 884M, Class A, plain steel.

C. Galvanized Reinforcing Bars: ASTM A 767/A 767M, Class II zinc coated, hot-dip galvanized after fabrication and bending; with ASTM A 615/A 615M, Grade 60 (Grade 420) deformed bars.

D. Epoxy-Coated Reinforcing Bars: ASTM A 775/A 775M; with ASTM A 615/A 615M, Grade 60 (Grade 420) deformed bars.

E. Plain-Steel Wire: ASTM A 1064/A 1064M, galvanized.

F. Epoxy-Coated-Steel Wire: ASTM A 884/A 884M, Class A; coated.

G. Epoxy-Coated, Joint Dowel Bars: ASTM A 775/A 775M; with ASTM A 615/A 615M, Grade 60 (Grade 420) plain-steel bars.

H. Tie Bars: ASTM A 615/A 615M, Grade 60; deformed.

I. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars, welded-wire reinforcement, and dowels in place. Manufacture bar supports according to CRSI's "Manual of Standard Practice"

2.4 CONCRETE MATERIALS

A. Cementitious Materials: Use the following cementitious materials, of same type, brand, and source throughout Project:

1. Portland Cement: ASTM C 150/C 150M, portland cement Type I.

2. Fly Ash: ASTM C 618, Class F.

B. Normal-Weight Aggregates: ASTM C 33/C 33M, uniformly graded. Provide aggregates from a single source

1. Maximum Coarse-Aggregate: Crushed gravel or broken stone having a maximum size of 1 inch nominal.

2. Fine Aggregate: Screened, graded, and washed free of injurious amounts of clay, loam, and dirt. Sand shall be sharp, coarse natural sand.

C. Air-Entraining Admixture: ASTM C 260/C 260M.

D. Chemical Admixtures: Admixtures certified by manufacturer to be compatible with other admixtures and to contain not more than 0.1 percent water-soluble chloride ions by mass of cementitious material.

1. Water-Reducing Admixture: ASTM C 494/C 494M, Type A.

E. Water: Potable and complying with ASTM C 94/C 94M.

2.5 EXPANSION JOINTS

A. Joint filler material shall be preformed resilient bituminous type, complying with ASTM D 545 and D1751 (latest issue) and AASHTO M-213 (latest issue) OR APPROVED ALTERNATE.

B. Backer rod shall be pre-formed, closed celled poly foam with non-stick skin.

C. Caulking compound shall comply with Federal Specification TT-S-230 Sealing Compound, Synthetic-Rubber Base, Single Component, Chemically Curing. The color of the compound shall be cement mortar grey to match the surrounding concrete.

2.6 CURING MATERIALS

A. Clear, Waterborne, Membrane Forming Curing Compound:

1. Must be a NYSDOT Approved Product from the Materials Approved List, latest issue. (www.dot.ny.gov/divisions/engineering/technical-services/materials-bureau/materials-and-equipment)

2. Curing compound shall comply with ASTM C390 (latest issue), and shall be applied in accordance with Manufacturer's recommendations.

B. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. dry or cotton mats.

C. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.

D. Water: Potable.

2.7 SEALING COMPOUND

A. Clear, penetrating, breathable product with a clear non-glossy finish.

1. Must be a NYSDOT approved product from the Materials Approved List, latest issue.

2. Sealing compound shall be applied in accordance with Manufacturer's recommendations.

2.8 DETECTABLE WARNINGS

A. Cast In Place Detectable/Tactile Warning Surface Tiles shall be an epoxy polymer composition with an ultra violet stabilized coating employing aluminum oxide particles in the truncated domes.

B. The tile shall incorporate an in-line pattern of truncated domes measuring nominal 0.2" height, 0.9" base diameter, and 0.45" top diameter, spaced center-to-center 2.35" as measured on a diagonal and 1.67" as measured side by side. For wheelchair safety the field area shall consist of a non-slip surface with a minimum of 40 - 90° raised points 0.045" high, per square inch;

C. Water Absorption of Tile when tested by ASTM D 570-98 not to exceed 0.05%.

D. Slip Resistance of Tile when tested by ASTM C 1028-96 the combined Wet and Dry Static Co-Efficients of Friction not to be less than 0.80 on top of domes and field area.

E. Compressive Strength of Tile when tested by ASTM D 695-02a not to be less than 28,000 psi.

F. Tensile Strength of Tile when tested by ASTM D 638-03 not to be less than 19,000 psi.

G. Flexural Strength of Tile when tested by ASTM D 790-03 not to be less than 25,000 psi.

H. Accelerated Aging and Freeze Thaw Test of Tile and Adhesive System when tested to ASTM D 1037-99 shall show no evidence of cracking, delamination, warpage, checking, blistering, color change, loosening of tiles or other detrimental defects.

I. Salt and Spray Performance of Tile when tested to ASTM B 117-03 not to show any deterioration or other defects after 200 hours of exposure.

J. Approved product is "Armor-Tile" as manufactured by Engineered Plastics Inc., www.armor-tile.com.

2.9 CONCRETE MIXTURES

A. Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, according to ACI 301.

B. Proportion normal-weight concrete mixture as follows:

1. Minimum Compressive Strength:

a. Unless noted to be a higher compressive strength in the drawings, design mixes to provide normal weight concrete with the following properties:

Use	Minimum Compressive Strength PSI	Maximum Aggregate Size*	Maximum W/C Ratio
Exterior Slabs, Pavements, Curbs, Stairs, Cheekwalls & Exposed Footings in Paved Areas	4500	1"	.50
Non-exposed Footings & Piers, and Exposed Footings & Piers in Lawns and Plant Beds	3000	1"	.55

* Maximum aggregate size shall not exceed one fifth of minimum dimension of a wall or similar structure, one third of slab thickness for horizontal slab, or three fourths of minimum clear spacing between reinforcing bars.

2. Air Content: 6 percent, plus or minus 1.5 percent at point of delivery for 1-inch (25-mm) nominal maximum aggregate size.

3. Slump

   a. Slabs on ground, beams, and other concrete: Not more than 4”.

   b. Footings: Not less than 1” or more than 4”.

   c. Walls, piers, and columns: Not more than 5”.

   d. Note: The slumps referenced above are intended for concrete prior to the addition of any water-reducing admixture. Concrete containing water-reducing admixtures may have slumps higher than shown above.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine exposed subgrade surfaces for compliance with requirements for dimensional, grading, and elevation tolerances.

B. Proof-roll subgrade to identify soft pockets and areas of excess yielding.

1. Completely proof-roll subgrade in one direction and if feasible repeat in perpendicular direction. Limit vehicle speed to 3 mph.

2. Proof-roll with a pneumatic-tired and loaded, 10-wheel, tandem-axle dump truck weighing not less than 15 tons (13.6 tonnes).

3. Correct subgrade soft spots and areas of pumping or rutting exceeding depth of 1/2 inch. Review replacement limits with Landscape Architect on-site. Use “Stone Subbase Course” material to backfill areas of removal.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 SUBBASE INSTALLATION

A. Install geotextile soil stabilization fabric after the subgrade has been acceptably compacted and proof rolled. Install geotextile as specified by manufacturer and the following requirements:

1. Lay fabric in direction of construction traffic.

2. Overlap fabric side to side and end to end a minimum of two feet.

3. Establish reasonable compaction and rut stability before using heavy or vibratory compaction equipment.

B. Place stone subbase course material over geotextile stabilization fabric, in layers of uniform thickness, conforming to the pavement details on the drawings.

1. Place stone subbase material in a maximum of six (6) inch layers and compact with a vibratory or 10 ton smooth wheeled roller.

2. Compact subbase to at least 95 percent of the maximum dry density attainable through the modified Proctor compaction test.

3. Grade Control: During construction, protect grade stakes, maintain lines and grades including crown and cross-slope of each course.

a. Surface Smoothness: Test finished surface for smoothness. Surface will not be acceptable when it deviates more than 3/8" measured by a 10-foot straightedge.

b. It is the Contractor’s responsibility to provide a material which meets this specification and is within the Contractor’s capabilities to fine grade to the required tolerances. Should the aggregate base course become unstable

at any time prior to the placement of an overlying course due to the gradation of the material furnished, the Contractor, at no additional expense to the Owner, will correct the unstable condition.

3.3 PREPARATION

A. Remove loose material from compacted subbase surface immediately before placing concrete.

3.4 EDGE FORMS AND SCREED CONSTRUCTION

A. Set, brace, and secure edge forms, bulkheads, and intermediate screed guides to required lines, grades, and elevations. Install forms to allow continuous progress of work and so forms can remain in place at least 24 hours after concrete placement.

B. Clean forms after each use and coat with form-release agent to ensure separation from concrete without damage.

3.5 STEEL REINFORCEMENT INSTALLATION

A. General: Comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.

B. Clean reinforcement of loose rust and mill scale, earth, ice, or other bond-reducing materials.

C. Arrange, space, and securely tie bars and bar supports to hold reinforcement in position during concrete placement. Maintain minimum cover to reinforcement.

D. Install welded-wire reinforcement in lengths as long as practicable. Lap adjoining pieces at least one full mesh, and lace splices with wire. Offset laps of adjoining widths to prevent continuous laps in either direction.

E. Zinc-Coated Reinforcement: Use galvanized-steel wire ties to fasten zinc-coated reinforcement. Repair cut and damaged zinc coatings with zinc repair material.

F. Epoxy-Coated Reinforcement: Use epoxy-coated steel wire ties to fasten epoxy-coated reinforcement. Repair cut and damaged epoxy coatings with epoxy repair coating according to ASTM D 3963/D 3963M.

G. Install fabricated bar mats in lengths as long as practicable. Handle units to keep them flat and free of distortions. Straighten bends, kinks, and other irregularities, or replace units as required before placement. Set mats for a minimum 2-inch (50-mm) overlap of adjacent mats.

3.6 JOINTS

A. General: Form contraction (control), and expansion joints as well as tool edges true to line, with faces perpendicular to surface plane of concrete. Construct at right angles unless otherwise indicated.

B. Contraction (Control) Joints:

1. Contraction joints in sidewalks:

   a. Will be tooled with ½" radius at the top of the groove.

   b. Will be placed in all sidewalks as indicated on the plans, or if not indicated, they shall be placed a distance equal to the width of a walk up to a maximum of 10' apart.

2. Contraction joins in slabs:

   a. Will be as indicated on the plans, or if not indicated, they shall be placed no greater than 10' apart and shall be laid out to form a square pattern or grid, and in no case shall any panel length exceed their width by more than 1 ½ times the width.

3. Unless shown otherwise, all joints and patterns shall be uniform in spacing.

4. Contraction joints shall extend a distance of ¼ the depth of the concrete, with a minimum of 1" in depth.

5. Sawed joints in sidewalks and slabs are not acceptable without prior approval of the Landscape Architect, and if allowed must be installed within 24 hours of slab placement.

6. When tooled joints are not performed as described, an extended three year written guarantee or credit for defective work will be required as determined by the Landscape Architect at no additional cost to the Owner.

7. For curbs and gutters, contraction joints shall be placed at a minimum of 6' and maximum of 15'; at all tangents; and 3' from structures. Contraction joints in

curbs may be sawn and shall be aligned with adjacent joints in sidewalks and pavements.

8. Continue steel reinforcement across contraction joints unless otherwise indicated.

C. Expansion joints:

1. Walks, Curbs & Gutters: Expansion joints shall be placed as shown on the plans, or if not shown, at a maximum of 30 foot intervals, and between the new concrete and all other rigid concrete pavements and concrete structures.

2. Slabs: Expansion joints shall be placed in all slabs as shown on the drawings or at a maximum of 30 foot uniform intervals.

3. Expansion joints shall be constructed as detailed with or without dowels, and with 1/2 inch thick, non-extruding, pre-molded expansion joint material. Expansion joints shall not exceed ½ inch in width and shall have a tooled ½ inch radius at the top of the groove. Unless shown differently on the plans, expansion joints shall be caulked to match the color of the finished concrete.

4. Do not continue steel reinforcement, except dowels, across expansion joints unless otherwise indicated.

5. Extend expansion joint fillers full width and depth of the joint

6. Terminate joint filler material not less than 1/2 inch or more than 1 inch (25 mm) below finished surface so that joint caulking material may be installed at an acceptable depth.

7. Furnish joint fillers in one-piece lengths. Where more than one length is required, lace or clip joint-filler sections together.

8. During concrete placement, protect top edge of joint filler with metal, plastic, or other temporary preformed cap. Remove protective cap after concrete has been placed on both sides of joint.

D. Doweled Joints:

1. Install dowel bars and support assemblies at joints where indicated. Lubricate or coat one-half of dowel length to prevent concrete bonding to one side of joint.

2. Dowels shall be placed as shown on the drawings or if not shown on the drawings, shall be placed at 12 inch intervals where walks meet at all doorways and tops

and bottoms of stairs and ramps. Place all dowels level, parallel, of the same length and with ends even.

3. Lubricate or coat with asphalt one-half of dowel length to prevent concrete bonding to one side of joint.

3.7 CONCRETE PLACEMENT

A. Before placing concrete, inspect and complete formwork installation[, steel reinforcement, and items to be embedded or cast-in.

B. Remove snow, ice, or frost from subbase surface and steel reinforcement before placing concrete. Do not place concrete on frozen surfaces.

C. Moisten subbase to provide a uniform dampened condition at time concrete is placed. Do not place concrete around manholes or other structures until they are at required finish elevation and alignment.

D. Comply with ACI 301 (ACI 301M) requirements for measuring, mixing, transporting, and placing concrete.

E. Do not add water to concrete during delivery or at Project site. Do not add water to fresh concrete after testing.

F. Deposit and spread concrete in a continuous operation between transverse joints. Do not push or drag concrete into place or use vibrators to move concrete into place.

G. Consolidate concrete according to ACI 301 (ACI 301M) by mechanical vibrating equipment supplemented by hand spading, rodding, or tamping.

1. Consolidate concrete along face of forms and adjacent to transverse joints with an internal vibrator. Keep vibrator away from joint assemblies, reinforcement, or side forms. Use only square-faced shovels for hand spreading and consolidation. Consolidate with care to prevent dislocating reinforcement, dowels, and joint devices.

H. Screed paving surface with a straightedge and strike off.

I. Commence initial floating using bull floats or darbies to impart an open-textured and uniform surface plane before excess moisture or bleedwater appears on the surface. Do not further disturb concrete surfaces before beginning finishing operations or spreading surface treatments.

J. Curbs and Gutters: Use design mixture for automatic machine placement. Produce curbs and gutters to required cross section, lines, grades, finish, and jointing.

K. Slip-Form Paving: Use design mixture for automatic machine placement. Produce paving to required thickness, lines, grades, finish, and jointing.

1. Compact subbase and prepare subgrade of sufficient width to prevent displacement of slip-form paving machine during operations.

3.8 FLOAT FINISHING

A. General: Do not add water to concrete surfaces during finishing operations.

B. Float Finish: Begin the second floating operation when bleedwater sheen has disappeared and concrete surface has stiffened sufficiently to permit operations. Float surface with power-driven floats or by hand floating if area is small or inaccessible to power units. Finish surfaces to true planes. Cut down high spots and fill low spots. Refloat surface immediately to uniform granular texture.

1. Medium-to-Coarse-Textured Broom Finish: Provide a coarse finish by striating float-finished concrete surface 1/16 to 1/8 inch (1.6 to 3 mm) deep with a stiff-bristled broom, perpendicular to line of traffic.

3.9 DETECTABLE WARNING INSTALLATION

A. Blockouts: Form blockouts in concrete for installation of detectable paving units.

B. Cast-in-Place Detectable Warning Tiles: Form blockouts in concrete for installation of tiles. Screed surface of concrete where tiles are to be installed to elevation, so that edges of installed tiles will be flush with surrounding concrete paving. Embed tiles in fresh concrete immediately after screeding concrete surface.

3.10 CONCRETE PROTECTION AND CURING

A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.

B. Comply with ACI 306.1 for cold-weather protection.

C. Evaporation Retarder: Apply evaporation retarder to concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h (1 kg/sq. m x h) before and during finishing operations. Apply according to manufacturer's written

instructions after placing, screeding, and bull floating or darbying concrete but before float finishing.

D. Begin curing after finishing concrete but not before free water has disappeared from concrete surface.

E. Curing Methods: Cure concrete by curing compound as follows:

1. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating, and repair damage during curing period.

3.11 PAVING TOLERANCES

A. Comply with tolerances in ACI 117 (ACI 117M) and as follows:

1. Elevation: 1/2 inch (19 mm).

2. Thickness: Plus 3/8 inch (10 mm), minus 1/4 inch (6 mm).

3. Surface: Gap below 10-feet- (3-m-) long; unleveled straightedge not to exceed 1/2 inch (13 mm).

4. Lateral Alignment and Spacing of Dowels: 1 inch (25 mm).

5. Vertical Alignment of Dowels: 1/4 inch (6 mm).

6. Joint Spacing: 3 inches (75 mm).

7. Contraction Joint Depth: Plus 1/4 inch (6 mm), no minus.

8. Joint Width: Plus 1/8 inch (3 mm), no minus.

3.12 FIELD QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.

B. Testing Services: Testing and inspecting of composite samples of fresh concrete obtained according to ASTM C 172/C 172M shall be performed according to the following requirements:

1. Testing Frequency: Obtain at least one composite sample for each 100 cu. yd. (76 cu. m) or fraction thereof of each concrete mixture placed each day.

    a. When frequency of testing will provide fewer than five compressive-strength tests for each concrete mixture, testing shall be conducted from at least five randomly selected batches or from each batch if fewer than five are used.

2. Slump: ASTM C 143/C 143M; one test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mixture. Perform additional tests when concrete consistency appears to change.

3. Air Content: ASTM C 231/C 231M, pressure method; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.

4. Concrete Temperature: ASTM C 1064/C 1064M; one test hourly when air temperature is 40 deg F (4.4 deg C) and below and when it is 80 deg F (27 deg C) and above, and one test for each composite sample.

5. Compression Test Specimens: ASTM C 31/C 31M; cast and laboratory cure one set of three standard cylinder specimens for each composite sample.

6. Compressive-Strength Tests: ASTM C 39/C 39M; test one specimen at seven days and two specimens at 28 days.

    a. A compressive-strength test shall be the average compressive strength from two specimens obtained from same composite sample and tested at 28 days.

C. Strength of each concrete mixture will be satisfactory if average of any three consecutive compressive-strength tests equals or exceeds specified compressive strength and no compressive-strength test value falls below specified compressive strength by more than 500 psi (3.4 MPa).

D. Test results shall be reported in writing to Architect, concrete manufacturer, and Contractor within 48 hours of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing and inspecting agency, location of concrete batch in Work, design compressive strength at 28 days, concrete mixture proportions and materials, compressive breaking strength, and type of break for both 7- and 28-day tests.

E. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Architect but will not be used as sole basis for approval or rejection of concrete.

F. Additional Tests: Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by Architect.

G. Concrete paving will be considered defective if it does not pass tests and inspections.

H. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

I. Prepare test and inspection reports.

3.13 REPAIR AND PROTECTION

A. Remove and replace concrete paving that is broken, damaged, or defective or that does not comply with requirements in this Section. Remove work in complete sections from joint to joint unless otherwise approved by Architect.

B. Drill test cores, where directed by Architect, when necessary to determine magnitude of cracks or defective areas. Fill drilled core holes in satisfactory paving areas with portland cement concrete bonded to paving with epoxy adhesive.

C. Protect concrete paving from damage. Exclude traffic from paving for at least 14 days after placement. When construction traffic is permitted, maintain paving as clean as possible by removing surface stains and spillage of materials as they occur.

D. Maintain concrete paving free of stains, discoloration, dirt, and other foreign material. Sweep paving not more than two days before date scheduled for Substantial Completion inspections.

END OF SECTION

SECTION 32 14 00 – GRANITE CURBS

PART 1 - GENERAL

1.1 DESCRIPTION

A. Provide all equipment, labor and materials necessary to perform all work required to install granite curbs set in concrete bed as shown on the contract documents.

1.2 SUBMITTALS

A. Shop Drawings with the following information:

1. Granite suppliers name, address, and contact information
2. Geometric sections of standard straight curb sections
3. Geometric layout of any radius curbs
4. Geometric layout of transitional curbs for accessible curb ramps
5. Description of suppliers tolerances for granite top, face, back, and ends
6. Standard finish description for each face of curb

1.3 QUALITY ASSURANCE

A. All granite shall be obtained from one quarry having adequate capacity and facilities to meet the specified requirements.

B. Cutting and finishing shall be done by a firm equipped to process the material promptly on order and in strict conformance to the specification.

C. Any piece of granite showing flaws or imperfections upon receipt at the jobsite shall be referred to the engineer for determination as to whether it shall be rejected, patched, or redressed for use. If rejected, the contractor shall replace the granite piece at no charge to the owner.

D. The contractor shall protect the curbstones and keep them in first-class condition until completion of the entire contract. When placing concrete around the curbstones and after pointing of joints, curbstone shall be satisfactorily cleaned of all excess mortar and concrete. Particular care must be exercised to prevent discoloration of exposed surfaces.

PART 2 - PRODUCTS

2.1 GRANITE CURBING

A. Granite shall be tough, dense, sound and durable, of uniform light color, reasonably fine grained and free from seams, cracks or other structural defects with the following requirements:

1. Match existing curb as to color, appearance and dimensions.
2. Furnish curbs with sawed or smooth top, back and ends.
3. Furnish curbs with split or rough front face only.
4. Straight pieces shall be a minimum of 3 feet long.
5. Curb segments on curves with radius of 100 feet or less shall be shaped to the required curvature, with the ends split on radial lines.
6. Indicated dimensions for curb segments shall not vary more than 2 inches for depth and 1 inch for width.
7. Top and front surfaces shall be true planes at right angles to each other, as seen with a straight edge. No projection greater than 3/4 inch or depression greater than 1/2 inch on the split surfaces will be acceptable.
8. Top surface shall not vary more than 1/8 inch.
9. Drill holes will not be permitted in exposed curb surfaces.

2.2 CONCRETE SETTING BED

A. 3000 psi concrete

2.3 MORTAR

A. Mortar for pointing joints shall be composed of equal parts of cement and clean sand with sufficient water to make a workable mixture.

B. The material shall conform to the requirements of ASTM C-91 and C-1440.

PART 3 EXECUTION

3.1 SALVAGE OF CURBING

A. The Contractor shall carefully remove, store, and clean all curbing specified for resetting. The Contractor shall replace all existing curbing that is to be reset which is lost, damaged, or destroyed as a result of his operations, at no expense to the Owner.

3.2 EXCAVATING TRENCH

A. The trench for the curb shall be excavated to a minimum width of eighteen (18) inches. The sub-grade of the trench shall be at a depth below the proposed finished grade of the curb equal to ten (10) inches plus the depth of the curbstone.

3.3 PREPARATION OF SETTING BED

A. The foundation for the curbing shall consist of a concrete setting bed placed on stone subbase as shown on the drawings.

3.4 SETTING CURBING

A. Remove mortar and concrete from existing curbs to be reused.

B. Set curbs true to line and grade with support system to elevate curb for concrete pour.

C. Fill all spaces under the curb with concrete so that the curb will be completely supported throughout its length.

D. Place additional concrete to extend the concrete up the face and back of the curbing as detailed.

E. Joints between curb stones shall be filled full-depth with cement mortar and neatly pointed in the top and exposed faces. After pointing, clean off all excess mortar and tool joints slightly below adjacent stone surfaces.

F. Butt joint curb sections together.

END OF SECTION

SECTION 32 17 23 – PAVEMENT MARKING PAINTS

PART 1 - GENERAL

1.1 DESCRIPTION

A. CONTRACTOR shall furnish and apply Pavement Marking Paints in conformance with existing patterns, or as ordered by the Design Professional, and in conformance with the requirements of the latest edition of the New York State Department of Transportation Standard Specifications with current additions and modifications, except as noted herein.

B. When pavement markings are applied under traffic, the Contractor shall provide all the necessary flags, signs, cones, shadow vehicles, flashing arrow boards, etc. to maintain and protect traffic, to protect the work operation, and to protect the painted pavement markings until thoroughly dry and serviceable. No additional payment will be made for these items.

C. The Contractor shall be responsible for cleaning the pavement, to the satisfaction of the Design Professional, of dust, dirt, and other foreign material which may be detrimental to the adhesion of the paint film. When necessary, the Contractor shall establish marking line points at 30 feet intervals throughout the length of the pavement or as directed by the Engineer. The Contractor shall be responsible for removing, to the satisfaction of the Engineer, all tracking marks, spilled paint, and paint applied in unauthorized areas.

D. At the time of paint application, the pavement surface and ambient temperature shall not be less than 50°F, the relative humidity shall not exceed 85%, and the pavement surface shall be dry. Traffic paint shall not be applied during periods of rain or if rain is imminent.

E. Unless noted otherwise on construction documents, stripes will be 4” wide standard.

PART 2 - PRODUCTS

2.0 MATERIALS

A. Paint:
   1. Traffic Marking Paint must be a New York State Department of Transportation approved paint listed on the latest addition of the approved materials list. Paint not listed on the approved materials list will not be approved for use.

   2. Traffic paint shall be non-slip, and shall conform to the requirements of New York State Department of Transportation Specification Section 640 - Reflectorized Pavement Marking Paints.

   3. Glass beads will not be used.

PART 3 - EXECUTION

3.0 CONSTRUCTION DETAILS

A. Construction details and application of pavement markings shall be in accordance with Section 640 - Reflectorized Pavement Marking Paints except the spreading rate shall be fifteen (15) gallons per mile of standard 4 inch stripe or 350 linear feet of standard 4 inch stripe per gallon.

END OF SECTION

SECTION 32 91 13 - FURNISHING AND SPREADING TOPSOIL

PART 1 - GENERAL

1.1 DESCRIPTION

A. Provide all equipment, labor and materials necessary to perform all work required to install the extent of topsoil as shown on the contract drawings and as required in this specification.

B. Installed topsoil must be 6” minimum depth in all new lawn areas, and minimum 12” depth in entire area of all new plantbeds. Refer to contract drawings for extent of each area.

C. Furnishing and Spreading Topsoil includes furnishing, testing, amendment and spreading of topsoil, whether imported or from an on-site source

1.2 REFERENCES

A. ASTM C-33 – Standard Specification for Concrete Aggregates

B. ASTM D1557: Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort.

C. ASTM D-2974 – Standard Test Method for Organic Content

D. ASTM D-4972 – Standard Test Method for pH Determination

E. ASTM F-1632 – Standard Test Method for Particle Size Analysis

1.3 QUALITY ASSURANCE

A. The contractor shall employ and pay for all costs in connection with having an independent testing facility determine the conformance of soils that will be used on the site with the specifications. These test results will be transmitted to the design professional as submittals prior to commencing work.

B. Binghamton University shall appoint, employ and pay for all costs in connection with an approved independent testing facility to determine conformance of soils with the specifications and submitted product information once the materials have arrived on site. Testing should be coordinated with the University so that samples may be pulled from stockpile and not from installed topsoil as testing results can be inaccurate from spread topsoil samples. (This step is required due

to the major discrepancies that have been witnessed between submitted product information and actual materials delivered to Campus project sites in the past) Re-testing required because of non-conformance to specified requirements shall be performed by the same independent firm on instruction by the Design Professional, and payment will be charged to the Contractor.

C. All topsoil, whether imported or on-site, shall be tested and the analysis results will be approved by the Design Professional prior to placement on the site. If more than 1000 cubic yards of topsoil are furnished, an additional sample of topsoil shall be submitted for testing from each additional 1000 cubic yards of topsoil to be used on the project. An approved independent testing laboratory shall do all testing, and all samples shall be taken and prepared in accordance with their requirements. Analysis shall include:

    1. Particle size analysis.
    2. Soil classification.
    3. Organic matter content.
    4. pH
    5. PCB content - topsoil containing PCB's will not be approved for use on the project.
    6. Recommendations for needed soil additives if the topsoil testing results fall outside the required parameters. Include recommended additive composition, rate and method of application information appropriate to the intended use of the topsoil (landscape plantings, seed or sod lawn, etc.)

D. Preparation of subgrade and subgrade compaction shall be according to Specification Section 312000 - Earthwork and Grading.

E. Soil amendments, if required, shall be tested and analysis approved by DESIGN PROFESSIONAL prior to blending with topsoil.

    1. Analysis of sand shall include:
        a) Particle size analysis
        b) Uniformity coefficient
        c) Fineness modulus

    2. Analysis of organic matter shall include:
        a) Description of type of organic matter
        b) Ash content
        c) Organic content
        d) Moisture content

e) Carbon to Nitrogen ratio
f) pH

F. The Owner shall retain an approved independent testing agency to conduct compaction tests of the subsoil on each new lawn or planting area up to 10,000 square feet in size. On larger areas, one test shall be performed for every 10,000 square feet, or as required by Design Professional. The Owner shall pay for the original tests if test results show that the work meets specifications. Areas that do not meet compaction requirements shall be remediated and tested again until specifications are met, and the costs of remediation and re-testing shall be paid by the Contractor.

1.4 SUBMITTALS

A. Testing laboratory analysis for all topsoil and soil amendments shall be submitted to the Design Professional for approval before any topsoil materials may be used on the project. Contractor shall bear the costs for all topsoil and materials testing and shipping of samples during the submittal process. Owner shall pay for all testing of materials that are delivered to the site. Contractor shall pay for any testing or re-submittals if submitted samples or delivered samples are rejected.

B. Submit location plan and number of compaction tests to be performed on lawn or plantbed areas for approval by the Design Professional before testing is undertaken by the owners testing agency.

1. Testing agency will report compaction test results indicating subsoil compaction as measured by Modified Proctor (ASTM D1557) to design professional.
2. If compaction test results do not meet specified tolerances, modify the work and arrange for retesting. Contractor will pay for all testing required to show conformance to specifications after initial failure.

PART 2 - PRODUCTS

2.1 TOPSOIL

A. Topsoil shall be a friable, productive agricultural soil typical of the Binghamton area, with the following characteristics:
1. Particle size analysis:

SIEVE DESIGNATION	PERCENT PASSING

1 inch (25 mm)	100
¼ inch (6.3 mm)	97-100
No. 200 (75 µm)	20-65(of the ¼ inch sieve)

2. Soil classification:
   a. Sandy loam soil, as classified by the U.S. Department of Agriculture, and shall have a textural analysis as determined by ASTM F-1632 as follows:

      Sand:55 to 75%
      Silt:5 to 40%
      Clay:5 to 20%

3. Organic matter content shall be between 4% and 8% by weight, as determined by ASTM D-2974.

4. pH (acidity) shall not be less than 5.5 or greater than 7.6 as determined by ASTM D-4972.

2.2 TOPSOIL AMENDMENTS

A. Sand - if additional sand is needed to meet the specified textural analysis, sand shall be:
   1. ASTM C-33 Concrete Sand with a uniformity coefficient (Cu) less than or equal to 4, and fineness modulus of 2.5 to 3.2.

B. Organic matter - if organic amendments are needed to obtain the specified organic matter content of the topsoil, the organic matter source may be:

   1. Canadian sphagnum peat having an ash content not exceeding 15%, as determined by ASTM D-2974, and/or
   2. Compost not containing biosolids (sewage sludge) and produced in an in-vessel system and screened to ¾", which meets the following standards:

Ash content	less than 40%
Organic content	minimum 60%
Moisture content	30-60%
Carbon to nitrogen ratio	15:1 to 30:1
pH	6.0–8.0

C. Fertilizer - if fertilizers are recommended by the testing laboratory, fertilizers shall be commercial fertilizers with 50% of their total nitrogen derived from ureaform furnishing a minimum of 3.5% water insoluble nitrogen (3.5% WIN).

The balance of the nitrogen shall be present as methylene urea, water soluble urea, nitrate and ammoniacal compounds.

PART 3 - EXECUTION

3.1 PREPARATION

A. Prior to placing the topsoil, verify that no foreign materials or deleterious material or liquid has been deposited in the subsoils. Remove all weeds and undesirable plants including all roots. Remove any contaminated subsoil or foreign material.

B. Harrow or otherwise loosen the subsoil to a depth of eight (8) inches minimum, paying special attention to areas where construction equipment has been driven.

C. Fine grade loosened subsoil using light tracked equipment and the minimum of passes necessary to establish lines, levels, profiles and contours as required by the Drawings. Avoid re-compaction of subsoil.

D. Notify Design Professional when these steps have been completed for visual inspection of prepared areas.

3.2 PLACING TOPSOIL

A. Only place topsoil during dry weather and on dry subgrade.
B. Do not place topsoil if subgrade is frozen.
C. Apply approximately half the thickness of topsoil over prepared, loosened subgrade and mix thoroughly into top 2-4 inches of subgrade material.
D. Place remainder of planting soil.
E. Grade topsoil to a smooth, uniform surface plane with loose, uniformly fine texture. Roll and rake topsoil to remove ridges and fill depressions to meet finished grade.
F. Topsoil shall be installed to such a depth that after natural settlement and light rolling the thickness of the topsoil shall not be less than six (6) inches for lawn areas and twelve (12) inches for plantbeds, unless noted otherwise on the Contract Drawings.

G. Any litter, stones larger than ½", or other objectionable material shall be removed from topsoil.

END OF SECTION

SECTION 32 92 00 - TURF AND GRASSES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Specification Section – Furnishing and Spreading Topsoil.

1.2 REFERENCES

A. TPI (Turfgrass Producers International) Guideline Specifications for Sodding

1.3 QUALITY ASSURANCE

A. Sod shall be:

1. Commercially grown by a producer specializing in sod production with a minimum of five years experience.

2. Inspected and found free of diseases, nematodes, pests and pest larvae by an entomologist of the State Department of Agriculture.

3. Tagged with common name of each grass species.

4. Approved by the DESIGN PROFESSIONAL before application.

5. Harvested within 48 hours of installation.

B. Topsoil and amendments shall be according to Specification Section – Furnishing and Spreading Topsoil, and shall be approved by DESIGN PROFESSIONAL prior to application.

C. Fertilizer shall be:

1. Delivered in standard sized bags of the vendor, with weight, analysis, and name of the manufacturer clearly marked.

2. Handled as recommended by manufacturer.

3. Approved by the DESIGN PROFESSIONAL before application.

1.4 SUBMITTALS

A. Sod producer's qualifications data:

1. Name, business address, and telephone number

2. Statement certifying producer's experience as required under Quality Assurance above.

B. Sod producers' product data:

1. Statement of grass species and percentages thereof making up the sod

2. Sod certificate of compliance with regulations of the New York State Department of Agriculture and Markets.

C. Submit manufacturer's certification of fertilizer composition.

D. Written guarantee on all newly installed lawn areas for 1 year after sod installation is complete.

E. Written plan for how sod will be watered that includes the following:

1. Water source that has been approved by University for use.
2. Sprinkler location plan
3. Sprinkler timer settings

F. CONTRACTOR shall bear the costs for all submittals including testing and shipping of samples. CONTRACTOR shall also pay for subsequent testing if submittals are rejected.

1.5 DELIVERY, STORAGE AND HANDLING

A. Protect root system from sun and wind.

B. Do not deliver more sod than can be installed in 24 hours.

C. Store sod in a moistened condition and in shade.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Sod shall:

1. Be a blend of approximately 80% Kentucky Bluegrass and 20% Perennial Ryegrass.
   a. Bluegrass portion of mix shall be made up of at least (3) Improved Kentucky Bluegrass varieties, with at least 35% of the seed coming from a shade tolerant variety or varieties.

2. Be field grown in the same climatic conditions as that of the project site.

3. Be grown on mineral soil, NOT peat or muck.

4. Be a minimum of 18 months of age with strong root development.

5. Be free of weeds and undesirable grasses, including Bermuda grass, brome grass, johnson grass, poison ivy, nut sedge, nimble will, Canada thistle, bindweed, bent grass, wild garlic, ground ivy and perennial sorrel. And shall Contain less than 5 jimsonweed, mustard, lamb's quarter, chickweed, cress or crab grass plants per 100 square feet.

6. Be uniform in color, texture, and leaf density.

7. Have a mowed height when harvested of 1-1/2 to 2-1/2 inches.

8. Thatch shall not exceed ½ inch of thickness uncompressed.

9. Not be less than ½ inch or more than ¾ inch thick, excluding top growth and thatch.

10. Be delivered and placed in large rolls, approximately 36 inches wide.

B. Topsoil - Topsoil material shall meet the requirements of Specification Section – Furnishing and Spreading Topsoil.

C. Fertilizer - Establishment fertilizer shall be applied in the late summer (August 25th - Sept 1st) and shall be a commercial fertilizer 24-3-20 with 50% of the total nitrogen derived from ureaform, furnishing a minimum of 3.5% water insoluble nitrogen (3.5% WIN). The balance of the nitrogen shall be present as methylene

urea, water soluble urea, nitrate and ammoniacal compounds. Fertilize at the rate of: .75 lbs/1000 sf of total nitrogen.

PART 3 - EXECUTION

3.1 CONSTRUCTION DETAILS

A. Job conditions:

1. Perform sodding between April 1 and June 30, or September 1 and October 31, unless given written permission by DESIGN PROFESSIONAL.

2. Perform sodding only after preceding work affecting ground surface is completed.

3. Place sod immediately after delivery, within 12 hours in warm weather, up to 48 hours in cooler weather, of its being harvested, unless given written permission by DESIGN PROFESSIONAL.

4. Restrict foot and vehicular traffic from sodded areas after planting to end of established period.

5. Do not sod on frozen, saturated, or dry soil.

6. Do not install sod when temperatures are below 32 degrees F.

B. Before sod is laid, area shall be loosened to a depth of 3 inches and raked to true lines and grades, free from unsightly variations, bumps, ridges, and depressions. Remove all sticks, clods, roots, stones larger than ½ inch, and any other objectionable material, to make an even and finely pulverized topsoil bed.

C. If topsoil bed is dry, thoroughly moisten to a depth of 3” from 48 to 24 hours prior to sod installation.

D. Lay first row of sod in a straight line with long dimension parallel to slope contours. Butt side and end joints, stagger end joints in adjacent rows. Do not stretch or overlap sod.

E. Peg sod on slopes of 3:1 or greater, using a minimum of two (2) pegs per square yard to prevent sod movement.

F. Water lightly to moisten sod.

G. Roll sod, except on pegged areas, with roller weighing not more than 150 pounds per foot of roller width, making sure all areas of sod are in full contact with the soil below, and the finished surface is smooth and even.

H. Thoroughly and evenly water to a depth of 6 inches immediately after placement and rolling. Water within 30 minutes of installation if weather is hot (temperature above 85º).

I. Install temporary barriers as need to prevent any traffic on newly sodded areas until sod is knitted in and underlying soil is firm enough to resist rutting.

J. Keep sod moist during the ten (10) days after planting. Do not allow sod to dry out. Set any sprinklers so that they can be moved and relocated without walking on the sod to minimize indentations and foot imprints. Where walking on sod is unavoidable, stand on wide boards laid over the sod.

K. Roll seams again approximately ten (10) days after sod was laid.

3.2 MAINTENANCE

A. Water thoroughly, by approved means, to a depth of 2” soil saturation a minimum of three (3) times per week, or more often when weather conditions warrant it, for a minimum of 30 days or longer, as required to achieve a uniform and healthy lawn with roots well knit to the underlying soil, and until final acceptance.

B. Four weeks after sod placement, evenly apply single nutrient nitrogen fertilizer (containing 30 - 60% of N in slowly available form) at a rate of 0.5 pounds per 1,000 square feet to new sod lawn areas, and water in.

G. Mow all sodded areas once turf has reached an average height of 3-1/2 inches to maintain a grass height between 2 and 2-1/2 inches. Do not remove more than 40% of grass leaf in a single mowing.

H. Repair all washouts, gullies and areas of unhealthy or dead sod that are 6 square inches or larger by replacing topsoil, re-raking, and patching as required.

G. Remove all trash and excess materials from site.

3.3 INSPECTION AND ACCEPTANCE

A. The Contractor shall request the DESIGN PROFESSIONAL to inspect when the lawn is established. An acceptable lawn shall be a smooth and uniformly established stand of grass 2 - 2-1/2 inches tall that is reasonably weed free, with roots grown into the soil below such that sod pieces cannot be easily lifted. Owner is responsible for maintenance of the lawn, except fertilization, after acceptance of establishment.

B. The Contractor shall be responsible for final establishment fertilization in late summer following which, the lawn shall be accepted. Owner is responsible for all maintenance of the lawn after final acceptance.

END OF SECTION

SECTION 32 93 00 – PLANTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Work Included: The Work of this Section includes, but is not limited to the following:

1. Trees.
2. Shrubs.
3. Ground cover.
4. Perennial plants.

1.3 REFERENCES

A. Standards: Comply with applicable recommendations of the following:

1. “Standardized Plant Names”, American Joint Committee on Horticultural Nomenclature.
2. “American Standard for Nursery Stock”, American Association of Nurserymen (ANSI 260.1)

1.4 DEFINITIONS

A. Balled and Burlapped Stock: Exterior plants dug with firm, natural balls of earth in which they are grown, with ball size not less than diameter and depth recommended by ANSI Z60.1 for type and size of tree or shrub required; wrapped, tied, rigidly supported, and drum-laced as recommended by ANSI Z60.1.

B. Balled and Potted Stock: Exterior plants dug with firm, natural balls of earth in which they are grown and placed, unbroken, in a container. Ball size is not less than diameter and depth recommended by ANSI Z60.1 for type and size of exterior plant required.

C. Bare-Root Stock: Exterior plants with a well-branched, fibrous-root system developed by transplanting or root pruning, with soil or growing medium removed, and with not less than minimum root spread according to ANSI Z60.1 for kind and size of exterior plant required.

D. Container-Grown Stock: Healthy, vigorous, well-rooted exterior plants grown in a container with well-established root system reaching sides of container and maintaining a firm ball when removed from container. Container shall be rigid enough to hold ball shape and protect root mass during shipping and be sized according to ANSI Z60.1 for kind, type, and size of exterior plant required.

E. Fabric Bag-Grown Stock: Healthy, vigorous, well-rooted exterior plants established and grown in-ground in a porous fabric bag with well-established root system reaching sides of fabric bag. Fabric bag size is not less than diameter, depth, and volume required by ANSI Z60.1 for type and size of exterior plant.

F. Finish Grade: Elevation of finished surface of planting soil.

G. Manufactured Topsoil: Soil produced off-site by homogeneously blending mineral soils or sand with stabilized organic soil amendments to produce topsoil or planting soil.

H. Planting Soil: Native or imported topsoil, manufactured topsoil, or surface soil modified to become topsoil; mixed with soil amendments.

I. Subgrade: Surface or elevation of subsoil remaining after completing excavation, or top surface of a fill or backfill, before placing planting soil.

1.5 SUBMITTALS

A. Comply with the requirements of Division 1 Section Submittals. Incomplete or improper submittals will be returned to the Contractor without change in contract time.

B. Samples for Verification: For each of the following:

1. Submit one-pound samples, packaged in plastic bags, to the Architect for examination and approval prior to any landscape operations:

    a. Mulches.
    b. On-site soils.
    c. Imported soils.
    d. Organics.

e. Soil mixes.

C. Material Certificates: Submit the following manufacturer's information and source data:

a. Commercial fertilizers.
b. Chemical additives.
c. Organics.
d. Lime.
e. Iron Sulfate.
f. Filter Cloth/Soil Separator.
g. Erosion Control Fabric.

D. Qualification Data: For landscape installer.

E. Material Test Reports: For existing surface soil and imported topsoil.

F. Planting Schedule: Indicating anticipated planting dates for exterior plants.

G. Maintenance Instructions: Recommended procedures to be established by Owner for maintenance of exterior plants during a calendar year. Submit before expiration of required maintenance periods.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: Not less than 5 years documented successful experience in installation of work similar to Work in this Project.

B. Soil-Testing Laboratory Qualifications: An independent laboratory, recognized by the State Department of Agriculture, with the experience and capability to conduct the testing indicated and that specializes in types of tests to be performed.

C. Planting Soil Analysis: Furnish soil analysis per the requirements of Section 32 9113 Soil Preparation.

D. Provide quality, size, genus, species, and variety of exterior plants indicated, complying with applicable requirements in ANSI Z60.1, "American Standard for Nursery Stock."

E. Tree and Shrub Measurements: Measure according to ANSI Z60.1 with branches and trunks or canes in their normal position. Do not prune to obtain required sizes. Take caliper measurements 6 inches above ground for trees up to 4-inch

caliper size, and 12 inches aboveground for larger sizes. Measure main body of tree or shrub for height and spread; do not measure branches or roots tip-to-tip.

F. Observation: Architect may observe trees and shrubs either at place of growth or at site before planting for compliance with requirements for genus, species, variety, size, and quality. Architect retains right to observe trees and shrubs further for size and condition of balls and root systems, insects, injuries, and latent defects and to reject unsatisfactory or defective material at any time during progress of work. Remove rejected trees or shrubs immediately from Project site.

1. Notify Architect of sources of planting materials seven days in advance of delivery to site.

G. Preinstallation Conference: Conduct conference at Project site.

H. Plant Substitutions – Pre-Bid:

1. It is the landscape contractor's responsibility to make every reasonable effort to find the plant material specified by the Architect.
2. Contractor is also responsible for qualifying his/her bid to document any plant suitability or availability problems.
3. Contractor may offer substitutions in writing to the Architect for consideration if there are legitimate availability problems.
4. Contractor may also offer substitutions if there are known diseases or insect resistant species that can be substituted for a pest prone plant, if specified.
5. Contractor shall submit a Base Bid as per plans and specifications, plus any price changes or clarifications for all recommended plant substitutions.

I. Plant Substitutions – Post-Bid, Pre-Installation:

1. It is the intent to reduce or eliminate post-bid substitutions.
2. Substitutions of plant materials will not be permitted unless authorized in writing by Architect.
3. If proof is submitted that any plant accepted during the bidding process is not attainable, a proposal will be considered for use of nearest equivalent size or variety, with corresponding adjustment of Contract price if necessary.
4. These provisions do not relieve Contractor of responsibility for obtaining required materials in advance if special growing conditions or other arrangements can be made in order to provide the required materials.

5. Architect may reject plant substitutions which were not approved in writing and as outlined even after plant installation.

J. Preliminary Plant Acceptance:

1. Architect or his representative may view plants at their place of growth or upon delivery. Architect reserves the right to tag plants at their place of growth.
2. For distant material, photographs may be submitted in lieu of on-site inspections or for preliminary reviews prior to on-site inspection.
3. Send Architect written request for plant inspection at their place of growth at least ten calendar days prior to digging.
4. Identify place of growth and quantity of plants to be inspected.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver exterior plants freshly dug.

1. Immediately after digging up bare-root stock, pack root system in wet straw, or other suitable material to keep root system moist until planting.

B. Do not prune trees and shrubs before delivery, except as approved by Architect. Protect bark, branches, and root systems from sun scald, drying, sweating, whipping, and other handling and tying damage. Do not bend or bind-tie trees or shrubs in such a manner as to destroy their natural shape. Provide protective covering of exterior plants during delivery. Do not drop exterior plants during delivery.

C. Handle planting stock by root ball.

D. Plants damaged in transit, storage or handling may be rejected at the sole discretion of the Architect. Contractor shall note that consideration for plant material damage may not be life threatening, but rather cosmetic such as broken branches or scratched trunks, to qualify plant for rejection.

E. Root balls which are not tight and properly prepared or show signs of damage will be rejected.

F. Deliver exterior plants after preparations for planting have been completed and install immediately. If planting is delayed more than six hours after delivery, set exterior plants in shade, protect from weather and mechanical damage, and keep roots moist.

1. Heel-in bare-root stock. Soak roots in water for two hours if dried out.
2. Set balled stock on ground and cover ball with soil, mulch, sawdust, or other acceptable material.
3. Do not remove container grown stock from containers before time of planting.
4. Water root systems of exterior plants stored on-site with a fine-mist spray. Water as often as necessary to maintain root systems in a moist condition.
5. If plant material is stored more than three days on site, return it to the nursery for proper care until it can be planted.

G. Sod

1. Sod: Harvest, deliver, store, and handle sod according to requirements in "Specifications for Turfgrass Sod Materials" and "Specifications for Turfgrass Sod Transplanting and Installation" sections in TPI's "Guideline Specifications to Turfgrass Sodding." Deliver sod within 24 hours of harvesting and in time for planting promptly. Protect sod from breakage and drying.

1.8 PLANT SEASONS

A. B&B, deciduous trees and shrub materials:

1. Lowest Risk: March 1 to May 30 and September 15 to December 1.

    a. Deciduous plants dug and planted while dormant in spring or fall except those listed below.
    b. Deciduous plants dug during dormancy and planted after producing leaves providing they have been properly stored.
    c. Deciduous plants dug after leaves have fully expanded and harden off.

2. Highest Risk:

    a. Deciduous plants dug in the spring during newly expanding leaf production.
    b. *Nyssa sylvatica*, straight species and cultivars, dug outside of dormancy.

B. Evergreen B&B material:

1. Freshly dug evergreen material should not be moved without proper conditioning during active growth.

C. Summer dug B&B material shall be handled in one of the following methods in order to harden off:

1. Properly hardened-off in field 7-10 days prior to digging by a gradual process of trenching and soaking, leaving the bottom surface of the ball attached to soil until shipping.
2. Condition under irrigation in partial shade for at least 4 days prior to shipping.
3. *Nyssa sylvatica*, straight species and cultivars, may not be dug outside of dormancy.

D. Perennials:

1. May be installed as soon as the ground is workable in Spring after March 1 until November 15.
2. Any plants required to be installed after November 15, will require protective, supplemental mulching applied after December 15 and removed when weather permits around March 1.

E. Annuals:

1. Cold sensitive annuals may be installed after danger of frost has passed and as soon as the ground is workable in the Spring after March 1 and November 15.

F. Spring Flowering Bulbs:

1. May be installed between September 15 to December 31.

G. Sod
1. May be installed between March 15 and May 30 and September 1 – October 15.

H. Excluded Material:

1. The following trees may not be installed between November 15 and March 1: White oak (Quercus alba), Scarlet Oak (Quercus coccinea), Red Oak (Quercus rubra), Willow Oak (Quercus phellos), Flowering Dogwood

Varieties (Cornus florida), Sweet Gum (Liquidambar styraciflua) and all conifers with the exception of White Pines (Pinus strobus).

I. Out of season plant installation:

1. A professional horticulturist, nurseryman or arborist shall be consulted to determine the proper time, based on plant species and weather conditions, to move and install particular plant material to minimize plant stress if it is required to move material outside of the preceding guidelines.
2. Should plant material be required to be installed for the contractor's convenience, it shall be at the Contractor's full risk and responsibility. However, if plants are required to be installed as per the owner's direction, plant warranty may be waived.
3. Architect will only allow variance in planting season upon written request.

1.9 WARRANTY

A. Contractor shall warrant that all trees, shrubs, vines, groundcovers, perennials, and bulbs planted under this Contract will be healthy and in flourishing condition of active growth for a Warranty Period of 12 Months from date of completion and initial acceptance of the work.

B. Any delay in completion of planting operations which extends the planting into more than one planting season shall extend the Warranty period correspondingly.

C. Contractor shall provide written warranty certificates to the Architect.

D. Warranty Provisions:

1. Remove plants that are in the opinion of the Architect, at least 25% dead, unsightly, exhibit poor form for the species, or are not in healthy condition.
2. Replace removed plants and plants missing due to Contractor's negligence. Replace when weather conditions permit and within specified planting period, or as directed by Landscape Architect.
3. Provide replacement plants closely matching adjacent specimens of same species.
4. Warrant replacement plants for additional period of 12 months from date of their acceptance after replacement. Note that failure to replace plants in a timely and responsive manner may result in reduction and/or forfeiture of final payments.

1.10 MAINTENANCE

A. Begin maintenance immediately after plants are installed and continue to maintain for a period of one year. The one year period begins after approved substantial completion by the Architect. At the end of the one year maintenance period a final site walk will be scheduled with the Architect and Owner representatives and upon acceptance the site will be turned over to the Owner.

B. Maintenance Requirements:

1. Protect plants and planting areas from damage.
2. Keep plants healthy, vigorous, trim and neat.
3. Prune to maintain plants in normal growth pattern.
4. Spray to control disease and insects.
5. Maintain mulch bed at 2-inch depth. Re-mulching of the plant materials is not required as part of the work.
6. Keep beds free of weeds and debris.
7. Provide manpower in order to water all plant materials as required to maintain adequate moisture, and when directed by Architect.
8. Maintain stakes and guys in taut and rigid state with wires in place and safety flags clearly visible. Remove stakes and guys when no longer necessary for plant establishment after one year.
9. Reset plants to proper grade and upright condition if required and add topsoil and mulch to areas of settlement.
10. Provide additional stakes as required to support trees particularly evergreens in areas prone to high winds or settlement.

PART 2 - PRODUCTS

2.1 TREE AND SHRUB MATERIAL

A. General: Furnish nursery-grown trees and shrubs complying with ANSI Z60.1, with healthy root systems developed by transplanting or root pruning. Provide well-shaped, fully branched, healthy, vigorous stock free of disease, insects, eggs, larvae, and defects such as knots, sun scald, injuries, abrasions, and disfigurement.

B. Grade: Provide trees and shrubs of sizes and grades complying with ANSI Z60.1 for type of trees and shrubs required. Trees and shrubs of a larger size may be used if acceptable to Architect, with a proportionate increase in size of roots or balls.

2.2 PLANTS

A. Annuals: Provide healthy, disease-free plants of species and variety shown or listed. Provide only plants that are acclimated to outdoor conditions before delivery and that are in bud but not yet in bloom.

B. Perennials: Provide healthy, field-grown plants from a commercial nursery, of species and variety shown or listed.

2.3 SOD

A. Refer to section 32 9200 Turf and Grasses.

2.4 TOP SOIL

A. Refer to section 32 9113 Soil Preparation.

2.5 FERTILIZER

A. Bonemeal: Commercial, raw or steamed, finely ground; a minimum of 4 percent nitrogen and 10 percent phosphoric acid.

B. Superphosphate: Commercial, phosphate mixture, soluble; a minimum of 20 percent available phosphoric acid.

C. Commercial Fertilizer: Commercial-grade complete fertilizer of neutral character, consisting of fast- and slow-release nitrogen, 50 percent derived from natural organic sources of urea formaldehyde, phosphorous, and potassium.

2.6 MULCHES

A. A. Organic Mulch: Free from deleterious materials and suitable as a top dressing of trees and shrubs, consisting of one of the following:

1. Type: Shredded hardwood, mulching grade, uniform in size, and free from foreign matter, or approved unscreened biosolid compost.

2.7 STAKE AND GUYS

A. Upright and Guy Stakes: Rough-sawn, sound, new hardwood, free of knots, holes, cross grain, and other defects, 2 by 2 inches by length indicated, pointed at one end.

B. Guy and Tie Wire: ASTM A 641/A 641M, Class 1, galvanized-steel wire, 2-strand, twisted, 0.106 inch in diameter.

C. Guy Cable: 5-strand, 3/16-inch- diameter, galvanized-steel cable, with zinc-coated turnbuckles, a minimum of 3 inches long, with two 3/8-inch galvanized eyebolts.

D. Hose Chafing Guard: Reinforced rubber or plastic hose at least 1/2 inch in diameter, black, cut to lengths required to protect tree trunks from damage.

E. Flags: Standard surveyor's plastic flagging tape, white, 6 inches long.

2.8 MISCELLANEOUS PRODUCTS

A. Antidesiccant: Water-insoluble emulsion, permeable moisture retarder, film forming, for trees and shrubs. Deliver in original, sealed, and fully labeled containers and mix according to manufacturer's written instructions.

2.9 PLANTING SOIL MIX

A. Planting Soil Mix: Provide manufactured soil per the Soil Preparation Section 32 9113.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas to receive exterior plants for compliance with requirements and conditions affecting installation and performance. Proceed with installation only after unsatisfactory conditions have been corrected.

B. Contact ‘MISS UTILITY’ at 800-257-7777 (72) hours prior to digging. Contractor shall take sole responsibility for any cost incurred due to damage due to these utilities.

C. Do not willfully proceed with planting as designed when it is obvious that conditions and/or obstructions exist due to changes in site conditions. Such conditions shall be brought to the immediate attention of the Landscape Architect. The Contractor will be held responsible for all necessary revisions due to failure to give such notification so that material can be relocated or conditions corrected prior to plant installations.

D. Remove any existing plant material necessary for the installation and the completion of the planting designed and contracted as part of this project.

3.2 PREPARATION

A. Protect structures, utilities, sidewalks, pavements, and other facilities, and lawns and existing exterior plants from damage caused by planting operations.

B. Provide erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.

C. Lay out individual tree and shrub locations and areas for multiple exterior plantings. Stake locations, outline areas, adjust locations when requested, and obtain Architect's acceptance of layout before planting. Make minor adjustments as required.

D. Lay out exterior plants at locations directed by Architect. Stake locations of individual trees and shrubs and outline areas for multiple plantings.

E. Apply antidesiccant to trees and shrubs using power spray to provide an adequate film over trunks, branches, stems, twigs, and foliage to protect during digging, handling, and transportation.

1. If deciduous trees or shrubs are moved in full leaf, spray with antidesiccant at nursery before moving and again two weeks after planting

3.3 PLANTING BED ESTABLISHMENT

A. Loosen subgrade of planting beds to a minimum depth of 6 inches. Remove stones larger than 1 inch in any dimension and sticks, roots, rubbish, and other extraneous matter.

1. Apply superphosphate fertilizer directly to subgrade before loosening only if indicated by soil testing.
2. Spread planting soil, apply leaf gro and fertilizer on surface, and thoroughly blend planting soil mix.

    a. Delay mixing fertilizer with planting soil if planting will not proceed within a few days.
    b. Mix lime with dry soil before mixing fertilizer.

3. Spread planting soil as indicated in Section 32 9113 Soil Preparation.

B. Finish Grading: Grade planting beds to a smooth, uniform surface plane with loose, uniformly fine texture. Roll and rake, remove ridges, and fill depressions to meet finish grades.

C. Restore planting beds if eroded or otherwise disturbed after finish grading and before planting.

3.4 TREE AND SHRUB EXCAVATION

A. Pits and Trenches: Excavate circular pits with sides sloped inward. Trim base leaving center area raised slightly to support root ball and assist in drainage. Do not further disturb base. Scarify sides of plant pit smeared or smoothed during excavation.

1. Excavate approximately three times as wide as ball diameter for balled and burlapped stock.

B. Subsoil removed from excavations may not be used as backfill.

C. Obstructions: Notify Architect if unexpected rock or obstructions detrimental to trees or shrubs are encountered in excavations.

3.5 SOIL DRAINAGE TEST

A. Before planting, determine that areas to receive plant material have adequate sub-drainage. Contractor is responsible for correcting all drainage conditions which may adversely impact the establishment of specified plantings.

1. Perform[water percolation tests for the following areas or as required in low areas where soils may not adequately drain.
2. Test by digging tree and shrub pits to the full depth and dimensions indicated on drawings.
3. Fill excavations to 1/3 depth with water and allow to percolate out before planting.
4. If after 24 hours, water remains in excavation, perform a more detailed percolation test as described below and notify Architect in writing.
5. At bottom of planting pit, excavate rectangular pit 12 inches x 12 inches x 18 inches deep. Pour water into this small pit to a depth of 6 inches (approximately 3 – 3 ¾ gallon). Note time required for water to be completely absorbed. Divide time noted by 6, to achieve average rate of absorption for 1 inch of water.

3.6 SOIL DRAINAGE IMPROVEMENTS

A. Where slope conditions permit, areas that do not drain properly may be drained to daylight with Architect's approval.

1. Use 3" diameter slotted corrugated polyethylene non-perforated drainage tubing per ASTM F-405 within tree pit or bed areas. Provide non-slotted type beyond plant pits or plant bed areas.
2. Minimum slope on drainage tubing shall not be less than 2%.

B. In areas that are low along streets and do not drain due to hydrostatic pressure, drainage improvements may require the following:

1. Excavate the bottom of the plant pit or bed so that the unexcavated portion slopes towards the low side of the pit or bed area.
2. Install drainage sack comprised of 3" diameter slotted corrugated polyethylene nonperforated drainage tubing per ASTM F-405, inside 8" ¾" washed gravel, wrapped in geotextile filter fabric such as Mirafi 140 S or N by Mirafi Inc., or approved equal.
3. Minimum slope on drainage tubing shall not be less than 2%.
4. Provide a vertical standpipe at each tree pit.
5. Connect slotted corrugated polyethylene non-perforated drainage tubing to nearby drain inlet where inverts permit.

3.7 TREE AND SHRUB PLANTING

A. Set balled and burlapped stock plumb and in center of pit or trench with top of root ball one inch above adjacent finish grades.

1. Remove burlap and wire baskets from tops of root balls and partially from sides, but do not remove from under root balls. Remove pallets, if any, before setting. Do not use planting stock if root ball is cracked or broken before or during planting operation.
2. Place planting soil mix around root ball in layers, tamping to settle mix and eliminate voids and air pockets. When pit is approximately one-half backfilled, water thoroughly before placing remainder of backfill. Repeat watering until no more water is absorbed. Water again after placing and tamping final layer of planting soil mix.

B. Set balled and potted container-grown stock plumb and in center of pit or trench with top of root ball 1 inch above adjacent finish grades.

1. Carefully remove root ball from container without damaging root ball or plant.

2. Place planting soil mix around root ball in layers, tamping to settle mix and eliminate voids and air pockets. When pit is approximately one-half backfilled, water thoroughly before placing remainder of backfill. Repeat watering until no more water is absorbed. Water again after placing and tamping final layer of planting soil mix.

C. Organic Mulching: Apply 3-inch average thickness of organic mulch extending 12 inches beyond edge of planting pit or trench. Do not place mulch within 3 inches of trunks or stems.

3.8 SODDING

A. Lay sod within 24 hours of harvesting. Do not lay sod if dormant or if ground is frozen or muddy.

B. Lay sod to form a solid mass with tightly fitted joints. Butt ends and sides of sod; do not stretch or overlap. Stagger sod strips or pads to offset joints in adjacent courses. Avoid damage to soil or sod during installation. Tamp and roll lightly to ensure contact with soil, eliminate air pockets, and form a smooth surface. Work sifted soil or fine sand into minor cracks between pieces of sod; remove excess to avoid smothering sod and adjacent grass.

1. Lay sod across slopes exceeding 1:3.
2. Anchor sod on slopes exceeding 1:6 with wood pegs or steel staples spaced as recommended by sod manufacturer but not less than two anchors per sod strip to prevent slippage.

C. Saturate sod with fine water spray within two hours of planting. During first week after planting, water daily or more frequently as necessary to maintain moist soil to a minimum depth of 1-1/2 inches (38 mm) below sod.

3.9 TREE AND SHRUB PRUNING

A. Prune, thin, and shape trees and shrubs according to standard horticultural practice. Prune trees to retain required height and spread. Unless otherwise indicated by Architect, do not cut tree leaders; remove only injured or dead branches from flowering trees. Prune shrubs to retain natural character. Shrub sizes indicated are sizes after pruning.

3.10 GUYING AND STAKING

A. A. Upright Staking and Tying: Stake trees of 2-inch through 5-inch caliper. Stake trees of less than 2-inch caliper only as required to prevent wind tip-out. Use a minimum of 2 stakes of length required to penetrate at least 18 inches below bottom of backfilled excavation and to extend at least 72 inches above grade. Set vertical stakes and space to avoid penetrating root balls or root masses. Support trees with two strands of tie wire encased in hose sections at contact points with tree trunk. Allow enough slack to avoid rigid restraint of tree. Use the number of stakes as follows:

1. Use two stakes for trees up to 12 feet high and 2-1/2 inches or less in caliper; three stakes for trees less than 14 feet high and up to 4 inches in caliper. Space stakes equally around trees.
2. Attach flags to each guy wire, 30 inches above finish grade.
3. Paint turnbuckles with luminescent white paint.

3.11 GROUND COVER AND PLANTING

A. Set out and space ground cover and plants as indicated.

B. Dig holes large enough to allow spreading of roots, and backfill with planting soil.

C. Work soil around roots to eliminate air pockets and leave a slight saucer indentation around plants to hold water.

D. Water thoroughly after planting, taking care not to cover plant crowns with wet soil.

E. Protect plants from hot sun and wind; remove protection if plants show evidence of recovery from transplanting shock.

3.12 PLANTING BED MULCHING

A. Mulch backfilled surfaces of planting beds and other areas indicated.

1. Organic Mulch: Apply 3-inch average thickness of organic mulch, and finish level with adjacent finish grades. Do not place mulch against plant stems.

3.13 CLEANUP AND PROTECTION

A. During exterior planting, keep adjacent paving and construction clean and work area in an orderly condition.

B. Protect exterior plants from damage due to landscape operations, operations by other contractors and trades, and others. Maintain protection during installation and maintenance periods. Treat, repair, or replace damaged exterior planting.

3.14 DISPOSAL

A. Disposal: Remove surplus soil and waste material, including excess subsoil, unsuitable soil, trash, and debris, and legally dispose of them off Owner's property

END OF SECTION 329300

SECTION 33 41 00 - STORM UTILITY DRAINAGE PIPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Pipe and fittings.
2. Nonpressure transition couplings.
3. Drains.

1.3 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Coordination Drawings: Show pipe sizes, locations, and elevations. Show other piping in same trench and clearances from storm drainage system piping. Indicate interface and spatial relationship between manholes, piping, and proximate structures.

C. Electronic files of video inspection.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Do not store plastic manholes, pipe, and fittings in direct sunlight.

B. Protect pipe, pipe fittings, and seals from dirt and damage.

1.5 PROJECT CONDITIONS

A. Interruption of Existing Storm Drainage Service: Do not interrupt service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary service according to requirements indicated:

1. Notify Engineer and Campus Facilities no fewer than two days in advance of proposed interruption of service.

2. Do not proceed with interruption of service without Engineer's written permission.

B. Installation of the work in this section will be hindered by the tightly congested work areas and the narrow, circuitous access routes from the work areas to public streets. Where common commercially available methods for delivery and installation of materials to the point of placement are not feasible, employ special methods to deliver and install materials for placement as shown and specified. Adapt delivery and placement methods to fit the access restrictions and other limitations described in the general requirements.

PART 2 - PRODUCTS

2.1 PE PIPE AND FITTINGS

A. Corrugated PE Drainage Pipe and Fittings NPS 3 to NPS 10: AASHTO M 252M, Type S, with smooth waterway for coupling joints.

1. Soiltight Couplings: AASHTO M 252M, corrugated, matching tube and fittings.

B. Corrugated PE Pipe and Fittings NPS 12 to NPS 60: AASHTO M 294M, Type S, with smooth waterway for coupling joints.

1. Soiltight Couplings: AASHTO M 294M, corrugated, matching pipe and fittings.

2.2 NONPRESSURE TRANSITION COUPLINGS

A. Comply with ASTM C 1173, elastomeric, sleeve-type, reducing or transition coupling, for joining underground nonpressure piping. Include ends of same sizes as piping to be joined, and corrosion-resistant-metal tension band and tightening mechanism on each end.

B. Sleeve Materials:

1. For Concrete Pipes: ASTM C 443, rubber.
2. For Plastic Pipes: ASTM F 477, elastomeric seal or ASTM D 5926, PVC.
3. For Dissimilar Pipes: ASTM D 5926, PVC or other material compatible with pipe materials being joined.

2.3 CONCRETE

A. General: Cast-in-place concrete according to ACI 318, ACI 350/350R, and the following:

1. Cement: ASTM C 150, Type II.
2. Fine Aggregate: ASTM C 33, sand.
3. Coarse Aggregate: ASTM C 33, crushed gravel.

4. Water: Potable.

B. Portland Cement Design Mix: 4000 psi minimum, with 0.45 maximum water/cementitious materials ratio.

1. Reinforcing Fabric: ASTM A 185/A 185M, steel, welded wire fabric, plain.
2. Reinforcing Bars: ASTM A 615/A 615M, Grade 60 (420 MPa) deformed steel.

PART 3 - EXECUTION

3.1 EARTHWORK

A. Excavation, trenching, and backfilling are specified in Section 31 20 00 “Earth Moving.”

3.2 PIPING INSTALLATION

A. General Locations and Arrangements: Drawing plans and details indicate general location and arrangement of underground storm drainage piping. Location and arrangement of piping layout take into account design considerations. Install piping as indicated, to extent practical. Where specific installation is not indicated, follow piping manufacturer's written instructions.

B. Install piping beginning at low point, true to grades and alignment indicated with unbroken continuity of invert. Place bell ends of piping facing upstream. Install gaskets, seals, sleeves, and couplings according to manufacturer's written instructions for use of lubricants, cements, and other installation requirements.

C. Install manholes for changes in direction unless fittings are indicated. Use fittings for branch connections unless direct tap into existing sewer is indicated.

D. Install proper size increasers, reducers, and couplings where different sizes or materials of pipes and fittings are connected. Reducing size of piping in direction of flow is prohibited.

E. Install gravity-flow, nonpressure drainage piping according to the following:

1. Install piping to elevations indicated on Drawings.
2. Install PE corrugated sewer piping according to ASTM D 2321.

3.3 PIPE JOINT CONSTRUCTION

A. Join gravity-flow, nonpressure drainage piping according to the following:

1. Join corrugated PE piping according to ASTM D 3212 for push-on joints.
2. Join dissimilar pipe materials with nonpressure-type flexible couplings.

B. Place cast-in-place concrete according to ACI 318.

3.4 CONNECTIONS

A. Connect nonpressure, gravity-flow drainage piping in building's storm building drains specified in Section 22 14 13 "Facility Storm Drainage Piping."

B. Make connections to existing piping and underground manholes as indicated in the drawings and as required by the Authority having jurisdiction.

1. Use commercially manufactured wye fittings for piping branch connections. Remove section of existing pipe; install wye fitting into existing piping; and encase entire wye fitting, plus 6-inch overlap, with not less than 6 inches of concrete with 28-day compressive strength of 3000 psi.
2. Make branch connections from side into existing piping, NPS 4 to NPS 20. Remove section of existing pipe, install wye fitting into existing piping, and encase entire wye with not less than 6 inches of concrete with 28-day compressive strength of 3000 psi.
3. Make branch connections from side into existing piping, NPS 21 or larger, or to underground manholes and structures by cutting into existing unit and creating an opening large enough to allow 3 inches of concrete to be packed around entering connection. Cut end of connection pipe passing through pipe or structure wall to conform to shape of and be flush with inside wall unless otherwise indicated. On outside of pipe, manhole, or structure wall, encase entering connection in 6 inches of concrete for minimum length of 12 inches to provide additional support of collar from connection to undisturbed ground.

    a. Use concrete that will attain a minimum 28-day compressive strength of 3000 psi unless otherwise indicated.
    b. Use epoxy-bonding compound as interface between new and existing concrete and piping materials.

4. Protect existing piping, manholes, and structures to prevent concrete or debris from entering while making tap connections. Remove debris or other extraneous material that may accumulate.

3.5 IDENTIFICATION

A. Materials and their installation are specified in Section 31 20 00 “Earth Moving.” Arrange for installation of green warning tape directly over piping and at outside edge of underground structures.

1. Use warning tape over ferrous piping.
2. Use detectable warning tape over nonferrous piping and over edges of underground structures.

3.6 FIELD QUALITY CONTROL

A. Inspect interior of piping to determine whether line displacement or other damage has occurred. Inspect after approximately 24 inches of backfill is in place, and again at completion of Project.

1. Submit separate reports for each system inspection.
2. Defects requiring correction include the following:

    a. Alignment: Less than full diameter of inside of pipe is visible between structures.
    b. Deflection: Flexible piping with deflection that prevents passage of ball or cylinder of size not less than 92.5 percent of piping diameter.
    c. Damage: Crushed, broken, cracked, or otherwise damaged piping.
    d. Infiltration: Water leakage into piping.
    e. Exfiltration: Water leakage from or around piping.

3. Replace defective piping using new materials, and repeat inspections until defects are within allowances specified.
4. Reinspect and repeat procedure until results are satisfactory.

B. Test new piping systems, and parts of existing systems that have been altered, extended, or repaired, for leaks and defects.

1. Do not enclose, cover, or put into service before inspection and approval.
2. Test completed piping systems according to requirements of authorities having jurisdiction.
3. Schedule tests and inspections by authorities having jurisdiction with at least 24 hours' advance notice.
4. Submit separate report for each test.
5. Gravity-Flow Storm Drainage Piping: Test according to requirements of authorities having jurisdiction, UNI-B-6, and the following:

    a. Exception: Piping with soiltight joints unless required by authorities having jurisdiction.
    b. Option: Test plastic piping according to ASTM F 1417.
    c. Option: Test concrete piping according to ASTM C 924.

C. Leaks and loss in test pressure constitute defects that must be repaired.

D. Replace leaking piping using new materials, and repeat testing until leakage is within allowances specified.

E. After all work of this section is substantially complete, provide a video inspection of all piping and manholes, including existing piping and manholes downstream to the next existing

manhole. Submit the electronic files of the inspection within five days of completing the field work. Follow all recommendations of the National Association of Sewer Service Companies.

3.7 CLEANING

A. Clean interior of piping of dirt and superfluous materials. Flush with water.

END OF SECTION 33 41 00

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QL-A VACUUM EXCAVATION SHEET

ENGLISH UNITS

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softdig@softdig.com

SoftDig Project #: 147730 Test Hole # 1 Date: 01-27-2025

Client: RMF Engineering, Inc. City: Binghamton County: Broome State: NY

Road: Access Road Project Location: Between Lipton Ln and Brandywine Residence Hall

Crew: J Duran / J Duran Truck: S-223 Permit: ------

TEST HOLE DATA

Utility Description: 4.00 IN Gray Concrete Communications Duct Bank

Utility Owner: SUNY Binghamton Observed Condition: Good Paint: Orange

Surface Elevation at Survey Mark: 1035.50 FT Survey Marker at Hole: PK Nail

Utility Top Elevation: 1032.24 FT Utility Bottom Elevation: ------

Utility Top Depth from Surface: 3.26 FT Utility Bottom Depth from Surface: ------

Benchmark Description: Storm Drain Catch Basin Elevation: 1032.77 FT Type: Given

Benchmark #2 (if avail.): ------ Elevation: ------ Type: ------

Surface Covering: Asphalt Asphalt: 15.0 IN Concrete: ------ Duct Bank Type (if needed): ------

Generalized Soil Profile: Rocky Backfill Compaction Test (if required): Pass

Approximate Latitude, Longitude: 42.0855386, -75.9751655 (Coordinates shown are resource grade only.)

Field Note: Encountered very hard ground in this location, unable to get bottom depth using SoftDig methods.

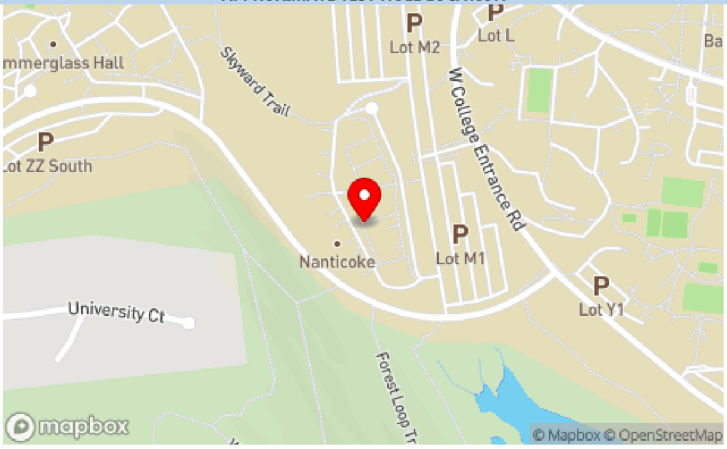
TEST HOLE PHOTOS

UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION

RESTORATION

APPROXIMATE TEST HOLE LOCATION



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softdig@softdig.com

SoftDig Project #: 147730 Test Hole # 2 Date: 01-27-2025

Client: RMF Engineering, Inc. City: Binghamton County: Broome State: NY

Road: Access Road Project Location: Between Lipton Ln and Brandywine Residence Hall

Crew: J Duran / J Duran Truck: S-223 Permit: ------

TEST HOLE DATA

Utility Description: 2.00 IN Yellow Plastic Gas Pipe

Utility Owner: SUNY Binghamton Observed Condition: Good Paint: Yellow

Surface Elevation at Survey Mark: 1034.64 FT Survey Marker at Hole: Hub

Utility Top Elevation: 1032.64 FT Utility Bottom Elevation: ------

Utility Top Depth from Surface: 2.00 FT Utility Bottom Depth from Surface: ------

Benchmark Description: Storm Drain Catch Basin Elevation: 1032.77 FT Type: Given

Benchmark #2 (if avail.): ------ Elevation: ------ Type: ------

Surface Covering: Soil Asphalt: ------ Concrete: ------ Duct Bank Type (if needed): ------

Generalized Soil Profile: Rocky Backfill Compaction Test (if required): Pass

Approximate Latitude, Longitude: 42.0856931, -75.9752361 (Coordinates shown are resource grade only.)

Field Note:

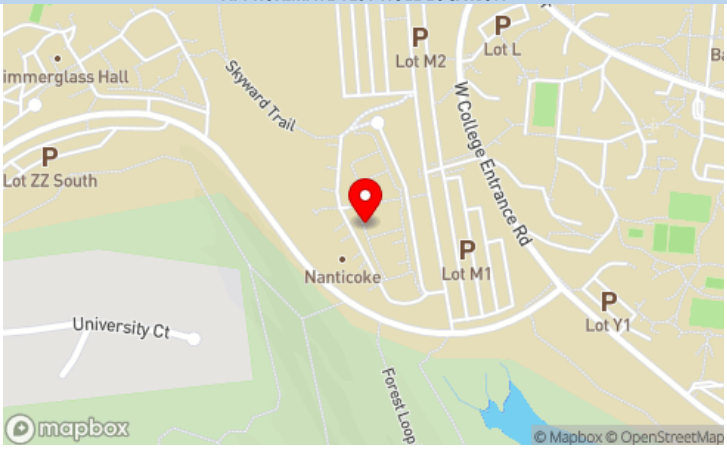
TEST HOLE PHOTOS

UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION

RESTORATION

APPROXIMATE TEST HOLE LOCATION



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PILOT HOLE EXCAVATION SHEET

ENGLISH UNITS

SoftDig Project #: 147730 Test Hole #: 3 Date: 01-29-2025

Client: RMF Engineering, Inc. City: Binghamton County: Broome State: NY

Road: Lipton Lane General Location: near Nanticoke Residence Hall

Crew: J Duran / J Duran Truck: S - 223 Permit #: ------

EXCAVATION INFORMATION

Excavation Type: No Utility Found - Empty Hole

Location Determined by: Dug adjacent to SoftDig Marks

Intended Utility: Water Excavation Marker: Paint Surface Covering: Soil

EXCAVATION DIMENSIONS:

Length: 1.0 ft Width: 1.0 ft Cleared Depth: 6.0 ft Probe Depth: 7.0 ft

Hole Stopped Due to: Encountered Refusal (rocks), unable to proceed using SoftDig methods

Refusal Type (if any): Hard Ground, Rock

Field Notes (if needed): This hole was moved to try and avoid comm duct bank, location needs to be reconfirmed

Latitude / Longitude: 42.0857429, -75.9754945

EXCAVATION PHOTOS

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QL-A VACUUM EXCAVATION SHEET

ENGLISH UNITS

SoftDig Project #: 147730 Test Hole # 4 Date: 01-29-2025

Client: RMF Engineering, Inc. City: Binghamton County: Broome State: NY

Road: Lipton Lane Project Location: near Nanticoke Residence Hall

Crew: J Duran / J Duran Truck: S-223 Permit: ------

TEST HOLE DATA

Utility Description: 24.00 IN Gray Concrete Communications Duct Bank

Utility Owner: SUNY Binghamton Observed Condition: Good Paint: Orange

Surface Elevation at Survey Mark: 1050.65 FT Survey Marker at Hole: PK Nail

Utility Top Elevation: 1046.65 FT Utility Bottom Elevation: ------

Utility Top Depth from Surface: 4.00 FT Utility Bottom Depth from Surface: ------

Benchmark Description: Storm Drain Catch Basin Elevation: 1048.53 FT Type: Given

Benchmark #2 (if avail.): ------ Elevation: ------ Type: ------

Surface Covering: Asphalt Asphalt: 4.00 IN Concrete: ------ Duct Bank Type (if needed): ------

Generalized Soil Profile: Rocky Backfill Compaction Test (if required): Pass

Approximate Latitude, Longitude: 42.0856984, -75.9755169 (Coordinates shown are resource grade only.)

Field Note:

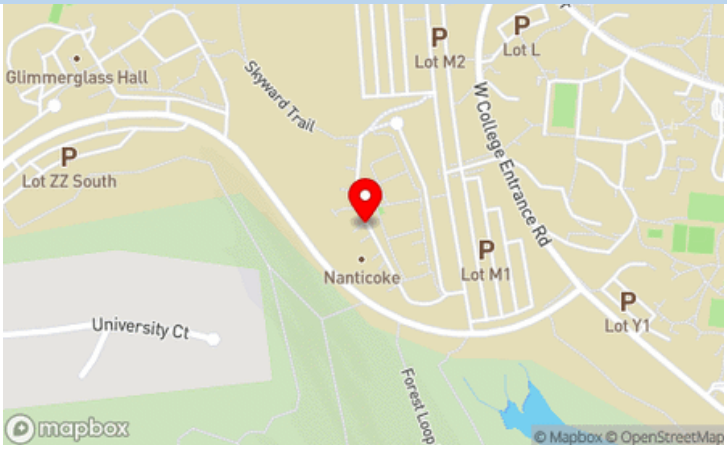
TEST HOLE PHOTOS

UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION

RESTORATION

APPROXIMATE TEST HOLE LOCATION



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PILOT HOLE EXCAVATION SHEET

ENGLISH UNITS

SoftDig Project #: 147730 Test Hole #: 5 Date: 01-29-2025

Client: RMF Engineering, Inc. City: Binghamton County: Broome State: NY

Road: Lipton Lane General Location: near Nanticoke Residence Hall

Crew: J Duran / J Duran Truck: S - 223 Permit #: ------

EXCAVATION INFORMATION

Excavation Type: No Utility Found - Empty Hole

Location Determined by: Dug on SoftDig Marks

Intended Utility: Electric Excavation Marker: Paint Surface Covering: Asphalt

EXCAVATION DIMENSIONS:

Length: 1.0 ft Width: 1.0 ft Cleared Depth: 3.0 ft Probe Depth: N/A

Hole Stopped Due to: Unable to proceed using SoftDig methods due to ground conditions

Refusal Type (if any): Hard Ground, Rock

Field Notes (if needed): Unsafe to continue using destructive methods, electric may be direct bury in this area

Latitude / Longitude: 42.0857367, -75.9755364

EXCAVATION PHOTOS

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QL-A VACUUM EXCAVATION SHEET

ENGLISH UNITS

SoftDig Project #: 147730 Test Hole # 6 Date: 01-27-2025

Client: RMF Engineering, Inc. City: Binghamton County: Broome State: NY

Road: Access Road Project Location: Between Lipton Ln and Brandywine Residence Hall

Crew: J Duran / J Duran Truck: S-223 Permit: ------

TEST HOLE DATA

Utility Description: 24.00 IN Gray Concrete Communications Duct Bank

Utility Owner: SUNY Binghamton Observed Condition: Good Paint: Orange

Surface Elevation at Survey Mark: 1037.13 FT Survey Marker at Hole: Hub

Utility Top Elevation: 1034.08 FT Utility Bottom Elevation: ------

Utility Top Depth from Surface: 3.05 FT Utility Bottom Depth from Surface: ------

Benchmark Description: Storm Drain Catch Basin Elevation: 1032.77 FT Type: Given

Benchmark #2 (if avail.): ------ Elevation: ------ Type: ------

Surface Covering: Soil Asphalt: ------ Concrete: ------ Duct Bank Type (if needed): ------

Generalized Soil Profile: Rocky Backfill Compaction Test (if required): Pass

Approximate Latitude, Longitude: 42.0857628, -75.9752791 (Coordinates shown are resource grade only.)

Field Note: Encountered very hard ground & rock in this location, unable to get bottom depth using SoftDig methods.

TEST HOLE PHOTOS

UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION

RESTORATION

APPROXIMATE TEST HOLE LOCATION

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QL-A VACUUM EXCAVATION SHEET

ENGLISH UNITS

SoftDig Project #: 147730 Test Hole # 7 Date: 01-28-2025

Client: RMF Engineering, Inc. City: Binghamton County: Broome State: NY

Road: Access Road Project Location: Between Lipton Ln and Brandywine Residence Hall

Crew: J Duran / J Duran Truck: S-223 Permit: ------

TEST HOLE DATA

Utility Description: 24.00 IN Gray Concrete Electric Duct Bank

Utility Owner: SUNY Binghamton Observed Condition: Good Paint: Red

Surface Elevation at Survey Mark: 1037.69 FT Survey Marker at Hole: Hub

Utility Top Elevation: 1034.31 FT Utility Bottom Elevation: ------

Utility Top Depth from Surface: 3.38 FT Utility Bottom Depth from Surface: ------

Benchmark Description: Storm Drain Catch Basin Elevation: 1032.77 FT Type: Given

Benchmark #2 (if avail.): ------ Elevation: ------ Type: ------

Surface Covering: Soil Asphalt: ------ Concrete: ------ Duct Bank Type (if needed): ------

Generalized Soil Profile: Rocky Backfill Compaction Test (if required): Pass

Approximate Latitude, Longitude: 42.0858047, -75.9753382 (Coordinates shown are resource grade only.)

Field Note:

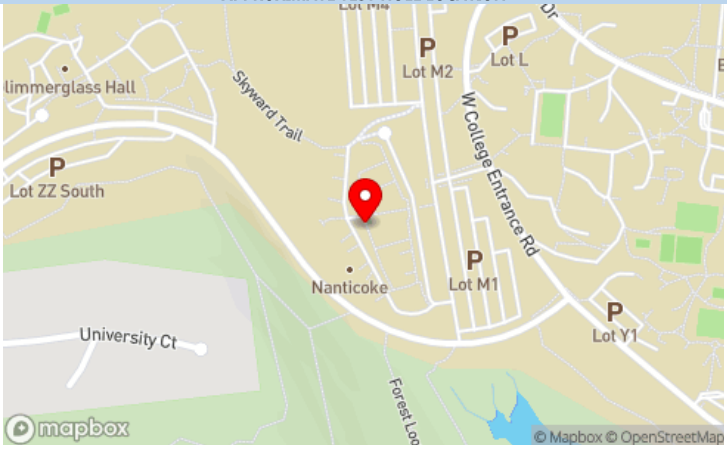
TEST HOLE PHOTOS

UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION

RESTORATION

APPROXIMATE TEST HOLE LOCATION



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SoftDig Project #: 147730 Test Hole # 8 Date: 01-28-2025

Client: RMF Engineering, Inc. City: Binghamton County: Broome State: NY

Road: Access Road Project Location: Between Lipton Ln and Brandywine Residence Hall

Crew: J Duran / J Duran Truck: S-223 Permit: ------

TEST HOLE DATA

Utility Description: (4) 4.00 IN White PVC Steam Pipe

Utility Owner: SUNY Binghamton Observed Condition: Good Paint: Pink

Surface Elevation at Survey Mark: 1038.52 FT Survey Marker at Hole: Hub

Utility Top Elevation: 1033.05 FT Utility Bottom Elevation: ------

Utility Top Depth from Surface: 5.47 FT Utility Bottom Depth from Surface: ------

Benchmark Description: Storm Drain Catch Basin Elevation: 1032.77 FT Type: Given

Benchmark #2 (if avail.): ------ Elevation: ------ Type: ------

Surface Covering: Soil Asphalt: ------ Concrete: ------ Duct Bank Type (if needed): ------

Generalized Soil Profile: Rocky Backfill Compaction Test (if required): Pass

Approximate Latitude, Longitude: 42.0858352, -75.9753575 (Coordinates shown are resource grade only.)

Field Note:

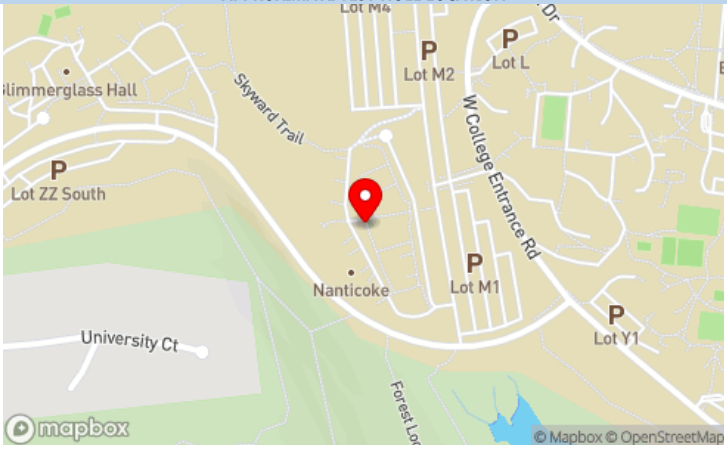
TEST HOLE PHOTOS

UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION

RESTORATION

APPROXIMATE TEST HOLE LOCATION



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SoftDig Project #: 147730 Test Hole # 9 Date: 01-28-2025

Client: RMF Engineering, Inc. City: Binghamton County: Broome State: NY

Road: Access Road Project Location: Between Lipton Ln and Brandywine Residence Hall

Crew: J Duran / J Duran Truck: S-223 Permit: ------

TEST HOLE DATA

Utility Description: 0.50 IN Black Direct Bury Electric Cable

Utility Owner: SUNY Binghamton Observed Condition: Good Paint: Red

Surface Elevation at Survey Mark: 1037.81 FT Survey Marker at Hole: Hub

Utility Top Elevation: 1035.05 FT Utility Bottom Elevation: ------

Utility Top Depth from Surface: 2.76 FT Utility Bottom Depth from Surface: ------

Benchmark Description: Storm Drain Catch Basin Elevation: 1032.77 FT Type: Given

Benchmark #2 (if avail.): ------ Elevation: ------ Type: ------

Surface Covering: Soil Asphalt: ------ Concrete: ------ Duct Bank Type (if needed): ------

Generalized Soil Profile: Rocky Backfill Compaction Test (if required): Pass

Approximate Latitude, Longitude: 42.0859309, -75.9753115 (Coordinates shown are resource grade only.)

Field Note:

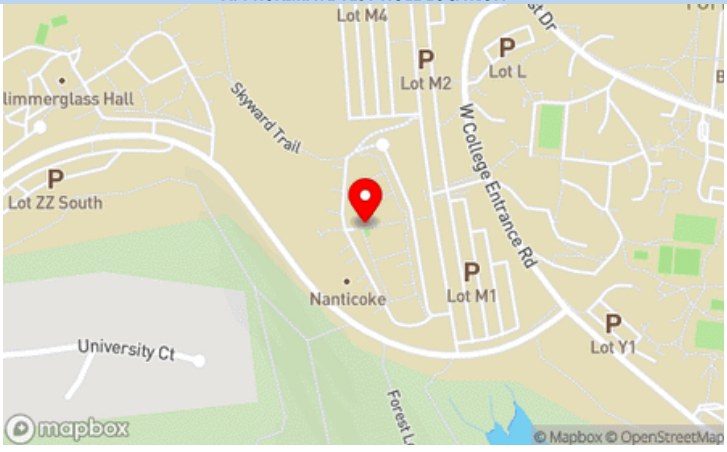
TEST HOLE PHOTOS

UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION

RESTORATION

APPROXIMATE TEST HOLE LOCATION



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SoftDig Project #: 147730 Test Hole # 10 Date: 01-30-2025

Client: RMF Engineering, Inc. City: Binghamton County: Broome State: NY

Road: Lipton Lane Project Location: Near Glenwood Residence Hall

Crew: J Duran / J Duran Truck: S-223 Permit: ------

TEST HOLE DATA

Utility Description: 24.00 IN Gray Concrete Electric Duct Bank

Utility Owner: SUNY Binghamton Observed Condition: Good Paint: Red

Surface Elevation at Survey Mark: 1051.32 FT Survey Marker at Hole: Hub

Utility Top Elevation: 1049.80 FT Utility Bottom Elevation: 1048.91 FT

Utility Top Depth from Surface: 1.52 FT Utility Bottom Depth from Surface: 2.41 FT

Benchmark Description: Storm Drain Catch Basin Elevation: 1050.17 FT Type: Given

Benchmark #2 (if avail.): ------ Elevation: ------ Type: ------

Surface Covering: Soil Asphalt: ------ Concrete: ------ Duct Bank Type (if needed): ------

Generalized Soil Profile: Rocky Backfill Compaction Test (if required): Pass

Approximate Latitude, Longitude: 42.0860991, -75.9756271 (Coordinates shown are resource grade only.)

Field Note:

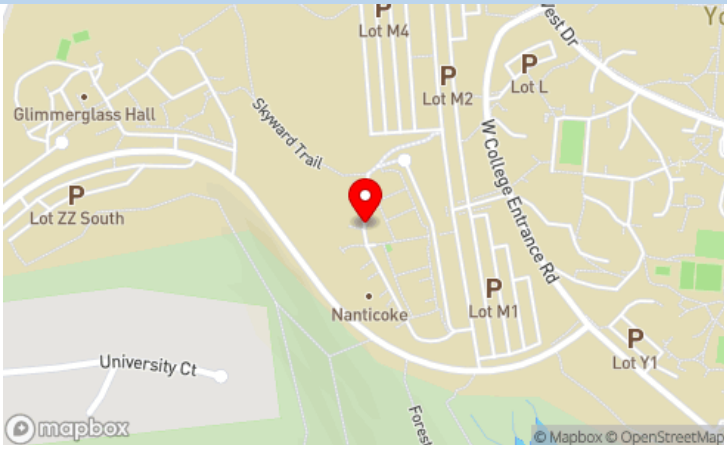
TEST HOLE PHOTOS

UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION

RESTORATION

APPROXIMATE TEST HOLE LOCATION



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SoftDig Project #: 147730 Test Hole # 11 Date: 01-30-2025

Client: RMF Engineering, Inc. City: Binghamton County: Broome State: NY

Road: Lipton Lane Project Location: Near Glenwood Residence Hall

Crew: J Duran / J Duran Truck: S-223 Permit: ------

TEST HOLE DATA

Utility Description: 24.00 IN Gray Concrete Communications Duct Bank

Utility Owner: SUNY Binghamton Observed Condition: Good Paint: Orange

Surface Elevation at Survey Mark: 1051.10 FT Survey Marker at Hole: PK Nail

Utility Top Elevation: 1046.21 FT Utility Bottom Elevation: ------

Utility Top Depth from Surface: 4.89 FT Utility Bottom Depth from Surface: ------

Benchmark Description: Storm Drain Catch Basin Elevation: 1050.17 FT Type: Given

Benchmark #2 (if avail.): ------ Elevation: ------ Type: ------

Surface Covering: Soil Asphalt: ------ Concrete: ------ Duct Bank Type (if needed): Rough Pour

Generalized Soil Profile: Rocky Backfill Compaction Test (if required): Pass

Approximate Latitude, Longitude: 42.0861293, -75.9756425 (Coordinates shown are resource grade only.)

Field Note: PK Nail as survey marker due to hard ground. Unable to clear trench bed rocks for bottom measurement

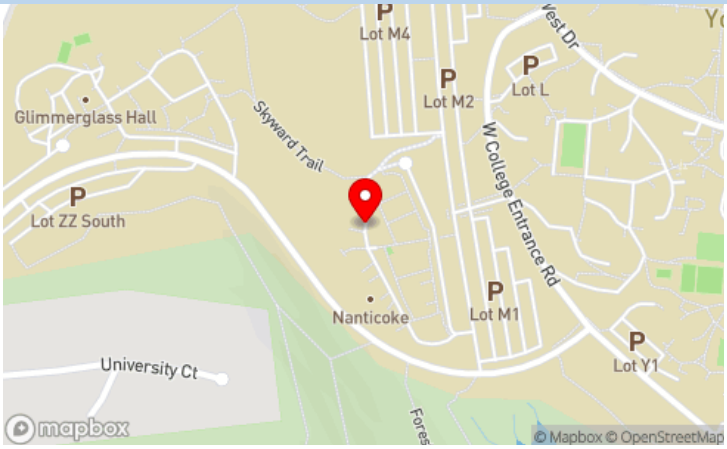
TEST HOLE PHOTOS

UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION

RESTORATION

APPROXIMATE TEST HOLE LOCATION



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SoftDig Project #: 147730 Test Hole # 12 A Date: 01-30-2025

Client: RMF Engineering, Inc. City: Binghamton County: Broome State: NY

Road: Lipton Lane Project Location: Near Glenwood Residence Hall

Crew: J Duran / J Duran Truck: S-223 Permit: ------

TEST HOLE DATA

Utility Description: 0.50 IN Black Direct Bury Electric Cable

Utility Owner: SUNY Binghamton Observed Condition: Good Paint: Red

Surface Elevation at Survey Mark: 1053.66 FT Survey Marker at Hole: Hub

Utility Top Elevation: 1050.20 FT Utility Bottom Elevation: ------

Utility Top Depth from Surface: 3.46 FT Utility Bottom Depth from Surface: ------

Benchmark Description: Storm Drain Catch Basin Elevation: 1050.17 FT Type: Given

Benchmark #2 (if avail.): ------ Elevation: ------ Type: ------

Surface Covering: Soil Asphalt: ------ Concrete: ------ Duct Bank Type (if needed): ------

Generalized Soil Profile: Rocky Backfill Compaction Test (if required): Pass

Approximate Latitude, Longitude: 42.0861466, -75.9756582 (Coordinates shown are resource grade only.)

Field Note: Probed excavation for additional utilities, nothing more found, and no other signal detected in this area

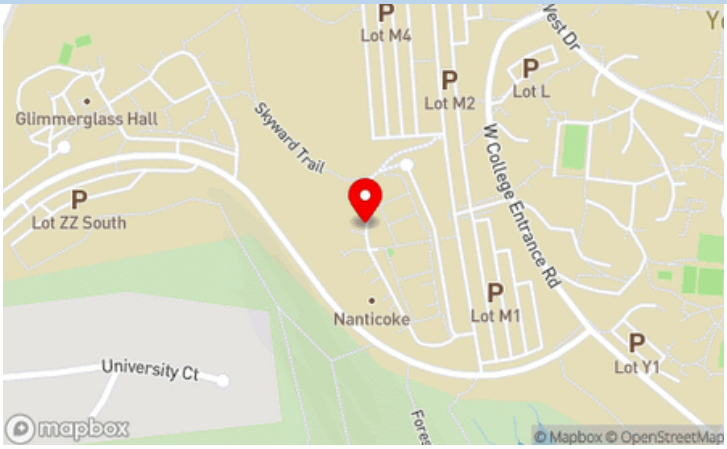
TEST HOLE PHOTOS

UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION

RESTORATION

APPROXIMATE TEST HOLE LOCATION



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SoftDig Project #: 147730 Test Hole # 13 Date: 01-28-2025

Client: RMF Engineering, Inc. City: Binghamton County: Broome State: NY

Road: Access Road Project Location: Between Lipton Ln and Brandywine Residence Hall

Crew: J Duran / J Duran Truck: S-223 Permit: ------

TEST HOLE DATA

Utility Description: 2.00 IN Black w/ Yellow Stripe Plastic Gas Pipe

Utility Owner: SUNY Binghamton Observed Condition: Good Paint: Yellow

Surface Elevation at Survey Mark: 1031.81 FT Survey Marker at Hole: Hub

Utility Top Elevation: 1029.26 FT Utility Bottom Elevation: ------

Utility Top Depth from Surface: 2.55 FT Utility Bottom Depth from Surface: ------

Benchmark Description: Storm Drain Catch Basin Elevation: 1031.04 FT Type: Given

Benchmark #2 (if avail.): ------ Elevation: ------ Type: ------

Surface Covering: Soil Asphalt: ------ Concrete: ------ Duct Bank Type (if needed): ------

Generalized Soil Profile: Rocky Backfill Compaction Test (if required): Pass

Approximate Latitude, Longitude: 42.086192, -75.9753215 (Coordinates shown are resource grade only.)

Field Note: Encountered groundwater during excavation. Location needs to be revisited to confirm no settling occured

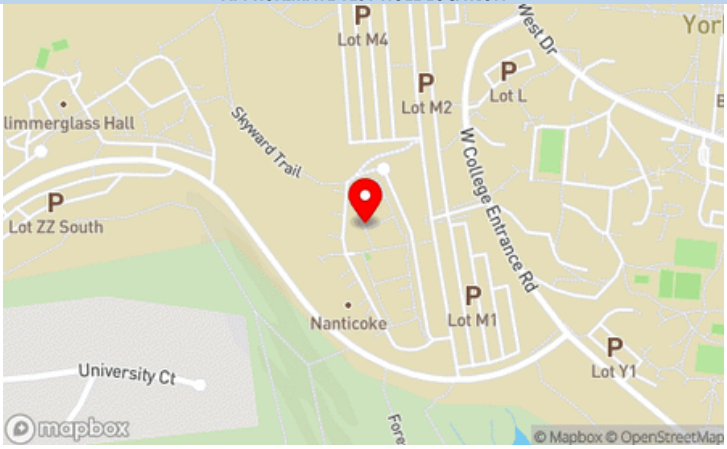
TEST HOLE PHOTOS

UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION

RESTORATION

APPROXIMATE TEST HOLE LOCATION



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SoftDig Project #: 147730 Test Hole # 14 Date: 02-03-2025

Client: RMF Engineering, Inc. City: Binghamton County: Broome State: NY

Road: Lipton Lane Project Location: near Glenwood Residence Hall

Crew: J Duran / J Duran Truck: S-223 Permit: ------

TEST HOLE DATA

Utility Description: 2.00 IN Black w/ Yellow Stripe Plastic Gas Pipe

Utility Owner: SUNY Binghamton Observed Condition: Good Paint: Yellow

Surface Elevation at Survey Mark: 1051.73 FT Survey Marker at Hole: PK Nail

Utility Top Elevation: 1045.29 FT Utility Bottom Elevation: ------

Utility Top Depth from Surface: 6.44 FT Utility Bottom Depth from Surface: ------

Benchmark Description: Storm Drain Catch Basin Elevation: 1049.68 FT Type: Given

Benchmark #2 (if avail.): ------ Elevation: ------ Type: ------

Surface Covering: Asphalt Asphalt: 4.00 IN Concrete: ------ Duct Bank Type (if needed): ------

Generalized Soil Profile: Rocky Backfill Compaction Test (if required): Pass

Approximate Latitude, Longitude: 42.0862556, -75.9756007 (Coordinates shown are resource grade only.)

Field Note:

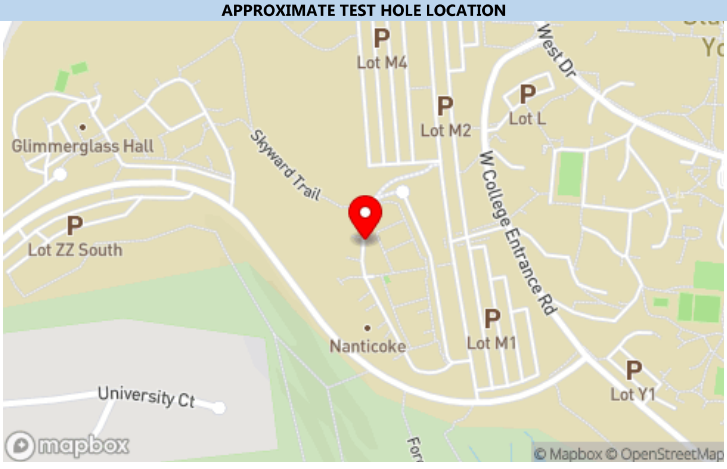
TEST HOLE PHOTOS

UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION

RESTORATION

APPROXIMATE TEST HOLE LOCATION



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SoftDig Project #: 147730 Test Hole # 15 Date: 01-29-2025

Client: RMF Engineering, Inc. City: Binghamton County: Broome State: NY

Road: Lipton Lane Project Location: behind Choconut Residence Hall, near Romandetti Road

Crew: J Duran / J Duran Truck: S-223 Permit: ------

TEST HOLE DATA

Utility Description: 24.00 IN Gray Concrete Communications Duct Bank

Utility Owner: SUNY Binghamton Observed Condition: Good Paint: Orange

Surface Elevation at Survey Mark: 1030.92 FT Survey Marker at Hole: PK Nail

Utility Top Elevation: 1027.39 FT Utility Bottom Elevation: ------

Utility Top Depth from Surface: 3.53 FT Utility Bottom Depth from Surface: ------

Benchmark Description: Storm Drain Catch Basin Elevation: 1031.04 FT Type: Given

Benchmark #2 (if avail.): ------ Elevation: ------ Type: ------

Surface Covering: Asphalt Asphalt: 4.00 IN Concrete: ------ Duct Bank Type (if needed): ------

Generalized Soil Profile: Rocky Backfill Compaction Test (if required): Pass

Approximate Latitude, Longitude: 42.0863535, -75.975413 (Coordinates shown are resource grade only.)

Field Note:

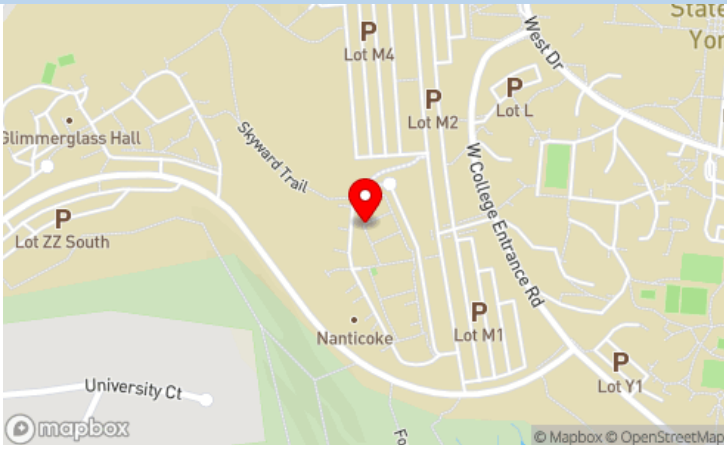
TEST HOLE PHOTOS

UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION

RESTORATION

APPROXIMATE TEST HOLE LOCATION



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QL-A VACUUM EXCAVATION SHEET

ENGLISH UNITS

SoftDig Project #: 147730 Test Hole # 16 Date: 01-29-2025

Client: RMF Engineering, Inc. City: Binghamton County: Broome State: NY

Road: Lipton Lane Project Location: behind Choconut Residence Hall, near Romandetti Road

Crew: J Duran / J Duran Truck: S-223 Permit: ------

TEST HOLE DATA

Utility Description: 2.00 IN Yellow Plastic Gas Pipe

Utility Owner: SUNY Binghamton Observed Condition: Good Paint: Yellow

Surface Elevation at Survey Mark: 1031.02 FT Survey Marker at Hole: Hub

Utility Top Elevation: 1028.73 FT Utility Bottom Elevation: ------

Utility Top Depth from Surface: 2.29 FT Utility Bottom Depth from Surface: ------

Benchmark Description: Storm Drain Catch Basin Elevation: 1031.04 FT Type: Given

Benchmark #2 (if avail.): ------ Elevation: ------ Type: ------

Surface Covering: Soil Asphalt: ------ Concrete: ------ Duct Bank Type (if needed): ------

Generalized Soil Profile: Rocky Backfill Compaction Test (if required): Pass

Approximate Latitude, Longitude: 42.0863332, -75.9754258 (Coordinates shown are resource grade only.)

Field Note: Encountered groundwater during excavation. Location needs to be revisited to confirm no settling occurred

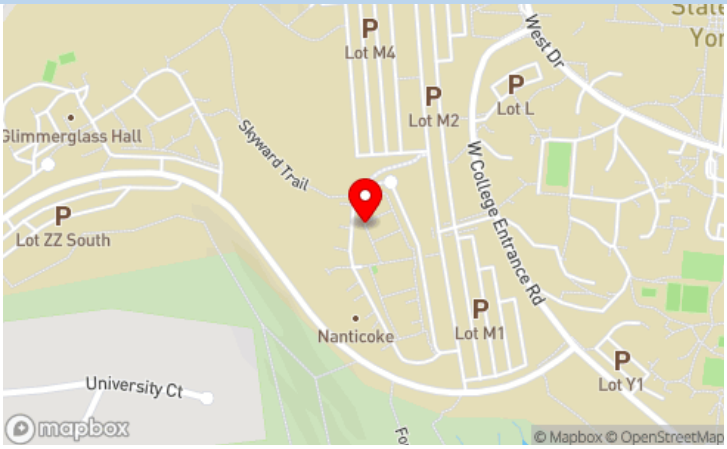
TEST HOLE PHOTOS

UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION

RESTORATION

APPROXIMATE TEST HOLE LOCATION



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PILOT HOLE EXCAVATION SHEET

ENGLISH UNITS

SoftDig Project #: 147730 Test Hole #: 17 Date: 02-03-2025

Client: RMF Engineering, Inc. City: Binghamton County: Broome State: NY

Road: Romandetti Road General Location: near intersection at Lipton Lane

Crew: J Duran / J Duran Truck: S - 223 Permit #: ------

EXCAVATION INFORMATION

Excavation Type: No Utility Found - Empty Hole

Location Determined by: Dug on SoftDig Marks

Intended Utility: Water Excavation Marker: Paint Surface Covering: Asphalt

EXCAVATION DIMENSIONS:

Length: 1.0 ft Width: 1.0 ft Cleared Depth: 6.0 ft Probe Depth: N/A

Hole Stopped Due to: Unable to proceed using SoftDig methods due to ground conditions

Refusal Type (if any): Hard Ground

Field Notes (if needed): Unable to reach projected utility depth. Metered depth readings show pipe is ±11.6' deep here.

Latitude / Longitude: 42.086647, -75.9754902

EXCAVATION PHOTOS

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QL-A VACUUM EXCAVATION SHEET

ENGLISH UNITS

SoftDig Project #: 147730 Test Hole # 18 Date: 02-03-2025

Client: RMF Engineering, Inc. City: Binghamton County: Broome State: NY

Road: Romandetti Road Project Location: near Choconut Residence Hall

Crew: J Duran / J Duran Truck: S-223 Permit: ------

TEST HOLE DATA

Utility Description: 0.50 IN Gray Direct Bury Electric Cable

Utility Owner: SUNY Binghamton Observed Condition: Good Paint: Red

Surface Elevation at Survey Mark: 1033.25 FT Survey Marker at Hole: PK Nail

Utility Top Elevation: 1030.78 FT Utility Bottom Elevation: ------

Utility Top Depth from Surface: 2.47 FT Utility Bottom Depth from Surface: ------

Benchmark Description: Sanitary Sewer Manhole Elevation: 1032.63 FT Type: Given

Benchmark #2 (if avail.): ------ Elevation: ------ Type: ------

Surface Covering: Asphalt Asphalt: 3.00 IN Concrete: ------ Duct Bank Type (if needed): ------

Generalized Soil Profile: Rocky Backfill Compaction Test (if required): Pass

Approximate Latitude, Longitude: 42.0866987, -75.975384 (Coordinates shown are resource grade only.)

Field Note: Print has it labeled as unknown but identified as electric in the field

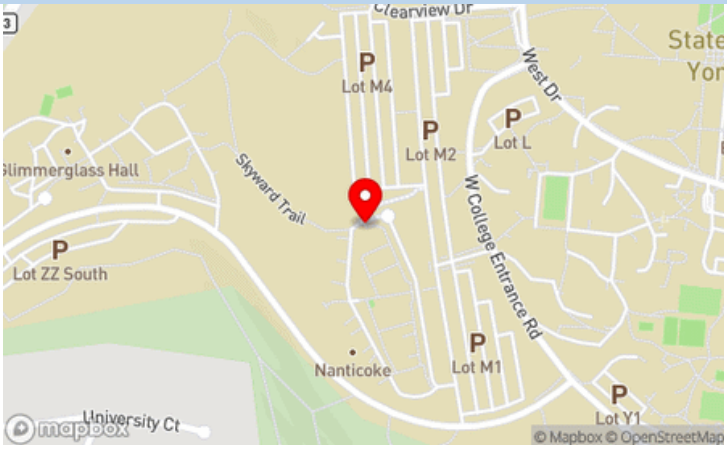
TEST HOLE PHOTOS

UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION

RESTORATION

APPROXIMATE TEST HOLE LOCATION



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SoftDig Project #: 147730 Test Hole # 19 Date: 02-03-2025

Client: RMF Engineering, Inc. City: Binghamton County: Broome State: NY

Road: Parking Lot M2 Project Location: Between Lot M3 and Connector Road

Crew: J Duran / J Duran Truck: S-223 Permit: ------

TEST HOLE DATA

Utility Description: 2.00 IN Black Metal Electric Conduit

Utility Owner: SUNY Binghamton Observed Condition: Good Paint: Red

Surface Elevation at Survey Mark: 996.79 FT Survey Marker at Hole: PK Nail

Utility Top Elevation: 995.23 FT Utility Bottom Elevation: ------

Utility Top Depth from Surface: 1.56 FT Utility Bottom Depth from Surface: ------

Benchmark Description: Sanitary Sewer Manhole Elevation: 995.72 FT Type: Given

Benchmark #2 (if avail.): ------ Elevation: ------ Type: ------

Surface Covering: Asphalt Asphalt: 4.00 IN Concrete: ------ Duct Bank Type (if needed): ------

Generalized Soil Profile: Sandy Backfill Compaction Test (if required): Pass

Approximate Latitude, Longitude: 42.0873359, -75.9744029 (Coordinates shown are resource grade only.)

Field Note: Labeled as electric on print, electric is for site lighting

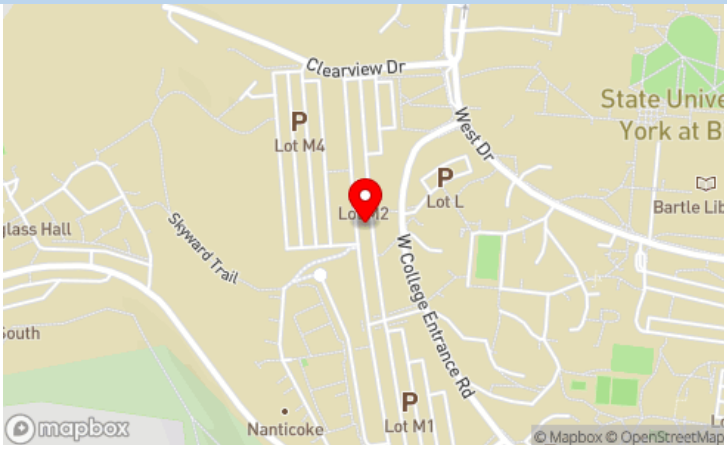
TEST HOLE PHOTOS

UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION

RESTORATION

APPROXIMATE TEST HOLE LOCATION



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SoftDig Project #: 147730 Test Hole # 22 Date: 02-03-2025

Client: RMF Engineering, Inc. City: Binghamton County: Broome State: NY

Road: Connector Road Project Location: near Cleveland Residence Hall

Crew: J Duran / J Duran Truck: S-223 Permit: ------

TEST HOLE DATA

Utility Description: 2.00 IN White Plastic Electric Conduit

Utility Owner: SUNY Binghamton Observed Condition: Good Paint: Red

Surface Elevation at Survey Mark: 982.58 FT Survey Marker at Hole: Hub

Utility Top Elevation: 981.51 FT Utility Bottom Elevation: ------

Utility Top Depth from Surface: 1.07 FT Utility Bottom Depth from Surface: ------

Benchmark Description: Sanitary Sewer Manhole Elevation: 982.02 FT Type: Given

Benchmark #2 (if avail.): ------ Elevation: ------ Type: ------

Surface Covering: Soil Asphalt: ------ Concrete: ------ Duct Bank Type (if needed): ------

Generalized Soil Profile: Rocky Backfill Compaction Test (if required): Pass

Approximate Latitude, Longitude: 42.0873498, -75.9739302 (Coordinates shown are resource grade only.)

Field Note:

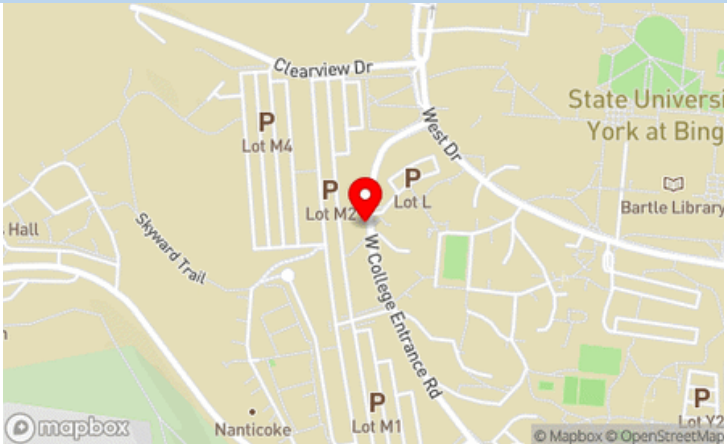
TEST HOLE PHOTOS

UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION

RESTORATION

APPROXIMATE TEST HOLE LOCATION



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PILOT HOLE EXCAVATION SHEET

ENGLISH UNITS

SoftDig Project #: 147730 Test Hole #: 22 A Date: 02-04-2025

Client: RMF Engineering, Inc. City: Binghamton County: Broome State: NY

Road: Connector Road General Location: near Cleveland Residence Hall

Crew: J Duran / J Duran Truck: S - 223 Permit #: ------

EXCAVATION INFORMATION

Excavation Type: No Utility Found - Empty Hole

Location Determined by: Dug on SoftDig Marks

Intended Utility: Water Excavation Marker: Paint Surface Covering: Soil

EXCAVATION DIMENSIONS:

Length: 1.0 ft Width: 1.0 ft Cleared Depth: 6.5 ft Probe Depth: 7.0 ft

Hole Stopped Due to: Encountered Refusal / Stability of the hole and surrounding area can no longer be maintained.

Refusal Type (if any): Rocks, Hard Ground, Ground Water

Field Notes (if needed): Unable to reach projected utility depth. Metered depth readings show pipe is ±10.6' deep here.

Latitude / Longitude: 42.0872992, -75.9736968

EXCAVATION PHOTOS

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SoftDig Project #: 147730 Test Hole # 26 Date: 02-05-2025

Client: RMF Engineering, Inc. City: Binghamton County: Broome State: NY

Road: West Drive Project Location: at Lot L / near intersection at Connector Road

Crew: J Duran / J Duran Truck: S-223 Permit: ------

TEST HOLE DATA

Utility Description: 0.50 IN Black Direct Bury Electric Cable

Utility Owner: SUNY Binghamton Observed Condition: Good Paint: Red

Surface Elevation at Survey Mark: 959.29 FT Survey Marker at Hole: Hub

Utility Top Elevation: 957.77 FT Utility Bottom Elevation: ------

Utility Top Depth from Surface: 1.52 FT Utility Bottom Depth from Surface: ------

Benchmark Description: Storm Drain Catch Basin Elevation: 957.36 FT Type: Given

Benchmark #2 (if avail.): ------ Elevation: ------ Type: ------

Surface Covering: Soil Asphalt: ------ Concrete: ------ Duct Bank Type (if needed): ------

Generalized Soil Profile: Rocky Backfill Compaction Test (if required): Pass

Approximate Latitude, Longitude: 42.0883067, -75.9732085 (Coordinates shown are resource grade only.)

Field Note:

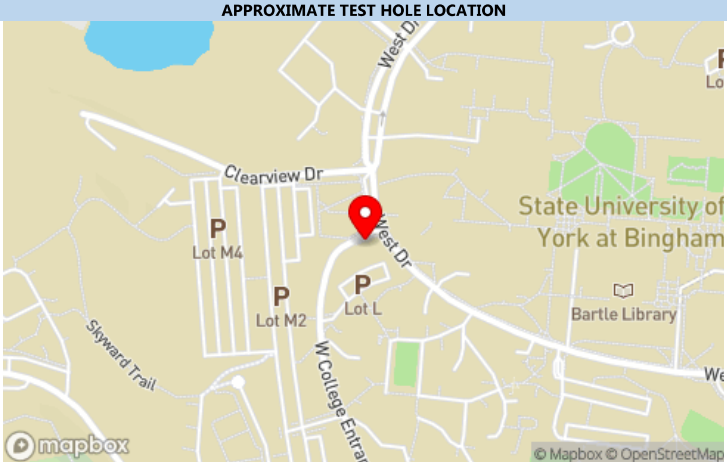
TEST HOLE PHOTOS

UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION

RESTORATION

APPROXIMATE TEST HOLE LOCATION



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SoftDig Project #: 147730 Test Hole # 27 Date: 02-05-2025

Client: RMF Engineering, Inc. City: Binghamton County: Broome State: NY

Road: West Drive Project Location: at Lot L / near intersection at Connector Road

Crew: J Duran / J Duran Truck: S-223 Permit: ------

TEST HOLE DATA

Utility Description: 2.00 IN Gray Plastic Gas Pipe

Utility Owner: SUNY Binghamton Observed Condition: Good Paint: Yellow

Surface Elevation at Survey Mark: 961.31 FT Survey Marker at Hole: Hub

Utility Top Elevation: 959.23 FT Utility Bottom Elevation: ------

Utility Top Depth from Surface: 2.08 FT Utility Bottom Depth from Surface: ------

Benchmark Description: Storm Drain Catch Basin Elevation: 965.57 FT Type: Given

Benchmark #2 (if avail.): ------ Elevation: ------ Type: ------

Surface Covering: Soil Asphalt: ------ Concrete: ------ Duct Bank Type (if needed): ------

Generalized Soil Profile: Rocky Backfill Compaction Test (if required): Pass

Approximate Latitude, Longitude: 42.0881508, -75.9727731 (Coordinates shown are resource grade only.)

Field Note: Ditch tape found in excavation was yellow, confirming identification of PVC pipe

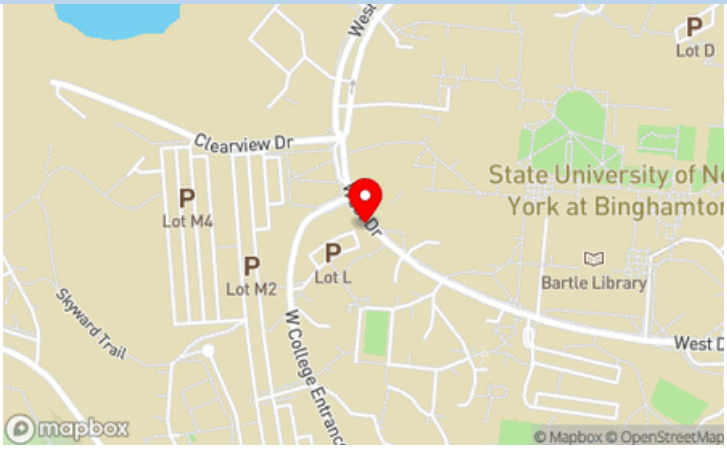
TEST HOLE PHOTOS

UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION

RESTORATION

APPROXIMATE TEST HOLE LOCATION



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SoftDig Project #: 147730 Test Hole # 28 Date: 02-05-2025

Client: RMF Engineering, Inc. City: Binghamton County: Broome State: NY

Road: West Drive Project Location: at Lot L / near intersection at Connector Road

Crew: J Duran / J Duran Truck: S-223 Permit: ------

TEST HOLE DATA

Utility Description: 24.00 IN Gray Concrete Electric Duct Bank

Utility Owner: SUNY Binghamton Observed Condition: Good Paint: Red

Surface Elevation at Survey Mark: 961.39 FT Survey Marker at Hole: Hub

Utility Top Elevation: 958.70 FT Utility Bottom Elevation: ------

Utility Top Depth from Surface: 2.69 FT Utility Bottom Depth from Surface: ------

Benchmark Description: Storm Drain Catch Basin Elevation: 965.57 FT Type: Given

Benchmark #2 (if avail.): ------ Elevation: ------ Type: ------

Surface Covering: Soil Asphalt: ------ Concrete: ------ Duct Bank Type (if needed): Rough Pour

Generalized Soil Profile: Rocky Backfill Compaction Test (if required): Pass

Approximate Latitude, Longitude: 42.0881193, -75.9726893 (Coordinates shown are resource grade only.)

Field Note: Unable to reach bottom edge of duct bank due to excessive rock used for trench bed

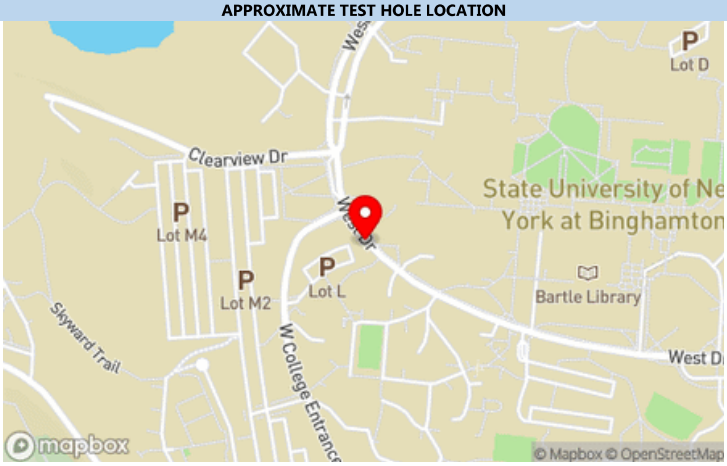
TEST HOLE PHOTOS

UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION

RESTORATION

APPROXIMATE TEST HOLE LOCATION



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SoftDig Project #: 147730 Test Hole # 30 Date: 02-05-2025

Client: RMF Engineering, Inc. City: Binghamton County: Broome State: NY

Road: West Drive Project Location: at Lot L / near intersection at Connector Road

Crew: J Duran / J Duran Truck: S-223 Permit: ------

TEST HOLE DATA

Utility Description: 0.50 IN Black Direct Bury Electric Cable

Utility Owner: SUNY Binghamton Observed Condition: Good Paint: Red

Surface Elevation at Survey Mark: 965.77 FT Survey Marker at Hole: Hub

Utility Top Elevation: 961.36 FT Utility Bottom Elevation: ------

Utility Top Depth from Surface: 4.41 FT Utility Bottom Depth from Surface: ------

Benchmark Description: Storm Drain Catch Basin Elevation: 965.57 FT Type: Given

Benchmark #2 (if avail.): ------ Elevation: ------ Type: ------

Surface Covering: Soil Asphalt: ------ Concrete: ------ Duct Bank Type (if needed): ------

Generalized Soil Profile: Rocky Backfill Compaction Test (if required): Pass

Approximate Latitude, Longitude: 42.0880653, -75.9727822 (Coordinates shown are resource grade only.)

Field Note:

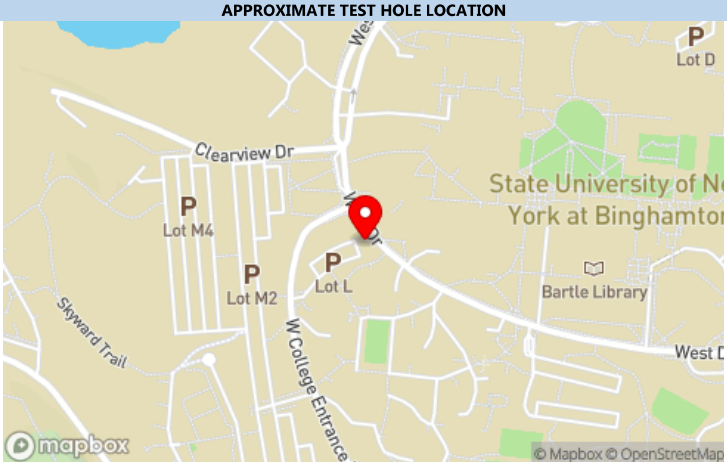
TEST HOLE PHOTOS

UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION

RESTORATION

APPROXIMATE TEST HOLE LOCATION



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PILOT HOLE EXCAVATION SHEET

ENGLISH UNITS

SoftDig Project #: 147730 Test Hole #: 20 Date: 03-13-2025

Client: RMF City: Binghamton County: Broome State: NY

Road: West Dr. General Location: Top of Hill in Parking Lot M

Crew: J Duran / J Duran Truck: S - 214 Permit #: ----

EXCAVATION INFORMATION

Excavation Type: No Utility Found - Empty Hole

Location Determined by: Dug on SoftDig Marks

Intended Utility: Electric Excavation Marker: Paint Surface Covering: Soil

EXCAVATION DIMENSIONS:

Length: 1.0 ft Width: 1.0 ft Cleared Depth: 6.0 ft Probe Depth: ---

Hole Stopped Due to: Encountered Refusal (rocks), Unable to proceed using SoftDig methods due to ground conditions

Refusal Type (if any): Hard Ground, Rock

Field Notes (if needed): See CAD file for Metered Depth

Latitude / Longitude: 42.0873743, -75.9740958

EXCAVATION PHOTOS

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PILOT HOLE EXCAVATION SHEET

ENGLISH UNITS

SoftDig Project #: 147730 Test Hole #: 21 Date: 03-13-2025

Client: RMF City: Binghamton County: Broome State: NY

Road: West Dr. General Location: Top of Hill in Parking Lot M

Crew: J Duran / J Duran Truck: S - 214 Permit #: ---

EXCAVATION INFORMATION

Excavation Type: No Utility Found - Empty Hole

Location Determined by: Dug on SoftDig Marks

Intended Utility: Communication Excavation Marker: Paint Surface Covering: Soil

EXCAVATION DIMENSIONS:

Length: 1.0 ft Width: 1.0 ft Cleared Depth: 5.0 ft Probe Depth: ---

Hole Stopped Due to: Encountered Refusal (rocks), Unable to proceed using SoftDig methods due to ground conditions

Refusal Type (if any): Hard Ground, Rock

Field Notes (if needed): See CAD File for Metered Depth

Latitude / Longitude: 42.0873655, -75.9740766

EXCAVATION PHOTOS

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PILOT HOLE EXCAVATION SHEET

ENGLISH UNITS

SoftDig Project #: 147730 Test Hole #: 22 A Date: 02-04-2025

Client: RMF City: Binghamton County: Broome State: NY

Road: access road General Location: In Front of Building D

Crew: J Duran / J Duran Truck: S - 223 Permit #: ---

EXCAVATION INFORMATION

Excavation Type: No Utility Found - Empty Hole

Location Determined by: Dug on SoftDig Marks

Intended Utility: Water Excavation Marker: Paint Surface Covering: Soil

EXCAVATION DIMENSIONS:

Length: 1.0 ft Width: 1.0 ft Cleared Depth: 6.5 ft Probe Depth: 7.0 ft

Hole Stopped Due to: Encountered Refusal (rocks), Stability of the hole or surrounding area can no longer be maintained, Other

Refusal Type (if any): Rock

Field Notes (if needed): See CAD File for Metered Depth

Latitude / Longitude: 42.0872992, -75.9736968

EXCAVATION PHOTOS

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SoftDig Project #: 147730 Test Hole # 23 Date: 03-04-2025

Client: RMF City: Binghamton County: Broome County State: NY

Road: Campus Project Location: Near Roosevelt Building

Crew: J Duran / J Duran Truck: 214 Permit: ---

TEST HOLE DATA

Utility Description: 2.00 IN Gray Plastic Site Lighting Conduit

Utility Owner: SUNY Binghamton Observed Condition: Good Paint: Red

Surface Elevation at Survey Mark: 992.72 FT Survey Marker at Hole: Hub

Utility Top Elevation: 991.34 FT Utility Bottom Elevation: ---

Utility Top Depth from Surface: 1.38 FT Utility Bottom Depth from Surface: ---

Benchmark Description: Storm Manhole Elevation: 989.18 FT Type: Given

Benchmark #2 (if avail.): --- Elevation: --- Type: ---

Surface Covering: Soil Asphalt: Concrete: --- Duct Bank Type (if needed): ---

Generalized Soil Profile: Rocky Backfill Compaction Test (if required): Pass

Approximate Latitude, Longitude: 42.0862488, -75.97199 (Coordinates shown are resource grade only.)

Field Note:

TEST HOLE PHOTOS

UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION

RESTORATION

APPROXIMATE TEST HOLE LOCATION

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PILOT HOLE EXCAVATION SHEET

ENGLISH UNITS

SoftDig Project #: 147730 Test Hole #: 24 Date: 03-04-2025

Client: RMF City: Binghamton County: Broome State: NY

Road: West Dr. General Location: Roosevelt Residence Hall

Crew: J Duran / J Duran Truck: S - 214 Permit #:

EXCAVATION INFORMATION

Excavation Type: No Utility Found - Empty Hole

Location Determined by: Dug on SoftDig Marks

Intended Utility: Water Excavation Marker: Paint Surface Covering: Soil, Gravel

EXCAVATION DIMENSIONS:

Length: 1.0 ft Width: 1.0 ft Cleared Depth: 6.5 ft Probe Depth: ---

Hole Stopped Due to: Encountered Refusal (rocks), Stability of the hole or surrounding area can no longer be maintained

Refusal Type (if any): Other

Field Notes (if needed): Hole collapsing; could not continue. See CAD file for metered depth.

Latitude / Longitude: 42.0862109, -75.9719336

EXCAVATION PHOTOS

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SoftDig Project #: 147730 Test Hole # 25 Date: 02-24-2025

Client: RMF City: Binghamton County: Broome State: NY

Road: Connector Rd. Project Location: Lot L

Crew: J Duran / J Duran Truck: 214 Permit:

TEST HOLE DATA

Utility Description: (1) 2.00 IN Gray Plastic Site Lighting Conduit

Utility Owner: SUNY Binghamton Observed Condition: Good Paint: Red

Surface Elevation at Survey Mark: 972.86 FT Survey Marker at Hole: Hub

Utility Top Elevation: 971.58 FT Utility Bottom Elevation: ---

Utility Top Depth from Surface: 1.28 FT Utility Bottom Depth from Surface: ---

Benchmark Description: Sanitary Sewer Manhole Elevation: 974.23 FT Type: Given

Benchmark #2 (if avail.): --- Elevation: --- Type: ---

Surface Covering: Soil Asphalt: --- Concrete: --- Duct Bank Type (if needed): ---

Generalized Soil Profile: Rocky Backfill Compaction Test (if required): Pass

Approximate Latitude, Longitude: 42.0879167, -75.9736363 (Coordinates shown are resource grade only.)

Field Note:

TEST HOLE PHOTOS

UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION

RESTORATION

APPROXIMATE TEST HOLE LOCATION

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ENGLISH UNITS

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SoftDig Project #: 147730 Test Hole # 26 Date: 02-05-2025

Client: RMF City: Binghamton County: Broome State: NY

Road: West Dr. Project Location: Lot L

Crew: J Duran / J Duran Truck: 223 Permit:

TEST HOLE DATA

Utility Description: 0.50 IN Black Direct Bury Electric Cable

Utility Owner: SUNY Binghamton Observed Condition: Good Paint: Red

Surface Elevation at Survey Mark: 959.29 FT Survey Marker at Hole: Hub

Utility Top Elevation: 957.77 FT Utility Bottom Elevation: ---

Utility Top Depth from Surface: 1.52 FT Utility Bottom Depth from Surface: ---

Benchmark Description: Catch Basin Elevation: 957.36 FT Type: Given

Benchmark #2 (if avail.): --- Elevation: --- Type: ---

Surface Covering: Soil Asphalt: --- Concrete: --- Duct Bank Type (if needed): ---

Generalized Soil Profile: Rocky Backfill Compaction Test (if required): Pass

Approximate Latitude, Longitude: 42.0883067, -75.9732085 (Coordinates shown are resource grade only.)

Field Note:

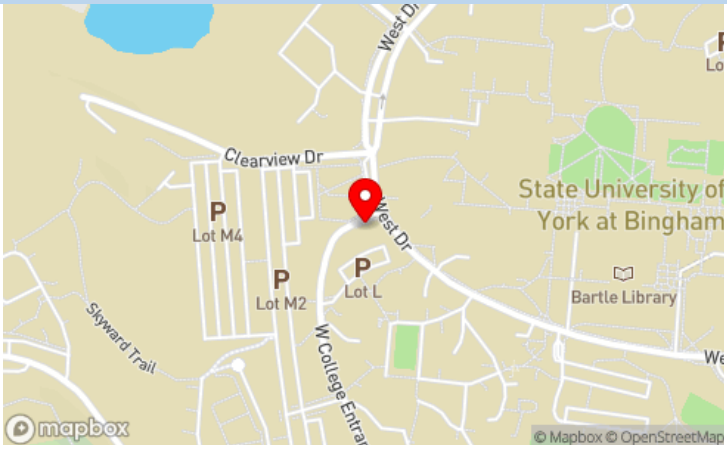
TEST HOLE PHOTOS

UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION

RESTORATION

APPROXIMATE TEST HOLE LOCATION



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SoftDig Project #: 147730 Test Hole # 27 Date: 02-05-2025

Client: RMF City: Binghamton County: Broome State: NY

Road: West Dr. Project Location: Lot L

Crew: J Duran / J Duran Truck: 223 Permit:

TEST HOLE DATA

Utility Description: 2.00 IN Gray Plastic Gas Pipe

Utility Owner: SUNY Binghamton Observed Condition: Good Paint: Yellow

Surface Elevation at Survey Mark: 961.31 FT Survey Marker at Hole: Hub

Utility Top Elevation: 959.23 FT Utility Bottom Elevation: ---

Utility Top Depth from Surface: 2.08 FT Utility Bottom Depth from Surface: ---

Benchmark Description: Catch Basin Elevation: 965.57 FT Type: Given

Benchmark #2 (if avail.): --- Elevation: --- Type: ---

Surface Covering: Soil Asphalt: --- Concrete: --- Duct Bank Type (if needed): ---

Generalized Soil Profile: Rocky Backfill Compaction Test (if required): Pass

Approximate Latitude, Longitude: 42.0881508, -75.9727731 (Coordinates shown are resource grade only.)

Field Note:

TEST HOLE PHOTOS

UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION

RESTORATION

APPROXIMATE TEST HOLE LOCATION

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ENGLISH UNITS

SoftDig Project #: 147730 Test Hole # 28 Date: 02-05-2025

Client: RMF City: Binghamton County: Broome State: NY

Road: West Dr. Project Location: Lot L

Crew: J Duran / J Duran Truck: 223 Permit:

TEST HOLE DATA

Utility Description: 24.00 IN Gray Concrete Electric Duct Bank

Utility Owner: SUNY Binghamton Observed Condition: Good Paint: Red

Surface Elevation at Survey Mark: 961.39 FT Survey Marker at Hole: Hub

Utility Top Elevation: 958.70 FT Utility Bottom Elevation: ---

Utility Top Depth from Surface: 2.69 FT Utility Bottom Depth from Surface: ---

Benchmark Description: Catch Basin Elevation: 965.57 FT Type: Given

Benchmark #2 (if avail.): --- Elevation: --- Type: ---

Surface Covering: Soil Asphalt: --- Concrete: --- Duct Bank Type (if needed): Rough Pour

Generalized Soil Profile: Rocky Backfill Compaction Test (if required): Pass

Approximate Latitude, Longitude: 42.0881193, -75.9726893 (Coordinates shown are resource grade only.)

Field Note: Could not expose bottom of duct bank due to rock blockage.

TEST HOLE PHOTOS

UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION

RESTORATION

APPROXIMATE TEST HOLE LOCATION

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SoftDig Project #: 147730 Test Hole # 29 Date: 03-11-2025

Client: RMF City: Binghamton County: Broome State: NY

Road: West Dr. Project Location: Lot L

Crew: J Duran / J Duran Truck: 214 Permit:

TEST HOLE DATA

Utility Description: 0.00 IN Black Metal Water Pipe

Utility Owner: SUNY Binghamton Observed Condition: No Visual Paint: Blue

Surface Elevation at Survey Mark: 962.84 FT Survey Marker at Hole: Hub

Utility Top Elevation: 954.00 FT Utility Bottom Elevation: ---

Utility Top Depth from Surface: 8.84 FT Utility Bottom Depth from Surface: ---

Benchmark Description: Storm Drain Manhole Elevation: 965.57 FT Type: Given

Benchmark #2 (if avail.): --- Elevation: --- Type: ---

Surface Covering: Soil Asphalt: --- Concrete: --- Duct Bank Type (if needed): ---

Generalized Soil Profile: Rocky Backfill Compaction Test (if required): Pass

Approximate Latitude, Longitude: 42.0881363, -75.9727289 (Coordinates shown are resource grade only.)

Field Note: No visual on pipe. Probed with airlance to confirm utility.

TEST HOLE PHOTOS

UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION

RESTORATION

APPROXIMATE TEST HOLE LOCATION

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SoftDig Project #: 147730 Test Hole # 30 Date: 02-05-2025

Client: RMF City: Binghamton County: Broome State: NY

Road: West Dr. Project Location: Lot L

Crew: J Duran / J Duran Truck: 223 Permit:

TEST HOLE DATA

Utility Description: 0.50 IN Black Direct Bury Electric Cable

Utility Owner: SUNY Binghamton Observed Condition: Good Paint: Red

Surface Elevation at Survey Mark: 965.77 FT Survey Marker at Hole: Hub

Utility Top Elevation: 961.36 FT Utility Bottom Elevation: ---

Utility Top Depth from Surface: 4.41 FT Utility Bottom Depth from Surface: ---

Benchmark Description: Catch Basin Elevation: 965.57 FT Type: Given

Benchmark #2 (if avail.): --- Elevation: --- Type: ---

Surface Covering: Soil Asphalt: --- Concrete: --- Duct Bank Type (if needed): ---

Generalized Soil Profile: Rocky Backfill Compaction Test (if required): Pass

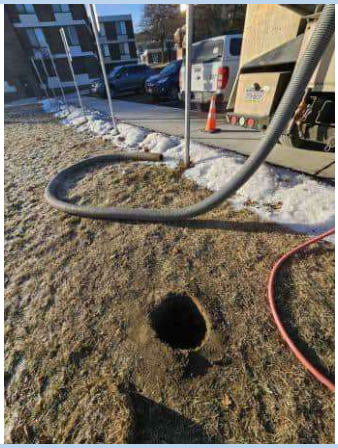
Approximate Latitude, Longitude: 42.0880653, -75.9727822 (Coordinates shown are resource grade only.)

Field Note:

TEST HOLE PHOTOS

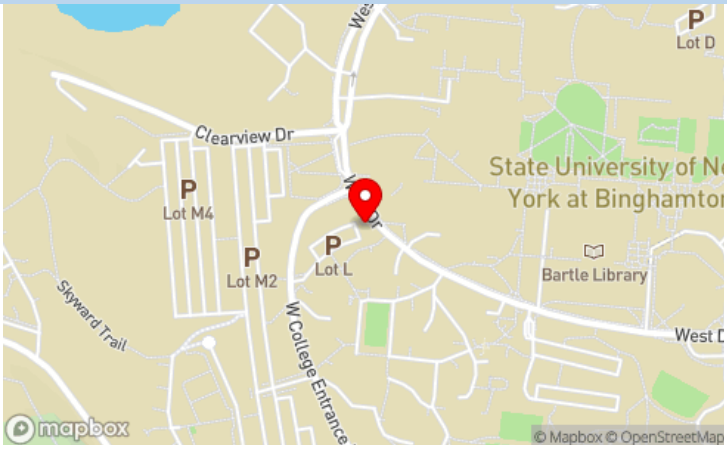
UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION



RESTORATION

APPROXIMATE TEST HOLE LOCATION



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PILOT HOLE EXCAVATION SHEET

ENGLISH UNITS

SoftDig Project #: 147730 Test Hole #: 31 Date: 03-13-2025

Client: RMF City: Binghamton County: Broome State: NY

Road: West Dr. General Location: Library North

Crew: J Duran / J Duran Truck: S - 214 Permit #:

EXCAVATION INFORMATION

Excavation Type: No Utility Found - Empty Hole

Location Determined by: Dug on SoftDig Marks

Intended Utility: Communications Excavation Marker: Paint Surface Covering: Soil

EXCAVATION DIMENSIONS:

Length: 1.0 ft Width: 1.0 ft Cleared Depth: 6.0 ft Probe Depth: 7.0 ft

Hole Stopped Due to: Other

Refusal Type (if any): Rock, Hard Ground

Field Notes (if needed): See CAD file for metered depth.

Latitude / Longitude: 42.0878551, -75.9703964

EXCAVATION PHOTOS

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QL-A VACUUM EXCAVATION SHEET

ENGLISH UNITS

SoftDig Project #: 147730 Test Hole # 32 Date: 03-10-2025

Client: RMF City: Binghamton County: Broome State: NY

Road: West Dr. Project Location: West Dr. and Stenger St.

Crew: J Duran / J Duran Truck: 214 Permit:

TEST HOLE DATA

Utility Description: (1) 2.00 IN Gray Plastic Site Lighting Conduit

Utility Owner: SUNY Binghamton Observed Condition: Good Paint: Red

Surface Elevation at Survey Mark: 960.04 FT Survey Marker at Hole: Hub

Utility Top Elevation: 958.23 FT Utility Bottom Elevation: ---

Utility Top Depth from Surface: 1.81 FT Utility Bottom Depth from Surface: ---

Benchmark Description: PK Nail Elevation: 959.85 FT Type: Given

Benchmark #2 (if avail.): --- Elevation: --- Type: ---

Surface Covering: Soil Asphalt: --- Concrete: --- Duct Bank Type (if needed): ---

Generalized Soil Profile: Rocky Backfill Compaction Test (if required): Pass

Approximate Latitude, Longitude: 42.0878139, -75.9704506 (Coordinates shown are resource grade only.)

Field Note:

TEST HOLE PHOTOS

UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION

RESTORATION

APPROXIMATE TEST HOLE LOCATION

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SoftDig Project #: 147730 Test Hole # 33 Date: 03-10-2025

Client: RMF City: Binghamton County: Broome State: NY

Road: West Dr. Project Location: West Dr. and Stenger St.

Crew: J Duran / J Duran Truck: 214 Permit:

TEST HOLE DATA

Utility Description: 0.00 IN Black Unknown Water Casing

Utility Owner: SUNY Binghamton Observed Condition: Good Paint: Blue

Surface Elevation at Survey Mark: 960.14 FT Survey Marker at Hole: Hub

Utility Top Elevation: 953.04 FT Utility Bottom Elevation: ---

Utility Top Depth from Surface: 7.10 FT Utility Bottom Depth from Surface: ---

Benchmark Description: PK Nail Elevation: 960.41 FT Type: Given

Benchmark #2 (if avail.): --- Elevation: --- Type: ---

Surface Covering: Soil Asphalt: --- Concrete: --- Duct Bank Type (if needed): ---

Generalized Soil Profile: Ground Water, Unknown, Rocky Backfill Compaction Test (if required): Fail

Approximate Latitude, Longitude: 42.0877163, -75.9704583 (Coordinates shown are resource grade only.)

Field Note: Encountered ground water. Probed and felt possible asphalt casing.

TEST HOLE PHOTOS

UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION

RESTORATION

APPROXIMATE TEST HOLE LOCATION

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QL-A VACUUM EXCAVATION SHEET

ENGLISH UNITS

SoftDig Project #: 147730 Test Hole # 34 Date: 03-10-2025

Client: RMF City: Binghamton County: Broome State: NY

Road: West Dr. Project Location: West Dr. and Stenger St.

Crew: J Duran / J Duran Truck: 214 Permit:

TEST HOLE DATA

Utility Description: 0.00 IN Gray Concrete Electric Unknown

Utility Owner: SUNY Binghamton Observed Condition: Good Paint: Red

Surface Elevation at Survey Mark: 958.98 FT Survey Marker at Hole: Hub

Utility Top Elevation: 957.98 FT Utility Bottom Elevation: ---

Utility Top Depth from Surface: 1.00 FT Utility Bottom Depth from Surface: ---

Benchmark Description: PK Nail Elevation: 960.41 FT Type: Given

Benchmark #2 (if avail.): --- Elevation: --- Type: ---

Surface Covering: Soil Asphalt: --- Concrete: --- Duct Bank Type (if needed): ---

Generalized Soil Profile: Rocky, Sandy Backfill Compaction Test (if required): Pass

Approximate Latitude, Longitude: 42.0875185, -75.9704737 (Coordinates shown are resource grade only.)

Field Note: Possible old site lighting base.

TEST HOLE PHOTOS

UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION

RESTORATION

APPROXIMATE TEST HOLE LOCATION

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PILOT HOLE EXCAVATION SHEET

ENGLISH UNITS

SoftDig Project #: 147730 Test Hole #: 34 A Date: 03-10-2025

Client: RMF City: Binghamton County: Broome State: NY

Road: West Dr. General Location: West Dr. and Stenger St.

Crew: J Duran / J Duran Truck: S - 214 Permit #:

EXCAVATION INFORMATION

Excavation Type: No Utility Found - Empty Hole

Location Determined by: Dug on SoftDig Marks

Intended Utility: Electric, Communications Excavation Marker: Paint Surface Covering: Soil

EXCAVATION DIMENSIONS:

Length: 1.0 ft Width: 1.0 ft Cleared Depth: 5.0 ft Probe Depth: ---

Hole Stopped Due to: Unable to proceed using SoftDig methods due to ground conditions

Refusal Type (if any): Hard Ground

Field Notes (if needed): Hard ground at 5'. Could not continue excavation. See CAD file for metered depth.

Latitude / Longitude: 42.0875324, -75.9704462

EXCAVATION PHOTOS

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QL-A VACUUM EXCAVATION SHEET

ENGLISH UNITS

SoftDig Project #: 147730 Test Hole # 35 Date: 03-10-2025

Client: RMF City: Binghamton County: Broome State: NY

Road: West Dr. Project Location: West Dr. and Stenger St.

Crew: J Duran / J Duran Truck: 214 Permit:

TEST HOLE DATA

Utility Description: 4.00 IN White Plastic Steam & Condensate Pipe

Utility Owner: SUNY Binghamton Observed Condition: Good Paint: Yellow

Surface Elevation at Survey Mark: 958.93 FT Survey Marker at Hole: Hub

Utility Top Elevation: 952.22 FT Utility Bottom Elevation: ---

Utility Top Depth from Surface: 6.71 FT Utility Bottom Depth from Surface: ---

Benchmark Description: PK Nail Elevation: 960.41 FT Type: Given

Benchmark #2 (if avail.): --- Elevation: --- Type: ---

Surface Covering: Soil Asphalt: --- Concrete: --- Duct Bank Type (if needed): ---

Generalized Soil Profile: Rocky, Sandy Backfill Compaction Test (if required): Pass

Approximate Latitude, Longitude: 42.087493, -75.9705179 (Coordinates shown are resource grade only.)

Field Note: Limited visibility due to rock blockage.

TEST HOLE PHOTOS

UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION

RESTORATION

APPROXIMATE TEST HOLE LOCATION

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ENGLISH UNITS

SoftDig Project #: 147730 Test Hole # 36 Date: 03-10-2025

Client: RMF City: Binghamton County: Broome State: NY

Road: West Dr. Project Location: West Dr. and Stenger St.

Crew: J Duran / J Duran Truck: 214 Permit:

TEST HOLE DATA

Utility Description: 6.00 IN Yellow Plastic Gas Pipe

Utility Owner: SUNY Binghamton Observed Condition: Good Paint: Yellow

Surface Elevation at Survey Mark: 959.88 FT Survey Marker at Hole: Hub

Utility Top Elevation: 956.63 FT Utility Bottom Elevation: ---

Utility Top Depth from Surface: 3.25 FT Utility Bottom Depth from Surface: ---

Benchmark Description: PK Nail Elevation: 960.41 FT Type: Given

Benchmark #2 (if avail.): --- Elevation: --- Type: ---

Surface Covering: Soil Asphalt: --- Concrete: --- Duct Bank Type (if needed): ---

Generalized Soil Profile: Sandy Backfill Compaction Test (if required): Pass

Approximate Latitude, Longitude: 42.0873236, -75.9704856 (Coordinates shown are resource grade only.)

Field Note: Hub moved to lower side of hole due to rock blockage.

TEST HOLE PHOTOS

UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION

RESTORATION

APPROXIMATE TEST HOLE LOCATION

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PILOT HOLE EXCAVATION SHEET

ENGLISH UNITS

SoftDig Project #: 147730 Test Hole #: 37 Date: 03-18-2025

Client: RMF City: Binghamton County: Broome State: NY

Road: West Dr. General Location: Near Nelson Rockefeller Center

Crew: J Duran / J Duran Truck: S - 214 Permit #: ----

EXCAVATION INFORMATION

Excavation Type: No Utility Found - Empty Hole

Location Determined by: Dug on SoftDig Marks

Intended Utility: Gas Excavation Marker: Paint Surface Covering: Asphalt, Soil

EXCAVATION DIMENSIONS:

Length: 1.0 ft Width: 1.0 ft Cleared Depth: 3.0 ft Probe Depth: ---

Hole Stopped Due to: Other

Refusal Type (if any): Hard Ground

Field Notes (if needed): See CAD file for Metered Depth

Latitude / Longitude: 42.0872844, -75.9713188

EXCAVATION PHOTOS

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PILOT HOLE EXCAVATION SHEET

ENGLISH UNITS

SoftDig Project #: 147730 Test Hole #: 38 Date: 03-13-2025

Client: RMF City: Binghamton County: Broome State: NY

Road: West Dr. General Location: Nelson A. Rockefeller Collegiate Center

Crew: J Duran / J Duran Truck: S - 214 Permit #:

EXCAVATION INFORMATION

Excavation Type: No Utility Found - Empty Hole

Location Determined by: Dug on SoftDig Marks

Intended Utility: Electric Excavation Marker: Paint Surface Covering: Soil

EXCAVATION DIMENSIONS:

Length: 1.0 ft Width: 1.0 ft Cleared Depth: 6.0 ft Probe Depth: ---

Hole Stopped Due to: Unable to proceed using SoftDig methods due to ground conditions

Refusal Type (if any): Hard Ground

Field Notes (if needed): Could not recreate electric signal. See CAD file for metered depth.

Latitude / Longitude: 42.0872294, -75.9708705

EXCAVATION PHOTOS

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QL-A VACUUM EXCAVATION SHEET

ENGLISH UNITS

SoftDig Project #: 147730 Test Hole # 39 A Date: 02-24-2025

Client: RMF City: Binghamton County: Broome State: NY

Road: West Dr. Project Location: Nelson A. Rockerfeller Center

Crew: J Duran / J Duran Truck: 214 Permit:

TEST HOLE DATA

Utility Description: (2) 2.00 IN Black Metal Electric Conduit

Utility Owner: SUNY Binghamton Observed Condition: Good Paint: Red

Surface Elevation at Survey Mark: 963.70 FT Survey Marker at Hole: PK Nail

Utility Top Elevation: 962.08 FT Utility Bottom Elevation: ---

Utility Top Depth from Surface: 1.62 FT Utility Bottom Depth from Surface: ---

Benchmark Description: PK Nail Elevation: 963.11 FT Type: Given

Benchmark #2 (if avail.): --- Elevation: --- Type: ---

Surface Covering: Asphalt Asphalt: 4.00 IN Concrete: --- Duct Bank Type (if needed): ---

Generalized Soil Profile: Rocky Backfill Compaction Test (if required): Pass

Approximate Latitude, Longitude: 42.0870901, -75.9709393 (Coordinates shown are resource grade only.)

Field Note:

TEST HOLE PHOTOS

UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION

RESTORATION

APPROXIMATE TEST HOLE LOCATION

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QL-A VACUUM EXCAVATION SHEET

ENGLISH UNITS

SoftDig Project #: 147730 Test Hole # 39 B Date: 02-24-2025

Client: RMF City: Binghamton County: Broome State: NY

Road: West Dr. Project Location: Nelson A. Rockerfeller Center

Crew: J Duran / J Duran Truck: 214 Permit:

TEST HOLE DATA

Utility Description: 24.00 IN Gray Concrete Communications Duct Bank

Utility Owner: SUNY Binghamton Observed Condition: Good Paint: Orange

Surface Elevation at Survey Mark: 963.69 FT Survey Marker at Hole: PK Nail

Utility Top Elevation: 960.15 FT Utility Bottom Elevation: ---

Utility Top Depth from Surface: 3.54 FT Utility Bottom Depth from Surface: ---

Benchmark Description: PK Nail Elevation: 963.11 FT Type: Given

Benchmark #2 (if avail.): --- Elevation: --- Type: ---

Surface Covering: Asphalt Asphalt: 4.00 IN Concrete: --- Duct Bank Type (if needed): Formed Concrete

Generalized Soil Profile: Rocky Backfill Compaction Test (if required): Pass

Approximate Latitude, Longitude: 42.0870938, -75.9709475 (Coordinates shown are resource grade only.)

Field Note: Could not uncover bottom of duct bank due to large rock refusal.

TEST HOLE PHOTOS

UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION

RESTORATION

APPROXIMATE TEST HOLE LOCATION

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PILOT HOLE EXCAVATION SHEET

ENGLISH UNITS

SoftDig Project #: 147730 Test Hole #: 40 Date: 02-24-2025

Client: RMF City: Binghamton County: Broome State: NY

Road: West Dr. General Location: Nelson A. Rockefeller Center

Crew: J Duran / J Duran Truck: S - 223 Permit #:

EXCAVATION INFORMATION

Excavation Type: No Utility Found - Empty Hole

Location Determined by: Dug on SoftDig Marks

Intended Utility: Water Excavation Marker: Paint Surface Covering: Asphalt

EXCAVATION DIMENSIONS:

Length: 1.0 ft Width: 1.0 ft Cleared Depth: 3.0 ft Probe Depth: 3.0 ft

Hole Stopped Due to: Other

Refusal Type (if any): Ground Water

Field Notes (if needed): Could not proceed due to ground water. See CAD file for metered depth.

Latitude / Longitude: 42.0871281, -75.9709582

EXCAVATION PHOTOS

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PILOT HOLE EXCAVATION SHEET

ENGLISH UNITS

SoftDig Project #: 147730 Test Hole #: 41 Date: 02-24-2025

Client: RMF City: Binghamton County: Broome State: NY

Road: West Dr. General Location: Entrance to Lot W

Crew: J Duran / J Duran Truck: S - 214 Permit #:

EXCAVATION INFORMATION

Excavation Type: No Utility Found - Empty Hole

Location Determined by: Dug on SoftDig Marks

Intended Utility: Water Excavation Marker: Paint Surface Covering: Asphalt

EXCAVATION DIMENSIONS:

Length: 1.0 ft Width: 1.0 ft Cleared Depth: 6.5 ft Probe Depth: 7.5 ft

Hole Stopped Due to: Other

Refusal Type (if any): Ground Water

Field Notes (if needed): Could not proceed due to ground water. See CAD file for metered depth.

Latitude / Longitude: 42.0871131, -75.9707427

EXCAVATION PHOTOS

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PILOT HOLE EXCAVATION SHEET

ENGLISH UNITS

SoftDig Project #: 147730 Test Hole #: 42 Date: 02-26-2025

Client: RMF City: Binghamton County: Broome State: NY

Road: West Dr. General Location: Entrance to Lot W

Crew: J Duran / J Duran Truck: S - 214 Permit #:

EXCAVATION INFORMATION

Excavation Type: No Utility Found - Empty Hole

Location Determined by: Dug on SoftDig Marks

Intended Utility: Gas Excavation Marker: Paint Surface Covering: Soil

EXCAVATION DIMENSIONS:

Length: 1.0 ft Width: 1.0 ft Cleared Depth: 3.7 ft Probe Depth: 4.0 ft

Hole Stopped Due to: Stability of the hole or surrounding area can no longer be maintained, Other

Refusal Type (if any): Ground Water

Field Notes (if needed): Hole collapsing due to ground water. Could not proceed. See CAD file for metered depth.

Latitude / Longitude: 42.0871195, -75.9705021

EXCAVATION PHOTOS

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PILOT HOLE EXCAVATION SHEET

ENGLISH UNITS

SoftDig Project #: 147730 Test Hole #: 43 Date: 02-26-2025

Client: RMF City: Binghamton County: Broome State: NY

Road: West Dr. General Location: West Dr. and Stenger St.

Crew: J Duran / J Duran Truck: S - 214 Permit #:

EXCAVATION INFORMATION

Excavation Type: No Utility Found - Empty Hole

Location Determined by: Dug on SoftDig Marks

Intended Utility: Electric Excavation Marker: Paint Surface Covering: Soil

EXCAVATION DIMENSIONS:

Length: 1.0 ft Width: 1.0 ft Cleared Depth: 3.0 ft Probe Depth: ---

Hole Stopped Due to: Other, Depth given by project mgr was reached

Refusal Type (if any): Ground Water

Field Notes (if needed): Could not continue due to ground water. See CAD file for metered depth.

Latitude / Longitude: 42.0872002, -75.9704331

EXCAVATION PHOTOS

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QL-A VACUUM EXCAVATION SHEET

ENGLISH UNITS

SoftDig Project #: 147730 Test Hole # 44 Date: 02-24-2025

Client: RMF City: Binghamton County: Broome State: NY

Road: West Dr. Project Location: Entrance to Lot W

Crew: J Duran / J Duran Truck: 214 Permit:

TEST HOLE DATA

Utility Description: 24.00 IN Gray Concrete Communications Duct Bank

Utility Owner: SUNY Binghamton Observed Condition: No Visual Paint: Orange

Surface Elevation at Survey Mark: 961.36 FT Survey Marker at Hole: Hub

Utility Top Elevation: 956.93 FT Utility Bottom Elevation: ---

Utility Top Depth from Surface: 4.43 FT Utility Bottom Depth from Surface: ---

Benchmark Description: PK Nail Elevation: 963.11 FT Type: Given

Benchmark #2 (if avail.): --- Elevation: --- Type: ---

Surface Covering: Soil Asphalt: --- Concrete: --- Duct Bank Type (if needed): Formed Concrete

Generalized Soil Profile: Rocky, Ground Water Backfill Compaction Test (if required): Fail

Approximate Latitude, Longitude: 42.0871735, -75.9704978 (Coordinates shown are resource grade only.)

Field Note: Used probe to confirm utility presence. No visual due to ground water.

TEST HOLE PHOTOS

UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION

RESTORATION

APPROXIMATE TEST HOLE LOCATION

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QL-A VACUUM EXCAVATION SHEET

ENGLISH UNITS

SoftDig Project #: 147730 Test Hole # 45 Date: 02-24-2025

Client: RMF City: Binghamton County: Broome State: NY

Road: West Dr. Project Location: Entrance to Lot W

Crew: J Duran / J Duran Truck: 214 Permit:

TEST HOLE DATA

Utility Description: (1) 2.00 IN Black Metal Site Lighting Conduit

Utility Owner: SUNY Binghamton Observed Condition: Good Paint: Red

Surface Elevation at Survey Mark: 961.09 FT Survey Marker at Hole: Hub

Utility Top Elevation: 959.16 FT Utility Bottom Elevation: ---

Utility Top Depth from Surface: 1.93 FT Utility Bottom Depth from Surface: ---

Benchmark Description: PK Nail Elevation: 963.11 FT Type: Given

Benchmark #2 (if avail.): --- Elevation: --- Type: ---

Surface Covering: Soil Asphalt: --- Concrete: --- Duct Bank Type (if needed): ---

Generalized Soil Profile: Rocky Backfill Compaction Test (if required): Fail

Approximate Latitude, Longitude: 42.0871863, -75.9704649 (Coordinates shown are resource grade only.)

Field Note: Encountered ground water. Unable to compact soil.

TEST HOLE PHOTOS

UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION

RESTORATION

APPROXIMATE TEST HOLE LOCATION

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QL-A VACUUM EXCAVATION SHEET

ENGLISH UNITS

SoftDig Project #: 147730 Test Hole # 46 Date: 03-11-2025

Client: RMF City: Binghamton County: Broome State: NY

Road: West Dr. Project Location: West Dr. and Stenger St.

Crew: J Duran / J Duran Truck: 214 Permit:

TEST HOLE DATA

Utility Description: 6.00 IN Black Metal Water Pipe

Utility Owner: SUNY Binghamton Observed Condition: Good Paint: Blue

Surface Elevation at Survey Mark: 959.90 FT Survey Marker at Hole: PK Nail

Utility Top Elevation: 954.77 FT Utility Bottom Elevation: ---

Utility Top Depth from Surface: 5.13 FT Utility Bottom Depth from Surface: ---

Benchmark Description: PK Nail Elevation: 960.41 FT Type: Given

Benchmark #2 (if avail.): --- Elevation: --- Type: ---

Surface Covering: Asph & Conc Asphalt: 6.00 IN Concrete: 2.00 IN Duct Bank Type (if needed): ---

Generalized Soil Profile: Rocky Backfill Compaction Test (if required): Pass

Approximate Latitude, Longitude: 42.087164, -75.9703567 (Coordinates shown are resource grade only.)

Field Note:

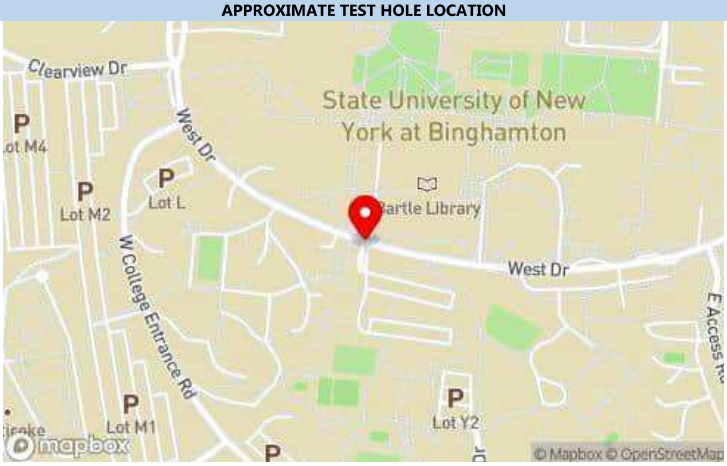
TEST HOLE PHOTOS

UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION

RESTORATION

APPROXIMATE TEST HOLE LOCATION



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QL-A VACUUM EXCAVATION SHEET

ENGLISH UNITS

SoftDig Project #: 147730 Test Hole # 46 A Date: 03-11-2025

Client: RMF City: Binghamton County: Broome State: NY

Road: West Dr. Project Location:

Crew: J Duran / J Duran Truck: 214 Permit:

TEST HOLE DATA

Utility Description: 0.00 IN Black Metal Water Pipe

Utility Owner: SUNY Binghamton Observed Condition: No Visual Paint: Blue

Surface Elevation at Survey Mark: 959.37 FT Survey Marker at Hole: Paint

Utility Top Elevation: 951.23 FT Utility Bottom Elevation: ---

Utility Top Depth from Surface: 8.14 FT Utility Bottom Depth from Surface: ---

Benchmark Description: Storm Drain Manhole Elevation: 959.40 FT Type: Given

Benchmark #2 (if avail.): --- Elevation: --- Type: ---

Surface Covering: Concrete Asphalt: --- Concrete: 4.00 IN Duct Bank Type (if needed): ---

Generalized Soil Profile: Rocky, Limestone Screenings Backfill Compaction Test (if required): Pass

Approximate Latitude, Longitude: 42.0871293, -75.9700644 (Coordinates shown are resource grade only.)

Field Note: Used probe to locate pipe. No visual.

TEST HOLE PHOTOS

UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION

RESTORATION

APPROXIMATE TEST HOLE LOCATION

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QL-A VACUUM EXCAVATION SHEET

ENGLISH UNITS

SoftDig Project #: 147730 Test Hole # 46 B Date: 03-11-2025

Client: RMF City: Binghamton County: Broome State: NY

Road: West Dr. Project Location: West Dr. and Stenger St.

Crew: J Duran / J Duran Truck: 214 Permit:

TEST HOLE DATA

Utility Description: (1) 1.00 IN Black Metal Unknown Pipe

Utility Owner: SUNY Binghamton Observed Condition: Good Paint: Pink

Surface Elevation at Survey Mark: 959.91 FT Survey Marker at Hole: PK Nail

Utility Top Elevation: 957.61 FT Utility Bottom Elevation: ---

Utility Top Depth from Surface: 2.30 FT Utility Bottom Depth from Surface: ---

Benchmark Description: PK Nail Elevation: 960.41 FT Type: Given

Benchmark #2 (if avail.): --- Elevation: --- Type: ---

Surface Covering: Asph & Conc Asphalt: 6.00 IN Concrete: 2.00 IN Duct Bank Type (if needed): ---

Generalized Soil Profile: Rocky Backfill Compaction Test (if required): Pass

Approximate Latitude, Longitude: 42.0871554, -75.9703542 (Coordinates shown are resource grade only.)

Field Note:

TEST HOLE PHOTOS

UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION

RESTORATION

APPROXIMATE TEST HOLE LOCATION

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QL-A VACUUM EXCAVATION SHEET

ENGLISH UNITS

SoftDig Project #: 147730 Test Hole # 47 Date: 03-11-2025

Client: RMF City: Binghamton County: Broome State: NY

Road: West Dr. Project Location: Library South

Crew: J Duran / J Duran Truck: 214 Permit:

TEST HOLE DATA

Utility Description: 0.00 IN Gray Concrete Electric Duct Bank

Utility Owner: Suny Binghamton Observed Condition: Good Paint: Red

Surface Elevation at Survey Mark: 959.18 FT Survey Marker at Hole: Hub

Utility Top Elevation: 956.75 FT Utility Bottom Elevation: ---

Utility Top Depth from Surface: 2.43 FT Utility Bottom Depth from Surface: ---

Benchmark Description: Storm Drain Manhole Elevation: 959.40 FT Type: Given

Benchmark #2 (if avail.): --- Elevation: --- Type: ---

Surface Covering: Soil Asphalt: --- Concrete: --- Duct Bank Type (if needed): Formed Concrete

Generalized Soil Profile: Rocky, Pea Gravel Backfill Compaction Test (if required): Pass

Approximate Latitude, Longitude: 42.0870428, -75.9698342 (Coordinates shown are resource grade only.)

Field Note: Could not expose bottom of duct bank due to surrounding pea gravel.

TEST HOLE PHOTOS

UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION

RESTORATION

APPROXIMATE TEST HOLE LOCATION

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PILOT HOLE EXCAVATION SHEET

ENGLISH UNITS

SoftDig Project #: 147730 Test Hole #: 48 Date: 03-11-2025

Client: RMF City: Binghamton County: Broome State: NY

Road: West Dr. General Location: Library South

Crew: J Duran / J Duran Truck: S - 214 Permit #:

EXCAVATION INFORMATION

Excavation Type: No Test Hole Dug / Placeholder Report

Location Determined by: No signal with electromagnetic detection equipment - no hole dug

Intended Utility: Communications Excavation Marker: Paint Surface Covering: Other

EXCAVATION DIMENSIONS:

Length: 0.0 ft Width: 0.0 ft Cleared Depth: 0.0 ft Probe Depth: 0.0 ft

Hole Stopped Due to: Other

Refusal Type (if any): Other

Field Notes (if needed): No test hole dug. Could not locate comm line connection into library building.
See CAD file for metered depth

Latitude / Longitude: 42.0870438, -75.9697535

EXCAVATION PHOTOS

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QL-A VACUUM EXCAVATION SHEET

ENGLISH UNITS

SoftDig Project #: 147730 Test Hole # 49 Date: 03-11-2025

Client: RMF City: Binghamton County: Broome State: NY

Road: West Dr. Project Location: West Dr. and Seif St.

Crew: J Duran / J Duran Truck: 214 Permit:

TEST HOLE DATA

Utility Description: 0.00 IN Gray Concrete Electric Duct Bank

Utility Owner: SUNY Binghamton Observed Condition: Good Paint: Red

Surface Elevation at Survey Mark: 956.29 FT Survey Marker at Hole: Hub

Utility Top Elevation: 952.91 FT Utility Bottom Elevation: ---

Utility Top Depth from Surface: 3.38 FT Utility Bottom Depth from Surface: ---

Benchmark Description: Storm Drain Manhole Elevation: 954.43 FT Type: Given

Benchmark #2 (if avail.): --- Elevation: --- Type: ---

Surface Covering: Soil Asphalt: --- Concrete: --- Duct Bank Type (if needed): Formed Concrete

Generalized Soil Profile: Rocky Backfill Compaction Test (if required): Pass

Approximate Latitude, Longitude: 42.0869115, -75.9687709 (Coordinates shown are resource grade only.)

Field Note: Could not get bottom or sides only top due to hole collapsing on us with constant gravel

TEST HOLE PHOTOS

UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION

RESTORATION

APPROXIMATE TEST HOLE LOCATION

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QL-A VACUUM EXCAVATION SHEET

ENGLISH UNITS

SoftDig Project #: 147730 Test Hole # 50 Date: 03-11-2025

Client: RMF City: Binghamton County: Broome State: NY

Road: West Dr. Project Location: West Dr. and Seif St.

Crew: J Duran / J Duran Truck: 214 Permit:

TEST HOLE DATA

Utility Description: 0.00 IN Gray Concrete Electric Duct Bank

Utility Owner: SUNY Binghamton Observed Condition: Good Paint: Red

Surface Elevation at Survey Mark: 956.12 FT Survey Marker at Hole: Hub

Utility Top Elevation: 953.63 FT Utility Bottom Elevation: ---

Utility Top Depth from Surface: 2.49 FT Utility Bottom Depth from Surface: ---

Benchmark Description: Storm Drain Manhole Elevation: 954.43 FT Type: Given

Benchmark #2 (if avail.): --- Elevation: --- Type: ---

Surface Covering: Soil, Concrete Asphalt: --- Concrete: --- Duct Bank Type (if needed): Formed Concrete

Generalized Soil Profile: Rocky Backfill Compaction Test (if required): Pass

Approximate Latitude, Longitude: 42.0868904, -75.9687249 (Coordinates shown are resource grade only.)

Field Note: Could only expose a portion of the duct bank due to concrete.

TEST HOLE PHOTOS

UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION

RESTORATION

APPROXIMATE TEST HOLE LOCATION

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PILOT HOLE EXCAVATION SHEET

ENGLISH UNITS

SoftDig Project #: 147730 Test Hole #: 51 Date: 03-11-2025

Client: RMF City: Binghamton County: Broome State: NY

Road: West Dr. General Location: West Dr. and Seif St.

Crew: J Duran / J Duran Truck: S - 214 Permit #:

EXCAVATION INFORMATION

Excavation Type: No Test Hole Dug / Placeholder Report

Location Determined by: No signal with electromagnetic detection equipment - no hole dug

Intended Utility: Communications Excavation Marker: Paint Surface Covering: Other

EXCAVATION DIMENSIONS:

Length: 0.0 ft Width: 0.0 ft Cleared Depth: 0.0 ft Probe Depth: 0.0 ft

Hole Stopped Due to: Other

Refusal Type (if any): Other

Field Notes (if needed): Could not get a signal from manhole. No test hole dug. See CAD file for metered depth

Latitude / Longitude: 42.086879, -75.9686822

EXCAVATION PHOTOS

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PILOT HOLE EXCAVATION SHEET

ENGLISH UNITS

SoftDig Project #: 147730 Test Hole #: 51 A Date: 03-12-2025

Client: RMF City: Binghamton County: Broome State: NY

Road: West Drs. General Location: Systems Science and Industrial Engineering

Crew: J Duran / J Duran Truck: S - 214 Permit #:

EXCAVATION INFORMATION

Excavation Type: No Utility Found - Empty Hole

Location Determined by: Dug on SoftDig Marks

Intended Utility: Water Excavation Marker: Paint Surface Covering: Concrete

EXCAVATION DIMENSIONS:

Length: 1.0 ft Width: 1.0 ft Cleared Depth: 6.0 ft Probe Depth: 6.5 ft

Hole Stopped Due to: Encountered Refusal (rocks), Stability of the hole or surrounding area can no longer be maintained

Refusal Type (if any): Hard Ground

Field Notes (if needed): Encountered pea gravel and hole began collapsing. See CAD file for metered depth.

Latitude / Longitude: 42.0869642, -75.9682594

EXCAVATION PHOTOS

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QL-A VACUUM EXCAVATION SHEET

ENGLISH UNITS

SoftDig Project #: 147730 Test Hole # 52 Date: 03-17-2025

Client: RMF City: Binghamton County: Broome State: NY

Road: West Drive Project Location: Library South

Crew: J Duran / J Duran Truck: 214 Permit:

TEST HOLE DATA

Utility Description: 2.00 IN Gray Plastic Site Lighting Conduit

Utility Owner: SUNY Binghamton Observed Condition: Good Paint: Red

Surface Elevation at Survey Mark: 953.89 FT Survey Marker at Hole: PK Nail

Utility Top Elevation: 951.33 FT Utility Bottom Elevation: ---

Utility Top Depth from Surface: 2.56 FT Utility Bottom Depth from Surface: ---

Benchmark Description: PK Nail Elevation: 955.39 FT Type: Given

Benchmark #2 (if avail.): --- Elevation: --- Type: ---

Surface Covering: Asphalt Asphalt: 4.00 IN Concrete: --- Duct Bank Type (if needed): ---

Generalized Soil Profile: Rocky Backfill Compaction Test (if required): Fail

Approximate Latitude, Longitude: 42.0868749, -75.9678898 (Coordinates shown are resource grade only.)

Field Note: Ground too muddy for backfill compression test

TEST HOLE PHOTOS

UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION

RESTORATION

APPROXIMATE TEST HOLE LOCATION

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QL-A VACUUM EXCAVATION SHEET

ENGLISH UNITS

SoftDig Project #: 147730 Test Hole # 53 Date: 03-17-2025

Client: RMF City: Binghamton County: Broome State: NY

Road: West Drive Project Location: Library South

Crew: J Duran / J Duran Truck: 214 Permit:

TEST HOLE DATA

Utility Description: 0.00 IN Gray Concrete Communications Duct Bank

Utility Owner: SUNY Binghamton Observed Condition: No Visual Paint: Orange

Surface Elevation at Survey Mark: 954.03 FT Survey Marker at Hole: PK Nail

Utility Top Elevation: 948.98 FT Utility Bottom Elevation: ---

Utility Top Depth from Surface: 5.05 FT Utility Bottom Depth from Surface: ---

Benchmark Description: Sanitary Sewer Manhole Elevation: 955.39 FT Type: Given

Benchmark #2 (if avail.): --- Elevation: --- Type: ---

Surface Covering: Asphalt Asphalt: 4.00 IN Concrete: --- Duct Bank Type (if needed): Formed Concrete

Generalized Soil Profile: Rocky Backfill Compaction Test (if required): Fail

Approximate Latitude, Longitude: 42.0868534, -75.9678727 (Coordinates shown are resource grade only.)

Field Note: Collapsing hole. No visual. Used air lance to probe.

TEST HOLE PHOTOS

UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION

RESTORATION

APPROXIMATE TEST HOLE LOCATION

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QL-A VACUUM EXCAVATION SHEET

ENGLISH UNITS

SoftDig Project #: 147730 Test Hole # 54 Date: 03-17-2025

Client: RMF City: Binghamton County: Broome State: NY

Road: West Drive Project Location: Library South

Crew: J Duran / J Duran Truck: 214 Permit:

TEST HOLE DATA

Utility Description: 0.00 IN Gray Concrete Electric Duct Bank

Utility Owner: SUNY Binghamton Observed Condition: Good Paint: Red

Surface Elevation at Survey Mark: 954.17 FT Survey Marker at Hole: PK Nail

Utility Top Elevation: 949.66 FT Utility Bottom Elevation: --

Utility Top Depth from Surface: 4.51 FT Utility Bottom Depth from Surface: ---

Benchmark Description: PK Nail Elevation: 955.39 FT Type: Given

Benchmark #2 (if avail.): --- Elevation: --- Type: ---

Surface Covering: Asphalt Asphalt: 4.00 IN Concrete: --- Duct Bank Type (if needed): Formed Concrete

Generalized Soil Profile: Rocky Backfill Compaction Test (if required): Fail

Approximate Latitude, Longitude: 42.0868339, -75.9678743 (Coordinates shown are resource grade only.)

Field Note: Could not expose duct bank side or bottom due to hole collapsing. Muddy ground.

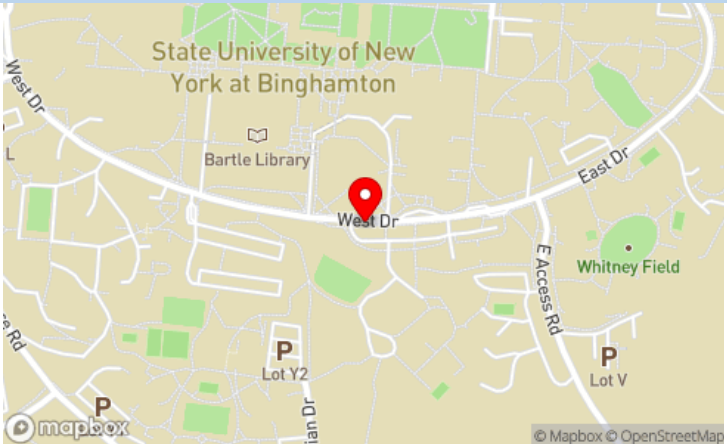
TEST HOLE PHOTOS

UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION

RESTORATION

APPROXIMATE TEST HOLE LOCATION



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QL-A VACUUM EXCAVATION SHEET

ENGLISH UNITS

SoftDig Project #: 147730 Test Hole # 55 Date: 03-11-2025

Client: RMF City: Binghamton County: Broome State: NY

Road: West Dr. Project Location: West Dr. and Seif St.

Crew: J Duran / J Duran Truck: 214 Permit:

TEST HOLE DATA

Utility Description: (1) 2.00 IN Gray Plastic Site Lighting Conduit

Utility Owner: SUNY Binghamton Observed Condition: Good Paint: Red

Surface Elevation at Survey Mark: 962.73 FT Survey Marker at Hole: Hub

Utility Top Elevation: 961.28 FT Utility Bottom Elevation: ---

Utility Top Depth from Surface: 1.45 FT Utility Bottom Depth from Surface: ---

Benchmark Description: Storm Drain Manhole Elevation: 956.26 FT Type: Given

Benchmark #2 (if avail.): --- Elevation: --- Type: ---

Surface Covering: Soil Asphalt: --- Concrete: --- Duct Bank Type (if needed): ---

Generalized Soil Profile: Rocky Backfill Compaction Test (if required): Pass

Approximate Latitude, Longitude: 42.0865649, -75.9673507 (Coordinates shown are resource grade only.)

Field Note:

TEST HOLE PHOTOS

UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION

RESTORATION

APPROXIMATE TEST HOLE LOCATION

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QL-A VACUUM EXCAVATION SHEET

ENGLISH UNITS

SoftDig Project #: 147730 Test Hole # 56 Date: 03-11-2025

Client: RMF City: Binghamton County: Broome State: NY

Road: West Dr. Project Location: West Dr. and Seif St.

Crew: J Duran / J Duran Truck: 214 Permit:

TEST HOLE DATA

Utility Description: (1) 2.00 IN Gray Plastic Site Lighting Conduit

Utility Owner: SUNY Binghamton Observed Condition: Good Paint: Red

Surface Elevation at Survey Mark: 962.38 FT Survey Marker at Hole: Hub

Utility Top Elevation: 960.94 FT Utility Bottom Elevation: ---

Utility Top Depth from Surface: 1.44 FT Utility Bottom Depth from Surface: ---

Benchmark Description: Storm Drain Manhole Elevation: 956.26 FT Type: Given

Benchmark #2 (if avail.): --- Elevation: --- Type: ---

Surface Covering: Soil Asphalt: --- Concrete: --- Duct Bank Type (if needed): ---

Generalized Soil Profile: Rocky Backfill Compaction Test (if required): Pass

Approximate Latitude, Longitude: 42.0865545, -75.9673078 (Coordinates shown are resource grade only.)

Field Note:

TEST HOLE PHOTOS

UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION

RESTORATION

APPROXIMATE TEST HOLE LOCATION

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QL-A VACUUM EXCAVATION SHEET

ENGLISH UNITS

SoftDig Project #: 147730 Test Hole # 57 Date: 03-17-2025

Client: RMF City: Binghamton County: Broome State: NY

Road: West Drive Project Location: Lot 02 by Mohawk Building

Crew: J Duran / J Duran Truck: 214 Permit:

TEST HOLE DATA

Utility Description: 6.00 IN Gray Concrete Water Pipe

Utility Owner: SUNY Binghamton Observed Condition: No Visual Paint: Blue

Surface Elevation at Survey Mark: 965.97 FT Survey Marker at Hole: Hub

Utility Top Elevation: 959.81 FT Utility Bottom Elevation: ---

Utility Top Depth from Surface: 6.16 FT Utility Bottom Depth from Surface: ---

Benchmark Description: Storm Drain Manhole Elevation: 964.87 FT Type: Given

Benchmark #2 (if avail.): --- Elevation: --- Type: ---

Surface Covering: Soil, Gravel Asphalt: --- Concrete: --- Duct Bank Type (if needed): ---

Generalized Soil Profile: Rocky Backfill Compaction Test (if required): Pass

Approximate Latitude, Longitude: 42.0864205, -75.9665354 (Coordinates shown are resource grade only.)

Field Note: Possible encasement around water line.

TEST HOLE PHOTOS

UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION

RESTORATION

APPROXIMATE TEST HOLE LOCATION

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QL-A VACUUM EXCAVATION SHEET

ENGLISH UNITS

SoftDig Project #: 147730 Test Hole # 58 Date: 03-17-2025

Client: RMF City: Binghamton County: Broome State: NY

Road: West Drive Project Location: Lot 02 by Mohawk Building

Crew: J Duran / J Duran Truck: 214 Permit:

TEST HOLE DATA

Utility Description: 36.00 IN Gray Concrete Communications Duct Bank

Utility Owner: SUNY Binghamton Observed Condition: Poor Paint: Orange

Surface Elevation at Survey Mark: 965.99 FT Survey Marker at Hole: PK Nail

Utility Top Elevation: 964.29 FT Utility Bottom Elevation: ---

Utility Top Depth from Surface: 1.70 FT Utility Bottom Depth from Surface: ---

Benchmark Description: Storm Drain Manhole Elevation: 964.87 FT Type: Given

Benchmark #2 (if avail.): --- Elevation: --- Type: ---

Surface Covering: Asphalt Asphalt: 4.00 IN Concrete: --- Duct Bank Type (if needed): Rough Pour

Generalized Soil Profile: Rocky Backfill Compaction Test (if required): Pass

Approximate Latitude, Longitude: 42.0863328, -75.966306 (Coordinates shown are resource grade only.)

Field Note: Could not expose bottom of duct bank due to rock refusal.

TEST HOLE PHOTOS

UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION

RESTORATION

APPROXIMATE TEST HOLE LOCATION

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QL-A VACUUM EXCAVATION SHEET

ENGLISH UNITS

SoftDig Project #: 147730 Test Hole # 59 Date: 03-04-2025

Client: RMF City: Binghamton County: Broome County State: NY

Road: Campus Project Location: Near Roosevelt Building

Crew: J Duran / J Duran Truck: 214 Permit: ---

TEST HOLE DATA

Utility Description: 4.00 IN Yellow Plastic Gas Pipe

Utility Owner: SUNY Binghamton Observed Condition: Good Paint: Yellow

Surface Elevation at Survey Mark: 971.07 FT Survey Marker at Hole: Hub

Utility Top Elevation: 968.26 FT Utility Bottom Elevation: 973.23 FT

Utility Top Depth from Surface: 2.81 FT Utility Bottom Depth from Surface: -2.16 FT

Benchmark Description: Storm Drain Elevation: 964.87 FT Type: Given

Benchmark #2 (if avail.): --- Elevation: --- Type: ---

Surface Covering: Soil Asphalt: --- Concrete: --- Duct Bank Type (if needed): ---

Generalized Soil Profile: Rocky Backfill Compaction Test (if required): Pass

Approximate Latitude, Longitude: 42.0861672, -75.9660763 (Coordinates shown are resource grade only.)

Field Note:

TEST HOLE PHOTOS

UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION

RESTORATION

APPROXIMATE TEST HOLE LOCATION

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QL-A VACUUM EXCAVATION SHEET

ENGLISH UNITS

SoftDig Project #: 147730 Test Hole # 61 Date: 03-13-2025

Client: RMF City: Binghamton County: Broome State: NY

Road: East Dr. Project Location: Lot 02

Crew: J Duran / J Duran Truck: 214 Permit:

TEST HOLE DATA

Utility Description: (2) 1.00 IN Black Metal Electric Conduit

Utility Owner: SUNY Binghamton Observed Condition: Corroded Paint: Red

Surface Elevation at Survey Mark: 971.76 FT Survey Marker at Hole: Hub

Utility Top Elevation: 967.91 FT Utility Bottom Elevation: ---

Utility Top Depth from Surface: 3.85 FT Utility Bottom Depth from Surface: ---

Benchmark Description: PK Nail Elevation: 973.34 FT Type: Given

Benchmark #2 (if avail.): --- Elevation: --- Type: ---

Surface Covering: Soil Asphalt: --- Concrete: --- Duct Bank Type (if needed): ---

Generalized Soil Profile: Rocky Backfill Compaction Test (if required): Pass

Approximate Latitude, Longitude: 42.0860039, -75.9661515 (Coordinates shown are resource grade only.)

Field Note:

TEST HOLE PHOTOS

UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION

RESTORATION

APPROXIMATE TEST HOLE LOCATION

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QL-A VACUUM EXCAVATION SHEET

ENGLISH UNITS

SoftDig Project #: 147730 Test Hole # 62 Date: 03-06-2025

Client: RMF City: Binghamton County: Broome State: NY

Road: East Dr. Project Location: Lot 02

Crew: J Duran / J Duran Truck: 214 Permit:

TEST HOLE DATA

Utility Description: 36.00 IN Gray Concrete Communications Duct Bank

Utility Owner: SUNY Binghamton Observed Condition: Good Paint: Orange

Surface Elevation at Survey Mark: 973.26 FT Survey Marker at Hole: Hub

Utility Top Elevation: 971.13 FT Utility Bottom Elevation: ---

Utility Top Depth from Surface: 2.13 FT Utility Bottom Depth from Surface: ---

Benchmark Description: PK Nail Elevation: 973.34 FT Type: Given

Benchmark #2 (if avail.): --- Elevation: --- Type: ---

Surface Covering: Soil Asphalt: --- Concrete: --- Duct Bank Type (if needed): Rough Pour

Generalized Soil Profile: Rocky Backfill Compaction Test (if required): Fail

Approximate Latitude, Longitude: 42.0860351, -75.9661271 (Coordinates shown are resource grade only.)

Field Note: Could not expose bottom of duct bank due to rocks. Ground too muddy to compress.

TEST HOLE PHOTOS

UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION

RESTORATION

APPROXIMATE TEST HOLE LOCATION

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ENGLISH UNITS

SoftDig Project #: 147730 Test Hole # 63 Date: 03-06-2025

Client: RMF City: Binghamton County: Broome State: NY

Road: East Dr. Project Location: Lot 02

Crew: J Duran / J Duran Truck: 214 Permit:

TEST HOLE DATA

Utility Description: 0.00 IN Unknown Metal Water Pipe

Utility Owner: SUNY Binghamton Observed Condition: No Visual Paint: Blue

Surface Elevation at Survey Mark: 974.40 FT Survey Marker at Hole: Hub

Utility Top Elevation: 967.94 FT Utility Bottom Elevation: ---

Utility Top Depth from Surface: 6.46 FT Utility Bottom Depth from Surface: ---

Benchmark Description: PK Nail Elevation: 973.34 FT Type: Given

Benchmark #2 (if avail.): --- Elevation: --- Type: ---

Surface Covering: Soil Asphalt: --- Concrete: --- Duct Bank Type (if needed): ---

Generalized Soil Profile: Rocky Backfill Compaction Test (if required): Pass

Approximate Latitude, Longitude: 42.0859523, -75.9662431 (Coordinates shown are resource grade only.)

Field Note: Probed with air lance. No visual on pipe.

TEST HOLE PHOTOS

UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION

RESTORATION

APPROXIMATE TEST HOLE LOCATION

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QL-A VACUUM EXCAVATION SHEET

ENGLISH UNITS

SoftDig Project #: 147730 Test Hole # 64 Date: 03-06-2025

Client: RMF City: Binghamton County: Broome State: NY

Road: East Dr. Project Location: Lot 02

Crew: J Duran / J Duran Truck: 214 Permit:

TEST HOLE DATA

Utility Description: (2) 1.00 IN Gray Metal Electric Conduit

Utility Owner: SUNY Binghamton Observed Condition: Good Paint: Red

Surface Elevation at Survey Mark: 974.22 FT Survey Marker at Hole: Hub

Utility Top Elevation: 970.28 FT Utility Bottom Elevation: ---

Utility Top Depth from Surface: 3.94 FT Utility Bottom Depth from Surface: ---

Benchmark Description: PK Nail Elevation: 973.34 FT Type: Given

Benchmark #2 (if avail.): --- Elevation: --- Type: ---

Surface Covering: Soil Asphalt: --- Concrete: --- Duct Bank Type (if needed): ---

Generalized Soil Profile: Rocky Backfill Compaction Test (if required): Pass

Approximate Latitude, Longitude: 42.0859476, -75.9662584 (Coordinates shown are resource grade only.)

Field Note:

TEST HOLE PHOTOS

UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION

RESTORATION

APPROXIMATE TEST HOLE LOCATION

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ENGLISH UNITS

SoftDig Project #: 147730 Test Hole # 65 Date: 03-06-2025

Client: RMF City: Binghamton County: Broome State: NY

Road: East Dr. Project Location: Lot 02

Crew: J Duran / J Duran Truck: 214 Permit:

TEST HOLE DATA

Utility Description: 4.00 IN Yellow Plastic Gas Pipe

Utility Owner: SUNY Binghamton Observed Condition: Good Paint: Yellow

Surface Elevation at Survey Mark: 973.52 FT Survey Marker at Hole: Hub

Utility Top Elevation: 971.66 FT Utility Bottom Elevation: ---

Utility Top Depth from Surface: 1.86 FT Utility Bottom Depth from Surface: ---

Benchmark Description: PK Nail Elevation: 973.34 FT Type: Given

Benchmark #2 (if avail.): --- Elevation: --- Type: ---

Surface Covering: Soil Asphalt: --- Concrete: --- Duct Bank Type (if needed): ---

Generalized Soil Profile: Rocky Backfill Compaction Test (if required): Pass

Approximate Latitude, Longitude: 42.0860465, -75.9660697 (Coordinates shown are resource grade only.)

Field Note:

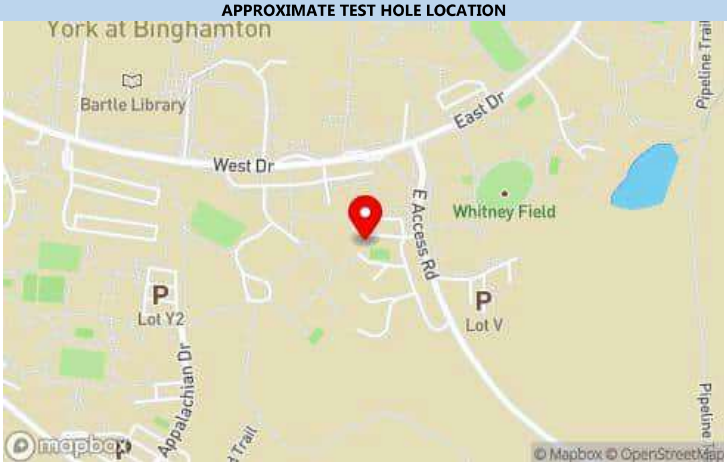
TEST HOLE PHOTOS

UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION

RESTORATION

APPROXIMATE TEST HOLE LOCATION



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QL-A VACUUM EXCAVATION SHEET

ENGLISH UNITS

SoftDig Project #: 147730 Test Hole # 65 A Date: 03-06-2025

Client: RMF City: Binghamton County: Broome State: NY

Road: East Dr. Project Location: Lot 02

Crew: J Duran / J Duran Truck: 214 Permit:

TEST HOLE DATA

Utility Description: 0.50 IN Gray Direct Bury Electric Cable

Utility Owner: SUNY Binghamton Observed Condition: Good Paint: Red

Surface Elevation at Survey Mark: 973.51 FT Survey Marker at Hole: Hub

Utility Top Elevation: 972.50 FT Utility Bottom Elevation: ---

Utility Top Depth from Surface: 1.01 FT Utility Bottom Depth from Surface: ---

Benchmark Description: PK Nail Elevation: 973.34 FT Type: Given

Benchmark #2 (if avail.): --- Elevation: --- Type: ---

Surface Covering: Soil Asphalt: --- Concrete: --- Duct Bank Type (if needed): ---

Generalized Soil Profile: Rocky Backfill Compaction Test (if required): Pass

Approximate Latitude, Longitude: 42.0860075, -75.9662111 (Coordinates shown are resource grade only.)

Field Note:

TEST HOLE PHOTOS

UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION

RESTORATION

APPROXIMATE TEST HOLE LOCATION

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QL-A VACUUM EXCAVATION SHEET

ENGLISH UNITS

SoftDig Project #: 147730 Test Hole # 73 Date: 03-04-2025

Client: RMF City: Binghamton County: Broome County State: NY

Road: Campus Project Location: Near Roosevelt Building

Crew: J Duran / J Duran Truck: 214 Permit: ---

TEST HOLE DATA

Utility Description: 0.00 IN Gray Concrete Unknown Unknown

Utility Owner: SUNY Binghamton Observed Condition: Poor Paint: Pink

Surface Elevation at Survey Mark: 998.56 FT Survey Marker at Hole: Hub

Utility Top Elevation: 994.00 FT Utility Bottom Elevation: 1000.28 FT

Utility Top Depth from Surface: 4.56 FT Utility Bottom Depth from Surface: -1.72 FT

Benchmark Description: Storm Manhole Elevation: 989.18 FT Type: Given

Benchmark #2 (if avail.): --- Elevation: --- Type: ---

Surface Covering: Soil Asphalt: --- Concrete: --- Duct Bank Type (if needed): ---

Generalized Soil Profile: Rocky Backfill Compaction Test (if required): Pass

Approximate Latitude, Longitude: 42.085987, -75.9717022 (Coordinates shown are resource grade only.)

Field Note: Found concrete in the hole not sure what it is could not find an end

TEST HOLE PHOTOS

UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION

RESTORATION

APPROXIMATE TEST HOLE LOCATION

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QL-A VACUUM EXCAVATION SHEET

ENGLISH UNITS

SoftDig Project #: 147730 Test Hole # 73 A Date: 03-04-2025

Client: RMF City: Binghamton County: Broome County State: NY

Road: Campus Project Location: Near Roosevelt Building

Crew: J Duran / J Duran Truck: 214 Permit: ---

TEST HOLE DATA

Utility Description: UNK Size Gray Concrete Structure

Utility Owner: SUNY Binghamton Observed Condition: Good Paint: Pink

Surface Elevation at Survey Mark: 1002.84 FT Survey Marker at Hole: Hub

Utility Top Elevation: 998.05 FT Utility Bottom Elevation: ---

Utility Top Depth from Surface: 4.79 FT Utility Bottom Depth from Surface: ---

Benchmark Description: Bolt on Fire Hydrant has an X Elevation: 1007.58 FT Type: Given

Benchmark #2 (if avail.): --- Elevation: --- Type: ---

Surface Covering: Soil Asphalt: --- Concrete: --- Duct Bank Type (if needed): ---

Generalized Soil Profile: Rocky Backfill Compaction Test (if required): Pass

Approximate Latitude, Longitude: 42.0859205, -75.9715755 (Coordinates shown are resource grade only.)

Field Note: Found concrete in hole possible duct bank did not find edge water could be underneath concrete

TEST HOLE PHOTOS

UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION

RESTORATION

APPROXIMATE TEST HOLE LOCATION

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QL-A VACUUM EXCAVATION SHEET

ENGLISH UNITS

SoftDig Project #: 147730 Test Hole # 74 Date: 03-18-2025

Client: Rmf City: Binghamton County: Broome State: NY

Road: East Dr. Project Location: Harpur College Academic Advising

Crew: J Duran / J Duran Truck: 214 Permit:

TEST HOLE DATA

Utility Description: 2.00 IN Gray Plastic Site Lighting Conduit

Utility Owner: SUNY Binghamton Observed Condition: Good Paint: Red

Surface Elevation at Survey Mark: 957.53 FT Survey Marker at Hole: Hub

Utility Top Elevation: 956.03 FT Utility Bottom Elevation: ---

Utility Top Depth from Surface: 1.50 FT Utility Bottom Depth from Surface: ---

Benchmark Description: Storm Drain Manhole Elevation: 956.71 FT Type: Given

Benchmark #2 (if avail.): --- Elevation: --- Type: ---

Surface Covering: Soil Asphalt: --- Concrete: --- Duct Bank Type (if needed): ---

Generalized Soil Profile: Rocky Backfill Compaction Test (if required): Pass

Approximate Latitude, Longitude: 42.0888226, -75.9641019 (Coordinates shown are resource grade only.)

Field Note:

TEST HOLE PHOTOS

UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION

RESTORATION

APPROXIMATE TEST HOLE LOCATION

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QL-A VACUUM EXCAVATION SHEET

ENGLISH UNITS

SoftDig Project #: 147730 Test Hole # 75 Date: 03-03-2025

Client: RMF City: Binghamton County: Broome State: NY

Road: West Dr. Project Location: Commissary Building

Crew: J Duran / J Duran Truck: 214 Permit:

TEST HOLE DATA

Utility Description: 24.00 IN Gray Concrete Electric Duct Bank

Utility Owner: SUNY Binghamton Observed Condition: Good Paint: Red

Surface Elevation at Survey Mark: 937.88 FT Survey Marker at Hole: PK Nail

Utility Top Elevation: 936.04 FT Utility Bottom Elevation: ---

Utility Top Depth from Surface: 1.84 FT Utility Bottom Depth from Surface: ---

Benchmark Description: PK Nail Elevation: 941.59 FT Type: Given

Benchmark #2 (if avail.): --- Elevation: --- Type: ---

Surface Covering: Gravel Asphalt: --- Concrete: --- Duct Bank Type (if needed): Formed Concrete

Generalized Soil Profile: Rocky Backfill Compaction Test (if required): Pass

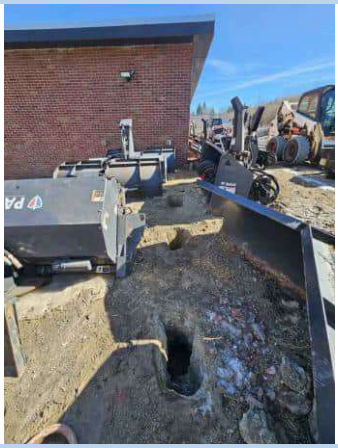
Approximate Latitude, Longitude: 42.0899244, -75.9749092 (Coordinates shown are resource grade only.)

Field Note: Concrete cover at 1.2' Could not uncover bottom of duct bank due to large rock refusal.

TEST HOLE PHOTOS

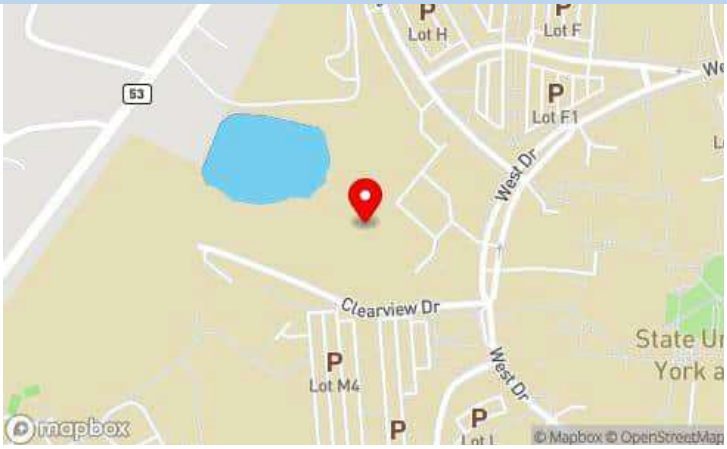
UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION



RESTORATION

APPROXIMATE TEST HOLE LOCATION



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QL-A VACUUM EXCAVATION SHEET

ENGLISH UNITS

SoftDig Project #: 147730 Test Hole # 75 A Date: 03-03-2025

Client: RMF City: Binghamton County: Broome State: NY

Road: West Dr. Project Location: Commissary Building

Crew: J Duran / J Duran Truck: 214 Permit:

TEST HOLE DATA

Utility Description: 2.00 IN Yellow Plastic Gas Pipe

Utility Owner: SUNY Binghamton Observed Condition: Good Paint: Yellow

Surface Elevation at Survey Mark: 937.97 FT Survey Marker at Hole: PK Nail

Utility Top Elevation: 934.72 FT Utility Bottom Elevation: ---

Utility Top Depth from Surface: 3.25 FT Utility Bottom Depth from Surface: ---

Benchmark Description: PK Nail Elevation: 941.59 FT Type: Given

Benchmark #2 (if avail.): --- Elevation: --- Type: ---

Surface Covering: Gravel Asphalt: --- Concrete: --- Duct Bank Type (if needed): ---

Generalized Soil Profile: Rocky Backfill Compaction Test (if required): Pass

Approximate Latitude, Longitude: 42.0899233, -75.9749573 (Coordinates shown are resource grade only.)

Field Note:

TEST HOLE PHOTOS

UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION

RESTORATION

APPROXIMATE TEST HOLE LOCATION

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PILOT HOLE EXCAVATION SHEET

ENGLISH UNITS

SoftDig Project #: 147730 Test Hole #: 76 Date: 03-03-2025

Client: RMF City: Binghamton County: Broome State: NY

Road: West Dr. General Location: Commissary Building

Crew: J Duran / J Duran Truck: S - 214 Permit #:

EXCAVATION INFORMATION

Excavation Type: No Utility Found - Empty Hole

Location Determined by: Dug on SoftDig Marks, SoftDig Project Manager Location

Intended Utility: Electric Excavation Marker: Paint Surface Covering: Soil, Gravel

EXCAVATION DIMENSIONS:

Length: 1.0 ft Width: 1.0 ft Cleared Depth: 4.0 ft Probe Depth: 5.0 ft

Hole Stopped Due to: Hole is deeper than expected utility depth, Depth given by project mgr was reached

Refusal Type (if any): Hard Ground

Field Notes (if needed): Could not locate electric manhole in field. See CAD file for metered depth.

Latitude / Longitude: 42.0899084, -75.9748896

EXCAVATION PHOTOS

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QL-A VACUUM EXCAVATION SHEET

ENGLISH UNITS

SoftDig Project #: 147730 Test Hole # 77 Date: 03-03-2025

Client: RMF City: Binghamton County: Broome State: NY

Road: West Dr. Project Location: Commissary Building

Crew: J Duran / J Duran Truck: 214 Permit:

TEST HOLE DATA

Utility Description: 48.00 IN Gray Concrete Electric Duct Bank

Utility Owner: SUNY Binghamton Observed Condition: Good Paint: Red

Surface Elevation at Survey Mark: 938.06 FT Survey Marker at Hole: PK Nail

Utility Top Elevation: 934.90 FT Utility Bottom Elevation: ---

Utility Top Depth from Surface: 3.16 FT Utility Bottom Depth from Surface: ---

Benchmark Description: PK Nail Elevation: 941.59 FT Type: Given

Benchmark #2 (if avail.): --- Elevation: --- Type: ---

Surface Covering: Soil Asphalt: --- Concrete: --- Duct Bank Type (if needed): ---

Generalized Soil Profile: Rocky Backfill Compaction Test (if required): Pass

Approximate Latitude, Longitude: 42.0899164, -75.9748811 (Coordinates shown are resource grade only.)

Field Note: Could not uncover bottom of duct bank due to large rock refusal.

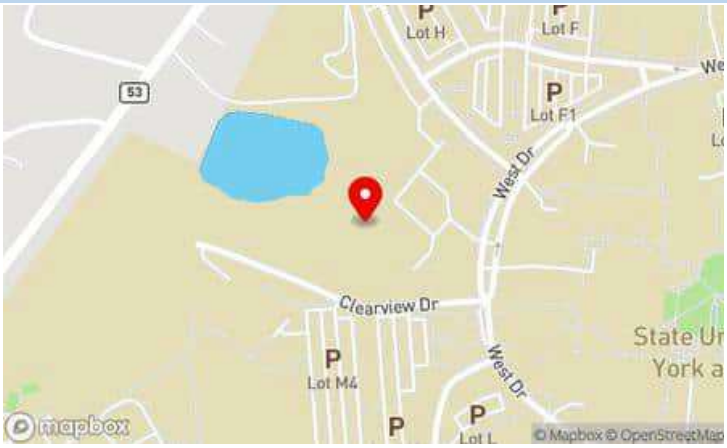
TEST HOLE PHOTOS

UTILITY IN TEST HOLE

TEST HOLE GENERAL LOCATION

RESTORATION

APPROXIMATE TEST HOLE LOCATION



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Subsurface Utility Engineering / GPR Investigations
Video Pipe Inspection / Concrete Slab Imaging

PROJECT SITE

QL-A Utility Test Holes
Binghamton University
Electrical Dist. Project
Binghamton, New York

UTILITY LEGEND

PILOT HOLE (EMPTY)

UTILITY TEST HOLE

CLARIFICATIONS

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QUALITY LEVEL B: INFORMATION OBTAINED BY THE APPLICATION OF APPROPRIATE SURFACE GEOPHYSICAL METHODS TO DETERMINE THE EXISTENCE AND HORIZONTAL POSITION OF UTILITES WITHIN THE PROJECT LIMITS. ALL UTILITIES SHOWN AS QL-B EXCEPT AS NOTED.

QUALITY LEVEL C: INFORMATION OBTAINED BY SURVEYING AND PLOTTING VISIBLE ABOVE-GROUND UTILITY FEATURES AND BY USING PROFESSIONAL JUDGEMENT IN CORRELATING THIS INFORMATION TO QUALITY LEVEL D INFORMATION.

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Electrical Dist. Project
Binghamton, New York

UTILITY LEGEND

PILOT HOLE (EMPTY)

UTILITY TEST HOLE

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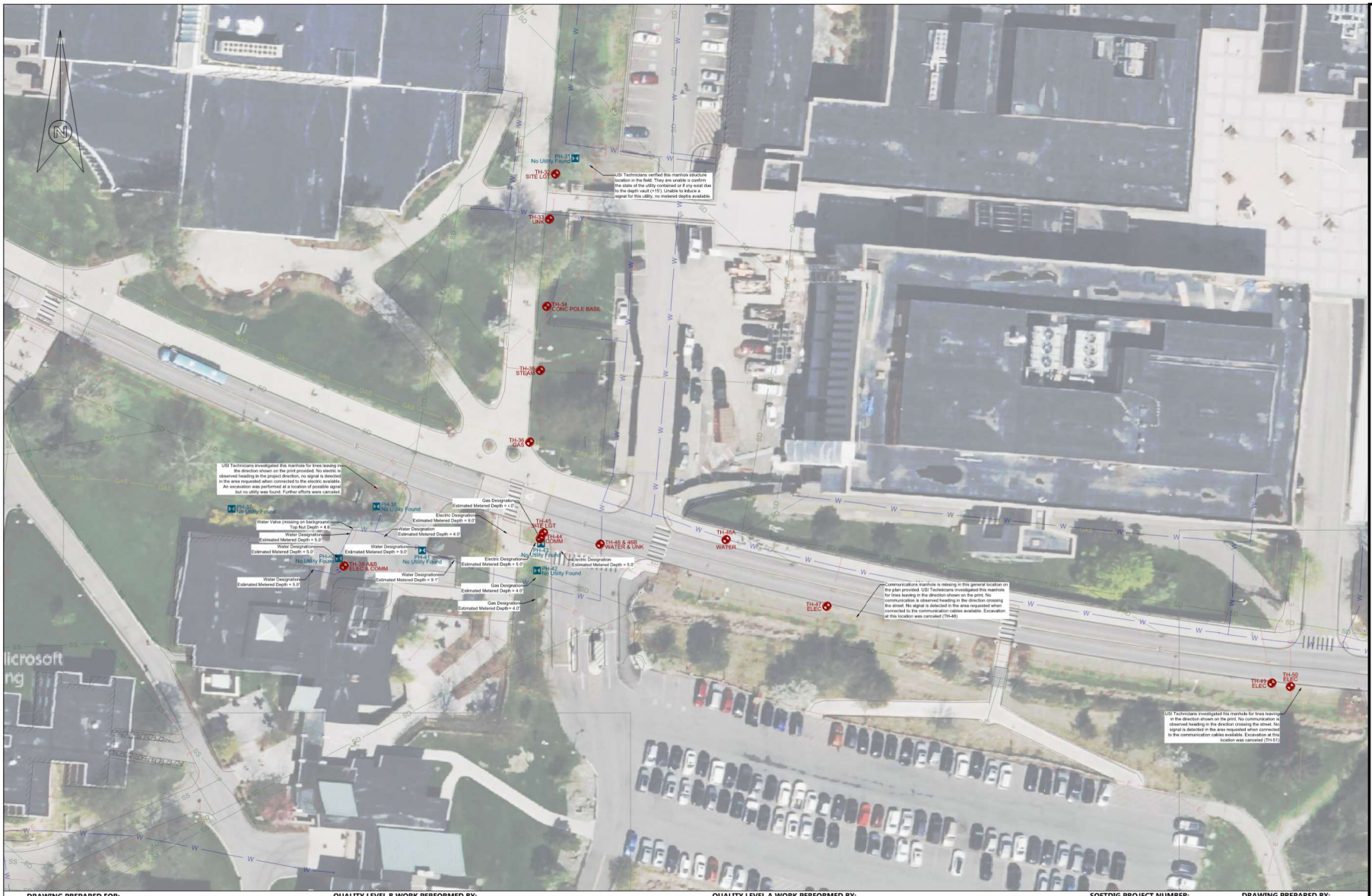

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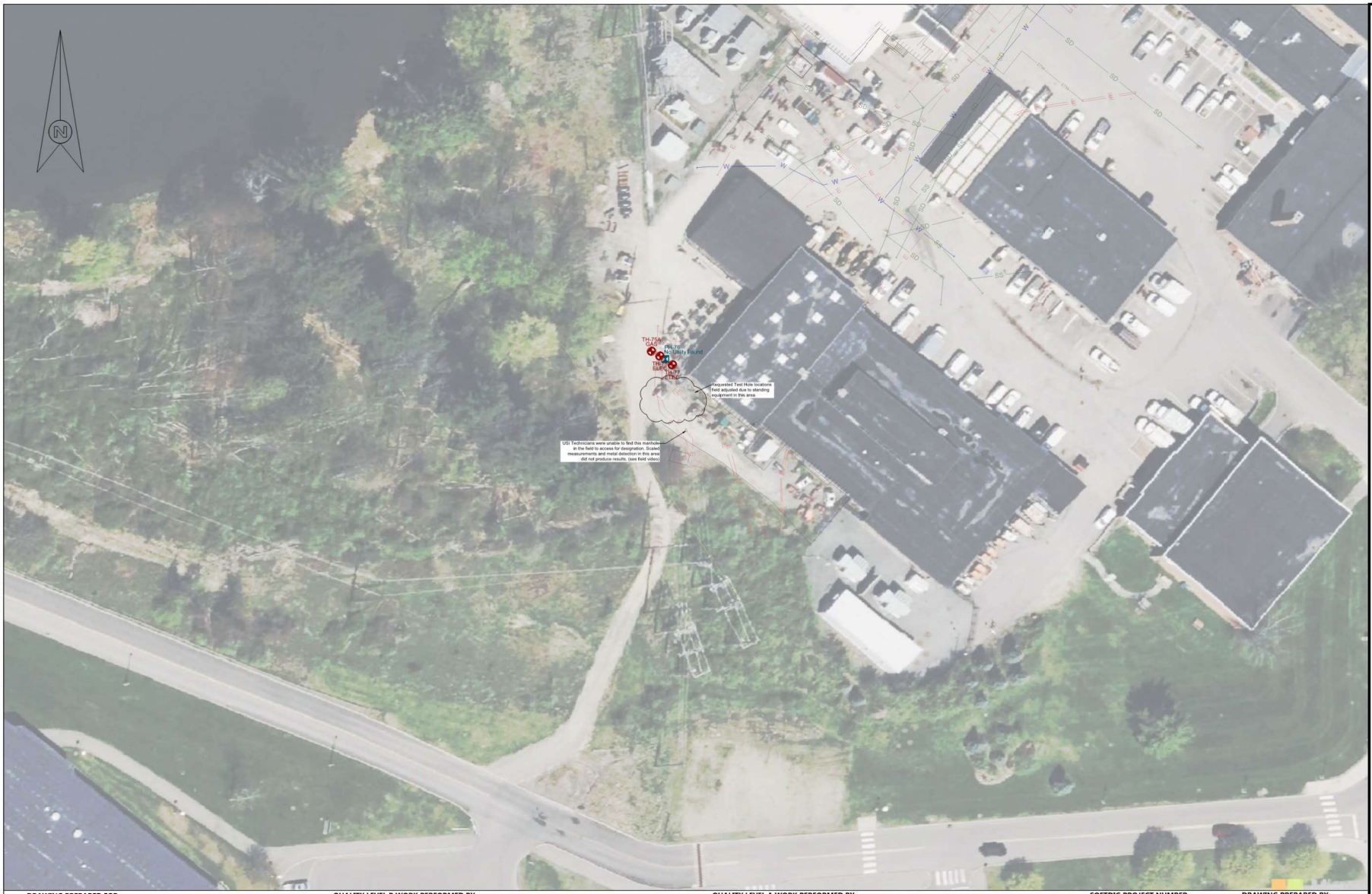

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ENCORUS GROUP

23 Mechanic Street
Springville, NY 14141

295 Main Street
West Seneca, NY 14224

encorus.com
716.592.3980

September 23, 2024
Revised: May 1, 2025

Elizabeth Nolder, PE
RMF Engineering, Inc.
5520 Research Park Drive, Suite 300
Baltimore, MD 21228

Re: Pre-Renovation Asbestos-Containing Materials, Lead-Based Paint, Exterior PCB-Containing Materials, Mold, and Universal Waste Inspection Report
Replace Electrical Distribution
Binghampton University
4400 Vestal Parkway East
Binghamton, New York 13902
SUCF#071095-00
RMF#01230306.A0
EG#22413

Dear Elizabeth Nolder:

Enclosed please find a copy of the Asbestos-Containing Materials, Lead-Based Paint, Exterior PCB-Containing Materials, Mold, and Universal Waste Inspection Report for the Replace Electrical Distribution project located on the Binghamton University campus located in Binghamton, New York. Should you have any questions please do not hesitate to contact our office at 716.592.3980. Thank you for the opportunity to be of service to RMF Engineering.

Sincerely,

Encorus Group

Brian Jones
Senior Project Manager

Enclosures

Pre-Renovation
Asbestos-Containing Materials,
Lead-Based Paint,
Exterior PCB-Containing Materials,
Mold, and Universal Waste
Inspection Report

OF THE:

Replace Electrical Distribution
Binghamton University
4400 Vestal Parkway East
Binghamton, New York 13902
SUCF#071095-00
RMF#01230306.A0
EG#22413

PREPARED BY:

ENCORUS® GROUP

PREPARED FOR:

RMF Engineering
5520 Research Park Drive, Suite 300
Baltimore, MD 21228

CONDITIONS AS OF:

March 12, 2025

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Table of Contents

1 Introduction

2 Asbestos-Containing Materials Inspection

2.1 Methodology
2.2 Executive Summary

A. Bartle Library Addition
2.3.A. Confirmed Asbestos-Containing Materials
2.4.A. Assumed Asbestos-Containing Suspect Materials
2.5.A. Confirmed Non-Asbestos Containing Materials
2.6.A. Summary Table of Asbestos-Containing Materials
2.7.A. Inspection Notes

B. Bartle Library Tower
2.3.B. Confirmed Asbestos-Containing Materials
2.4.B. Assumed Asbestos-Containing Suspect Materials
2.5.B. Confirmed Non-Asbestos Containing Materials
2.6.B. Summary Table of Asbestos-Containing Materials
2.7.B. Inspection Notes

C. Brandywine Hall
2.3.C. Confirmed Asbestos-Containing Materials
2.4.C. Assumed Asbestos-Containing Suspect Materials
2.5.C. Confirmed Non-Asbestos Containing Materials
2.6.C. Summary Table of Asbestos-Containing Materials
2.7.C. Inspection Notes

D. Cayuga Hall
2.3.D. Confirmed Asbestos-Containing Materials
2.4.D. Assumed Asbestos-Containing Suspect Materials
2.5.D. Confirmed Non-Asbestos Containing Materials
2.6.D. Summary Table of Asbestos-Containing Materials
2.7.D. Inspection Notes

E. Choconut Hall
2.3.E. Confirmed Asbestos-Containing Materials
2.4.E. Assumed Asbestos-Containing Suspect Materials
2.5.E. Confirmed Non-Asbestos Containing Materials
2.6.E. Summary Table of Asbestos-Containing Materials
2.7.E. Inspection Notes

F. Commissary
2.3.F. Confirmed Asbestos-Containing Materials
2.4.F. Assumed Asbestos-Containing Suspect Materials
2.5.F. Confirmed Non-Asbestos Containing Materials

G. Darrien Hall
2.3.G. Confirmed Asbestos-Containing Materials
2.4.G. Assumed Asbestos-Containing Suspect Materials
2.5.G. Confirmed Non-Asbestos Containing Materials
2.6.G. Summary Table of Asbestos-Containing Materials
2.7.G. Inspection Notes

H. Glenwood Hall
2.3.H. Confirmed Asbestos-Containing Materials
2.4.H. Assumed Asbestos-Containing Suspect Materials
2.5.H. Confirmed Non-Asbestos Containing Materials
2.6.H. Summary Table of Asbestos-Containing Materials
2.7.H. Inspection Notes

I. Iroquois Hall
2.3.I. Confirmed Asbestos-Containing Materials
2.4.I. Assumed Asbestos-Containing Suspect Materials
2.5.I. Confirmed Non-Asbestos Containing Materials
2.6.I. Summary Table of Asbestos-Containing Materials
2.7.I. Inspection Notes

J. Mohawk Hall
2.3.J. Confirmed Asbestos-Containing Materials
2.4.J. Assumed Asbestos-Containing Suspect Materials
2.5.J. Confirmed Non-Asbestos Containing Materials
2.6.J. Summary Table of Asbestos-Containing Materials
2.7.J. Inspection Notes

K. Nanticoke Hall
2.3.K. Confirmed Asbestos-Containing Materials
2.4.K. Assumed Asbestos-Containing Suspect Materials
2.5.K. Confirmed Non-Asbestos Containing Materials
2.6.K. Summary Table of Asbestos-Containing Materials
2.7.K. Inspection Notes

L. Nelson Rockefeller
2.3.L. Confirmed Asbestos-Containing Materials
2.4.L. Assumed Asbestos-Containing Suspect Materials
2.5.L. Confirmed Non-Asbestos Containing Materials
2.6.L. Summary Table of Asbestos-Containing Materials
2.7.L. Inspection Notes

M. Oneida Hall
2.3.M. Confirmed Asbestos-Containing Materials
2.4.M. Assumed Asbestos-Containing Suspect Materials
2.5.M. Confirmed Non-Asbestos Containing Materials
2.6.M. Summary Table of Asbestos-Containing Materials
2.7.M. Inspection Notes

N. Onondaga Hall

2.3.N. Confirmed Asbestos-Containing Materials
2.4.N. Assumed Asbestos-Containing Suspect Materials
2.5.N. Confirmed Non-Asbestos Containing Materials
2.6.N. Summary Table of Asbestos-Containing Materials
2.7.N. Inspection Notes

O. Pump House

2.3.O. Confirmed Asbestos-Containing Materials
2.4.O. Assumed Asbestos-Containing Suspect Materials
2.5.O. Confirmed Non-Asbestos Containing Materials
2.6.O. Summary Table of Asbestos-Containing Materials
2.7.O. Inspection Notes

P. Roosevelt Hall

2.3.P. Confirmed Asbestos-Containing Materials
2.4.P. Assumed Asbestos-Containing Suspect Materials
2.5.P. Confirmed Non-Asbestos Containing Materials
2.6.P. Summary Table of Asbestos-Containing Materials
2.7.P. Inspection Notes

Q. Seneca Hall

2.3.Q. Confirmed Asbestos-Containing Materials
2.4.Q. Assumed Asbestos-Containing Suspect Materials
2.5.Q. Confirmed Non-Asbestos Containing Materials
2.6.Q. Summary Table of Asbestos-Containing Materials
2.7.Q. Inspection Notes

R. Tech Hub

2.3.R. Confirmed Asbestos-Containing Materials
2.4.R. Assumed Asbestos-Containing Suspect Materials
2.5.R. Confirmed Non-Asbestos Containing Materials
2.6.R. Summary Table of Asbestos-Containing Materials
2.7.R. Inspection Notes

S. Whitney Hall

2.3.S. Confirmed Asbestos-Containing Materials
2.4.S. Assumed Asbestos-Containing Suspect Materials
2.5.S. Confirmed Non-Asbestos Containing Materials
2.6.S. Summary Table of Asbestos-Containing Materials
2.7.S. Inspection Notes

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3 Lead-Based Paint Inspection

3.1 Methodology
3.2 HUD/ EPA Standards
3.3 Summary Tables of Lead-Based Painted/Coated Materials
A. Bartle Library Addition
B. Bartle Library Tower
C. Brandywine Hall
D. Cayuga Hall
E. Choconut Hall
F. Commissary
G. Darrien Hall
H. Glenwood Hall
I. Iroquois Hall
J. Mohawk Hall
K. Nanticoke Hall
L. Nelson Rockefeller
M. Oneida Hall
N. Onondaga Hall
O. Pump House
P. Roosevelt Hall
Q. Seneca Hall
R. Tech Hub
S. Whitney Hall

3.4 OSHA Regulations
3.5 Disclosure Requirements

4 PCB Inspection

4.1 Methodology
4.2 Suspect PCB-Containing Materials
A. Bartle Library Addition
B. Bartle Library Tower
C. Brandywine Hall
D. Cayuga Hall
E. Choconut Hall
F. Commissary
G. Darrien Hall
H. Glenwood Hall
I. Iroquois Hall
J. Mohawk Hall
K. Nanticoke Hall
L. Nelson Rockefeller
M. Oneida Hall
N. Onondaga Hall
O. Pump House
P. Roosevelt Hall
Q. Seneca Hall
R. Tech Hub
S. Whitney Hall

5 Microbial Investigation

5.1 Methodology
5.2 Summary of Findings

6 Universal Waste Investigation

6.1 Methodology
6.2 Summary of Universal Waste

A. Bartle Library Addition
B. Bartle Library Tower
C. Brandywine Hall
D. Cayuga Hall
E. Choconut Hall
F. Commissary
G. Darrien Hall
H. Glenwood Hall
I. Iroquois Hall
J. Mohawk Hall
K. Nanticoke Hall
L. Nelson Rockefeller
M. Oneida Hall
N. Onondaga Hall
O. Pump House
P. Roosevelt Hall
Q. Seneca Hall
R. Tech Hub
S. Whitney Hall

Appendices

A. General Conditions of Inspection
B. Certifications and Licenses
C. Chains of Custody and Laboratory Reports
D. XRF Spectrum Analyzer Report and Instrument Information
E. Sample Floor Plans
F. Summary of Inspected Functional Spaces

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1 Introduction

Encorus Group Engineering, P.C. (Encorus Group) was retained by RMF Engineering to perform an inspection of multiple buildings on the Binghamton University campus as part of the Replace Electrical Distribution project, located at 4400 Vestal Parkway East, Binghamton, NY 13902 to determine the presence of hazardous materials and universal waste prior to work associated with the project.

The inspection was conducted on July 22-26, August 14-16, 2024 and March

The scope of inspection work provided is as indicated in the proposal for Inspection Services dated July 10, 2024 and another dated January 28,2025 and includes the following:

- Provide a hazardous materials inspection at 19 buildings on the Binghamton University campus. The project will include work at the interior electrical rooms of each building, at some building exteriors for planned penetrations, and in client directed spaces for interior routing.
- Encorus provided the client the inspection report titled “Pre-Renovation Asbestos-Containing Materials, Lead-Based Paint, Exterior PCB Containing Materials, Mold, and Universal Waste Inspection” dated September 23, 2024 for the above referenced project. The project involves work at multiple buildings and locations throughout the campus. The work includes interior work at the electrical rooms and in some locations the exterior walls of the buildings for penetrations. There is no sitework included in the inspection.
- This proposal is for Encorus to provide the additional inspection work necessary to complete the inspection report based for the above referenced project. The scope of work is based off conversations with the client and the pdf provided to client titled “EP4.00s” that was marked up showing the scope of work at each building.
- Included in this proposal is the inspection and testing (for asbestos) of exterior walls for thru-wall materials at locations where penetrations are to occur. The current report assumes these materials are present and are asbestos containing. If destructive testing cannot be performed for any reason, then the materials will remain assumed.

The following are the 19 buildings on campus within the scope of this report:

Report Table Section ID	Campus Building	Report Table Section ID	Campus Building
A	Bartle Library Addition	K	Nanticoke Hall
B	Bartle Library Tower	L	Nelson Rockefeller
C	Brandywine Hall	M	Oneida Hall
D	Cayuga Hall	N	Onondaga Hall
E	Choconut Hall	O	Pump House
F	Commissary	P	Roosevelt Hall
G	Darrien Hall	Q	Seneca Hall
H	Glenwood Hall	R	Tech Hub
I	Iroquois Hall	S	Whitney Hall
J	Mohawk Hall		

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Encorus Group was charged with conducting the following tasks for this project:

1. Conducting an asbestos inspection in accordance with all applicable regulations,
2. Performing an inspection via X-Ray Florescence (XRF) for lead in accordance with all applicable regulations and guidelines,
3. Sampling exterior caulks, glazing and sealants for PCB-containing materials in accordance with all applicable regulations and guidelines,
4. Performing an investigation for potential mold contamination and mold growth,
5. Identify and inventory universal wastes in accordance with all applicable regulations, and
6. Providing a summary report of findings.

This report is generated for the exclusive use of the client and is not designed to serve as a specification for abatement. The owner is strongly encouraged to contract with a consultant having a current Asbestos Project Designer Certificate as issued by New York State Department of Labor for the preparation of contract specifications, work plans, and/or drawings prior to requesting bids for the abatement or removal of the materials identified in this report.

2 Asbestos-Containing Materials Inspection

2.1 Methodology

All asbestos inspection work performed by Encorus Group was conducted in accordance with applicable regulations including New York State Department of Labor standards 12 NYCRR Part 56, National Emission Standards for Hazardous Air Pollutants (NESHAPS), the Asbestos Hazard Emergency Response Act, and Occupational Safety and Health Administration regulations. All Encorus Group's personnel assigned to conduct inspections have completed the Environmental Protection Agency (EPA) required training and New York State Department of Labor Division of Safety and Health certification program.

Based on the functional spaces and homogeneous areas (materials uniform in color or texture) identified by Encorus Group, samples of suspect materials were collected. Techniques used for sample collection were designed to minimize damage to suspected areas, reduce any potential for fiber release, and ensure the safety of the inspector and building occupants.

Samples were analyzed using Polarized Light Microscopy (PLM) in accordance with NYS DOH ELAP Item #198.1 or #198.6. For materials classified as non-friable organically bound materials (NOBs) that were analyzed as equal to or less than 1% asbestos by PLM, additional analysis was performed under Transmission Electron Microscopy (TEM) in accordance with NYS DOH ELAP Item #198.4. The results of this analysis confirmed whether or not a suspect material actually contained asbestos. The confirmed materials and all assumed materials are listed in **Section 2.3 Confirmed Asbestos-Containing Materials and Section 2.4 Assumed Asbestos-Containing Suspect Materials.**

Although the report is a comprehensive analysis of the asbestos inspection work performed, it would be helpful to review all applicable federal, state and local rules, laws and regulations regarding the handling and treatment of asbestos-containing materials (ACM). The following is a list of suggested reading and information sources relating to asbestos:

- New York State Department of Labor Industrial Code Rule 56
- Occupational Safety and Health Administration
- Environmental Protection Agency Rule CFR 763.86 Asbestos Hazard Emergency Response Act
- Environmental Protection Agency Rule 40 CFR, Chapter 61, Subpart M of the National Emission Standards for Hazardous Air Pollutants (NESHAPS)

2.2 Executive Summary

The asbestos inspection included identification, sampling, analysis, and quantification of suspect materials that may be disturbed by the project. By definition an Asbestos-Containing Material (ACM) is any material which contains greater than one percent (>1%) asbestos. Materials which contain asbestos in measurable concentrations less than or equal to one percent (≤1%) are reported as containing "trace" amounts.

Copies of all laboratory analysis reports and chains of custody listing locations of sample collection are located in Appendix C. Refer to floor plans located in Appendix E for specific sample location points. Refer to Appendix F for a summary of all functional spaces which were included as part of this inspection service. For explanation of inspection notes, refer to Section 2.7 for note details and specific comments.

A. Bartle Library Addition

2.3.A. Confirmed Asbestos-Containing Materials

All sampled materials have been analyzed by current EPA AHERA and ELAP protocols. No identified suspect materials have been confirmed to be Asbestos-Containing Materials.
Refer to Section 2.4 and 2.5.

2.4.A. Assumed Asbestos-Containing Suspect Materials

The following materials have been identified as suspect asbestos-containing materials, but have not been analyzed. These materials must be assumed to be asbestos-containing until such time that sampling and analysis proves that the material contains 1% asbestos or less.

HAN Number	Material Description	Comments
THERMAL SYSTEM INSULATION (500s)		
501	Spray-on Fire Proofing	Note 4
MISCELLANEOUS (600s)		
601	Fire Door Frame	Note 1
610	Internal Electrical Components	Note 3, potential cementitious arc chutes, boards, and wiring

2.5.A. Confirmed Non-Asbestos Containing Materials

These materials were sampled and analyzed by current EPA AHERA and ELAP protocols and were proven to contain one percent asbestos or less (≤1%).

HAN Number	Material Description	Comments
MISCELLANEOUS (600s)		
600	Fire Caulk - Red	---

2.6.A. Summary Table of Asbestos-Containing Materials

The following table summarizes the functional spaces that were included in the inspection and contain materials which were verified or assumed to be asbestos-containing materials.

Functional Space ID/ Description	HAN	Material Description	ACM	Approximate Quantity	Condition	Friability
300 – Electrical	501	Spray-on Fireproofing	Note 4	100 SF	Intact	Friable
	610	Internal Electrical Components	Note 3	200 SF	Intact	Non-Friable
301 – Mechanical	501	Spray-on Fireproofing	Note 4	100 SF	Intact	Friable
	601	Fire Door Frame	Note 1	10 SF	Intact	Friable

2.7.A. Inspection Notes

Note #	Description
1	Destructive sampling of finishes has not been conducted at the client's request. Material must be assumed to be an asbestos-containing material until such time that sampling and analysis proves that the material contains less than 1% asbestos.
2	Sampling and analysis of the following suspect asbestos containing materials observed within the project area that are not planned to be disturbed by renovations has not been conducted: • HAN400 – Duct Mudding
3	Electrical components could not be de-energized at the time of the inspection. Material must be assumed to be an asbestos-containing material until such time that sampling and analysis proves that the material contains less than 1% asbestos. It is understood that the components being impacted as part of this project are not asbestos containing as directed by the client.
4	Not Applicable
5	Not Applicable
6	Not Applicable
7	Not Applicable
8	Not Applicable
9	Not Applicable
10	Not Applicable
11	Not Applicable
12	Not Applicable
13	Not Applicable

B. Bartle Library Tower

2.3.B. Confirmed Asbestos-Containing Materials

All sampled materials have been analyzed by current EPA AHERA and ELAP protocols. No identified suspect materials have been confirmed to be Asbestos-Containing Materials.
Refer to Section 2.4 and 2.5.

2.4.B. Assumed Asbestos-Containing Suspect Materials

The following materials have been identified as suspect asbestos-containing materials, but have not been analyzed. These materials must be assumed to be asbestos-containing until such time that sampling and analysis proves that the material contains 1% asbestos or less.

HAN Number	Material Description	Comments
FLOORS (300s)		
300	Terrazzo	Note 1
301.1	9" x 9" Floor Tile – Brown w/ White Streak	Note 10
MISCELLANEOUS (600s)		
605	Wall Board Mastic	Note 1
611	Internal Electrical Components	Note 3, potential cementitious arc chutes, boards, and wiring, Photo #7

2.5.B. Confirmed Non-Asbestos Containing Materials

These materials were sampled and analyzed by current EPA AHERA and ELAP protocols and were proven to contain one percent asbestos or less (≤1%).

HAN Number	Material Description	Comments
WALLS (100s)		
100.1	Plaster Skim Coat	---
100.2	Plaster Base Coat	---
101.1	Gypsum Board	---
101.2	Joint Compound	---
CEILINGS (200s)		
200.1	EIFS Skim Coat	Laboratory layer 1
200.2	EIFS Base Coat	Laboratory layer 2
201	1' x 1' Ceiling Tile	Mechanically fastened
202	2' x 2' Ceiling Tile – Rough/Fissures	---
203	2' x 2' Ceiling Tile - Dots	---
FLOORS (300s)		
301.2	Associated Mastic – Black	---
302.1	12" x 12" Floor Tile – Tan w/ Beige Chip	---
302.2	Associated Mastic	---
304	Carpet Square Mastic	---
THERMAL SYSTEM INSULATION (500s)		
500	Spray-on Fire Proofing	---
MISCELLANEOUS (600s)		
602	Fire Putty – Red	---
603	Door Caulk – Grey	---
604	Cove Base Mastic- Brown	---
607	Cove Base Mastic - Beige	---
608	Fire Caulk – Red	Newer, Tube applied

2.6.B. Summary Table of Asbestos-Containing Materials

The following table summarizes the functional spaces that were included in the inspection and contain materials which were verified or assumed to be asbestos-containing materials.

Functional Space ID/ Description	HAN	Material Description	ACM	Approximate Quantity	Condition	Friability
001 - Electrical	611	Internal Electrical Components	Note 3	200 SF	Intact	Non-Friable
101 – Corridor	300	Terrazzo	Note 1	---	Intact	Non-Friable
	301.1	9” x 9” Floor Tile – Brown w/ White Streak	Note 10	12 SF	Intact	Non-Friable
	605	Wall Board Mastic	Note 1	32 SF	Intact	Non-Friable

2.7.B. Inspection Notes

Note #	Description
1	Destructive sampling of finishes has not been conducted at the client’s request. Material must be assumed to be an asbestos-containing material until such time that sampling and analysis proves that the material contains less than 1% asbestos.
2	Not Applicable
3	Electrical components could not be de-energized at the time of the inspection. Material must be assumed to be an asbestos-containing material until such time that sampling and analysis proves that the material contains less than 1% asbestos. It is understood that the components being impacted as part of this project are not asbestos containing as directed by the client.
4	Not Applicable
5	Not Applicable
6	Not Applicable
7	Not Applicable
8	Not Applicable
9	Not Applicable
10	Analysis of material has not been performed. The material identified is known to be an asbestos-containing material in all applications.
11	Not Applicable
12	Not Applicable
13	Not Applicable

C. Brandywine Hall

2.3.C. Confirmed Asbestos-Containing Materials

All sampled materials have been analyzed by current EPA AHERA and ELAP protocols. No identified suspect materials have been confirmed to be Asbestos-Containing Materials.
Refer to Section 2.4 and 2.5.

2.4.C. Assumed Asbestos-Containing Suspect Materials

The following materials have been identified as suspect asbestos-containing materials, but have not been analyzed. These materials must be assumed to be asbestos-containing until such time that sampling and analysis proves that the material contains 1% asbestos or less.

HAN Number	Material Description	Comments
MISCELLANEOUS (600s)		
603	Internal Electrical Components	Note 3, potential cementitious arc chutes, boards, and wiring

2.5.C. Confirmed Non-Asbestos Containing Materials

These materials were sampled and analyzed by current EPA AHERA and ELAP protocols and were proven to contain one percent asbestos or less (≤1%).

HAN Number	Material Description	Comments
WALLS (100s)		
100.1	Gypsum Board	Homogeneous to HAN200.1
100.2	Joint Compound	Homogeneous to HAN200.2
CEILINGS (200s)		
200.1	Gypsum Board	Homogeneous to HAN100.1
200.2	Joint Compound	Homogeneous to HAN100.2
MISCELLANEOUS (600s)		
600	Cove Base Mastic – Brown	---
601	Fire Putty – Red	---
602	Concrete Seam Felt	---

2.6.C. Summary Table of Asbestos-Containing Materials

The following table summarizes the functional spaces that were included in the inspection and contain materials which were verified or assumed to be asbestos-containing materials.

Functional Space ID/ Description	HAN	Material Description	ACM	Approximate Quantity	Condition	Friability
A115 - Electric	603	Internal Electrical Components	Note 3	50 SF	Intact	Non-Friable

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2.7.C. Inspection Notes

Note #	Description
1	Not Applicable
2	Not Applicable
3	Electrical components could not be de-energized at the time of the inspection. Material must be assumed to be an asbestos-containing material until such time that sampling and analysis proves that the material contains less than 1% asbestos. It is understood that the components being impacted as part of this project are not asbestos containing as directed by the client.
4	Not Applicable
5	Not Applicable
6	Not Applicable
7	Not Applicable
8	Not Applicable
9	Not Applicable
10	Not Applicable
11	Not Applicable
12	Not Applicable
13	Not Applicable

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D. Cayuga Hall

2.3.D. Confirmed Asbestos-Containing Materials

All sampled materials have been analyzed by current EPA AHERA and ELAP protocols. No identified suspect materials have been confirmed to be Asbestos-Containing Materials.
Refer to Section 2.4 and 2.5.

2.4.D. Assumed Asbestos-Containing Suspect Materials

The following materials have been identified as suspect asbestos-containing materials, but have not been analyzed. These materials must be assumed to be asbestos-containing until such time that sampling and analysis proves that the material contains 1% asbestos or less.

HAN Number	Material Description	Comments
MISCELLANEOUS (600s)		
601	Fire Door Frame	Note 1
602	Fire Door - Blue	Note 1
607	Internal Electrical Components	Note 3, potential cementitious arc chutes, boards, and wiring

2.5.D. Confirmed Non-Asbestos Containing Materials

These materials were sampled and analyzed by current EPA AHERA and ELAP protocols and were proven to contain one percent asbestos or less (≤1%).

HAN Number	Material Description	Comments
WALLS (100s)		
100.1	Gypsum Board	---
100.2	Joint Compound	---
CEILINGS (200s)		
200.1	Gypsum Board	---
200.2	Joint Compound	---
201	2' x 2' Ceiling Tile	---
FLOORS (300s)		
300.1	12" x 12" – Floor Tile – White w/ Black Chip	---
300.2	Associated Mastic	Laboratory layer 1
300.3	Fused Floor Leveler	Laboratory layer 2
THERMAL SYSTEM INSULATION (500s)		
500	Spray-on Fire Proofing	---
MISCELLANEOUS (600s)		
600	Fire Caulk – Red	---
603	Cove Base Mastic	---
604	Door Window Glaze – Black	---
605	Door Seam Caulk - Black	---
606	Foundation Waterproofing – Black	Sampled 3/12/2025

2.6.D. Summary Table of Asbestos-Containing Materials

The following table summarizes the functional spaces that were included in the inspection and contain materials which were verified or assumed to be asbestos-containing materials.

Functional Space ID/ Description	HAN	Material Description	ACM	Approximate Quantity	Condition	Friability
103 - Electric	601	Fire Door Frame	Note 1	10 SF	Intact	Friable
	602	Fire Door Blue	Note 1	21 SF	Intact	Friable
	607	Internal Electrical Components	Note 3	40 SF	Intact	Non-Friable

2.7.D. Inspection Notes

Note #	Description
1	Destructive sampling of finishes has not been conducted at the client's request. Material must be assumed to be an asbestos-containing material until such time that sampling and analysis proves that the material contains less than 1% asbestos.
2	Sampling and analysis of the following suspect asbestos containing materials observed within the project area that are not planned to be disturbed by renovations has not been conducted: • HAN400 – Mudded Elbow
3	Electrical components could not be de-energized at the time of the inspection. Material must be assumed to be an asbestos-containing material until such time that sampling and analysis proves that the material contains less than 1% asbestos. It is understood that the components being impacted as part of this project are not asbestos containing as directed by the client.
4	Not Applicable
5	Not Applicable
6	Not Applicable
7	Not Applicable
8	Not Applicable
9	Not Applicable
10	Not Applicable
11	Not Applicable
12	Not Applicable
13	Not Applicable
14	A visual inspection was conducted at an exterior wall, ~8" below grade, no building foundation vapor barrier was observed.

E. Choconut Hall

2.3.E. Confirmed Asbestos-Containing Materials

All sampled materials have been analyzed by current EPA AHERA and ELAP protocols. No identified suspect materials have been confirmed to be Asbestos-Containing Materials.
Refer to Section 2.4 and 2.5.

2.4.E. Assumed Asbestos-Containing Suspect Materials

The following materials have been identified as suspect asbestos-containing materials, but have not been analyzed. These materials must be assumed to be asbestos-containing until such time that sampling and analysis proves that the material contains 1% asbestos or less.

HAN Number	Material Description	Comments
MISCELLANEOUS (600s)		
603	Internal Electrical Components	Note 3, potential cementitious arc chutes, boards, and wiring

2.5.E. Confirmed Non-Asbestos Containing Materials

These materials were sampled and analyzed by current EPA AHERA and ELAP protocols and were proven to contain one percent asbestos or less (≤1%).

HAN Number	Material Description	Comments
WALLS (100s)		
100.1	Gypsum Board	Homogeneous to HAN200.1
100.2	Joint Compound	Homogeneous to HAN200.2
CEILINGS (200s)		
200.1	Gypsum Board	Homogeneous to HAN100.1
200.2	Joint Compound	Homogeneous to HAN100.2
MISCELLANEOUS (600s)		
600	Cove Base Mastic - Brown	---
601	Fire Putty – Grey	---
602	Concrete Seam Felt	---

2.6.E. Summary Table of Asbestos-Containing Materials

The following table summarizes the functional spaces that were included in the inspection and contain materials which were verified or assumed to be asbestos-containing materials.

Functional Space ID/ Description	HAN	Material Description	ACM	Approximate Quantity	Condition	Friability
B109 - Electric	603	Internal Electrical Components	Note 3	40 SF	Intact	Non-Friable

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2.7.E. Inspection Notes

Note #	Description
1	Not Applicable
2	Not Applicable
3	Electrical components could not be de-energized at the time of the inspection. Material must be assumed to be an asbestos-containing material until such time that sampling and analysis proves that the material contains less than 1% asbestos. It is understood that the components being impacted as part of this project are not asbestos containing as directed by the client.
4	Not Applicable
5	Not Applicable
6	Not Applicable
7	Not Applicable
8	Not Applicable
9	Not Applicable
10	Not Applicable
11	Not Applicable
12	Not Applicable
13	Not Applicable

F. Commissary

2.3.F. Confirmed Asbestos-Containing Materials

No suspect Asbestos-Containing Materials were identified during the inspection.

2.4.F. Assumed Asbestos-Containing Suspect Materials

The following materials have been identified as suspect asbestos-containing materials, but have not been analyzed. These materials must be assumed to be asbestos-containing until such time that sampling and analysis proves that the material contains 1% asbestos or less.

HAN Number	Material Description	Comments
WALLS (100s)		
600	Internal Electrical Components	Note 3, potential cementitious arc chutes, boards, and wiring
601	Exterior Wall/Foundation Materials	Note 14

2.5.F. Confirmed Non-Asbestos Containing Materials

No suspect Asbestos-Containing Materials were identified during the inspection.

2.6.G. Summary Table of Asbestos-Containing Materials

The following table summarizes the functional spaces that were included in the inspection and contain materials which were verified or assumed to be asbestos-containing materials.

Functional Space ID/ Description	HAN	Material Description	ACM	Approximate Quantity	Condition	Friability
Room 137 Electrical	600	Internal Electrical Components	Note 3	96 SF	Intact	Non-Friable

2.7.F. Inspection Notes

Note #	Description
1	Not Applicable
2	Not Applicable
3	Electrical components could not be de-energized at the time of the inspection. Material must be assumed to be an asbestos-containing material until such time that sampling and analysis proves that the material contains less than 1% asbestos. It is understood that the components being impacted as part of this project are not asbestos containing as directed by the client.
4	Not Applicable
5	Not Applicable
6	Not Applicable
7	Not Applicable
8	Not Applicable
9	Not Applicable
10	Not Applicable
11	Not Applicable
12	Not Applicable
13	Not Applicable
14	Until further destructive testing can be conducted, any suspect materials found within the exterior walls or the foundation of the building, should be assumed an asbestos containing material. At this time no quantity is provided in section 2.6 and materials should be assumed throughout.

G. Darrien Hall

2.3.G. Confirmed Asbestos-Containing Materials

All sampled materials have been analyzed by current EPA AHERA and ELAP protocols. No identified suspect materials have been confirmed to be Asbestos-Containing Materials.
Refer to Section 2.4 and 2.5.

2.4.G. Assumed Asbestos-Containing Suspect Materials

The following materials have been identified as suspect asbestos-containing materials, but have not been analyzed. These materials must be assumed to be asbestos-containing until such time that sampling and analysis proves that the material contains 1% asbestos or less.

HAN Number	Material Description	Comments
WALLS (100s)		
101	Vinyl Sheet Adhesive	Note 1
MISCELLANEOUS (600s)		
600	Internal Electrical Components	Note 3, potential cementitious arc chutes, boards, and wiring

2.5.G. Confirmed Non-Asbestos Containing Materials

These materials were sampled and analyzed by current EPA AHERA and ELAP protocols and were proven to contain one percent asbestos or less (≤1%).

HAN Number	Material Description	Comments
WALLS (100s)		
100.1	Gypsum Board	---
100.2	Joint Compound	---
CEILINGS (200s)		
200.1	Gypsum Board	Homogeneous to HAN100.1
200.2	Joint Compound	Homogeneous to HAN100.2

2.6.G. Summary Table of Asbestos-Containing Materials

The following table summarizes the functional spaces that were included in the inspection and contain materials which were verified or assumed to be asbestos-containing materials.

Functional Space ID/ Description	HAN	Material Description	ACM	Approximate Quantity	Condition	Friability
001 – Electrical	101	Vinyl Sheet Adhesive	Note 1	63 SF	Intact	Non-Friable
	600	Internal Electrical Components	Note 3	96 SF	Intact	Non-Friable

2.7.G. Inspection Notes

Note #	Description
1	Destructive sampling of finishes has not been conducted at the client's request. Material must be assumed to be an asbestos-containing material until such time that sampling and analysis proves that the material contains less than 1% asbestos.
2	Sampling and analysis of the following suspect asbestos containing materials observed within the project area that are not planned to be disturbed by renovations has not been conducted: • HAN601 – Fire Caulk
3	Electrical components could not be de-energized at the time of the inspection. Material must be assumed to be an asbestos-containing material until such time that sampling and analysis proves that the material contains less than 1% asbestos. It is understood that the components being impacted as part of this project are not asbestos containing as directed by the client.
4	Not Applicable
5	Not Applicable
6	Not Applicable
7	Not Applicable
8	Not Applicable
9	Not Applicable
10	Not Applicable
11	Not Applicable
12	Not Applicable
13	Not Applicable

H. Glenwood Hall

2.3.H. Confirmed Asbestos-Containing Materials

All sampled materials have been analyzed by current EPA AHERA and ELAP protocols. No identified suspect materials have been confirmed to be Asbestos-Containing Materials.
Refer to Section 2.4 and 2.5.

2.4.H. Assumed Asbestos-Containing Suspect Materials

The following materials have been identified as suspect asbestos-containing materials, but have not been analyzed. These materials must be assumed to be asbestos-containing until such time that sampling and analysis proves that the material contains 1% asbestos or less.

HAN Number	Material Description	Comments
MISCELLANEOUS (600s)		
602	Internal Electrical Components	Note 3, potential cementitious arc chutes, boards, and wiring

2.5.H. Confirmed Non-Asbestos Containing Materials

These materials were sampled and analyzed by current EPA AHERA and ELAP protocols and were proven to contain one percent asbestos or less (≤1%).

HAN Number	Material Description	Comments
WALLS (100s)		
100.1	Gypsum Board	Homogeneous to HAN200.1
100.2	Joint Compound	Homogeneous to HAN200.2
101.1	EIFS Siding Skim	---
101.2	EIFS Siding Base	---
CEILINGS (200s)		
200.1	Gypsum Board	Homogeneous to HAN100.1
200.2	Joint Compound	Homogeneous to HAN100.2
MISCELLANEOUS (600s)		
600	Cove Base Mastic - Brown	---
601	Concrete Seam Felt	---

2.6.H. Summary Table of Asbestos-Containing Materials

The following table summarizes the functional spaces that were included in the inspection and contain materials which were verified or assumed to be asbestos-containing materials.

Functional Space ID/ Description	HAN	Material Description	ACM	Approximate Quantity	Condition	Friability
C107 - Electric	602	Internal Electrical Components	Note 3	50 SF	Intact	Non-Friable

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2.7.H. Inspection Notes

Note #	Description
1	Not Applicable
2	Not Applicable
3	Electrical components could not be de-energized at the time of the inspection. Material must be assumed to be an asbestos-containing material until such time that sampling and analysis proves that the material contains less than 1% asbestos. It is understood that the components being impacted as part of this project are not asbestos containing as directed by the client.
4	Not Applicable
5	Not Applicable
6	Not Applicable
7	Not Applicable
8	Not Applicable
9	Not Applicable
10	Not Applicable
11	Not Applicable
12	Not Applicable
13	Not Applicable

I. Iroquois Hall

2.3.I. Confirmed Asbestos-Containing Materials

All sampled materials have been analyzed by current EPA AHERA and ELAP protocols. No identified suspect materials have been confirmed to be Asbestos-Containing Materials.
Refer to Section 2.4 and 2.5.

2.4.I. Assumed Asbestos-Containing Suspect Materials

The following materials have been identified as suspect asbestos-containing materials, but have not been analyzed. These materials must be assumed to be asbestos-containing until such time that sampling and analysis proves that the material contains 1% asbestos or less.

HAN Number	Material Description	Comments
MISCELLANEOUS (600s)		
602	Internal Electrical Components	Note 3, potential cementitious arc chutes, boards, and wiring
603	Exterior Wall/Foundation Materials	Note 14

2.5.I. Confirmed Non-Asbestos Containing Materials

These materials were sampled and analyzed by current EPA AHERA and ELAP protocols and were proven to contain one percent asbestos or less (≤1%).

HAN Number	Material Description	Comments
THERMAL SYSTEM INSULATION (500s)		
500	Spray-on Fire Proofing	---
MISCELLANEOUS (600s)		
600	Fire Caulk - Red	---
601	Exterior Door Frame Sealant, Black	Sampled 3/12/2025

2.6.I. Summary Table of Asbestos-Containing Materials

The following table summarizes the functional spaces that were included in the inspection and contain materials which were verified or assumed to be asbestos-containing materials.

Functional Space ID/ Description	HAN	Material Description	ACM	Approximate Quantity	Condition	Friability
IR-8 – Electrical & TR-8A - Electrical	602	Internal Electrical Components	Note 3	100 SF	Intact	Non-Friable
Ground Floor – Electrical Room	602	Internal Electrical Components	Note 3	125 SF	Intact	Non-Friable

2.7.I. Inspection Notes

Note #	Description
1	Not Applicable
2	Not Applicable
3	Electrical components could not be de-energized at the time of the inspection. Material must be assumed to be an asbestos-containing material until such time that sampling and analysis proves that the material contains less than 1% asbestos. It is understood that the components being impacted as part of this project are not asbestos containing as directed by the client.
4	Not Applicable
5	Not Applicable
6	Not Applicable
7	Not Applicable
8	Not Applicable
9	Not Applicable
10	Not Applicable
11	Not Applicable
12	Not Applicable
13	Not Applicable
14	Until further destructive testing can be conducted, any suspect materials found within the exterior walls or the foundation of the building, should be assumed an asbestos containing material. At this time no quantity is provided in section 2.6 and materials should be assumed throughout.

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J. Mohawk Hall

2.3.J. Confirmed Asbestos-Containing Materials

All sampled materials have been analyzed by current EPA AHERA and ELAP protocols. No identified suspect materials have been confirmed to be Asbestos-Containing Materials.
Refer to Section 2.4 and 2.5.

2.4.J. Assumed Asbestos-Containing Suspect Materials

The following materials have been identified as suspect asbestos-containing materials, but have not been analyzed. These materials must be assumed to be asbestos-containing until such time that sampling and analysis proves that the material contains 1% asbestos or less.

HAN Number	Material Description	Comments
MISCELLANEOUS (600s)		
603	Fire Door Frame	Note 1
604	Fire Door – Red Tag	Note 1
605	Fire Door – Blue Tag	Note 1
608	Internal Electrical Components	Note 3, potential cementitious arc chutes, boards, and wiring
609	Exterior Wall/Foundation Materials	Note 14

2.5.J. Confirmed Non-Asbestos Containing Materials

These materials were sampled and analyzed by current EPA AHERA and ELAP protocols and were proven to contain one percent asbestos or less (≤1%).

HAN Number	Material Description	Comments
THERMAL SYSTEM INSULATION (500s)		
500	Spray-on Fire Proofing	---
MISCELLANEOUS (600s)		
600	Vapor Barrier	Applied to exterior foundation
601	Fire Caulk - Red	---
607	Foundation Waterproofing - Black	Sampled 3/12/2025

2.6.J. Summary Table of Asbestos-Containing Materials

The following table summarizes the functional spaces that were included in the inspection and contain materials which were verified or assumed to be asbestos-containing materials.

Functional Space ID/ Description	HAN	Material Description	ACM	Approximate Quantity	Condition	Friability
G07A - Electrical	603	Fire Door Frame	Note 1	10 SF	Intact	Friable
	604	Fire Door – Red Tag	Note 1	21 SF	Intact	Friable
	605	Fire Door – Blue Tag	Note 1	21 SF	Intact	Friable
	608	Internal Electrical Components	Note 3	80 SF	Intact	Non-Friable

2.7.J. Inspection Notes

Note #	Description
1	Not Applicable
2	Sampling and analysis of the following suspect asbestos containing materials observed within the project area that are not planned to be disturbed by renovations has not been conducted: • HAN602 – Duct Sealant – Dark Grey • HAN603 – Fire Door Frame • HAN604 – Fire Door - Red • HAN605 – Fire Door - Blue • HAN606 – Insulation End/Seam Encapsulant
3	Electrical components could not be de-energized at the time of the inspection. Material must be assumed to be an asbestos-containing material until such time that sampling and analysis proves that the material contains less than 1% asbestos. It is understood that the components being impacted as part of this project are not asbestos containing as directed by the client.
4	Not Applicable
5	Not Applicable
6	Not Applicable
7	Not Applicable
8	Not Applicable
9	Not Applicable
10	Not Applicable
11	Not Applicable
12	Not Applicable
13	Not Applicable
14	Until further destructive testing can be conducted, any suspect materials found within the exterior walls or the foundation of the building, should be assumed an asbestos containing material. At this time no quantity is provided in section 2.6 and materials should be assumed throughout.

K. Nanticoke Hall

2.3.K. Confirmed Asbestos-Containing Materials

All sampled materials have been analyzed by current EPA AHERA and ELAP protocols. No identified suspect materials have been confirmed to be Asbestos-Containing Materials.
Refer to Section 2.4 and 2.5.

2.4.K. Assumed Asbestos-Containing Suspect Materials

The following materials have been identified as suspect asbestos-containing materials, but have not been analyzed. These materials must be assumed to be asbestos-containing until such time that sampling and analysis proves that the material contains 1% asbestos or less.

HAN Number	Material Description	Comments
MISCELLANEOUS (600s)		
603	Internal Electrical Components	Note 3, potential cementitious arc chutes, boards, and wiring

2.5.K. Confirmed Non-Asbestos Containing Materials

These materials were sampled and analyzed by current EPA AHERA and ELAP protocols and were proven to contain one percent asbestos or less (≤1%).

HAN Number	Material Description	Comments
WALLS (100s)		
100.1	Gypsum Board	Homogeneous to HAN200.1
100.2	Joint Compound	Homogeneous to HAN200.2
CEILINGS (200s)		
200.1	Gypsum Board	Homogeneous to HAN100.1
200.2	Joint Compound	Homogeneous to HAN100.2
MISCELLANEOUS (600s)		
600	Cove Base Mastic	---
601	Fire Putty – Brown/Red	---
602	Concrete Seam Felt	---

2.6.K. Summary Table of Asbestos-Containing Materials

The following table summarizes the functional spaces that were included in the inspection and contain materials which were verified or assumed to be asbestos-containing materials.

Functional Space ID/ Description	HAN	Material Description	ACM	Approximate Quantity	Condition	Friability
D114 - Electric	603	Internal Electrical Components	Note 3	40 SF	Intact	Non-Friable

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2.7.K. Inspection Notes

Note #	Description
1	Not Applicable
2	Not Applicable
3	Electrical components could not be de-energized at the time of the inspection. Material must be assumed to be an asbestos-containing material until such time that sampling and analysis proves that the material contains less than 1% asbestos. It is understood that the components being impacted as part of this project are not asbestos containing as directed by the client.
4	Not Applicable
5	Not Applicable
6	Not Applicable
7	Not Applicable
8	Not Applicable
9	Not Applicable
10	Not Applicable
11	Not Applicable
12	Not Applicable
13	Not Applicable

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L. Nelson Rockefeller

2.3.L. Confirmed Asbestos-Containing Materials

All sampled materials have been analyzed by current EPA AHERA and ELAP protocols. No identified suspect materials have been confirmed to be Asbestos-Containing Materials.
Refer to Section 2.4 and 2.5.

2.4.L. Assumed Asbestos-Containing Suspect Materials

The following materials have been identified as suspect asbestos-containing materials, but have not been analyzed. These materials must be assumed to be asbestos-containing until such time that sampling and analysis proves that the material contains 1% asbestos or less.

HAN Number	Material Description	Comments
MISCELLANEOUS (600s)		
601	Internal Electrical Components	Note 3, potential cementitious arc chutes, boards, and wiring
602	Fire Door Insulation	Note 1

2.5.L. Confirmed Non-Asbestos Containing Materials

These materials were sampled and analyzed by current EPA AHERA and ELAP protocols and were proven to contain one percent asbestos or less (≤1%).

HAN Number	Material Description	Comments
WALLS (100s)		
100.1	Gypsum Wall Board	Sampled on 3/12/2025
100.2	Joint Compound	Sampled on 3/12/2025
CEILINGS (200s)		
200	Fiberglass Tile Adhesive Puck, Brown	Sampled on 3/12/2025 Photo #22
MISCELLANEOUS (600s)		
600	Exterior Door Frame Sealant	---

2.6.L. Summary Table of Asbestos-Containing Materials

The following table summarizes the functional spaces that were included in the inspection and contain materials which were verified or assumed to be asbestos-containing materials.

Functional Space ID/ Description	HAN	Material Description	ACM	Approximate Quantity	Condition	Friability
001 – Basement Electrical	601	Internal Electrical Components	Note 3	200 SF	Intact	Non-Friable
	602	Fire Door Insulation	Note 1	36 SF	Intact	Friable
002 – Basement Mechanical	602	Fire Door Insulation	Note 1	36 SF	Intact	Friable

2.7.L. Inspection Notes

Note #	Description
1	Destructive sampling of finishes has not been conducted at the client's request. Material must be assumed to be an asbestos-containing material until such time that sampling and analysis proves that the material contains less than 1% asbestos.
2	Not Applicable
3	Electrical components could not be de-energized at the time of the inspection. Material must be assumed to be an asbestos-containing material until such time that sampling and analysis proves that the material contains less than 1% asbestos. It is understood that the components being impacted as part of this project are not asbestos containing as directed by the client.
4	Not Applicable
5	Not Applicable
6	Not Applicable
7	Not Applicable
8	Not Applicable
9	Not Applicable
10	Not Applicable
11	Not Applicable
12	Not Applicable
13	Not Applicable
14	A visual inspection was conducted at an exterior wall, ~8" below grade, no building foundation vapor barrier was observed.

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M. Oneida Hall

2.3.M. Confirmed Asbestos-Containing Materials

All sampled materials have been analyzed by current EPA AHERA and ELAP protocols. No identified suspect materials have been confirmed to be Asbestos-Containing Materials.
Refer to Section 2.4 and 2.5.

2.4.M. Assumed Asbestos-Containing Suspect Materials

The following materials have been identified as suspect asbestos-containing materials, but have not been analyzed. These materials must be assumed to be asbestos-containing until such time that sampling and analysis proves that the material contains 1% asbestos or less.

HAN Number	Material Description	Comments
CEILINGS (200s)		
201.1	Plaster Skim Coat	Note 1
201.2	Plaster Base Coat	Note 1
FLOORS (300s)		
301.1	Quarry Tile – Grout	Note 1
301.2	Quarry Tile - Mudset	Note 1
MISCELLANEOUS (600s)		
600	Fire Door Frame	Note 1
601	Fire Door - Black	Note 1
607	Internal Electrical Components	Note 3, potential cementitious arc chutes, boards, and wiring
608	Exterior Wall/Foundation Materials	Note 14

2.5.M. Confirmed Non-Asbestos Containing Materials

These materials were sampled and analyzed by current EPA AHERA and ELAP protocols and were proven to contain one percent asbestos or less (≤1%).

HAN Number	Material Description	Comments
WALLS (100s)		
100.1	Gypsum Board	Homogeneous to HAN200.1
100.2	Joint Compound	Homogeneous to HAN200.2 Trace, <1% Asbestos
CEILINGS (200s)		
200.1	Gypsum Board	Homogeneous to HAN100.1
200.2	Joint Compound	Homogeneous to HAN100.2 Trace, <1% Asbestos
202	Fiberglass Tile Adhesive Puck, Tan	Sampled 3/12/2025
203	Fiberglass Tile Adhesive Puck, Black	Sampled 3/12/2025 Trace, <1% Asbestos
204	Fiberglass Tile Stick Pin Adhesive	Trace, <1% Asbestos
FLOORS (300s)		
300	Vinyl Flooring Mastic	---
MISCELLANEOUS (600s)		
602.1	Tar Paper	Applied at the ceiling
602.2	Associated Mastic	Applied at the ceiling
604	Cove Base Mastic	---

HAN Number	Material Description	Comments
605	Door Caulk – Black	Trace, <1% Asbestos
606	Foundation Waterproofing – Black	Sampled 3/12/2025

2.6.M. Summary Table of Asbestos-Containing Materials

The following table summarizes the functional spaces that were included in the inspection and contain materials which were verified or assumed to be asbestos-containing materials.

Functional Space ID/ Description	HAN	Material Description	ACM	Approximate Quantity	Condition	Friability
100 - Electric	600	Fire Door Frame	Note 1	10 SF	Intact	Friable
	601	Fire Door – Black	Note 1	21 SF	Intact	Friable
	607	Internal Electrical Components	Note 3	40 SF	Intact	Non-Friable
C100 - Corridor	201.1	Plaster Skim Coat	Note 1	NA	Intact	Friable
	201.2	Plaster Base Coat	Note 1	NA	Intact	Friable
	300.1	Quarry Tile – Grout	Note 1	NA	Intact	Friable
	300.2	Quarry Tile - Mudset	Note 1	NA	Intact	Friable
	600	Fire Door Frame	Note 1	20 SF	Intact	Friable
	601	Fire Door - Black	Note 1	42 SF	Intact	Friable

2.7.M. Inspection Notes

Note #	Description
1	Destructive sampling of finishes has not been conducted at the client's request. Material must be assumed to be an asbestos-containing material until such time that sampling and analysis proves that the material contains less than 1% asbestos.
2	Sampling and analysis of the following suspect asbestos containing materials observed within the project area that are not planned to be disturbed by renovations has not been conducted: • HAN400 – Mudded Pipe Fitting • HAN603 – Fiberglass Pipe Wrap – Tar Layer
3	Electrical components could not be de-energized at the time of the inspection. Material must be assumed to be an asbestos-containing material until such time that sampling and analysis proves that the material contains less than 1% asbestos. It is understood that the components being impacted as part of this project are not asbestos containing as directed by the client.
4	Not Applicable
5	Not Applicable
6	Not Applicable
7	Not Applicable
8	Not Applicable
9	Not Applicable
10	Not Applicable
11	Not Applicable
12	Not Applicable
13	Not Applicable
14	Until further destructive testing can be conducted, any suspect materials found within the exterior walls or the foundation of the building, should be assumed an asbestos containing material. At this time no quantity is provided in section 2.6 and materials should be assumed throughout.

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N. Onondaga Hall

2.3.N. Confirmed Asbestos-Containing Materials

All sampled materials have been analyzed by current EPA AHERA and ELAP protocols. No identified suspect materials have been confirmed to be Asbestos-Containing Materials.
Refer to Section 2.4 and 2.5.

2.4.N. Assumed Asbestos-Containing Suspect Materials

The following materials have been identified as suspect asbestos-containing materials, but have not been analyzed. These materials must be assumed to be asbestos-containing until such time that sampling and analysis proves that the material contains 1% asbestos or less.

HAN Number	Material Description	Comments
MISCELLANEOUS (600s)		
603	Fire Door - Blue	Note 1
605	Internal Electrical Components	Note 3, potential cementitious arc chutes, boards, and wiring
606	Exterior Wall/Foundation Materials	Note 15

2.5.N. Confirmed Non-Asbestos Containing Materials

These materials were sampled and analyzed by current EPA AHERA and ELAP protocols and were proven to contain one percent asbestos or less (≤1%).

HAN Number	Material Description	Comments
WALLS (100s)		
100.1	Gypsum Board	---
100.2	Joint Compound	---
CEILINGS (200s)		
200	2' x 2' – Ceiling Tile – Grit	---
THERMAL SYSTEM INSULATION (500s)		
500	Spray-on Fire Proofing	---
MISCELLANEOUS (600s)		
600.1	Tar Paper	---
600.2	Associated Mastic	---
601	Fire Caulk – Red	---
602	Fire Putty – Red	---
604	Door Caulk – Brown	---

2.6.N. Summary Table of Asbestos-Containing Materials

The following table summarizes the functional spaces that were included in the inspection and contain materials which were verified or assumed to be asbestos-containing materials.

Functional Space ID/ Description	HAN	Material Description	ACM	Approximate Quantity	Condition	Friability
103 – Electrical	603	Fire Door - Blue	Note 1	21 SF	Intact	Friable
	605	Internal Electrical Components	Note 3	100 SF	Intact	Non-Friable

2.7.N. Inspection Notes

Note #	Description
1	Destructive sampling of finishes has not been conducted at the client's request. Material must be assumed to be an asbestos-containing material until such time that sampling and analysis proves that the material contains less than 1% asbestos.
2	Sampling and analysis of the following suspect asbestos containing materials observed within the project area that are not planned to be disturbed by renovations has not been conducted: • HAN400 – Mudded Pipe Fitting
3	Electrical components could not be de-energized at the time of the inspection. Material must be assumed to be an asbestos-containing material until such time that sampling and analysis proves that the material contains less than 1% asbestos. It is understood that the components being impacted as part of this project are not asbestos containing as directed by the client.
4	Not Applicable
5	Not Applicable
6	Not Applicable
7	Not Applicable
8	Not Applicable
9	Not Applicable
10	Not Applicable
11	Not Applicable
12	Not Applicable
13	Not Applicable
14	A visual inspection was conducted at an exterior wall, ~8" below grade, no building foundation vapor barrier was observed.
15	Until further destructive testing can be conducted, any suspect materials found within the exterior walls or the foundation of the building, should be assumed an asbestos containing material. At this time no quantity is provided in section 2.6 and materials should be assumed throughout.

O. Pump House

2.3.O. Confirmed Asbestos-Containing Materials

All sampled materials have been analyzed by current EPA AHERA and ELAP protocols. No identified suspect materials have been confirmed to be Asbestos-Containing Materials.
Refer to Section 2.4 and 2.5.

2.4.O. Assumed Asbestos-Containing Suspect Materials

The following materials have been identified as suspect asbestos-containing materials, but have not been analyzed. These materials must be assumed to be asbestos-containing until such time that sampling and analysis proves that the material contains 1% asbestos or less.

HAN Number	Material Description	Comments
MISCELLANEOUS (600s)		
600	Internal Electrical Components	Note 3, potential cementitious arc chutes, boards, and wiring

2.5.O. Confirmed Non-Asbestos Containing Materials

These materials were sampled and analyzed by current EPA AHERA and ELAP protocols and were proven to contain one percent asbestos or less (≤1%).

HAN Number	Material Description	Comments
WALLS (100s)		
100	Canadian Gypsum Wall Board	No joint compound

2.6.O. Summary Table of Asbestos-Containing Materials

The following table summarizes the functional spaces that were included in the inspection and contain materials which were verified or assumed to be asbestos-containing materials.

Functional Space ID/ Description	HAN	Material Description	ACM	Approximate Quantity	Condition	Friability
100 – Electrical Room	600	Internal Electrical Components	Note 3	224 SF	Intact	Non-Friable

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2.7.O. Inspection Notes

Note #	Description
1	Not Applicable
2	Not Applicable
3	Electrical components could not be de-energized at the time of the inspection. Material must be assumed to be an asbestos-containing material until such time that sampling and analysis proves that the material contains less than 1% asbestos. It is understood that the components being impacted as part of this project are not asbestos containing as directed by the client.
4	Not Applicable
5	Not Applicable
6	Not Applicable
7	Not Applicable
8	Not Applicable
9	Not Applicable
10	Not Applicable
11	Not Applicable
12	Not Applicable
13	Not Applicable

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P. Roosevelt Hall

2.3.P. Confirmed Asbestos-Containing Materials

All sampled materials have been analyzed by current EPA AHERA and ELAP protocols. No identified suspect materials have been confirmed to be Asbestos-Containing Materials.
Refer to Section 2.4 and 2.5.

2.4.P. Assumed Asbestos-Containing Suspect Materials

The following materials have been identified as suspect asbestos-containing materials, but have not been analyzed. These materials must be assumed to be asbestos-containing until such time that sampling and analysis proves that the material contains 1% asbestos or less.

HAN Number	Material Description	Comments
MISCELLANEOUS (600s)		
600	Internal Electrical Components	Note 3, potential cementitious arc chutes, boards, and wiring
601	Fire Door Insulation	Note 1
603	Exterior Wall/Foundation Materials	Note 14

2.5.P. Confirmed Non-Asbestos Containing Materials

These materials were sampled and analyzed by current EPA AHERA and ELAP protocols and were proven to contain one percent asbestos or less (≤1%).

HAN Number	Material Description	Comments
CEILINGS (200s)		
200	Fiberglass Stick Pin Adhesive	---
602	Foundation Waterproofing – Black	Sampled on 3/12/2025

2.6.P. Summary Table of Asbestos-Containing Materials

The following table summarizes the functional spaces that were included in the inspection and contain materials which were verified or assumed to be asbestos-containing materials.

Functional Space ID/ Description	HAN	Material Description	ACM	Approximate Quantity	Condition	Friability
001 – Electrical Hall	600	Internal Electrical Components	Note 3	240 SF	Intact	Non-Friable
002 – Hall / Corridor	601	Fire Door Insulation	Note 1	72 SF	Intact	Friable

2.7.P. Inspection Notes

Note #	Description
1	Destructive sampling of finishes has not been conducted at the client's request. Material must be assumed to be an asbestos-containing material until such time that sampling and analysis proves that the material contains less than 1% asbestos.
2	Not Applicable
3	Electrical components could not be de-energized at the time of the inspection. Material must be assumed to be an asbestos-containing material until such time that sampling and analysis proves that the material contains less than 1% asbestos. It is understood that the components being impacted as part of this project are not asbestos containing as directed by the client.
4	Not Applicable
5	Not Applicable
6	Not Applicable
7	Not Applicable
8	Not Applicable
9	Not Applicable
10	Not Applicable
11	Not Applicable
12	Not Applicable
13	Not Applicable
14	Until further destructive testing can be conducted, any suspect materials found within the exterior walls or the foundation of the building, should be assumed an asbestos containing material. At this time no quantity is provided in section 2.6 and materials should be assumed throughout.

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Q. Seneca Hall

2.3.Q. Confirmed Asbestos-Containing Materials

All sampled materials have been analyzed by current EPA AHERA and ELAP protocols. No identified suspect materials have been confirmed to be Asbestos-Containing Materials.
Refer to Section 2.4 and 2.5.

2.4.Q. Assumed Asbestos-Containing Suspect Materials

The following materials have been identified as suspect asbestos-containing materials, but have not been analyzed. These materials must be assumed to be asbestos-containing until such time that sampling and analysis proves that the material contains 1% asbestos or less.

HAN Number	Material Description	Comments
CEILINGS (200s)		
202.1	Plaster Skim Layer	Note 4
202.2	Plaster Base Layer	Note 4
MISCELLANEOUS (600s)		
603	Fire Door – Green	Note 1
604	Fire Door – Blue	Note 1
605	Fire Door Frame	Note 1
608	Internal Electrical Components	Note 3, potential cementitious arc chutes, boards, and wiring
609	Exterior Wall/Foundation Materials	Note 15

2.5.Q. Confirmed Non-Asbestos Containing Materials

These materials were sampled and analyzed by current EPA AHERA and ELAP protocols and were proven to contain one percent asbestos or less (≤1%).

HAN Number	Material Description	Comments
WALLS (100s)		
100.1	Gypsum Board	---
100.2	Joint Compound	---
CEILINGS (200s)		
200	2' x 2' Ceiling Tile – Grit	---
200.1	Gypsum Board	Homogeneous to HAN100.1
200.2	Joint Compound	Homogeneous to HAN100.2
FLOORS (300s)		
301.1	12" x 12" White Floor Tile w/ Grey/Beige Chip	---
301.2/.3	Associated Mastic/Fused Floor Leveler	---
MISCELLANEOUS (600s)		
600.1	Tar Paper	---
600.2	Associated Mastic	---
601	Fire Caulk – Red	---
602	Cove Base Mastic – Beige	---
606	Door Caulk - Black	Trace, <1% Asbestos

2.6.Q. Summary Table of Asbestos-Containing Materials

The following table summarizes the functional spaces that were included in the inspection and contain materials which were verified or assumed to be asbestos-containing materials.

Functional Space ID/ Description	HAN	Material Description	ACM	Approximate Quantity	Condition	Friability
131 – Electrical	603	Fire Door – Green	Note 1	21 SF	Intact	Friable
	605	Fire Door Frame	Note 1	10 SF	Intact	Friable
	608	Internal Electrical Components	Note 3	200 SF	Intact	Non-Friable
C131 - Corridor	202.1	Plaster Skim Layer	Note 4	72 SF	Intact	Friable
	202.2	Plaster Base Layer	Note 4	72 SF	Intact	Friable
	604	Fire Door – Blue	Note 1	63 SF	Intact	Friable
	605	Fire Door Frame	Note 1	30 SF	Intact	Friable

2.7.Q. Inspection Notes

Note #	Description
1	Destructive sampling of finishes has not been conducted at the client's request. Material must be assumed to be an asbestos-containing material until such time that sampling and analysis proves that the material contains less than 1% asbestos.
2	Sampling and analysis of the following suspect asbestos containing materials observed within the project area that are not planned to be disturbed by renovations has not been conducted: • HAN607 – Duct Sealant – Dark Grey
3	Electrical components could not be de-energized at the time of the inspection. Material must be assumed to be an asbestos-containing material until such time that sampling and analysis proves that the material contains less than 1% asbestos. It is understood that the components being impacted as part of this project are not asbestos containing as directed by the client.
4	Material was observed within the project area, but could not be accessed for sampling and analysis. Material must be assumed to be an asbestos-containing material until such time that sampling and analysis proves that the material contains less than 1% asbestos.
5	Not Applicable
6	Not Applicable
7	Not Applicable
8	Not Applicable
9	Not Applicable
10	Not Applicable
11	Not Applicable
12	Not Applicable
13	Not Applicable
14	A visual inspection was conducted at an exterior wall, ~8" below grade, no building foundation vapor barrier was observed.
15	Until further destructive testing can be conducted, any suspect materials found within the exterior walls or the foundation of the building, should be assumed an asbestos containing material. At this time no quantity is provided in section 2.6 and materials should be assumed throughout.

R. Tech Hub

2.3.R. Confirmed Asbestos-Containing Materials

All sampled materials have been analyzed by current EPA AHERA and ELAP protocols. No identified suspect materials have been confirmed to be Asbestos-Containing Materials.
Refer to Section 2.4 and 2.5.

2.4.R. Assumed Asbestos-Containing Suspect Materials

The following materials have been identified as suspect asbestos-containing materials, but have not been analyzed. These materials must be assumed to be asbestos-containing until such time that sampling and analysis proves that the material contains 1% asbestos or less.

HAN Number	Material Description	Comments
THERMAL SYSTEM INSULATION (500s)		
501	Residual, Spray-on Fireproofing	Note 7, historical data
MISCELLANEOUS (600s)		
600	Internal Electrical Components	Note 3, potential cementitious arc chutes, boards, and wiring, Photo #41
602	Fire Door Insulation	Note 1
603	Door Window Glazing	Note 1

2.5.R. Confirmed Non-Asbestos Containing Materials

These materials were sampled and analyzed by current EPA AHERA and ELAP protocols and were proven to contain one percent asbestos or less (≤1%).

HAN Number	Material Description	Comments
WALLS (100s)		
100.1	Gypsum Wall Board	Sampled on 3/12/2025
100.2	Joint Compound	Sampled on 3/12/2025
CEILINGS (200s)		
200	2' x 2' Ceiling Tile	Trace, contains <1% Asbestos
FLOORS (300s)		
300.1	12" x 12" Floor Tile, White	---
300.2	Associated Mastic	---
THERMAL SYSTEM INSULATION (500s)		
500	Spray-on Fireproofing	--

2.6.R. Summary Table of Asbestos-Containing Materials

The following table summarizes the functional spaces that were included in the inspection and contain materials which were verified or assumed to be asbestos-containing materials.

Functional Space ID/ Description	HAN	Material Description	ACM	Approximate Quantity	Condition	Friability
001 – Electrical Room	501	Residual, Spray-On Fireproofing	Note 7	Note 14	Intact	Friable
	600	Internal Electrical Components	Note 3	400 SF	Intact	Non-Friable
002 – Hall	602	Fire Door Insulation	Note 1	36 SF	Intact	Friable
	603	Door Window Glazing	Note 1	2 SF	Intact	Non-Friable
003 – Vestibule	602	Fire Door Insulation	Note 1	36 SF	Intact	Friable
	603	Door Window Glazing	Note 1	2 SF	Intact	Non-Friable
004 – Electrical Room	501	Residual, Spray-On Fireproofing	Note 7	Note 14	Intact	Friable

2.7.R. Inspection Notes

Note #	Description
1	Destructive sampling of finishes has not been conducted at the client's request. Material must be assumed to be an asbestos-containing material until such time that sampling and analysis proves that the material contains less than 1% asbestos.
2	Not Applicable
3	Electrical components could not be de-energized at the time of the inspection. Material must be assumed to be an asbestos-containing material until such time that sampling and analysis proves that the material contains less than 1% asbestos. It is understood that the components being impacted as part of this project are not asbestos containing as directed by the client.
4	Not Applicable
5	Not Applicable
6	Not Applicable
7	Review of client supplied documents identified the material as an asbestos containing material.
8	Not Applicable
9	Not Applicable
10	Not Applicable
11	Not Applicable
12	Not Applicable
13	Not Applicable
14	Residual amounts asbestos-containing spray-on fireproofing (HAN501) remain within the dove-tail flutes of the metal deck within these functional spaces. Existing bulk spray-on fireproofing (HAN500) on structural beams within the functional space is not an ACM. Quantities can not be provided.

S. Whitney Hall

2.3.S. Confirmed Asbestos-Containing Materials

All sampled materials have been analyzed by current EPA AHERA and ELAP protocols. No identified suspect materials have been confirmed to be Asbestos-Containing Materials.
Refer to Section 2.4 and 2.5.

2.4.S. Assumed Asbestos-Containing Suspect Materials

The following materials have been identified as suspect asbestos-containing materials, but have not been analyzed. These materials must be assumed to be asbestos-containing until such time that sampling and analysis proves that the material contains 1% asbestos or less.

HAN Number	Material Description	Comments
MISCELLANEOUS (600s)		
600	Internal Electrical Components	Note 3, potential cementitious arc chutes, boards, and wiring
601	Exterior Wall/Foundation Materials	Note 14

2.5.S. Confirmed Non-Asbestos Containing Materials

All sampled materials have been analyzed by current EPA AHERA and ELAP protocols, and have either been proven to contain greater than one percent (>1%) asbestos, or were assumed to be Asbestos-Containing Materials.
Refer to Section 2.3 and 2.4.

2.6.S. Summary Table of Asbestos-Containing Materials

The following table summarizes the functional spaces that were included in the inspection and contain materials which were verified or assumed to be asbestos-containing materials.

Functional Space ID/ Description	HAN	Material Description	ACM	Approximate Quantity	Condition	Friability
001 – Electrical Office	600	Internal Electrical Components	Note 3	240 SF	Intact	Non-Friable

2.7.S. Inspection Notes

Note #	Description
3	Electrical components could not be de-energized at the time of the inspection. Material must be assumed to be an asbestos-containing material until such time that sampling and analysis proves that the material contains less than 1% asbestos. It is understood that the components being impacted as part of this project are not asbestos containing as directed by the client.
14	Until further destructive testing can be conducted, any suspect materials found within the exterior walls or the foundation of the building, should be assumed an asbestos containing material. At this time no quantity is provided in section 2.6 and materials should be assumed throughout.

3 Lead-Based Paint Inspection

3.1 Methodology

Encorus Group used a spectrum analyzer (Refer to Appendix D for additional information) to test painted or coated surfaces included in the scope of work. The analyzer measures the amount of lead in painted surfaces using X-Ray Fluorescence technology (XRF). The analyzer uses a radioactive source which locates lead atoms in painted surfaces and measures the concentration in milligrams per square centimeter. If necessary, paint chip samples were also collected as part of this inspection. Representative surfaces/components were tested in a manner designed to adequately represent the different components, substrates, types of paint, construction and paint history. Various federal, state and local laws, rules, regulations and guidelines may be applicable to this project as it relates to Lead-Based Paint/coatings (LBP) including but not limited to:

1. Lead-Based Paint Renovation, Repair and Painting Regulation Rule (40 CFR Part 745.8 Subpart E (EPA))
2. Lead Safe Housing Rule (HUD 24 CFR Part 35)
3. Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing (US Department of Housing and Urban Development (HUD))
4. Occupational Safety and Health Administration (OSHA 29 CFR 1910 and 1926)
5. New York State Education Department (NYSED)
6. State of New York codes and laws
7. All local codes
8. All federal codes
9. US-DOT 49 CFR

The most recent edition of any relevant regulation, standard, document, or code shall be applicable to the work. Where conflict among the requirements exists, the most stringent requirements are generally applicable.

3.2 HUD/ EPA Standards

Certain HUD and EPA standards apply to “Lead-Based Paint” which is any paint or coating which contains lead at or above 1.0 mg/cm^2 (via XRF), or 0.5 percent by weight (paint chip). Analysis indicated that components, listed in Section 3.3, have a lead content equal to or greater than the HUD/EPA standard for Lead-Based Paint.

A. Bartle Library Addition

3.3.A. Summary Table of Lead-Based Painted/Coated Materials

Functional Space ID/ Description	Material Description	Approximate Quantity	Condition	Positive or Homogeneous with Shot #
300 – Electrical	No Lead-Based Painted/Coated components were detected within the scope of work.			
301 – Mechanical				
S301 – Stairwell				

The presence of lead in surfaces that were analyzed as less than 0.5 percent lead by weight or in measurable amounts but less than 1.0 mg/cm^2 is a consideration for the purposes of complying with OSHA regulations. Refer to Section 3.4 for details.

B. Bartle Library Tower

3.3.B. Summary Table of Lead-Based Painted/Coated Materials

Functional Space ID/ Description	Material Description	Approximate Quantity	Condition	Positive or Homogeneous with Shot #
001 – Electrical	No Lead-Based Painted/Coated components were detected within the scope of work.			
002 – Areaway	Gray Metal I-Beam	325 SF	Fair	58
100 – Courtyard	No Lead-Based Painted/Coated components were detected within the scope of work.			
101 – Corridor	Gray & Maroon Glazed Block Wall	380 SF	Intact	61, 62
102 – Corridor	No Lead-Based Painted/Coated components were detected within the scope of work.			
103 – Corridor				
104 – Corridor				

The presence of lead in surfaces that were analyzed as less than 0.5 percent lead by weight or in measurable amounts but less than 1.0 mg/cm^2 is a consideration for the purposes of complying with OSHA regulations. Refer to Section 3.4 for details.

C. Brandywine Hall

3.3.C. Summary Table of Lead-Based Painted/Coated Materials

Functional Space ID/ Description	Material Description	Approximate Quantity	Condition	Positive or Homogeneous with Shot #
A115 – Electrical	No Lead-Based Painted/Coated components were detected within the scope of work.			
A115A – Breezeway/Stair				

The presence of lead in surfaces that were analyzed as less than 0.5 percent lead by weight or in measurable amounts but less than 1.0 mg/cm^2 is a consideration for the purposes of complying with OSHA regulations. Refer to Section 3.4 for details.

D. Cayuga Hall

3.3.D. Summary Table of Lead-Based Painted/Coated Materials

Functional Space ID/ Description	Material Description	Approximate Quantity	Condition	Positive or Homogeneous with Shot #
103 – Electric	No Lead-Based Painted/Coated components were detected within the scope of work.			
C103 – Corridor				
200 – Ext Vestibule				
201 – Exterior Wall				

The presence of lead in surfaces that were analyzed as less than 0.5 percent lead by weight or in measurable amounts but less than 1.0 mg/cm^2 is a consideration for the purposes of complying with OSHA regulations. Refer to Section 3.4 for details.

E. Choconut Hall

3.3.E. Summary Table of Lead-Based Painted/Coated Materials

Functional Space ID/ Description	Material Description	Approximate Quantity	Condition	Positive or Homogeneous with Shot #
B109 – Electric	No Lead-Based Painted/Coated components were detected within the scope of work.			
B109A – Breezeway/Stair				

The presence of lead in surfaces that were analyzed as less than 0.5 percent lead by weight or in measurable amounts but less than 1.0 mg/cm^2 is a consideration for the purposes of complying with OSHA regulations. Refer to Section 3.4 for details.

F. Commissary

3.3.F. Summary Table of Lead-Based Painted/Coated Materials

Functional Space ID/ Description	Material Description	Approximate Quantity	Condition	Positive or Homogeneous with Shot #
100 – Exterior Wall	No Lead-Based Painted/Coated components were detected within the scope of work.			
138 – Room				
138A – Room				
137 - Room				

The presence of lead in surfaces that were analyzed as less than 0.5 percent lead by weight or in measurable amounts but less than 1.0 mg/cm^2 is a consideration for the purposes of complying with OSHA regulations. Refer to Section 3.4 for details.

G. Darrien Hall

3.3.G. Summary Table of Lead-Based Painted/Coated Materials

Functional Space ID/ Description	Material Description	Approximate Quantity	Condition	Positive or Homogeneous with Shot #
001 - Electrical Exterior Wall	No Lead-Based Painted/Coated components were detected within the scope of work.			

The presence of lead in surfaces that were analyzed as less than 0.5 percent lead by weight or in measurable amounts but less than 1.0 mg/cm^2 is a consideration for the purposes of complying with OSHA regulations. Refer to Section 3.4 for details.

H. Glenwood Hall

3.3.H. Summary Table of Lead-Based Painted/Coated Materials

Functional Space ID/ Description	Material Description	Approximate Quantity	Condition	Positive or Homogeneous with Shot #
C107 – Electric C107A – Ext. Stairs/Vestibule	No Lead-Based Painted/Coated components were detected within the scope of work.			

The presence of lead in surfaces that were analyzed as less than 0.5 percent lead by weight or in measurable amounts but less than 1.0 mg/cm^2 is a consideration for the purposes of complying with OSHA regulations. Refer to Section 3.4 for details.

I. Iroquois Hall

3.3.I. Summary Table of Lead-Based Painted/Coated Materials

Functional Space ID/ Description	Material Description	Approximate Quantity	Condition	Positive or Homogeneous with Shot #
IR-8 – Electrical IR-8A – Electric IR-9 – Mechanical Ground Floor – Elec. Rm	No Lead-Based Painted/Coated components were detected within the scope of work.			

The presence of lead in surfaces that were analyzed as less than 0.5 percent lead by weight or in measurable amounts but less than 1.0 mg/cm^2 is a consideration for the purposes of complying with OSHA regulations. Refer to Section 3.4 for details.

J. Mohawk Hall

3.3.J. Summary Table of Lead-Based Painted/Coated Materials

Functional Space ID/ Description	Material Description	Approximate Quantity	Condition	Positive or Homogeneous with Shot #
G07A – Electrical	No Lead-Based Painted/Coated components were detected within the scope of work.			
G10 – Break/Corridor				
200 – Exterior				

The presence of lead in surfaces that were analyzed as less than 0.5 percent lead by weight or in measurable amounts but less than 1.0 mg/cm^2 is a consideration for the purposes of complying with OSHA regulations. Refer to Section 3.4 for details.

K. Nanticoke Hall

3.3.K. Summary Table of Lead-Based Painted/Coated Materials

Functional Space ID/ Description	Material Description	Approximate Quantity	Condition	Positive or Homogeneous with Shot #
D114 – Electric	No Lead-Based Painted/Coated components were detected within the scope of work.			
D114A – Breezeway/Stairs				

The presence of lead in surfaces that were analyzed as less than 0.5 percent lead by weight or in measurable amounts but less than 1.0 mg/cm^2 is a consideration for the purposes of complying with OSHA regulations. Refer to Section 3.4 for details.

L. Nelson Rockefeller

3.3.L. Summary Table of Lead-Based Painted/Coated Materials

Functional Space ID/ Description	Material Description	Approximate Quantity	Condition	Positive or Homogeneous with Shot #
001 – Basement Electrical	No Lead-Based Painted/Coated components were detected within the scope of work.			
002 – Basement Mechanical				
004 – Room				
004B - Room				

The presence of lead in surfaces that were analyzed as less than 0.5 percent lead by weight or in measurable amounts but less than 1.0 mg/cm^2 is a consideration for the purposes of complying with OSHA regulations. Refer to Section 3.4 for details.

M. Oneida Hall

3.3.M. Summary Table of Lead-Based Painted/Coated Materials

Functional Space ID/ Description	Material Description	Approximate Quantity	Condition	Positive or Homogeneous with Shot #
001 – Electric C100 – Corridor	No Lead-Based Painted/Coated components were detected within the scope of work.			

The presence of lead in surfaces that were analyzed as less than 0.5 percent lead by weight or in measurable amounts but less than 1.0 mg/cm^2 is a consideration for the purposes of complying with OSHA regulations. Refer to Section 3.4 for details.

N. Onondaga Hall

3.3.N. Summary Table of Lead-Based Painted/Coated Materials

Functional Space ID/ Description	Material Description	Approximate Quantity	Condition	Positive or Homogeneous with Shot #
103 – Electrical 104 – Lobby 200 - Exterior	No Lead-Based Painted/Coated components were detected within the scope of work.			

The presence of lead in surfaces that were analyzed as less than 0.5 percent lead by weight or in measurable amounts but less than 1.0 mg/cm^2 is a consideration for the purposes of complying with OSHA regulations. Refer to Section 3.4 for details.

O. Pump House

3.3.O. Summary Table of Lead-Based Painted/Coated Materials

Functional Space ID/ Description	Material Description	Approximate Quantity	Condition	Positive or Homogeneous with Shot #
100 – Electrical Room	No Lead-Based Painted/Coated components were detected within the scope of work.			

The presence of lead in surfaces that were analyzed as less than 0.5 percent lead by weight or in measurable amounts but less than 1.0 mg/cm^2 is a consideration for the purposes of complying with OSHA regulations. Refer to Section 3.4 for details.

P. Roosevelt Hall

3.3.P. Summary Table of Lead-Based Painted/Coated Materials

Functional Space ID/ Description	Material Description	Approximate Quantity	Condition	Positive or Homogeneous with Shot #
001 – Electrical Hall 002 – Hall/Corridor	No Lead-Based Painted/Coated components were detected within the scope of work.			

The presence of lead in surfaces that were analyzed as less than 0.5 percent lead by weight or in measurable amounts but less than 1.0 mg/cm^2 is a consideration for the purposes of complying with OSHA regulations. Refer to Section 3.4 for details.

Q. Seneca Hall

3.3.Q. Summary Table of Lead-Based Painted/Coated Materials

Functional Space ID/ Description	Material Description	Approximate Quantity	Condition	Positive or Homogeneous with Shot #
131 – Electrical	No Lead-Based Painted/Coated components were detected within the scope of work.			
C131 – Corridor				
Stair C				
200 - Exterior				

The presence of lead in surfaces that were analyzed as less than 0.5 percent lead by weight or in measurable amounts but less than 1.0 mg/cm^2 is a consideration for the purposes of complying with OSHA regulations. Refer to Section 3.4 for details.

R. Tech Hub

3.3.R. Summary Table of Lead-Based Painted/Coated Materials

Functional Space ID/ Description	Material Description	Approximate Quantity	Condition	Positive or Homogeneous with Shot #
001 – Electrical Room	No Lead-Based Painted/Coated components were detected within the scope of work.			
002 – Hall				
003 – Vestibule				
004 – Electrical Room				

The presence of lead in surfaces that were analyzed as less than 0.5 percent lead by weight or in measurable amounts but less than 1.0 mg/cm^2 is a consideration for the purposes of complying with OSHA regulations. Refer to Section 3.4 for details.

S. Whitney Hall

3.3.S. Summary Table of Lead-Based Painted/Coated Materials

Functional Space ID/ Description	Material Description	Approximate Quantity	Condition	Positive or Homogeneous with Shot #
001 – Electrical Room	No Lead-Based Painted/Coated components were detected within the scope of work.			
002 - Room				

The presence of lead in surfaces that were analyzed as less than 0.5 percent lead by weight or in measurable amounts but less than 1.0 mg/cm^2 is a consideration for the purposes of complying with OSHA regulations. Refer to Section 3.4 for details.

3.4 OSHA Regulations

On 5/4/98 OSHA promulgated the Lead Exposure in Construction Rule (29 CFR Part 1926.62). This regulation applies to all construction activities involving potential lead exposures. This regulation applies when lead is present in any detectible amount and is not limited to HUD's definition of Lead-Based Paint. Surface abrading and demolition activities may release lead from unpainted materials which contain lead such as glazed ceramic tile and porcelain, or enameled wall panels. Although these items do not meet HUD's definition of Lead-Based Paint and need not be included in disclosure under the Lead Disclosure Rule (Refer to Section 3.5), they have been included for reference in Section 3.3 above.

3.5 Disclosure Requirements

If the subject property of this report is target housing, the owner has certain responsibilities under the Lead Disclosure Rule when the property is being sold or leased, or when a lease is being renewed with revisions. In general, lead disclosure is required in these circumstances, except that disclosure does not have to be made when the target housing is being leased if the inspection has found that it is Lead-Based Paint free.

Per 40 CFR Part 745 “Target Housing” is defined as: any housing constructed prior to 1978, except housing for the elderly or persons with disabilities (unless any child who is less than 6 years of age resides or is expected to reside in such housing); or any 0-bedroom dwelling.

Results of this inspection must be provided to new lessees (tenants) and prospective buyers of this property under Federal law (24 CFR part 35 and 40 CFR part 745) before they become obligated under a lease or sales contract. The complete report must be provided by the owner to prospective buyers and it must be made available to prospective tenants and to renewing tenants if they have not been provided the information previously. The Inspector’s plain language summary of the report must be provided to the client (e.g., property owner or manager) when the complete report is provided. The landlord (lessor) or seller is also required to distribute an educational pamphlet approved by the U.S. Environmental Protection Agency and include the Lead Warning Statement in the lease or sale contracts to ensure that parents have the information they need to protect their children from Lead-Based Paint hazards. Complete disclosure requires the landlord/sellers and renters/buyers (and their agents) to sign and date an acknowledgement that the required information and materials were provided and received. Also, prospective buyers must be provided the opportunity to have their own Lead-Based Paint inspection, lead hazard screen or risk assessment performed before the purchase agreement is signed; the standard period is 10 days, but this period may be changed or waived by agreement between the seller and prospective buyer. EPA regulations require the inspector to keep the inspection report for at least 3 years. (See Section IV of Chapter 7 of the HUD Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing for further details; see www.hud.gov/lead.)

4 PCB Inspection

4.1 Methodology

Encorus Group identified suspect exterior PCB-containing caulk, glazing, or other sealant on building components that are included in the scope of work.

The inspection was performed in conformance with all applicable federal, state and local rules, laws, regulations and/or guidelines. The US EPA's specified limit for PCB content/concentration is 50 ppm (parts per million) or 50 mg/kg (milligrams per kilogram) by weight.

The laboratory used for bulk sample analysis was approved by NYS ELAP and AIHA or NVLAP and performed laboratory analysis by EPA Method 8082.The laboratory results are reported in mg/Kg (milligrams per kilogram) which equates to ppm (parts per million). Copies of all laboratory analysis reports and chains of custody listing locations of sample collection are located in Appendix C.

A. Bartle Library Addition

4.2.A. Suspect PCB-Containing Materials

No suspect PCB-containing materials were identified during the inspection.

B. Bartle Library Tower

4.2.B. Suspect PCB-Containing Materials

The inspection revealed the following materials as suspect exterior PCB-containing caulking, glazing, or sealant materials:

HAN Number	Material Description	Results Above EPA Regulatory Limit (50 ppm)
MISCELLANEOUS (600s)		
603	Door Caulk - Grey	No

Analysis indicates that all suspected PCB-containing materials have a PCB concentration less than the US EPA's allowable limit of 50 mg/Kg.

C. Brandywine Hall

4.2.C. Suspect PCB-Containing Materials

No suspect PCB-containing materials were identified during the inspection.

D. Cayuga Hall

4.2.D. Suspect PCB-Containing Materials

No suspect PCB-containing materials were identified during the inspection.

E. Choconut Hall

4.2.E. Suspect PCB-Containing Materials

No suspect PCB-containing materials were identified during the inspection.

F. Commissary

4.2.F. Suspect PCB-Containing Materials

No suspect PCB-containing materials were identified during the inspection.

G. Darrien Hall

4.2.G. Suspect PCB-Containing Materials

No suspect PCB-containing materials were identified during the inspection.

H. Glenwood Hall

4.2.H. Suspect PCB-Containing Materials

No suspect PCB-containing materials were identified during the inspection.

I. Iroquois Hall

4.2.I. Suspect PCB-Containing Materials

The inspection revealed the following materials as suspect exterior PCB-containing caulking, glazing, or sealant materials:

HAN Number	Material Description	Results Above EPA Regulatory Limit (50 ppm)
MISCELLANEOUS (600s)		
601	Exterior Door Frame Sealant, Black	No

Analysis indicates that all suspected PCB-containing materials have a PCB concentration less than the US EPA's allowable limit of 50 mg/Kg.

J. Mohawk Hall

4.2.J. Suspect PCB-Containing Materials

No suspect PCB-containing materials were identified during the inspection.

K. Nanticoke Hall

4.2.K. Suspect PCB-Containing Materials

No suspect PCB-containing materials were identified during the inspection.

L. Nelson Rockefeller

4.2.L. Suspect PCB-Containing Materials

The inspection revealed the following materials as suspect exterior PCB-containing caulking, glazing, or sealant materials:

HAN Number	Material Description	Results Above EPA Regulatory Limit (50 ppm)
MISCELLANEOUS (600s)		
600	Exterior Door Frame Sealant	Yes

4.3.L. Summary Table of PCB-Containing Materials

Analysis indicated that components in the table below have a PCB concentration of 50 ppm or greater. Refer to floor plans located in Appendix E for specific sample location points. Refer to Appendix F for a summary of all functional spaces which were included as part of this inspection service.

Functional Space ID/ Description*	HAN	Material Description	Quantity
002 – Basement Mechanical	600	Exterior Door Frame Sealant	3 SF

M. Oneida Hall

4.2.M. Suspect PCB-Containing Materials

No suspect PCB-containing materials were identified during the inspection.

N. Onondaga Hall

4.2.N. Suspect PCB-Containing Materials

No suspect PCB-containing materials were identified during the inspection.

O. Pump House

4.2.O. Suspect PCB-Containing Materials

No suspect PCB-containing materials were identified during the inspection.

P. Roosevelt Hall

4.2.P. Suspect PCB-Containing Materials

No suspect PCB-containing materials were identified during the inspection.

Q. Seneca Hall

No suspect PCB-containing materials were identified during the inspection.

R. Tech Hub

4.2.R. Suspect PCB-Containing Materials

No suspect PCB-containing materials were identified during the inspection.

S. Whitney Hall

4.2.S. Suspect PCB-Containing Materials

No suspect PCB-containing materials were identified during the inspection.

5 Microbial Investigation

5.1 Methodology

Encorus Group performed a screening level assessment for potential mold contamination and mold growth. Tasks included:

1) **Visual assessment:** A visual inspection to identify suspect fungal growth. Assess visible moisture damaged and/or saturated building materials which are providing environmental conditions conducive to microbial growth.

Molds, also known as fungi, are microscopic organisms that can be found virtually everywhere, indoors and outdoors. In the presence of excess moisture, molds can grow rapidly to produce adverse conditions. In response to increasing public concern, a number of authorities, including the US EPA, OSHA, ACGIH and the New York City Department of Health, have developed recommendations and guidelines for assessment and remediation of mold.

While it is generally accepted that molds can be allergenic, infectious and toxic, there are no generally accepted numerical guidelines for interpretation of microbial data. The absence of state or federal standards makes interpretation of microbial data somewhat challenging. This report has been designed to provide some basic interpretive information using certain assumptions and facts that have been extracted from a number of authoritative bodies, such as the American Conference of Governmental Industrial Hygienists (ACGIH). In the absence of standards, the client must determine the appropriateness and applicability of this report to the given situation. Identification of the presence of a particular fungus in an indoor environment does not necessarily mean that the building occupants are or are not being exposed to antigenic or toxic agents. None of the information contained herein should be construed as medical advice or a call to action for evacuation or remediation. Any decision relative to medical significance should be made by a qualified physician.

5.2 Summary of Findings

Visual Assessment

This table includes observations from the visual inspection performed as part of the mold investigation. Areas of suspected microbial growth, moisture damage and/or intrusions, saturated building materials, and any conditions conducive to microbial growth are included in this table.

Functional Space ID/ Description	Location/Substrate Description	Visual Assessment
Brandywine Hall A115 - Electrical	Gypsum Wall Board	A weeping pipe appeared to be the root cause of a speckling of black spots on the wallboard. Potential for mold growth present.

6 Universal Waste Investigation

6.1 Methodology

Universal Waste consists of the following discarded materials, as identified in 6 NYCRR 374-3 and the EPA's Universal Waste regulations (CFR 40 Part 273) streamline hazardous waste management standards for federally designated "Universal Wastes":

- Lamps - the bulb or tube portion of an electric lighting device. A lamp is specifically designed to produce radiant energy, most often in the ultraviolet, visible, and infra-red regions of the electromagnetic spectrum. Examples of common universal waste electric lamps include, but are not limited to, fluorescent, high intensity discharge, neon, mercury vapor, high pressure sodium, and metal halide lamps.

- Mercury thermostats and switches - a temperature control device that contains metallic mercury in an ampule attached to a bimetal sensing element, and mercury-containing ampules that have been removed from these temperature control devices.

- Batteries - a device consisting of one or more electrically connected electrochemical cells which is designed to receive, store, and deliver electric energy. An electrochemical cell is a system consisting of an anode, cathode, and an electrolyte, plus such connections (electrical and mechanical) as may be needed to allow the cell to deliver or receive electrical energy. The term battery also includes an intact, unbroken battery from which the electrolyte has been removed.

- Pesticides - any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest, or intended for use as a plant regulator, defoliant, or desiccant.

- Electrical Ballast - device intended to limit the amount of current in an electric circuit; specifically, the inductive ballast used in fluorescent lamps, to limit the current through the tube. Although not considered universal waste. Ballasts were inspected for the presence of labelling indicating that no PCBs are present within the capacitors of the ballasts.

- In addition, Encorus Group was asked to inventory any stored refrigerants, Halon, or other fire extinguishing equipment/materials.

A. Bartle Library Addition

6.2.A. Summary of Universal/Hazardous Waste

The following materials were discovered during our site investigation:

Functional Space ID/ Description	HAN	Material Description	Quantity
300 – Electrical	800 803	Fluorescent Light Transformer	12 Bulbs/ 6 Ballasts 1 Unit
301 - Mechanical	800 804 805	Fluorescent Light Fire Strobe Exit Sign	8 Bulbs/ 4 Ballasts 1 Unit 1 Unit
S301 - Stair	800	Fluorescent Light	2 Bulbs/ 1 Ballast

B. Bartle Library Tower

6.2.B. Summary of Universal/Hazardous Waste

The following materials were discovered during our site investigation:

Functional Space ID/ Description	HAN	Material Description	Quantity
001 – Electrical	800 801 802 803	Fluorescent Light Fire Extinguisher Smoke detector Transformer	12 Bulbs/ 6 ballast 1 Extinguisher 2 Units 1 Unit
101 – Corridor	800 802	Fluorescent Light Smoke detector	4 Bulbs/ 2 Ballast 1 Unit
102 – Corridor	800 805	Fluorescent Light Exit Sign	4 Bulbs/ 2 Ballast 1 Unit
103/104 – Corridor	801 802 804 805	Fire Extinguisher Smoke detector Fire Strobe Exit Sign	1 Unit 2 Units 1 Unit 1 Unit

C. Brandywine Hall

6.2.C. Summary of Universal/Hazardous Waste

The following materials were discovered during our site investigation:

Functional Space ID/ Description	HAN	Material Description	Quantity
A115 - Electric	800 801 802 803	Fluorescent Light Smoke Detector Fire Extinguisher Transformer	2 Bulbs/ 1 ballast 1 Unit 1 Extinguisher 1 Unit
A115A - Breezeway/Stair	802	Fire Extinguisher	1 Extinguisher

D. Cayuga Hall

6.2.D. Summary of Universal/Hazardous Waste

The following materials were discovered during our site investigation:

Functional Space ID/ Description	HAN	Material Description	Quantity
103 – Electric	800 801 802 804	Fire Extinguisher Smoke Detector Fire Strobe Transformer	1 Extinguisher 2 Units 1 Unit 1 Unit
C103 - Corridor	800 801 802 803	Fire Extinguisher Smoke Detector Fire Strobe Exit Sign	1 Extinguisher 2 Unit 3 Units 3 Units

E. Choconut Hall

6.2.E. Summary of Universal/Hazardous Waste

The following materials were discovered during our site investigation:

Functional Space ID/ Description	HAN	Material Description	Quantity
B109 - Electric	800 801 802 803	Fluorescent Light Fire Extinguisher Smoke Detector Transformer	2 Bulbs/ 1 Ballast 1 Extinguisher 1 Unit 1 Unit
B109A – Breezeway/Stair	801	Fire Extinguisher	1 Extinguisher

F. Commissary

6.2.F. Summary of Universal/Hazardous Waste

No materials considered to be Universal or Hazardous Waste were identified during the inspection.

G. Darrien Hall

6.2.G. Summary of Universal/Hazardous Waste

The following materials were discovered during our site investigation:

Functional Space ID/ Description	HAN	Material Description	Quantity
001 - Electrical	800 802 805	Fire Extinguisher Fire Strobe Fluorescent Light	1 Unit 1 Unit 2 Bulbs/ 1 Ballast

H. Glenwood Hall

6.2.H. Summary of Universal/Hazardous Waste

The following materials were discovered during our site investigation:

Functional Space ID/ Description	HAN	Material Description	Quantity
C107 – Electric	800 801 802 803	Fluorescent Light Transformer Smoke Detector Fire Extinguisher	2 Bulbs/ 1 Ballast 1 Unit 1 Unit 1 Unit

I. Iroquois Hall

6.2.I. Summary of Universal/Hazardous Waste

The following materials were discovered during our site investigation:

Functional Space ID/ Description	HAN	Material Description	Quantity
IR-8 - Electrical	800	Fire Extinguisher	1 Unit
	801	Fire Strobe	2 Units
	802	Smoke Detector	3 Units
	803	Transformer	1 Unit
	804	Fluorescent Light	12 Bulbs/ 6 Ballast
IR-8A - Electric	800	Fire Extinguisher	1 Unit
	801	Fire Strobe	1 Unit
	802	Smoke Detector	1 Unit
	803	Transformer	1 Unit

J. Mohawk Hall

6.2.J. Summary of Universal/Hazardous Waste

The following materials were discovered during our site investigation:

Functional Space ID/ Description	HAN	Material Description	Quantity
G07A - Electrical	800	Fluorescent Light	4 Bulbs/ 2 Ballast
	801	Fire Extinguisher	1 Unit
	802	Fire Strobe	1 Unit
	803	Smoke Detector	2 Units
	804	Transformer	1 Unit
G10 – Break/Corridor	800	Fluorescent Light	4 Bulbs/ 2 Ballast
	802	Fire Strobe	1 Unit
	803	Smoke Detector	1 Unit

K. Nanticoke Hall

6.2.K. Summary of Universal/Hazardous Waste

The following materials were discovered during our site investigation:

Functional Space ID/ Description	HAN	Material Description	Quantity
114A - Electrical	800	Fluorescent Light	2 Bulbs/ 1 Ballast
	801	Fire Extinguisher	1 Unit
	802	Smoke Detector	1 Unit
	803	Transformer	1 Unit
D114A – Breezeway/Stairs	801	Fire Extinguisher	1 Unit

L. Nelson Rockefeller

6.2.L Summary of Universal/Hazardous Waste

The following materials were discovered during our site investigation:

Functional Space ID/ Description	HAN	Material Description	Quantity
001 – Basement Electrical	800 801 802 803	Fluorescent Light Fire Extinguisher Smoke Detector Fire Strobe	6 Bulbs/6 Ballasts 1 Unit 1 Unit 1 Unit
002 – Basement Mechanical	800 801 802 803	Fluorescent Light Fire Extinguisher Smoke Detector Exit Sign	8 Bulbs/8 Ballasts 1 Unit 1 Unit 1 Unit

M. Oneida Hall

6.2.M. Summary of Universal/Hazardous Waste

The following materials were discovered during our site investigation:

Functional Space ID/ Description	HAN	Material Description	Quantity
100 - Electric	800 801 802 804	Fire Extinguisher Smoke Detector Fire Strobe Transformer	1 Unit 2 Units 1 Unit 1 Unit
C100 - Corridor	801 802 803 805	Smoke Detector Fire Strobe Exit Sign Fluorescent Light	3 Units 2 Units 3 Units 10 Bulbs/ 10 Ballasts

N. Onondaga Hall

6.2.N. Summary of Universal/Hazardous Waste

The following materials were discovered during our site investigation:

Functional Space ID/ Description	HAN	Material Description	Quantity
103 - Electrical	800 801 803	Fire Extinguisher Smoke Detector Transformer	1 Unit 1 Unit 1 Unit
104 - Lobby	801 802	Smoke Detector Fire Strobe	1 Unit 1 Unit

O. Pump House

6.2.O. Summary of Universal/Hazardous Waste

The following materials were discovered during our site investigation:

Functional Space ID/ Description	HAN	Material Description	Quantity
100 – Electrical Room	800	Fluorescent Light	2 Bulbs/ 2 Ballasts

P. Roosevelt Hall

6.2.P. Summary of Universal/Hazardous Waste

The following materials were discovered during our site investigation:

Functional Space ID/ Description	HAN	Material Description	Quantity
001 – Electrical Hall	800 801 802 805	Fire Extinguisher Smoke Detector Fire Strobe Fluorescent Bulb	1 Unit 1 Unit 1 Unit Bulbs/ 4 Ballasts
002 – Hall/Corridor	800 801 802 803 805	Fire Extinguisher Smoke Detector Fire Strobe Exit Sign Fluorescent Bulb	1 Unit 1 Unit 1 Unit 1 Unit 12 Bulbs/ 6 Ballasts

Q. Seneca Hall

6.2.Q. Summary of Universal/Hazardous Waste

The following materials were discovered during our site investigation:

Functional Space ID/ Description	HAN	Material Description	Quantity
131 - Electrical	800 801 802 804	Fluorescent Light Smoke Detector Fire Extinguisher Transformer	16 Bulbs/ 8 Ballasts 2 Units 1 Unit 1 Unit
C131 - Corridor	801 802 803 805	Smoke Detector Fire Extinguisher Fire Strobe Exit Sign	6 Units 1 Unit 3 Units 5 Units
Stair C	800 805	Fluorescent Light Exit Sign	2 Bulbs/ 1 Ballast 1 Unit

R. Tech Hub

6.2.R. Summary of Universal/Hazardous Waste

No materials considered to be Universal or Hazardous Waste were identified during the inspection.

S. Whitney Hall

6.2.S. Summary of Universal/Hazardous Waste

No materials considered to be Universal or Hazardous Waste were identified during the inspection.

ENCORUS GROUP

23 Mechanic Street
Springville, NY 14141

295 Main Street
West Seneca, NY 14224

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716.592.3980

Appendix A

General Conditions of Inspection

1. Encorus Group Engineering, P.C. neither accepts nor implies any liability for the implementation of the recommendations found within this report.

2. This inspection was limited to areas accessible to the inspector. Encorus Group Engineering, P.C. neither accepts nor implies any liability for hazardous materials that may be present in other areas of the building.

3. The results of the laboratory analytical reports that may be contained herein are the product of the knowledge, experience and expertise of the laboratory retained to perform such services. Encorus Group neither accepts nor implies any liability for sample analysis reports compiled by others.

4. This report is based on the condition and contents present at the site on the day of the inspection. Encorus Group Engineering, P.C. is not liable for materials, chemicals or other substances of concern that may have been removed from the site, cleaned or disposed of prior to the inspection date or subsequent to that date.

5. An inspection for Asbestos-Containing Materials, Lead-Based Paint or PCB-Containing Materials relies heavily upon identification of homogeneous areas, with subsequent sampling and laboratory analysis determined by: the quantity of surfaces identified, generally accepted inspection protocols, regulatory requirements, and the inspector's judgment. Specific sample locations are determined with the objective of selecting representative samples. As with any type of sampling, the possibility of obtaining a false positive or false negative does exist, is inherent in the sampling process, and can at times result from the uneven distribution of target analytes within the suspect material. The comprehensive inspection protocol developed and utilized by Encorus Group Engineering, P.C. attempts to minimize the risk of a false positive or false negative result. However, the client is advised that the risk of false positives or false negatives cannot be completely eliminated.

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Springville, NY 14141

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West Seneca, NY 14224

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Appendix B

Certifications and Licenses

WE ARE YOUR DOL

NEW YORK STATE | Department of Labor

DIVISION OF SAFETY & HEALTH LICENSE AND CERTIFICATE UNIT, STATE OFFICE CAMPUS, BLDG. 12, ALBANY, NY 12226

ASBESTOS HANDLING LICENSE

Encorus Group Engineering, P.C.
P.O. Box 344, Springville, NY, 14141

License Number: 421634
License Class: RESTRICTED
Date of Issue: 11/26/2024
Expiration Date: 11/30/2025
Duly Authorized Representative: Thomas Gilmartin

This license has been issued in accordance with applicable provisions of Article 30 of the Labor Law of New York State and of the New York State Codes, Rules and Regulations (12 NYCRR Part 56). It is subject to suspension or revocation for a (1) serious violation of state, federal or local laws with regard to the conduct of an asbestos project, or (2) demonstrated lack of responsibility in the conduct of any job involving asbestos or asbestos material.

This license is valid only for the contractor named above and this license or a photocopy must be prominently displayed at the asbestos project worksite. This license verifies that all persons employed by the licensee on an asbestos project in New York State have been issued an Asbestos Certificate, appropriate for the type of work they perform, by the New York State Department of Labor.

Amy Phillips, Director
For the Commissioner of Labor

EXCELSIOR

SH 432 (12/21)

WE ARE YOUR DOL

NEW YORK STATE | Department of Labor

DIVISION OF SAFETY & HEALTH LICENSE AND CERTIFICATE UNIT, STATE OFFICE CAMPUS, BLDG. 12, ALBANY, NY 12226

ASBESTOS HANDLING LICENSE

Encorus Group Engineering, P.C.
P.O. Box 344, Springville, NY, 14141

License Number: 421634
License Class: RESTRICTED
Date of Issue: 11/22/2023
Expiration Date: 11/30/2024
Duly Authorized Representative: Thomas Gilmartin

This license has been issued in accordance with applicable provisions of Article 30 of the Labor Law of New York State and of the New York State Codes, Rules and Regulations (12 NYCRR Part 56). It is subject to suspension or revocation for a (1) serious violation of state, federal or local laws with regard to the conduct of an asbestos project, or (2) demonstrated lack of responsibility in the conduct of any job involving asbestos or asbestos material.

This license is valid only for the contractor named above and this license or a photocopy must be prominently displayed at the asbestos project worksite. This license verifies that all persons employed by the licensee on an asbestos project in New York State have been issued an Asbestos Certificate, appropriate for the type of work they perform, by the New York State Department of Labor.

Amy Phillips, Director
For the Commissioner of Labor

EXCELSIOR

SH 432 (12/21)

United States Environmental Protection Agency

This is to certify that

Encorus Group Engineering, P.C.

has fulfilled the requirements of the Toxic Substances Control Act (TSCA) Section 402, and has received certification to conduct lead-based paint activities pursuant to 40 CFR Part 745.226

In the Jurisdiction of:

All EPA Administered Lead-based Paint Activities Program States, Tribes and Territories

This certification is valid from the date of issuance and expires November 30, 2026

LBP-F256665-1

Certification #

November 16, 2023

Issued On

Michelle Price, Chief

Lead, Heavy Metals, and Inorganics Branch

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

Expires 12:01 AM April 01, 2025
Issued April 01, 2024

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MR. CORY M. PARNELL
AMERISCI RICHMOND
13635 GENITO RD
MIDLOTHIAN, VA 23112

NY Lab Id No: 10984

is hereby APPROVED as an Environmental Laboratory for the category
ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE
All approved subcategories and/or analytes are listed below:

Miscellaneous

Asbestos in Friable Material	Item 198.1 of Manual
	EPA 600/M4/82/020
Asbestos in Non-Friable Material-PLM	Item 198.6 of Manual (NOB by PLM)
Asbestos in Non-Friable Material-TEM	Item 198.4 of Manual
Asbestos-Vermiculite-Containing Mate	Item 198.8 of Manual

Serial No.: 68665

Property of the New York State Department of Health. Certificates are valid only at the address shown and must be conspicuously posted by the laboratory. Continued accreditation depends on the laboratory's successful ongoing participation in the Program. Consumers may verify a laboratory's accreditation status online at https://apps.health.ny.gov/pubdoh/applinks/wc/elappublicweb/, by phone (518) 485-5570 or by email to elap@health.ny.gov.

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

Expires 12:01 AM April 01, 2025
Issued April 01, 2024

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. PHYLLIS SHILLER
PHOENIX ENVIRONMENTAL LABS
587 EAST MIDDLE TURNPIKE
MANCHESTER, CT 06040

NY Lab Id No: 11301

is hereby APPROVED as an Environmental Laboratory in conformance with the National Environmental Laboratory Accreditation Conference Standards (2016) for the category ENVIRONMENTAL ANALYSES NON POTABLE WATER
All approved analytes are listed below:

Phthalate Esters

Benzyl butyl phthalate	EPA 8270E
Bis(2-ethylhexyl) phthalate	EPA 625.1
	EPA 8270D
	EPA 8270E
Diethyl phthalate	EPA 625.1
	EPA 8270D
	EPA 8270E
Dimethyl phthalate	EPA 625.1
	EPA 8270D
	EPA 8270E
Di-n-butyl phthalate	EPA 625.1
	EPA 8270D
	EPA 8270E
Di-n-octyl phthalate	EPA 625.1
	EPA 8270D
	EPA 8270E

Polychlorinated Biphenyls

Aroclor 1016 (PCB-1016)	EPA 8082A
	EPA 608.3
Aroclor 1221 (PCB-1221)	EPA 8082A
	EPA 608.3
Aroclor 1232 (PCB-1232)	EPA 8082A
	EPA 608.3
Aroclor 1242 (PCB-1242)	EPA 8082A
	EPA 608.3
Aroclor 1248 (PCB-1248)	EPA 8082A
	EPA 608.3

Serial No.: 68720

Property of the New York State Department of Health. Certificates are valid only at the address shown and must be conspicuously posted by the laboratory. Continued accreditation depends on the laboratory's successful ongoing participation in the Program. Consumers may verify a laboratory's accreditation status online at https://apps.health.ny.gov/pubdoh/applinks/wc/elappublicweb/, by phone (518) 485-5570 or by email to elap@health.ny.gov.

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

Expires 12:01 AM April 01, 2025
Issued April 01, 2024

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. PHYLLIS SHILLER
PHOENIX ENVIRONMENTAL LABS
587 EAST MIDDLE TURNPIKE
MANCHESTER, CT 06040

NY Lab Id No: 11301

is hereby APPROVED as an Environmental Laboratory in conformance with the National Environmental Laboratory Accreditation Conference Standards (2016) for the category ENVIRONMENTAL ANALYSES NON POTABLE WATER
All approved analytes are listed below:

Polychlorinated Biphenyls

Aroclor 1254 (PCB-1254)	EPA 8082A
	EPA 608.3
Aroclor 1260 (PCB-1260)	EPA 8082A
	EPA 608.3
Aroclor 1262 (PCB-1262)	EPA 8082A
Aroclor 1268 (PCB-1268)	EPA 8082A
PCB 101	EPA 8082A
PCB 105	EPA 8082A
PCB 118	EPA 8082A
PCB 128	EPA 8082A
PCB 138	EPA 8082A
PCB 153	EPA 8082A
PCB 170	EPA 8082A
PCB 18	EPA 8082A
PCB 180	EPA 8082A
PCB 183	EPA 8082A
PCB 184	EPA 8082A
PCB 187	EPA 8082A
PCB 195	EPA 8082A
PCB 206	EPA 8082A
PCB 209	EPA 8082A
PCB 28	EPA 8082A
PCB 44	EPA 8082A
PCB 49	EPA 8082A
PCB 52	EPA 8082A
PCB 66	EPA 8082A
PCB 8	EPA 8082A

Serial No.: 68720

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NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

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Issued April 01, 2024

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All approved analytes are listed below:

Polychlorinated Biphenyls

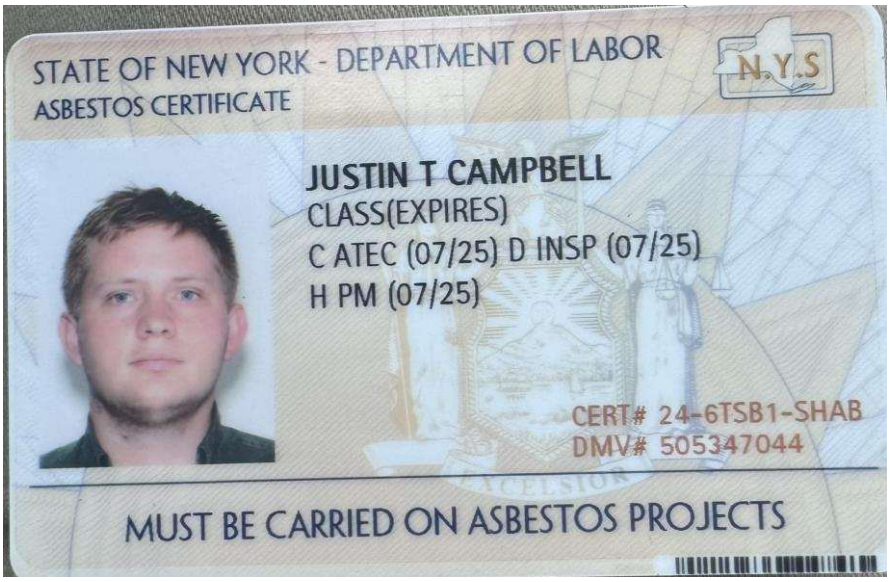
PCB 87	EPA 8082A
PCB Congeners, Total	EPA 8082A

Polynuclear Aromatics

Acenaphthene	EPA 625.1
	EPA 8270D
	EPA 8270E
Acenaphthylene	EPA 625.1
	EPA 8270D
	EPA 8270E
Anthracene	EPA 625.1
	EPA 8270D
	EPA 8270E
Benzo(a)anthracene	EPA 625.1
	EPA 8270D
	EPA 8270E
Benzo(a)pyrene	EPA 625.1
	EPA 8270D
	EPA 8270E
Benzo(b)fluoranthene	EPA 625.1
	EPA 8270D
	EPA 8270E
Benzo(g,h,i)perylene	EPA 625.1
	EPA 8270D
	EPA 8270E
Benzo(k)fluoranthene	EPA 625.1
	EPA 8270D
	EPA 8270E

Serial No.: 68720

Property of the New York State Department of Health. Certificates are valid only at the address shown and must be conspicuously posted by the laboratory. Continued accreditation depends on the laboratory's successful ongoing participation in the Program. Consumers may verify a laboratory's accreditation status online at https://apps.health.ny.gov/pubdoh/applinks/wc/elappublicweb/, by phone (518) 485-5570 or by email to elap@health.ny.gov.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ASBESTOS CERTIFICATE
N.Y.S
JUSTIN T CAMPBELL
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H PM (07/25)
CERT# 24-6TSB1-SHAB
DMV# 505347044
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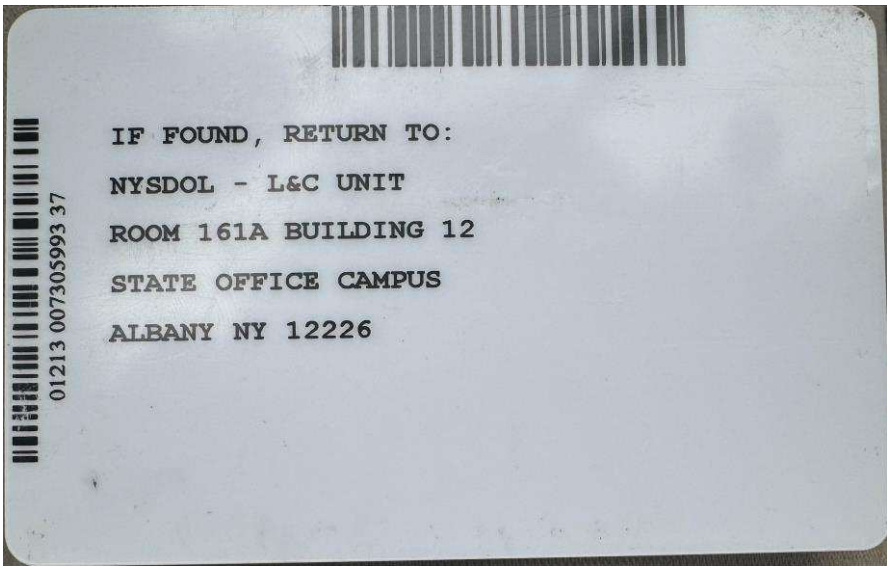
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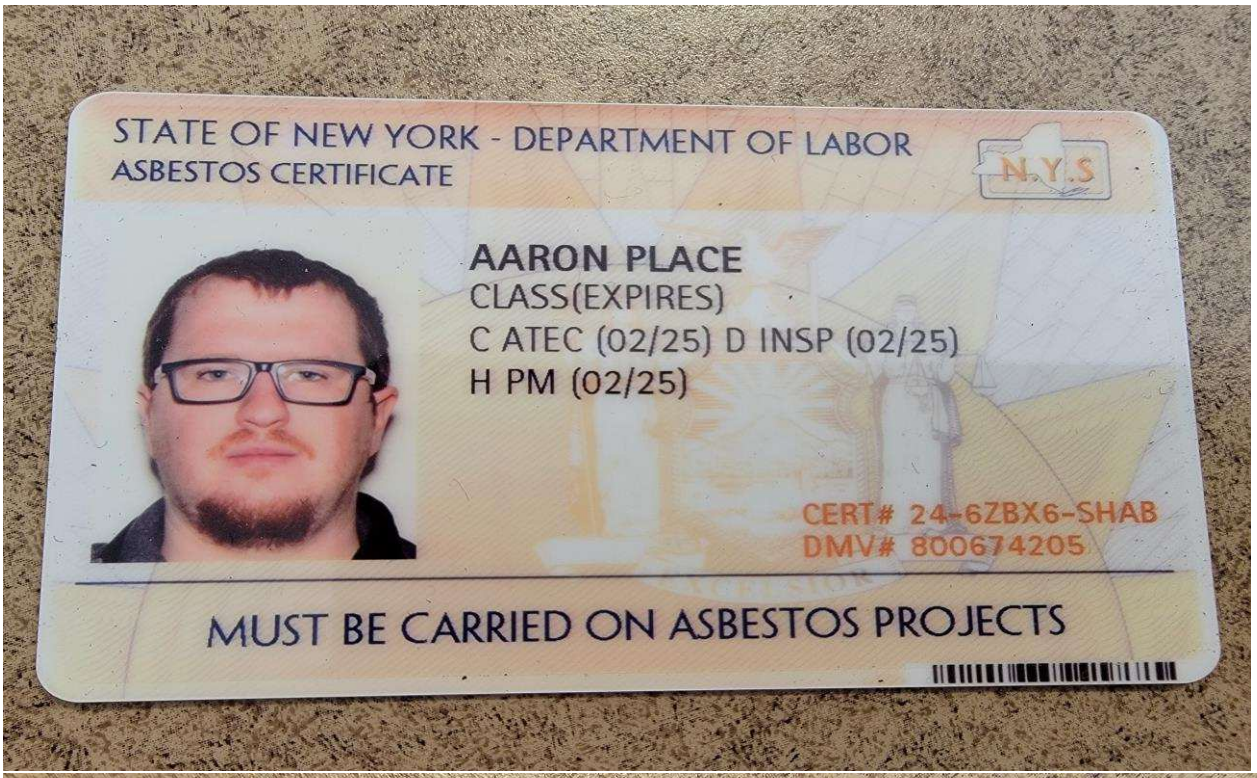
ROOM 161A BUILDING 12
STATE OFFICE CAMPUS
ALBANY NY 12226
01213 0073059937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ASBESTOS CERTIFICATE
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AARON PLACE
CLASS(EXPIRES)
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H PM (02/25)
CERT# 24-6ZBX6-SHAB
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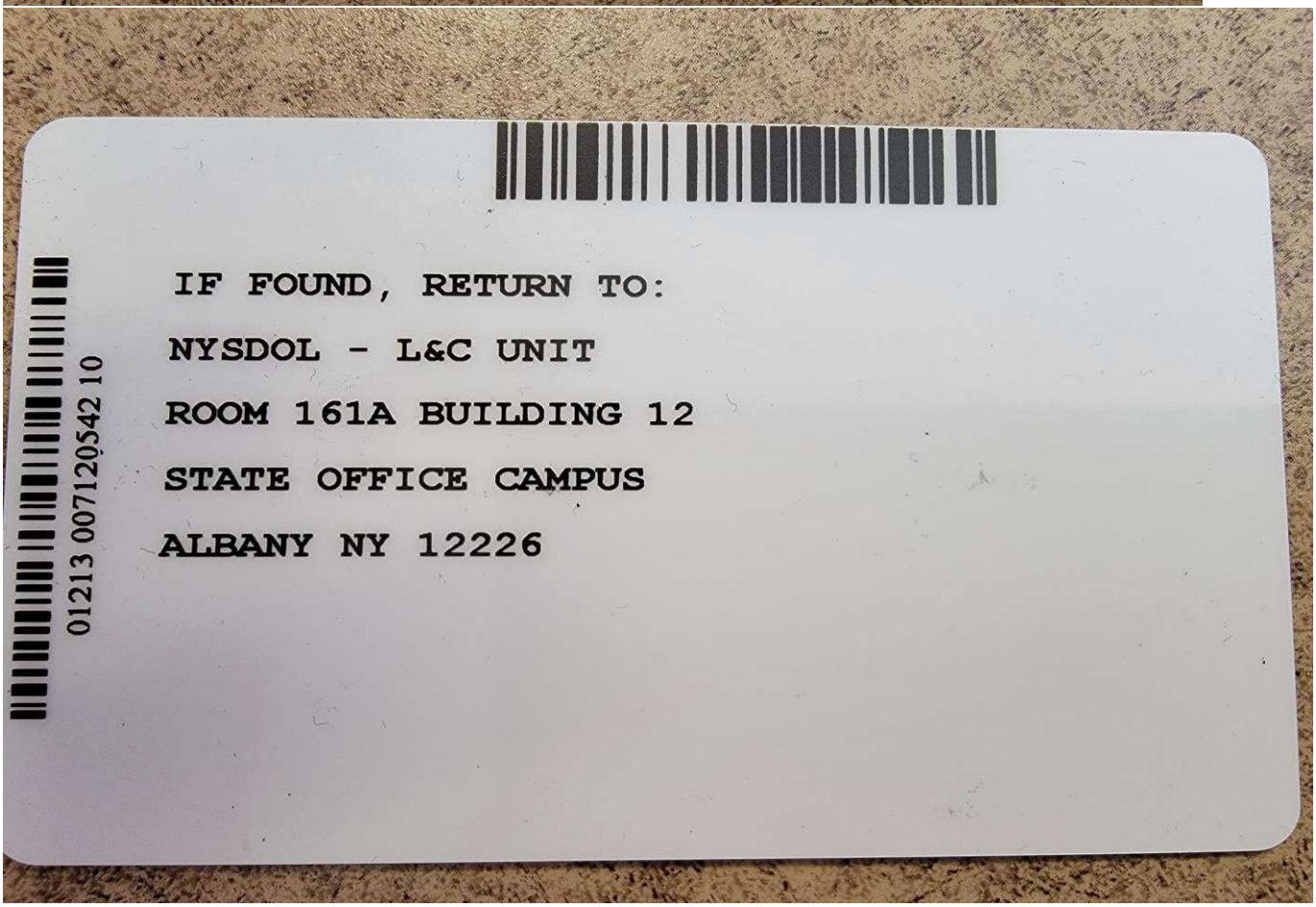
01213 007120542 10
IF FOUND, RETURN TO:
NYSDOL - L&C UNIT
ROOM 161A BUILDING 12
STATE OFFICE CAMPUS
ALBANY NY 12226

STATE OF NEW YORK - DEPARTMENT OF LABOR
ASBESTOS CERTIFICATE

N.Y.S

DAVID RICHARDSON
CLASS(EXPIRES)
C ATEC (09/25) D INSP (09/25)
H PM (09/25)

CERT# 24-6A865-SHAB
DMV# 888060765

MUST BE CARRIED ON ASBESTOS PROJECTS

01213 007203047 14

IF FOUND, RETURN TO:
NYSDOL - L&C UNIT
ROOM 161A BUILDING 12
STATE OFFICE CAMPUS
ALBANY NY 12226

United States Environmental Protection Agency

This is to certify that

Aaron G Place

has fulfilled the requirements of the Toxic Substances Control Act (TSCA) Section 402, and has received certification to conduct lead-based paint activities pursuant to 40 CFR Part 745.226 as:

Risk Assessor

In the Jurisdiction of:

All EPA Administered Lead-based Paint Activities Program States, Tribes and Territories

This certification is valid from the date of issuance and expires September 11, 2027

LBP-R-I267212-1

Certification #

August 28, 2024

Issued On

Ben Conetta, Manager

Chemicals and Multimedia Programs Branch

ENCORUS GROUP

23 Mechanic Street
Springville, NY 14141

295 Main Street
West Seneca, NY 14224

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716.592.3980

Appendix C

Chains of Custody and Laboratory Reports

ENCORUS GROUP

23 Mechanic Street
Springville, NY 14141

295 Main Street
West Seneca, NY 14224

encorus.com
716.592.3980

A. Bartle Library Addition

AmeriSci Richmond
13635 GENITO ROAD
MIDLOTHIAN, VIRGINIA 23112
TEL: 8047631200 FAX: 8047631800

August 8, 2024

Encorus Group Engineering P.C.
Attn: Sean Fitzgerald
350 Elmwood Ave
Springville, NY 14141

RE: Encorus Group Engineering P.C.
Job Number 124081169
P.O. #24413
24413; RMF Engineering/Elizabeth Nolder; SUNY Binghampton Electrical; 4400 Vestal Parkway, East Binghampton, NY 13902; Bartle Library

Dear Sean Fitzgerald:

Enclosed are the results of Asbestos Analysis - Bulk Protocol of the following Encorus Group Engineering P.C. samples, received at AmeriSci on Monday, August 5, 2024, for a 3 day turnaround:

20240726-24413-200.1/.2-1, 20240726-24413-200.1/.2-2, 20240726-24413-200.1/.2-3, 20240726-24413-500-1, 20240726-24413-500-2, 20240726-24413-500-3, 20240726-24413-600-1, 20240726-24413-600-2, 20240726-24413-602-1, 20240726-24413-602-2, 20240726-24413-603-1, 20240726-24413-603-2, 20240726-24413-608-1, 20240726-24413-608-2

The 14 samples, placed in zip lock bag, were shipped to AmeriSci via Fed Ex 7301 7895 0115 B 905. Encorus Group Engineering P.C. requested ELAP PLM/TEM analysis of these samples.

The results of the analyses which were performed under NYSDOH ELAP Lab Certification # 10984 following ELAP 198.4 TEM guidelines are presented within the Summary Table of this report. The presence of matrix reduction data in the Summary Table normally indicates an NOB sample. For NOB samples the individual matrix reduction and TEM analysis results are listed in Table I. Complete PLM results for individual samples analyzed by ELAP 198.1 (friable) and ELAP 198.6 (NOB) are presented in the PLM Bulk Asbestos Report. This combined report relates ONLY to sample analysis expressed as percent composition by weight and percent asbestos. This report must not be used to claim product endorsement or approval by these laboratories, NVLAP, ELAP or any other associated agency. The National Institute of Standards and Technology accreditation requirements, mandate that this report must not be reproduced, except in full without the written approval of the laboratory. This report may contain specific data not covered by NVLAP or ELAP accreditations respectively, if so identified in relevant footnotes.

AmeriSci appreciates this opportunity to serve your organization. Please contact us for any further assistance or with any questions.

Sincerely,

Cory M. Parnell

Laboratory Director | Authorized Signatory

AmeriSci Richmond
13635 GENITO ROAD
MIDLOTHIAN, VIRGINIA 23112
TEL: (804) 763-1200 • FAX: (804) 763-1800

PLM Bulk Asbestos Report

Encorus Group Engineering P.C.
Attn: Sean Fitzgerald
350 Elmwood Ave

Springville, NY 14141

Date Received 08/05/24
Date Examined 08/08/24
ELAP # 10984
AmeriSci Job # 124081169
P.O. #
Page 1 **of** 4

RE: 24413; RMF Engineering/Elizabeth Nolder; SUNY Binghampton Electrical; 4400 Vestal Parkway, East Binghampton, NY 13902; Bartle Library

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
20240726-24413-200.1/.2-1	124081169-01.1	***No***	NAD
200.1/.2 **Location:** EIFS Skim/Base Coat; 100			(by NYS ELAP 198.1) by Tou Si Anothay on 08/08/24
Analyst Description: Off-White, Heterogeneous, Non-Fibrous, Skim Coat (Plaster)			
Asbestos Types:			
Other Material: Non-fibrous 100%			
20240726-24413-200.1/.2-1	124081169-01.2	***No***	NAD
200.1/.2 **Location:** EIFS Skim/Base Coat; 100			(by NYS ELAP 198.1) by Tou Si Anothay on 08/08/24
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Cementitious, Base Coat (Plaster)			
Asbestos Types:			
Other Material: Non-fibrous 100%			
20240726-24413-200.1/.2-2	124081169-02.1	***No***	NAD
200.1/.2 **Location:** EIFS Skim/Base Coat; 100			(by NYS ELAP 198.1) by Tou Si Anothay on 08/08/24
Analyst Description: Off-White, Heterogeneous, Non-Fibrous, Skim Coat (Plaster)			
Asbestos Types:			
Other Material: Non-fibrous 100%			
20240726-24413-200.1/.2-2	124081169-02.2	***No***	NAD
200.1/.2 **Location:** EIFS Skim/Base Coat; 100			(by NYS ELAP 198.1) by Tou Si Anothay on 08/08/24
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Cementitious, Base Coat (Plaster)			
Asbestos Types:			
Other Material: Non-fibrous 100%			
20240726-24413-200.1/.2-3	124081169-03.1	***No***	NAD
200.1/.2 **Location:** EIFS Skim/Base Coat; 100			(by NYS ELAP 198.1) by Tou Si Anothay on 08/08/24
Analyst Description: Off-White, Heterogeneous, Non-Fibrous, Skim Coat (Plaster)			
Asbestos Types:			
Other Material: Non-fibrous 100%			

See Reporting notes on last page

PLM Bulk Asbestos Report

24413; RMF Engineering/Elizabeth Nolder; SUNY Binghampton Electrical; 4400 Vestal Parkway, East Binghampton, NY 13902; Bartle Library

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
20240726-24413-200.1/.2-3 200.1/.2	124081169-03.2 **Location:** EIFS Skim/Base Coat; 100	***No***	NAD (by NYS ELAP 198.1) by Tou Si Anothay on 08/08/24
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Cementitious, Base Coat (Plaster) **Asbestos Types:** **Other Material:** Non-fibrous 100%			
20240726-24413-500-1 500	124081169-04 **Location:** Spray On Fireproofing; 001	***No***	NAD (by NYS ELAP 198.1) by Tou Si Anothay on 08/08/24
Analyst Description: White, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Fibrous glass 95%, Non-fibrous 5.0%			
20240726-24413-500-2 500	124081169-05 **Location:** Spray On Fireproofing; 001	***No***	NAD (by NYS ELAP 198.1) by Tou Si Anothay on 08/08/24
Analyst Description: White, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Fibrous glass 95%, Non-fibrous 5.0%			
20240726-24413-500-3 500	124081169-06 **Location:** Spray On Fireproofing; 001	***No***	NAD (by NYS ELAP 198.1) by Tou Si Anothay on 08/08/24
Analyst Description: White, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Fibrous glass 95%, Non-fibrous 5.0%			
20240726-24413-600-1 600	124081169-07 **Location:** Fire Caulk - Red; 300	***No***	NAD (NOB by NYS ELAP 198.6) by Tou Si Anothay on 08/08/24
Analyst Description: Red, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-Asbestos 37%			
20240726-24413-600-2 600	124081169-08 **Location:** Fire Caulk - Red; 300	***No***	NAD (NOB by NYS ELAP 198.6) by Tou Si Anothay on 08/08/24
Analyst Description: Red, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-Asbestos 29%			

See Reporting notes on last page

PLM Bulk Asbestos Report

24413; RMF Engineering/Elizabeth Nolder; SUNY Binghampton Electrical; 4400 Vestal Parkway, East Binghampton, NY 13902; Bartle Library

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
20240726-24413-602-1 602	124081169-09 **Location:** Fire Putty - Red; 001	***No***	NAD (NOB by NYS ELAP 198.6) by Tou Si Anothay on 08/08/24
Analyst Description: Red, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-Asbestos 42%			
20240726-24413-602-2 602	124081169-10 **Location:** Fire Putty - Red; 001	***No***	NAD (NOB by NYS ELAP 198.6) by Tou Si Anothay on 08/08/24
Analyst Description: Red, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-Asbestos 41%			
20240726-24413-603-1 603	124081169-11 **Location:** Door Caulk - Grey; 100	***No***	NAD (NOB by NYS ELAP 198.6) by Tou Si Anothay on 08/08/24
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-Asbestos 15%			
20240726-24413-603-2 603	124081169-12 **Location:** Door Caulk - Grey; 100	***No***	NAD (NOB by NYS ELAP 198.6) by Tou Si Anothay on 08/08/24
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-Asbestos 9.7%			
20240726-24413-608-1 608	124081169-13 **Location:** Fire Caulk - Red; 001	***No***	NAD (NOB by NYS ELAP 198.6) by Tou Si Anothay on 08/08/24
Analyst Description: Red, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-Asbestos 24%			
20240726-24413-608-2 608	124081169-14 **Location:** Fire Caulk - Red; 001	***No***	NAD (NOB by NYS ELAP 198.6) by Tou Si Anothay on 08/08/24
Analyst Description: Red, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-Asbestos 18%			

See Reporting notes on last page

PLM Bulk Asbestos Report

24413; RMF Engineering/Elizabeth Nolder; SUNY Binghampton Electrical; 4400 Vestal Parkway, East Binghampton, NY 13902; Bartle Library

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Reporting Notes:

Analyzed by: Tou Si Anothay

Reviewed by: Cory M. Parnell

Date: 8/8/2024

*NAD = no asbestos detected, Detection Limit <1%, Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; "Present" or NVA = "No Visible Asbestos" are observations made during a qualitative analysis; NA = not analyzed; NA/PS = not analyzed / positive stop; PLM Bulk Asbestos Analysis using Meiji, Model MT 6120 microscope, Serial #1900011, by EPA 600/R-93/116 per 40 CFR 763 (NVLAP Lab Code 101904-0) and ELAP PLM Analysis Protocol 198.1 for New York friable samples which includes quantitation of any vermiculite observed (198.6 for NOB samples) or EPA 400 pt ct by EPA 600/M4-82-020 (NYSDOH ELAP Lab # 10984); CA ELAP Lab # 2508; Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. NAD or Trace results by PLM are inconclusive, TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full without the approval of the laboratory. This PLM report relates ONLY to the items tested.

Client Name: Encorus Group Engineering P.C.

Table I

Summary of Bulk Asbestos Analysis Results by NYS ELAP 198.4

24413; RMF Engineering/Elizabeth Nolder; SUNY Binghampton Electrical; 4400 Vestal Parkway, East Binghampton, NY 13902; Bartle Library

AmeriSci Sample #	Client Sample#	HG Area	NOB Sample Weight (gram)	NOB Heat Sensitive Organic %	NOB Acid Soluble Inorganic %	NOB Insoluble Non-Asbestos Inorganic %	** Asbestos % by PLM/DS	** Asbestos % by TEM
01.1	20240726-24413-200.1/.2-1	200.1/.2	----	----	----	----	NAD	NA
Location: EIFS Skim/Base Coat; 100								
01.2	20240726-24413-200.1/.2-1	200.1/.2	----	----	----	----	NAD	NA
Location: EIFS Skim/Base Coat; 100								
02.1	20240726-24413-200.1/.2-2	200.1/.2	----	----	----	----	NAD	NA
Location: EIFS Skim/Base Coat; 100								
02.2	20240726-24413-200.1/.2-2	200.1/.2	----	----	----	----	NAD	NA
Location: EIFS Skim/Base Coat; 100								
03.1	20240726-24413-200.1/.2-3	200.1/.2	----	----	----	----	NAD	NA
Location: EIFS Skim/Base Coat; 100								
03.2	20240726-24413-200.1/.2-3	200.1/.2	----	----	----	----	NAD	NA
Location: EIFS Skim/Base Coat; 100								
04	20240726-24413-500-1	500	----	----	----	----	NAD	NA
Location: Spray On Fireproofing; 001								
05	20240726-24413-500-2	500	----	----	----	----	NAD	NA
Location: Spray On Fireproofing; 001								
06	20240726-24413-500-3	500	----	----	----	----	NAD	NA
Location: Spray On Fireproofing; 001								
07	20240726-24413-600-1	600	0.597	45.2	17.2	37.6	NAD	NAD
Location: Fire Caulk - Red; 300								
08	20240726-24413-600-2	600	0.474	45.0	25.4	29.6	NAD	NAD
Location: Fire Caulk - Red; 300								
09	20240726-24413-602-1	602	1.081	55.8	2.1	42.1	NAD	NAD
Location: Fire Putty - Red; 001								
10	20240726-24413-602-2	602	0.951	57.0	1.2	41.8	NAD	NAD
Location: Fire Putty - Red; 001								
11	20240726-24413-603-1	603	0.711	44.3	40.2	15.4	NAD	NAD
Location: Door Caulk - Grey; 100								
12	20240726-24413-603-2	603	0.625	44.6	45.7	9.7	NAD	NAD
Location: Door Caulk - Grey; 100								
13	20240726-24413-608-1	608	0.823	45.3	30.3	24.4	NAD	NAD
Location: Fire Caulk - Red; 001								

See Reporting notes on last page

Client Name: Encorus Group Engineering P.C.

Table I
Summary of Bulk Asbestos Analysis Results by NYS ELAP 198.4

24413; RMF Engineering/Elizabeth Nolder; SUNY Binghampton Electrical; 4400 Vestal Parkway, East Binghampton, NY 13902; Bartle Library

AmeriSci Sample #	Client Sample#	HG Area	NOB Sample Weight (gram)	NOB Heat Sensitive Organic %	NOB Acid Soluble Inorganic %	NOB Insoluble Non-Asbestos Inorganic %	** Asbestos % by PLM/DS	** Asbestos % by TEM
14	20240726-24413-608-2	608	0.490	44.0	37.6	18.3	NAD	NAD
Location: Fire Caulk - Red; 001								

Analyzed by: Cory M. Parnell

Reviewed by: Cory M. Parnell

Date: 8/8/2024

Semi-Quantitative Analysis: NAD = no asbestos detected; NA = not analyzed; NA/PS = not analyzed due to positive stop; Trace = <1%; PLM analysis by EPA 600/R-93/116 per 40 CFR 763 (NVLAP Lab Code 101904-0) or NY ELAP 198.1 for New York friable samples which includes quantitation of any vermiculite observed (198.6 for NOB samples) or EPA 400 pt ct by EPA 600/M4-82-020 (NY ELAP Lab # 10984); TEM prep by EPA 600/R-93/116 Section 2.3 (analysis by Section 2.5, not covered by NVLAP Bulk accreditation); or NY ELAP 198.4 for New York NOB samples (NY ELAP Lab # 10984). Analysis using Jeol, Model JEM-100CX II microscope, Serial #156147-247. ** Warning Notes: Consider PLM fiber diameter limitation, only TEM will resolve fibers <0.25 micrometers in diameter. TEM bulk analysis is representative of the fine grained matrix material and may not be representative of non-uniformly dispersed debris, soils or other heterogeneous materials for which a combination PLM/TEM evaluation is recommended; Quantitation for beginning weights of <0.1 grams should be considered as qualitative only.

ENCORUS GROUP

124081169

23 Mechanic Street, Springville, NY 14141 | 295 Main Street, West Seneca, NY 14224 | encorus.com 716.592.3980

Bulk Chain of Custody

Email Report to:	labresults@encorus.com		**Turn Around Time**
			☐ RUSH
Client/Contact:	RMF Engineering		☐ 24 Hour
	Elizabeth Nolder		☐ 48 Hour
Project/Location:	SUNY Binghampton Electrical		☑ 72 Hour
	4400 Vestal Parkway East Binghampton, NY 13902		☐ 5 Day
Project No.:	24413	Bartle Library	Other:

Analysis Requested:		**Protocol:**		**Notes:**
PLM	☑	☑	Negative PLM to TEM per ELAP protocols	
TEM	☑	☑	Positive Stop by HAN-ID#	
PCB	☐	☑	Layered analysis requested for: 200.1/.2	
Other:		11	Total # of Samples	

Sample Name					
Date	**Project**	**HAN**	**ID#**	**Description of Sample**	**Location of Sample**
20240726	24413	200.1/.2	1	EIFS Skim/Base Coat	100
20240726	24413	200.1/.2	2	EIFS Skim/Base Coat	100
20240726	24413	200.1/.2	3	EIFS Skim/Base Coat	100
20240726	24413	500	1	Spray on Fireproofing	001
20240726	24413	500	2	Spray on Fireproofing	001
20240726	24413	500	3	Spray on Fireproofing	001
20240726	24413	600	1	Fire Caulk - Red	300
20240726	24413	600	2	Fire Caulk - Red	300
20240726	24413	602	1	Fire Putty - Red	001
20240726	24413	602	2	Fire Putty - Red	001
20240726	24413	603	1	Door Caulk - Grey	100
20240726	24413	603	2	Door Caulk - Grey	100
20240726	24413	608	1	Fire Caulk - Red	001
20240726	24413	608	2	Fire Caulk - Red	001
			1		
			2		
			3		
			4		
			5		
			6		
			7		
			8		
			9		

Received

AUG 05 2024

Sampled by: Aaron Place — Date: 07/26/2024

Relinquished by: Aaron Place — Date + Time: 08/02/2024 1200

Received by: — Date + Time:

ENCORUS GROUP

23 Mechanic Street
Springville, NY 14141

295 Main Street
West Seneca, NY 14224

encorus.com
716.592.3980

B. Bartle Library Tower

AmeriSci Richmond
13635 GENITO ROAD
MIDLOTHIAN, VIRGINIA 23112
TEL: 8047631200 FAX: 8047631800

August 23, 2024

Encorus Group Engineering P.C.
Attn: Sean Fitzgerald
350 Elmwood Ave
Buffalo, NY 14222

RE: Encorus Group Engineering P.C.
Job Number 124081742
P.O. #24413
24413; RMF Engineering/Elizabeth Nolder; SUNY Binghamton Electrical/4400 Vestal Parkway East
Binghamton, NY 13902

Dear Sean Fitzgerald:

Enclosed are the results of Asbestos Analysis - Bulk Protocol of the following Encorus Group Engineering P.C. samples, received at AmeriSci on Tuesday, August 20, 2024, for a 3 day turnaround:

Sample ID 20240815-24413-100.1-1 through 20240815-24413-607-2

The 26 samples, placed in zip lock bag, were shipped to AmeriSci via Fed Ex 7301 7892 1520 B 955. Encorus Group Engineering P.C. requested ELAP PLM/TEM analysis of these samples.

The results of the analyses which were performed under NYSDOH ELAP Lab Certification # 10984 following ELAP 198.4 TEM guidelines are presented within the Summary Table of this report. The presence of matrix reduction data in the Summary Table normally indicates an NOB sample. For NOB samples the individual matrix reduction and TEM analysis results are listed in Table I. Complete PLM results for individual samples analyzed by ELAP 198.1 (friable) and ELAP 198.6 (NOB) are presented in the PLM Bulk Asbestos Report. This combined report relates ONLY to sample analysis expressed as percent composition by weight and percent asbestos. This report must not be used to claim product endorsement or approval by these laboratories, NVLAP, ELAP or any other associated agency. The National Institute of Standards and Technology accreditation requirements, mandate that this report must not be reproduced, except in full without the written approval of the laboratory. This report may contain specific data not covered by NVLAP or ELAP accreditations respectively, if so identified in relevant footnotes.

AmeriSci appreciates this opportunity to serve your organization. Please contact us for any further assistance or with any questions.

Sincerely,

Cory M. Parnell

Laboratory Director | Authorized Signatory

AmeriSci Richmond
13635 GENITO ROAD
MIDLOTHIAN, VIRGINIA 23112
TEL: (804) 763-1200 • FAX: (804) 763-1800

PLM Bulk Asbestos Report

Encorus Group Engineering P.C.
Attn: Sean Fitzgerald
350 Elmwood Ave

Buffalo, NY 14222

Date Received 08/20/24
Date Examined 08/21/24
ELAP # 10984
AmeriSci Job # 124081742
P.O. #

RE: 24413; RMF Engineering/Elizabeth Nolder; SUNY Binghamton Electrical/4400 Vestal Parkway East Binghamton, NY 13902

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
20240815-24413-100.1-1 100.1 **Location:** Plaster Skim Coat; 101	124081742-01	***No***	NAD (by NYS ELAP 198.1) by William M. Dunstan on 08/21/24
Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100%			
20240815-24413-100.1-2 100.1 **Location:** Plaster Skim Coat; 101	124081742-02	***No***	NAD (by NYS ELAP 198.1) by William M. Dunstan on 08/22/24
Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100%			
20240815-24413-100.2-1 100.2 **Location:** Plaster Base Coat; 101	124081742-03	***No***	NAD (by NYS ELAP 198.1) by William M. Dunstan on 08/22/24
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100%			
20240815-24413-100.2-2 100.2 **Location:** Plaster Base Coat; 101	124081742-04	***No***	NAD (by NYS ELAP 198.1) by William M. Dunstan on 08/22/24
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100%			
20240815-24413-101.1-1 101.1 **Location:** Gypsum Board; 101	124081742-05	***No***	NAD (by NYS ELAP 198.1) by William M. Dunstan on 08/22/24
Analyst Description: Brown/White, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 2.0%, Fibrous glass 2.0%, Non-fibrous 96%			

See Reporting notes on last page

PLM Bulk Asbestos Report

24413; RMF Engineering/Elizabeth Nolder; SUNY Binghamton
Electrical/4400 Vestal Parkway East Binghamton, NY 13902

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
20240815-24413-101.1-2 101.1	124081742-06 **Location:** Gypsum Board; 101	***No***	NAD (by NYS ELAP 198.1) by William M. Dunstan on 08/22/24
Analyst Description: Brown/White, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 2.0%, Fibrous glass 2.0%, Non-fibrous 96%			
20240815-24413-101.2-1 101.2	124081742-07 **Location:** Joint Compound; 101	***No***	NAD (by NYS ELAP 198.1) by William M. Dunstan on 08/22/24
Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100%			
20240815-24413-101.2-2 101.2	124081742-08 **Location:** Joint Compound; 101	***No***	NAD (by NYS ELAP 198.1) by William M. Dunstan on 08/22/24
Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100%			
20240815-24413-201-1 201	124081742-09 **Location:** 1'x1' Ceiling Tile; 102	***No***	NAD (NOB by NYS ELAP 198.6) by William M. Dunstan on 08/22/24
Analyst Description: Tan, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 29% **Comment:** Heat Sensitive (organic): 13.6%; Acid Soluble (inorganic): 56.9%; Inert (Non-asbestos): 29.5%			
20240815-24413-201-2 201	124081742-10 **Location:** 1'x1' Ceiling Tile; 102	***No***	NAD (NOB by NYS ELAP 198.6) by William M. Dunstan on 08/22/24
Analyst Description: Tan, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 31% **Comment:** Heat Sensitive (organic): 13.2%; Acid Soluble (inorganic): 55.8%; Inert (Non-asbestos): 31.1%			

See Reporting notes on last page

PLM Bulk Asbestos Report

24413; RMF Engineering/Elizabeth Nolder; SUNY Binghamton
Electrical/4400 Vestal Parkway East Binghamton, NY 13902

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
20240815-24413-202-1 202	124081742-11 **Location:** 2'x2' Ceiling Tile - Rough/Fissures; 103	***No***	NAD (NOB by NYS ELAP 198.6) by William M. Dunstan on 08/22/24

Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-fibrous 3.3%
Comment: Heat Sensitive (organic): 22.3%; Acid Soluble (inorganic): 74.5%; Inert (Non-asbestos): 3.3%

20240815-24413-202-2 202	124081742-12 **Location:** 2'x2' Ceiling Tile - Rough/Fissures; 103	***No***	NAD (NOB by NYS ELAP 198.6) by William M. Dunstan on 08/22/24

Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-fibrous 9.1%
Comment: Heat Sensitive (organic): 13.0%; Acid Soluble (inorganic): 77.9%; Inert (Non-asbestos): 9.1%

20240815-24413-203-1 203	124081742-13 **Location:** 2'x2' Ceiling Tile - Dots; 104	***No***	NAD (NOB by NYS ELAP 198.6) by William M. Dunstan on 08/22/24

Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-fibrous 33%
Comment: Heat Sensitive (organic): 13.8%; Acid Soluble (inorganic): 52.4%; Inert (Non-asbestos): 33.8%

20240815-24413-203-2 203	124081742-14 **Location:** 2'x2' Ceiling Tile - Dots; 104	***No***	NAD (NOB by NYS ELAP 198.6) by William M. Dunstan on 08/22/24

Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-fibrous 36%
Comment: Heat Sensitive (organic): 13.9%; Acid Soluble (inorganic): 49.8%; Inert (Non-asbestos): 36.3%

20240815-24413-301.2-1 301.2	124081742-15 **Location:** Associated Mastic - Black; 102	***No***	NAD (NOB by NYS ELAP 198.6) by William M. Dunstan on 08/22/24

Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-fibrous 17%
Comment: Heat Sensitive (organic): 68.3%; Acid Soluble (inorganic): 14.2%; Inert (Non-asbestos): 17.6%

See Reporting notes on last page

PLM Bulk Asbestos Report

24413; RMF Engineering/Elizabeth Nolder; SUNY Binghamton
Electrical/4400 Vestal Parkway East Binghamton, NY 13902

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
20240815-24413-301.2-2 301.2	124081742-16 **Location:** Associated Mastic - Black; 102	***No***	NAD (NOB by NYS ELAP 198.6) by William M. Dunstan on 08/22/24

Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-fibrous 15%
Comment: Heat Sensitive (organic): 71.0%; Acid Soluble (inorganic): 13.1%; Inert (Non-asbestos): 15.9%

20240815-24413-302.1-1 302.1	124081742-17 **Location:** 12"x12" Floor tile - Tan w/Beige Chip; 103	***No***	NAD (NOB by NYS ELAP 198.6) by William M. Dunstan on 08/22/24

Analyst Description: Beige, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-fibrous 56%
Comment: Heat Sensitive (organic): 23.1%; Acid Soluble (inorganic): 20.3%; Inert (Non-asbestos): 56.7%

20240815-24413-302.1-2 302.1	124081742-18 **Location:** 12"x12" Floor tile - Tan w/Beige Chip; 103	***No***	NAD (NOB by NYS ELAP 198.6) by William M. Dunstan on 08/22/24

Analyst Description: Beige, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-fibrous 55%
Comment: Heat Sensitive (organic): 23.6%; Acid Soluble (inorganic): 21.1%; Inert (Non-asbestos): 55.3%

20240815-24413-302.2-1 302.2	124081742-19 **Location:** Associated Mastic; 103	***No***	NAD (NOB by NYS ELAP 198.6) by William M. Dunstan on 08/22/24

Analyst Description: Tan, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-fibrous 22%
Comment: Heat Sensitive (organic): 34.2%; Acid Soluble (inorganic): 42.9%; Inert (Non-asbestos): 22.9%

20240815-24413-302.2-2 302.2	124081742-20 **Location:** Associated Mastic; 103	***No***	NAD (NOB by NYS ELAP 198.6) by William M. Dunstan on 08/22/24

Analyst Description: Tan, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-fibrous 17%
Comment: Heat Sensitive (organic): 34.1%; Acid Soluble (inorganic): 48.6%; Inert (Non-asbestos): 17.3%

See Reporting notes on last page

PLM Bulk Asbestos Report

24413; RMF Engineering/Elizabeth Nolder; SUNY Binghamton
Electrical/4400 Vestal Parkway East Binghamton, NY 13902

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
20240815-24413-304-1 304	124081742-21 **Location:** Carpet Square Mastic; 101	***No***	NAD (NOB by NYS ELAP 198.6) by William M. Dunstan on 08/22/24

Analyst Description: Brown, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-fibrous 9.3%
Comment: Heat Sensitive (organic): 65.5%; Acid Soluble (inorganic): 25.2%; Inert (Non-asbestos): 9.3%

20240815-24413-304-2 304	124081742-22 **Location:** Carpet Square Mastic; 101	***No***	NAD (NOB by NYS ELAP 198.6) by William M. Dunstan on 08/22/24

Analyst Description: Brown, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-fibrous 18%
Comment: Heat Sensitive (organic): 57.6%; Acid Soluble (inorganic): 24.2%; Inert (Non-asbestos): 18.3%

20240815-24413-604-1 604	124081742-23 **Location:** Cove Base Mastic - Brown; 102	***No***	NAD (NOB by NYS ELAP 198.6) by William M. Dunstan on 08/22/24

Analyst Description: Beige, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-fibrous 28%
Comment: Heat Sensitive (organic): 48.6%; Acid Soluble (inorganic): 23.1%; Inert (Non-asbestos): 28.3%

20240815-24413-604-2 604	124081742-24 **Location:** Cove Base Mastic - Brown; 102	***No***	NAD (NOB by NYS ELAP 198.6) by William M. Dunstan on 08/22/24

Analyst Description: Beige, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-fibrous 22%
Comment: Heat Sensitive (organic): 50.8%; Acid Soluble (inorganic): 26.8%; Inert (Non-asbestos): 22.5%

20240815-24413-607-1 607	124081742-25 **Location:** Cove Base Mastic - Beige; 101	***No***	NAD (NOB by NYS ELAP 198.6) by William M. Dunstan on 08/22/24

Analyst Description: Beige, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-fibrous 35%
Comment: Heat Sensitive (organic): 33.8%; Acid Soluble (inorganic): 30.9%; Inert (Non-asbestos): 35.3%

See Reporting notes on last page

PLM Bulk Asbestos Report

24413; RMF Engineering/Elizabeth Nolder; SUNY Binghamton
Electrical/4400 Vestal Parkway East Binghamton, NY 13902

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
20240815-24413-607-2	124081742-26	***No***	NAD
607	**Location:** Cove Base Mastic **-** Beige; 101		(NOB by NYS ELAP 198.6) by William M. Dunstan on 08/22/24

Analyst Description: Beige, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-fibrous 39%
Comment: Heat Sensitive (organic): 35.8%; Acid Soluble (inorganic): 24.8%; Inert (Non-asbestos): 39.5%

Reporting Notes:

Analyzed by: William M. Dunstan
Date: 8/21/2024

Reviewed by: Cory M. Parnell

*NAD = no asbestos detected, Detection Limit <1%, Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; "Present" or NVA = "No Visible Asbestos" are observations made during a qualitative analysis; NA = not analyzed; NA/PS = not analyzed / positive stop; PLM Bulk Asbestos Analysis using Olympus, Model BH-2 microscope, Serial #233533, by EPA 600/R-93/116 per 40 CFR 763 (NVLAP Lab Code 101904-0) and ELAP PLM Analysis Protocol 198.1 for New York friable samples which includes quantitation of any vermiculite observed (198.6 for NOB samples) or EPA 400 pt ct by EPA 600/M4-82-020 (NYSDOH ELAP Lab # 10984); CA ELAP Lab # 2508; Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. NAD or Trace results by PLM are inconclusive, TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full without the approval of the laboratory. This PLM report relates ONLY to the items tested.

Client Name: Encorus Group Engineering P.C.

Table I
Summary of Bulk Asbestos Analysis Results by NYS ELAP 198.4

24413; RMF Engineering/Elizabeth Nolder; SUNY Binghamton Electrical/4400 Vestal Parkway East Binghamton, NY 13902

AmeriSci Sample #	Client Sample#	HG Area	NOB Sample Weight (gram)	NOB Heat Sensitive Organic %	NOB Acid Soluble Inorganic %	NOB Insoluble Non-Asbestos Inorganic %	** Asbestos % by PLM/DS	** Asbestos % by TEM
01	20240815-24413-100.1-1	100.1	----	----	----	----	NAD	NA
Location: Plaster Skim Coat; 101								
02	20240815-24413-100.1-2	100.1	----	----	----	----	NAD	NA
Location: Plaster Skim Coat; 101								
03	20240815-24413-100.2-1	100.2	----	----	----	----	NAD	NA
Location: Plaster Base Coat; 101								
04	20240815-24413-100.2-2	100.2	----	----	----	----	NAD	NA
Location: Plaster Base Coat; 101								
05	20240815-24413-101.1-1	101.1	----	----	----	----	NAD	NA
Location: Gypsum Board; 101								
06	20240815-24413-101.1-2	101.1	----	----	----	----	NAD	NA
Location: Gypsum Board; 101								
07	20240815-24413-101.2-1	101.2	----	----	----	----	NAD	NA
Location: Joint Compound; 101								
08	20240815-24413-101.2-2	101.2	----	----	----	----	NAD	NA
Location: Joint Compound; 101								
09	20240815-24413-201-1	201	0.299	13.6	56.9	29.5	NAD	NAD
Location: 1'x1' Ceiling Tile; 102								
10	20240815-24413-201-2	201	0.205	13.2	55.8	31.1	NAD	NAD
Location: 1'x1' Ceiling Tile; 102								
11	20240815-24413-202-1	202	0.256	22.3	74.5	3.3	NAD	NAD
Location: 2'x2' Ceiling Tile - Rough/Fissures; 103								
12	20240815-24413-202-2	202	0.475	13.0	77.9	9.1	NAD	NAD
Location: 2'x2' Ceiling Tile - Rough/Fissures; 103								
13	20240815-24413-203-1	203	0.252	13.8	52.4	33.8	NAD	NAD
Location: 2'x2' Ceiling Tile - Dots; 104								
14	20240815-24413-203-2	203	0.253	13.9	49.8	36.3	NAD	NAD
Location: 2'x2' Ceiling Tile - Dots; 104								
15	20240815-24413-301.2-1	301.2	0.366	68.3	14.2	17.6	NAD	NAD
Location: Associated Mastic - Black; 102								
16	20240815-24413-301.2-2	301.2	0.427	71.0	13.1	15.9	NAD	NAD
Location: Associated Mastic - Black; 102								

See Reporting notes on last page

Table I
Summary of Bulk Asbestos Analysis Results by NYS ELAP 198.4

24413; RMF Engineering/Elizabeth Nolder; SUNY Binghamton Electrical/4400 Vestal Parkway East Binghamton, NY 13902

AmeriSci Sample #	Client Sample#	HG Area	NOB Sample Weight (gram)	NOB Heat Sensitive Organic %	NOB Acid Soluble Inorganic %	NOB Insoluble Non-Asbestos Inorganic %	** Asbestos % by PLM/DS	** Asbestos % by TEM
17	20240815-24413-302.1-1	302.1	0.665	23.1	20.3	56.7	NAD	NAD
Location: 12"x12" Floor tile - Tan w/Beige Chip; 103								
18	20240815-24413-302.1-2	302.1	0.576	23.6	21.1	55.3	NAD	NAD
Location: 12"x12" Floor tile - Tan w/Beige Chip; 103								
19	20240815-24413-302.2-1	302.2	0.441	34.2	42.9	22.9	NAD	NAD
Location: Associated Mastic; 103								
20	20240815-24413-302.2-2	302.2	0.286	34.1	48.6	17.3	NAD	NAD
Location: Associated Mastic; 103								
21	20240815-24413-304-1	304	0.803	65.5	25.2	9.3	NAD	NAD
Location: Carpet Square Mastic; 101								
22	20240815-24413-304-2	304	0.752	57.6	24.2	18.3	NAD	NAD
Location: Carpet Square Mastic; 101								
23	20240815-24413-604-1	604	0.506	48.6	23.1	28.3	NAD	NAD
Location: Cove Base Mastic - Brown; 102								
24	20240815-24413-604-2	604	0.719	50.8	26.8	22.5	NAD	NAD
Location: Cove Base Mastic - Brown; 102								
25	20240815-24413-607-1	607	0.790	33.8	30.9	35.3	NAD	NAD
Location: Cove Base Mastic - Beige; 101								
26	20240815-24413-607-2	607	1.168	35.8	24.8	39.5	NAD	NAD
Location: Cove Base Mastic - Beige; 101								

Analyzed by: Cory M. Parnell

Reviewed by: Cory M. Parnell

Date: 8/23/2024

Semi-Quantitative Analysis: NAD = no asbestos detected; NA = not analyzed; NA/PS = not analyzed due to positive stop; Trace = <1%; PLM analysis by EPA 600/R-93/116 per 40 CFR 763 (NVLAP Lab Code 101904-0) or NY ELAP 198.1 for New York friable samples which includes quantitation of any vermiculite observed (198.6 for NOB samples) or EPA 400 pt ct by EPA 600/M4-82-020 (NY ELAP Lab # 10984); TEM prep by EPA 600/R-93/116 Section 2.3 (analysis by Section 2.5, not covered by NVLAP Bulk accreditation); or NY ELAP 198.4 for New York NOB samples (NY ELAP Lab # 10984). Analysis using Jeol, Model JEM-100CX II microscope, Serial #156147-247. ** Warning Notes: Consider PLM fiber diameter limitation, only TEM will resolve fibers <0.25 micrometers in diameter. TEM bulk analysis is representative of the fine grained matrix material and may not be representative of non-uniformly dispersed debris, soils or other heterogeneous materials for which a combination PLM/TEM evaluation is recommended; Quantitation for beginning weights of <0.1 grams should be considered as qualitative only.

124081742

ENCORUS GROUP

23 Mechanic Street | 295 Main Street | encorus.com
Springville, NY 14141 | West Seneca, NY 14224 | 716.592.3980

Bulk Chain of Custody

Email Report to:	labresults@encorus.com	**Turn Around Time**
		☐ RUSH
Client/Contact:	RMF Engineering	☐ 24 Hour
	Elizabeth Nolder	☐ 48 Hour
Project/Location:	SUNY Binghamton Electrical	☑ 72 Hour
	4400 Vestal Parkway East Binghamton, NY 13902	☐ 5 Day
Project No.:	24413 Bartle Library	Other:

Analysis Requested:		**Protocol:**		**Notes:**
PLM	☑	☑	Negative PLM to TEM per ELAP protocols	
TEM	☑	☑	Positive Stop by HAN-ID#	
PCB	☐	☑		
Other:		**26**	Total # of Samples	

Sample Name					
Date	**Project**	**HAN**	**ID#**	**Description of Sample**	**Location of Sample**
20240815	24413	100.1	1	Plaster Skim Coat	101
20240815	24413	100.1	2	Plaster Skim Coat	101
20240815	24413	100.2	3	Plaster Base Coat	101
20240815	24413	100.2	4	Plaster Base Coat	101
20240815	24413	101.1	5	Gypsum Board	101
20240815	24413	101.1	6	Gypsum Board	101
20240815	24413	101.2	7	Joint Compound	101
20240815	24413	101.2	8	Joint Compound	101
20240815	24413	201	9	1' x 1' Ceiling Tile	102
20240815	24413	201	10	1' x 1' Ceiling Tile	102
20240815	24413	202	11	2' x 2' Ceiling Tile - Rough/Fissures	103
20240815	24413	202	12	2' x 2' Ceiling Tile - Rough/Fissures	103
20240815	24413	203	13	2' x 2' Ceiling Tile - Dots	104
20240815	24413	203	14	2' x 2' Ceiling Tile - Dots	104
20240815	24413	301.2	1	Associated Mastic - Black	102
20240815	24413	301.2	2	Associated Mastic - Black	102
20240815	24413	302.1	1	12" x 12" Floor Tile - Tan w/ Beige Chip	103
20240815	24413	302.1	2	12" x 12" Floor Tile - Tan w/ Beige Chip	103
20240815	24413	302.2	1	Associated Mastic	103
20240815	24413	302.2	2	Associated Mastic	103
20240815	24413	304	1	Carpet Square Mastic	101
20240815	24413	304	2	Carpet Square Mastic	101
20240815	24413	604	1	Cove Base Mastic - Brown	102

Received

Sampled by: David Richardson — Date: 08/15/2024
Relinquished by: David Richardson — Date + Time: 08/19/2024 1100
Received by: — Date + Time: AUG 20 2024

ENCORUS GROUP

23 Mechanic Street
Springville, NY 14141

295 Main Street
West Seneca, NY 14224

encorus.com
716.592.3980

124081742

Bulk Chain of Custody

20240815	24413	604	2	Cove Base Mastic - Brown	102
20240815	24413	607	1	Cove Base Mastic - Beige	101
20240815	24413	607	2	Cove Base Mastic - Beige	101
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			34		
			35		

Received
AUG 20 2024

Sampled by: David Richardson
Relinquished by: David Richardson
Received by:

Date: 08/15/2024
Date + Time: 08/19/2024 1100
Date + Time:

PHOENIX
Environmental Laboratories, Inc.

Tuesday, August 13, 2024

Attn:
Encorus Group Engineering, P.C
25 Mechanic Street
Springville, NY 14141

Project ID: SUNY BINGHAMPTON ELECTRICAL
SDG ID: GCR33509
Sample ID#s: CR33509

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301

PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Sample Id Cross Reference

August 13, 2024

SDG I.D.: GCR33509

Project ID: SUNY BINGHAMPTON ELECTRICAL

Client Id	Lab Id	Matrix
20240726 24413 603 1	CR33509	CAULK

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ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

August 13, 2024

FOR: Attn:
Encorus Group Engineering, P.C
25 Mechanic Street
Springville, NY 14141

Sample Information		Custody Information		Date	Time
Matrix:	CAULK	Collected by:	AP	07/26/24	
Location Code:	ENCORUS	Received by:	SR1	08/05/24	10:00
Rush Request:	5 Day	Analyzed by:	see "By" below		
P.O.#:	24413				

Laboratory Data

SDG ID: GCR33509
Phoenix ID: CR33509

Project ID: SUNY BINGHAMPTON ELECTRICAL
Client ID: 20240726 24413 603 1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Caulk Extraction for PCB	Completed				08/09/24	C/A	SW3545A
Polychlorinated Biphenyls							
PCB-1016	ND	0.93	mg/Kg	2	08/12/24	SC	SW8082A
PCB-1221	ND	0.93	mg/Kg	2	08/12/24	SC	SW8082A
PCB-1232	ND	0.93	mg/Kg	2	08/12/24	SC	SW8082A
PCB-1242	ND	0.93	mg/Kg	2	08/12/24	SC	SW8082A
PCB-1248	ND	0.93	mg/Kg	2	08/12/24	SC	SW8082A
PCB-1254	1.5	0.93	mg/Kg	2	08/12/24	SC	SW8082A
PCB-1260	ND	0.93	mg/Kg	2	08/12/24	SC	SW8082A
PCB-1262	ND	0.93	mg/Kg	2	08/12/24	SC	SW8082A
PCB-1268	ND	0.93	mg/Kg	2	08/12/24	SC	SW8082A
QA/QC Surrogates							
% DCBP	61		%	2	08/12/24	SC	30 - 150 %
% DCBP (Confirmation)	74		%	2	08/12/24	SC	30 - 150 %
% TCMX	56		%	2	08/12/24	SC	30 - 150 %
% TCMX (Confirmation)	58		%	2	08/12/24	SC	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

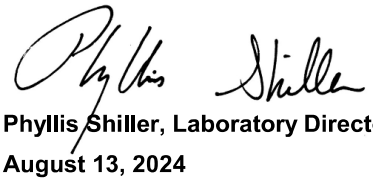
RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Results are reported on an ``as received`` basis, and are not corrected for dry weight.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
August 13, 2024
Reviewed and Released by: Anil Makol, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

QA/QC Report

August 13, 2024

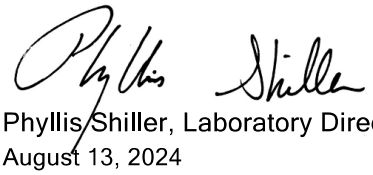
QA/QC Data

SDG I.D.: GCR33509

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 744257 (mg/Kg), QC Sample No: CR31369 10X (CR33509)										
Polychlorinated Biphenyls										
PCB-1016	ND	0.5	92	84	9.1				40 - 140	30
PCB-1221	ND	0.5							40 - 140	30
PCB-1232	ND	0.5							40 - 140	30
PCB-1242	ND	0.5							40 - 140	30
PCB-1248	ND	0.5							40 - 140	30
PCB-1254	ND	0.5							40 - 140	30
PCB-1260	ND	0.5	89	81	9.4				40 - 140	30
PCB-1262	ND	0.5							40 - 140	30
PCB-1268	ND	0.5							40 - 140	30
% DCBP (Surrogate Rec)	85	%	90	83	8.1				30 - 150	30
% DCBP (Surrogate Rec) (Confirm	88	%	93	79	16.3				30 - 150	30
% TCMX (Surrogate Rec)	75	%	83	74	11.5				30 - 150	30
% TCMX (Surrogate Rec) (Confirm	78	%	87	80	8.4				30 - 150	30

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference



Phyllis Shiller, Laboratory Director
August 13, 2024

Tuesday, August 13, 2024

Criteria: None

State: NY

Sample Criteria Exceedances Report

GCR33509 - ENCORUS

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CR33509	$PCB_SMR	PCB-1254	NY / Requested PCB RL /	1500	930	1000	1000	ug/Kg

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Comments

August 13, 2024 SDG I.D.: GCR33509

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

NY Temperature Narration

August 13, 2024

SDG I.D.: GCR33509

The samples in this delivery group were received at 20.3°C.
(Note acceptance criteria for relevant matrices is above freezing up to 6°C)

20.3 ONIC

ENCORUS GROUP

23 Mechanic Street, Springville, NY 14141 | 295 Main Street, West Seneca, NY 14224 | encorus.com 716.592.3980

Bulk Chain of Custody

Email Report to:	Labresults@Encorus.com	**Turn Around Time**
		☐ RUSH
Client/Contact:	RMF Engineering	☐ 24 Hour
	Elizabeth Nolder	☐ 48 Hour
Project/Location:	SUNY Binghampton Electrical	☐ 72 Hour
	4400 Vestal Parkway East Binghampton, NY 13902	☑ 5 Day
Project No.:	24413	Other:

Analysis Requested:		**Protocol:**		**Notes:**
PLM	☐	☐	Negative PLM to TEM per ELAP protocols	
TEM	☐	☐	Positive Stop by HAN-ID#	
PCB	☑	☐	Layered analysis requested for:	
Other:		1	Total # of Samples	

Sample Name Date	Project	HAN	ID#	Description of Sample	Location of Sample
20240726	24413	603	1	Door Caulk - Grey	33509 100
			1		
			2		
			3		
			4		
			5		
			6		
			7		
			8		
			9		
			10		
			11		
			12		
			13		
			14		
			15		
			16		
			17		
			18		
			19		
			20		
			21		
			22		

Sampled by: Aaron Place
Relinquished by: Aaron Place
Received by: Fedex Phoenix Env.

Date : 07/26/2024
Date + Time: 08/02/2024 1200
Date + Time: 8/5/24 10:30

ENCORUS GROUP

23 Mechanic Street
Springville, NY 14141

295 Main Street
West Seneca, NY 14224

encorus.com
716.592.3980

C. Brandywine Hall

AmeriSci Richmond
13635 GENITO ROAD
MIDLOTHIAN, VIRGINIA 23112
TEL: 8047631200 FAX: 8047631800

August 8, 2024

Encorus Group Engineering P.C.
Attn: Sean Fitzgerald
350 Elmwood Ave
Springville, NY 14141

RE: Encorus Group Engineering P.C.
Job Number 124081165
P.O. #24413
24413; RMF Engineering/Elizabeth Nolder; SUNY Binghampton Electrical; 4400 Vestal Parkway, East Binghampton, NY 13902; Brandywine Hall

Dear Sean Fitzgerald:

Enclosed are the results of Asbestos Analysis - Bulk Protocol of the following Encorus Group Engineering P.C. samples, received at AmeriSci on Monday, August 5, 2024, for a 3 day turnaround:

20240725-24413-100.1-1, 20240725-24413-100.1-2, 20240725-24413-100.2-1, 20240725-24413-100.2-2, 20240725-24413-600-1, 20240725-24413-600-2, 20240725-24413-601-1, 20240725-24413-601-2, 20240725-24413-602-1, 20240725-24413-602-2

The 10 samples, placed in zip lock bag, were shipped to AmeriSci via Fed Ex 7301 7895 0115 B 905. Encorus Group Engineering P.C. requested ELAP PLM/TEM analysis of these samples.

The results of the analyses which were performed under NYSDOH ELAP Lab Certification # 10984 following ELAP 198.4 TEM guidelines are presented within the Summary Table of this report. The presence of matrix reduction data in the Summary Table normally indicates an NOB sample. For NOB samples the individual matrix reduction and TEM analysis results are listed in Table I. Complete PLM results for individual samples analyzed by ELAP 198.1 (friable) and ELAP 198.6 (NOB) are presented in the PLM Bulk Asbestos Report. This combined report relates ONLY to sample analysis expressed as percent composition by weight and percent asbestos. This report must not be used to claim product endorsement or approval by these laboratories, NVLAP, ELAP or any other associated agency. The National Institute of Standards and Technology accreditation requirements, mandate that this report must not be reproduced, except in full without the written approval of the laboratory. This report may contain specific data not covered by NVLAP or ELAP accreditations respectively, if so identified in relevant footnotes.

AmeriSci appreciates this opportunity to serve your organization. Please contact us for any further assistance or with any questions.

Sincerely,

Cory M. Parnell

Laboratory Director | Authorized Signatory

AmeriSci Richmond
13635 GENITO ROAD
MIDLOTHIAN, VIRGINIA 23112
TEL: (804) 763-1200 • FAX: (804) 763-1800

PLM Bulk Asbestos Report

Encorus Group Engineering P.C.
Attn: Sean Fitzgerald
350 Elmwood Ave

Springville, NY 14141

Date Received 08/05/24
Date Examined 08/08/24
ELAP # 10984
AmeriSci Job # 124081165
P.O. #
Page 1 **of** 3

RE: 24413; RMF Engineering/Elizabeth Nolder; SUNY Binghampton Electrical; 4400 Vestal Parkway, East Binghampton, NY 13902; Brandywine Hall

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
20240725-24413-100.1-1 100.1 **Location:** Gypsum Board; A115	124081165-01	***No***	NAD (by NYS ELAP 198.1) by Tou Si Anothay on 08/08/24
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 2.0%, Non-fibrous 98%			
20240725-24413-100.1-2 100.1 **Location:** Gypsum Board; A115	124081165-02	***No***	NAD (by NYS ELAP 198.1) by Tou Si Anothay on 08/08/24
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 2.0%, Non-fibrous 98%			
20240725-24413-100.2-1 100.2 **Location:** Joint Compound; A115	124081165-03	***No***	NAD (by NYS ELAP 198.1) by Tou Si Anothay on 08/08/24
Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100%			
20240725-24413-100.2-2 100.2 **Location:** Joint Compound; A115	124081165-04	***No***	NAD (by NYS ELAP 198.1) by Tou Si Anothay on 08/08/24
Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100%			

See Reporting notes on last page

PLM Bulk Asbestos Report

24413; RMF Engineering/Elizabeth Nolder; SUNY Binghampton Electrical; 4400 Vestal Parkway, East Binghampton, NY 13902; Brandywine Hall

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
20240725-24413-600-1 600	124081165-05 **Location:** Cove Base Mastic - Brown; A115	***No***	NAD (NOB by NYS ELAP 198.6) by Tou Si Anothay on 08/08/24

Analyst Description: Brown, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-Asbestos 43%
Comment: Heat Sensitive (organic): 53.7%; Acid Soluble (inorganic): 2.4%; Inert (Non-asbestos): 43.9%

20240725-24413-600-2 600	124081165-06 **Location:** Cove Base Mastic - Brown; A115	***No***	NAD (NOB by NYS ELAP 198.6) by Tou Si Anothay on 08/08/24

Analyst Description: Brown, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-Asbestos 41%
Comment: Heat Sensitive (organic): 51.9%; Acid Soluble (inorganic): 6.3%; Inert (Non-asbestos): 41.8%

20240725-24413-601-1 601	124081165-07 **Location:** Fire Putty - Red; A115	***No***	NAD (NOB by NYS ELAP 198.6) by Tou Si Anothay on 08/08/24

Analyst Description: Red, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-Asbestos 42%
Comment: Heat Sensitive (organic): 57.7%; Acid Soluble (inorganic): 0.4%; Inert (Non-asbestos): 42.0%

20240725-24413-601-2 601	124081165-08 **Location:** Fire Putty - Red; A115	***No***	NAD (NOB by NYS ELAP 198.6) by Tou Si Anothay on 08/08/24

Analyst Description: Red, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-Asbestos 41%
Comment: Heat Sensitive (organic): 57.8%; Acid Soluble (inorganic): 0.8%; Inert (Non-asbestos): 41.4%

20240725-24413-602-1 602	124081165-09 **Location:** Concrete Seam Felt; A115A	***No***	NAD (by NYS ELAP 198.1) by Tou Si Anothay on 08/08/24

Analyst Description: Black, Heterogeneous, Fibrous, Bulk Material
Asbestos Types:
Other Material: Cellulose 95%, Non-fibrous 5.0%

See Reporting notes on last page

PLM Bulk Asbestos Report

24413; RMF Engineering/Elizabeth Nolder; SUNY Binghampton Electrical; 4400 Vestal Parkway, East Binghampton, NY 13902; Brandywine Hall

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
20240725-24413-602-2	124081165-10	***No***	NAD
602	**Location:** Concrete Seam Felt; A115A		(by NYS ELAP 198.1) by Tou Si Anothay on 08/08/24

Analyst Description: Black, Heterogeneous, Fibrous, Bulk Material
Asbestos Types:
Other Material: Cellulose 95%, Non-fibrous 5.0%

Reporting Notes:

Analyzed by: Tou Si Anothay
Date: 8/8/2024

Reviewed by: Cory M. Parnell

*NAD = no asbestos detected, Detection Limit <1%, Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; "Present" or NVA = "No Visible Asbestos" are observations made during a qualitative analysis; NA = not analyzed; NA/PS = not analyzed / positive stop; PLM Bulk Asbestos Analysis using Meiji, Model MT 6130 microscope, Serial #1410298, by EPA 600/R-93/116 per 40 CFR 763 (NVLAP Lab Code 101904-0) and ELAP PLM Analysis Protocol 198.1 for New York friable samples which includes quantitation of any vermiculite observed (198.6 for NOB samples) or EPA 400 pt ct by EPA 600/M4-82-020 (NYSDOH ELAP Lab # 10984); CA ELAP Lab # 2508; Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. NAD or Trace results by PLM are inconclusive, TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full without the approval of the laboratory. This PLM report relates ONLY to the items tested.

Client Name: Encorus Group Engineering P.C.

Table I
Summary of Bulk Asbestos Analysis Results by NYS ELAP 198.4

24413; RMF Engineering/Elizabeth Nolder; SUNY Binghampton Electrical; 4400 Vestal Parkway, East Binghampton, NY 13902; Brandywine Hall

AmeriSci Sample #	Client Sample#	HG Area	NOB Sample Weight (gram)	NOB Heat Sensitive Organic %	NOB Acid Soluble Inorganic %	NOB Insoluble Non-Asbestos Inorganic %	** Asbestos % by PLM/DS	** Asbestos % by TEM
01	20240725-24413-100.1-1	100.1	----	----	----	----	NAD	NA
Location: Gypsum Board; A115								
02	20240725-24413-100.1-2	100.1	----	----	----	----	NAD	NA
Location: Gypsum Board; A115								
03	20240725-24413-100.2-1	100.2	----	----	----	----	NAD	NA
Location: Joint Compound; A115								
04	20240725-24413-100.2-2	100.2	----	----	----	----	NAD	NA
Location: Joint Compound; A115								
05	20240725-24413-600-1	600	0.270	53.7	2.4	43.9	NAD	NAD
Location: Cove Base Mastic - Brown; A115								
06	20240725-24413-600-2	600	0.316	51.9	6.3	41.8	NAD	NAD
Location: Cove Base Mastic - Brown; A115								
07	20240725-24413-601-1	601	1.119	57.7	0.4	42.0	NAD	NAD
Location: Fire Putty - Red; A115								
08	20240725-24413-601-2	601	0.693	57.8	0.8	41.4	NAD	NAD
Location: Fire Putty - Red; A115								
09	20240725-24413-602-1	602	----	----	----	----	NAD	NA
Location: Concrete Seam Felt; A115A								
10	20240725-24413-602-2	602	----	----	----	----	NAD	NA
Location: Concrete Seam Felt; A115A								

Analyzed by: Cory M. Parnell

Reviewed by: Cory M. Parnell

Date: 8/8/2024

Semi-Quantitative Analysis: NAD = no asbestos detected; NA = not analyzed; NA/PS = not analyzed due to positive stop; Trace = <1%; PLM analysis by EPA 600/R-93/116 per 40 CFR 763 (NVLAP Lab Code 101904-0) or NY ELAP 198.1 for New York friable samples which includes quantitation of any vermiculite observed (198.6 for NOB samples) or EPA 400 pt ct by EPA 600/M4-82-020 (NY ELAP Lab # 10984); TEM prep by EPA 600/R-93/116 Section 2.3 (analysis by Section 2.5, not covered by NVLAP Bulk accreditation); or NY ELAP 198.4 for New York NOB samples (NY ELAP Lab # 10984). Analysis using Jeol, Model JEM-100CX II microscope, Serial #156147-247. ** Warning Notes: Consider PLM fiber diameter limitation, only TEM will resolve fibers <0.25 micrometers in diameter. TEM bulk analysis is representative of the fine grained matrix material and may not be representative of non-uniformly dispersed debris, soils or other heterogeneous materials for which a combination PLM/TEM evaluation is recommended; Quantitation for beginning weights of <0.1 grams should be considered as qualitative only.

124081165

ENCORUS GROUP

23 Mechanic Street, Springville, NY 14141 | 295 Main Street, West Seneca, NY 14224 | encorus.com 716.592.3980

Bulk Chain of Custody

Email Report to:	labresults@encorus.com	**Turn Around Time**
		☐ RUSH
Client/Contact:	RMF Engineering	☐ 24 Hour
	Elizabeth Nolder	☐ 48 Hour
Project/Location:	SUNY Binghampton Electrical	☑ 72 Hour
	4400 Vestal Parkway East Binghampton, NY 13902	☐ 5 Day
Project No.:	24413 Brandywine Hall	Other:

Analysis Requested:		**Protocol:**	
PLM	☑	☑	Negative PLM to TEM per ELAP protocols
TEM	☑	☑	Positive Stop by HAN-ID#
PCB	☐	☐	Layered analysis requested for:
Other:		10	Total # of Samples

Notes:

Sample Name					
Date	**Project**	**HAN**	**ID#**	**Description of Sample**	**Location of Sample**
20240725	24413	100.1	1	Gypsum Board	A115
20240725	24413	100.1	2	Gypsum Board	A115
20240725	24413	100.2	1	Joint Compound	A115
20240725	24413	100.2	2	Joint Compound	A115
20240725	24413	600	1	Cove Base Mastic - Brown	A115
20240725	24413	600	2	Cove Base Mastic - Brown	A115
20240725	24413	601	1	Fire Putty - Red	A115
20240725	24413	601	2	Fire Putty - Red	A115
20240725	24413	602	1	Concrete Seam Felt	A115A
20240725	24413	602	2	Concrete Seam Felt	A115A
			1		
			2		
			3		
			4		
			5		
			6		
			7		
			8		
			9		
			10		
			11		
			12		
			13		

Sampled by: Aaron Place
Relinquished by: Aaron Place
Received by:

Date: 07/25/24
Date + Time: 08/02/2024 1200
Date + Time:

Received
AUG 05 2024

ENCORUS GROUP

23 Mechanic Street
Springville, NY 14141

295 Main Street
West Seneca, NY 14224

encorus.com
716.592.3980

D. Cayuga Hall

AmeriSci Richmond
13635 GENITO ROAD
MIDLOTHIAN, VIRGINIA 23112
TEL: 8047631200 FAX: 8047631800

August 6, 2024

Encorus Group Engineering P.C.
Attn: Sean Fitzgerald
350 Elmwood Ave
Springville, NY 14141

RE: Encorus Group Engineering P.C.
Job Number 124081093
P.O. #24413 Cayuga Hall
24413 Cayuga Hall; RMF Engineering/Elizabeth Nolder; SUNY Binghampton Electrical/4400 Vestal Parkway East Binghampton, NY 13902

Dear Sean Fitzgerald:

Enclosed are the results of Asbestos Analysis - Bulk Protocol of the following Encorus Group Engineering P.C. samples, received at AmeriSci on Friday, August 2, 2024, for a 3 day turnaround:

20240724-24413-100.1-1, 20240724-24413-100.2-1, 20240724-24413-200.1-1, 20240724-24413-200.2-1, 20240724-24413-201-1, 20240724-24413-201-2, 20240724-24413-300.1-1, 20240724-24413-300.1-2, 20240724-24413-300.2/3-1, 20240724-24413-300.2/3-2, 20240724-24413-500-1, 20240724-24413-500-2, 20240724-24413-500-3, 20240724-24413-600-1, 20240724-24413-600-2, 20240724-24413-603-1, 20240724-24413-603-2, 20240724-24413-604-1, 20240724-24413-604-2, 20240724-24413-605-1, 20240724-24413-605-2

The 21 samples, placed in zip lock bag, were shipped to AmeriSci via Fed Ex 7301 7895 0284 B 1000. Encorus Group Engineering P.C. requested ELAP PLM/TEM analysis of these samples.

The results of the analyses which were performed under NYSDOH ELAP Lab Certification # 10984 following ELAP 198.4 TEM guidelines are presented within the Summary Table of this report. The presence of matrix reduction data in the Summary Table normally indicates an NOB sample. For NOB samples the individual matrix reduction and TEM analysis results are listed in Table I. Complete PLM results for individual samples analyzed by ELAP 198.1 (friable) and ELAP 198.6 (NOB) are presented in the PLM Bulk Asbestos Report. This combined report relates ONLY to sample analysis expressed as percent composition by weight and percent asbestos. This report must not be used to claim product endorsement or approval by these laboratories, NVLAP, ELAP or any other associated agency. The National Institute of Standards and Technology accreditation requirements, mandate that this report must not be reproduced, except in full without the written approval of the laboratory. This report may contain specific data not covered by NVLAP or ELAP accreditations respectively, if so identified in relevant footnotes.

AmeriSci appreciates this opportunity to serve your organization. Please contact us for any further assistance or with any questions.

Sincerely,

Glenn F. Massey
QA Manager | Authorized Signatory

AmeriSci Richmond
13635 GENITO ROAD
MIDLOTHIAN, VIRGINIA 23112
TEL: (804) 763-1200 • FAX: (804) 763-1800

PLM Bulk Asbestos Report

Encorus Group Engineering P.C.
Attn: Sean Fitzgerald
350 Elmwood Ave

Springville, NY 14141

Date Received 08/02/24
Date Examined 08/06/24
ELAP # 10984

AmeriSci Job # 124081093
P.O. #
Page 1 **of** 5

RE: 24413 Cayuga Hall; RMF Engineering/Elizabeth Nolder; SUNY Binghampton Electrical/4400 Vestal Parkway East Binghampton, NY 13902

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
20240724-24413-100.1-1 100.1 **Location:** Gypsum Board; 103	124081093-01	***No***	NAD (by NYS ELAP 198.1) by William M. Dunstan on 08/06/24
Analyst Description: Brown/White, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 2.0%, Fibrous glass 2.0%, Non-fibrous 96%			
20240724-24413-100.2-1 100.2 **Location:** Joint Compound; 103	124081093-02	***No***	NAD (by NYS ELAP 198.1) by William M. Dunstan on 08/06/24
Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100%			
20240724-24413-200.1-1 200.1 **Location:** Gypsum Board; C103	124081093-03	***No***	NAD (by NYS ELAP 198.1) by William M. Dunstan on 08/06/24
Analyst Description: Brown/White, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 2.0%, Fibrous glass 2.0%, Non-fibrous 96%			
20240724-24413-200.2-1 200.2 **Location:** Joint Compound; C103	124081093-04	***No***	NAD (by NYS ELAP 198.1) by William M. Dunstan on 08/06/24
Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100%			

See Reporting notes on last page

PLM Bulk Asbestos Report

24413 Cayuga Hall; RMF Engineering/Elizabeth Nolder; SUNY Binghampton Electrical/4400 Vestal Parkway East Binghampton, NY 13902

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
20240724-24413-201-1 201	124081093-05 **Location:** 2'x2' Ceiling Tile; C103	***No***	NAD (NOB by NYS ELAP 198.6) by William M. Dunstan on 08/06/24

Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-fibrous 64%
Comment: Heat Sensitive (organic): 17.5%; Acid Soluble (inorganic): 17.7%; Inert (Non-asbestos): 64.9%

20240724-24413-201-2 201	124081093-06 **Location:** 2'x2' Ceiling Tile; C103	***No***	NAD (NOB by NYS ELAP 198.6) by William M. Dunstan on 08/06/24

Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-fibrous 63%
Comment: Heat Sensitive (organic): 18.2%; Acid Soluble (inorganic): 18.4%; Inert (Non-asbestos): 63.4%

20240724-24413-300.1-1 300.1	124081093-07 **Location:** 12"x12" - Floor Tile - White w/Black Chip; C103	***No***	NAD (NOB by NYS ELAP 198.6) by William M. Dunstan on 08/06/24

Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-fibrous 10%
Comment: Heat Sensitive (organic): 14.7%; Acid Soluble (inorganic): 74.6%; Inert (Non-asbestos): 10.7%

20240724-24413-300.1-2 300.1	124081093-08 **Location:** 12"x12" - Floor Tile - White w/Black Chip; C103	***No***	NAD (NOB by NYS ELAP 198.6) by William M. Dunstan on 08/06/24

Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-fibrous 30%
Comment: Heat Sensitive (organic): 14.7%; Acid Soluble (inorganic): 55.1%; Inert (Non-asbestos): 30.2%

20240724-24413-300.2/3-1 300.2/3	124081093-09 **Location:** Associated Mastic/Fused Floor Leveler; C103	***No***	NAD (NOB by NYS ELAP 198.6) by William M. Dunstan on 08/06/24

Analyst Description: Tan, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-fibrous 24%
Comment: Heat Sensitive (organic): 33.5%; Acid Soluble (inorganic): 42.0%; Inert (Non-asbestos): 24.5%

See Reporting notes on last page

PLM Bulk Asbestos Report

24413 Cayuga Hall; RMF Engineering/Elizabeth Nolder; SUNY Binghampton Electrical/4400 Vestal Parkway East Binghampton, NY 13902

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
20240724-24413-300.2/3-2 300.2/3	124081093-10 **Location:** Associated Mastic/Fused Floor Leveler; C103	***No***	NAD (NOB by NYS ELAP 198.6) by William M. Dunstan on 08/06/24
Analyst Description: Tan, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 35% **Comment:** Heat Sensitive (organic): 32.7%; Acid Soluble (inorganic): 31.8%; Inert (Non-asbestos): 35.5%			
20240724-24413-500-1 500	124081093-11 **Location:** Spray-On Fireproofing; C103	***No***	NAD (by NYS ELAP 198.1) by William M. Dunstan on 08/06/24
Analyst Description: White, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Fibrous glass 90%, Non-fibrous 10%			
20240724-24413-500-2 500	124081093-12 **Location:** Spray-On Fireproofing; C103	***No***	NAD (by NYS ELAP 198.1) by William M. Dunstan on 08/06/24
Analyst Description: White, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Fibrous glass 90%, Non-fibrous 10%			
20240724-24413-500-3 500	124081093-13 **Location:** Spray-On Fireproofing; C103	***No***	NAD (by NYS ELAP 198.1) by William M. Dunstan on 08/06/24
Analyst Description: White, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Fibrous glass 90%, Non-fibrous 10%			
20240724-24413-600-1 600	124081093-14 **Location:** Fire Caulk - Red; C103	***No***	NAD (NOB by NYS ELAP 198.6) by William M. Dunstan on 08/06/24
Analyst Description: Red, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 22% **Comment:** Heat Sensitive (organic): 31.0%; Acid Soluble (inorganic): 46.9%; Inert (Non-asbestos): 22.1%			

See Reporting notes on last page

PLM Bulk Asbestos Report

24413 Cayuga Hall; RMF Engineering/Elizabeth Nolder; SUNY Binghampton Electrical/4400 Vestal Parkway East Binghampton, NY 13902

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
20240724-24413-600-2 600	124081093-15 **Location:** Fire Caulk - Red; C103	***No***	NAD (NOB by NYS ELAP 198.6) by William M. Dunstan on 08/06/24

Analyst Description: Red, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-fibrous 7.2%
Comment: Heat Sensitive (organic): 35.8%; Acid Soluble (inorganic): 57.0%; Inert (Non-asbestos): 7.2%

20240724-24413-603-1 603	124081093-16 **Location:** Cove Base Mastic; C103	***No***	NAD (NOB by NYS ELAP 198.6) by William M. Dunstan on 08/06/24

Analyst Description: Yellow, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-fibrous 43%
Comment: Heat Sensitive (organic): 47.6%; Acid Soluble (inorganic): 8.7%; Inert (Non-asbestos): 43.7%

20240724-24413-603-2 603	124081093-17 **Location:** Cove Base Mastic; C103	***No***	NAD (NOB by NYS ELAP 198.6) by William M. Dunstan on 08/06/24

Analyst Description: Yellow, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-fibrous 45%
Comment: Heat Sensitive (organic): 44.0%; Acid Soluble (inorganic): 11.0%; Inert (Non-asbestos): 45.1%

20240724-24413-604-1 604	124081093-18 **Location:** Door Window Glaze - Black; C103	***No***	NAD (NOB by NYS ELAP 198.6) by William M. Dunstan on 08/06/24

Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-fibrous 18%
Comment: Heat Sensitive (organic): 74.5%; Acid Soluble (inorganic): 7.4%; Inert (Non-asbestos): 18.1%

20240724-24413-604-2 604	124081093-19 **Location:** Door Window Glaze - Black; 200	***No***	NAD (NOB by NYS ELAP 198.6) by William M. Dunstan on 08/06/24

Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-fibrous 27%
Comment: Heat Sensitive (organic): 68.3%; Acid Soluble (inorganic): 4.0%; Inert (Non-asbestos): 27.6%

See Reporting notes on last page

PLM Bulk Asbestos Report

24413 Cayuga Hall; RMF Engineering/Elizabeth Nolder; SUNY Binghampton Electrical/4400 Vestal Parkway East Binghampton, NY 13902

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
20240724-24413-605-1 605	124081093-20 **Location:** Door Seam Caulk - Black; C103	***No***	NAD (NOB by NYS ELAP 198.6) by William M. Dunstan on 08/06/24

Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-fibrous 5.8%
Comment: Heat Sensitive (organic): 74.1%; Acid Soluble (inorganic): 20.0%; Inert (Non-asbestos): 5.8%

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
20240724-24413-605-2 605	124081093-21 **Location:** Door Seam Caulk - Black; C103	***No***	NAD (NOB by NYS ELAP 198.6) by William M. Dunstan on 08/06/24

Analyst Description: Black, Heterogeneous, Non-Fibrous,
Asbestos Types:
Other Material: Non-fibrous 5.6%
Comment: Heat Sensitive (organic): 74.5%; Acid Soluble (inorganic): 20.0%; Inert (Non-asbestos): 5.6%

Reporting Notes:

Analyzed by: William M. Dunstan
Date: 8/6/2024

Reviewed by: Glenn F. Massey

*NAD = no asbestos detected, Detection Limit <1%, Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; "Present" or NVA = "No Visible Asbestos" are observations made during a qualitative analysis; NA = not analyzed; NA/PS = not analyzed / positive stop; PLM Bulk Asbestos Analysis using Olympus, Model BH-2 microscope, Serial #233533, by EPA 600/R-93/116 per 40 CFR 763 (NVLAP Lab Code 101904-0) and ELAP PLM Analysis Protocol 198.1 for New York friable samples which includes quantitation of any vermiculite observed (198.6 for NOB samples) or EPA 400 pt ct by EPA 600/M4-82-020 (NYSDOH ELAP Lab # 10984); CA ELAP Lab # 2508; Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. NAD or Trace results by PLM are inconclusive, TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full without the approval of the laboratory. This PLM report relates ONLY to the items tested.

Client Name: Encorus Group Engineering P.C.

Table I

Summary of Bulk Asbestos Analysis Results by NYS ELAP 198.4

24413 Cayuga Hall; RMF Engineering/Elizabeth Nolder; SUNY Binghampton Electrical/4400 Vestal Parkway East Binghampton, NY 13902

AmeriSci Sample #	Client Sample#	HG Area	NOB Sample Weight (gram)	NOB Heat Sensitive Organic %	NOB Acid Soluble Inorganic %	NOB Insoluble Non-Asbestos Inorganic %	** Asbestos % by PLM/DS	** Asbestos % by TEM
01	20240724-24413-100.1-1	100.1	----	----	----	----	NAD	NA
Location: Gypsum Board; 103								
02	20240724-24413-100.2-1	100.2	----	----	----	----	NAD	NA
Location: Joint Compound; 103								
03	20240724-24413-200.1-1	200.1	----	----	----	----	NAD	NA
Location: Gypsum Board; C103								
04	20240724-24413-200.2-1	200.2	----	----	----	----	NAD	NA
Location: Joint Compound; C103								
05	20240724-24413-201-1	201	0.287	17.5	17.7	64.9	NAD	NAD
Location: 2'x2' Ceiling Tile; C103								
06	20240724-24413-201-2	201	0.197	18.2	18.4	63.4	NAD	NAD
Location: 2'x2' Ceiling Tile; C103								
07	20240724-24413-300.1-1	300.1	0.445	14.7	74.6	10.7	NAD	NAD
Location: 12"x12" - Floor Tile - White w/Black Chip; C103								
08	20240724-24413-300.1-2	300.1	0.519	14.7	55.1	30.2	NAD	NAD
Location: 12"x12" - Floor Tile - White w/Black Chip; C103								
09	20240724-24413-300.2/3-1	300.2/3	0.385	33.5	42.0	24.5	NAD	NAD
Location: Associated Mastic/Fused Floor Leveler; C103								
10	20240724-24413-300.2/3-2	300.2/3	0.594	32.7	31.8	35.5	NAD	NAD
Location: Associated Mastic/Fused Floor Leveler; C103								
11	20240724-24413-500-1	500	----	----	----	----	NAD	NA
Location: Spray-On Fireproofing; C103								
12	20240724-24413-500-2	500	----	----	----	----	NAD	NA
Location: Spray-On Fireproofing; C103								
13	20240724-24413-500-3	500	----	----	----	----	NAD	NA
Location: Spray-On Fireproofing; C103								
14	20240724-24413-600-1	600	0.639	31.0	46.9	22.1	NAD	NAD
Location: Fire Caulk - Red; C103								
15	20240724-24413-600-2	600	0.555	35.8	57.0	7.2	NAD	NAD
Location: Fire Caulk - Red; C103								
16	20240724-24413-603-1	603	0.632	47.6	8.7	43.7	NAD	NAD
Location: Cove Base Mastic; C103								

See Reporting notes on last page

Client Name: Encorus Group Engineering P.C.

Table I
Summary of Bulk Asbestos Analysis Results by NYS ELAP 198.4

24413 Cayuga Hall; RMF Engineering/Elizabeth Nolder; SUNY Binghampton Electrical/4400 Vestal Parkway East Binghampton, NY 13902

AmeriSci Sample #	Client Sample#	HG Area	NOB Sample Weight (gram)	NOB Heat Sensitive Organic %	NOB Acid Soluble Inorganic %	NOB Insoluble Non-Asbestos Inorganic %	** Asbestos % by PLM/DS	** Asbestos % by TEM
17	20240724-24413-603-2	603	0.644	44.0	11.0	45.1	NAD	NAD
Location:	Cove Base Mastic; C103							
18	20240724-24413-604-1	604	0.531	74.5	7.4	18.1	NAD	NAD
Location:	Door Window Glaze - Black; C103							
19	20240724-24413-604-2	604	0.996	68.3	4.0	27.6	NAD	NAD
Location:	Door Window Glaze - Black; 200							
20	20240724-24413-605-1	605	0.612	74.1	20.0	5.8	NAD	NAD
Location:	Door Seam Caulk - Black; C103							
21	20240724-24413-605-2	605	0.943	74.5	20.0	5.6	NAD	NAD
Location:	Door Seam Caulk - Black; C103							

Analyzed by: Glenn F. Massey

Reviewed by: Glenn F. Massey

Date: 8/6/2024

Semi-Quantitative Analysis: NAD = no asbestos detected; NA = not analyzed; NA/PS = not analyzed due to positive stop; Trace = <1%; PLM analysis by EPA 600/R-93/116 per 40 CFR 763 (NVLAP Lab Code 101904-0) or NY ELAP 198.1 for New York friable samples which includes quantitation of any vermiculite observed (198.6 for NOB samples) or EPA 400 pt ct by EPA 600/M4-82-020 (NY ELAP Lab # 10984); TEM prep by EPA 600/R-93/116 Section 2.3 (analysis by Section 2.5, not covered by NVLAP Bulk accreditation); or NY ELAP 198.4 for New York NOB samples (NY ELAP Lab # 10984). Analysis using Jeol, Model JEM-100CX II microscope, Serial #156147-247. ** Warning Notes: Consider PLM fiber diameter limitation, only TEM will resolve fibers <0.25 micrometers in diameter. TEM bulk analysis is representative of the fine grained matrix material and may not be representative of non-uniformly dispersed debris, soils or other heterogeneous materials for which a combination PLM/TEM evaluation is recommended; Quantitation for beginning weights of <0.1 grams should be considered as qualitative only.

12408103

1093

ENCORUS GROUP
23 Mechanic Street Springville, NY 14141 | 295 Main Street West Seneca, NY 14224 | encorus.com 716.592.3980

Bulk Chain of Custody

Email Report to:	labresults@encorus.com	**Turn Around Time**
Client/Contact:	RMF Engineering	☐ RUSH
	Elizabeth Nolder	☐ 24 Hour
Project/Location:	SUNY Binghampton Electrical	☐ 48 Hour
	4400 Vestal Parkway East Binghampton, NY 13902	☑ 72 Hour
Project No.:	24413 Cayuga Hall	☐ 5 Day
		Other:

Analysis Requested:		**Protocol:**		**Notes:**
PLM	☑	☑	Negative PLM to TEM per ELAP protocols	
TEM	☑	☑	Positive Stop by HAN-ID#	
PCB	☐	☑	Layered analysis requested for: 300.2/.3	
Other:		19	Total # of Samples	

Sample Name					
Date	**Project**	**HAN**	**ID#**	**Description of Sample**	**Location of Sample**
20240724	24413	100.1	1	Gypsum Board	103
20240724	24413	100.2	1	Joint Compound	103
20240724	24413	200.1	1	Gypsum Board	C103
20240724	24413	200.2	1	Joint Compound	C103
20240724	24413	201	1	2' x 2' Ceiling Tile	C103
20240724	24413	201	2	2' x 2' Ceiling Tile	C103
20240724	24413	300.1	1	12" x 12" - Floor Tile - White w/ Black Chip	C103
20240724	24413	300.1	2	12" x 12" - Floor Tile - White w/ Black Chip	C103
20240724	24413	300.2/.3	1	Associated Mastic/Fused Floor Leveler	C103
20240724	24413	300.2/.3	2	Associated Mastic/Fused Floor Leveler	C103
20240724	24413	500	1	Spray On Fireproofing	C103
20240724	24413	500	2	Spray On Fireproofing	C103
20240724	24413	500	3	Spray On Fireproofing	C103
20240724	24413	600	1	Fire Caulk - Red	C103
20240724	24413	600	2	Fire Caulk - Red	C103
20240724	24413	603	1	Cove Base Mastic	C103
20240724	24413	603	2	Cove Base Mastic	C 03
20240724	24413	604	1	Door Window Glaze - Black	C103
20240724	24413	604	2	Door Window Glaze - Black	100
20240724	24413	605	1	Door Seam Caulk - Black	C103
20240724	24413	605	2	Door Seam Caulk - Black	C103
			1		
			2		Received

Sampled by: Aaron Place
Relinquished by: Aaron Place
Received by:

Date: 07/24/2024
Date + Time: 08/01/2024 1630
Date + Time:

AUG 02 2024

AmeriSci Richmond
13635 GENITO ROAD
MIDLOTHIAN, VIRGINIA 23112
TEL: (804) 763-1200 • FAX: (804) 763-0493

March 20, 2025

Encorus Group Engineering P.C.
Attn: Sean Fitzgerald
295 Main Street
West Seneca, NY 14141

RE: Encorus Group Engineering P.C.
Job Number 125031635
P.O. #24413
24413; RMF Engineering/Elizabeth Nolder; SUNY Binghamton Electrical - Cayuga Hall/4400 Vestal Parkway East Binghamton, NY 13902

Dear Sean Fitzgerald:

Enclosed are the results of Asbestos Analysis - Bulk Protocol of the following Encorus Group Engineering P.C. samples, received at AmeriSci on Monday, March 17, 2025, for a 3 day turnaround:

03122025-24413-606-1, 03122025-24413-606-2

The 2 samples, placed in zip lock bag, were shipped to AmeriSci via Fed Ex. Encorus Group Engineering P.C. requested ELAP PLM/TEM analysis of these samples.

The results of the analyses which were performed under NYSDOH ELAP Lab Certification # 10984 following ELAP 198.4 TEM guidelines are presented within the Summary Table of this report. The presence of matrix reduction data in the Summary Table normally indicates an NOB sample. For NOB samples the individual matrix reduction and TEM analysis results are listed in Table I. Complete PLM results for individual samples analyzed by ELAP 198.1 (friable) and ELAP 198.6 (NOB) are presented in the PLM Bulk Asbestos Report. This combined report relates ONLY to sample analysis expressed as percent composition by weight and percent asbestos. This report must not be used to claim product endorsement or approval by these laboratories, NVLAP, ELAP or any other associated agency. The National Institute of Standards and Technology accreditation requirements, mandate that this report must not be reproduced, except in full without the written approval of the laboratory. This report may contain specific data not covered by NVLAP or ELAP accreditations respectively, if so identified in relevant footnotes.

AmeriSci appreciates this opportunity to serve your organization. Please contact us for any further assistance or with any questions.

Sincerely,

Cory M. Parnell

Laboratory Director | Authorized Signatory

AmeriSci Richmond
13635 GENITO ROAD
MIDLOTHIAN, VIRGINIA 23112
TEL: (804) 763-1200 • FAX: (804) 763-0493

PLM Bulk Asbestos Report

Encorus Group Engineering P.C.
Attn: Sean Fitzgerald
295 Main Street

West Seneca, NY 14141

Date Received 3/17/2025 **AmeriSci Job #** 125031635
Date Examined 03/19/25 **P.O. #**
ELAP # 10984 **Page** 1 **of** 1

RE: 24413; RMF Engineering/Elizabeth Nolder; SUNY Binghamton Electrical - Cayuga Hall/4400 Vestal Parkway East Binghamton, NY 13902

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos	Notes
03122025-24413-606-1 606	125031635-01	***No***	Inconclusive - NAD (NOB by NYS ELAP 198.6) by David W. Ralbovsky on 03/19/25	*1*

Location: Foundation Waterproofing - Black; North Exterior
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-Asbestos 23%
Comment: Heat Sensitive (organic): 66.2%; Acid Soluble (inorganic): 10.5%; Inert (Non-asbestos): 23.3%

03122025-24413-606-2 606	125031635-02	***Yes***	5.0% (NOB by NYS ELAP 198.6) by David W. Ralbovsky on 03/19/25	

Location: Foundation Waterproofing - Black; North Exterior
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types: Chrysotile 5.0%
Other Material: Non-fibrous 36%
Comment: Heat Sensitive (organic): 46.4%; Acid Soluble (inorganic): 12.0%; Inert (Non-asbestos): 36.6%

Reporting Notes:

(1) NAD results by NYS 198.6 are inconclusive and are not considered non-ACM

Analyzed by: David W. Ralbovsky
Date: 3/19/2025

Reviewed by: Cory M. Parnell

*NAD = no asbestos detected, Detection Limit <1%, Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; "Present" or NVA = "No Visible Asbestos" are observations made during a qualitative analysis (Not covered by NVLAP or NY ELAP accreditations); NA = not analyzed; NA/PS = not analyzed / positive stop; PLM Bulk Asbestos Analysis using Olympus, Model BH-2 microscope, Serial #229707, by EPA 600/R-93/116 per 40 CFR 763 (NVLAP Lab Code 101904-0) and ELAP PLM Analysis Protocol 198.1 for New York friable samples which includes quantitation of any vermiculite observed (198.6 for NOB samples) or EPA 400 pt ct by EPA 600/M4-82-020 (NYSDOH ELAP Lab # 10984); CA ELAP Lab # 2508; Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. NAD or Trace results by PLM are inconclusive, TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full without the approval of the laboratory. This PLM report relates ONLY to the items tested.

ENCORUS GROUP

23 Mechanic Street
Springville, NY 14141 | 295 Main Street
West Seneca, NY 14224 | encorus.com
716.592.3980

Bulk Chain of Custody

125031685

Email Report to:	labresults@encorus.com	**Turn Around Time**
Client/Contact:	RMF Engineering Elizabeth Nolder	☐ RUSH ☐ 24 Hour ☐ 48 Hour ☑ 72 Hour ☐ 5 Day
Project/Location:	SUNY Binghampton Electrical - Cayuga Hall 4400 Vestal Parkway East Binghampton, NY 13902	
Project No.:	24413	Other:

Analysis Requested:		Protocol:		Notes:
PLM	☑	☑	Negative PLM to TEM per ELAP protocols	
TEM	☑	☑	Positive Stop by HAN-ID#	
PCB	☐	☐	Layered analysis requested for:	
Other:		2	Total # of Samples	

Sample Name					
Date	Project	HAN	ID#	Description of Sample	Location of Sample
3/12/2025	24413	606	1	Foundation Waterproofing - Black	North Exterior
3/12/2025	24413	606	2	Foundation Waterproofing - Black	North Exterior

Received
MAR 17 2025

Sampled by: Justin Campbell
Relinquished by: Justin Campbell
Received by:

Date: 03/12/2025
Date + Time: 03/14/2025 1700
Date + Time:

ENCORUS GROUP

23 Mechanic Street
Springville, NY 14141

295 Main Street
West Seneca, NY 14224

encorus.com
716.592.3980

E. Choconut Hall

AmeriSci Richmond
13635 GENITO ROAD
MIDLOTHIAN, VIRGINIA 23112
TEL: 8047631200 FAX: 8047631800

August 8, 2024

Encorus Group Engineering P.C.
Attn: Sean Fitzgerald
350 Elmwood Ave
Springville, NY 14141

RE: Encorus Group Engineering P.C.
Job Number 124081135
P.O. #24413
24413; RMF Engineering / Elizabeth Nolder; SUNY Binghampton Electrical / 4400 Vestal Parkway East Binghampton, NY 13902; Choconut Hall

Dear Sean Fitzgerald:

Enclosed are the results of Asbestos Analysis - Bulk Protocol of the following Encorus Group Engineering P.C. samples, received at AmeriSci on Monday, August 5, 2024, for a 3 day turnaround:

20240725-24413-100.1-1, 20240725-24413-100.1-2, 20240725-24413-100.2-1, 20240725-24413-100.2-2, 20240725-24413-600-1, 20240725-24413-600-2, 20240725-24413-601-1, 20240725-24413-601-2, 20240725-24413-602-1, 20240725-24413-602-2

The 10 samples, placed in zip lock bag, were shipped to AmeriSci via Fed Ex 7178 3971 5395 B 905. Encorus Group Engineering P.C. requested ELAP PLM/TEM analysis of these samples.

The results of the analyses which were performed under NYSDOH ELAP Lab Certification # 10984 following ELAP 198.4 TEM guidelines are presented within the Summary Table of this report. The presence of matrix reduction data in the Summary Table normally indicates an NOB sample. For NOB samples the individual matrix reduction and TEM analysis results are listed in Table I. Complete PLM results for individual samples analyzed by ELAP 198.1 (friable) and ELAP 198.6 (NOB) are presented in the PLM Bulk Asbestos Report. This combined report relates ONLY to sample analysis expressed as percent composition by weight and percent asbestos. This report must not be used to claim product endorsement or approval by these laboratories, NVLAP, ELAP or any other associated agency. The National Institute of Standards and Technology accreditation requirements, mandate that this report must not be reproduced, except in full without the written approval of the laboratory. This report may contain specific data not covered by NVLAP or ELAP accreditations respectively, if so identified in relevant footnotes.

AmeriSci appreciates this opportunity to serve your organization. Please contact us for any further assistance or with any questions.

Sincerely,

Glenn F. Massey
QA Manager | Authorized Signatory

AmeriSci Richmond
13635 GENITO ROAD
MIDLOTHIAN, VIRGINIA 23112
TEL: (804) 763-1200 • FAX: (804) 763-1800

PLM Bulk Asbestos Report

Encorus Group Engineering P.C.
Attn: Sean Fitzgerald
350 Elmwood Ave

Springville, NY 14141

Date Received 08/05/24
Date Examined 08/08/24
ELAP # 10984
AmeriSci Job # 124081135
P.O. #
Page 1 **of** 3

RE: 24413; RMF Engineering / Elizabeth Nolder; SUNY Binghampton Electrical / 4400 Vestal Parkway East Binghampton, NY 13902; Choconut Hall

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
20240725-24413-100.1-1 100.1 **Location:** Gypsum Board; B109	124081135-01	***No***	NAD (by NYS ELAP 198.1) by William M. Dunstan on 08/08/24
Analyst Description: Brown/White, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 3.0%, Non-fibrous 97%			
20240725-24413-100.1-2 100.1 **Location:** Gypsum Board; B109	124081135-02	***No***	NAD (by NYS ELAP 198.1) by William M. Dunstan on 08/08/24
Analyst Description: Brown/White, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 3.0%, Non-fibrous 97%			
20240725-24413-100.2-1 100.2 **Location:** Joint Compound; B109	124081135-03	***No***	NAD (by NYS ELAP 198.1) by William M. Dunstan on 08/08/24
Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100%			
20240725-24413-100.2-2 100.2 **Location:** Joint Compound; B109	124081135-04	***No***	NAD (by NYS ELAP 198.1) by William M. Dunstan on 08/08/24
Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100%			
20240725-24413-600-1 600 **Location:** Cove Base Mastic - Brown; B109	124081135-05	***No***	NAD (NOB by NYS ELAP 198.6) by William M. Dunstan on 08/08/24
Analyst Description: Brown, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 42%			

See Reporting notes on last page

PLM Bulk Asbestos Report

24413; RMF Engineering / Elizabeth Nolder; SUNY Binghampton Electrical / 4400 Vestal Parkway East Binghampton, NY 13902; Choconut Hall

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
20240725-24413-600-2 600	124081135-06 **Location:** Cove Base Mastic - Brown; B109	***No***	NAD (NOB by NYS ELAP 198.6) by William M. Dunstan on 08/08/24
Analyst Description: Brown, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 43%			
20240725-24413-601-1 601	124081135-07 **Location:** Fire Putty - Grey; B109	***No***	NAD (NOB by NYS ELAP 198.6) by William M. Dunstan on 08/08/24
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 55%			
20240725-24413-601-2 601	124081135-08 **Location:** Fire Putty - Grey; B109	***No***	NAD (NOB by NYS ELAP 198.6) by William M. Dunstan on 08/08/24
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 30%			
20240725-24413-602-1 602	124081135-09 **Location:** Concrete Seam Felt; B109A	***No***	NAD (by NYS ELAP 198.1) by William M. Dunstan on 08/08/24
Analyst Description: Black, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 75%, Non-fibrous 25%			
20240725-24413-602-2 602	124081135-10 **Location:** Concrete Seam Felt; B109A	***No***	NAD (by NYS ELAP 198.1) by William M. Dunstan on 08/08/24
Analyst Description: Black, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 75%, Non-fibrous 25%			

See Reporting notes on last page

PLM Bulk Asbestos Report

24413; RMF Engineering / Elizabeth Nolder; SUNY Binghampton Electrical / 4400 Vestal Parkway East Binghampton, NY 13902; Choconut Hall

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Reporting Notes:

Analyzed by: William M. Dunstan Reviewed by: Glenn F. Massey

Date: 8/8/2024

*NAD = no asbestos detected, Detection Limit <1%, Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; "Present" or NVA = "No Visible Asbestos" are observations made during a qualitative analysis; NA = not analyzed; NA/PS = not analyzed / positive stop; PLM Bulk Asbestos Analysis using Olympus, Model BH-2 microscope, Serial #233533, by EPA 600/R-93/116 per 40 CFR 763 (NVLAP Lab Code 101904-0) and ELAP PLM Analysis Protocol 198.1 for New York friable samples which includes quantitation of any vermiculite observed (198.6 for NOB samples) or EPA 400 pt ct by EPA 600/M4-82-020 (NYSDOH ELAP Lab # 10984); CA ELAP Lab # 2508; Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. NAD or Trace results by PLM are inconclusive, TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full without the approval of the laboratory. This PLM report relates ONLY to the items tested.

Client Name: Encorus Group Engineering P.C.

Table I
Summary of Bulk Asbestos Analysis Results by NYS ELAP 198.4

24413; RMF Engineering / Elizabeth Nolder; SUNY Binghampton Electrical / 4400 Vestal Parkway East Binghampton, NY 13902; Choconut Hall

AmeriSci Sample #	Client Sample#	HG Area	NOB Sample Weight (gram)	NOB Heat Sensitive Organic %	NOB Acid Soluble Inorganic %	NOB Insoluble Non-Asbestos Inorganic %	** Asbestos % by PLM/DS	** Asbestos % by TEM
01	20240725-24413-100.1-1	100.1	----	----	----	----	NAD	NA
Location: Gypsum Board; B109								
02	20240725-24413-100.1-2	100.1	----	----	----	----	NAD	NA
Location: Gypsum Board; B109								
03	20240725-24413-100.2-1	100.2	----	----	----	----	NAD	NA
Location: Joint Compound; B109								
04	20240725-24413-100.2-2	100.2	----	----	----	----	NAD	NA
Location: Joint Compound; B109								
05	20240725-24413-600-1	600	0.291	52.8	4.3	42.9	NAD	NAD
Location: Cove Base Mastic - Brown; B109								
06	20240725-24413-600-2	600	0.255	52.9	3.7	43.4	NAD	NAD
Location: Cove Base Mastic - Brown; B109								
07	20240725-24413-601-1	601	0.834	24.0	20.3	55.7	NAD	NAD
Location: Fire Putty - Grey; B109								
08	20240725-24413-601-2	601	0.619	24.0	45.3	30.7	NAD	NAD
Location: Fire Putty - Grey; B109								
09	20240725-24413-602-1	602	----	----	----	----	NAD	NA
Location: Concrete Seam Felt; B109A								
10	20240725-24413-602-2	602	----	----	----	----	NAD	NA
Location: Concrete Seam Felt; B109A								

Analyzed by: Cory M. Parnell

Reviewed by: Glenn F. Massey

Date: 8/8/2024

Semi-Quantitative Analysis: NAD = no asbestos detected; NA = not analyzed; NA/PS = not analyzed due to positive stop; Trace = <1%; PLM analysis by EPA 600/R-93/116 per 40 CFR 763 (NVLAP Lab Code 101904-0) or NY ELAP 198.1 for New York friable samples which includes quantitation of any vermiculite observed (198.6 for NOB samples) or EPA 400 pt ct by EPA 600/M4-82-020 (NY ELAP Lab # 10984); TEM prep by EPA 600/R-93/116 Section 2.3 (analysis by Section 2.5, not covered by NVLAP Bulk accreditation); or NY ELAP 198.4 for New York NOB samples (NY ELAP Lab # 10984). Analysis using Jeol, Model JEM-100CX II microscope, Serial #156147-247. ** Warning Notes: Consider PLM fiber diameter limitation, only TEM will resolve fibers <0.25 micrometers in diameter. TEM bulk analysis is representative of the fine grained matrix material and may not be representative of non-uniformly dispersed debris, soils or other heterogeneous materials for which a combination PLM/TEM evaluation is recommended; Quantitation for beginning weights of <0.1 grams should be considered as qualitative only.

124081135

ENCORUS GROUP
23 Mechanic Street, Springville, NY 14141 | 295 Main Street, West Seneca, NY 14224 | encorus.com 716.592.9930

Bulk Chain of Custody

Email Report to:	labresults@encorus.com		**Turn Around Time**
			☐ RUSH
Client/Contact:	RMF Engineering		☐ 24 Hour
	Elizabeth Nolder		☐ 48 Hour
Project/Location:	SUNY Binghampton Electrical		☑ 72 Hour
	4400 Vestal Parkway East Binghampton, NY 13902		☐ 5 Day
Project No.:	24413	Choconut Hall	Other:

Analysis Requested:			**Protocol:**	**Notes:**
PLM	☑	☑	Negative PLM to TEM per ELAP protocols	
TEM	☑	☑	Positive Stop by HAN-ID#	
PCB	☐	☐	Layered analysis requested for:	
Other:		10	Total # of Samples	

Sample Name					
Date	**Project**	**HAN**	**ID#**	**Description of Sample**	**Location of Sample**
20240725	24413	100.1	1	Gypsum Board	B109
20240725	24413	100.1	2	Gypsum Board	B109
20240725	24413	100.2	1	Joint Compound	B109
20240725	24413	100.2	2	Joint Compound	B109
20240725	24413	600	1	Cove Base Mastic - Brown	B109
20240725	24413	600	2	Cove Base Mastic - Brown	B109
20240725	24413	601	1	Fire Putty - Grey	B109
20240725	24413	601	2	Fire Putty - Grey	B109
20240725	24413	602	1	Concrete Seam Felt	B109A
20240725	24413	602	2	Concrete Seam Felt	B109A
			1		
			2		
			3		
			4		
			5		
			6		
			7		
			8		
			9		
			10		
			11		
			12		
			13		

Received

Sampled by: Aaron Place
Relinquished by: Aaron Place
Received by:

Date: 07/25/2024
Date + Time: 08/02/2024 1200
Date + Time:

AUG 05 2024

ENCORUS GROUP

23 Mechanic Street
Springville, NY 14141

295 Main Street
West Seneca, NY 14224

encorus.com
716.592.3980

F. Commissary

ENCORUS GROUP

23 Mechanic Street
Springville, NY 14141

295 Main Street
West Seneca, NY 14224

encorus.com
716.592.3980

G. Darrien Hall

AmeriSci Richmond
13635 GENITO ROAD
MIDLOTHIAN, VIRGINIA 23112
TEL: 8047631200 FAX: 8047631800

August 23, 2024

Encorus Group Engineering P.C.
Attn: Sean Fitzgerald
350 Elmwood Ave
Buffalo, NY 14222

RE: Encorus Group Engineering P.C.
Job Number 124081746
P.O. #24413
24413; RMF Engineering/Elizabeth Nolder; SUNY Binghamton Electrical/4400 Vestal Parkway East
Binghamton, NY 13902

Dear Sean Fitzgerald:

Enclosed are the results of Asbestos Analysis - Bulk Protocol of the following Encorus Group Engineering P.C. samples, received at AmeriSci on Tuesday, August 20, 2024, for a 3 day turnaround:

20240815-24413-100.1-1, 20240815-24413-100.1-2, 20240815-24413-100.2-1, 20240815-24413-100.2-2

The 4 samples, placed in zip lock bag, were shipped to AmeriSci via Fed Ex 7301 7892 1520 B 955. Encorus Group Engineering P.C. requested ELAP PLM/TEM analysis of these samples.

The results of the analyses which were performed under NYSDOH ELAP Lab Certification # 10984 following ELAP 198.4 TEM guidelines are presented within the Summary Table of this report. The presence of matrix reduction data in the Summary Table normally indicates an NOB sample. For NOB samples the individual matrix reduction and TEM analysis results are listed in Table I. Complete PLM results for individual samples analyzed by ELAP 198.1 (friable) and ELAP 198.6 (NOB) are presented in the PLM Bulk Asbestos Report. This combined report relates ONLY to sample analysis expressed as percent composition by weight and percent asbestos. This report must not be used to claim product endorsement or approval by these laboratories, NVLAP, ELAP or any other associated agency. The National Institute of Standards and Technology accreditation requirements, mandate that this report must not be reproduced, except in full without the written approval of the laboratory. This report may contain specific data not covered by NVLAP or ELAP accreditations respectively, if so identified in relevant footnotes.

AmeriSci appreciates this opportunity to serve your organization. Please contact us for any further assistance or with any questions.

Sincerely,

Glenn F. Massey

QA Manager | Authorized Signatory

AmeriSci Richmond
13635 GENITO ROAD
MIDLOTHIAN, VIRGINIA 23112
TEL: (804) 763-1200 • FAX: (804) 763-1800

PLM Bulk Asbestos Report

Encorus Group Engineering P.C.
Attn: Sean Fitzgerald
350 Elmwood Ave

Buffalo, NY 14222

Date Received 08/20/24
Date Examined 08/21/24
ELAP # 10984

AmeriSci Job # 124081746
P.O. #
Page 1 **of** 2

RE: 24413; RMF Engineering/Elizabeth Nolder; SUNY Binghamton Electrical/4400 Vestal Parkway East Binghamton, NY 13902

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
20240815-24413-100.1-1 100.1 **Location:** Gypsum Board; 1	124081746-01	***No***	NAD (by NYS ELAP 198.1) by David W. Ralbovsky on 08/21/24
Analyst Description: Brown/Gray, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 6.0%, Fibrous glass Trace, Non-fibrous 94%			
20240815-24413-100.1-2 100.1 **Location:** Gypsum Board; 1	124081746-02	***No***	NAD (by NYS ELAP 198.1) by David W. Ralbovsky on 08/21/24
Analyst Description: Brown/Gray, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 6.0%, Fibrous glass Trace, Non-fibrous 94%			
20240815-24413-100.2-1 100.2 **Location:** Joint Compound; 1	124081746-03	***No***	NAD (by NYS ELAP 198.1) by David W. Ralbovsky on 08/21/24
Analyst Description: White, Heterogeneous, Non-Fibrous, Cementitious, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100%			
20240815-24413-100.2-2 100.2 **Location:** Joint Compound; 1	124081746-04	***No***	NAD (by NYS ELAP 198.1) by David W. Ralbovsky on 08/21/24
Analyst Description: White, Heterogeneous, Non-Fibrous, Cementitious, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100%			

See Reporting notes on last page

PLM Bulk Asbestos Report

24413; RMF Engineering/Elizabeth Nolder; SUNY Binghamton
Electrical/4400 Vestal Parkway East Binghamton, NY 13902

Reporting Notes:

Analyzed by: David W. Ralbovsky
Date: 8/21/2024

Reviewed by: David W. Ralbovsky

*NAD = no asbestos detected, Detection Limit <1%, Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; "Present" or NVA = "No Visible Asbestos" are observations made during a qualitative analysis; NA = not analyzed; NA/PS = not analyzed / positive stop; PLM Bulk Asbestos Analysis using Olympus, Model BH-2 microscope, Serial #229707, by EPA 600/R-93/116 per 40 CFR 763 (NVLAP Lab Code 101904-0) and ELAP PLM Analysis Protocol 198.1 for New York friable samples which includes quantitation of any vermiculite observed (198.6 for NOB samples) or EPA 400 pt ct by EPA 600/M4-82-020 (NYSDOH ELAP Lab # 10984); CA ELAP Lab # 2508; Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. NAD or Trace results by PLM are inconclusive, TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full without the approval of the laboratory. This PLM report relates ONLY to the items tested.

124081746

ENCORUS GROUP

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Springville, NY 14141 | West Seneca, NY 14224 | 716.592.3980

Bulk Chain of Custody

Email Report to:	labresults@encorus.com		**Turn Around Time**
			☐ RUSH
Client/Contact:	RMF Engineering		☐ 24 Hour
	Elizabeth Nolder		☐ 48 Hour
Project/Location:	SUNY Binghamton Electrical		☑ 72 Hour
	4400 Vestal Parkway East Binghamton, NY 13902		☐ 5 Day
Project No.:	24413	Darien	Other:

Analysis Requested:		**Protocol:**		**Notes:**
PLM	☑	☑	Negative PLM to TEM per ELAP protocols	
TEM	☑	☑	Positive Stop by HAN-ID#	
PCB	☐	☐	Layered analysis requested for:	
Other:		4	Total # of Samples	

Sample Name					
Date	**Project**	**HAN**	**ID#**	**Description of Sample**	**Location of Sample**
20240815	24413	100.1	1	Gypsum Board	1
20240815	24413	100.1	2	Gypsum Board	1
20240815	24413	100.2	1	Joint Compound	1
20240815	24413	100.2	2	Joint Compound	1
			1		
			2		
			3		
			4		
			5		
			6		
			7		
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			11		
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			14		
			15		
			16		
			17		
			18		
			19		

Received
AUG 20 2024
TM

Sampled by: David Richardson — Date:08/15/2024
Relinquished by: David Richardson — Date + Time:08/19/2024 1300
Received by: — Date + Time:

ENCORUS GROUP

23 Mechanic Street
Springville, NY 14141

295 Main Street
West Seneca, NY 14224

encorus.com
716.592.3980

H. Glenwood Hall

AmeriSci Richmond
13635 GENITO ROAD
MIDLOTHIAN, VIRGINIA 23112
TEL: 8047631200 FAX: 8047631800

August 8, 2024

Encorus Group Engineering P.C.
Attn: Sean Fitzgerald
350 Elmwood Ave
Springville, NY 14141

RE: Encorus Group Engineering P.C.
Job Number 124081166
P.O. #24413
24413; RMF Engineering/Elizabeth Nolder; SUNY Binghampton Electrical; 4400 Vestal Parkway, East Binghampton, NY 13902; Glenwood Hall

Dear Sean Fitzgerald:

Enclosed are the results of Asbestos Analysis - Bulk Protocol of the following Encorus Group Engineering P.C. samples, received at AmeriSci on Monday, August 5, 2024, for a 3 day turnaround:

20240725-24413-100.1-1, 20240725-24413-100.1-2, 20240725-24413-100.2-1, 20240725-24413-100.2-2, 20240725-24413-101.1-1, 20240725-24413-101.1-2, 20240725-24413-101.1-3, 20240725-24413-101.2-1, 20240725-24413-101.2-2, 20240725-24413-101.2-3, 20240725-24413-600-1, 20240725-24413-600-2, 20240725-24413-601-1, 20240725-24413-601-2

The 14 samples, placed in zip lock bag, were shipped to AmeriSci via Fed Ex 7301 7895 0115 B 905. Encorus Group Engineering P.C. requested ELAP PLM/TEM analysis of these samples.

The results of the analyses which were performed under NYSDOH ELAP Lab Certification # 10984 following ELAP 198.4 TEM guidelines are presented within the Summary Table of this report. The presence of matrix reduction data in the Summary Table normally indicates an NOB sample. For NOB samples the individual matrix reduction and TEM analysis results are listed in Table I. Complete PLM results for individual samples analyzed by ELAP 198.1 (friable) and ELAP 198.6 (NOB) are presented in the PLM Bulk Asbestos Report. This combined report relates ONLY to sample analysis expressed as percent composition by weight and percent asbestos. This report must not be used to claim product endorsement or approval by these laboratories, NVLAP, ELAP or any other associated agency. The National Institute of Standards and Technology accreditation requirements, mandate that this report must not be reproduced, except in full without the written approval of the laboratory. This report may contain specific data not covered by NVLAP or ELAP accreditations respectively, if so identified in relevant footnotes.

AmeriSci appreciates this opportunity to serve your organization. Please contact us for any further assistance or with any questions.

Sincerely,

Cory M. Parnell

Laboratory Director | Authorized Signatory

AmeriSci Richmond
13635 GENITO ROAD
MIDLOTHIAN, VIRGINIA 23112
TEL: (804) 763-1200 • FAX: (804) 763-1800

PLM Bulk Asbestos Report

Encorus Group Engineering P.C.
Attn: Sean Fitzgerald
350 Elmwood Ave

Springville, NY 14141

Date Received 08/05/24
Date Examined 08/08/24
ELAP # 10984
AmeriSci Job # 124081166
P.O. #
Page 1 **of** 3

RE: 24413; RMF Engineering/Elizabeth Nolder; SUNY Binghampton Electrical; 4400 Vestal Parkway, East Binghampton, NY 13902; Glenwood Hall

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
20240725-24413-100.1-1 100.1 **Location:** Gypsum Board; C107	124081166-01	***No***	NAD [1] (by NYS ELAP 198.1) by C. David Mintz on 08/08/24
Analyst Description: Off-White, Homogeneous, Fibrous, Gypsum Board **Asbestos Types:** **Other Material:** Cellulose 5.0%, Fibrous glass 1.0%, Non-fibrous 94%			
20240725-24413-100.1-2 100.1 **Location:** Gypsum Board; C107	124081166-02	***No***	NAD [1] (by NYS ELAP 198.1) by C. David Mintz on 08/08/24
Analyst Description: Off-White, Homogeneous, Fibrous, Gypsum Board **Asbestos Types:** **Other Material:** Cellulose 5.0%, Fibrous glass 1.0%, Non-fibrous 94%			
20240725-24413-100.2-1 100.2 **Location:** Joint Compound; C107	124081166-03	***No***	NAD [1] (by NYS ELAP 198.1) by C. David Mintz on 08/08/24
Analyst Description: White, Homogeneous, Non-Fibrous, Joint Compound **Asbestos Types:** **Other Material:** Non-fibrous 100%			
20240725-24413-100.2-2 100.2 **Location:** Joint Compound; C107	124081166-04	***No***	NAD [1] (by NYS ELAP 198.1) by C. David Mintz on 08/08/24
Analyst Description: White, Homogeneous, Non-Fibrous, Joint Compound **Asbestos Types:** **Other Material:** Non-fibrous 100%			
20240725-24413-101.1-1 101.1 **Location:** EIFS Siding Skim; C107A	124081166-05	***No***	NAD [1] (by NYS ELAP 198.1) by C. David Mintz on 08/08/24
Analyst Description: Lt Tan, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose Trace, Non-fibrous 100%			

See Reporting notes on last page

PLM Bulk Asbestos Report

24413; RMF Engineering/Elizabeth Nolder; SUNY Binghampton Electrical; 4400 Vestal Parkway, East Binghampton, NY 13902; Glenwood Hall

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
20240725-24413-101.1-2 101.1	124081166-06 **Location:** EIFS Siding Skim; C107A	***No***	NAD [1] (by NYS ELAP 198.1) by C. David Mintz on 08/08/24
Analyst Description: Lt Beige - Off White, Homogeneous, Non-Fibrous, Cementitious, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 1.0%, Non-fibrous 99%			
20240725-24413-101.1-3 101.1	124081166-07 **Location:** EIFS Siding Skim; C107A	***No***	NAD [1] (by NYS ELAP 198.1) by C. David Mintz on 08/08/24
Analyst Description: Lt Beige - Off White, Homogeneous, Non-Fibrous, Cementitious, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 2.0%, Non-fibrous 98%			
20240725-24413-101.2-1 101.2	124081166-08 **Location:** EIFS Siding Base; C107A	***No***	NAD [1] (by NYS ELAP 198.1) by C. David Mintz on 08/08/24
Analyst Description: Lt Grey, Homogeneous, Fibrous, Cementitious, Bulk Material **Asbestos Types:** **Other Material:** Fibrous glass 4.0%, Non-fibrous 96% **Comment:** Embedded fiberglass mesh			
20240725-24413-101.2-2 101.2	124081166-09 **Location:** EIFS Siding Base; C107A	***No***	NAD [1] (by NYS ELAP 198.1) by C. David Mintz on 08/08/24
Analyst Description: Lt. Grey, Homogeneous, Fibrous, Cementitious, Bulk Material **Asbestos Types:** **Other Material:** Fibrous glass 5.0%, Non-fibrous 95% **Comment:** Embedded fiberglass mesh			
20240725-24413-101.2-3 101.2	124081166-10 **Location:** EIFS Siding Base; C107A	***No***	NAD [1] (by NYS ELAP 198.1) by C. David Mintz on 08/08/24
Analyst Description: Gray, Homogeneous, Fibrous, Cementitious, Bulk Material **Asbestos Types:** **Other Material:** Fibrous glass 5.0%, Non-fibrous 95% **Comment:** Embedded fiberglass mesh			

See Reporting notes on last page

PLM Bulk Asbestos Report

24413; RMF Engineering/Elizabeth Nolder; SUNY Binghampton Electrical; 4400 Vestal Parkway, East Binghampton, NY 13902; Glenwood Hall

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
20240725-24413-600-1	124081166-11	***No***	NAD
600 **Location:** Cove Base Mastic - Brown; C107			(NOB by EPA 600/M4-82-020) by C. David Mintz on 08/08/24
Analyst Description: Brown, Homogeneous, Non-Fibrous, Mastic			
Asbestos Types:			
Other Material: Non-fibrous 44%			
Comment: Heat Sensitive (organic): 52.0%; Acid Soluble (inorganic): 3.7%; Inert (Non-asbestos): 44.3%			
20240725-24413-600-2	124081166-12	***No***	NAD
600 **Location:** Cove Base Mastic - Brown; C107			(NOB by EPA 600/M4-82-020) by C. David Mintz on 08/08/24
Analyst Description: Brown, Homogeneous, Non-Fibrous, Mastic			
Asbestos Types:			
Other Material: Non-fibrous 41%			
Comment: Heat Sensitive (organic): 53.6%; Acid Soluble (inorganic): 4.5%; Inert (Non-asbestos): 41.8%			
20240725-24413-601-1	124081166-13	***No***	NAD
601 **Location:** Concrete Seam Felt; C107A			(by NYS ELAP 198.1) by C. David Mintz on 08/08/24
Analyst Description: Dark Brown, Homogeneous, Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Cellulose 95%, Non-fibrous 5.0%			
20240725-24413-601-2	124081166-14	***No***	NAD
601 **Location:** Concrete Seam Felt; C107A			(by NYS ELAP 198.1) by C. David Mintz on 08/08/24
Analyst Description: Dark Brown, Homogeneous, Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Cellulose 95%, Non-fibrous 5.0%			

Reporting Notes:

(1) Sample homogenized by grinding to a powder prior to analysis.

Analyzed by: C. David Mintz
Date: 8/8/2024

C David Mintz

Reviewed by: Cory M. Parnell

*NAD = no asbestos detected, Detection Limit <1%, Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; "Present" or NVA = "No Visible Asbestos" are observations made during a qualitative analysis; NA = not analyzed; NA/PS = not analyzed / positive stop; PLM Bulk Asbestos Analysis using Olympus, Model BH-2 microscope, Serial #210972, by EPA 600/R-93/116 per 40 CFR 763 (NVLAP Lab Code 101904-0) and ELAP PLM Analysis Protocol 198.1 for New York friable samples which includes quantitation of any vermiculite observed (198.6 for NOB samples) or EPA 400 pt ct by EPA 600/M4-82-020 (NYSDOH ELAP Lab # 10984); CA ELAP Lab # 2508; Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. NAD or Trace results by PLM are inconclusive, TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full without the approval of the laboratory. This PLM report relates ONLY to the items tested.

Client Name: Encorus Group Engineering P.C.

Table I

Summary of Bulk Asbestos Analysis Results by NYS ELAP 198.4

24413; RMF Engineering/Elizabeth Nolder; SUNY Binghampton Electrical; 4400 Vestal Parkway, East Binghampton, NY 13902; Glenwood Hall

AmeriSci Sample #	Client Sample#	HG Area	NOB Sample Weight (gram)	NOB Heat Sensitive Organic %	NOB Acid Soluble Inorganic %	NOB Insoluble Non-Asbestos Inorganic %	** Asbestos % by PLM/DS	** Asbestos % by TEM
01	20240725-24413-100.1-1	100.1	----	----	----	----	NAD	NA
Location: Gypsum Board; C107								
02	20240725-24413-100.1-2	100.1	----	----	----	----	NAD	NA
Location: Gypsum Board; C107								
03	20240725-24413-100.2-1	100.2	----	----	----	----	NAD	NA
Location: Joint Compound; C107								
04	20240725-24413-100.2-2	100.2	----	----	----	----	NAD	NA
Location: Joint Compound; C107								
05	20240725-24413-101.1-1	101.1	----	----	----	----	NAD	NA
Location: EIFS Siding Skim; C107A								
06	20240725-24413-101.1-2	101.1	----	----	----	----	NAD	NA
Location: EIFS Siding Skim; C107A								
07	20240725-24413-101.1-3	101.1	----	----	----	----	NAD	NA
Location: EIFS Siding Skim; C107A								
08	20240725-24413-101.2-1	101.2	----	----	----	----	NAD	NA
Location: EIFS Siding Base; C107A								
09	20240725-24413-101.2-2	101.2	----	----	----	----	NAD	NA
Location: EIFS Siding Base; C107A								
10	20240725-24413-101.2-3	101.2	----	----	----	----	NAD	NA
Location: EIFS Siding Base; C107A								
11	20240725-24413-600-1	600	0.421	52.0	3.7	44.3	NAD	NAD
Location: Cove Base Mastic - Brown; C107								
12	20240725-24413-600-2	600	0.282	53.6	4.5	41.8	NAD	NAD
Location: Cove Base Mastic - Brown; C107								
13	20240725-24413-601-1	601	----	----	----	----	NAD	NA
Location: Concrete Seam Felt; C107A								
14	20240725-24413-601-2	601	----	----	----	----	NAD	NA
Location: Concrete Seam Felt; C107A								

See Reporting notes on last page

Client Name: Encorus Group Engineering P.C.

Table I

Summary of Bulk Asbestos Analysis Results by NYS ELAP 198.4

24413; RMF Engineering/Elizabeth Nolder; SUNY Binghampton Electrical; 4400 Vestal Parkway, East Binghampton, NY 13902; Glenwood Hall

AmeriSci Sample #	Client Sample#	HG Area	NOB Sample Weight (gram)	NOB Heat Sensitive Organic %	NOB Acid Soluble Inorganic %	NOB Insoluble Non-Asbestos Inorganic %	** Asbestos % by PLM/DS	** Asbestos % by TEM

Analyzed by: Cory M. Parnell

Date: 8/7/2024

Reviewed by: Cory M. Parnell

Semi-Quantitative Analysis: NAD = no asbestos detected; NA = not analyzed; NA/PS = not analyzed due to positive stop; Trace = <1%; PLM analysis by EPA 600/R-93/116 per 40 CFR 763 (NVLAP Lab Code 101904-0) or NY ELAP 198.1 for New York friable samples which includes quantitation of any vermiculite observed (198.6 for NOB samples) or EPA 400 pt ct by EPA 600/M4-82-020 (NY ELAP Lab # 10984); TEM prep by EPA 600/R-93/116 Section 2.3 (analysis by Section 2.5, not covered by NVLAP Bulk accreditation); or NY ELAP 198.4 for New York NOB samples (NY ELAP Lab # 10984). Analysis using Jeol, Model JEM-100CX II microscope, Serial #156147-247. ** Warning Notes: Consider PLM fiber diameter limitation, only TEM will resolve fibers <0.25 micrometers in diameter. TEM bulk analysis is representative of the fine grained matrix material and may not be representative of non-uniformly dispersed debris, soils or other heterogeneous materials for which a combination PLM/TEM evaluation is recommended; Quantitation for beginning weights of <0.1 grams should be considered as qualitative only.

124081166

ENCORUS GROUP
23 Mechanic Street, Springville, NY 14141 | 295 Main Street, West Seneca, NY 14224 | encorus.com 716.592.3980

Bulk Chain of Custody

Email Report to:	labresults@encorus.com	**Turn Around Time**
		☐ RUSH
Client/Contact:	RMF Engineering	☐ 24 Hour
	Elizabeth Nolder	☐ 48 Hour
Project/Location:	SUNY Binghampton Electrical	☑ 72 Hour
	4400 Vestal Parkway East Binghampton, NY 13902	☐ 5 Day
Project No.:	24413 Glenwood Hall	Other:

Analysis Requested:		**Protocol:**		**Notes:**
PLM	☑	☑	Negative PLM to TEM per ELAP protocols	
TEM	☑	☑	Positive Stop by HAN-ID#	
PCB	☐	☐	Layered analysis requested for:	
Other:		14	Total # of Samples	

Sample Name					
Date	**Project**	**HAN**	**ID#**	**Description of Sample**	**Location of Sample**
20240725	24413	100.1	1	Gypsum Board	C107
20240725	24413	100.1	2	Gypsum Board	C107
20240725	24413	100.2	1	Joint Compound	C107
20240725	24413	100.2	2	Joint Compound	C107
20240725	24413	101.1	1	EIFS Siding Skim	C107A
20240725	24413	101.1	2	EIFS Siding Skim	C107A
20240725	24413	101.1	3	EIFS Siding Skim	C107A
20240725	24413	101.2	1	EIFS Siding Base	C107A
20240725	24413	101.2	2	EIFS Siding Base	C107A
20240725	24413	101.2	3	EIFS Siding Base	C107A
20240725	24413	600	1	Cove Base Mastic - Brown	C107
20240725	24413	600	2	Cove Base Mastic - Brown	C107
20240725	24413	601	1	Concrete Seam Felt	C107A
20240725	24413	601	2	Concrete Seam Felt	C107A
			1		
			2		
			3		
			4		
			5		
			6		
			7		
			8		
			9		

Received
AUG 05 2024

Sampled by: Aaron Place — Date: 07/25/24
Relinquished by: Aaron Place — Date + Time: 08/02/2024
Received by: — Date + Time:

ENCORUS GROUP

23 Mechanic Street
Springville, NY 14141

295 Main Street
West Seneca, NY 14224

encorus.com
716.592.3980

I. Iroquois Hall

AmeriSci Richmond
13635 GENITO ROAD
MIDLOTHIAN, VIRGINIA 23112
TEL: 8047631200 FAX: 8047631800

August 6, 2024

Encorus Group Engineering P.C.
Attn: Sean Fitzgerald
350 Elmwood Ave
Springville, NY 14141

RE: Encorus Group Engineering P.C.
Job Number 124081044
P.O. #24413 Iroquois Hall
24413 Iroquois Hall; RMF Engineering/Elizabeth Nolder; SUNY Binghamton Electrical/4400 Vestal Parkway East Binghamton, NY 13902 (Report Amended 8/6/2024)

Dear Sean Fitzgerald:

Enclosed are the results of Asbestos Analysis - Bulk Protocol of the following Encorus Group Engineering P.C. samples, received at AmeriSci on Thursday, August 1, 2024, for a 3 day turnaround:

20240723-24413-500-1, 20240723-24413-500-2, 20240723-24413-500-3, 20240723-24413-600-1, 20240723-24413-600-2

The 5 samples, placed in zip lock bag, were shipped to AmeriSci via Fed Ex 7301 7805 1019 B 1035. Encorus Group Engineering P.C. requested ELAP PLM/TEM analysis of these samples.

The results of the analyses which were performed under NYSDOH ELAP Lab Certification # 10984 following ELAP 198.4 TEM guidelines are presented within the Summary Table of this report. The presence of matrix reduction data in the Summary Table normally indicates an NOB sample. For NOB samples the individual matrix reduction and TEM analysis results are listed in Table I. Complete PLM results for individual samples analyzed by ELAP 198.1 (friable) and ELAP 198.6 (NOB) are presented in the PLM Bulk Asbestos Report. This combined report relates ONLY to sample analysis expressed as percent composition by weight and percent asbestos. This report must not be used to claim product endorsement or approval by these laboratories, NVLAP, ELAP or any other associated agency. The National Institute of Standards and Technology accreditation requirements, mandate that this report must not be reproduced, except in full without the written approval of the laboratory. This report may contain specific data not covered by NVLAP or ELAP accreditations respectively, if so identified in relevant footnotes.

AmeriSci appreciates this opportunity to serve your organization. Please contact us for any further assistance or with any questions.

Sincerely,

Glenn F. Massey

QA Manager | Authorized Signatory

AmeriSci Richmond
13635 GENITO ROAD
MIDLOTHIAN, VIRGINIA 23112
TEL: (804) 763-1200 • FAX: (804) 763-1800

PLM Bulk Asbestos Report

Encorus Group Engineering P.C.
Attn: Sean Fitzgerald
350 Elmwood Ave

Springville, NY 14141

Date Received 08/01/24
Date Examined 08/05/24
ELAP # 10984

AmeriSci Job # 124081044
P.O. #
Page 1 **of** 2

RE: 24413 Iroquois Hall; RMF Engineering/Elizabeth Nolder; SUNY Binghamton Electrical/4400 Vestal Parkway East Binghamton, NY 13902 (Report Amended 8/6/2024)

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
20240723-24413-500-1 500 **Location:** Spray-On Fireproofing; IR-8A	124081044-01	***No***	NAD (by NYS ELAP 198.1) by David W. Ralbovsky on 08/05/24
Analyst Description: Gray, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 7.0%, Fibrous glass 3.0%, Non-fibrous 90%			
20240723-24413-500-2 500 **Location:** Spray-On Fireproofing; IR-8A	124081044-02	***No***	NAD (by NYS ELAP 198.1) by David W. Ralbovsky on 08/05/24
Analyst Description: Gray, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 5.0%, Fibrous glass 3.0%, Non-fibrous 92%			
20240723-24413-500-3 500 **Location:** Spray-On Fireproofing; IR-8A	124081044-03	***No***	NAD (by NYS ELAP 198.1) by David W. Ralbovsky on 08/05/24
Analyst Description: Gray, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 5.0%, Fibrous glass 3.0%, Non-fibrous 92%			
20240723-24413-600-1 600 **Location:** Fire Caulk - Red; IR-8	124081044-04	***No***	NAD (NOB by NYS ELAP 198.6) by David W. Ralbovsky on 08/05/24
Analyst Description: Red, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-Asbestos 23% **Comment:** Heat Sensitive (organic): 45.1%; Acid Soluble (inorganic): 31.8%; Inert (Non-asbestos): 23.1%			

See Reporting notes on last page

PLM Bulk Asbestos Report

24413 Iroquois Hall; RMF Engineering/Elizabeth Nolder; SUNY Binghamton Electrical/4400 Vestal Parkway East Binghamton, NY 13902 (Report Amended 8/6/2024)

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
20240723-24413-600-2	124081044-05	***No***	NAD
600	**Location:** Fire Caulk - Red; IR-8		(NOB by NYS ELAP 198.6) by David W. Ralbovsky on 08/05/24

Analyst Description: Red, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-Asbestos 23%
Comment: Heat Sensitive (organic): 43.6%; Acid Soluble (inorganic): 32.6%; Inert (Non-asbestos): 23.8%

Reporting Notes:

Analyzed by: David W. Ralbovsky
Date: 8/5/2024

Reviewed by: Glenn F. Massey

*NAD = no asbestos detected, Detection Limit <1%, Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; "Present" or NVA = "No Visible Asbestos" are observations made during a qualitative analysis; NA = not analyzed; NA/PS = not analyzed / positive stop; PLM Bulk Asbestos Analysis using Olympus, Model BH-2 microscope, Serial #229707, by EPA 600/R-93/116 per 40 CFR 763 (NVLAP Lab Code 101904-0) and ELAP PLM Analysis Protocol 198.1 for New York friable samples which includes quantitation of any vermiculite observed (198.6 for NOB samples) or EPA 400 pt ct by EPA 600/M4-82-020 (NYSDOH ELAP Lab # 10984); CA ELAP Lab # 2508; Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. NAD or Trace results by PLM are inconclusive, TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full without the approval of the laboratory. This PLM report relates ONLY to the items tested.

Client Name: Encorus Group Engineering P.C.

Table I
Summary of Bulk Asbestos Analysis Results by NYS ELAP 198.4

24413 Iroquois Hall; RMF Engineering/Elizabeth Nolder; SUNY Binghamton Electrical/4400 Vestal Parkway East Binghamton, NY 13902 (Report Amended 8/6/2024)

AmeriSci Sample #	Client Sample#	HG Area	NOB Sample Weight (gram)	NOB Heat Sensitive Organic %	NOB Acid Soluble Inorganic %	NOB Insoluble Non-Asbestos Inorganic %	** Asbestos % by PLM/DS	** Asbestos % by TEM
01	20240723-24413-500-1	500	----	----	----	----	NAD	NA
Location:	Spray-On Fireproofing; IR-8A							
02	20240723-24413-500-2	500	----	----	----	----	NAD	NA
Location:	Spray-On Fireproofing; IR-8A							
03	20240723-24413-500-3	500	----	----	----	----	NAD	NA
Location:	Spray-On Fireproofing; IR-8A							
04	20240723-24413-600-1	600	0.796	45.1	31.8	23.1	NAD	NAD
Location:	Fire Caulk - Red; IR-8							
05	20240723-24413-600-2	600	0.957	43.6	32.6	23.8	NAD	NAD
Location:	Fire Caulk - Red; IR-8							

Analyzed by: Cory M. Parnell

Reviewed by: Glenn F. Massey

Date: 8/5/2024

Semi-Quantitative Analysis: NAD = no asbestos detected; NA = not analyzed; NA/PS = not analyzed due to positive stop; Trace = <1%; PLM analysis by EPA 600/R-93/116 per 40 CFR 763 (NVLAP Lab Code 101904-0) or NY ELAP 198.1 for New York friable samples which includes quantitation of any vermiculite observed (198.6 for NOB samples) or EPA 400 pt ct by EPA 600/M4-82-020 (NY ELAP Lab # 10984); TEM prep by EPA 600/R-93/116 Section 2.3 (analysis by Section 2.5, not covered by NVLAP Bulk accreditation); or NY ELAP 198.4 for New York NOB samples (NY ELAP Lab # 10984). Analysis using Jeol, Model JEM-100CX II microscope, Serial #156147-247. ** Warning Notes: Consider PLM fiber diameter limitation, only TEM will resolve fibers <0.25 micrometers in diameter. TEM bulk analysis is representative of the fine grained matrix material and may not be representative of non-uniformly dispersed debris, soils or other heterogeneous materials for which a combination PLM/TEM evaluation is recommended; Quantitation for beginning weights of <0.1 grams should be considered as qualitative only.

ENCORUS GROUP

23 Mechanic Street | 295 Main Street | encorus.com
Springville, NY 14141 | West Seneca, NY 14224 | 716.592.3980

Bulk Chain of Custody 124-08-1044

Email Report to:	labresults@encorus.com		**Turn Around Time**
			☐ RUSH
Client/Contact:	RMF Engineering		☐ 24 Hour
	Elizabeth Nolder		☐ 48 Hour
Project/Location:	SUNY Binghamton Electrical		☑ 72 Hour
	4400 Vestal Parkway East Binghamton, NY 13902		☐ 5 Day
Project No.:	24413	Iroquois Hall	Other:

Analysis Requested:		**Protocol:**		**Notes:**
PLM	☑	☑	Negative PLM to TEM per ELAP protocols	
TEM	☑	☑	Positive Stop by HAN-ID#	
PCB	☐	☐	Layered analysis requested for:	
Other:		5	Total # of Samples	

Sample Name					
Date	**Project**	**HAN**	**ID#**	**Description of Sample**	**Location of Sample**
20240723	24413	500	1	Spray on Fireproofing	IR-8A
20240723	24413	500	2	Spray on Fireproofing	IR-8A
20240723	24413	500	3	Spray on Fireproofing	IR-8A
20240723	24413	600	1	Fire Caulk - Red	IR-8
20240723	24413	600	2	Fire Caulk - Red	IR-8
			1		
			2		
			3		
			4		
			5		
			6		
			7		
			8		
			9		
			10		
			11		
			12		
			13		
			14		
			15		
			16		
			17		
			18		

Sampled by: Aaron Place
Relinquished by: Aaron Place
Received by:

Date:07/23/2024
Date + Time: 07/31/2024 1630
Date + Time:

Rec'd 08-06-2024
Kenyell Morris

AmeriSci Richmond
13635 GENITO ROAD
MIDLOTHIAN, VIRGINIA 23112
TEL: (804) 763-1200 • FAX: (804) 763-0493

March 20, 2025

Encorus Group Engineering P.C.
Attn: Sean Fitzgerald
295 Main Street
West Seneca, NY 14141

RE: Encorus Group Engineering P.C.
Job Number 125031638
P.O. #24413
24413; RMF Engineering/Elizabeth Nolder; SUNY Binghamton Electrical - Iroquois Hall/4400
Vestal Parkway East Binghamton, NY 13902

Dear Sean Fitzgerald:

Enclosed are the results of Asbestos Analysis - Bulk Protocol of the following Encorus Group Engineering P.C. samples, received at AmeriSci on Monday, March 17, 2025, for a 3 day turnaround:

20250314-24413-601-1, 20250314-24413-601-2

The 2 samples, placed in zip lock bag, were shipped to AmeriSci via Fed Ex. Encorus Group Engineering P.C. requested ELAP PLM/TEM analysis of these samples.

The results of the analyses which were performed under NYSDOH ELAP Lab Certification # 10984 following ELAP 198.4 TEM guidelines are presented within the Summary Table of this report. The presence of matrix reduction data in the Summary Table normally indicates an NOB sample. For NOB samples the individual matrix reduction and TEM analysis results are listed in Table I. Complete PLM results for individual samples analyzed by ELAP 198.1 (friable) and ELAP 198.6 (NOB) are presented in the PLM Bulk Asbestos Report. This combined report relates ONLY to sample analysis expressed as percent composition by weight and percent asbestos. This report must not be used to claim product endorsement or approval by these laboratories, NVLAP, ELAP or any other associated agency. The National Institute of Standards and Technology accreditation requirements, mandate that this report must not be reproduced, except in full without the written approval of the laboratory. This report may contain specific data not covered by NVLAP or ELAP accreditations respectively, if so identified in relevant footnotes.

AmeriSci appreciates this opportunity to serve your organization. Please contact us for any further assistance or with any questions.

Sincerely,

Cory M. Parnell

Laboratory Director | Authorized Signatory

AmeriSci Richmond
13635 GENITO ROAD
MIDLOTHIAN, VIRGINIA 23112
TEL: (804) 763-1200 • FAX: (804) 763-0493

PLM Bulk Asbestos Report

Encorus Group Engineering P.C.
Attn: Sean Fitzgerald
295 Main Street

West Seneca, NY 14141

Date Received 3/17/2025 **AmeriSci Job #** 125031638
Date Examined 03/19/25 **P.O. #**
ELAP # 10984 **Page** 1 **of** 1

RE: 24413; RMF Engineering/Elizabeth Nolder; SUNY Binghamton Electrical - Iroquois Hall/4400 Vestal Parkway East Binghamton, NY 13902

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos	Notes
20250314-24413-601-1 601	125031638-01	***No***	Inconclusive - NAD (NOB by NYS ELAP 198.6) by David W. Ralbovsky on 03/19/25	*1*

Location: Exterior Door Frame Sealant, Black; North Exterior
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-Asbestos 3.2%
Comment: Heat Sensitive (organic): 74.6%; Acid Soluble (inorganic): 22.3%; Inert (Non-asbestos): 3.2%

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos	Notes
20250314-24413-601-2 601	125031638-02	***No***	Inconclusive - NAD (NOB by NYS ELAP 198.6) by David W. Ralbovsky on 03/19/25	*1*

Location: Exterior Door Frame Sealant, Black; North Exterior
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-Asbestos 2.7%
Comment: Heat Sensitive (organic): 75.5%; Acid Soluble (inorganic): 21.8%; Inert (Non-asbestos): 2.7%

Reporting Notes:

(1) NAD results by NYS 198.6 are inconclusive and are not considered non-ACM

Analyzed by: David W. Ralbovsky
Date: 3/19/2025

Reviewed by: Cory M. Parnell

*NAD = no asbestos detected, Detection Limit <1%, Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; "Present" or NVA = "No Visible Asbestos" are observations made during a qualitative analysis (Not covered by NVLAP or NY ELAP accreditations); NA = not analyzed; NA/PS = not analyzed / positive stop; PLM Bulk Asbestos Analysis using Olympus, Model BH-2 microscope, Serial #229707, by EPA 600/R-93/116 per 40 CFR 763 (NVLAP Lab Code 101904-0) and ELAP PLM Analysis Protocol 198.1 for New York friable samples which includes quantitation of any vermiculite observed (198.6 for NOB samples) or EPA 400 pt ct by EPA 600/M4-82-020 (NYSDOH ELAP Lab # 10984); CA ELAP Lab # 2508; Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. NAD or Trace results by PLM are inconclusive, TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full without the approval of the laboratory. This PLM report relates ONLY to the items tested.

Client Name: Encorus Group Engineering P.C.

Table I
Summary of Bulk Asbestos Analysis Results by NYS ELAP 198.4

24413; RMF Engineering/Elizabeth Nolder; SUNY Binghamton Electrical - Iroquois Hall/4400 Vestal Parkway East Binghamton, NY 13902

AmeriSci Sample #	Client Sample#	HG Area	NOB Sample Weight (gram)	NOB Heat Sensitive Organic %	NOB Acid Soluble Inorganic %	NOB Insoluble Non-Asbestos Inorganic %	** Asbestos % by PLM/DS	** Asbestos % by TEM
01	20250314-24413-601-1	601	0.439	74.6	22.3	3.2	NAD	NAD
Location:	Exterior Door Frame Sealant, Black; North Exterior							
02	20250314-24413-601-2	601	0.529	75.5	21.8	2.7	NAD	NAD
Location:	Exterior Door Frame Sealant, Black; North Exterior							

Analyzed by: Cory M. Parnell

Reviewed by: Cory M. Parnell

Date: 3/20/2025

Semi-Quantitative Analysis: NAD = no asbestos detected; NA = not analyzed; NA/PS = not analyzed due to positive stop; Trace = <1%; PLM analysis by EPA 600/R-93/116 per 40 CFR 763 (NVLAP Lab Code 101904-0) or NY ELAP 198.1 for New York friable samples which includes quantitation of any vermiculite observed (198.6 for NOB samples) or EPA 400 pt ct by EPA 600/M4-82-020 (NY ELAP Lab # 10984); TEM prep by EPA 600/R-93/116 Section 2.3 (analysis by Section 2.5, not covered by NVLAP Bulk accreditation); or NY ELAP 198.4 for New York NOB samples (NY ELAP Lab # 10984). Analysis using Jeol, Model JEM-100CX II microscope, Serial #156147-247. ** Warning Notes: Consider PLM fiber diameter limitation, only TEM will resolve fibers <0.25 micrometers in diameter. TEM bulk analysis is representative of the fine grained matrix material and may not be representative of non-uniformly dispersed debris, soils or other heterogeneous materials for which a combination PLM/TEM evaluation is recommended; Quantitation for beginning weights of <0.1 grams should be considered as qualitative only.

ENCORUS GROUP

23 Mechanic Street | 295 Main Street | encorus.com
Springville, NY 14141 | West Seneca, NY 14224 | 716.592.3980

Bulk Chain of Custody

125031638

Email Report to:	labresults@encorus.com	**Turn Around Time**
Client/Contact:	RMF Engineering	☐ RUSH
	Elizabeth Nolder	☐ 24 Hour
Project/Location:	SUNY Binghamton Electrical - Iroquois Hall	☐ 48 Hour
	4400 Vestal Parkway East Binghamton, NY 13902	☑ 72 Hour
Project No.:	24413	☐ 5 Day
		Other:

Analysis Requested:		**Protocol:**		**Notes:**
PLM	☑	☑	Negative PLM to TEM per ELAP protocols	
TEM	☑	☑	Positive Stop by HAN-ID#	
PCB	☐	☐	Layered analysis requested for:	
Other:		2	Total # of Samples	

Sample Name					
Date	**Project**	**HAN**	**ID#**	**Description of Sample**	**Location of Sample**
20250314	24413	601	1	Exterior Door Frame Sealant, Black	North Exterior
20250314	24413	601	2	Exterior Door Frame Sealant, Black	North Exterior

Received
MAR 17 2025

Sampled by: Justin Campbell — Date:03/12/2025
Relinquished by: Justin Campbell — Date + Time: 03/14/2025 1700
Received by: — Date + Time:

PHOENIX
Environmental Laboratories, Inc.

Wednesday, March 26, 2025

Attn:
Encorus Group Engineering, P.C
25 Mechanic Street
Springville, NY 14141

Project ID: SUNY BINGHAMTON ELECTRICAL-IROQUOIS HALL
SDG ID: GCS81125
Sample ID#s: CS81125

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301

PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Sample Id Cross Reference

March 26, 2025

SDG I.D.: GCS81125

Project ID: SUNY BINGHAMTON ELECTRICAL-IROQUOIS HALL

Client Id	Lab Id	Matrix	Col Date
3/12/2025 24413 601 1	CS81125	CAULK	03/11/25 13:00

PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

March 26, 2025

FOR: Attn:
Encorus Group Engineering, P.C
25 Mechanic Street
Springville, NY 14141

Sample Information		Custody Information		Date	Time
Matrix:	CAULK	Collected by:	JC	03/11/25	13:00
Location Code:	ENCORUS	Received by:	SR1	03/17/25	12:57
Rush Request:	5 Day	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCS81125
Phoenix ID: CS81125

Project ID: SUNY BINGHAMTON ELECTRICAL-IROQUOIS HALL
Client ID: 3/12/2025 24413 601 1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Caulk Extraction for PCB	Completed				03/21/25	H/U	SW3545A
Polychlorinated Biphenyls							
PCB-1016	ND	0.74	mg/Kg	2	03/24/25	SC	SW8082A
PCB-1221	ND	0.74	mg/Kg	2	03/24/25	SC	SW8082A
PCB-1232	ND	0.74	mg/Kg	2	03/24/25	SC	SW8082A
PCB-1242	ND	0.74	mg/Kg	2	03/24/25	SC	SW8082A
PCB-1248	ND	0.74	mg/Kg	2	03/24/25	SC	SW8082A
PCB-1254	2.1	0.74	mg/Kg	2	03/24/25	SC	SW8082A
PCB-1260	ND	0.74	mg/Kg	2	03/24/25	SC	SW8082A
PCB-1262	ND	0.74	mg/Kg	2	03/24/25	SC	SW8082A
PCB-1268	ND	0.74	mg/Kg	2	03/24/25	SC	SW8082A
QA/QC Surrogates							
% DCBP	64		%	2	03/24/25	SC	30 - 150 %
% DCBP (Confirmation)	65		%	2	03/24/25	SC	30 - 150 %
% TCMX	50		%	2	03/24/25	SC	30 - 150 %
% TCMX (Confirmation)	50		%	2	03/24/25	SC	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

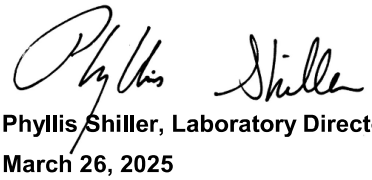
RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Results are reported on an ``as received`` basis, and are not corrected for dry weight.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
March 26, 2025
Reviewed and Released by: Phyllis Shiller, Laboratory Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

QA/QC Report

March 26, 2025

QA/QC Data

SDG I.D.: GCS81125

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 775757 (mg/Kg), QC Sample No: CS81278 (CS81125)											
Polychlorinated Biphenyls											
PCB-1016	ND	0.5	76	67	12.6				40 - 140	30	
PCB-1221	ND	0.5							40 - 140	30	
PCB-1232	ND	0.5							40 - 140	30	
PCB-1242	ND	0.5							40 - 140	30	
PCB-1248	ND	0.5							40 - 140	30	
PCB-1254	ND	0.5							40 - 140	30	
PCB-1260	ND	0.5	85	62	31.3				40 - 140	30	r
PCB-1262	ND	0.5							40 - 140	30	
PCB-1268	ND	0.5							40 - 140	30	
% DCBP (Surrogate Rec)	94	%	91	69	27.5				30 - 150	30	
% DCBP (Surrogate Rec) (Confirm	82	%	81	68	17.4				30 - 150	30	
% TCMX (Surrogate Rec)	83	%	79	70	12.1				30 - 150	30	
% TCMX (Surrogate Rec) (Confirm	75	%	69	69	0.0				30 - 150	30	

r = This parameter is outside laboratory RPD specified recovery limits.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference
(ISO) - Isotope Dilution

Phyllis Shiller, Laboratory Director
March 26, 2025

Wednesday, March 26, 2025

Criteria: None

State: NY

Sample Criteria Exceedances Report

GCS81125 - ENCORUS

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CS81125	$PCB_SMR	PCB-1254	NY / Requested PCB RL /	2100	740	1000	1000	ug/Kg

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Comments

March 26, 2025 SDG I.D.: GCS81125

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

NY Temperature Narration

March 26, 2025

SDG I.D.: GCS81125

The samples in this delivery group were received at 20.9°C.
(Note acceptance criteria for relevant matrices is above freezing up to 6°C)

ENCORUS GROUP

23 Mechanic Street | 295 Main Street | encorus.com
Springville, NY 14141 | West Seneca, NY 14224 | 716.592.3980

Bulk Chain of Custody

NCNAIP 20.9°C

Email Report to:	Labresults@Encorus.com	**Turn Around Time**
		☐ RUSH
Client/Contact:	RMF Engineering	☐ 24 Hour
	Elizabeth Nolder	☐ 48 Hour
Project/Location:	SUNY Binghamton Electrical - Iroquois Hall	☐ 72 Hour
	4400 Vestal Parkway East Binghamton, NY 13902	☑ 5 Day
Project No.:	24413	Other:

Analysis Requested:		**Protocol:**		**Notes:**
PLM	☐	☐	Negative PLM to TEM per ELAP protocols	
TEM	☐	☐	Positive Stop by HAN-ID#	
PCB	☑	☐	Layered analysis requested for:	
Other:		1	Total # of Samples	

Sample Name				81125	
Date	**Project**	**HAN**	**ID#**	**Description of Sample**	**Location of Sample**
3/12/2025	24413	601	1	Exterior Door Frame Sealant, Black	North Exterior

*Rec'd (1) Pl. Bag (BH)

Sampled by: Justin Campbell — Date + Time: 03/11/2025 1300 Hours
Relinquished by: Justin Campbell — Date + Time: 03/14/2025 1700 Hours
Received by: Fed Ex Bryan Hoh — Date + Time: 3-17-25 12:57

ENCORUS GROUP

23 Mechanic Street
Springville, NY 14141

295 Main Street
West Seneca, NY 14224

encorus.com
716.592.3980

J. Mohawk Hall

AmeriSci Richmond
13635 GENITO ROAD
MIDLOTHIAN, VIRGINIA 23112
TEL: 8047631200 FAX: 8047631800

August 5, 2024

Encorus Group Engineering P.C.
Attn: Sean Fitzgerald
350 Elmwood Ave
Springville, NY 14141

RE: Encorus Group Engineering P.C.
Job Number 124081046
P.O. #24413 Mohawk Hall
24413 Mohawk Hall; RMF Engineering/Elizabeth Nolder; SUNY Binghampton Electrical/4400 Vestal Parkway East Binghampton, NY 13902

Dear Sean Fitzgerald:

Enclosed are the results of Asbestos Analysis - Bulk Protocol of the following Encorus Group Engineering P.C. samples, received at AmeriSci on Thursday, August 1, 2024, for a 3 day turnaround:

20240723-24413-500-1, 20240723-24413-500-2, 20240723-24413-500-3, 20240723-24413-600-1, 20240723-24413-600-2, 20240723-24413-601-1, 20240723-24413-601-2

The 7 samples, placed in zip lock bag, were shipped to AmeriSci via Fed Ex 7301 7805 1019 B 1035. Encorus Group Engineering P.C. requested ELAP PLM/TEM analysis of these samples.

The results of the analyses which were performed under NYSDOH ELAP Lab Certification # 10984 following ELAP 198.4 TEM guidelines are presented within the Summary Table of this report. The presence of matrix reduction data in the Summary Table normally indicates an NOB sample. For NOB samples the individual matrix reduction and TEM analysis results are listed in Table I. Complete PLM results for individual samples analyzed by ELAP 198.1 (friable) and ELAP 198.6 (NOB) are presented in the PLM Bulk Asbestos Report. This combined report relates ONLY to sample analysis expressed as percent composition by weight and percent asbestos. This report must not be used to claim product endorsement or approval by these laboratories, NVLAP, ELAP or any other associated agency. The National Institute of Standards and Technology accreditation requirements, mandate that this report must not be reproduced, except in full without the written approval of the laboratory. This report may contain specific data not covered by NVLAP or ELAP accreditations respectively, if so identified in relevant footnotes.

AmeriSci appreciates this opportunity to serve your organization. Please contact us for any further assistance or with any questions.

Sincerely,

Cory M. Parnell

Laboratory Director | Authorized Signatory

AmeriSci Richmond
13635 GENITO ROAD
MIDLOTHIAN, VIRGINIA 23112
TEL: (804) 763-1200 • FAX: (804) 763-1800

PLM Bulk Asbestos Report

Encorus Group Engineering P.C.
Attn: Sean Fitzgerald
350 Elmwood Ave

Springville, NY 14141

Date Received 08/01/24
Date Examined 08/05/24
ELAP # 10984

AmeriSci Job # 124081046
P.O. #
Page 1 **of** 2

RE: 24413 Mohawk Hall; RMF Engineering/Elizabeth Nolder; SUNY Binghampton Electrical/4400 Vestal Parkway East Binghampton, NY 13902

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
20240723-24413-500-1 500 **Location:** Spray-On Fireproofing; G07A	124081046-01	***No***	NAD (by NYS ELAP 198.1) by David W. Ralbovsky on 08/05/24
Analyst Description: Lt. Grey, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Fibrous glass 95%, Non-fibrous 5.0%			
20240723-24413-500-2 500 **Location:** Spray-On Fireproofing; G07A	124081046-02	***No***	NAD (by NYS ELAP 198.1) by David W. Ralbovsky on 08/05/24
Analyst Description: Lt. Grey, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Fibrous glass 95%, Non-fibrous 5.0%			
20240723-24413-500-3 500 **Location:** Spray-On Fireproofing; G07A	124081046-03	***No***	NAD (by NYS ELAP 198.1) by David W. Ralbovsky on 08/05/24
Analyst Description: Lt. Grey, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose Trace, Fibrous glass 95%, Non-fibrous 5.0%			
20240723-24413-600-1 600 **Location:** Vapor Barrier; 200	124081046-04	***No***	NAD (NOB by NYS ELAP 198.6) by David W. Ralbovsky on 08/05/24
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-Asbestos 5.2% **Comment:** Heat Sensitive (organic): 90.6%; Acid Soluble (inorganic): 4.2%; Inert (Non-asbestos): 5.2%			

See Reporting notes on last page

PLM Bulk Asbestos Report

24413 Mohawk Hall; RMF Engineering/Elizabeth Nolder; SUNY Binghampton Electrical/4400 Vestal Parkway East Binghampton, NY 13902

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
20240723-24413-600-2	124081046-05	***No***	NAD
600 **Location:** Vapor Barrier; 200			(NOB by NYS ELAP 198.6) by David W. Ralbovsky on 08/05/24
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Non-Asbestos 11%			
Comment: Heat Sensitive (organic): 84.3%; Acid Soluble (inorganic): 3.8%; Inert (Non-asbestos): 11.9%			
20240723-24413-601-1	124081046-06	***No***	NAD
601 **Location:** Fire Caulk - Red; G07A			(NOB by NYS ELAP 198.6) by David W. Ralbovsky on 08/05/24
Analyst Description: Red, Heterogeneous, Non-Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Non-Asbestos 43%			
Comment: Heat Sensitive (organic): 55.9%; Acid Soluble (inorganic): 1.0%; Inert (Non-asbestos): 43.1%			
20240723-24413-601-2	124081046-07	***No***	NAD
601 **Location:** Fire Caulk - Red; G07A			(NOB by NYS ELAP 198.6) by David W. Ralbovsky on 08/05/24
Analyst Description: Red, Heterogeneous, Non-Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Non-Asbestos 43%			
Comment: Heat Sensitive (organic): 55.8%; Acid Soluble (inorganic): 1.2%; Inert (Non-asbestos): 43.0%			

Reporting Notes:

Analyzed by: David W. Ralbovsky
Date: 8/5/2024

Reviewed by: Cory M. Parnell

*NAD = no asbestos detected, Detection Limit <1%, Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; "Present" or NVA = "No Visible Asbestos" are observations made during a qualitative analysis; NA = not analyzed; NA/PS = not analyzed / positive stop; PLM Bulk Asbestos Analysis using Olympus, Model BH-2 microscope, Serial #229707, by EPA 600/R-93/116 per 40 CFR 763 (NVLAP Lab Code 101904-0) and ELAP PLM Analysis Protocol 198.1 for New York friable samples which includes quantitation of any vermiculite observed (198.6 for NOB samples) or EPA 400 pt ct by EPA 600/M4-82-020 (NYSDOH ELAP Lab # 10984); CA ELAP Lab # 2508; Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. NAD or Trace results by PLM are inconclusive, TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full without the approval of the laboratory. This PLM report relates ONLY to the items tested.

Client Name: Encorus Group Engineering P.C.

Table I
Summary of Bulk Asbestos Analysis Results by NYS ELAP 198.4

24413 Mohawk Hall; RMF Engineering/Elizabeth Nolder; SUNY Binghampton Electrical/4400 Vestal Parkway East Binghampton, NY 13902

AmeriSci Sample #	Client Sample#	HG Area	NOB Sample Weight (gram)	NOB Heat Sensitive Organic %	NOB Acid Soluble Inorganic %	NOB Insoluble Non-Asbestos Inorganic %	** Asbestos % by PLM/DS	** Asbestos % by TEM
01	20240723-24413-500-1	500	----	----	----	----	NAD	NA
Location:	Spray-On Fireproofing; G07A							
02	20240723-24413-500-2	500	----	----	----	----	NAD	NA
Location:	Spray-On Fireproofing; G07A							
03	20240723-24413-500-3	500	----	----	----	----	NAD	NA
Location:	Spray-On Fireproofing; G07A							
04	20240723-24413-600-1	600	0.798	90.6	4.2	5.2	NAD	NAD
Location:	Vapor Barrier; 200							
05	20240723-24413-600-2	600	0.594	84.3	3.8	11.9	NAD	NAD
Location:	Vapor Barrier; 200							
06	20240723-24413-601-1	601	1.021	55.9	1.0	43.1	NAD	NAD
Location:	Fire Caulk - Red; G07A							
07	20240723-24413-601-2	601	1.048	55.8	1.2	43.0	NAD	NAD
Location:	Fire Caulk - Red; G07A							

Analyzed by: Cory M. Parnell

Date: 8/5/2024

Reviewed by: Cory M. Parnell

Semi-Quantitative Analysis: NAD = no asbestos detected; NA = not analyzed; NA/PS = not analyzed due to positive stop; Trace = <1%; PLM analysis by EPA 600/R-93/116 per 40 CFR 763 (NVLAP Lab Code 101904-0) or NY ELAP 198.1 for New York friable samples which includes quantitation of any vermiculite observed (198.6 for NOB samples) or EPA 400 pt ct by EPA 600/M4-82-020 (NY ELAP Lab # 10984); TEM prep by EPA 600/R-93/116 Section 2.3 (analysis by Section 2.5, not covered by NVLAP Bulk accreditation); or NY ELAP 198.4 for New York NOB samples (NY ELAP Lab # 10984). Analysis using Jeol, Model JEM-100CX II microscope, Serial #156147-247. ** Warning Notes: Consider PLM fiber diameter limitation, only TEM will resolve fibers <0.25 micrometers in diameter. TEM bulk analysis is representative of the fine grained matrix material and may not be representative of non-uniformly dispersed debris, soils or other heterogeneous materials for which a combination PLM/TEM evaluation is recommended; Quantitation for beginning weights of <0.1 grams should be considered as qualitative only.

1240810 46

ENCORUS GROUP
23 Mechanic Street, Springville, NY 14141 | 295 Main Street, West Seneca, NY 14224 | encorus.com, 716.592.3980

Bulk Chain of Custody

Email Report to:	labresults@encorus.com		**Turn Around Time**
			☐ RUSH
Client/Contact:	RMF Engineering		☐ 24 Hour
	Elizabeth Nolder		☐ 48 Hour
Project/Location:	SUNY Binghampton Electrical		☑ 72 Hour
	4400 Vestal Parkway East Binghampton, NY 13902		☐ 5 Day
Project No.:	24413	Mohawk Hall	Other:

Analysis Requested:		**Protocol:**		**Notes:**
PLM	☒	☒	Negative PLM to TEM per ELAP protocols	
TEM	☒	☒	Positive Stop by HAN-ID#	
PCB	☐	☐	Layered analysis requested for:	
Other:		7	Total # of Samples	

Sample Name					
Date	**Project**	**HAN**	**ID#**	**Description of Sample**	**Location of Sample**
20240723	24413	500	1	Spray on Fireproofing	G07A
20240723	24413	500	2	Spray on Fireproofing	G07A
20240723	24413	500	3	Spray on Fireproofing	G10
20240723	24413	600	1	Vapor Barrier	200
20240723	24413	600	2	Vapor Barrier	200
20240723	24413	601	1	Fire Caulk - Red	G07A
20240723	24413	601	2	Fire Caulk - Red	G07A
			1		
			2		
			3		
			4		
			5		
			6		
			7		
			8		
			9		
			10		
			11		
			12		
			13		
			14		
			15		
			16		

Received
AUG 01 2024

Sampled by: Aaron Place — Date:07/23/2024
Relinquished by: Aaron Place — Date + Time:07/31/2024
Received by: — Date + Time:

AmeriSci Richmond
13635 GENITO ROAD
MIDLOTHIAN, VIRGINIA 23112
TEL: (804) 763-1200 • FAX: (804) 763-0493

March 20, 2025

Encorus Group Engineering P.C.
Attn: Sean Fitzgerald
295 Main Street
West Seneca, NY 14141

RE: Encorus Group Engineering P.C.
Job Number 125031636
P.O. #24413
24413; RMF Engineering/Elizabeth Nolder; SUNY Binghamton Electrical - Mohawk Hall/4400
Vestal Parkway East Binghamton, NY 13902

Dear Sean Fitzgerald:

Enclosed are the results of Asbestos Analysis - Bulk Protocol of the following Encorus Group Engineering P.C. samples, received at AmeriSci on Monday, March 17, 2025, for a 3 day turnaround:

03122025-24413-607-1, 03122025-24413-607-2

The 2 samples, placed in zip lock bag, were shipped to AmeriSci via Fed Ex. Encorus Group Engineering P.C. requested ELAP PLM/TEM analysis of these samples.

The results of the analyses which were performed under NYSDOH ELAP Lab Certification # 10984 following ELAP 198.4 TEM guidelines are presented within the Summary Table of this report. The presence of matrix reduction data in the Summary Table normally indicates an NOB sample. For NOB samples the individual matrix reduction and TEM analysis results are listed in Table I. Complete PLM results for individual samples analyzed by ELAP 198.1 (friable) and ELAP 198.6 (NOB) are presented in the PLM Bulk Asbestos Report. This combined report relates ONLY to sample analysis expressed as percent composition by weight and percent asbestos. This report must not be used to claim product endorsement or approval by these laboratories, NVLAP, ELAP or any other associated agency. The National Institute of Standards and Technology accreditation requirements, mandate that this report must not be reproduced, except in full without the written approval of the laboratory. This report may contain specific data not covered by NVLAP or ELAP accreditations respectively, if so identified in relevant footnotes.

AmeriSci appreciates this opportunity to serve your organization. Please contact us for any further assistance or with any questions.

Sincerely,

Cory M. Parnell

Laboratory Director | Authorized Signatory

AmeriSci Richmond
13635 GENITO ROAD
MIDLOTHIAN, VIRGINIA 23112
TEL: (804) 763-1200 • FAX: (804) 763-0493

PLM Bulk Asbestos Report

Encorus Group Engineering P.C.
Attn: Sean Fitzgerald
295 Main Street

West Seneca, NY 14141

Date Received 3/17/2025 **AmeriSci Job #** 125031636
Date Examined 03/19/25 **P.O. #**
ELAP # 10984 **Page** 1 **of** 1

RE: 24413; RMF Engineering/Elizabeth Nolder; SUNY Binghamton Electrical - Mohawk Hall/4400 Vestal Parkway East Binghamton, NY 13902

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos	Notes
03122025-24413-607-1 607	125031636-01	***No***	Inconclusive - NAD (NOB by NYS ELAP 198.6) by David W. Ralbovsky on 03/19/25	*1*

Location: Foundation Waterproofing - Black; G07A
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-Asbestos 1.9%
Comment: Heat Sensitive (organic): 87.4%; Acid Soluble (inorganic): 10.7%; Inert (Non-asbestos): 1.9%

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos	Notes
03122025-24413-607-2 607	125031636-02	***No***	Inconclusive - NAD (NOB by NYS ELAP 198.6) by David W. Ralbovsky on 03/19/25	*1*

Location: Foundation Waterproofing - Black; G07A
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-Asbestos 12%
Comment: Heat Sensitive (organic): 75.9%; Acid Soluble (inorganic): 11.7%; Inert (Non-asbestos): 12.4%

Reporting Notes:

(1) NAD results by NYS 198.6 are inconclusive and are not considered non-ACM

Analyzed by: David W. Ralbovsky
Date: 3/19/2025

Reviewed by: Cory M. Parnell

*NAD = no asbestos detected, Detection Limit <1%, Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; "Present" or NVA = "No Visible Asbestos" are observations made during a qualitative analysis (Not covered by NVLAP or NY ELAP accreditations); NA = not analyzed; NA/PS = not analyzed / positive stop; PLM Bulk Asbestos Analysis using Olympus, Model BH-2 microscope, Serial #229707, by EPA 600/R-93/116 per 40 CFR 763 (NVLAP Lab Code 101904-0) and ELAP PLM Analysis Protocol 198.1 for New York friable samples which includes quantitation of any vermiculite observed (198.6 for NOB samples) or EPA 400 pt ct by EPA 600/M4-82-020 (NYSDOH ELAP Lab # 10984); CA ELAP Lab # 2508; Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. NAD or Trace results by PLM are inconclusive, TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full without the approval of the laboratory. This PLM report relates ONLY to the items tested.

Client Name: Encorus Group Engineering P.C.

Table I
Summary of Bulk Asbestos Analysis Results by NYS ELAP 198.4

24413; RMF Engineering/Elizabeth Nolder; SUNY Binghamton Electrical - Mohawk Hall/4400 Vestal Parkway East Binghamton, NY 13902

AmeriSci Sample #	Client Sample#	HG Area	NOB Sample Weight (gram)	NOB Heat Sensitive Organic %	NOB Acid Soluble Inorganic %	NOB Insoluble Non-Asbestos Inorganic %	** Asbestos % by PLM/DS	** Asbestos % by TEM
01	03122025-24413-607-1	607	0.194	87.4	10.7	1.9	NAD	NAD
Location:	Foundation Waterproofing - Black; G07A							
02	03122025-24413-607-2	607	0.299	75.9	11.7	12.4	NAD	NAD
Location:	Foundation Waterproofing - Black; G07A							

Analyzed by: Cory M. Parnell

Reviewed by: Cory M. Parnell

Date: 3/20/2025

Semi-Quantitative Analysis: NAD = no asbestos detected; NA = not analyzed; NA/PS = not analyzed due to positive stop; Trace = <1%; PLM analysis by EPA 600/R-93/116 per 40 CFR 763 (NVLAP Lab Code 101904-0) or NY ELAP 198.1 for New York friable samples which includes quantitation of any vermiculite observed (198.6 for NOB samples) or EPA 400 pt ct by EPA 600/M4-82-020 (NY ELAP Lab # 10984); TEM prep by EPA 600/R-93/116 Section 2.3 (analysis by Section 2.5, not covered by NVLAP Bulk accreditation); or NY ELAP 198.4 for New York NOB samples (NY ELAP Lab # 10984). Analysis using Jeol, Model JEM-100CX II microscope, Serial #156147-247. ** Warning Notes: Consider PLM fiber diameter limitation, only TEM will resolve fibers <0.25 micrometers in diameter. TEM bulk analysis is representative of the fine grained matrix material and may not be representative of non-uniformly dispersed debris, soils or other heterogeneous materials for which a combination PLM/TEM evaluation is recommended; Quantitation for beginning weights of <0.1 grams should be considered as qualitative only.

ENCORUS GROUP

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Springville, NY 14141 | 295 Main Street
West Seneca, NY 14224 | encorus.com
716.592.3980

Bulk Chain of Custody

125031636

Email Report to:	labresults@encorus.com	**Turn Around Time**
		☐ RUSH
Client/Contact:	RMF Engineering	☐ 24 Hour
	Elizabeth Nolder	☐ 48 Hour
Project/Location:	SUNY Binghamton Electrical - Mohawk Hall	☑ 72 Hour
	4400 Vestal Parkway East Binghampton, NY 13902	☐ 5 Day
Project No.:	24413	Other:

Analysis Requested:		**Protocol:**		**Notes:**
PLM	☑	☑	Negative PLM to TEM per ELAP protocols	
TEM	☑	☑	Positive Stop by HAN-ID#	
PCB	☐	☐	Layered analysis requested for:	
Other:		2	Total # of Samples	

Sample Name					
Date	**Project**	**HAN**	**ID#**	**Description of Sample**	**Location of Sample**
3/12/2025	24413	607	1	Foundation Waterproofing - Black	G07A
3/12/2025	24413	607	2	Foundation Waterproofing - Black	G07A

Sampled by: Justin Campbell — Date:03/12/2025

Relinquished by: Justin Campbell — Date + Time:03/14/2025 1700 Hours

Received by: — Date + Time:

Received
MAR 17 2025

ENCORUS GROUP

23 Mechanic Street
Springville, NY 14141

295 Main Street
West Seneca, NY 14224

encorus.com
716.592.3980

K. Nanticoke Hall

AmeriSci Richmond
13635 GENITO ROAD
MIDLOTHIAN, VIRGINIA 23112
TEL: 8047631200 FAX: 8047631800

August 8, 2024

Encorus Group Engineering P.C.
Attn: Sean Fitzgerald
350 Elmwood Ave
Springville, NY 14141

RE: Encorus Group Engineering P.C.
Job Number 124081167
P.O. #24413
24413; RMF Engineering/Elizabeth Nolder; SUNY Binghampton Electrical; 4400 Vestal Parkway, East Binghampton, NY 13902; Nanticoke Hall

Dear Sean Fitzgerald:

Enclosed are the results of Asbestos Analysis - Bulk Protocol of the following Encorus Group Engineering P.C. samples, received at AmeriSci on Monday, August 5, 2024, for a 3 day turnaround:

20240725-24413-100.1-1, 20240725-24413-100.1-2, 20240725-24413-100.2-1, 20240725-24413-100.2-2, 20240725-24413-600-1, 20240725-24413-600-2, 20240725-24413-601-1, 20240725-24413-601-2, 20240725-24413-602-1, 20240725-24413-602-2

The 10 samples, placed in zip lock bag, were shipped to AmeriSci via Fed Ex 7301 7895 0115 B 905. Encorus Group Engineering P.C. requested ELAP PLM/TEM analysis of these samples.

The results of the analyses which were performed under NYSDOH ELAP Lab Certification # 10984 following ELAP 198.4 TEM guidelines are presented within the Summary Table of this report. The presence of matrix reduction data in the Summary Table normally indicates an NOB sample. For NOB samples the individual matrix reduction and TEM analysis results are listed in Table I. Complete PLM results for individual samples analyzed by ELAP 198.1 (friable) and ELAP 198.6 (NOB) are presented in the PLM Bulk Asbestos Report. This combined report relates ONLY to sample analysis expressed as percent composition by weight and percent asbestos. This report must not be used to claim product endorsement or approval by these laboratories, NVLAP, ELAP or any other associated agency. The National Institute of Standards and Technology accreditation requirements, mandate that this report must not be reproduced, except in full without the written approval of the laboratory. This report may contain specific data not covered by NVLAP or ELAP accreditations respectively, if so identified in relevant footnotes.

AmeriSci appreciates this opportunity to serve your organization. Please contact us for any further assistance or with any questions.

Sincerely,

Cory M. Parnell

Laboratory Director | Authorized Signatory

AmeriSci Richmond
13635 GENITO ROAD
MIDLOTHIAN, VIRGINIA 23112
TEL: (804) 763-1200 • FAX: (804) 763-1800

PLM Bulk Asbestos Report

Encorus Group Engineering P.C.
Attn: Sean Fitzgerald
350 Elmwood Ave

Springville, NY 14141

Date Received 08/05/24
Date Examined 08/08/24
ELAP # 10984
AmeriSci Job # 124081167
P.O. #
Page 1 **of** 3

RE: 24413; RMF Engineering/Elizabeth Nolder; SUNY Binghampton Electrical; 4400 Vestal Parkway, East Binghampton, NY 13902; Nanticoke Hall

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
20240725-24413-100.1-1 100.1 **Location:** Gypsum Board; D114	124081167-01	***No***	NAD (by NYS ELAP 198.1) by David W. Ralbovsky on 08/08/24
Analyst Description: Lt. Grey, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 2.0%, Fibrous glass Trace, Mica Trace, Non-fibrous 98%			
20240725-24413-100.1-2 100.1 **Location:** Gypsum Board; D114	124081167-02	***No***	NAD (by NYS ELAP 198.1) by David W. Ralbovsky on 08/08/24
Analyst Description: Lt. Grey, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 6.0%, Fibrous glass Trace, Mica Trace, Non-fibrous 94%			
20240725-24413-100.2-1 100.2 **Location:** Joint Compound; D114	124081167-03	***No***	NAD (by NYS ELAP 198.1) by David W. Ralbovsky on 08/08/24
Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100%			
20240725-24413-100.2-2 100.2 **Location:** Joint Compound; D114	124081167-04	***No***	NAD (by NYS ELAP 198.1) by David W. Ralbovsky on 08/08/24
Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100%			

See Reporting notes on last page

PLM Bulk Asbestos Report

24413; RMF Engineering/Elizabeth Nolder; SUNY Binghampton Electrical; 4400 Vestal Parkway, East Binghampton, NY 13902; Nanticoke Hall

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
20240725-24413-600-1 600	124081167-05 **Location:** Cove Base Mastic - Brown; D114	***No***	NAD (NOB by NYS ELAP 198.6) by David W. Ralbovsky on 08/08/24

Analyst Description: Brown, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-Asbestos 43%
Comment: Heat Sensitive (organic): 52.2%; Acid Soluble (inorganic): 4.1%; Inert (Non-asbestos): 43.7%

20240725-24413-600-2 600	124081167-06 **Location:** Cove Base Mastic - Brown; D114	***No***	NAD (NOB by NYS ELAP 198.6) by David W. Ralbovsky on 08/08/24

Analyst Description: Brown, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-Asbestos 44%
Comment: Heat Sensitive (organic): 51.1%; Acid Soluble (inorganic): 4.3%; Inert (Non-asbestos): 44.6%

20240725-24413-601-1 601	124081167-07 **Location:** Fire Putty - Brown/Red; D114	***No***	NAD (NOB by NYS ELAP 198.6) by David W. Ralbovsky on 08/08/24

Analyst Description: Red, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-Asbestos 42%
Comment: Heat Sensitive (organic): 56.4%; Acid Soluble (inorganic): 1.1%; Inert (Non-asbestos): 42.5%

20240725-24413-601-2 601	124081167-08 **Location:** Fire Putty - Brown/Red; D114	***No***	NAD (NOB by NYS ELAP 198.6) by David W. Ralbovsky on 08/08/24

Analyst Description: Red, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-Asbestos 42%
Comment: Heat Sensitive (organic): 57.3%; Acid Soluble (inorganic): 0.5%; Inert (Non-asbestos): 42.2%

20240725-24413-602-1 602	124081167-09 **Location:** Concrete Seam Felt; D114A	***No***	NAD (by NYS ELAP 198.1) by David W. Ralbovsky on 08/08/24

Analyst Description: Brown/Black, Heterogeneous, Fibrous, Bulk Material
Asbestos Types:
Other Material: Cellulose 95%, Fibrous glass Trace, Non-fibrous 5.0%

See Reporting notes on last page

PLM Bulk Asbestos Report

24413; RMF Engineering/Elizabeth Nolder; SUNY Binghampton Electrical; 4400 Vestal Parkway, East Binghampton, NY 13902; Nanticoke Hall

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
20240725-24413-602-2	124081167-10	***No***	NAD
602	**Location:** Concrete Seam Felt; D114A		(by NYS ELAP 198.1) by David W. Ralbovsky on 08/08/24

Analyst Description: Brown/Black, Heterogeneous, Fibrous, Bulk Material
Asbestos Types:
Other Material: Cellulose 95%, Fibrous glass Trace, Non-fibrous 5.0%

Reporting Notes:

Analyzed by: David W. Ralbovsky
Date: 8/8/2024

Reviewed by: Cory M. Parnell

*NAD = no asbestos detected, Detection Limit <1%, Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; "Present" or NVA = "No Visible Asbestos" are observations made during a qualitative analysis; NA = not analyzed; NA/PS = not analyzed / positive stop; PLM Bulk Asbestos Analysis using Olympus, Model BH-2 microscope, Serial #229707, by EPA 600/R-93/116 per 40 CFR 763 (NVLAP Lab Code 101904-0) and ELAP PLM Analysis Protocol 198.1 for New York friable samples which includes quantitation of any vermiculite observed (198.6 for NOB samples) or EPA 400 pt ct by EPA 600/M4-82-020 (NYSDOH ELAP Lab # 10984); CA ELAP Lab # 2508; Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. NAD or Trace results by PLM are inconclusive, TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full without the approval of the laboratory. This PLM report relates ONLY to the items tested.

Client Name: Encorus Group Engineering P.C.

Table I
Summary of Bulk Asbestos Analysis Results by NYS ELAP 198.4

24413; RMF Engineering/Elizabeth Nolder; SUNY Binghampton Electrical; 4400 Vestal Parkway, East Binghampton, NY 13902; Nanticoke Hall

AmeriSci Sample #	Client Sample#	HG Area	NOB Sample Weight (gram)	NOB Heat Sensitive Organic %	NOB Acid Soluble Inorganic %	NOB Insoluble Non-Asbestos Inorganic %	** Asbestos % by PLM/DS	** Asbestos % by TEM
01	20240725-24413-100.1-1	100.1	----	----	----	----	NAD	NA
Location: Gypsum Board; D114								
02	20240725-24413-100.1-2	100.1	----	----	----	----	NAD	NA
Location: Gypsum Board; D114								
03	20240725-24413-100.2-1	100.2	----	----	----	----	NAD	NA
Location: Joint Compound; D114								
04	20240725-24413-100.2-2	100.2	----	----	----	----	NAD	NA
Location: Joint Compound; D114								
05	20240725-24413-600-1	600	0.280	52.2	4.1	43.7	NAD	NAD
Location: Cove Base Mastic - Brown; D114								
06	20240725-24413-600-2	600	0.290	51.1	4.3	44.6	NAD	NAD
Location: Cove Base Mastic - Brown; D114								
07	20240725-24413-601-1	601	0.828	56.4	1.1	42.5	NAD	NAD
Location: Fire Putty - Brown/Red; D114								
08	20240725-24413-601-2	601	1.083	57.3	0.5	42.2	NAD	NAD
Location: Fire Putty - Brown/Red; D114								
09	20240725-24413-602-1	602	----	----	----	----	NAD	NA
Location: Concrete Seam Felt; D114A								
10	20240725-24413-602-2	602	----	----	----	----	NAD	NA
Location: Concrete Seam Felt; D114A								

Analyzed by: Cory M. Parnell

Reviewed by: Cory M. Parnell

Date: 8/7/2024

Semi-Quantitative Analysis: NAD = no asbestos detected; NA = not analyzed; NA/PS = not analyzed due to positive stop; Trace = <1%; PLM analysis by EPA 600/R-93/116 per 40 CFR 763 (NVLAP Lab Code 101904-0) or NY ELAP 198.1 for New York friable samples which includes quantitation of any vermiculite observed (198.6 for NOB samples) or EPA 400 pt ct by EPA 600/M4-82-020 (NY ELAP Lab # 10984); TEM prep by EPA 600/R-93/116 Section 2.3 (analysis by Section 2.5, not covered by NVLAP Bulk accreditation); or NY ELAP 198.4 for New York NOB samples (NY ELAP Lab # 10984). Analysis using Jeol, Model JEM-100CX II microscope, Serial #156147-247. ** Warning Notes: Consider PLM fiber diameter limitation, only TEM will resolve fibers <0.25 micrometers in diameter. TEM bulk analysis is representative of the fine grained matrix material and may not be representative of non-uniformly dispersed debris, soils or other heterogeneous materials for which a combination PLM/TEM evaluation is recommended; Quantitation for beginning weights of <0.1 grams should be considered as qualitative only.

ENCORUS GROUP

124081167

23 Mechanic Street, Springville, NY 14141 | 295 Main Street, West Seneca, NY 14224 | encorus.com 716.592.3980

Bulk Chain of Custody

Email Report to:	labresults@encorus.com	**Turn Around Time**
		☐ RUSH
Client/Contact:	RMF Engineering	☐ 24 Hour
	Elizabeth Nolder	☐ 48 Hour
Project/Location:	SUNY Binghampton Electrical	☑ 72 Hour
	4400 Vestal Parkway East Binghampton, NY 13902	☐ 5 Day
Project No.:	24413 Nanticoke Hall	Other:

Analysis Requested:		**Protocol:**	
PLM	☑	☑	Negative PLM to TEM per ELAP protocols
TEM	☑	☑	Positive Stop by HAN-ID#
PCB	☐	☐	Layered analysis requested for:
Other:		10	Total # of Samples

Notes:

Sample Name					
Date	**Project**	**HAN**	**ID#**	**Description of Sample**	**Location of Sample**
20240725	24413	100.1	1	Gypsum Board	D114
20240725	24413	100.1	2	Gypsum Board	D114
20240725	24413	100.2	1	Joint Compound	D114
20240725	24413	100.2	2	Joint Compound	D114
20240725	24413	600	1	Cove Base Mastic - Brown	D114
20240725	24413	600	2	Cove Base Mastic - Brown	D114
20240725	24413	601	1	Fire Putty - Brown/Red	D114
20240725	24413	601	2	Fire Putty - Brown/Red	D114
20240725	24413	602	1	Concrete Seam Felt	D114A
20240725	24413	602	2	Concrete Seam Felt	D114A
			1		
			2		
			3		
			4		
			5		
			6		
			7		
			8		
			9		
			10		
			11		
			12		
			13		

Received
AUG 05 2024

Sampled by: Aaron Place — Date: 07/25/24
Relinquished by: Aaron Place — Date + Time: 08/02/2024
Received by: — Date + Time:

ENCORUS GROUP

23 Mechanic Street
Springville, NY 14141

295 Main Street
West Seneca, NY 14224

encorus.com
716.592.3980

L. Nelson Rockefeller

AmeriSci Richmond
13635 GENITO ROAD
MIDLOTHIAN, VIRGINIA 23112
TEL: 8047631200 FAX: 8047631800

August 23, 2024

Encorus Group Engineering P.C.
Attn: Sean Fitzgerald
350 Elmwood Ave
Buffalo, NY 14222

RE: Encorus Group Engineering P.C.
Job Number 124081747
P.O. #24413
24413; RMF Engineering/Elizabeth Nolder; SUNY Binghamton Electrical/4400 Vestal Parkway East
Binghamton, NY 13902

Dear Sean Fitzgerald:

Enclosed are the results of Asbestos Analysis - Bulk Protocol of the following Encorus Group Engineering P.C. samples, received at AmeriSci on Tuesday, August 20, 2024, for a 3 day turnaround:

20240815-24413-600-1, 20240815-24413-600-2

The 2 samples, placed in zip lock bag, were shipped to AmeriSci via Fed Ex 7301 7892 1520 B 955. Encorus Group Engineering P.C. requested ELAP PLM/TEM analysis of these samples.

The results of the analyses which were performed under NYSDOH ELAP Lab Certification # 10984 following ELAP 198.4 TEM guidelines are presented within the Summary Table of this report. The presence of matrix reduction data in the Summary Table normally indicates an NOB sample. For NOB samples the individual matrix reduction and TEM analysis results are listed in Table I. Complete PLM results for individual samples analyzed by ELAP 198.1 (friable) and ELAP 198.6 (NOB) are presented in the PLM Bulk Asbestos Report. This combined report relates ONLY to sample analysis expressed as percent composition by weight and percent asbestos. This report must not be used to claim product endorsement or approval by these laboratories, NVLAP, ELAP or any other associated agency. The National Institute of Standards and Technology accreditation requirements, mandate that this report must not be reproduced, except in full without the written approval of the laboratory. This report may contain specific data not covered by NVLAP or ELAP accreditations respectively, if so identified in relevant footnotes.

AmeriSci appreciates this opportunity to serve your organization. Please contact us for any further assistance or with any questions.

Sincerely,

Cory M. Parnell

Laboratory Director | Authorized Signatory

AmeriSci Richmond
13635 GENITO ROAD
MIDLOTHIAN, VIRGINIA 23112
TEL: (804) 763-1200 • FAX: (804) 763-1800

PLM Bulk Asbestos Report

Encorus Group Engineering P.C.
Attn: Sean Fitzgerald
350 Elmwood Ave

Buffalo, NY 14222

Date Received 08/20/24
Date Examined 08/21/24
ELAP # 10984

AmeriSci Job # 124081747
P.O. #
Page 1 **of** 1

RE: 24413; RMF Engineering/Elizabeth Nolder; SUNY Binghamton Electrical/4400 Vestal Parkway East Binghamton, NY 13902

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
20240815-24413-600-1 600 **Location:** Exterior Door Frame Sealant; East Ext	124081747-01	***No***	NAD (NOB by NYS ELAP 198.6) by David W. Ralbovsky on 08/21/24
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-Asbestos 8.1%			
20240815-24413-600-2 600 **Location:** Exterior Door Frame Sealant; East Ext	124081747-02	***No***	NAD (NOB by NYS ELAP 198.6) by David W. Ralbovsky on 08/21/24
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-Asbestos 11%			

Reporting Notes:

Analyzed by: David W. Ralbovsky
Date: 8/21/2024

Reviewed by: Cory M. Parnell

*NAD = no asbestos detected, Detection Limit <1%, Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; "Present" or NVA = "No Visible Asbestos" are observations made during a qualitative analysis; NA = not analyzed; NA/PS = not analyzed / positive stop; PLM Bulk Asbestos Analysis using Olympus, Model BH-2 microscope, Serial #229707, by EPA 600/R-93/116 per 40 CFR 763 (NVLAP Lab Code 101904-0) and ELAP PLM Analysis Protocol 198.1 for New York friable samples which includes quantitation of any vermiculite observed (198.6 for NOB samples) or EPA 400 pt ct by EPA 600/M4-82-020 (NYSDOH ELAP Lab # 10984); CA ELAP Lab # 2508; Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. NAD or Trace results by PLM are inconclusive, TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full without the approval of the laboratory. This PLM report relates ONLY to the items tested.

Client Name: Encorus Group Engineering P.C.

Table I
Summary of Bulk Asbestos Analysis Results by NYS ELAP 198.4

24413; RMF Engineering/Elizabeth Nolder; SUNY Binghamton Electrical/4400 Vestal Parkway East Binghamton, NY 13902

AmeriSci Sample #	Client Sample#	HG Area	NOB Sample Weight (gram)	NOB Heat Sensitive Organic %	NOB Acid Soluble Inorganic %	NOB Insoluble Non-Asbestos Inorganic %	** Asbestos % by PLM/DS	** Asbestos % by TEM
01	20240815-24413-600-1	600	0.689	40.6	51.3	8.1	NAD	NAD
Location:	Exterior Door Frame Sealant; East Ext							
02	20240815-24413-600-2	600	0.585	40.4	47.9	11.7	NAD	NAD
Location:	Exterior Door Frame Sealant; East Ext							

Analyzed by: Cory M. Parnell

Reviewed by: Cory M. Parnell

Date: 8/23/2024

Semi-Quantitative Analysis: NAD = no asbestos detected; NA = not analyzed; NA/PS = not analyzed due to positive stop; Trace = <1%; PLM analysis by EPA 600/R-93/116 per 40 CFR 763 (NVLAP Lab Code 101904-0) or NY ELAP 198.1 for New York friable samples which includes quantitation of any vermiculite observed (198.6 for NOB samples) or EPA 400 pt ct by EPA 600/M4-82-020 (NY ELAP Lab # 10984); TEM prep by EPA 600/R-93/116 Section 2.3 (analysis by Section 2.5, not covered by NVLAP Bulk accreditation); or NY ELAP 198.4 for New York NOB samples (NY ELAP Lab # 10984). Analysis using Jeol, Model JEM-100CX II microscope, Serial #156147-247. ** Warning Notes: Consider PLM fiber diameter limitation, only TEM will resolve fibers <0.25 micrometers in diameter. TEM bulk analysis is representative of the fine grained matrix material and may not be representative of non-uniformly dispersed debris, soils or other heterogeneous materials for which a combination PLM/TEM evaluation is recommended; Quantitation for beginning weights of <0.1 grams should be considered as qualitative only.

124081747

ENCORUS GROUP

23 Mechanic Street, Springville, NY 14141 | 295 Main Street, West Seneca, NY 14224 | encorus.com, 716.592.3980

Bulk Chain of Custody

Email Report to:	labresults@encorus.com		**Turn Around Time**
			☐ RUSH
Client/Contact:	RMF Engineering		☐ 24 Hour
	Elizabeth Nolder		☐ 48 Hour
Project/Location:	SUNY Binghamton Electrical		☑ 72 Hour
	4400 Vestal Parkway East Binghamton, NY 13902		☐ 5 Day
Project No.:	24413	Rockefeller	Other:

Analysis Requested:		**Protocol:**		**Notes:**
PLM	☑	☑	Negative PLM to TEM per ELAP protocols	
TEM	☑	☑	Positive Stop by HAN-ID#	
PCB	☐	☑		
Other:		2	Total # of Samples	

Sample Name Date	Project	HAN	ID#	Description of Sample	Location of Sample
20240815	24413	600	1	Exterior Door Frame Sealant	East Ext
20240815	24413	600	2	Exterior Door Frame Sealant	East Ext
			3		
			4		
			5		
			6		
			7		
			8		
			9		
			10		
			11		
			12		
			13		
			14		
			15		
			16		
			17		
			18		
			19		
			20		
			21		
			22		
			23		

Received
AUG 20 2024

Sampled by: David Richardson — Date: 08/15/2024
Relinquished by: David Richardson — Date + Time: 08/19/2024 1100
Received by: — Date + Time:

PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

August 26, 2024

FOR: Attn:
Encorus Group Engineering, P.C
25 Mechanic Street
Springville, NY 14141

Sample Information		Custody Information		Date	Time
Matrix:	CAULK	Collected by:	DR	08/15/24	
Location Code:	ENCORUS	Received by:	SR1	08/20/24	10:35
Rush Request:	5 Day	Analyzed by:	see "By" below		
P.O.#:	24413				

Laboratory Data

SDG ID: GCR44336
Phoenix ID: CR44336

Project ID: SUNY BINGHAMTON ELECTRICAL 4400 VESTAL
Client ID: 20240815 24413 600 1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Caulk Extraction for PCB	Completed				08/22/24	H/X	SW3545A
Polychlorinated Biphenyls							
PCB-1016	ND	87	mg/Kg	200	08/23/24	SC	SW8082A
PCB-1221	ND	87	mg/Kg	200	08/23/24	SC	SW8082A
PCB-1232	ND	87	mg/Kg	200	08/23/24	SC	SW8082A
PCB-1242	ND	87	mg/Kg	200	08/23/24	SC	SW8082A
PCB-1248	ND	87	mg/Kg	200	08/23/24	SC	SW8082A
PCB-1254	140	87	mg/Kg	200	08/23/24	SC	SW8082A
PCB-1260	ND	87	mg/Kg	200	08/23/24	SC	SW8082A
PCB-1262	ND	87	mg/Kg	200	08/23/24	SC	SW8082A
PCB-1268	ND	87	mg/Kg	200	08/23/24	SC	SW8082A
QA/QC Surrogates							
% DCBP	Diluted Out		%	200	08/23/24	SC	30 - 150 %
% DCBP (Confirmation)	Diluted Out		%	200	08/23/24	SC	30 - 150 %
% TCMX	Diluted Out		%	200	08/23/24	SC	30 - 150 %
% TCMX (Confirmation)	Diluted Out		%	200	08/23/24	SC	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

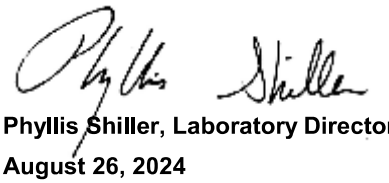
RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Results are reported on an ``as received`` basis, and are not corrected for dry weight.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
August 26, 2024
Official Report Release To Follow

Sample Criteria Exceedances Report

GCR44336 - ENCORUS

Criteria: None

State: NY

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CR44336	$PCB_SMR	PCB-1268	NY / Requested PCB RL /	ND	87000	1000	1000	ug/Kg
CR44336	$PCB_SMR	PCB-1262	NY / Requested PCB RL /	ND	87000	1000	1000	ug/Kg
CR44336	$PCB_SMR	PCB-1260	NY / Requested PCB RL /	ND	87000	1000	1000	ug/Kg
CR44336	$PCB_SMR	PCB-1254	NY / Requested PCB RL /	140000	87000	1000	1000	ug/Kg
CR44336	$PCB_SMR	PCB-1248	NY / Requested PCB RL /	ND	87000	1000	1000	ug/Kg
CR44336	$PCB_SMR	PCB-1242	NY / Requested PCB RL /	ND	87000	1000	1000	ug/Kg
CR44336	$PCB_SMR	PCB-1232	NY / Requested PCB RL /	ND	87000	1000	1000	ug/Kg
CR44336	$PCB_SMR	PCB-1221	NY / Requested PCB RL /	ND	87000	1000	1000	ug/Kg
CR44336	$PCB_SMR	PCB-1016	NY / Requested PCB RL /	ND	87000	1000	1000	ug/Kg

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

ENCORUS GROUP
23 Mechanic Street | 295 Main Street | encorus.com
Springville, NY 14141 | West Seneca, NY 14224 | 716.592 3980

Bulk Chain of Custody

NCAC 19.1

Email Report to:	Labresults@Encorus.com		**Turn Around Time**
			☐ RUSH
Client/Contact:	RMF Engineering		☐ 24 Hour
	Elizabeth Nolder		☐ 48 Hour
Project/Location:	SUNY Binghamton Electrical		☐ 72 Hour
	4400 Vestal Parkway East Binghamton, NY 13902		☑ 5 Day
Project No.:	24413	Rockefeller	Other:

Analysis Requested:		**Protocol:**		**Notes:**
PLM	☐	☐	Negative PLM to TEM per ELAP protocols	
TEM	☐	☐	Positive Stop by HAN-ID#	
PCB	☑	☐	Layered analysis requested for:	
Other:		1	Total # of Samples	

Sample Name Date	Project	HAN	ID#	**Description of Sample**	**Location of Sample**
20240815	24413	600	1	Exterior Door Frame Sealant	East Exterior 44336
			1		
			2		
			3		
			4		
			5		
			6		
			7		
			8		
			9		
			10		
			11		
			12		
			13		
			14		
			15		
			16		
			17		
			18		
			19		
			20		
			21		
			22		

Sampled by: David Richardson
Relinquished by: David Richardson
Received by: FedEx / Emma Cohn

Date : 08/15/2024
Date + Time: 08/19 /2024 1200
Date + Time: 8/20/24 1035

AmeriSci Richmond
13635 GENITO ROAD
MIDLOTHIAN, VIRGINIA 23112
TEL: (804) 763-1200 • FAX: (804) 763-0493

March 20, 2025

Encorus Group Engineering P.C.
Attn: Sean Fitzgerald
295 Main Street
West Seneca, NY 14141

RE: Encorus Group Engineering P.C.
Job Number 125031633
P.O. #24413
24413; RMF Engineering/Elizabeth Nolder; SUNY Binghamton Electrical - Rockefeller/4400 Vestal Parkway East Binghamton, NY 13902

Dear Sean Fitzgerald:

Enclosed are the results of Asbestos Analysis - Bulk Protocol of the following Encorus Group Engineering P.C. samples, received at AmeriSci on Monday, March 17, 2025, for a 3 day turnaround:

03122025-24413-100.1-1, 03122025-24413-100.1-2, 03122025-24413-100.2-1, 03122025-24413-100.2-2, 03122025-24413-200-1, 03122025-24413-200-2

The 6 samples, placed in zip lock bag, were shipped to AmeriSci via Fed Ex. Encorus Group Engineering P.C. requested ELAP PLM/TEM analysis of these samples.

The results of the analyses which were performed under NYSDOH ELAP Lab Certification # 10984 following ELAP 198.4 TEM guidelines are presented within the Summary Table of this report. The presence of matrix reduction data in the Summary Table normally indicates an NOB sample. For NOB samples the individual matrix reduction and TEM analysis results are listed in Table I. Complete PLM results for individual samples analyzed by ELAP 198.1 (friable) and ELAP 198.6 (NOB) are presented in the PLM Bulk Asbestos Report. This combined report relates ONLY to sample analysis expressed as percent composition by weight and percent asbestos. This report must not be used to claim product endorsement or approval by these laboratories, NVLAP, ELAP or any other associated agency. The National Institute of Standards and Technology accreditation requirements, mandate that this report must not be reproduced, except in full without the written approval of the laboratory. This report may contain specific data not covered by NVLAP or ELAP accreditations respectively, if so identified in relevant footnotes.

AmeriSci appreciates this opportunity to serve your organization. Please contact us for any further assistance or with any questions.

Sincerely,

Cory M. Parnell

Laboratory Director | Authorized Signatory

AmeriSci Richmond
13635 GENITO ROAD
MIDLOTHIAN, VIRGINIA 23112
TEL: (804) 763-1200 • FAX: (804) 763-0493

PLM Bulk Asbestos Report

Encorus Group Engineering P.C.
Attn: Sean Fitzgerald
295 Main Street

West Seneca, NY 14141

Date Received 3/17/2025 **AmeriSci Job #** 125031633
Date Examined 03/19/25 **P.O. #**
ELAP # 10984 **Page** 1 **of** 2

RE: 24413; RMF Engineering/Elizabeth Nolder; SUNY Binghamton Electrical - Rockefeller/4400 Vestal Parkway East Binghamton, NY 13902

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos	Notes
03122025-24413-100.1-1 100.1 **Location:** Gypsum Wall Board; Room 004B **Analyst Description:** White, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose Trace, Non-fibrous 100%	125031633-01	***No***	NAD (EPA 600/M4-82-020) by C. David Mintz on 03/19/25	
03122025-24413-100.1-2 100.1 **Location:** Gypsum Wall Board; Room 004B **Analyst Description:** White/Brown, Homogeneous, Fibrous, Drywall w/paperbacking **Asbestos Types:** **Other Material:** Cellulose 7.0%, Fibrous glass 1.0%, Non-fibrous 92%	125031633-02	***No***	NAD (EPA 600/M4-82-020) by C. David Mintz on 03/19/25	*1*
03122025-24413-100.2-1 100.2 **Location:** Joint Compound; Room 004B **Analyst Description:** White, Homogeneous, Non-Fibrous, Joint Compound **Asbestos Types:** **Other Material:** Non-fibrous 100% **Comment:** White Paint on top surface White Compound	125031633-03	***No***	NAD (EPA 600/M4-82-020) by C. David Mintz on 03/19/25	
03122025-24413-100.2-2 100.2 **Location:** Joint Compound; Room 004B **Analyst Description:** White, Homogeneous, Non-Fibrous, Joint Compound **Asbestos Types:** **Other Material:** Non-fibrous 100%	125031633-04	***No***	NAD (EPA 600/M4-82-020) by C. David Mintz on 03/19/25	
03122025-24413-200-1 200 **Location:** Fiberglass Tile Adhesive Puck, Brown; Room 005 **Analyst Description:** Brown, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Non-fibrous 9.4% **Comment:** Heat Sensitive (organic): 63.6%; Acid Soluble (inorganic): 27.1%; Inert (Non-asbestos): 9.4%	125031633-05	***No***	Inconclusive - NAD (NOB by EPA 600/M4-82-020) by C. David Mintz on 03/19/25	*2*

See Reporting notes on last page

PLM Bulk Asbestos Report

24413; RMF Engineering/Elizabeth Nolder; SUNY Binghamton
Electrical - Rockefeller/4400 Vestal Parkway East Binghamton, NY
13902

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos	Notes
03122025-24413-200-2 200	125031633-06	***No***	Inconclusive - NAD (NOB by EPA 600/M4-82-020) by C. David Mintz on 03/19/25	2

Location: Fiberglass Tile Adhesive Puck, Brown; Room 005
Analyst Description: Brown, Homogeneous, Non-Fibrous, Mastic
Asbestos Types:
Other Material: Non-fibrous 9.1%
Comment: Heat Sensitive (organic): 59.1%; Acid Soluble (inorganic): 31.8%; Inert (Non-asbestos): 9.1%

Reporting Notes:

(1) Sample homogenized by grinding to a powder prior to analysis.

(2) NAD results by NYS 198.6 are inconclusive and are not considered non-ACM

Analyzed by: C. David Mintz
Date: 3/19/2025

Reviewed by: Cory M. Parnell

*NAD = no asbestos detected, Detection Limit <1%, Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; "Present" or NVA = "No Visible Asbestos" are observations made during a qualitative analysis (Not covered by NVLAP or NY ELAP accreditations); NA = not analyzed; NA/PS = not analyzed / positive stop; PLM Bulk Asbestos Analysis using Olympus, Model BH-2 microscope, Serial #210972, by EPA 600/R-93/116 per 40 CFR 763 (NVLAP Lab Code 101904-0) and ELAP PLM Analysis Protocol 198.1 for New York friable samples which includes quantitation of any vermiculite observed (198.6 for NOB samples) or EPA 400 pt ct by EPA 600/M4-82-020 (NYSDOH ELAP Lab # 10984); CA ELAP Lab # 2508; Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. NAD or Trace results by PLM are inconclusive, TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full without the approval of the laboratory. This PLM report relates ONLY to the items tested.

Client Name: Encorus Group Engineering P.C.

Table I
Summary of Bulk Asbestos Analysis Results by NYS ELAP 198.4

24413; RMF Engineering/Elizabeth Nolder; SUNY Binghamton Electrical - Rockefeller/4400 Vestal Parkway East Binghamton, NY 13902

AmeriSci Sample #	Client Sample#	HG Area	NOB Sample Weight (gram)	NOB Heat Sensitive Organic %	NOB Acid Soluble Inorganic %	NOB Insoluble Non-Asbestos Inorganic %	** Asbestos % by PLM/DS	** Asbestos % by TEM
01	03122025-24413-100.1-1	100.1	----	----	----	----	NAD	NA
Location:	Gypsum Wall Board; Room 004B							
02	03122025-24413-100.1-2	100.1	----	----	----	----	NAD	NA
Location:	Gypsum Wall Board; Room 004B; Drywall w/paperbacking							
03	03122025-24413-100.2-1	100.2	----	----	----	----	NAD	NA
Location:	Joint Compound; Room 004B; Joint Compound							
04	03122025-24413-100.2-2	100.2	----	----	----	----	NAD	NA
Location:	Joint Compound; Room 004B; Joint Compound							
05	03122025-24413-200-1	200	0.222	63.6	27.1	9.4	NAD	NAD
Location:	Fiberglass Tile Adhesive Puck, Brown; Room 005; Mastic							
06	03122025-24413-200-2	200	0.230	59.1	31.8	9.1	NAD	NAD
Location:	Fiberglass Tile Adhesive Puck, Brown; Room 005; Mastic							

Analyzed by: Cory M. Parnell

Reviewed by: Cory M. Parnell

Date: 3/20/2025

Semi-Quantitative Analysis: NAD = no asbestos detected; NA = not analyzed; NA/PS = not analyzed due to positive stop; Trace = <1%; PLM analysis by EPA 600/R-93/116 per 40 CFR 763 (NVLAP Lab Code 101904-0) or NY ELAP 198.1 for New York friable samples which includes quantitation of any vermiculite observed (198.6 for NOB samples) or EPA 400 pt ct by EPA 600/M4-82-020 (NY ELAP Lab # 10984); TEM prep by EPA 600/R-93/116 Section 2.3 (analysis by Section 2.5, not covered by NVLAP Bulk accreditation); or NY ELAP 198.4 for New York NOB samples (NY ELAP Lab # 10984). Analysis using Jeol, Model JEM-100CX II microscope, Serial #156147-247. ** Warning Notes: Consider PLM fiber diameter limitation, only TEM will resolve fibers <0.25 micrometers in diameter. TEM bulk analysis is representative of the fine grained matrix material and may not be representative of non-uniformly dispersed debris, soils or other heterogeneous materials for which a combination PLM/TEM evaluation is recommended; Quantitation for beginning weights of <0.1 grams should be considered as qualitative only.

ENCORUS GROUP

23 Mechanic Street Springville, NY 14141 | 295 Main Street West Seneca, NY 14224 | encorus.com 716.592.3980

Bulk Chain of Custody

125031633

Email Report to:	labresults@encorus.com	**Turn Around Time**
Client/Contact:	RMF Engineering Elizabeth Nolder	☐ RUSH ☐ 24 Hour ☐ 48 Hour ☑ 72 Hour ☐ 5 Day
Project/Location:	SUNY Binghamton Electrical - Rockefeller 4400 Vestal Parkway East Binghamton, NY 13902	
Project No.:	24413	Other:

Analysis Requested:		**Protocol:**		**Notes:**
PLM	☑	☑	Negative PLM to TEM per ELAP protocols	
TEM	☑	☑	Positive Stop by HAN-ID#	
PCB	☐	☐		
Other:		6	Total # of Samples	

Sample Name					
Date	**Project**	**HAN**	**ID#**	**Description of Sample**	**Location of Sample**
3/12/2025	24413	100.1	1	Gypsum Wall Board	Room 004B
3/12/2025	24413	100.1	2	Gypsum Wall Board	Room 004B
3/12/2025	24413	100.2	1	Joint Compound	Room 004B
3/12/2025	24413	100.2	2	Joint Compound	Room 004B
3/12/2025	24413	200	1	Fiberglass Tile Adhesive Puck, Brown	Room 005
3/12/2025	24413	200	2	Fiberglass Tile Adhesive Puck, Brown	Room 005

Received
MAR 17 2025

Sampled by: Justin Campbell
Relinquished by: Justin Campbell
Received by:

Date: 03/12/2025
Date + Time: 03/14/2025 1700
Date + Time:

ENCORUS GROUP

23 Mechanic Street
Springville, NY 14141

295 Main Street
West Seneca, NY 14224

encorus.com
716.592.3980

M. Oneida Hall

AmeriSci Richmond
13635 GENITO ROAD
MIDLOTHIAN, VIRGINIA 23112
TEL: 8047631200 FAX: 8047631800

August 6, 2024

Encorus Group Engineering P.C.
Attn: Sean Fitzgerald
350 Elmwood Ave
Springville, NY 14141

RE: Encorus Group Engineering P.C.
Job Number 124081092
P.O. #24413
24413; RMF Engineering/Elizabeth Nolder; SUNY Binghampton Electrical; 4400 Vestal Parkway East Binghampton, NY 13902; Oneida Hall

Dear Sean Fitzgerald:

Enclosed are the results of Asbestos Analysis - Bulk Protocol of the following Encorus Group Engineering P.C. samples, received at AmeriSci on Friday, August 2, 2024, for a 3 day turnaround:

20240724-24413-100.1-1, 20240724-24413-100.1-2, 20240724-24413-100.2-1, 20240724-24413-100.2-2, 20240724-24413-300-1, 20240724-24413-300-2, 20240724-24413-602.1-1, 20240724-24413-602.1-2, 20240724-24413-602.2-1, 20240724-24413-602.2-2, 20240724-24413-604-1, 20240724-24413-604-2, 20240724-24413-605-1, 20240724-24413-605-2

The 14 samples, placed in zip lock bag, were shipped to AmeriSci via Fed Ex 7301 7895 0284 B 1000. Encorus Group Engineering P.C. requested ELAP PLM/TEM analysis of these samples.

The results of the analyses which were performed under NYSDOH ELAP Lab Certification # 10984 following ELAP 198.4 TEM guidelines are presented within the Summary Table of this report. The presence of matrix reduction data in the Summary Table normally indicates an NOB sample. For NOB samples the individual matrix reduction and TEM analysis results are listed in Table I. Complete PLM results for individual samples analyzed by ELAP 198.1 (friable) and ELAP 198.6 (NOB) are presented in the PLM Bulk Asbestos Report. This combined report relates ONLY to sample analysis expressed as percent composition by weight and percent asbestos. This report must not be used to claim product endorsement or approval by these laboratories, NVLAP, ELAP or any other associated agency. The National Institute of Standards and Technology accreditation requirements, mandate that this report must not be reproduced, except in full without the written approval of the laboratory. This report may contain specific data not covered by NVLAP or ELAP accreditations respectively, if so identified in relevant footnotes.

AmeriSci appreciates this opportunity to serve your organization. Please contact us for any further assistance or with any questions.

Sincerely,

Cory M. Parnell

Laboratory Director | Authorized Signatory

AmeriSci Richmond
13635 GENITO ROAD
MIDLOTHIAN, VIRGINIA 23112
TEL: (804) 763-1200 • FAX: (804) 763-1800

PLM Bulk Asbestos Report

Encorus Group Engineering P.C.
Attn: Sean Fitzgerald
350 Elmwood Ave

Springville, NY 14141

Date Received 08/02/24
Date Examined 08/06/24
ELAP # 10984
AmeriSci Job # 124081092
P.O. #
Page 1 **of** 4

RE: 24413; RMF Engineering/Elizabeth Nolder; SUNY Binghampton Electrical; 4400 Vestal Parkway East Binghampton, NY 13902; Oneida Hall

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
20240724-24413-100.1-1 100.1 **Location:** Gypsum Board; 100	124081092-01	***No***	NAD (by NYS ELAP 198.1) by Eric H. Ahles on 08/06/24
Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 2.0%, Fibrous glass 1.0%, Non-fibrous 97%			
20240724-24413-100.1-2 100.1 **Location:** Gypsum Board; 100	124081092-02	***No***	NAD (by NYS ELAP 198.1) by Eric H. Ahles on 08/06/24
Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 2.0%, Fibrous glass 1.0%, Non-fibrous 97%			
20240724-24413-100.2-1 100.2 **Location:** Joint Compound; 100	124081092-03	***Yes***	0.5% (EPA 600/M4-82-020) by Eric H. Ahles on 08/06/24
Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** Chrysotile 0.5% **Other Material:** Non-fibrous 99%			
20240724-24413-100.2-2 100.2 **Location:** Joint Compound; 100	124081092-04	***Yes***	0.5% (EPA 600/M4-82-020) by Eric H. Ahles on 08/06/24
Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** Chrysotile 0.5% **Other Material:** Non-fibrous 99%			

See Reporting notes on last page

PLM Bulk Asbestos Report

24413; RMF Engineering/Elizabeth Nolder; SUNY Binghampton Electrical; 4400 Vestal Parkway East Binghampton, NY 13902; Oneida Hall

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
20240724-24413-300-1 300	124081092-05 **Location:** Vinyl Flooring Mastic; C100	***No***	NAD (NOB by NYS ELAP 198.6) by Eric H. Ahles on 08/06/24

Analyst Description: Beige, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-Asbestos 12%
Comment: Heat Sensitive (organic): 49.1%; Acid Soluble (inorganic): 38.6%; Inert (Non-asbestos): 12.3%

20240724-24413-300-2 300	124081092-06 **Location:** Vinyl Flooring Mastic; C100	***No***	NAD (NOB by NYS ELAP 198.6) by Eric H. Ahles on 08/06/24

Analyst Description: Beige, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-Asbestos 31%
Comment: Heat Sensitive (organic): 48.0%; Acid Soluble (inorganic): 20.4%; Inert (Non-asbestos): 31.6%

20240724-24413-602.1-1 602.1	124081092-07 **Location:** Tar Paper; 100	***No***	NAD (NOB by NYS ELAP 198.6) by Eric H. Ahles on 08/06/24

Analyst Description: Silver/Black, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-Asbestos 3.9%
Comment: Heat Sensitive (organic): 58.0%; Acid Soluble (inorganic): 38.0%; Inert (Non-asbestos): 3.9%

20240724-24413-602.1-2 602.1	124081092-08 **Location:** Tar Paper; 100	***No***	NAD (NOB by NYS ELAP 198.6) by Eric H. Ahles on 08/06/24

Analyst Description: Silver/Black, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-Asbestos 7.1%
Comment: Heat Sensitive (organic): 87.1%; Acid Soluble (inorganic): 5.8%; Inert (Non-asbestos): 7.1%

20240724-24413-602.2-1 602.2	124081092-09 **Location:** Associated Mastic; 100	***No***	NAD (NOB by NYS ELAP 198.6) by Eric H. Ahles on 08/06/24

Analyst Description: Tan, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-Asbestos 2.4%
Comment: Heat Sensitive (organic): 91.9%; Acid Soluble (inorganic): 5.8%; Inert (Non-asbestos): 2.4%

See Reporting notes on last page

PLM Bulk Asbestos Report

24413; RMF Engineering/Elizabeth Nolder; SUNY Binghampton Electrical; 4400 Vestal Parkway East Binghampton, NY 13902; Oneida Hall

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
20240724-24413-602.2-2	124081092-10	***No***	NAD
602.2	**Location:** Associated Mastic; 100		(NOB by NYS ELAP 198.6) by Eric H. Ahles on 08/06/24

Analyst Description: Tan, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-Asbestos 8.2%
Comment: Heat Sensitive (organic): 85.8%; Acid Soluble (inorganic): 6.0%; Inert (Non-asbestos): 8.2%

20240724-24413-604-1	124081092-11	***No***	NAD
604	**Location:** Cove Base Mastic; C100		(NOB by NYS ELAP 198.6) by Eric H. Ahles on 08/06/24

Analyst Description: Beige, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-Asbestos 22%
Comment: Heat Sensitive (organic): 37.2%; Acid Soluble (inorganic): 39.9%; Inert (Non-asbestos): 22.9%

20240724-24413-604-2	124081092-12	***No***	NAD
604	**Location:** Cove Base Mastic; C100		(NOB by NYS ELAP 198.6) by Eric H. Ahles on 08/06/24

Analyst Description: Beige, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-Asbestos 36%
Comment: Heat Sensitive (organic): 36.2%; Acid Soluble (inorganic): 27.5%; Inert (Non-asbestos): 36.3%

20240724-24413-605-1	124081092-13	***Yes***	0.4%
605	**Location:** Door Caulk - Black; C100		(NOB by EPA 600/M4-82-020) by Eric H. Ahles on 08/06/24

Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types: Chrysotile 0.4%
Other Material: Non-Asbestos 40%
Comment: Heat Sensitive (organic): 44.9%; Acid Soluble (inorganic): 14.7%; Inert (Non-asbestos): 40.1%

20240724-24413-605-2	124081092-14	***Yes***	Trace (<0.3 % pc)
605	**Location:** Door Caulk - Black; C100		(NOB by EPA 600/M4-82-020) by Eric H. Ahles on 08/06/24

Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types: Chrysotile <0.3 % pc
Other Material: Non-Asbestos 23%
Comment: Heat Sensitive (organic): 45.1%; Acid Soluble (inorganic): 31.5%; Inert (Non-asbestos): 23.3%

See Reporting notes on last page

PLM Bulk Asbestos Report

24413; RMF Engineering/Elizabeth Nolder; SUNY Binghampton Electrical; 4400 Vestal Parkway East Binghampton, NY 13902; Oneida Hall

---

Reporting Notes:

Analyzed by: Eric H. Ahles Reviewed by: Cory M. Parnell

Date: 8/6/2024

*NAD = no asbestos detected, Detection Limit <1%, Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; "Present" or NVA = "No Visible Asbestos" are observations made during a qualitative analysis; NA = not analyzed; NA/PS = not analyzed / positive stop; PLM Bulk Asbestos Analysis using Meiji, Model MT 6130 microscope, Serial #1410298, by EPA 600/R-93/116 per 40 CFR 763 (NVLAP Lab Code 101904-0) and ELAP PLM Analysis Protocol 198.1 for New York friable samples which includes quantitation of any vermiculite observed (198.6 for NOB samples) or EPA 400 pt ct by EPA 600/M4-82-020 (NYSDOH ELAP Lab # 10984); CA ELAP Lab # 2508; Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. NAD or Trace results by PLM are inconclusive, TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full without the approval of the laboratory. This PLM report relates ONLY to the items tested.

Client Name: Encorus Group Engineering P.C.

Table I
Summary of Bulk Asbestos Analysis Results by NYS ELAP 198.4

24413; RMF Engineering/Elizabeth Nolder; SUNY Binghampton Electrical; 4400 Vestal Parkway East Binghampton, NY 13902; Oneida Hall

AmeriSci Sample #	Client Sample#	HG Area	NOB Sample Weight (gram)	NOB Heat Sensitive Organic %	NOB Acid Soluble Inorganic %	NOB Insoluble Non-Asbestos Inorganic %	** Asbestos % by PLM/DS	** Asbestos % by TEM
01	20240724-24413-100.1-1	100.1	----	----	----	----	NAD	NA
Location: Gypsum Board; 100								
02	20240724-24413-100.1-2	100.1	----	----	----	----	NAD	NA
Location: Gypsum Board; 100								
03	20240724-24413-100.2-1	100.2	----	----	----	----	Chrysotile 0.5	NA
Location: Joint Compound; 100								
04	20240724-24413-100.2-2	100.2	----	----	----	----	Chrysotile 0.5	NA
Location: Joint Compound; 100								
05	20240724-24413-300-1	300	0.406	49.1	38.6	12.3	NAD	NAD
Location: Vinyl Flooring Mastic; C100								
06	20240724-24413-300-2	300	0.799	48.0	20.4	31.6	NAD	NAD
Location: Vinyl Flooring Mastic; C100								
07	20240724-24413-602.1-1	602.1	0.256	58.0	38.0	3.9	NAD	NAD
Location: Tar Paper; 100								
08	20240724-24413-602.1-2	602.1	0.243	87.1	5.8	7.1	NAD	NAD
Location: Tar Paper; 100								
09	20240724-24413-602.2-1	602.2	0.365	91.9	5.8	2.4	NAD	NAD
Location: Associated Mastic; 100								
10	20240724-24413-602.2-2	602.2	0.240	85.8	6.0	8.2	NAD	NAD
Location: Associated Mastic; 100								
11	20240724-24413-604-1	604	0.349	37.2	39.9	22.9	NAD	NAD
Location: Cove Base Mastic; C100								
12	20240724-24413-604-2	604	0.616	36.2	27.5	36.3	NAD	NAD
Location: Cove Base Mastic; C100								
13	20240724-24413-605-1	605	0.710	44.9	14.7	40.4	Chrysotile 0.4	Chrysotile Trace
Location: Door Caulk - Black; C100								
14	20240724-24413-605-2	605	0.511	45.1	31.5	23.3	Chrysotile <0.3	Chrysotile Trace
Location: Door Caulk - Black; C100								

See Reporting notes on last page

Client Name: Encorus Group Engineering P.C.

Table I

Summary of Bulk Asbestos Analysis Results by NYS ELAP 198.4

24413; RMF Engineering/Elizabeth Nolder; SUNY Binghampton Electrical; 4400 Vestal Parkway East Binghampton, NY 13902; Oneida Hall

AmeriSci Sample #	Client Sample#	HG Area	NOB Sample Weight (gram)	NOB Heat Sensitive Organic %	NOB Acid Soluble Inorganic %	NOB Insoluble Non-Asbestos Inorganic %	** Asbestos % by PLM/DS	** Asbestos % by TEM

Analyzed by: Cory M. Parnell

Reviewed by: Cory M. Parnell

Date: 8/6/2024

Semi-Quantitative Analysis: NAD = no asbestos detected; NA = not analyzed; NA/PS = not analyzed due to positive stop; Trace = <1%; PLM analysis by EPA 600/R-93/116 per 40 CFR 763 (NVLAP Lab Code 101904-0) or NY ELAP 198.1 for New York friable samples which includes quantitation of any vermiculite observed (198.6 for NOB samples) or EPA 400 pt ct by EPA 600/M4-82-020 (NY ELAP Lab # 10984); TEM prep by EPA 600/R-93/116 Section 2.3 (analysis by Section 2.5, not covered by NVLAP Bulk accreditation); or NY ELAP 198.4 for New York NOB samples (NY ELAP Lab # 10984). Analysis using Jeol, Model JEM-100CX II microscope, Serial #156147-247. ** Warning Notes: Consider PLM fiber diameter limitation, only TEM will resolve fibers <0.25 micrometers in diameter. TEM bulk analysis is representative of the fine grained matrix material and may not be representative of non-uniformly dispersed debris, soils or other heterogeneous materials for which a combination PLM/TEM evaluation is recommended; Quantitation for beginning weights of <0.1 grams should be considered as qualitative only.

124081092

ENCORUS GROUP

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Bulk Chain of Custody

Email Report to:	labresults@encorus.com		**Turn Around Time**
			☐ RUSH
Client/Contact:	RMF Engineering		☐ 24 Hour
	Elizabeth Nolder		☐ 48 Hour
Project/Location:	SUNY Binghampton Electrical		☑ 72 Hour
	4400 Vestal Parkway East Binghampton, NY 13902		☐ 5 Day
Project No.:	24413	Oneida Hall	Other:

Analysis Requested:			**Protocol:**	**Notes:**
PLM	☑	☑	Negative PLM to TEM per ELAP protocols	
TEM	☑	☑	Positive Stop by HAN-ID#	
PCB	☐	☐	Layered analysis requested for:	
Other:		14	Total # of Samples	

Sample Name					
Date	**Project**	**HAN**	**ID#**	**Description of Sample**	**Location of Sample**
20240724	24413	100.1	1	Gypsum Board	100
20240724	24413	100.1	2	Gypsum Board	100
20240724	24413	100.2	1	Joint Compound	100
20240724	24413	100.2	2	Joint Compound	100
20240724	24413	300	1	Vinyl Flooring Mastic	C100
20240724	24413	300	2	Vinyl Flooring Mastic	C100
20240724	24413	602.1	1	Tar Paper	100
20240724	24413	602.1	2	Tar Paper	100
20240724	24413	602.2	1	Associated Mastic	100
20240724	24413	602.2	2	Associated Mastic	100
20240724	24413	604	1	Cove Base Mastic	C100
20240724	24413	604	2	Cove Base Mastic	C100
20240724	24413	605	1	Door Caulk - Black	C100
20240724	24413	605	2	Door Caulk - Black	C100
			1		
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			8		Received
			9		AUG 02 2024

Sampled by: Aaron Place — Date:07/24/24

Relinquished by: Aaron Place — Date + Time:08/01/2024 1630

Received by: — Date + Time:

ENCORUS GROUP

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Springville, NY 14141

295 Main Street
West Seneca, NY 14224

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716.592.3980

N. Onondaga Hall

AmeriSci Richmond
13635 GENITO ROAD
MIDLOTHIAN, VIRGINIA 23112
TEL: 8047631200 FAX: 8047631800

August 8, 2024

Encorus Group Engineering P.C.
Attn: Sean Fitzgerald
350 Elmwood Ave
Springville, NY 14141

RE: Encorus Group Engineering P.C.
Job Number 124081168
P.O. #24413
24413; RMF Engineering/Elizabeth Nolder; SUNY Binghampton Electrical; 4400 Vestal Parkway, East Binghampton, NY 13902; Onondaga Hall

Dear Sean Fitzgerald:

Enclosed are the results of Asbestos Analysis - Bulk Protocol of the following Encorus Group Engineering P.C. samples, received at AmeriSci on Monday, August 5, 2024, for a 3 day turnaround:

20240724-24413-100.1-1, 20240724-24413-100.1-2, 20240724-24413-100.2-1, 20240724-24413-100.2-2, 20240724-24413-200-1, 20240724-24413-200-2, 20240724-24413-500-1, 20240724-24413-500-2, 20240724-24413-500-3, 20240724-24413-600.1-1, 20240724-24413-600.1-2, 20240724-24413-600.2-1, 20240724-24413-600.2-2, 20240724-24413-601-1, 20240724-24413-601-2, 20240724-24413-602-1, 20240724-24413-602-2, 20240724-24413-604-1, 20240724-24413-604-2

The 19 samples, placed in zip lock bag, were shipped to AmeriSci via Fed Ex 7301 7895 0115 B 905. Encorus Group Engineering P.C. requested ELAP PLM/TEM analysis of these samples.

The results of the analyses which were performed under NYSDOH ELAP Lab Certification # 10984 following ELAP 198.4 TEM guidelines are presented within the Summary Table of this report. The presence of matrix reduction data in the Summary Table normally indicates an NOB sample. For NOB samples the individual matrix reduction and TEM analysis results are listed in Table I. Complete PLM results for individual samples analyzed by ELAP 198.1 (friable) and ELAP 198.6 (NOB) are presented in the PLM Bulk Asbestos Report. This combined report relates ONLY to sample analysis expressed as percent composition by weight and percent asbestos. This report must not be used to claim product endorsement or approval by these laboratories, NVLAP, ELAP or any other associated agency. The National Institute of Standards and Technology accreditation requirements, mandate that this report must not be reproduced, except in full without the written approval of the laboratory. This report may contain specific data not covered by NVLAP or ELAP accreditations respectively, if so identified in relevant footnotes.

AmeriSci appreciates this opportunity to serve your organization. Please contact us for any further assistance or with any questions.

Sincerely,

Cory M. Parnell

Laboratory Director | Authorized Signatory

AmeriSci Richmond
13635 GENITO ROAD
MIDLOTHIAN, VIRGINIA 23112
TEL: (804) 763-1200 • FAX: (804) 763-1800

PLM Bulk Asbestos Report

Encorus Group Engineering P.C.
Attn: Sean Fitzgerald
350 Elmwood Ave

Springville, NY 14141

Date Received 08/05/24
Date Examined 08/08/24
ELAP # 10984
AmeriSci Job # 124081168
P.O. #
Page 1 **of** 5

RE: 24413; RMF Engineering/Elizabeth Nolder; SUNY Binghampton Electrical; 4400 Vestal Parkway, East Binghampton, NY 13902; Onondaga Hall

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
20240724-24413-100.1-1 100.1 **Location:** Gypsum Board; 103	124081168-01	***No***	NAD (by NYS ELAP 198.1) by Tou Si Anothay on 08/08/24
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100%			
20240724-24413-100.1-2 100.1 **Location:** Gypsum Board; 103	124081168-02	***No***	NAD (by NYS ELAP 198.1) by Tou Si Anothay on 08/08/24
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100%			
20240724-24413-100.2-1 100.2 **Location:** Joint Compound; 103	124081168-03	***No***	NAD (by NYS ELAP 198.1) by Tou Si Anothay on 08/08/24
Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100%			
20240724-24413-100.2-2 100.2 **Location:** Joint Compound; 103	124081168-04	***No***	NAD (by NYS ELAP 198.1) by Tou Si Anothay on 08/08/24
Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100%			

See Reporting notes on last page

PLM Bulk Asbestos Report

24413; RMF Engineering/Elizabeth Nolder; SUNY Binghampton Electrical; 4400 Vestal Parkway, East Binghampton, NY 13902; Onondaga Hall

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
20240724-24413-200-1 200	124081168-05 **Location:** 2'x2' - Ceiling Tile - Grit; 104	***No***	NAD (NOB by NYS ELAP 198.6) by Tou Si Anothay on 08/08/24
Analyst Description: Beige, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-Asbestos 40% **Comment:** Heat Sensitive (organic): 14.2%; Acid Soluble (inorganic): 45.3%; Inert (Non-asbestos): 40.5%			
20240724-24413-200-2 200	124081168-06 **Location:** 2'x2' - Ceiling Tile - Grit; 104	***No***	NAD (NOB by NYS ELAP 198.6) by Tou Si Anothay on 08/08/24
Analyst Description: Beige, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-Asbestos 43% **Comment:** Heat Sensitive (organic): 13.7%; Acid Soluble (inorganic): 42.6%; Inert (Non-asbestos): 43.7%			
20240724-24413-500-1 500	124081168-07 **Location:** Spray On Fireproofing; 104	***No***	NAD (by NYS ELAP 198.1) by Tou Si Anothay on 08/08/24
Analyst Description: Gray, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Fibrous glass 95%, Non-fibrous 5.0%			
20240724-24413-500-2 500	124081168-08 **Location:** Spray On Fireproofing; 104	***No***	NAD (by NYS ELAP 198.1) by Tou Si Anothay on 08/08/24
Analyst Description: Gray, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Fibrous glass 95%, Non-fibrous 5.0%			
20240724-24413-500-3 500	124081168-09 **Location:** Spray On Fireproofing; 104	***No***	NAD (by NYS ELAP 198.1) by Tou Si Anothay on 08/08/24
Analyst Description: Gray, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Fibrous glass 95%, Non-fibrous 5.0%			

See Reporting notes on last page

PLM Bulk Asbestos Report

24413; RMF Engineering/Elizabeth Nolder; SUNY Binghampton Electrical; 4400 Vestal Parkway, East Binghampton, NY 13902; Onondaga Hall

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
20240724-24413-600.1-1 600.1 **Location:** Tar Paper; 103	124081168-10	***No***	NAD (NOB by NYS ELAP 198.6) by Tou Si Anothay on 08/08/24

Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-Asbestos 2.7%
Comment: Heat Sensitive (organic): 96.6%; Acid Soluble (inorganic): 0.7%; Inert (Non-asbestos): 2.7%

20240724-24413-600.1-2 600.1 **Location:** Tar Paper; 103	124081168-11	***No***	NAD (NOB by NYS ELAP 198.6) by Tou Si Anothay on 08/08/24

Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-Asbestos 17%
Comment: Heat Sensitive (organic): 82.9%; Inert (Non-asbestos): 17.1%

20240724-24413-600.2-1 600.2 **Location:** Associated Mastic; 103	124081168-12	***No***	NAD (NOB by NYS ELAP 198.6) by Tou Si Anothay on 08/08/24

Analyst Description: Yellow, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-Asbestos 2.1%
Comment: Heat Sensitive (organic): 93.6%; Acid Soluble (inorganic): 4.2%; Inert (Non-asbestos): 2.1%

20240724-24413-600.2-2 600.2 **Location:** Associated Mastic; 103	124081168-13	***No***	NAD (NOB by NYS ELAP 198.6) by Tou Si Anothay on 08/08/24

Analyst Description: Yellow, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-Asbestos 2.9%
Comment: Heat Sensitive (organic): 93.0%; Acid Soluble (inorganic): 4.1%; Inert (Non-asbestos): 2.9%

20240724-24413-601-1 601 **Location:** Fire Caulk - Red; 103	124081168-14	***No***	NAD (NOB by NYS ELAP 198.6) by Tou Si Anothay on 08/08/24

Analyst Description: Red, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-Asbestos 20%
Comment: Heat Sensitive (organic): 37.4%; Acid Soluble (inorganic): 42.3%; Inert (Non-asbestos): 20.3%

See Reporting notes on last page

PLM Bulk Asbestos Report

24413; RMF Engineering/Elizabeth Nolder; SUNY Binghampton Electrical; 4400 Vestal Parkway, East Binghampton, NY 13902; Onondaga Hall

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
20240724-24413-601-2 601	124081168-15 **Location:** Fire Caulk - Red; 103	***No***	NAD (NOB by NYS ELAP 198.6) by Tou Si Anothay on 08/08/24
Analyst Description: Red, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-Asbestos 42% **Comment:** Heat Sensitive (organic): 53.7%; Acid Soluble (inorganic): 3.7%; Inert (Non-asbestos): 42.6%			
20240724-24413-602-1 602	124081168-16 **Location:** Fire Putty - Red; 103	***No***	NAD (NOB by NYS ELAP 198.6) by Tou Si Anothay on 08/08/24
Analyst Description: Red, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-Asbestos 49% **Comment:** Heat Sensitive (organic): 48.6%; Acid Soluble (inorganic): 2.2%; Inert (Non-asbestos): 49.2%			
20240724-24413-602-2 602	124081168-17 **Location:** Fire Putty - Red; 103	***No***	NAD (NOB by NYS ELAP 198.6) by Tou Si Anothay on 08/08/24
Analyst Description: Red, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-Asbestos 50% **Comment:** Heat Sensitive (organic): 48.3%; Acid Soluble (inorganic): 1.2%; Inert (Non-asbestos): 50.4%			
20240724-24413-604-1 604	124081168-18 **Location:** Door Caulk - Brown; 104	***No***	NAD (NOB by NYS ELAP 198.6) by Tou Si Anothay on 08/08/24
Analyst Description: Brown, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-Asbestos 28% **Comment:** Heat Sensitive (organic): 49.4%; Acid Soluble (inorganic): 22.0%; Inert (Non-asbestos): 28.6%			
20240724-24413-604-2 604	124081168-19 **Location:** Door Caulk - Brown; 104	***No***	NAD (NOB by NYS ELAP 198.6) by Tou Si Anothay on 08/08/24
Analyst Description: Brown, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-Asbestos 14% **Comment:** Heat Sensitive (organic): 50.4%; Acid Soluble (inorganic): 35.6%; Inert (Non-asbestos): 14.0%			

See Reporting notes on last page

PLM Bulk Asbestos Report

24413; RMF Engineering/Elizabeth Nolder; SUNY Binghampton Electrical; 4400 Vestal Parkway, East Binghampton, NY 13902; Onondaga Hall

---

Reporting Notes:

Analyzed by: Tou Si Anothay

Reviewed by: Cory M. Parnell

Date: 8/8/2024

*NAD = no asbestos detected, Detection Limit <1%, Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; "Present" or NVA = "No Visible Asbestos" are observations made during a qualitative analysis; NA = not analyzed; NA/PS = not analyzed / positive stop; PLM Bulk Asbestos Analysis using Meiji, Model MT 6120 microscope, Serial #1900011, by EPA 600/R-93/116 per 40 CFR 763 (NVLAP Lab Code 101904-0) and ELAP PLM Analysis Protocol 198.1 for New York friable samples which includes quantitation of any vermiculite observed (198.6 for NOB samples) or EPA 400 pt ct by EPA 600/M4-82-020 (NYSDOH ELAP Lab # 10984); CA ELAP Lab # 2508; Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. NAD or Trace results by PLM are inconclusive, TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full without the approval of the laboratory. This PLM report relates ONLY to the items tested.

Client Name: Encorus Group Engineering P.C.

Table I
Summary of Bulk Asbestos Analysis Results by NYS ELAP 198.4

24413; RMF Engineering/Elizabeth Nolder; SUNY Binghampton Electrical; 4400 Vestal Parkway, East Binghampton, NY 13902; Onondaga Hall

AmeriSci Sample #	Client Sample#	HG Area	NOB Sample Weight (gram)	NOB Heat Sensitive Organic %	NOB Acid Soluble Inorganic %	NOB Insoluble Non-Asbestos Inorganic %	** Asbestos % by PLM/DS	** Asbestos % by TEM
01	20240724-24413-100.1-1	100.1	----	----	----	----	NAD	NA
Location: Gypsum Board; 103								
02	20240724-24413-100.1-2	100.1	----	----	----	----	NAD	NA
Location: Gypsum Board; 103								
03	20240724-24413-100.2-1	100.2	----	----	----	----	NAD	NA
Location: Joint Compound; 103								
04	20240724-24413-100.2-2	100.2	----	----	----	----	NAD	NA
Location: Joint Compound; 103								
05	20240724-24413-200-1	200	0.184	14.2	45.3	40.5	NAD	NAD
Location: 2'x2' - Ceiling Tile - Grit; 104								
06	20240724-24413-200-2	200	0.247	13.7	42.6	43.7	NAD	NAD
Location: 2'x2' - Ceiling Tile - Grit; 104								
07	20240724-24413-500-1	500	----	----	----	----	NAD	NA
Location: Spray On Fireproofing; 104								
08	20240724-24413-500-2	500	----	----	----	----	NAD	NA
Location: Spray On Fireproofing; 104								
09	20240724-24413-500-3	500	----	----	----	----	NAD	NA
Location: Spray On Fireproofing; 104								
10	20240724-24413-600.1-1	600.1	0.226	96.6	0.7	2.7	NAD	NAD
Location: Tar Paper; 103								
11	20240724-24413-600.1-2	600.1	0.365	82.9	0.0	17.1	NAD	NAD
Location: Tar Paper; 103								
12	20240724-24413-600.2-1	600.2	0.391	93.6	4.2	2.1	NAD	NAD
Location: Associated Mastic; 103								
13	20240724-24413-600.2-2	600.2	0.362	93.0	4.1	2.9	NAD	NAD
Location: Associated Mastic; 103								
14	20240724-24413-601-1	601	0.739	37.4	42.3	20.3	NAD	NAD
Location: Fire Caulk - Red; 103								
15	20240724-24413-601-2	601	0.661	53.7	3.7	42.6	NAD	NAD
Location: Fire Caulk - Red; 103								
16	20240724-24413-602-1	602	1.161	48.6	2.2	49.2	NAD	NAD
Location: Fire Putty - Red; 103								

See Reporting notes on last page

Table I
Summary of Bulk Asbestos Analysis Results by NYS ELAP 198.4

24413; RMF Engineering/Elizabeth Nolder; SUNY Binghampton Electrical; 4400 Vestal Parkway, East Binghampton, NY 13902; Onondaga Hall

AmeriSci Sample #	Client Sample#	HG Area	NOB Sample Weight (gram)	NOB Heat Sensitive Organic %	NOB Acid Soluble Inorganic %	NOB Insoluble Non-Asbestos Inorganic %	** Asbestos % by PLM/DS	** Asbestos % by TEM
17	20240724-24413-602-2	602	0.768	48.3	1.2	50.4	NAD	NAD
Location:	Fire Putty - Red; 103							
18	20240724-24413-604-1	604	0.929	49.4	22.0	28.6	NAD	NAD
Location:	Door Caulk - Brown; 104							
19	20240724-24413-604-2	604	0.669	50.4	35.6	14.0	NAD	NAD
Location:	Door Caulk - Brown; 104							

Analyzed by: Cory M. Parnell

Reviewed by: Cory M. Parnell

Date: 8/8/2024

Semi-Quantitative Analysis: NAD = no asbestos detected; NA = not analyzed; NA/PS = not analyzed due to positive stop; Trace = <1%; PLM analysis by EPA 600/R-93/116 per 40 CFR 763 (NVLAP Lab Code 101904-0) or NY ELAP 198.1 for New York friable samples which includes quantitation of any vermiculite observed (198.6 for NOB samples) or EPA 400 pt ct by EPA 600/M4-82-020 (NY ELAP Lab # 10984); TEM prep by EPA 600/R-93/116 Section 2.3 (analysis by Section 2.5, not covered by NVLAP Bulk accreditation); or NY ELAP 198.4 for New York NOB samples (NY ELAP Lab # 10984). Analysis using Jeol, Model JEM-100CX II microscope, Serial #156147-247. ** Warning Notes: Consider PLM fiber diameter limitation, only TEM will resolve fibers <0.25 micrometers in diameter. TEM bulk analysis is representative of the fine grained matrix material and may not be representative of non-uniformly dispersed debris, soils or other heterogeneous materials for which a combination PLM/TEM evaluation is recommended; Quantitation for beginning weights of <0.1 grams should be considered as qualitative only.

1240811 68

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Bulk Chain of Custody

Email Report to:	labresults@encorus.com		**Turn Around Time**
			☐ RUSH
Client/Contact:	RMF Engineering		☐ 24 Hour
	Elizabeth Nolder		☐ 48 Hour
Project/Location:	SUNY Binghampton Electrical		☑ 72 Hour
	4400 Vestal Parkway East Binghampton, NY 13902		☐ 5 Day
Project No.:	24413	Onondaga Hall	Other:

Analysis Requested:		**Protocol:**		**Notes:**
PLM	☑	☑	Negative PLM to TEM per ELAP protocols	
TEM	☑	☑	Positive Stop by HAN-ID#	
PCB	☐	☐	Layered analysis requested for:	
Other:		19	Total # of Samples	

Sample Name					
Date	**Project**	**HAN**	**ID#**	**Description of Sample**	**Location of Sample**
20240724	24413	100.1	1	Gypsum Board	103
20240724	24413	100.1	2	Gypsum Board	103
20240724	24413	100.2	1	Joint Compound	103
20240724	24413	100.2	2	Joint Compound	103
20240724	24413	200	1	2' x 2' - Ceiling Tile - Grit	104
20240724	24413	200	2	2' x 2' - Ceiling Tile - Grit	104
20240724	24413	500	1	Spray on Fireproofing	104
20240724	24413	500	2	Spray on Fireproofing	104
20240724	24413	500	3	Spray on Fireproofing	104
20240724	24413	600.1	1	Tar Paper	103
20240724	24413	600.1	2	Tar Paper	103
20240724	24413	600.2	1	Associated Mastic	103
20240724	24413	600.2	2	Associated Mastic	103
20240724	24413	601	1	Fire Caulk - Red	103
20240724	24413	601	2	Fire Caulk - Red	103
20240724	24413	602	1	Fire Putty - Red	103
20240724	24413	602	2	Fire Putty - Red	103
20240724	24413	604	1	Door Caulk - Brown	104
20240724	24413	604	2	Door Caulk - Brown	104
			1		
			2		
			3		
			4		

Received
AUG 05 2024

Sampled by: Aaron Place — Date: 07/24/24
Relinquished by: Aaron Place — Date + Time: 08/02/2024 1200
Received by: — Date + Time:

AmeriSci Richmond
13635 GENITO ROAD
MIDLOTHIAN, VIRGINIA 23112
TEL: (804) 763-1200 • FAX: (804) 763-0493

March 28, 2025

Encorus Group Engineering P.C.
Attn: Sean Fitzgerald
295 Main Street
West Seneca, NY 14141

RE: Encorus Group Engineering P.C.
Job Number 125031640
P.O. #24413
24413; RMF Engineering/Elizabeth Nolder; SUNY Binghamton Electrical - Onondaga Hall/4400 Vestal Parkway East Binghamton, NY 13902 (Report Amended 3/28/2025)

Dear Sean Fitzgerald:

Enclosed are the results of Asbestos Analysis - Bulk Protocol of the following Encorus Group Engineering P.C. samples, received at AmeriSci on Monday, March 17, 2025, for a 3 day turnaround:

03122025-24413-202-1, 03122025-24413-202-2, 03122025-24413-203-1, 03122025-24413-203-2, 03122025-24413-204-1, 03122025-24413-204-2, 03122025-24413-606-1, 03122025-24413-606-2

The 8 samples, placed in zip lock bag, were shipped to AmeriSci via Fed Ex. Encorus Group Engineering P.C. requested ELAP PLM/TEM analysis of these samples.

The results of the analyses which were performed under NYSDOH ELAP Lab Certification # 10984 following ELAP 198.4 TEM guidelines are presented within the Summary Table of this report. The presence of matrix reduction data in the Summary Table normally indicates an NOB sample. For NOB samples the individual matrix reduction and TEM analysis results are listed in Table I. Complete PLM results for individual samples analyzed by ELAP 198.1 (friable) and ELAP 198.6 (NOB) are presented in the PLM Bulk Asbestos Report. This combined report relates ONLY to sample analysis expressed as percent composition by weight and percent asbestos. This report must not be used to claim product endorsement or approval by these laboratories, NVLAP, ELAP or any other associated agency. The National Institute of Standards and Technology accreditation requirements, mandate that this report must not be reproduced, except in full without the written approval of the laboratory. This report may contain specific data not covered by NVLAP or ELAP accreditations respectively, if so identified in relevant footnotes.

AmeriSci appreciates this opportunity to serve your organization. Please contact us for any further assistance or with any questions.

Sincerely,

Glenn F. Massey

QA Manager | Authorized Signatory

AmeriSci Richmond
13635 GENITO ROAD
MIDLOTHIAN, VIRGINIA 23112
TEL: (804) 763-1200 • FAX: (804) 763-0493

PLM Bulk Asbestos Report

Encorus Group Engineering P.C.
Attn: Sean Fitzgerald
295 Main Street

West Seneca, NY 14141

Date Received 3/17/2025 **AmeriSci Job #** 125031640
Date Examined 03/19/25 **P.O. #**
ELAP # 10984 **Page** 1 **of** 2

RE: 24413; RMF Engineering/Elizabeth Nolder; SUNY Binghamton Electrical - Onondaga Hall/4400 Vestal Parkway East Binghamton, NY 13902 (Report Amended 3/28/2025)

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos	Notes
03122025-24413-202-1 202	125031640-01	***No***	Inconclusive - NAD (NOB by NYS ELAP 198.6) by Eric H. Ahles on 03/19/25	*1*

Location: Fiberglass Tile Adhesive Puck, Tan; Room 101
Analyst Description: Tan, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-Asbestos 7.0%
Comment: Heat Sensitive (organic): 83.4%; Acid Soluble (inorganic): 9.5%; Inert (Non-asbestos): 7.0%

03122025-24413-202-2 202	125031640-02	***No***	Inconclusive - NAD (NOB by NYS ELAP 198.6) by Eric H. Ahles on 03/19/25	*1*

Location: Fiberglass Tile Adhesive Puck, Tan; Room 101
Analyst Description: Tan, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-Asbestos NAD
Comment: Heat Sensitive (organic): 93.2%; Acid Soluble (inorganic): 6.8%

03122025-24413-203-1 203	125031640-03	***Yes***	Inconclusive - Trace Chrysotile detected at 1% or less (NOB by EPA 600/M4-82-020) by Eric H. Ahles on 03/19/25	*2*

Location: Fiberglass Tile Adhesive Puck, Black; Room 101
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types: Chrysotile <0.3 % pc
Other Material: Non-Asbestos 48%
Comment: Heat Sensitive (organic): 48.9%; Acid Soluble (inorganic): 2.2%; Inert (Non-asbestos): 48.8%

03122025-24413-203-2 203	125031640-04	***Yes***	Inconclusive - Trace Chrysotile detected at 1% or less (NOB by EPA 600/M4-82-020) by Eric H. Ahles on 03/19/25	*2*

Location: Fiberglass Tile Adhesive Puck, Black; Room 101
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types: Chrysotile <0.3 % pc
Other Material: Non-Asbestos 47%
Comment: Heat Sensitive (organic): 48.3%; Acid Soluble (inorganic): 3.9%; Inert (Non-asbestos): 47.7%

03122025-24413-204-1 204	125031640-05	***No***	Inconclusive - NAD (NOB by NYS ELAP 198.6) by Eric H. Ahles on 03/19/25	*1*

Location: Fiberglass Tile Stick Pin Adhesive; Room 101
Analyst Description: Green, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-Asbestos 8.8%
Comment: Heat Sensitive (organic): 65.5%; Acid Soluble (inorganic): 25.7%; Inert (Non-asbestos): 8.8%

See Reporting notes on last page

PLM Bulk Asbestos Report

24413; RMF Engineering/Elizabeth Nolder; SUNY Binghamton
Electrical - Onondaga Hall/4400 Vestal Parkway East Binghamton, NY
13902 (Report Amended 3/28/2025)

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos	Notes
03122025-24413-204-2 204	125031640-06	***No***	Inconclusive - NAD (NOB by NYS ELAP 198.6) by Eric H. Ahles on 03/19/25	*1*

Location: Fiberglass Tile Stick Pin Adhesive; Room 101
Analyst Description: Green, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-Asbestos 14%
Comment: Heat Sensitive (organic): 63.6%; Acid Soluble (inorganic): 22.2%; Inert (Non-asbestos): 14.3%

03122025-24413-606-1 606	125031640-07	***Yes***	Inconclusive - Trace Chrysotile detected at 1% or less (NOB by EPA 600/M4-82-020) by Eric H. Ahles on 03/19/25	*2*

Location: Foundation Waterproofing - Black; North Exterior
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types: Chrysotile <0.3 % pc
Other Material: Non-Asbestos 36%
Comment: Heat Sensitive (organic): 60.5%; Acid Soluble (inorganic): 3.4%; Inert (Non-asbestos): 36.1%

03122025-24413-606-2 606	125031640-08	***Yes***	Inconclusive - Trace Chrysotile detected at 1% or less (NOB by EPA 600/M4-82-020) by Eric H. Ahles on 03/19/25	*2*

Location: Foundation Waterproofing - Black; North Exterior
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types: Chrysotile <0.3 % pc
Other Material: Non-Asbestos 30%
Comment: Heat Sensitive (organic): 64.2%; Acid Soluble (inorganic): 5.3%; Inert (Non-asbestos): 30.3%

Reporting Notes:

(1) NAD results by NYS 198.6 are inconclusive and are not considered non-ACM

(2) Trace <1% results by NYS 198.6 are inconclusive and are not considered non-ACM

Analyzed by: Eric H. Ahles
Date: 3/19/2025

Reviewed by: Glenn F. Massey

*NAD = no asbestos detected, Detection Limit <1%, Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; "Present" or NVA = "No Visible Asbestos" are observations made during a qualitative analysis (Not covered by NVLAP or NY ELAP accreditations); NA = not analyzed; NA/PS = not analyzed / positive stop; PLM Bulk Asbestos Analysis using Meiji, Model MT 6130 microscope, Serial #1410298, by EPA 600/R-93/116 per 40 CFR 763 (NVLAP Lab Code 101904-0) and ELAP PLM Analysis Protocol 198.1 for New York friable samples which includes quantitation of any vermiculite observed (198.6 for NOB samples) or EPA 400 pt ct by EPA 600/M4-82-020 (NYSDOH ELAP Lab # 10984); CA ELAP Lab # 2508; Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. NAD or Trace results by PLM are inconclusive, TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full without the approval of the laboratory. This PLM report relates ONLY to the items tested.

Client Name: Encorus Group Engineering P.C.

Table I
Summary of Bulk Asbestos Analysis Results by NYS ELAP 198.4

24413; RMF Engineering/Elizabeth Nolder; SUNY Binghamton Electrical - Onondaga Hall/4400 Vestal Parkway East Binghamton, NY 13902 (Report Amended 3/28/2025)

AmeriSci Sample #	Client Sample#	HG Area	NOB Sample Weight (gram)	NOB Heat Sensitive Organic %	NOB Acid Soluble Inorganic %	NOB Insoluble Non-Asbestos Inorganic %	** Asbestos % by PLM/DS	** Asbestos % by TEM
01	03122025-24413-202-1	202	0.249	83.4	9.5	7.0	NAD	NAD
Location:	Fiberglass Tile Adhesive Puck, Tan; Room 101							
02	03122025-24413-202-2	202	0.262	93.2	6.8	0.0	NAD	NAD
Location:	Fiberglass Tile Adhesive Puck, Tan; Room 101							
03	03122025-24413-203-1	203	0.835	48.9	2.2	48.8	Chrysotile <0.3	Chrysotile Trace
Location:	Fiberglass Tile Adhesive Puck, Black; Room 101							
04	03122025-24413-203-2	203	0.598	48.3	3.9	47.8	Chrysotile <0.3	Chrysotile Trace
Location:	Fiberglass Tile Adhesive Puck, Black; Room 101							
05	03122025-24413-204-1	204	0.249	65.5	25.7	8.8	NAD	NAD
Location:	Fiberglass Tile Stick Pin Adhesive; Room 101							
06	03122025-24413-204-2	204	0.517	63.6	22.2	14.3	NAD	NAD
Location:	Fiberglass Tile Stick Pin Adhesive; Room 101							
07	03122025-24413-606-1	606	0.666	60.5	3.4	36.1	Chrysotile <0.3	Chrysotile Trace
Location:	Foundation Waterproofing - Black; North Exterior							
08	03122025-24413-606-2	606	0.448	64.2	5.3	30.3	Chrysotile <0.3	Chrysotile Trace
Location:	Foundation Waterproofing - Black; North Exterior							

Analyzed by: Cory M. Parnell

Reviewed by: Glenn F. Massey

Date: 3/20/2025

Semi-Quantitative Analysis: NAD = no asbestos detected; NA = not analyzed; NA/PS = not analyzed due to positive stop; Trace = <1%; PLM analysis by EPA 600/R-93/116 per 40 CFR 763 (NVLAP Lab Code 101904-0) or NY ELAP 198.1 for New York friable samples which includes quantitation of any vermiculite observed (198.6 for NOB samples) or EPA 400 pt ct by EPA 600/M4-82-020 (NY ELAP Lab # 10984); TEM prep by EPA 600/R-93/116 Section 2.3 (analysis by Section 2.5, not covered by NVLAP Bulk accreditation); or NY ELAP 198.4 for New York NOB samples (NY ELAP Lab # 10984). Analysis using Jeol, Model JEM-100CX II microscope, Serial #156147-247. ** Warning Notes: Consider PLM fiber diameter limitation, only TEM will resolve fibers <0.25 micrometers in diameter. TEM bulk analysis is representative of the fine grained matrix material and may not be representative of non-uniformly dispersed debris, soils or other heterogeneous materials for which a combination PLM/TEM evaluation is recommended; Quantitation for beginning weights of <0.1 grams should be considered as qualitative only.

ENCORUS GROUP

23 Mechanic Street, Springville, NY 14141 | 295 Main Street, West Seneca, NY 14224 | encorus.com 716.592.3980

Bulk Chain of Custody

Email Report to:	labresults@encorus.com		**Turn Around Time**
Client/Contact:	RMF Engineering 125-03-1640		☐ RUSH
	Elizabeth Nolder		☐ 24 Hour
Project/Location:	SUNY Binghamton Electrical - Onondaga Hall		☐ 48 Hour
	4400 Vestal Parkway East Binghamton, NY 13902		☑ 72 Hour
Project No.:	24413		☐ 5 Day
			Other:

Analysis Requested:		**Protocol:**		**Notes:**
PLM	☑	☑	Negative PLM to TEM per ELAP protocols	
TEM	☑	☑	Positive Stop by HAN-ID#	
PCB	☐	☐	Layered analysis requested for:	
Other:		8	Total # of Samples	

Sample Name					
Date	**Project**	**HAN**	**ID#**	**Description of Sample**	**Location of Sample**
3/12/2025	24413	202	1	Fiberglass Tile Adhesive Puck, Tan	Room 101
3/12/2025	24413	202	2	Fiberglass Tile Adhesive Puck, Tan	Room 101
3/12/2025	24413	203	1	Fiberglass Tile Adhesive Puck, Black	Room 101
3/12/2025	24413	203	2	Fiberglass Tile Adhesive Puck, Black	Room 101
3/12/2025	24413	204	1	Fiberglass Tile Stick Pin Adhesive	Room 101
3/12/2025	24413	204	2	Fiberglass Tile Stick Pin Adhesive	Room 101
3/12/2025	24413	606	1	Foundation Waterproofing - Black	North Exterior
3/12/2025	24413	606	2	Foundation Waterproofing - Black	North Exterior

Sampled by: Justin Campbell Date: 03/12/2025

Relinquished by: Justin Campbell Date + Time: 03/14/2025 1700 Revised by Daniel G. Korff 2025.03.27

Received by: J Goodwyn 3/27/25 Date + Time:

ENCORUS GROUP

23 Mechanic Street
Springville, NY 14141

295 Main Street
West Seneca, NY 14224

encorus.com
716.592.3980

O. Pump House

AmeriSci Richmond
13635 GENITO ROAD
MIDLOTHIAN, VIRGINIA 23112
TEL: 8047631200 FAX: 8047631800

August 23, 2024

Encorus Group Engineering P.C.
Attn: Sean Fitzgerald
350 Elmwood Ave
Buffalo, NY 14222

RE: Encorus Group Engineering P.C.
Job Number 124081743
P.O. #24413
24413; RMF Engineering/Elizabeth Nolder; SUNY Binghamton Electrical/4400 Vestal Parkway East
Binghamton, NY 13902

Dear Sean Fitzgerald:

Enclosed are the results of Asbestos Analysis - Bulk Protocol of the following Encorus Group Engineering P.C. samples, received at AmeriSci on Tuesday, August 20, 2024, for a 3 day turnaround:

20240816-24413-100-1, 20240816-24413-100-2

The 2 samples, placed in zip lock bag, were shipped to AmeriSci via Fed Ex 7301 7892 1520 B 955. Encorus Group Engineering P.C. requested ELAP PLM/TEM analysis of these samples.

The results of the analyses which were performed under NYSDOH ELAP Lab Certification # 10984 following ELAP 198.4 TEM guidelines are presented within the Summary Table of this report. The presence of matrix reduction data in the Summary Table normally indicates an NOB sample. For NOB samples the individual matrix reduction and TEM analysis results are listed in Table I. Complete PLM results for individual samples analyzed by ELAP 198.1 (friable) and ELAP 198.6 (NOB) are presented in the PLM Bulk Asbestos Report. This combined report relates ONLY to sample analysis expressed as percent composition by weight and percent asbestos. This report must not be used to claim product endorsement or approval by these laboratories, NVLAP, ELAP or any other associated agency. The National Institute of Standards and Technology accreditation requirements, mandate that this report must not be reproduced, except in full without the written approval of the laboratory. This report may contain specific data not covered by NVLAP or ELAP accreditations respectively, if so identified in relevant footnotes.

AmeriSci appreciates this opportunity to serve your organization. Please contact us for any further assistance or with any questions.

Sincerely,

Glenn F. Massey

QA Manager | Authorized Signatory

AmeriSci Richmond
13635 GENITO ROAD
MIDLOTHIAN, VIRGINIA 23112
TEL: (804) 763-1200 • FAX: (804) 763-1800

PLM Bulk Asbestos Report

Encorus Group Engineering P.C.
Attn: Sean Fitzgerald
350 Elmwood Ave

Buffalo, NY 14222

Date Received 08/20/24
Date Examined 08/22/24
ELAP # 10984

AmeriSci Job # 124081743
P.O. #
Page 1 **of** 1

RE: 24413; RMF Engineering/Elizabeth Nolder; SUNY Binghamton Electrical/4400 Vestal Parkway East Binghamton, NY 13902

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
20240816-24413-100-1 100 **Location:** Canadian Gypsum Wall Board; 100	124081743-01	***No***	NAD (by NYS ELAP 198.1) by David W. Ralbovsky on 08/22/24
Analyst Description: Gray/White/Gray, Heterogeneous, Fibrous, Wall Board **Asbestos Types:** **Other Material:** Cellulose 15%, Non-fibrous 5.0%, Perlite 80%			
20240816-24413-100-2 100 **Location:** Canadian Gypsum Wall Board; 100	124081743-02	***No***	NAD (by NYS ELAP 198.1) by David W. Ralbovsky on 08/22/24
Analyst Description: Gray/White/Gray, Heterogeneous, Fibrous, Wall Board **Asbestos Types:** **Other Material:** Cellulose 15%, Non-fibrous 5.0%, Perlite 80%			

Reporting Notes:

Analyzed by: David W. Ralbovsky
Date: 8/22/2024

Reviewed by: David W. Ralbovsky

*NAD = no asbestos detected, Detection Limit <1%, Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; "Present" or NVA = "No Visible Asbestos" are observations made during a qualitative analysis; NA = not analyzed; NA/PS = not analyzed / positive stop; PLM Bulk Asbestos Analysis using Olympus, Model BH-2 microscope, Serial #229707, by EPA 600/R-93/116 per 40 CFR 763 (NVLAP Lab Code 101904-0) and ELAP PLM Analysis Protocol 198.1 for New York friable samples which includes quantitation of any vermiculite observed (198.6 for NOB samples) or EPA 400 pt ct by EPA 600/M4-82-020 (NYSDOH ELAP Lab # 10984); CA ELAP Lab # 2508; Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. NAD or Trace results by PLM are inconclusive, TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full without the approval of the laboratory. This PLM report relates ONLY to the items tested.

1240811743

ENCORUS GROUP

23 Mechanic Street | 295 Main Street | encorus.com
Springville, NY 14141 | West Seneca, NY 14224 | 716.592.3980

Bulk Chain of Custody

Email Report to:	labresults@encorus.com	**Turn Around Time**
		☐ RUSH
Client/Contact:	RMF Engineering	☐ 24 Hour
	Elizabeth Nolder	☐ 48 Hour
Project/Location:	SUNY Binghamton Electrical	☑ 72 Hour
	4400 Vestal Parkway East Binghamton, NY 13902	☐ 5 Day
Project No.:	24413 Pump Room	Other:

Analysis Requested:		**Protocol:**		**Notes:**
PLM	☑	☑	Negative PLM to TEM per ELAP protocols	
TEM	☑	☑	Positive Stop by HAN-ID#	
PCB	☐	☐	Layered analysis requested for:	
Other:		2	Total # of Samples	

Sample Name Date	Project	HAN	ID#	Description of Sample	Location of Sample
20240816	24413	100	1	Canadian Gypsum Wall Board	100
20240816	24413	100	2	Canadian Gypsum Wall Board	100
			1		
			2		
			3		
			4		
			5		
			6		
			7		
			8		
			9		
			10		
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			19		
			20		
			21		

Received
AUG 20 2024
TM

Sampled by: David Richardsdon
Relinquished by:David Richardson
Received by:

Date:08/16/2024
Date + Time:08/19/2024 1400
Date + Time:

ENCORUS GROUP

23 Mechanic Street
Springville, NY 14141

295 Main Street
West Seneca, NY 14224

encorus.com
716.592.3980

P. Roosevelt Hall

AmeriSci Richmond
13635 GENITO ROAD
MIDLOTHIAN, VIRGINIA 23112
TEL: 8047631200 FAX: 8047631800

August 23, 2024

Encorus Group Engineering P.C.
Attn: Sean Fitzgerald
350 Elmwood Ave
Buffalo, NY 14222

RE: Encorus Group Engineering P.C.
Job Number 124081748
P.O. #24413
24413; RMF Engineering/Elizabeth Nolder; SUNY Binghamton Electrical/4400 Vestal Parkway East
Binghamton, NY 13902

Dear Sean Fitzgerald:

Enclosed are the results of Asbestos Analysis - Bulk Protocol of the following Encorus Group Engineering P.C. samples, received at AmeriSci on Tuesday, August 20, 2024, for a 3 day turnaround:

20240815-24413-200-1, 20240815-24413-200-2

The 2 samples, placed in zip lock bag, were shipped to AmeriSci via Fed Ex 7301 7892 1520 B 955. Encorus Group Engineering P.C. requested ELAP PLM/TEM analysis of these samples.

The results of the analyses which were performed under NYSDOH ELAP Lab Certification # 10984 following ELAP 198.4 TEM guidelines are presented within the Summary Table of this report. The presence of matrix reduction data in the Summary Table normally indicates an NOB sample. For NOB samples the individual matrix reduction and TEM analysis results are listed in Table I. Complete PLM results for individual samples analyzed by ELAP 198.1 (friable) and ELAP 198.6 (NOB) are presented in the PLM Bulk Asbestos Report. This combined report relates ONLY to sample analysis expressed as percent composition by weight and percent asbestos. This report must not be used to claim product endorsement or approval by these laboratories, NVLAP, ELAP or any other associated agency. The National Institute of Standards and Technology accreditation requirements, mandate that this report must not be reproduced, except in full without the written approval of the laboratory. This report may contain specific data not covered by NVLAP or ELAP accreditations respectively, if so identified in relevant footnotes.

AmeriSci appreciates this opportunity to serve your organization. Please contact us for any further assistance or with any questions.

Sincerely,

Cory M. Parnell

Laboratory Director | Authorized Signatory

AmeriSci Richmond
13635 GENITO ROAD
MIDLOTHIAN, VIRGINIA 23112
TEL: (804) 763-1200 • FAX: (804) 763-1800

PLM Bulk Asbestos Report

Encorus Group Engineering P.C.
Attn: Sean Fitzgerald
350 Elmwood Ave

Buffalo, NY 14222

Date Received 08/20/24
Date Examined 08/21/24
ELAP # 10984

AmeriSci Job # 124081748
P.O. #
Page 1 **of** 1

RE: 24413; RMF Engineering/Elizabeth Nolder; SUNY Binghamton Electrical/4400 Vestal Parkway East Binghamton, NY 13902

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
20240815-24413-200-1 200 **Location:** Fiberglass Stick Pin Adhesive; 001	124081748-01	***No***	NAD (NOB by NYS ELAP 198.6) by C. David Mintz on 08/21/24
Analyst Description: Brown, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Fibrous glass 1.0%, Non-fibrous 44%			
20240815-24413-200-2 200 **Location:** Fiberglass Stick Pin Adhesive; 001	124081748-02	***No***	NAD (NOB by NYS ELAP 198.6) by C. David Mintz on 08/21/24
Analyst Description: Brown, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Fibrous glass 1.0%, Non-fibrous 45%			

Reporting Notes:

Analyzed by: C. David Mintz
Date: 8/21/2024

C David Mintz

Reviewed by: Cory M. Parnell

*NAD = no asbestos detected, Detection Limit <1%, Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; "Present" or NVA = "No Visible Asbestos" are observations made during a qualitative analysis; NA = not analyzed; NA/PS = not analyzed / positive stop; PLM Bulk Asbestos Analysis using Olympus, Model BH-2 microscope, Serial #210972, by EPA 600/R-93/116 per 40 CFR 763 (NVLAP Lab Code 101904-0) and ELAP PLM Analysis Protocol 198.1 for New York friable samples which includes quantitation of any vermiculite observed (198.6 for NOB samples) or EPA 400 pt ct by EPA 600/M4-82-020 (NYSDOH ELAP Lab # 10984); CA ELAP Lab # 2508; Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. NAD or Trace results by PLM are inconclusive, TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full without the approval of the laboratory. This PLM report relates ONLY to the items tested.

Client Name: Encorus Group Engineering P.C.

Table I
Summary of Bulk Asbestos Analysis Results by NYS ELAP 198.4

24413; RMF Engineering/Elizabeth Nolder; SUNY Binghamton Electrical/4400 Vestal Parkway East Binghamton, NY 13902

AmeriSci Sample #	Client Sample#	HG Area	NOB Sample Weight (gram)	NOB Heat Sensitive Organic %	NOB Acid Soluble Inorganic %	NOB Insoluble Non-Asbestos Inorganic %	** Asbestos % by PLM/DS	** Asbestos % by TEM
01	20240815-24413-200-1	200	0.485	52.6	2.0	45.5	NAD	NAD
Location:	Fiberglass Stick Pin Adhesive; 001							
02	20240815-24413-200-2	200	1.061	53.2	0.0	46.7	NAD	NAD
Location:	Fiberglass Stick Pin Adhesive; 001							

Analyzed by: Cory M. Parnell

Reviewed by: Cory M. Parnell

Date: 8/23/2024

Semi-Quantitative Analysis: NAD = no asbestos detected; NA = not analyzed; NA/PS = not analyzed due to positive stop; Trace = <1%; PLM analysis by EPA 600/R-93/116 per 40 CFR 763 (NVLAP Lab Code 101904-0) or NY ELAP 198.1 for New York friable samples which includes quantitation of any vermiculite observed (198.6 for NOB samples) or EPA 400 pt ct by EPA 600/M4-82-020 (NY ELAP Lab # 10984); TEM prep by EPA 600/R-93/116 Section 2.3 (analysis by Section 2.5, not covered by NVLAP Bulk accreditation); or NY ELAP 198.4 for New York NOB samples (NY ELAP Lab # 10984). Analysis using Jeol, Model JEM-100CX II microscope, Serial #156147-247. ** Warning Notes: Consider PLM fiber diameter limitation, only TEM will resolve fibers <0.25 micrometers in diameter. TEM bulk analysis is representative of the fine grained matrix material and may not be representative of non-uniformly dispersed debris, soils or other heterogeneous materials for which a combination PLM/TEM evaluation is recommended; Quantitation for beginning weights of <0.1 grams should be considered as qualitative only.

1240817 48

ENCORUS GROUP

23 Mechanic Street, Springville, NY 14141 | 295 Main Street, West Seneca, NY 14224 | encorus.com 716.592.3980

Bulk Chain of Custody

Email Report to:	labresults@encorus.com	**Turn Around Time**
		☐ RUSH
Client/Contact:	RMF Engineering	☐ 24 Hour
	Elizabeth Nolder	☐ 48 Hour
Project/Location:	SUNY Binghamton Electrical	☑ 72 Hour
	4400 Vestal Parkway East Binghamton, NY 13902	☐ 5 Day
Project No.:	24413 Roosevelt	Other:

Analysis Requested:		**Protocol:**	**Notes:**
PLM	☑	☑ Negative PLM to TEM per ELAP protocols	
TEM	☑	☑ Positive Stop by HAN-ID#	
PCB	☐	☑	
Other:		2 Total # of Samples	

Sample Name Date	Project	HAN	ID#	Description of Sample	Location of Sample
20240815	24413	200	1	Fiberglass Stick Pin Adhesive	001
20240815	24413	200	2	Fiberglass Stick Pin Adhesive	001
			3		
			4		
			5		
			6		
			7		
			8		
			9		
			10		
			11		
			12		
			13		
			14		
			15		
			16		
			17		
			18		
			19		
			20		
			21		
			22		
			23		

Received

AUG 20 2024

TM

Sampled by: David Richardson — Date: 08/15/2024

Relinquished by: David Richardson — Date + Time: 08/19/2024 1100

Received by: — Date + Time:

AmeriSci Richmond
13635 GENITO ROAD
MIDLOTHIAN, VIRGINIA 23112
TEL: (804) 763-1200 • FAX: (804) 763-0493

March 20, 2025

Encorus Group Engineering P.C.
Attn: Sean Fitzgerald
295 Main Street
West Seneca, NY 14141

RE: Encorus Group Engineering P.C.
Job Number 125031634
P.O. #24413
24413; RMF Engineering/Elizabeth Nolder; SUNY Binghamton Electrical - Roosevelt/4400 Vestal Parkway East Binghamton, NY 13902

Dear Sean Fitzgerald:

Enclosed are the results of Asbestos Analysis - Bulk Protocol of the following Encorus Group Engineering P.C. samples, received at AmeriSci on Monday, March 17, 2025, for a 3 day turnaround:

03122025-24413-602-1, 03122025-24413-602-2

The 2 samples, placed in zip lock bag, were shipped to AmeriSci via Fed Ex. Encorus Group Engineering P.C. requested ELAP PLM/TEM analysis of these samples.

The results of the analyses which were performed under NYSDOH ELAP Lab Certification # 10984 following ELAP 198.4 TEM guidelines are presented within the Summary Table of this report. The presence of matrix reduction data in the Summary Table normally indicates an NOB sample. For NOB samples the individual matrix reduction and TEM analysis results are listed in Table I. Complete PLM results for individual samples analyzed by ELAP 198.1 (friable) and ELAP 198.6 (NOB) are presented in the PLM Bulk Asbestos Report. This combined report relates ONLY to sample analysis expressed as percent composition by weight and percent asbestos. This report must not be used to claim product endorsement or approval by these laboratories, NVLAP, ELAP or any other associated agency. The National Institute of Standards and Technology accreditation requirements, mandate that this report must not be reproduced, except in full without the written approval of the laboratory. This report may contain specific data not covered by NVLAP or ELAP accreditations respectively, if so identified in relevant footnotes.

AmeriSci appreciates this opportunity to serve your organization. Please contact us for any further assistance or with any questions.

Sincerely,

Cory M. Parnell

Laboratory Director | Authorized Signatory

AmeriSci Richmond
13635 GENITO ROAD
MIDLOTHIAN, VIRGINIA 23112
TEL: (804) 763-1200 • FAX: (804) 763-0493

PLM Bulk Asbestos Report

Encorus Group Engineering P.C.
Attn: Sean Fitzgerald
295 Main Street

West Seneca, NY 14141

Date Received 3/17/2025 **AmeriSci Job #** 125031634
Date Examined 03/19/25 **P.O. #**
ELAP # 10984 **Page** 1 **of** 1

RE: 24413; RMF Engineering/Elizabeth Nolder; SUNY Binghamton Electrical - Roosevelt/4400 Vestal Parkway East Binghamton, NY 13902

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos	Notes
03122025-24413-602-1 602	125031634-01	***No***	Inconclusive - NAD (NOB by NYS ELAP 198.6) by David W. Ralbovsky on 03/19/25	*1*

Location: Foundation Waterproofing - Black; South Exterior
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-Asbestos 2.5%
Comment: Heat Sensitive (organic): 83.2%; Acid Soluble (inorganic): 14.4%; Inert (Non-asbestos): 2.5%

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos	Notes
03122025-24413-602-2 602	125031634-02	***No***	Inconclusive - NAD (NOB by NYS ELAP 198.6) by David W. Ralbovsky on 03/19/25	*1*

Location: Foundation Waterproofing - Black; South Exterior
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-Asbestos 10%
Comment: Heat Sensitive (organic): 71.7%; Acid Soluble (inorganic): 18.1%; Inert (Non-asbestos): 10.2%

Reporting Notes:

(1) NAD results by NYS 198.6 are inconclusive and are not considered non-ACM

Analyzed by: David W. Ralbovsky
Date: 3/19/2025

Reviewed by: Cory M. Parnell

*NAD = no asbestos detected, Detection Limit <1%, Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; "Present" or NVA = "No Visible Asbestos" are observations made during a qualitative analysis (Not covered by NVLAP or NY ELAP accreditations); NA = not analyzed; NA/PS = not analyzed / positive stop; PLM Bulk Asbestos Analysis using Olympus, Model BH-2 microscope, Serial #229707, by EPA 600/R-93/116 per 40 CFR 763 (NVLAP Lab Code 101904-0) and ELAP PLM Analysis Protocol 198.1 for New York friable samples which includes quantitation of any vermiculite observed (198.6 for NOB samples) or EPA 400 pt ct by EPA 600/M4-82-020 (NYSDOH ELAP Lab # 10984); CA ELAP Lab # 2508; Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. NAD or Trace results by PLM are inconclusive, TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full without the approval of the laboratory. This PLM report relates ONLY to the items tested.

Client Name: Encorus Group Engineering P.C.

Table I
Summary of Bulk Asbestos Analysis Results by NYS ELAP 198.4

24413; RMF Engineering/Elizabeth Nolder; SUNY Binghamton Electrical - Roosevelt/4400 Vestal Parkway East Binghamton, NY 13902

AmeriSci Sample #	Client Sample#	HG Area	NOB Sample Weight (gram)	NOB Heat Sensitive Organic %	NOB Acid Soluble Inorganic %	NOB Insoluble Non-Asbestos Inorganic %	** Asbestos % by PLM/DS	** Asbestos % by TEM
01	03122025-24413-602-1	602	0.129	83.2	14.4	2.5	NAD	NAD
Location:	Foundation Waterproofing - Black; South Exterior							
02	03122025-24413-602-2	602	0.232	71.7	18.1	10.2	NAD	NAD
Location:	Foundation Waterproofing - Black; South Exterior							

Analyzed by: Cory M. Parnell

Reviewed by: Cory M. Parnell

Date: 3/20/2025

Semi-Quantitative Analysis: NAD = no asbestos detected; NA = not analyzed; NA/PS = not analyzed due to positive stop; Trace = <1%; PLM analysis by EPA 600/R-93/116 per 40 CFR 763 (NVLAP Lab Code 101904-0) or NY ELAP 198.1 for New York friable samples which includes quantitation of any vermiculite observed (198.6 for NOB samples) or EPA 400 pt ct by EPA 600/M4-82-020 (NY ELAP Lab # 10984); TEM prep by EPA 600/R-93/116 Section 2.3 (analysis by Section 2.5, not covered by NVLAP Bulk accreditation); or NY ELAP 198.4 for New York NOB samples (NY ELAP Lab # 10984). Analysis using Jeol, Model JEM-100CX II microscope, Serial #156147-247. ** Warning Notes: Consider PLM fiber diameter limitation, only TEM will resolve fibers <0.25 micrometers in diameter. TEM bulk analysis is representative of the fine grained matrix material and may not be representative of non-uniformly dispersed debris, soils or other heterogeneous materials for which a combination PLM/TEM evaluation is recommended; Quantitation for beginning weights of <0.1 grams should be considered as qualitative only.

ENCORUS GROUP

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Bulk Chain of Custody

125031634

Email Report to:	labresults@encorus.com	**Turn Around Time**
Client/Contact:	RMF Engineering Elizabeth Nolder	☐ RUSH ☐ 24 Hour ☐ 48 Hour ☑ 72 Hour ☐ 5 Day
Project/Location:	SUNY Binghamton Electrical - Roosevelt 4400 Vestal Parkway East Binghamton, NY 13902	
Project No.:	24413	Other:

Analysis Requested:		Protocol:		Notes:
PLM	☑	☑	Negative PLM to TEM per ELAP protocols	
TEM	☑	☑	Positive Stop by HAN-ID#	
PCB	☐	☐		
Other:		2	Total # of Samples	

Sample Name					
Date	Project	HAN	ID#	Description of Sample	Location of Sample
3/12/2025	24413	602	1	Foundation Waterproofing - Black	South Exterior
3/12/2025	24413	602	2	Foundation Waterproofing - Black	South Exterior

Received

MAR 17 2025

Sampled by: Justin Campbell
Relinquished by: Justin Campbell
Received by:

Date: 03/12/2025
Date + Time: 03/14/2025 1700
Date + Time:

ENCORUS GROUP

23 Mechanic Street
Springville, NY 14141

295 Main Street
West Seneca, NY 14224

encorus.com
716.592.3980

Q. Seneca Hall

AmeriSci Richmond
13635 GENITO ROAD
MIDLOTHIAN, VIRGINIA 23112
TEL: 8047631200 FAX: 8047631800

August 5, 2024

Encorus Group Engineering P.C.
Attn: Sean Fitzgerald
350 Elmwood Ave
Springville, NY 14141

RE: Encorus Group Engineering P.C.
Job Number 124081045
P.O. #24413 Seneca Hall
24413 Seneca Hall; RMF Engineering/Elizabeth Nolder; SUNY Binghampton Electrical/4400 Vestal Parkway East Binghampton, NY 13902

Dear Sean Fitzgerald:

Enclosed are the results of Asbestos Analysis - Bulk Protocol of the following Encorus Group Engineering P.C. samples, received at AmeriSci on Thursday, August 1, 2024, for a 3 day turnaround:

20240723-24413-100.1-1, 20240723-24413-100.1-2, 20240723-24413-100.2-1, 20240723-24413-100.2-2, 20240723-24413-200-1, 20240723-24413-200-2, 20240723-24413-301.1-1, 20240723-24413-301.1-2, 20240723-24413-301.2/3-1, 20240723-24413-301.2/3-2, 20240723-24413-600.1-1, 20240723-24413-600.1-2, 20240723-24413-600.2-1, 20240723-24413-600.2-2, 20240723-24413-601-1, 20240723-24413-601-2, 20240723-24413-602-1, 20240723-24413-602-2, 20240723-24413-606-1, 20240723-24413-606-2

The 20 samples, placed in zip lock bag, were shipped to AmeriSci via Fed Ex 7301 7805 1019 B 1035. Encorus Group Engineering P.C. requested ELAP PLM/TEM analysis of these samples.

The results of the analyses which were performed under NYSDOH ELAP Lab Certification # 10984 following ELAP 198.4 TEM guidelines are presented within the Summary Table of this report. The presence of matrix reduction data in the Summary Table normally indicates an NOB sample. For NOB samples the individual matrix reduction and TEM analysis results are listed in Table I. Complete PLM results for individual samples analyzed by ELAP 198.1 (friable) and ELAP 198.6 (NOB) are presented in the PLM Bulk Asbestos Report. This combined report relates ONLY to sample analysis expressed as percent composition by weight and percent asbestos. This report must not be used to claim product endorsement or approval by these laboratories, NVLAP, ELAP or any other associated agency. The National Institute of Standards and Technology accreditation requirements, mandate that this report must not be reproduced, except in full without the written approval of the laboratory. This report may contain specific data not covered by NVLAP or ELAP accreditations respectively, if so identified in relevant footnotes.

AmeriSci appreciates this opportunity to serve your organization. Please contact us for any further assistance or with any questions.

Sincerely,

Cory M. Parnell

Laboratory Director | Authorized Signatory

AmeriSci Richmond
13635 GENITO ROAD
MIDLOTHIAN, VIRGINIA 23112
TEL: (804) 763-1200 • FAX: (804) 763-1800

PLM Bulk Asbestos Report

Encorus Group Engineering P.C.
Attn: Sean Fitzgerald
350 Elmwood Ave

Springville, NY 14141

Date Received 08/01/24
Date Examined 08/05/24
ELAP # 10984
AmeriSci Job # 124081045
P.O. #
Page 1 **of** 5

RE: 24413 Seneca Hall; RMF Engineering/Elizabeth Nolder; SUNY Binghampton Electrical/4400 Vestal Parkway East Binghampton, NY 13902

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
20240723-24413-100.1-1	124081045-01	***No***	NAD
100.1 **Location:** Gypsum Board; 131			(by NYS ELAP 198.1) by William M. Dunstan on 08/05/24
Analyst Description: Brown/White, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 3.0%, Non-fibrous 97%			
20240723-24413-100.1-2	124081045-02	***No***	NAD
100.1 **Location:** Gypsum Board; 131			(by NYS ELAP 198.1) by William M. Dunstan on 08/05/24
Analyst Description: Brown/White, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 3.0%, Non-fibrous 97%			
20240723-24413-100.2-1	124081045-03	***No***	NAD
100.2 **Location:** Joint Compound; 131			(by NYS ELAP 198.1) by William M. Dunstan on 08/05/24
Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100%			
20240723-24413-100.2-2	124081045-04	***No***	NAD
100.2 **Location:** Joint Compound; 131			(by NYS ELAP 198.1) by William M. Dunstan on 08/05/24
Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100%			

See Reporting notes on last page

PLM Bulk Asbestos Report

24413 Seneca Hall; RMF Engineering/Elizabeth Nolder; SUNY Binghampton Electrical/4400 Vestal Parkway East Binghampton, NY 13902

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
20240723-24413-200-1 200	124081045-05 **Location:** 2'x2' Ceiling Tile - Grit; C131	***No***	NAD (NOB by NYS ELAP 198.6) by William M. Dunstan on 08/05/24

Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-fibrous 56%
Comment: Heat Sensitive (organic): 15.6%; Acid Soluble (inorganic): 27.6%; Inert (Non-asbestos): 56.8%

20240723-24413-200-2 200	124081045-06 **Location:** 2'x2' Ceiling Tile - Grit; C131	***No***	NAD (NOB by NYS ELAP 198.6) by William M. Dunstan on 08/05/24

Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-fibrous 55%
Comment: Heat Sensitive (organic): 15.0%; Acid Soluble (inorganic): 29.9%; Inert (Non-asbestos): 55.1%

20240723-24413-301.1-1 301.1	124081045-07 **Location:** 12"x12" - White w/Grey/Beige Chip; C131	***No***	NAD (NOB by NYS ELAP 198.6) by William M. Dunstan on 08/05/24

Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-fibrous 27%
Comment: Heat Sensitive (organic): 12.1%; Acid Soluble (inorganic): 60.1%; Inert (Non-asbestos): 27.8%

20240723-24413-301.1-2 301.1	124081045-08 **Location:** 12"x12" - White w/Grey/Beige Chip; C131	***No***	NAD (NOB by NYS ELAP 198.6) by William M. Dunstan on 08/05/24

Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-fibrous 23%
Comment: Heat Sensitive (organic): 12.0%; Acid Soluble (inorganic): 64.5%; Inert (Non-asbestos): 23.6%

20240723-24413-301.2/3-1 301.2/3	124081045-09 **Location:** Associated Mastic/Fused Floor Leveler; C131	***No***	NAD (NOB by NYS ELAP 198.6) by William M. Dunstan on 08/05/24

Analyst Description: Yellow, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-fibrous 28%
Comment: Heat Sensitive (organic): 33.8%; Acid Soluble (inorganic): 37.6%; Inert (Non-asbestos): 28.6%

See Reporting notes on last page

PLM Bulk Asbestos Report

24413 Seneca Hall; RMF Engineering/Elizabeth Nolder; SUNY Binghampton Electrical/4400 Vestal Parkway East Binghampton, NY 13902

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
20240723-24413-301.2/3-2 301.2/3	124081045-10 **Location:** Associated Mastic/Fused Floor Leveler; C131	***No***	NAD (NOB by NYS ELAP 198.6) by William M. Dunstan on 08/05/24
Analyst Description: Yellow, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 3.4% **Comment:** Heat Sensitive (organic): 29.2%; Acid Soluble (inorganic): 67.4%; Inert (Non-asbestos): 3.4%			
20240723-24413-600.1-1 600.1	124081045-11 **Location:** Tar Paper; 131	***No***	NAD (NOB by NYS ELAP 198.6) by William M. Dunstan on 08/05/24
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 0.0% **Comment:** Heat Sensitive (organic): 97.5%; Acid Soluble (inorganic): 2.5%			
20240723-24413-600.1-2 600.1	124081045-12 **Location:** Tar Paper; 131	***No***	NAD (NOB by NYS ELAP 198.6) by William M. Dunstan on 08/05/24
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 0.7% **Comment:** Heat Sensitive (organic): 97.2%; Acid Soluble (inorganic): 2.1%; Inert (Non-asbestos): 0.7%			
20240723-24413-600.2-1 600.2	124081045-13 **Location:** Associated Mastic; 131	***No***	NAD (NOB by NYS ELAP 198.6) by William M. Dunstan on 08/05/24
Analyst Description: Yellow, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 1.7% **Comment:** Heat Sensitive (organic): 92.5%; Acid Soluble (inorganic): 5.9%; Inert (Non-asbestos): 1.7%			
20240723-24413-600.2-2 600.2	124081045-14 **Location:** Associated Mastic; 131	***No***	NAD (NOB by NYS ELAP 198.6) by William M. Dunstan on 08/05/24
Analyst Description: Yellow, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 6.8% **Comment:** Heat Sensitive (organic): 83.6%; Acid Soluble (inorganic): 9.6%; Inert (Non-asbestos): 6.8%			

See Reporting notes on last page

PLM Bulk Asbestos Report

24413 Seneca Hall; RMF Engineering/Elizabeth Nolder; SUNY Binghampton Electrical/4400 Vestal Parkway East Binghampton, NY 13902

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
20240723-24413-601-1 601	124081045-15 **Location:** Fire Caulk - Red; 131	***No***	NAD (NOB by NYS ELAP 198.6) by William M. Dunstan on 08/05/24
Analyst Description: Red, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 59% **Comment:** Heat Sensitive (organic): 37.9%; Acid Soluble (inorganic): 2.4%; Inert (Non-asbestos): 59.6%			
20240723-24413-601-2 601	124081045-16 **Location:** Fire Caulk - Red; 131	***No***	NAD (NOB by NYS ELAP 198.6) by William M. Dunstan on 08/05/24
Analyst Description: Red, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 59% **Comment:** Heat Sensitive (organic): 38.0%; Acid Soluble (inorganic): 2.4%; Inert (Non-asbestos): 59.6%			
20240723-24413-602-1 602	124081045-17 **Location:** Cove Base Mastic - Beige; C131	***No***	NAD (NOB by NYS ELAP 198.6) by William M. Dunstan on 08/05/24
Analyst Description: Yellow, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 46% **Comment:** Heat Sensitive (organic): 44.3%; Acid Soluble (inorganic): 9.0%; Inert (Non-asbestos): 46.6%			
20240723-24413-602-2 602	124081045-18 **Location:** Cove Base Mastic - Beige; C131	***No***	NAD (NOB by NYS ELAP 198.6) by William M. Dunstan on 08/05/24
Analyst Description: Yellow, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 45% **Comment:** Heat Sensitive (organic): 46.6%; Acid Soluble (inorganic): 7.9%; Inert (Non-asbestos): 45.5%			
20240723-24413-606-1 606	124081045-19 **Location:** Door Caulk - Black; C131	***Yes***	0.3% (NOB by EPA 600/M4-82-020) by William M. Dunstan on 08/05/24
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** Chrysotile 0.3% **Other Material:** Non-fibrous 11% **Comment:** Heat Sensitive (organic): 46.1%; Acid Soluble (inorganic): 41.7%; Inert (Non-asbestos): 11.9%			

See Reporting notes on last page

PLM Bulk Asbestos Report

24413 Seneca Hall; RMF Engineering/Elizabeth Nolder; SUNY Binghampton Electrical/4400 Vestal Parkway East Binghampton, NY 13902

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
20240723-24413-606-2	124081045-20	***Yes***	0.4%
606	**Location:** Door Caulk **-** Black; C131		(NOB by EPA 600/M4-82-020) by William M. Dunstan on 08/05/24

Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types: Chrysotile 0.4%
Other Material: Non-fibrous 10%
Comment: Heat Sensitive (organic): 45.3%; Acid Soluble (inorganic): 43.6%; Inert (Non-asbestos): 10.8%

Reporting Notes:

Analyzed by: William M. Dunstan
Date: 8/5/2024

Reviewed by: Cory M. Parnell

*NAD = no asbestos detected, Detection Limit <1%, Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; "Present" or NVA = "No Visible Asbestos" are observations made during a qualitative analysis; NA = not analyzed; NA/PS = not analyzed / positive stop; PLM Bulk Asbestos Analysis using Olympus, Model BH-2 microscope, Serial #233533, by EPA 600/R-93/116 per 40 CFR 763 (NVLAP Lab Code 101904-0) and ELAP PLM Analysis Protocol 198.1 for New York friable samples which includes quantitation of any vermiculite observed (198.6 for NOB samples) or EPA 400 pt ct by EPA 600/M4-82-020 (NYSDOH ELAP Lab # 10984); CA ELAP Lab # 2508; Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. NAD or Trace results by PLM are inconclusive, TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full without the approval of the laboratory. This PLM report relates ONLY to the items tested.

Client Name: Encorus Group Engineering P.C.

Table I
Summary of Bulk Asbestos Analysis Results by NYS ELAP 198.4

24413 Seneca Hall; RMF Engineering/Elizabeth Nolder; SUNY Binghampton Electrical/4400 Vestal Parkway East Binghampton, NY 13902

AmeriSci Sample #	Client Sample#	HG Area	NOB Sample Weight (gram)	NOB Heat Sensitive Organic %	NOB Acid Soluble Inorganic %	NOB Insoluble Non-Asbestos Inorganic %	** Asbestos % by PLM/DS	** Asbestos % by TEM
01	20240723-24413-100.1-1	100.1	----	----	----	----	NAD	NA
Location: Gypsum Board; 131								
02	20240723-24413-100.1-2	100.1	----	----	----	----	NAD	NA
Location: Gypsum Board; 131								
03	20240723-24413-100.2-1	100.2	----	----	----	----	NAD	NA
Location: Joint Compound; 131								
04	20240723-24413-100.2-2	100.2	----	----	----	----	NAD	NA
Location: Joint Compound; 131								
05	20240723-24413-200-1	200	0.209	15.6	27.6	56.8	NAD	NAD
Location: 2'x2' Ceiling Tile - Grit; C131								
06	20240723-24413-200-2	200	0.212	15.0	29.9	55.1	NAD	NAD
Location: 2'x2' Ceiling Tile - Grit; C131								
07	20240723-24413-301.1-1	301.1	0.593	12.1	60.1	27.8	NAD	NAD
Location: 12"x12" - White w/Grey/Beige Chip; C131								
08	20240723-24413-301.1-2	301.1	0.530	12.0	64.5	23.6	NAD	NAD
Location: 12"x12" - White w/Grey/Beige Chip; C131								
09	20240723-24413-301.2/3-1	301.2/3	0.445	33.8	37.6	28.6	NAD	NAD
Location: Associated Mastic/Fused Floor Leveler; C131								
10	20240723-24413-301.2/3-2	301.2/3	0.414	29.2	67.4	3.4	NAD	NAD
Location: Associated Mastic/Fused Floor Leveler; C131								
11	20240723-24413-600.1-1	600.1	0.188	97.5	2.5	0.0	NAD	NAD
Location: Tar Paper; 131								
12	20240723-24413-600.1-2	600.1	0.204	97.2	2.1	0.7	NAD	NAD
Location: Tar Paper; 131								
13	20240723-24413-600.2-1	600.2	0.239	92.5	5.9	1.7	NAD	NAD
Location: Associated Mastic; 131								
14	20240723-24413-600.2-2	600.2	0.251	83.6	9.6	6.8	NAD	NAD
Location: Associated Mastic; 131								
15	20240723-24413-601-1	601	0.733	37.9	2.4	59.6	NAD	NAD
Location: Fire Caulk - Red; 131								
16	20240723-24413-601-2	601	0.873	38.0	2.4	59.6	NAD	NAD
Location: Fire Caulk - Red; 131								

See Reporting notes on last page

Client Name: Encorus Group Engineering P.C.

Table I
Summary of Bulk Asbestos Analysis Results by NYS ELAP 198.4

24413 Seneca Hall; RMF Engineering/Elizabeth Nolder; SUNY Binghampton Electrical/4400 Vestal Parkway East Binghampton, NY 13902

AmeriSci Sample #	Client Sample#	HG Area	NOB Sample Weight (gram)	NOB Heat Sensitive Organic %	NOB Acid Soluble Inorganic %	NOB Insoluble Non-Asbestos Inorganic %	** Asbestos % by PLM/DS	** Asbestos % by TEM
17	20240723-24413-602-1	602	0.571	44.3	9.0	46.6	NAD	NAD
Location:	Cove Base Mastic - Beige; C131							
18	20240723-24413-602-2	602	0.599	46.6	7.9	45.5	NAD	NAD
Location:	Cove Base Mastic - Beige; C131							
19	20240723-24413-606-1	606	0.739	46.1	41.7	12.1	Chrysotile 0.3	Chrysotile Trace
Location:	Door Caulk - Black; C131							
20	20240723-24413-606-2	606	0.733	45.3	43.6	11.1	Chrysotile 0.4	Chrysotile Trace
Location:	Door Caulk - Black; C131							

Analyzed by: Cory M. Parnell

Reviewed by: Cory M. Parnell

Date: 8/5/2024

Semi-Quantitative Analysis: NAD = no asbestos detected; NA = not analyzed; NA/PS = not analyzed due to positive stop; Trace = <1%; PLM analysis by EPA 600/R-93/116 per 40 CFR 763 (NVLAP Lab Code 101904-0) or NY ELAP 198.1 for New York friable samples which includes quantitation of any vermiculite observed (198.6 for NOB samples) or EPA 400 pt ct by EPA 600/M4-82-020 (NY ELAP Lab # 10984); TEM prep by EPA 600/R-93/116 Section 2.3 (analysis by Section 2.5, not covered by NVLAP Bulk accreditation); or NY ELAP 198.4 for New York NOB samples (NY ELAP Lab # 10984). Analysis using Jeol, Model JEM-100CX II microscope, Serial #156147-247. ** Warning Notes: Consider PLM fiber diameter limitation, only TEM will resolve fibers <0.25 micrometers in diameter. TEM bulk analysis is representative of the fine grained matrix material and may not be representative of non-uniformly dispersed debris, soils or other heterogeneous materials for which a combination PLM/TEM evaluation is recommended; Quantitation for beginning weights of <0.1 grams should be considered as qualitative only.

ENCORUS GROUP

124081045

23 Mechanic Street, Springville, NY 14141 | 295 Main Street, West Seneca, NY 14224 | encorus.com 716.592.3930

Bulk Chain of Custody

Email Report to:	labresults@encorus.com		**Turn Around Time**
			☐ RUSH
Client/Contact:	RMF Engineering		☐ 24 Hour
	Elizabeth Nolder		☐ 48 Hour
Project/Location:	SUNY Binghampton Electrical		☑ 72 Hour
	4400 Vestal Parkway East Binghampton, NY 13902		☐ 5 Day
Project No.:	24413	Seneca Hall	Other:

Analysis Requested:		**Protocol:**		**Notes:**
PLM	☑	☑	Negative PLM to TEM per ELAP protocols	
TEM	☑	☑	Positive Stop by HAN-ID#	
PCB	☐	☑	Layered analysis requested for: 301.2/.3	
Other:		18	Total # of Samples	

Sample Name Date	Project	HAN	ID#	Description of Sample	Location of Sample
20240723	24413	100.1	1	Gypsum Board	131
20240723	24413	100.1	2	Gypsum Board	131
20240723	24413	100.2	1	Joint Compound	131
20240723	24413	100.2	2	Joint Compound	131
20240723	24413	200	1	2' x 2' Ceiling Tile - Grit	C131
20240723	24413	200	2	2' x 2' Ceiling Tile - Grit	C131
20240723	24413	301.1	1	12" x 12" - White w/ Grey/Beige Chip	C131
20240723	24413	301.1	2	12" x 12" - White w/ Grey/Beige Chip	C131
20240723	24413	301.2/.3	1	Associated Mastic/ Fused Floor Leveler	C131
20240723	24413	301.2/.3	2	Associated Mastic/ Fused Floor Leveler	C131
20240723	24413	600.1	1	Tar Paper	131
20240723	24413	600.1	2	Tar Paper	131
20240723	24413	600.2	1	Associated Mastic	131
20240723	24413	600.2	2	Associated Mastic	131
20240723	24413	601	1	Fire Caulk - Red	131
20240723	24413	601	2	Fire Caulk - Red	131
20240723	24413	602	1	Cove Base Mastic - Beige	C131
20240723	24413	602	2	Cove Base Mastic - Beige	C131
20240723	24413	606	1	Door Caulk - Black	C131
20240723	24413	606	2	Door Caulk - Black	C131
			1		
			2		
			3		

Received
AUG 01 2024

Sampled by: Aaron Place
Relinquished by: Aaron Place
Received by:

Date: 07/23/2024
Date + Time: 07/31/2024 1630
Date + Time:

ENCORUS GROUP

23 Mechanic Street
Springville, NY 14141

295 Main Street
West Seneca, NY 14224

encorus.com
716.592.3980

R. Tech Hub

AmeriSci Richmond
13635 GENITO ROAD
MIDLOTHIAN, VIRGINIA 23112
TEL: 8047631200 FAX: 8047631800

August 22, 2024

Encorus Group Engineering P.C.
Attn: Sean Fitzgerald
350 Elmwood Ave
Buffalo, NY 14222

RE: Encorus Group Engineering P.C.
Job Number 124081745
P.O. #24413
24413; RMF Engineering/Elizabeth Nolder; SUNY Binghamton Electrical/4400 Vestal Parkway East
Binghamton, NY 13902

Dear Sean Fitzgerald:

Enclosed are the results of Asbestos Analysis - Bulk Protocol of the following Encorus Group Engineering P.C. samples, received at AmeriSci on Tuesday, August 20, 2024, for a 3 day turnaround:

20240815-24413-200-1, 20240815-24413-200-2, 20240815-24413-300.1-1, 20240815-24413-300.1-2, 20240815-24413-300.2-1, 20240815-24413-300.2-2, 20240815-24413-500-1, 20240815-24413-500-2, 20240815-24413-500-3, 20240815-24413-601-1, 20240815-24413-601-2

The 11 samples, placed in zip lock bag, were shipped to AmeriSci via Fed Ex 7301 7892 1520 B 955. Encorus Group Engineering P.C. requested ELAP PLM/TEM analysis of these samples.

The results of the analyses which were performed under NYSDOH ELAP Lab Certification # 10984 following ELAP 198.4 TEM guidelines are presented within the Summary Table of this report. The presence of matrix reduction data in the Summary Table normally indicates an NOB sample. For NOB samples the individual matrix reduction and TEM analysis results are listed in Table I. Complete PLM results for individual samples analyzed by ELAP 198.1 (friable) and ELAP 198.6 (NOB) are presented in the PLM Bulk Asbestos Report. This combined report relates ONLY to sample analysis expressed as percent composition by weight and percent asbestos. This report must not be used to claim product endorsement or approval by these laboratories, NVLAP, ELAP or any other associated agency. The National Institute of Standards and Technology accreditation requirements, mandate that this report must not be reproduced, except in full without the written approval of the laboratory. This report may contain specific data not covered by NVLAP or ELAP accreditations respectively, if so identified in relevant footnotes.

AmeriSci appreciates this opportunity to serve your organization. Please contact us for any further assistance or with any questions.

Sincerely,

Cory M. Parnell

Laboratory Director | Authorized Signatory

AmeriSci Richmond
13635 GENITO ROAD
MIDLOTHIAN, VIRGINIA 23112
TEL: (804) 763-1200 • FAX: (804) 763-1800

PLM Bulk Asbestos Report

Encorus Group Engineering P.C.
Attn: Sean Fitzgerald
350 Elmwood Ave

Buffalo, NY 14222

Date Received 08/20/24
Date Examined 08/21/24
ELAP # 10984
AmeriSci Job # 124081745
P.O. #
Page 1 **of** 3
RE: 24413; RMF Engineering/Elizabeth Nolder; SUNY Binghamton Electrical/4400 Vestal Parkway East Binghamton, NY 13902

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
20240815-24413-200-1 200 **Location:** 2'x2' Ceiling Tile; 003	124081745-01	***No***	NAD (NOB by NYS ELAP 198.6) by William M. Dunstan on 08/21/24
Analyst Description: Beige, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 22%			
20240815-24413-200-2 200 **Location:** 2'x2' Ceiling Tile; 002	124081745-02	***No***	NAD (NOB by NYS ELAP 198.6) by William M. Dunstan on 08/21/24
Analyst Description: Beige, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 19%			
20240815-24413-300.1-1 300.1 **Location:** 12"x12" Floor Tile- White; 003	124081745-03	***No***	NAD (NOB by NYS ELAP 198.6) by William M. Dunstan on 08/21/24
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 26%			
20240815-24413-300.1-2 300.1 **Location:** 12"x12" Floor Tile- White; 004	124081745-04	***No***	NAD (NOB by NYS ELAP 198.6) by William M. Dunstan on 08/21/24
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 28%			
20240815-24413-300.2-1 300.2 **Location:** Associated Mastic; 005	124081745-05	***No***	NAD (NOB by NYS ELAP 198.6) by William M. Dunstan on 08/21/24
Analyst Description: Yellow, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 10%			

See Reporting notes on last page

PLM Bulk Asbestos Report

24413; RMF Engineering/Elizabeth Nolder; SUNY Binghamton
Electrical/4400 Vestal Parkway East Binghamton, NY 13902

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
20240815-24413-300.2-2 300.2	124081745-06 **Location:** Associated Mastic; 006	***No***	NAD (NOB by NYS ELAP 198.6) by William M. Dunstan on 08/21/24
Analyst Description: Yellow, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 18%			
20240815-24413-500-1 500	124081745-07 **Location:** Spray On Fire Proofing; 001	***No***	NAD (by NYS ELAP 198.1) by William M. Dunstan on 08/21/24
Analyst Description: Gray, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Fibrous glass 70%, Non-fibrous 30%			
20240815-24413-500-2 500	124081745-08 **Location:** Spray On Fire Proofing; 002	***No***	NAD (by NYS ELAP 198.1) by William M. Dunstan on 08/21/24
Analyst Description: Gray, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Fibrous glass 70%, Non-fibrous 30%			
20240815-24413-500-3 500	124081745-09 **Location:** Spray On Fire Proofing; 003	***No***	NAD (by NYS ELAP 198.1) by William M. Dunstan on 08/21/24
Analyst Description: Gray, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Fibrous glass 70%, Non-fibrous 30%			
20240815-24413-601-1 601	124081745-10 **Location:** Cove Base Adhesive - Beige; 002	***Yes***	Trace (<0.3 % pc) (NOB by EPA 600/M4-82-020) by William M. Dunstan on 08/21/24
Analyst Description: Beige, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** Chrysotile <0.3 % pc **Other Material:** Non-fibrous 30%			
20240815-24413-601-2 601	124081745-11 **Location:** Cove Base Adhesive - Beige; 002	***Yes***	Trace (<0.3 % pc) (NOB by EPA 600/M4-82-020) by William M. Dunstan on 08/21/24
Analyst Description: Beige, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** Chrysotile <0.3 % pc **Other Material:** Non-fibrous 30%			

See Reporting notes on last page

PLM Bulk Asbestos Report

24413; RMF Engineering/Elizabeth Nolder; SUNY Binghamton
Electrical/4400 Vestal Parkway East Binghamton, NY 13902

Reporting Notes:

Analyzed by: William M. Dunstan

Reviewed by: Cory M. Parnell

Date: 8/21/2024

*NAD = no asbestos detected, Detection Limit <1%, Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; "Present" or NVA = "No Visible Asbestos" are observations made during a qualitative analysis; NA = not analyzed; NA/PS = not analyzed / positive stop; PLM Bulk Asbestos Analysis using Meiji, Model MT 6130 microscope, Serial #1410301, by EPA 600/R-93/116 per 40 CFR 763 (NVLAP Lab Code 101904-0) and ELAP PLM Analysis Protocol 198.1 for New York friable samples which includes quantitation of any vermiculite observed (198.6 for NOB samples) or EPA 400 pt ct by EPA 600/M4-82-020 (NYSDOH ELAP Lab # 10984); CA ELAP Lab # 2508; Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. NAD or Trace results by PLM are inconclusive, TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full without the approval of the laboratory. This PLM report relates ONLY to the items tested.

Client Name: Encorus Group Engineering P.C.

Table I
Summary of Bulk Asbestos Analysis Results by NYS ELAP 198.4

24413; RMF Engineering/Elizabeth Nolder; SUNY Binghamton Electrical/4400 Vestal Parkway East Binghamton, NY 13902

AmeriSci Sample #	Client Sample#	HG Area	NOB Sample Weight (gram)	NOB Heat Sensitive Organic %	NOB Acid Soluble Inorganic %	NOB Insoluble Non-Asbestos Inorganic %	** Asbestos % by PLM/DS	** Asbestos % by TEM
01	20240815-24413-200-1	200	0.237	11.9	65.4	22.7	NAD	NAD
Location:	2'x2' Ceiling Tile; 003							
02	20240815-24413-200-2	200	0.204	13.0	67.6	19.4	NAD	NAD
Location:	2'x2' Ceiling Tile; 002							
03	20240815-24413-300.1-1	300.1	0.408	24.6	49.0	26.5	NAD	NAD
Location:	12"x12" Floor Tile- White; 003							
04	20240815-24413-300.1-2	300.1	0.545	23.9	47.8	28.2	NAD	NAD
Location:	12"x12" Floor Tile- White; 004							
05	20240815-24413-300.2-1	300.2	0.264	68.8	20.7	10.5	NAD	NAD
Location:	Associated Mastic; 005							
06	20240815-24413-300.2-2	300.2	0.303	55.6	26.0	18.4	NAD	NAD
Location:	Associated Mastic; 006							
07	20240815-24413-500-1	500	----	----	----	----	NAD	NA
Location:	Spray On Fire Proofing; 001							
08	20240815-24413-500-2	500	----	----	----	----	NAD	NA
Location:	Spray On Fire Proofing; 002							
09	20240815-24413-500-3	500	----	----	----	----	NAD	NA
Location:	Spray On Fire Proofing; 003							
10	20240815-24413-601-1	601	0.755	53.3	16.3	30.3	Chrysotile <0.3	Chrysotile Trace
Location:	Cove Base Adhesive - Beige; 002							
11	20240815-24413-601-2	601	1.137	44.7	24.5	30.8	Chrysotile <0.3	Chrysotile Trace
Location:	Cove Base Adhesive - Beige; 002							

Analyzed by: Cory M. Parnell

Date: 8/22/2024

Reviewed by: Cory M. Parnell

Semi-Quantitative Analysis: NAD = no asbestos detected; NA = not analyzed; NA/PS = not analyzed due to positive stop; Trace = <1%; PLM analysis by EPA 600/R-93/116 per 40 CFR 763 (NVLAP Lab Code 101904-0) or NY ELAP 198.1 for New York friable samples which includes quantitation of any vermiculite observed (198.6 for NOB samples) or EPA 400 pt ct by EPA 600/M4-82-020 (NY ELAP Lab # 10984); TEM prep by EPA 600/R-93/116 Section 2.3 (analysis by Section 2.5, not covered by NVLAP Bulk accreditation); or NY ELAP 198.4 for New York NOB samples (NY ELAP Lab # 10984). Analysis using Jeol, Model JEM-100CX II microscope, Serial #156147-247. ** Warning Notes: Consider PLM fiber diameter limitation, only TEM will resolve fibers <0.25 micrometers in diameter. TEM bulk analysis is representative of the fine grained matrix material and may not be representative of non-uniformly dispersed debris, soils or other heterogeneous materials for which a combination PLM/TEM evaluation is recommended; Quantitation for beginning weights of <0.1 grams should be considered as qualitative only.

1240817 45

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Springville, NY 14141 | West Seneca, NY 14224 | 716.592 3980

Bulk Chain of Custody

Email Report to:	labresults@encorus.com		**Turn Around Time**
			☐ RUSH
Client/Contact:	RMF Engineering		☐ 24 Hour
	Elizabeth Nolder		☐ 48 Hour
Project/Location:	SUNY Binghamton Electrical		☑ 72 Hour
	4400 Vestal Parkway East Binghamton, NY 13902		☐ 5 Day
Project No.:	24413	Tech Hub	Other:

Analysis Requested:		**Protocol:**		**Notes:**
PLM	☑	☑	Negative PLM to TEM per ELAP protocols	
TEM	☑	☑	Positive Stop by HAN-ID#	
PCB	☐	☑		
Other:		11	Total # of Samples	

Sample Name Date	Project	HAN	ID#	Description of Sample	Location of Sample
20240815	24413	200	1	2'x2' Ceiling Tile	003
20240815	24413	200	2	2'x2' Ceiling Tile	002
20240815	24413	300.1	1	12"x12" Floor Tile - White	003
20240815	24413	300.1	2	12"x12" Floor Tile - White	004
20240815	24413	300.2	1	Associated Mastic	005
20240815	24413	300.2	2	Associated Mastic	006
20240815	24413	500	1	Spray on Fire proofing	001
20240815	24413	500	2	Spray on Fire proofing	002
20240815	24413	500	3	Spray on Fire proofing	003
20240815	24413	601	1	Cove Base Adhesive - Beige	002
20240815	24413	601	2	Cove Base Adhesive - Beige	002
			12		
			13		
			14		
			15		
			16		
			17		
			18		
			19		
			20		
			21		
			22		
			23		

Received
AUG 20 2024
TW

Sampled by: David Richardson — Date: 08/15/2024
Relinquished by: David Richardson — Date + Time: 08/19/2024 1300
Received by: — Date + Time:

AmeriSci Richmond
13635 GENITO ROAD
MIDLOTHIAN, VIRGINIA 23112
TEL: (804) 763-1200 • FAX: (804) 763-0493

March 20, 2025

Encorus Group Engineering P.C.
Attn: Sean Fitzgerald
295 Main Street
West Seneca, NY 14141

RE: Encorus Group Engineering P.C.
Job Number 125031637
P.O. #24413
24413; RMF Engineering/Elizabeth Nolder; SUNY Binghamton Electrical - Tech Hub/4400 Vestal Parkway East Binghamton, NY 13902

Dear Sean Fitzgerald:

Enclosed are the results of Asbestos Analysis - Bulk Protocol of the following Encorus Group Engineering P.C. samples, received at AmeriSci on Monday, March 17, 2025, for a 3 day turnaround:

03122025-24413-100.1-1, 03122025-24413-100.1-2, 03122025-24413-100.2-1, 03122025-24413-100.2-2

The 4 samples, placed in zip lock bag, were shipped to AmeriSci via Fed Ex. Encorus Group Engineering P.C. requested ELAP PLM/TEM analysis of these samples.

The results of the analyses which were performed under NYSDOH ELAP Lab Certification # 10984 following ELAP 198.4 TEM guidelines are presented within the Summary Table of this report. The presence of matrix reduction data in the Summary Table normally indicates an NOB sample. For NOB samples the individual matrix reduction and TEM analysis results are listed in Table I. Complete PLM results for individual samples analyzed by ELAP 198.1 (friable) and ELAP 198.6 (NOB) are presented in the PLM Bulk Asbestos Report. This combined report relates ONLY to sample analysis expressed as percent composition by weight and percent asbestos. This report must not be used to claim product endorsement or approval by these laboratories, NVLAP, ELAP or any other associated agency. The National Institute of Standards and Technology accreditation requirements, mandate that this report must not be reproduced, except in full without the written approval of the laboratory. This report may contain specific data not covered by NVLAP or ELAP accreditations respectively, if so identified in relevant footnotes.

AmeriSci appreciates this opportunity to serve your organization. Please contact us for any further assistance or with any questions.

Sincerely,

Glenn F. Massey

QA Manager | Authorized Signatory

AmeriSci Richmond
13635 GENITO ROAD
MIDLOTHIAN, VIRGINIA 23112
TEL: (804) 763-1200 • FAX: (804) 763-0493

PLM Bulk Asbestos Report

Encorus Group Engineering P.C.
Attn: Sean Fitzgerald
295 Main Street

West Seneca, NY 14141

Date Received 3/17/2025 **AmeriSci Job #** 125031637
Date Examined 03/19/25 **P.O. #**
ELAP # 10984 **Page** 1 **of** 1

RE: 24413; RMF Engineering/Elizabeth Nolder; SUNY Binghamton Electrical - Tech Hub/4400 Vestal Parkway East Binghamton, NY 13902

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos	Notes
03122025-24413-100.1-1 100.1 **Location:** Gypsum Wall Board; Room 003 **Analyst Description:** Gray, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100%	125031637-01	***No***	NAD (by NYS ELAP 198.1) by Tou Si Anothay on 03/19/25	
03122025-24413-100.1-2 100.1 **Location:** Gypsum Wall Board; Room 003 **Analyst Description:** Gray, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100%	125031637-02	***No***	NAD (by NYS ELAP 198.1) by Tou Si Anothay on 03/19/25	
03122025-24413-100.2-1 100.2 **Location:** Joint Compound; Room 003 **Analyst Description:** White, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100%	125031637-03	***No***	NAD (by NYS ELAP 198.1) by Tou Si Anothay on 03/19/25	
03122025-24413-100.2-2 100.2 **Location:** Joint Compound; Room 003 **Analyst Description:** White, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100%	125031637-04	***No***	NAD (by NYS ELAP 198.1) by Tou Si Anothay on 03/19/25	

Reporting Notes:

Analyzed by: Tou Si Anothay
Date: 3/19/2025

Reviewed by: Glenn F. Massey

*NAD = no asbestos detected, Detection Limit <1%, Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; "Present" or NVA = "No Visible Asbestos" are observations made during a qualitative analysis (Not covered by NVLAP or NY ELAP accreditations); NA = not analyzed; NA/PS = not analyzed / positive stop; PLM Bulk Asbestos Analysis using Meiji, Model MT 6120 microscope, Serial #1900011, by EPA 600/R-93/116 per 40 CFR 763 (NVLAP Lab Code 101904-0) and ELAP PLM Analysis Protocol 198.1 for New York friable samples which includes quantitation of any vermiculite observed (198.6 for NOB samples) or EPA 400 pt ct by EPA 600/M4-82-020 (NYSDOH ELAP Lab # 10984); CA ELAP Lab # 2508; Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. NAD or Trace results by PLM are inconclusive, TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full without the approval of the laboratory. This PLM report relates ONLY to the items tested.

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encorus.com | 716.592.3930

Bulk Chain of Custody 125031637

Email Report to:	labresults@encorus.com	**Turn Around Time**
		☐ RUSH
Client/Contact:	RMF Engineering	☐ 24 Hour
	Elizabeth Nolder	☐ 48 Hour
Project/Location:	SUNY Binghamton Electrical -Tech Hub	☑ 72 Hour
	4400 Vestal Parkway East Binghamton, NY 13902	☐ 5 Day
Project No.:	24413 ~~Tech Hub~~	Other:

Analysis Requested:		**Protocol:**		**Notes:**
PLM	☑	☑	Negative PLM to TEM per ELAP protocols	
TEM	☑	☑	Positive Stop by HAN-ID#	
PCB	☐	☑		
Other:		4	Total # of Samples	

Sample Name					
Date	**Project**	**HAN**	**ID#**	**Description of Sample**	**Location of Sample**
3/12/2025	24413	100.1	1	Gypsum Wall Board	Room 003
3/12/2025	24413	100.1	2	Gypsum Wall Board	Room 003
3/12/2025	24413	100.2	1	Joint Compound	Room 003
3/12/2025	24413	100.2	2	Joint Compound	Room 003

Received
MAR 17 2025

Sampled by: Justin Campbell — Date: 03/12/2025
Relinquished by: Justin Campbell — Date + Time: 03/14/2025 1700
Received by: — Date + Time:

ENCORUS GROUP

23 Mechanic Street
Springville, NY 14141

295 Main Street
West Seneca, NY 14224

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716.592.3980

Appendix D

XRF Spectrum Analyzer Report and Instrument Information

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West Seneca, NY 14224

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LEAD PAINT INSPECTION REPORT

RMF
CLIENT

SUNY Binghamton – All buildings A through S
INSPECTION LOCATION

7/23 – 7/25, 8/15 – 8/16, and 3/10 all 2025
INSPECTION DATE(s)

Viken Detection Pb200i
XRF INSTRUMENT TYPE

1633 and 2148
XRF INSTRUMENT SERIAL NUMBER

1.0 mg/cm^2
ACTION LEVEL

Justin Campbell

SIGNED: Justin Campbell DATE: 03/21/2025

Company Heuresis Corp.
Model Pb200i
Type XRF Lead Paint Analyzer
Serial Num. 2148
App Version Pb200i-4.1-11 Dates: 7/23/24 to 7/26/24

Reading #	Concentra	Units	Result	Date	Color	Substrate	Component	Side	Condition	Space ID	Building
1	1	mg/cm2	Positive	7/23/2024	Green	Wood	CALIBRATION		Intact		
2	1	mg/cm2	Positive	7/23/2024	Green	Wood	CALIBRATION		Intact		
3	1	mg/cm2	Positive	7/23/2024	Green	Wood	CALIBRATION		Intact		
4	0.1	mg/cm2	Negative	7/23/2024	White	Gypsum	Wall	A	Intact	131	Seneca
5	0.1	mg/cm2	Negative	7/23/2024	Grey	Metal	Door Frame	C	Intact	c131	Seneca
6	-0.1	mg/cm2	Negative	7/23/2024	White	Concrete	Wall	D	Intact	c131	Seneca
7	-0.1	mg/cm2	Negative	7/23/2024	White	Concrete	Ceiling		Intact	stair C	Seneca
8	-0.1	mg/cm2	Negative	7/23/2024	White	Concrete	Wall	D	Intact	G07A	Mohawk
9	-0.1	mg/cm2	Negative	7/23/2024	Black	Metal	I-Beam	Above Ceiling	Intact	G07A	Mohawk
10	0.2	mg/cm2	Negative	7/23/2024	Beige	Metal	Door	C	Intact	G07A	Mohawk
11	0	mg/cm2	Negative	7/23/2024	White	Concrete	Wall	C	Intact	IR8	Iroquois
12	-0.3	mg/cm2	Negative	7/23/2024	White	Metal	I-Beam	Above Ceiling	Intact	IR9A	Iroquois
13	1.1	mg/cm2	Positive	7/23/2024	Green	Wood	CALIBRATION		Intact		
14	1	mg/cm2	Positive	7/23/2024	Green	Wood	CALIBRATION		Intact		
15	1	mg/cm2	Positive	7/23/2024	Green	Wood	CALIBRATION		Intact		
16	1	mg/cm2	Positive	7/24/2024	Green	Wood	CALIBRATION		Intact		
17	1	mg/cm2	Positive	7/24/2024	Green	Wood	CALIBRATION		Intact		
18	0.1	mg/cm2	Negative	7/24/2024	White	Gypsum	Wall	C	Intact	103	Cayuga
19	0.1	mg/cm2	Negative	7/24/2024	Brown	Metal	Door Frame	C	Intact	103	Cayuga
20	0.1	mg/cm2	Negative	7/24/2024	Black	Metal	Door	B	Intact	200	Cayuga
21	0.3	mg/cm2	Negative	7/24/2024	White	Metal	*Miscellaneous*	Above Ceiling	Intact	200	Cayuga
22	0.1	mg/cm2	Negative	7/24/2024	White	Gypsum	Ceiling		Intact	200	Cayuga
23	0.1	mg/cm2	Negative	7/24/2024	White	Gypsum	Wall	B	Intact	1	Oneida
24	0.2	mg/cm2	Negative	7/24/2024	Black	Metal	Door Frame	D	Intact	C100	Oneida
25	-0.2	mg/cm2	Negative	7/24/2024	White	Concrete	Wall	D	Intact	C100	Oneida
26	0.1	mg/cm2	Negative	7/24/2024	White	Gypsum	Wall	C	Intact	103	Onondaga
27	0.6	mg/cm2	Negative	7/24/2024	Black	Metal	Door Frame	D	Intact	103	Onondaga
28	0.2	mg/cm2	Negative	7/24/2024	Brown	Metal	Door	B	Intact	104	Onondaga
29	1.1	mg/cm2	Positive	7/25/2024	Green	Wood	CALIBRATION		Intact		
30	1.1	mg/cm2	Positive	7/25/2024	Green	Wood	CALIBRATION		Intact		
31	1.1	mg/cm2	Positive	7/25/2024	Green	Wood	CALIBRATION		Intact		
32	0.9	mg/cm2	Negative	7/25/2024	Green	Wood	CALIBRATION		Intact		
33	1	mg/cm2	Positive	7/25/2024	Green	Wood	CALIBRATION		Intact		
34	1	mg/cm2	Positive	7/25/2024	Green	Wood	CALIBRATION		Intact		
35	0	mg/cm2	Negative	7/25/2024	White	Gypsum	Wall	B	Intact	C107	Glenwood
36	0.6	mg/cm2	Negative	7/25/2024	Brown	Metal	Door Frame	B	Intact	C107	Glenwood
37	0.1	mg/cm2	Negative	7/25/2024	Brown	Wood	Ceiling	Above Ceiling	Intact	C107A	Glenwood
38	0.1	mg/cm2	Negative	7/25/2024	White	Gypsum	Wall	D	Intact	D114	Nanticoke
39	0.2	mg/cm2	Negative	7/25/2024	Brown	Metal	Door	D	Intact	D114	Nanticoke
40	0.1	mg/cm2	Negative	7/25/2024	Brown	Wood	Ceiling		Intact	D114A	Nanticoke
41	0.1	mg/cm2	Negative	7/25/2024	Brown	Wood	Ceiling		Intact	A115A	Brandywine
42	0.6	mg/cm2	Negative	7/25/2024	Brown	Metal	Door Frame	D	Intact	A115	Brandywine
43	0.1	mg/cm2	Negative	7/25/2024	White	Gypsum	Ceiling		Intact	A115	Brandywine
44	0.2	mg/cm2	Negative	7/25/2024	White	Gypsum	Wall	A	Intact	B109	Choconut
45	0.3	mg/cm2	Negative	7/25/2024	Brown	Metal	Door Frame	D	Intact	B109	Choconut
46	0	mg/cm2	Negative	7/25/2024	Brown	Wood	Ceiling		Intact	B109A	Choconut
47	1	mg/cm2	Positive	7/25/2024	Green	Wood	CALIBRATION		Intact		
48	1	mg/cm2	Positive	7/25/2024	Green	Wood	CALIBRATION		Intact		
49	1	mg/cm2	Positive	7/26/2024	Green	Wood	CALIBRATION		Intact		
50	1	mg/cm2	Positive	7/26/2024	Green	Wood	CALIBRATION		Intact		
51	1	mg/cm2	Positive	7/26/2024	Green	Wood	CALIBRATION		Intact		
52	-0.3	mg/cm2	Negative	7/26/2024	White	Concrete	Wall	B	Intact	300	Bartle Addition
53	0.4	mg/cm2	Negative	7/26/2024	Black	Metal	Door Frame	B	Intact	300	Bartle Addition
54	0.1	mg/cm2	Negative	7/26/2024	Brown	Metal	Door	A	Intact	301	Bartle Addition
55	0.1	mg/cm2	Negative	7/26/2024	Grey	Metal	Door	B	Intact	S301	Bartle Tower
56	0	mg/cm2	Negative	7/26/2024	White	Concrete	Wall	C	Intact	1	Bartle Tower
57	0.1	mg/cm2	Negative	7/26/2024	Grey	Metal	Door	A	Intact	1	Bartle Tower
58	4.7	mg/cm2	Positive	7/26/2024	Grey	Metal	I-Beam	Above Ceiling	Intact	2	Bartle Tower
59	0	mg/cm2	Negative	7/26/2024	White	EIFS	Ceiling		Intact	100	Bartle Tower
60	-0.3	mg/cm2	Negative	7/26/2024	White	Plaster	Wall	B	Intact	101	Bartle Tower
61	2.4	mg/cm2	Positive	7/26/2024	Grey	Glazed Blo	Wall	B	Intact	101	Bartle Tower
62	3	mg/cm2	Positive	7/26/2024	Maroon	Glazed Blo	Wall	D	Intact	101	Bartle Tower
63	0.5	mg/cm2	Negative	7/26/2024	Black	Metal	Door Frame	B	Intact	102	Bartle Tower
64	0.5	mg/cm2	Negative	7/26/2024	Brown	Metal	Door Frame	C	Intact	104	Bartle Tower
65	1	mg/cm2	Positive	7/26/2024	Green	Wood	CALIBRATION		Intact		
66	1	mg/cm2	Positive	7/26/2024	Green	Wood	CALIBRATION		Intact		
67	1.1	mg/cm2	Positive	7/26/2024	Green	Wood	CALIBRATION		Intact		

Company Viken Detection
Model Pb200i
Type XRF Lead Paint Analyzer
Serial Num 1633
App Versic Pb200i-5.3.1 Dates: 8/15/24 to 8/16/24

Reading #	Concentra	Units	Result	Date	Color	Substrate	Component	Side	Condition	Space ID	Building
148	0.9	mg/cm2		8/15/2024	Green	Wood	CALIBRATION	-	Intact		
149	0.9	mg/cm2		8/15/2024	Green	Wood	CALIBRATION	-	Intact		
150	0.9	mg/cm2		8/15/2024	Green	Wood	CALIBRATION	-	Intact		
151	0.2	mg/cm2	Negative	8/15/2024	Brown	Metal	Door	A	Intact	1	Tech Hub
152	0.2	mg/cm2	Negative	8/15/2024	Brown	Metal	Door Frame	A	Intact	1	Tech Hub
153	0.1	mg/cm2	Negative	8/15/2024	Brown	Metal	Door	A	Intact	1	Tech Hub
154	0.4	mg/cm2	Negative	8/15/2024	Brown	Metal	Door	A	Intact	1	Tech Hub
155	0.2	mg/cm2	Negative	8/15/2024	Brown	Metal	Door	A	Intact	1	Tech Hub
156	0.2	mg/cm2	Negative	8/15/2024	Brown	Metal	Door Frame	A	Intact	1	Tech Hub
157	0.1	mg/cm2	Negative	8/15/2024	Grey	Metal	Door	C	Intact	1	Tech Hub
158	0.1	mg/cm2	Negative	8/15/2024	Black	Metal	Electric Panel	C	Intact	1	Tech Hub
159	0.2	mg/cm2	Negative	8/15/2024	Silver	Metal	Pipe	C	Intact	1	Tech Hub
160	0.7	mg/cm2	Negative	8/15/2024	Beige	Concrete	Wall	D	Intact	2	Tech Hub
161	0.7	mg/cm2	Negative	8/15/2024	Beige	Concrete	Wall	D	Intact	2	Tech Hub
162	0.6	mg/cm2	Negative	8/15/2024	Beige	Concrete	Wall	D	Intact	2	Tech Hub
163	0	mg/cm2	Negative	8/15/2024	Grey	Concrete	Wall	A	Intact	3	Tech Hub
164	0	mg/cm2	Negative	8/15/2024	Grey	Concrete	Wall	A	Intact	3	Tech Hub
165	0.4	mg/cm2	Negative	8/15/2024	White	Concrete	Wall	A	Intact	1	Roosevelt
166	0.1	mg/cm2	Negative	8/15/2024	White	Concrete	Wall	A	Intact	1	Roosevelt
167	0.3	mg/cm2	Negative	8/15/2024	White	Concrete	Wall	A	Intact	1	Roosevelt
168	0.1	mg/cm2	Negative	8/15/2024	Black	Metal	Door	A	Intact	1	Roosevelt
169	0.1	mg/cm2	Negative	8/15/2024	Grey	Metal	Door	A	Intact	1	Roosevelt
170	0.4	mg/cm2	Negative	8/15/2024	Black	Metal	Door	A	Intact	1	Roosevelt
171	0.1	mg/cm2	Negative	8/15/2024	Black	Wood	Door	A	Intact	2	Roosevelt
172	0.2	mg/cm2	Negative	8/15/2024	Black	Metal	Door	A	Intact	2	Roosevelt
173	0.1	mg/cm2	Negative	8/15/2024	Black	Metal	Door	A	Intact	2	Roosevelt
175	0.9	mg/cm2		8/15/2024	Grey	Wood	CALIBRATION	-	Intact		
176	1	mg/cm2		8/15/2024	Grey	Wood	CALIBRATION	-	Intact		
177	0.9	mg/cm2		8/15/2024	Grey	Wood	CALIBRATION	-	Intact		
182	0.1	mg/cm2	Negative	8/15/2024	Grey	Metal	Electric Panel	-	Intact	1	Rockefller
183	0	mg/cm2	Negative	8/15/2024	Grey	Metal	Electric Panel	-	Intact	1	Rockefller
184	0.1	mg/cm2	Negative	8/15/2024	Grey	Concrete	Electric Panel	-	Intact	1	Rockefller
185	0.2	mg/cm2	Negative	8/15/2024	Grey	Metal	Door	-	Intact	1	Rockefller
186	0.1	mg/cm2	Negative	8/15/2024	Grey	Metal	Door Frame	-	Intact	1	Rockefller
187	0.3	mg/cm2	Negative	8/15/2024	Grey	Metal	Door Frame	-	Intact	1	Rockefller
188	0.4	mg/cm2	Negative	8/15/2024	Beige	Concrete	Wall	B	Intact	2	Rockefller
189	0.3	mg/cm2	Negative	8/15/2024	Beige	Concrete	Wall	B	Intact	2	Rockefller
190	0	mg/cm2	Negative	8/15/2024	Brown	Metal	Door	B	Intact	2	Rockefller
191	0.2	mg/cm2	Negative	8/15/2024	Brown	Metal	Door	B	Intact	2	Rockefller
192	0.2	mg/cm2	Negative	8/15/2024	Grey	Metal	Unit Heater	B	Intact	2	Rockefller
193	0.1	mg/cm2	Negative	8/15/2024	White	Concrete	Ceiling	-	Intact	2	Rockefller
194	0.1	mg/cm2	Negative	8/15/2024	Grey	Concrete	Floor	-	Intact	2	Rockefller
195	0.9	mg/cm2		8/15/2024	Grey	Wood	CALIBRATION	-	Intact		
196	0.9	mg/cm2		8/15/2024	Grey	Wood	CALIBRATION	-	Intact		
197	1	mg/cm2		8/15/2024	Grey	Wood	CALIBRATION	-	Intact		
207	0.1	mg/cm2	Negative	8/16/2024	Grey	Metal	Electric Panel	D	Intact	1	Darrien
208	0.1	mg/cm2	Negative	8/16/2024	White	Gypsum	Wall	A	Intact	1	Darrien
209	0.1	mg/cm2	Negative	8/16/2024	White	Gypsum	Ceiling	A	Intact	1	Darrien
210	0.1	mg/cm2	Negative	8/16/2024	Grey	Concrete	Door	A	Intact	1	Whitney
211	0.5	mg/cm2	Negative	8/16/2024	White	Concrete	Wall	A	Intact	1	Whitney
212	0	mg/cm2	Negative	8/16/2024	White	Concrete	Wall	A	Intact	1	Whitney
213	0.2	mg/cm2	Negative	8/16/2024	Grey	Metal	Electric Panel	A	Intact	1	Whitney
214	0.1	mg/cm2	Negative	8/16/2024	Grey	Metal	Door	A	Intact	1	Whitney
215	0	mg/cm2	Negative	8/16/2024	Grey	Concrete	Floor	A	Intact	1	Whitney
216	0.3	mg/cm2	Negative	8/16/2024	Black	Concrete	Floor	-	Intact	100	Pump House
217	0.1	mg/cm2	Negative	8/16/2024	Black	Metal	Door	-	Intact	100	Pump House
218	0.1	mg/cm2	Negative	8/16/2024	Black	Metal	Door Frame	-	Intact	100	Pump House
219	0.1	mg/cm2	Negative	8/16/2024	Grey	Metal	Electric Panel	-	Intact	100	Pump House
220	0.2	mg/cm2	Negative	8/16/2024	White	Wood	Wall	B	Intact	100	Pump House
221	0.1	mg/cm2	Negative	8/16/2024	Black	Metal	Door	B	Intact	100	Pump House
222	1.1	mg/cm2		8/16/2024	Green	Wood	CALIBRATION	-	Intact		
223	1.1	mg/cm2		8/16/2024	Green	Wood	CALIBRATION	-	Intact		
224	1.1	mg/cm2		8/16/2024	Green	Wood	CALIBRATION	-	Intact		

Company	Viken Detection
Model	Pb200i
Type	XRF Lead Paint Analyzer
Serial Num.	2372
App Version	Pb200i-5.3.1

Reading #	Concentration	Units	Result	Date	Time	EG#	Color	Condition	Substrate	Component	Choice	Side	Space ID	Floor
1	1.1	mg/cm2	Positive	3/12/2025	11:18:51	24413	Grey	Intact	Wood	CALIBRATION				
2	1.2	mg/cm2	Positive	3/12/2025	11:19:05	24413	Grey	Intact	Wood	CALIBRATION				
3	1.1	mg/cm2	Positive	3/12/2025	11:19:19	24413	Grey	Intact	Wood	CALIBRATION				
4	0.2	mg/cm2	Negative	3/12/2025	11:20:20	24413	White	Intact	Metal	Structural Steel			138a	First Floor
5	0	mg/cm2	Negative	3/12/2025	11:21:35	24413	White	Intact	Concrete	Wall		B	138a	First Floor
6	0	mg/cm2	Negative	3/12/2025	11:22:07	24413	White	Intact	Concrete	Wall		C	138a	First Floor
7	0.1	mg/cm2	Negative	3/12/2025	11:22:41	24413	White	Intact	Concrete	Wall		C	137	First Floor
8	0	mg/cm2	Negative	3/12/2025	11:23:10	24413	Grey	Intact	Metal	Door		C	137	First Floor
9	0.8	mg/cm2	Negative	3/12/2025	11:23:42	24413	Black	Intact	Metal	Structural Steel		-	137	First Floor
10	1.1	mg/cm2	Positive	3/12/2025	11:24:44	24413	Green	Intact	Wood	CALIBRATION				
11	1	mg/cm2	Positive	3/12/2025	11:25:17	24413	Green	Intact	Wood	CALIBRATION				
12	1.1	mg/cm2	Positive	3/12/2025	11:25:33	24413	Green	Intact	Wood	CALIBRATION				

ENCORUS GROUP

23 Mechanic Street
Springville, NY 14141

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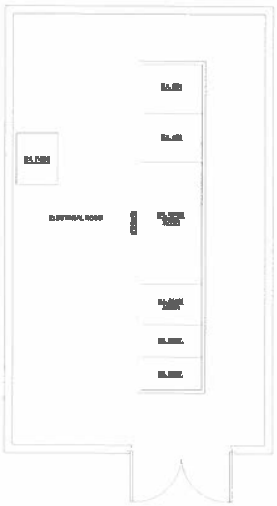
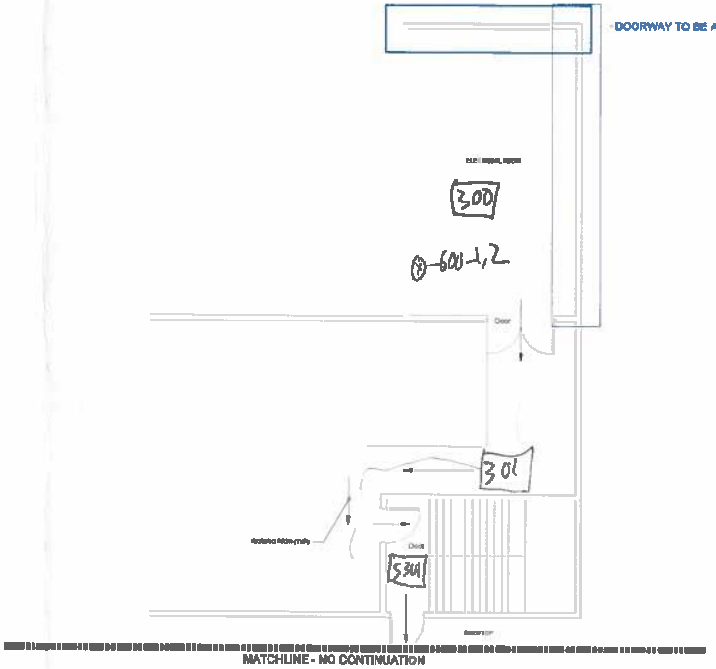
Appendix E

Sample Floor Plans

BARTLE LIBRARY TOWER (3rd FLOOR)	EXISTING CONDITION
CURRENT VOLTAGE	4.8 KV
KVAR SIZE	500 KVA
SECONDARY VOLTAGE	208Y/120V
REPLACE WHAT	MDP
REPLACE WHEN	YES
NEW MDP LOCATION	DEPENDENT ON RIGGING PATH
NEW KVAR	500
ARE ANY ALTERATIONS REQUIRED	YES

DOORWAY TO BE ADDED





BARTLE LIBRARY ADDITION (3rd FL.) - ELECTRICAL ROOM - EXISTING

BARTLE LIBRARY ADDITION (3rd FL.) - ELECTRICAL ROOM - RIGGING PATH

rmf
SUNY Stony Brook University Construction Fund
BINGHAMTON UNIVERSITY

KEY PLAN

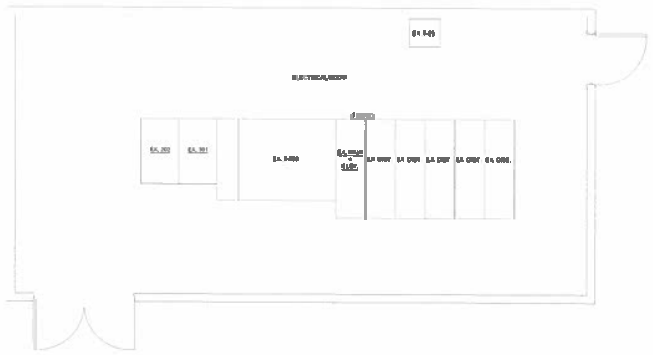
CONCEPT REPORT

REPLACE ELECTRIC DISTRIBUTION - COMPLETION OF PHASES

4400 Vestal Pkwy E
Binghamton, New York 13902

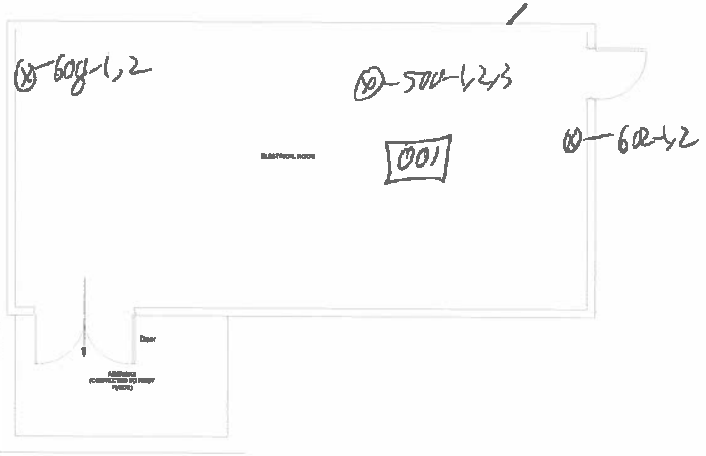
BARTLE LIBRARY - ELECTRICAL PLAN - EXISTING & RIGGING PATH

E3.16



BARTLE LIBRARY TOWER PANEL (SUB-BASEMENT) - ELECTRICAL ROOM - EXISTING

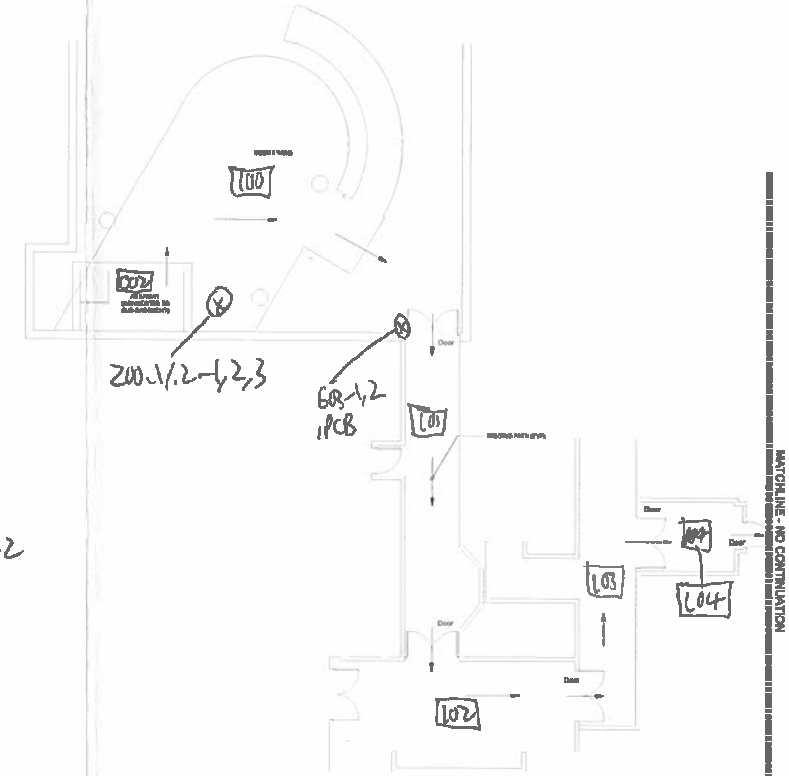
SCALE: 3/8" = 1'-0"



BARTLE LIBRARY TOWER (SUB-BASEMENT) - ELECTRICAL ROOM - RIGGING PATH

SCALE: 3/8" = 1'-0"

BARTLE LIBRARY TOWER (1 SUB-BASEMENT)		RATING/CONDITION
CURRENT VOLTAGE	4.8 KV	-
KVAR SIZE	300 KVA	-
SECONDARY VOLTAGE	208Y/120V	-
REPLACE WITH?	YES	4.8 KV
REPLACE SWGR?	YES	-
MEANS OF EGRESS	NO REPLACEMENT	REPLACE (on RIGGING Path)
HOW/GEAR	NO	-
ARISING STATIONS REQUIRED	YES	ON PRESENT OR RIGGING PATH REQUIRES PHASE INVENTIVE



BARTLE LIBRARY TOWER (1ST FL.) - ELECTRICAL ROOM - RIGGING PATH

SCALE: 3/16" = 1'-0"

RMF ENGINEERING, INC.
6520 PARK RIDGE PARK DRIVE
SUITE 200
BALTIMORE, MD 21227
P 410-646-6500 F 410-368-6227

SUNY State University Construction Fund

BINGHAMTON UNIVERSITY

KEY PLAN

NOT TO SCALE

CONCEPT REPORT

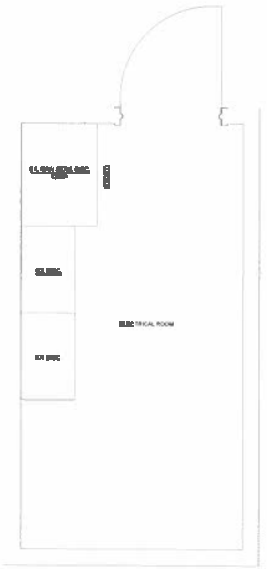
REPLACE ELECTRIC DISTRIBUTION - COMPLETION OF PHASES

4400 Vestal Pkwy E
Binghamton, New York 13902

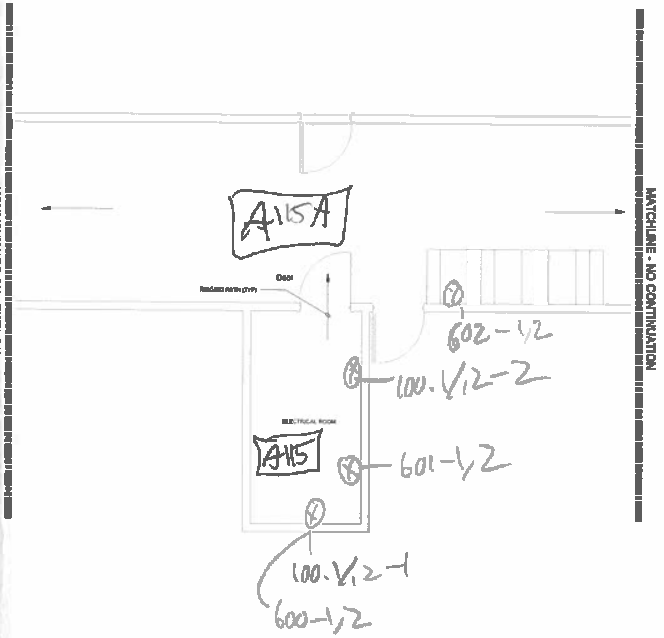
BARTLE LIBRARY - ELECTRICAL PLANS EXISTING & RIGGING PATH

E3.15

SWITCHGEAR/PANEL		RATING/CONDITION
CURRENT VOLTAGE	480 V	-
X-FMR SIZE	500 KVA	-
SEC CNDRTY VOL TYPE	5000 KCMIL	-
REPLACE XFMR?	YES	-
REPLACE SWGR?	YES	-
SEC CNDRTY LOCATION	EXTERIOR	-
SWGR/MCC	NO	-
ARC/FLASH HAZARD FIELD	YES	REQUIRES ARC/FLASH ASSESSMENT



BRANDYWINE HALL (1ST FL.) - ELECTRICAL ROOM - EXISTING

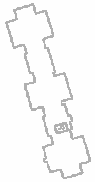


BRANDYWINE HALL (1ST FL.) - ELECTRICAL ROOM - RIGGING PATH

RMF Engineering, PC
6320 Fly Road, Suite 200
East Syracuse, NY 13057
P: 315.463.9330 F: 315.463.9327

SUNY State University Construction Fund

BINGHAMTON UNIVERSITY



KEY PLAN

CONCEPT REPORT

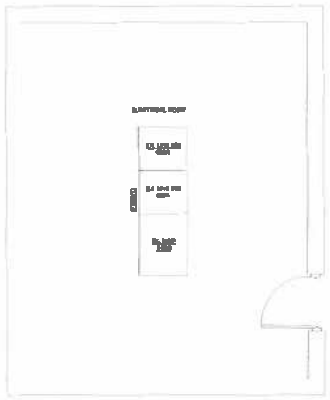
REPLACE ELECTRIC DISTRIBUTION - COMPLETION OF PHASES

4400 Vestal Pkwy E
Binghamton, New York 13902

BRANDYWINE HALL - ELECTRICAL PLAN - EXISTING & RIGGING PATH

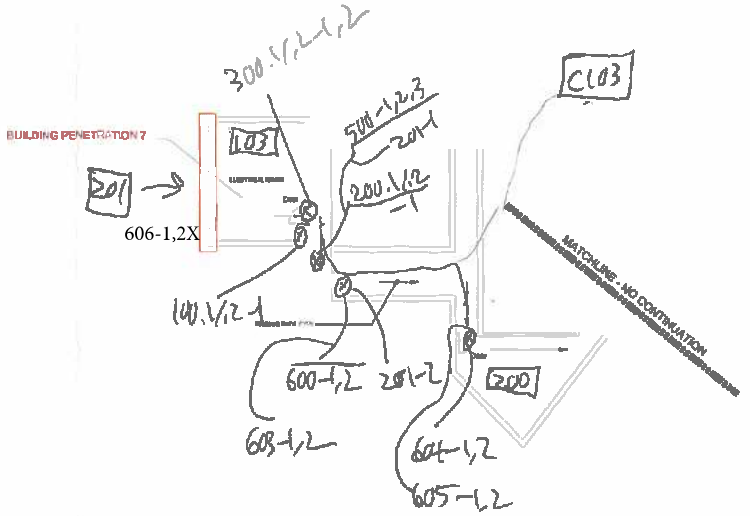
E3.11

CAYUGA HALL		EXISTING CONDITION
CURRENT VOLTAGE	4.8 kV	
NEW VOLTAGE	15kV	
ELECTRICITY VOLTAGE	208V	
REPLACE CABLE?	YES	4.8 kV
REPLACE EQUIPMENT	YES	4.8 kV
NEW WORK LOCATION	SAME ROOM	
NEW GEAR	YES	INTERNAL RD SF&D
ARCH ALTERATIONS INCLUDED	YES	MULTIPLE CONFLICTS ON RIGGING PATH



CAYUGA HALL (1ST FL.) - ELECTRICAL ROOM - EXISTING

SCALE 3/8" = 1'-0"



CAYUGA HALL (1ST FL.) - ELECTRICAL ROOM - RIGGING PATH

SCALE 1/8" = 1'-0"

RISE ENGINEERING, INC.
1350 REISTERSTOWN ROAD
SUITE 365
BALTIMORE, MD 21208
P: 410-379-9500 F: 410-905-9227

NYSERDA Clean Energy Construction Fund

BINGHAMTON UNIVERSITY

KEY PLAN

NOT TO SCALE

CONCEPT REPORT

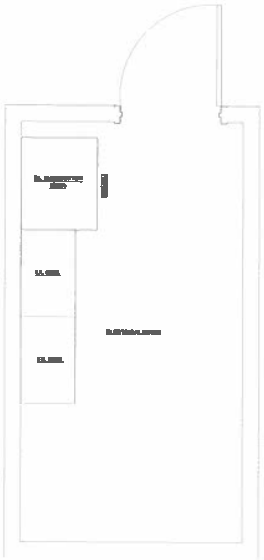
REPLACE ELECTRIC DISTRIBUTION - COMPLETION OF PHASES

4400 Vestal Pkwy E
Binghamton, New York 13902

CAYUGA HALL
ELECTRICAL PLAN
EXISTING & RIGGING PLAN

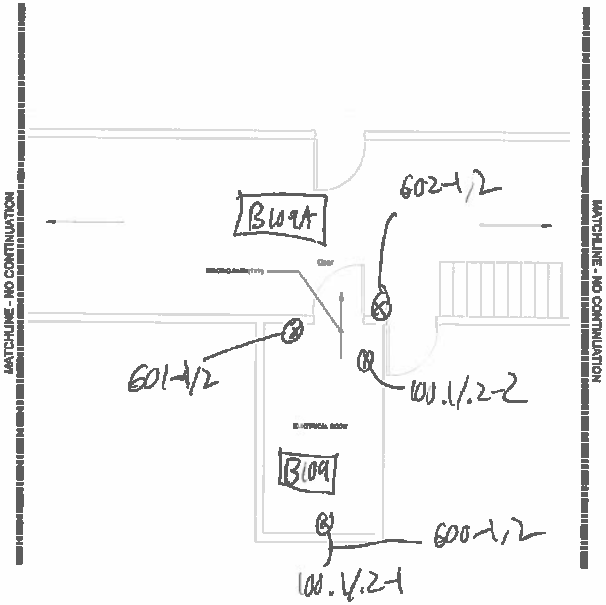
E3.07

CHOCONUT HALL		RATING/CONDITION
CURRENT VOLTAGE	4.16 KV	--
KVA SIZE	500 KVA*	--
AT - SECONDARY VOLTAGE	208Y/120V	--
REPLACE KVA?**	YES	--
REPLACE SIZE: KVA	1000	--
NEW KVA : LOCATION	EXISTING	--
NEW SEAL	NO	--
ALTERATIONS REQUIRED	YES	MAIN PAD, RELOCATE PANEL INTERFACE



CHOCONUT HALL (1ST FL.) - ELECTRICAL ROOM - EXISTING

SCALE 3/8" = 1'-0"



CHOCONUT HALL (1ST FL.) - ELECTRICAL ROOM - RIGGIN PATH

SCALE 3/8" = 1'-0"

RMF ENGINEERING, INC
8600 RESEARCH PARK DRIVE
SUITE 200
BALTIMORE, MD 21228
P 410-290-4550 F 410-290-4127

SUNY Binghamton University Construction Fund

BINGHAMTON UNIVERSITY

KEY PLAN

NOT TO SCALE

CONCEPT REPORT

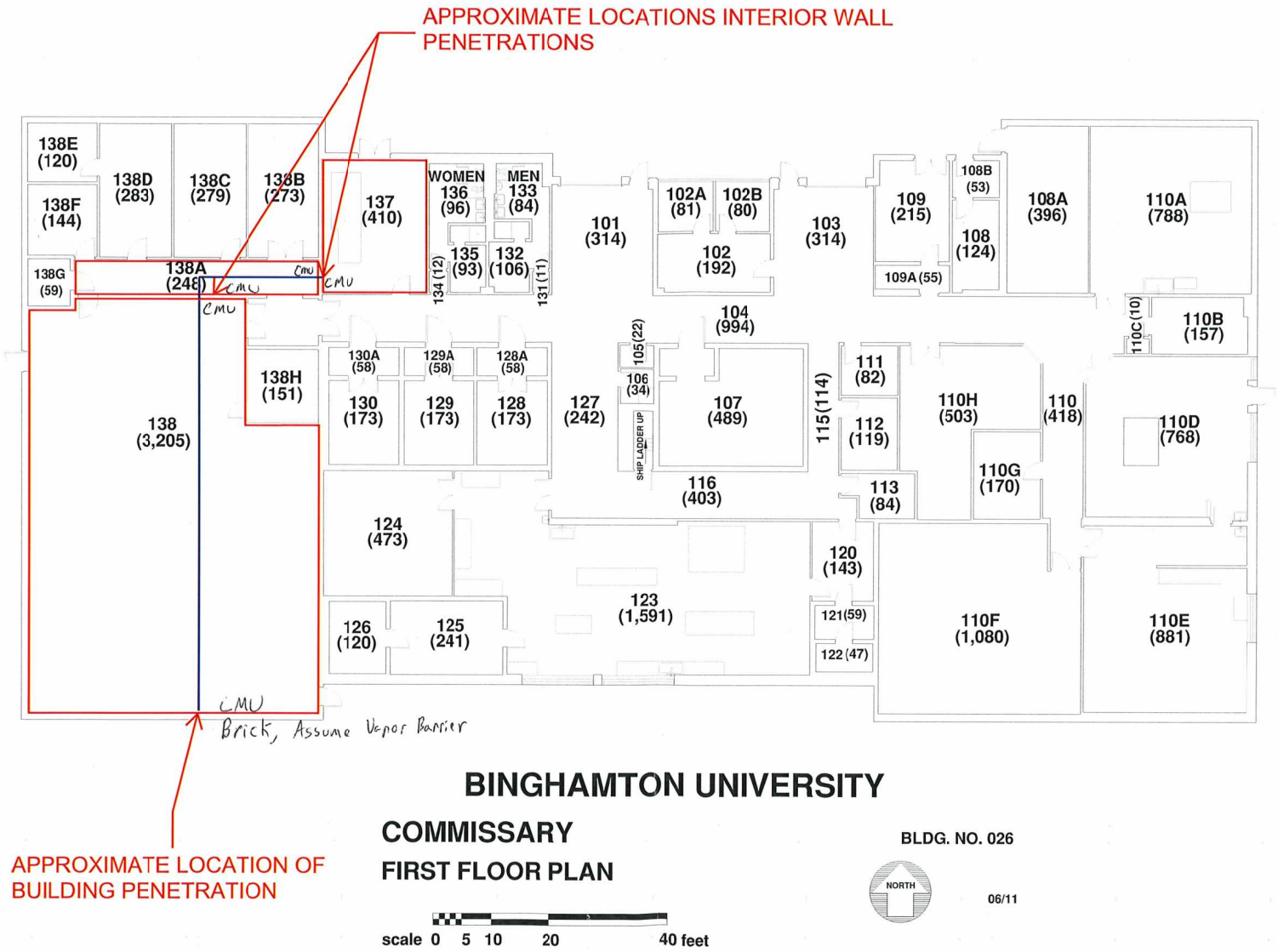
REPLACE ELECTRIC DISTRIBUTION - COMPLETION OF PHASES

4400 Vestal Pkwy E
Binghamton, New York 13902

CHOCONUT HALL - ELECTRICAL PLAN - EXISTING & RIGGING PATH

E3.13

1. RED BOXES INDICATE ROOMS FOR HAZMAT TESTING



BINGHAMTON UNIVERSITY

COMMISSARY

FIRST FLOOR PLAN

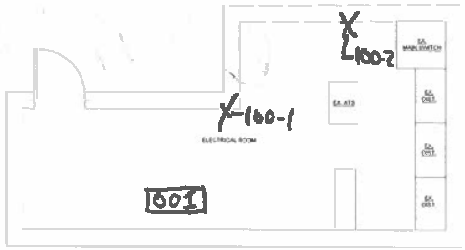
BLDG. NO. 026

NORTH

06/11

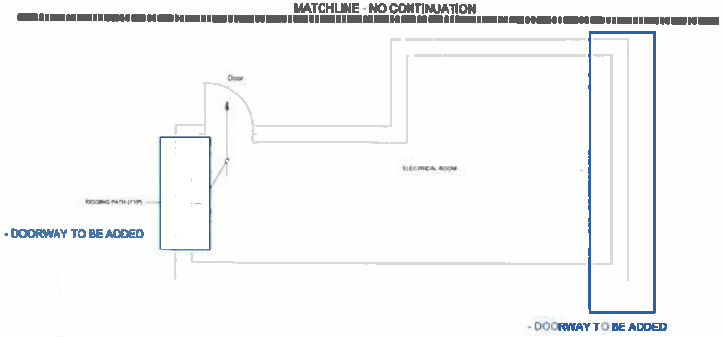
scale 0 5 10 20 40 feet

Gross Area: 20,202 sf



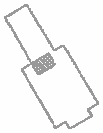
DARRIEN HALL (1ST FL.) - ELECTRICAL ROOM - EXISTING

SCALE 3/8" = 1'-0"



DARRIEN HALL (1ST FL.) - ELECTRICAL ROOM - RIGGING PATH

SCALE 3/8" = 1'-0"



KEY PLAN

NOT TO SCALE

CONCEPT REPORT

REPLACE ELECTRIC DISTRIBUTION - COMPLETION OF PHASES

4400 Vestal Pkwy E
Binghamton, New York 13902

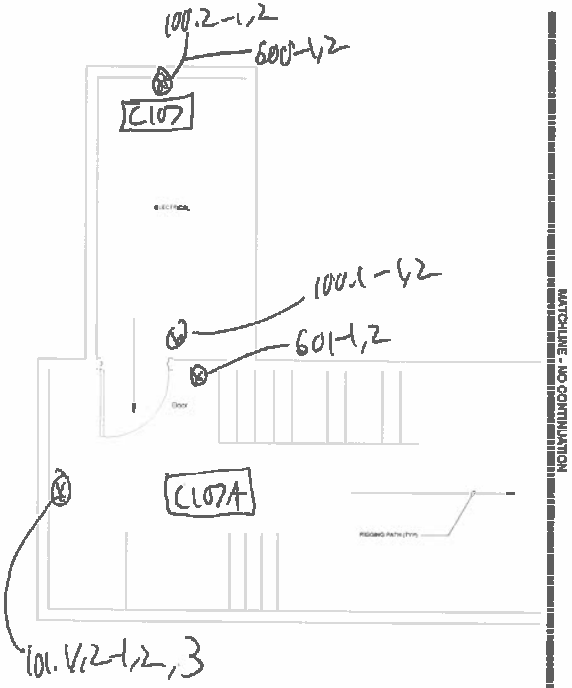
DARRIEN HALL
ELECTRICAL PLAN -
EXISTING & RIGGING PATH

E3.10

ELECTRICAL ROOM		
CURRENT VOLTAGE	4.8 KV	--
# OF FEEDS	[illegible]	--
SECONDARY VOLTAGE	277/480V	--
REPLACEMENT	YES	--
REPLACE (WHERE)	YES	--
REPEATER LOCATION	EXTERIOR	--
MIMIMAR	NO	--
ARCH ALTERATIONS REQUIRED	YES	REMOVING PANEL FOR REMOVAL

GLENWOOD HALL (1ST FL.) - ELECTRICAL ROOM - EXISTING

SCALE 3/8" = 1'-0"



GLENWOOD HALL (1ST FL.) - ELECTRICAL ROOM - RIGGING PATH

SCALE 1/2" = 1'-0"

RMF ENGINEERING, INC.
6320 FLYING CLOUD DRIVE
SUITE 300
EDEN PRAIRIE, MN 55344
P 952-974-0555 F 612-338-8227

SUNY State University Construction Fund

BINGHAMTON UNIVERSITY

KEY PLAN

NOT TO SCALE

CONCEPT REPORT

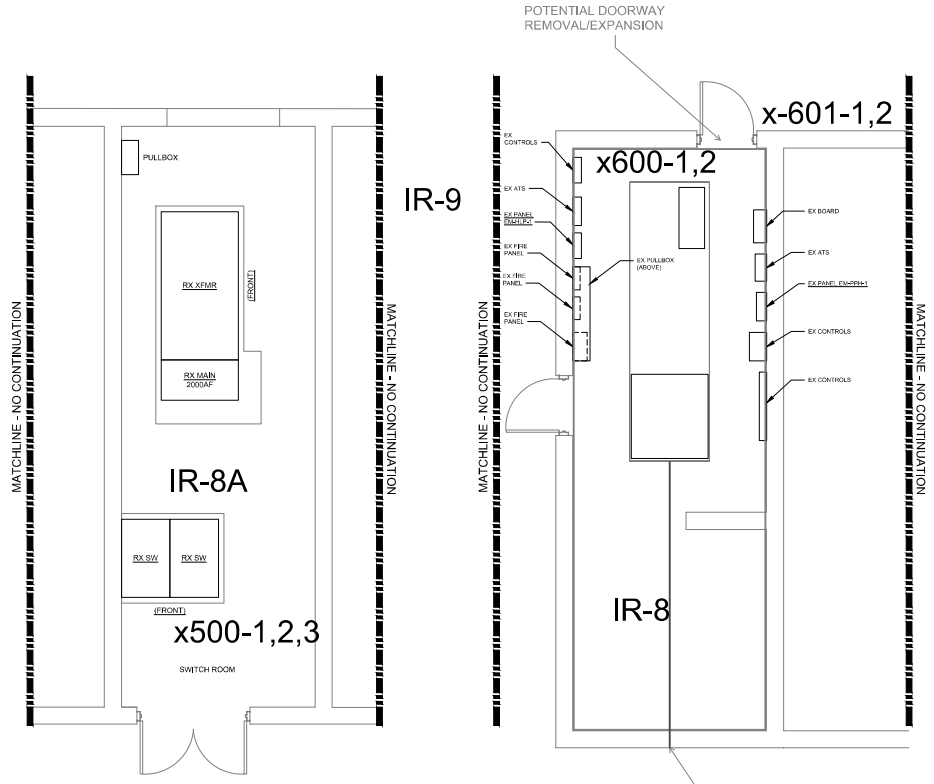
REPLACE ELECTRIC DISTRIBUTION - COMPLETION OF PHASES

4400 Vestal Pkwy E
Binghamton, New York 13902

GLENWOOD HALL - ELECTRICAL PLAN - EXISTING & RIGGING PATH

E3.12

1. RED BOXES INDICATE ROOMS FOR HAZMAT TESTING



IROQUOIS HALL - FIRST FLOOR - SWITCH ROOM - DEMOLITION

SCALE : 3/8" = 1' - 0"

IROQUOIS HALL - GROUND FLOOR - ELECTRICAL ROOM - DEMOLITION

SCALE : 3/8" = 1' - 0"

MATCHLINE - NO CONTINUATION

SCALE: 3/8" = 1'-0"

RMF ENGINEERING, INC.
5520 RESEARCH PARK DRIVE
SUITE 300
BALTIMORE, MD 21228
P: 410-576-0505 F: 410-368-0327

SUNY State University Construction Fund

BINGHAMTON UNIVERSITY

KEY PLAN

NOT TO SCALE

REV	DESCRIPTION	DATE

REVISIONS

SUBMISSION TITLE:
SCHEMATIC DESIGN

SEAL:

DRAWN BY:	RSR	DATE:	09/30/2024
PREPARED BY:	NJS	SCALE:	AS NOTED
CHECKED BY:	JTM	RMF JOB NO.:	0420000LAB
PROJ. MGR.:	EAB	SUBMIT JOB #:	07109-09

PROJECT NAME:
UPGRADE ELECTRICAL DISTRIBUTION

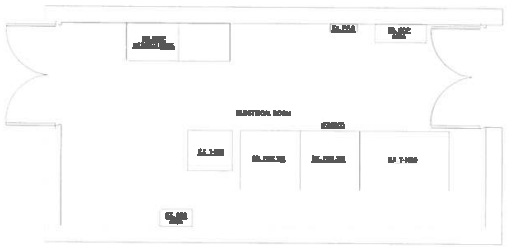
PROJECT ADDRESS:
4400 Vestal Pkwy E
Binghamton, New York 13902

DRAWING TITLE:
IROQUOIS HALL - ELECTRICAL - DEMOLITION & NEW WORK

DRAWING NUMBER:
EP4.06

P:\ID\2021\03\0420000\Dwg\EP4.06.dwg

CURRENT VOLTAGE	4.8 KV	–
[illegible]	1,600 AMPS	–
REPLACEMENT VOLTAGE	4800/277V	–
REPLACE SWITCHGEAR	YES	4.8 KV
REPLACE SWITCH?	YES	4.8 KV
NEW SWGR LOCATION	INTERIOR	–
NEW GEAR	SO	[illegible]
ARCH ALTERATIONS REQUIRED		NEED TO CONFIRM WITH MASTERSPEC REQUIRED 36 MINIMUM PATHS AND DOOR TO OPEN OUTWARD

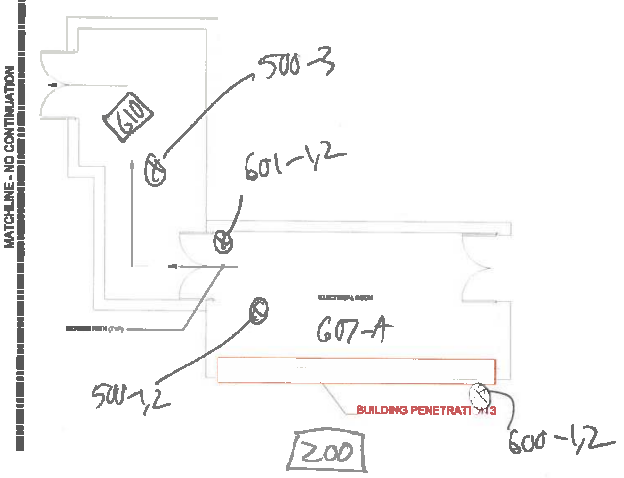


MOHAWK HALL (1ST FL.) - ELECTRICAL ROOM -EXISTING

SCALE: 3/8" = 1'-0"

Ground Floor

MATCHLINE - NO CONTINUATION



MOHAWK HALL (1ST FL.) - ELECTRICAL ROOM - RIGGING PATH

SCALE: 1/8" = 1'-0"

Ground Fl.

RMF ENGINEERING, PLLC
2320 RESEARCH PARK DRIVE
SUITE 200
BALTIMORE, MD 21230
P. 443-574-0005 F. 410-385-0027

State University Construction Fund

BINGHAMTON UNIVERSITY

KEY PLAN

CONCEPT REPORT

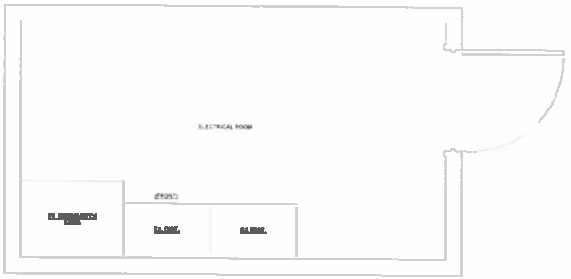
REPLACE ELECTRIC DISTRIBUTION - COMPLETION OF PHASES

4400 Vestal Pkwy E
Binghamton, New York 13902

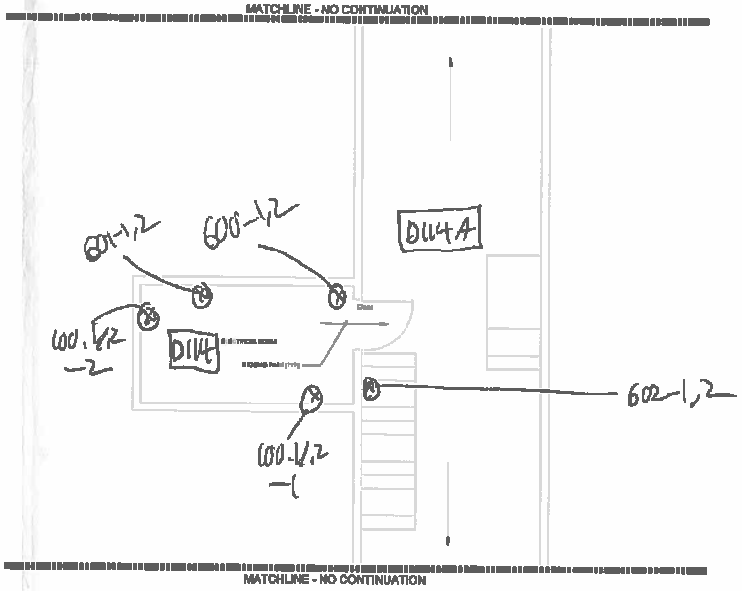
MOHAWK HALL - ELECTRICAL PLAN - 6200 RMD & RIGGING PATH

E3.06

NANTICOKE HALL		DESCRIPTION
CURRENT VOLTAGE	4.8 kV	--
[illegible]	[illegible]	--
SECONDARY VOLTAGE	[illegible]	--
REPLACE ARM?	YES	--
REPLACE BRACE?	YES	--
ARRESTER LOCATION	EXTERIOR	--
[illegible]	NO	--
ARCH FLASH REQUIRED	YES	[illegible]



NANTICOKE HALL (1ST FL.) - ELECTRICAL ROOM - EXISTING



NANTICOKE HALL (1ST FL.) - ELECTRICAL ROOM - RIGGING PATH

RMF ENGINEERING, D.P.C.
1000 CENTERVILLAGE PARK DRIVE
SUITE 200
BALTIMORE, MD 21236
P 410-879-0000 F 410-265-0037

SUNY State University Construction Fund

BINGHAMTON UNIVERSITY

KEY PLAN

NO.	REVISION	DATE

CONCEPT REPORT

REPLACE ELECTRIC DISTRIBUTION - COMPLETION OF PHASES

4400 Vestal Pkwy E
Binghamton, New York 13902

NANTICOKE HALL - ELECTRICAL PLAN - EXISTING & RIGGING PATH

E3.17

GENERAL NOTES:

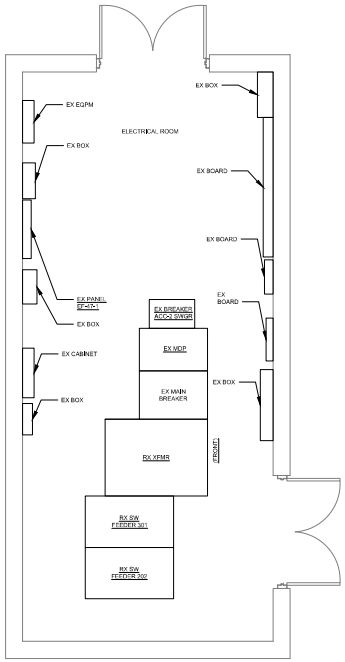
1. SEE DRAWING E6.01 FOR ELECTRICAL SINGLE LINE DIAGRAM DEMOLITION.
2. SEE DRAWING E6.02 FOR ELECTRICAL SINGLE LINE DIAGRAM NEW WORK.
3. COORDINATE ALL OUTAGES WITH THE UNIVERSITY WEEKS PRIOR TO DISCONTINUATION.
4. COORDINATE DEMOLITION WITH NEW WORK TO MINIMIZE BUILDING OUTAGES.
5. CONDUIT ROUTING SHOWN SCHEMATICALLY. FIELD ROUTE CONDUIT TO COORDINATE WITH EXISTING CONDITIONS.
6. PROVIDE END PLUGS FOR ALL SPARE CONDUIT FROM DUCTBANK.
7. CONTRACTOR SHALL VERIFY ALL EXISTING PHASE ROTATION AT EACH BUILDING. ALL ELECTRICAL UPGRADES SHALL MATCH EXISTING BUILDING PHASE ROTATION.
8. CONTRACTOR SHALL MAINTAIN EXISTING LIGHT LEVELS IN EACH ELECTRICAL ROOM. COORDINATE FIELD LIGHTING CONDITIONS WITH SUBMITTED AND APPROVED EQUIPMENT.

DRAWING NOTES:

1. DISCONNECT AND REMOVE EXISTING MEDIUM VOLTAGE SWITCH. DISCONNECT AND REMOVE ASSOCIATED WIRES, CONDUIT, AND ACCESSORIES.
2. DISCONNECT AND REMOVE EXISTING TRANSFORMER. DISCONNECT AND REMOVE ASSOCIATED WIRES, CONDUIT, AND ACCESSORIES.
3. PROVIDE NEW 15KV LOAD INTERRUPTER SWITCH.
4. PROVIDE NEW OIL-FILLED, PAD MOUNTED TRANSFORMER.
5. CONNECT NEW TRANSFORMER TO EXISTING MDP MAIN BREAKER. SEE DRAWING E7.01 FOR WIRE AND CONDUIT SIZES.

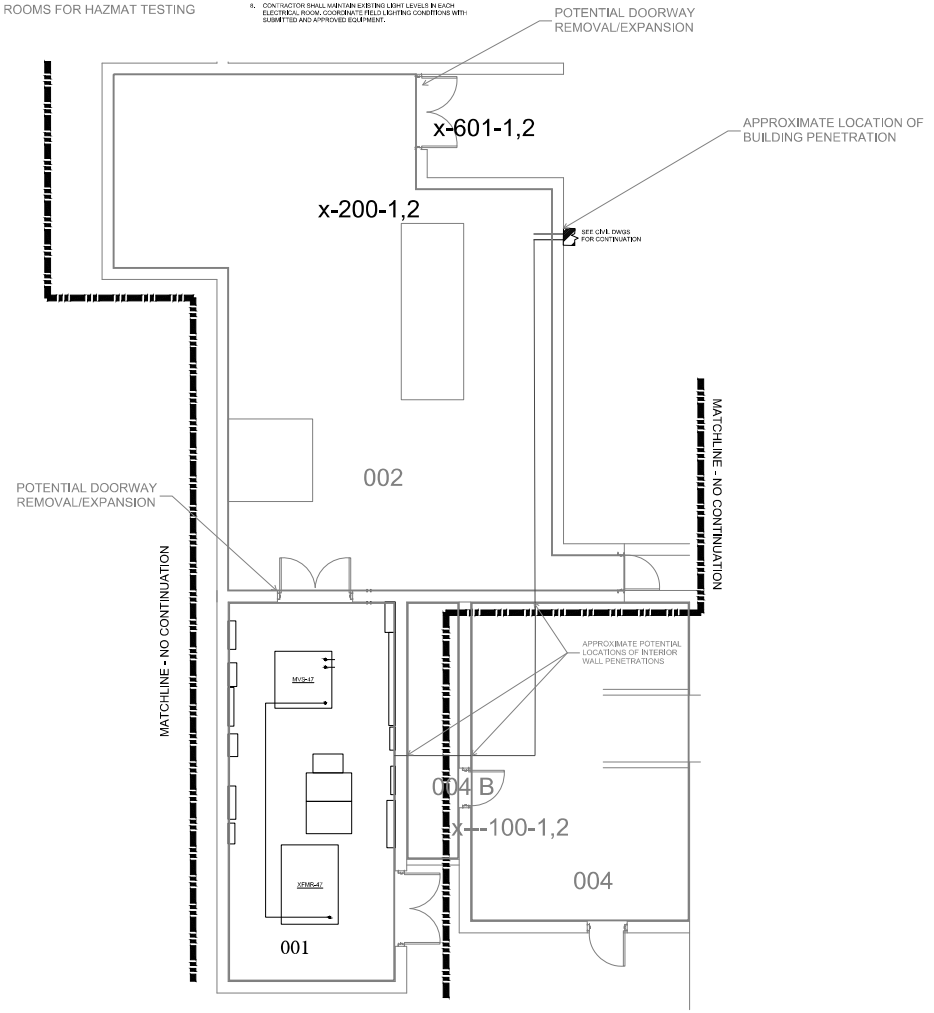
PROVIDE LINK SEALS AT THE PENETRATION INTO BUILDING. SEE CIVIL DRAWINGS FOR SITE WORK AND DETAILS.

1. RED BOXES INDICATE ROOMS FOR HAZMAT TESTING



NELSON A. ROCKEFELLER - FIRST FLOOR - ELECTRICAL ROOM - DEMOLITION

SCALE : 3/8" = 1' - 0"



NELSON A. ROCKEFELLER - FIRST FLOOR - ELECTRICAL ROOM - NEW WORK

SCALE : 1/4" = 1' - 0"

SCALE: 1/4" = 1'-0"

SCALE: 3/8" = 1'-0"

RMF ENGINEERING, INC.
5520 RESEARCH PARK DRIVE
SUITE 300
BALTIMORE, MD 21228
P: 410-576-0505 F: 410-366-0327

State University Construction Fund

BINGHAMTON UNIVERSITY

KEY PLAN

NOT TO SCALE

REV	DESCRIPTION	DATE

REVISIONS

SUBMISSION TITLE:

SCHEMATIC DESIGN

CONCEPT DESIGN

SEAL:

DRAWN BY:	RJR	DATE:	09/30/2024
RESPONSIBILITY:	NJS	SCALE:	AS NOTED
CHECKED BY:	JTM	RMF JOB NO.:	0420000LAB
PROJ. MGR.:	EAS	CLIENT JOB #:	0710R5-09

PROJECT NAME:

UPGRADE ELECTRICAL DISTRIBUTION

PROJECT ADDRESS:

4400 Vestal Pkwy E
Binghamton, New York 13902

DRAWING TITLE:

NELSON A. ROCKEFELLER - FIRST FLOOR - ELECTRICAL ROOM - DEMOLITION & NEW WORK

DRAWING NUMBER:

EP4.11

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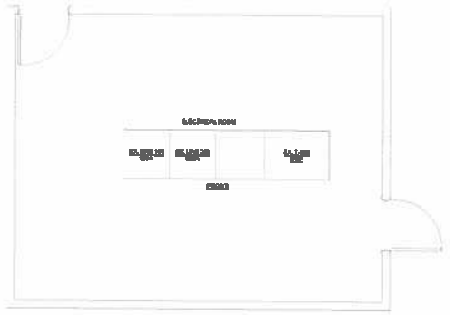
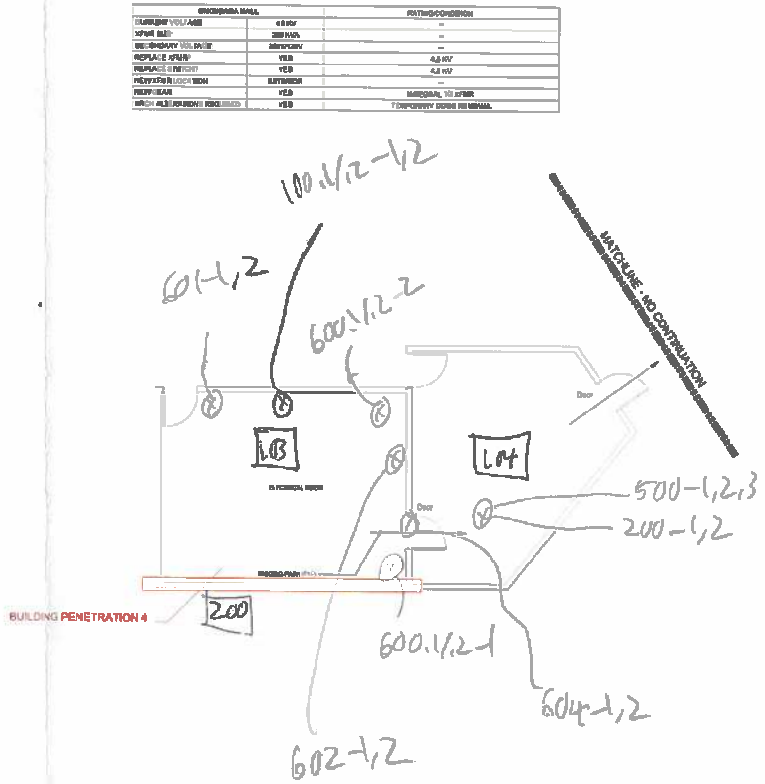


ONONDAGA HALL (1ST FL.) - ELECTRICAL ROOM - EXISTING

SCALE 3/8" = 1'-0"



ONONDAGA HALL (1ST FL.) - ELECTRICAL ROOM - RIGGING PATH

SCALE 3/4" = 1'-0"

RMF ENGINEERING, INC.
3000 MARCONI PARK DRIVE
SUITE 300
SYRACUSE, NEW YORK 13212
P 410-539-3333 F 410-366-8222

State University Construction Fund

BINGHAMTON UNIVERSITY

KEY PLAN

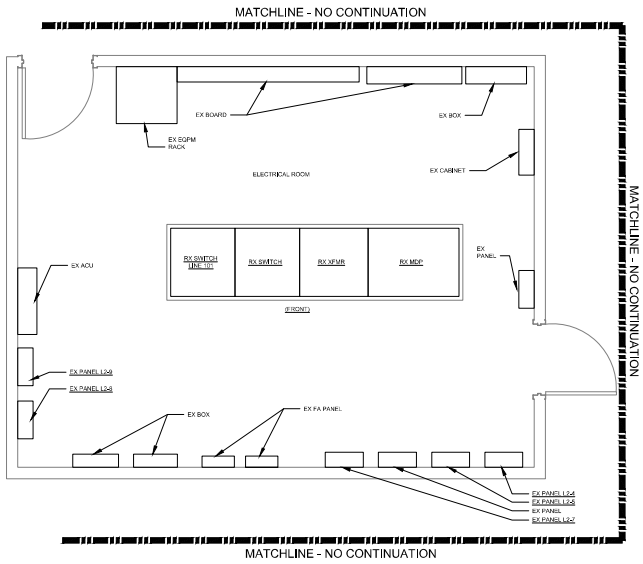
CONCEPT REPORT

REPLACE ELECTRIC DISTRIBUTION - COMPLETION OF PHASES

4400 Vestal Pkwy E
Binghamton, New York 13902

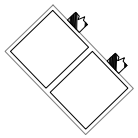
ONONDAGA HALL - ELECTRICAL PLAN - EXISTING & RIGGING PATH

E3.09



ONONDAGA HALL - FIRST FLOOR - ELECTRICAL ROOM - DEMOLITION

SCALE : 1/2" = 1'- 0"



1. RED BOXES INDICATE ROOMS FOR HAZMAT TESTING

606-1&2 taken on the exterior of the bldg

x202-1,2
203-1,2
204-1,2

101

APPROXIMATE LOCATION OF BUILDING PENETRATION

POTENTIAL INTERIOR WALL PENETRATION (ABOVE DOORWAY)

POTENTIAL INTERIOR WALL PENETRATION

102

x601-1,2 x100-1,2 x----600-2

103

601-1,2x

104

MDP

x-500-1,2,3
200-1,2

604-1,2x

600.1/2-1x

200

POTENTIAL INTERIOR WALL PENETRATION(S)

POTENTIAL DOORWAY REMOVAL/EXPANSION

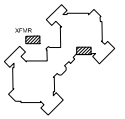
ONONDAGA HALL - FIRST FLOOR - NEW WORK

SCALE : 1/4" = 1'- 0"

RMF ENGINEERING, INC.
5520 RESEARCH PARK DRIVE
SUITE 300
BALTIMORE, MD 21228
P: 410-576-0505 F: 410-386-0327

SUNY State University Construction Fund

BINGHAMTON UNIVERSITY



KEY PLAN

NOT TO SCALE

REV	DESCRIPTION	DATE

REVISIONS

SUBMISSION TITLE:
SCHEMATIC DESIGN

SEAL:

DRAWN BY:	RJR	DATE:	09/30/2024
RESPONSIBILITY:	NJS	SCALE:	AS NOTED
CHECKED BY:	JTM	RMF JOB NO.:	0420000LAB
PROJ. MGR.:	EAS	SUBMIT JOB #:	07109-09

PROJECT NAME:
UPGRADE ELECTRICAL DISTRIBUTION

PROJECT ADDRESS:
4400 Vestal Pkwy E
Binghamton, New York 13902

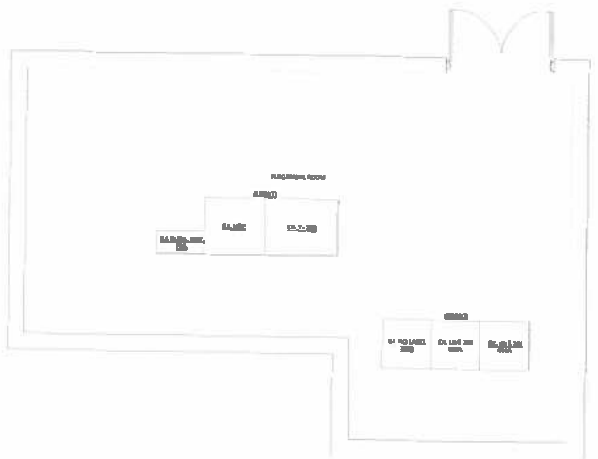
DRAWING TITLE:
ONONDAGA HALL - FIRST FLOOR - ELECTRICAL ROOM - DEMOLITION

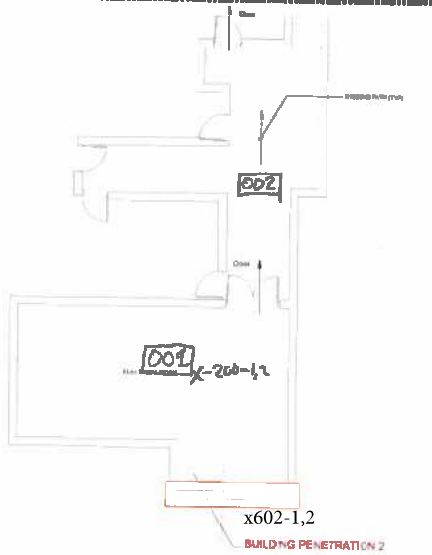
DRAWING NUMBER:
EP4.08

PUMP MOTOR	RATING/CONDITION
CURRENT VOLTAGE	4.8 kV
[illegible] SIZE	300 hhA
SECONDARY VOLTAGE	480Y/277V
REPLACE VFD?	Yes
REPLACE SWITCH?	Yes
NEW VFD/A LOCATION	Interior
DEMOLISH	Yes
WERE ALTERATIONS REQUIRED	Yes
	4.8 kV
	50 to 125 HP
	-
	-
	-

ROOSEVELT HALL		
CURRENT VOLTAGE	4.8 kV	--
[illegible] SIZE	[illegible] kVA	--
REPLACEMENT VOLTAGE	208Y/120	--
REPLACE CABLE	YES	4.8 KV
REPLACE SWITCHGEAR	YES	4.8 KV
NEW VAULT LOCATION	EXTERIOR	--
NEW VAULT	PRECAST CAST	PER SEPARATION OF PATH MEMORANDUM
ABOVE ALL NEW VAULT REQUIRED	YES	TEMPORARY DOOR REMOVAL

MATCHLINE - NO CONTINUATION





ROOSEVELT HALL (1ST FL.) - ELECTRICAL ROOM - EXISTING

SCALE 3/8" = 1'-0"

ROOSEVELT HALL (1ST FL.) - ELECTRICAL ROOM - RIGGING PATH

SCALE 3/8" = 1'-0"

rmf ENGINEERING, INC.
11350 RANDOM HILLS ROAD
SUITE 200
FAIRFAX, VA 22030
P 410.626.1460 F 410.625.2217

SUNY State University Construction Fund

BINGHAMTON UNIVERSITY

KEY PLAN

CONCEPT REPORT

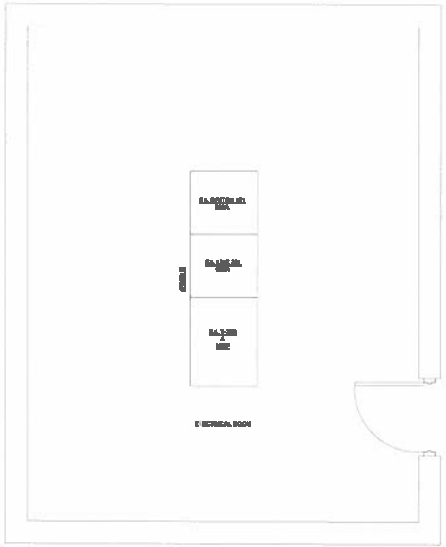
REPLACE ELECTRIC DISTRIBUTION - COMPLETION OF PHASES

4400 Vestal Pkwy E
Binghamton, New York 13902

ROOSEVELT HALL - ELECTRICAL PLAN EXISTING & RIGGING PATH

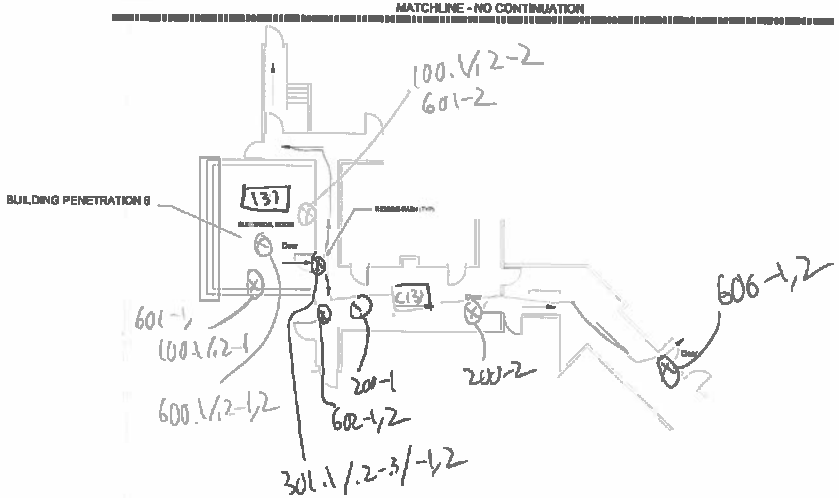
E3.03

SENECA HALL		Rating
CURRENT VOLTAGE	4.8 kV	--
KVAR SIZE	[illegible] kVAR	--
SECONDARY VOLTAGE	208 Y/ 120	--
REPLACE VAULT	Yes	4.8 kV
REPLACE SWITCH	Yes	4.8 kV
NEW STRUCTURE LOCATION	Exterior	--
MEMCLEAR	Yes	INTERNAL TO VAULT
ARCH ALTERNATIVE REQUIRED	Yes	3' SLED ROOM DOOR



SENECA HALL (1ST FL.) - ELECTRICAL ROOM - EXISTING

SCALE: 1/8" = 1'-0"



SENECA HALL (1ST FL.) - ELECTRICAL ROOM - RIGGING PATH

SCALE: 1/8" = 1'-0"

SCALE: 1/8" = 1'-0"

SCALE: 1/8" = 1'-0"

RMF ENGINEERING, INC.
7020 RESEARCH PARK DRIVE
SUITE 400
BALTIMORE, MD 21236
P: 410-515-0000, F: 410-515-0127

State University Construction Fund

BINGHAMTON UNIVERSITY

KEY PLAN

NOT TO SCALE

NO.	DESCRIPTION	DATE
	REVISIONS	

CONCEPT REPORT

DRAWN BY

CHECKED BY

DATE

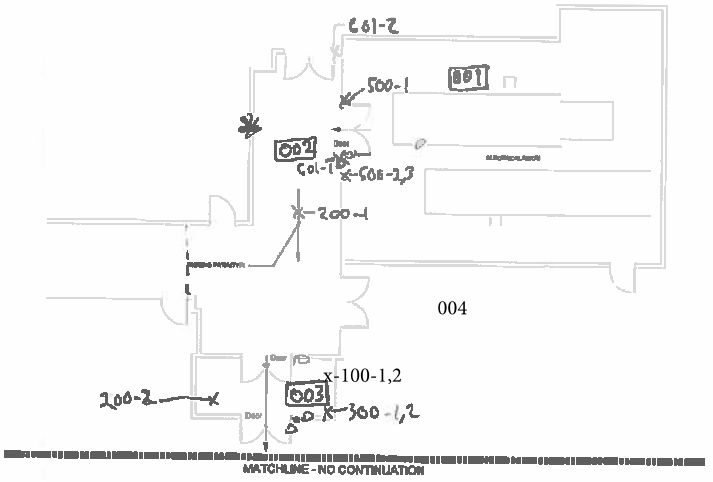
PROJECT NAME
REPLACE ELECTRIC DISTRIBUTION - COMPLETION OF PHASES

PROJECT ADDRESS
4400 Vestal Pkwy E
Binghamton, New York 13902

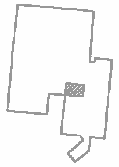
SENECA HALL - ELECTRICAL PLAN - EXISTING & RIGGING PATH

DRAWING NUMBER
E3.01

TECH HUB (1ST FL.) - ELECTRICAL ROOM - EXISTING



TECH HUB (1ST FL.) - ELECTRICAL ROOM - RIGGING PATH



KEY PLAN

CONCEPT REPORT

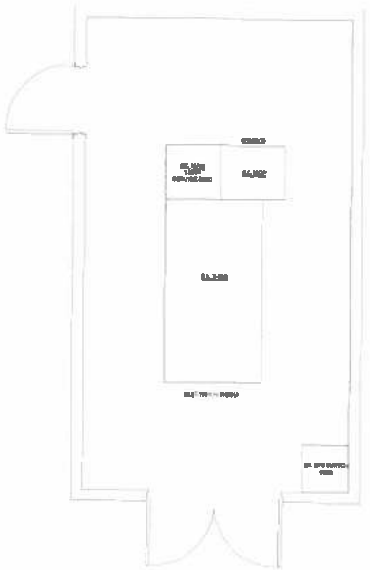
REPLACE ELECTRIC DISTRIBUTION - COMPLETION OF PHASES

4400 Vestal Pkwy E
Binghamton, New York 13902

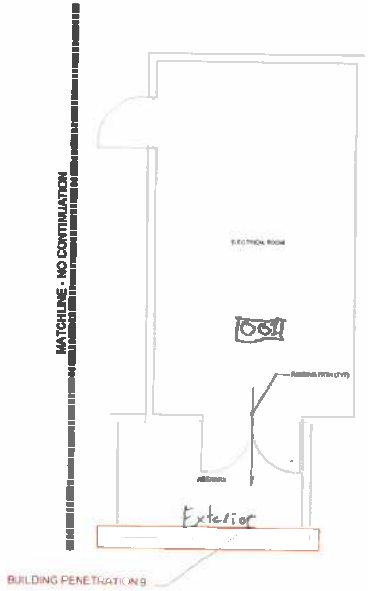
TECH HUB - ELECTRICAL PLAN - EXISTING & RIGGING PATH

E3.18

WHITNEY HALL		RETROCONDITION
CURRENT VOLTAGE	4.8 KV	-
XFMR SIZE	750 mVA	-
RETROFAN VOLTAGE	208Y/120V	-
REPLACE XFMR?	YES	-
REPLACE SWITCH?	NO	4.8 KV
NEW XFMR LOCATION	INTERIOR/EXTERIOR	13.8 KV ELIMINATE BASE MTD
TRANSFAN	NO	-
MECH ALTERATIONS REQUIRED	YES	TEMP REMOVAL OF SMALL CEILING GRATES



WHITNEY HALL (1ST FL.) - ELECTRICAL ROOM - EXISTING



002

WHITNEY HALL (1ST FL.) - ELECTRICAL ROOM - RIGGING PATH

RMF Engineering, Inc.
1820 Research Park Drive
Suite 200
Baltimore, MD 21228
P 410-869-5888 F 410-365-8227

SUNY State University Construction Fund

BINGHAMTON UNIVERSITY

KEY PLAN

CONCEPT REPORT

REPLACE ELECTRIC DISTRIBUTION - COMPLETION OF PHASES

4400 Vestal Pkwy E
Binghamton, New York, 13902

WHITNEY HALL - ELECTRICAL PLAN, ELEVATIONS & RIGGING PATH

E3.14

ENCORUS GROUP

23 Mechanic Street
Springville, NY 14141

295 Main Street
West Seneca, NY 14224

encorus.com
716.592.3980

Appendix F

Summary of Inspected Functional Spaces

ENCORUS GROUP

23 Mechanic Street
Springville, NY 14141

295 Main Street
West Seneca, NY 14224

encorus.com
716.592.3980

A. Bartle Library Addition
- 300 – Electrical
- 301 – Mechanical
- S301 – Stairwell

B. Bartle Library Tower
- 001 – Electrical
- 002 – Areaway
- 100 – Courtyard
- 101 – Corridor
- 102 – Corridor
- 103 – Corridor
- 104 – Corridor

C. Brandywine Hall
- A115 – Electrical
- A115A – Breezeway/Stair

D. Cayuga Hall
- 103 – Electric
- C103 – Corridor
- 200 – Ext Vestibule
- 201 – Exterior Wall/North Exterior

E. Choconut Hall
- B109 – Electric
- B109A – Breezeway/Stair

F. Commissary
- 100 – Exterior Wall
- 138 – Room
- 138A – Room
- 137 - Room

G. Darrien Hall
- 001 - Electrical
- Exterior Wall

H. Glenwood Hall
- C107 – Electric
- C107A – Ext. Stairs/Vestibule

I. Iroquois Hall
- IR-8 – Electrical
- IR-8A – Electric
- IR-9 – Mechanical
- Ground Floor – Electrical Room

J. Mohawk Hall
- G07A – Electrical
- G10 – Break/Corridor
- 200 – Exterior

K. Nanticoke Hall
- D114 – Electric
- D114A – Breezeway/Stairs

L. Nelson Rockefeller
- 001 – Basement Electrical
- 002 – Basement Mechanical
- 004 – Room
- 004B - Room

M. Oneida Hall
- 001 – Electric
- C100 – Corridor
- 200 – Exterior

N. Onondaga Hall
- 101- Room
- 102 - Corridor
- 103 – Electrical
- 104 – Lobby
- 200 - Exterior

O. Pump House
- 100 – Electrical Room

P. Roosevelt Hall
- 001 – Electrical Hall
- 002 – Hall/Corridor

Q. Seneca Hall
- 131 – Electrical
- C131 – Corridor
- Stair C
- 200 – Exterior

R. Tech Hub
- 001 – Electrical Room
- 002 – Hall
- 003 – Vestibule
- 004 – Electrical Room

S. Whitney Hall
- 001 – Electrical Room
- 002 - Room

STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

FOR

071095 Upgrade Electrical Distribution

BINGHAMTON UNIVERSITY
4400 VESTAL PKWY
E BINGHAMTON, NEW YORK

PREPARED FOR:

SUNY State University Construction Fund

PREPARED BY:

AZAR DESIGN CO

295 Main Street
Buffalo, New York 14203

Azar Design Co. Project No. 230147.00
SUNF Project No. 071095

Design Manual Submission - October 31, 2025

TABLE OF CONTENTS

Page

1.0 Introduction 3

2.0 Project Information 3

2.1 Project Description 3

2.2 Project Soils 4

2.3 Historical and Cultural Areas 5

2.4 Climate Change Considerations 5

3.0 Erosion and Sediment Control Measures 5

3.1 Erosion and Sedimentation Controls 5

3.2 Winter Stabilization Practices 7

3.3 Construction Sequence 8

3.4 Other Pollution Prevention Controls 8

4.0 Maintenance and Inspection 10

4.1 Construction Maintenance and Inspection 10

APPENDICES

Appendix A – Selected Contract Drawings

- C5.01 – C5.13 Erosion and Sediment Control Plan
- C6.01 Erosion Control and Sediment Control Details

Appendix B – Site Information

- Location Map
- Natural Resource Conservation Service (NRCS) Web Soil Survey Report
- Historical and Cultural Resources Documentation (Under Development)
- Threatened, Endangered, and/or Protected Species Documentation (Under Development)

Appendix C – SPDES General Permit

- NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activity, GP-0-25-001

Appendix D – NYSDEC Forms

- Notice of Intent (NOI)
- Municipal Separate Storm Sewer (MS4) No Jurisdiction Form
- NOI Acknowledgement Letter
- Notice of Termination (NOT)

Appendix E – Pre-Construction Requirements

- Pre-Construction Meeting Documents
  - Preamble to Site Assessment and Inspections
  - Pre-Construction Site Assessment Checklist
- Contractor Certification Statement

Appendix F – Qualified Inspector Inspection Reports

- Construction Duration Inspection Form

1.0 Introduction

The following Stormwater Pollution Prevention Plan (SWPPP) addresses the proposed stormwater mitigation measures and pollution prevention devices associated with the construction of linear electrical duct banks, concrete pads for transformers, and manholes across the university. The project is for the State University of New York (SUNY) at Binghamton located at 4400 Vestal Pkwy E, Binghamton, NY, 13902. Broome County.

The project will disturb greater than one-acre of soil, and therefore requires a SWPPP to be prepared in compliance with the Phase II requirements of the New York Department of environmental Conservation (NYSDEC) State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges form Construction Activity, GP-0-25-001 (General Permit). The SWPPP includes, but is not limited to, this document with appendices, erosion control plans, storm drainage plans, storm drainage and erosion control details included in the construction drawings, Notice of Intent (NOI) including MS4 acknowledgement letter with the town of Vestal (SWIS # 34800), NOI Acknowledgment Letter, General Permit, Notice of Termination (NOT), all records of inspections and activities which are created during the project, and other documents referenced in this SWPPP. Changes, modifications, revisions, additions, or deletions shall become part of the SWPPP as they occur.

This SWPPP was created with the guidance of New York Standards for Erosion and Sediment Control (Blue Book), dated July 2016, and documents the ability of stormwater mitigation measures and pollution prevention devices to comply with Phase II SPDES requirements. The SWPPP and associated erosion control measures must be implemented at the start of construction and updated, repaired, and/or replaced throughout construction period. The General Permit will terminate when construction activities have ceased, disturbed areas have been permanently stabilized, permanent erosion and sedimentation controls post-construction stormwater management practices are installed as designed, temporary erosion and sedimentation controls are removed, and a completed NOT has been filed with NYSDEC.

2.0 Project Information

Project Name: Replace Electric Distribution

Project Location:
State University of Binghamton
4400 Vestal Pkwy E
Binghamton, NY, 13902

Owner/Operator:
State University Construction Fund (SUCF)
Anne Garrity, PE
H. Carl McCall SUNY Building
353 Broadway, Albany, NY 12246
T: 518-320-3210
E: SUCF.spdes@suny.edu

2.1 Project Description

The project involves construction of an electrical bank system with necessary components to improve the electrical infrastructure for the campus. This project will be constructed at the existing Binghamton University on the 579.06-acre parcel. The property can be located off Vestal Parkway (RT. 434) when driving East from the Town of Binghamton. Project is located in the Township of Vestal that is within the county of Broome NY. The parcel is bounded to the north by Susquehanna River and Bunn Hill to the south. Two creeks flow North

around the University, Fuller Hollow Creek that flows along Murray Hill Rd. to the East and Bunn Hill Creek that flows along the West side of the project.

Using the General Permit guidelines for coverage, the proposed project is classified as a linear development. As shown in Appendix B, Table 1, of the General Permit, this project will require preparation of SWPPP that erosion and sediment control practices only. No post-construction stormwater management is required.

Appendix A includes the erosion and sediment control contract drawings. Additional contract plans, details, and information relevant to the project can be found in the construction documents, bound separately from this report.

2.2 Project Soils

According to the National Resource Conservation Service (NRCS) Soil Survey, the Project area comprised of different types of silt loam. Detailed information on these soils can be found in the Web Soil Survey Report provided in Appendix B. General information on site soil conditions can be found below.

Soil Unit Symbol - Hydrologic Soil Group	Map Unit Name	Acres in AOI	Percent of AOI
CaB - D	Canaseraga silt loam, 3 to 8 percent slopes	17.1	3.0%
CaC - D	Canaseraga silt loam, 8 to 15 percent slopes	5.1	0.9%
Cv -A	Cut and fill lands, gravelly materials	13.0	2.2%
Cy - A	Cut and fill lands, silty materials	33.4	5.8%
DaB - D	Dalton silt loam, 2 to 8 percent slopes	141.1	24.4%
DaC - D	Dalton silt loam, 8 to 15 percent slopes	131.6	22.7%
LdC - D	Lordstown channery silt loam, 5 to 15 percent slopes	19.7	3.4%
LdD - C	Lordstown channery silt loam, 15 to 25 percent slopes	8.4	1.5%
LoE - C	Lordstown and Oquaga channery silt loams, 25 to 35 percent slopes	5.4	0.9%
MhC - C	Mardin channery silt loam, 8 to 15 percent slopes	36.1	6.2%
MhD - D	Bath channery silt loam, 15 to 25 percent slopes	45.8	7.9%
MhE - C	Bath channery silt loam, 25 to 35 percent slopes	13.3	2.3%
Ms – B/D	Middlebury silt loam	2.7	0.5%
Ta - A	Tioga silt loam	13.9	2.4%
UnC - B	Unadilla silt loam, 5 to 15 percent slopes	15.6	2.7%
VoB - D	Volusia channery silt loam, 3 to 8 percent slopes	16.3	2.8%
VoC - D	Volusia channery silt loam, 8 to 15 percent slopes	22.5	3.9%
VoD - D	Volusia channery silt loam, 15 to 25 percent slopes	1.0	0.2%
W - D	Water	5.1	0.9%
Wa – B/D	Wallington silt loam	19.3	3.3%

Wd – B/D	Wayland soils complex, 0 to 3 percent slopes, frequently flooded	12.7	2.2%
Totals for Area of Interest		**579.1**	**100.0%**

The most areas of project work are within the Da, Cy, Ca soils types.

2.3 Historical and Cultural Areas

Construction activities with the potential to affect historic and/or archeological resources require documentation that such impacts have been resolved to be eligible for coverage under the General Permit. This review is underway. Once completed, Appendix B will contain historical and cultural resources documentation.

2.4 Climate Change Considerations

Per Part III.A.2. of GP-0-25-001, SWPPPs must demonstrate consideration of the future physical risks due to climate change pursuant to the Community Risk and Resiliency Act (CRRA), 6 NYCRR Part 490 and associated guidance. The owner and/or operator must consider the following physical risks due to climate change when considering overall site planning and location/elevation/sizing of control measures and practices, conveyance systems and detention systems. These risks include, but are not limited to, increases related to temperature, precipitation, variability in precipitation (including chance of drought) and frequency and severity of flooding; rising sea level; increasing storm surge and shifting ecology.

The project is a linear utility project and will be restored to pre-construction surfacing. The project will maintain additional

3.0 Erosion and Sediment Control Measures

The primary goal of pollution prevention efforts during construction is to minimize soil erosion and to prevent discharge of pollutants from the site. A discharge of pollutants from the site could reach flowing surface waters and cause or contribute to a violation of water quality standards. The erosion and sediment control practices included in this SWPPP were selected to minimize discharge of pollutants and to assist in preventing a violation of water quality standards listed in the General Permit under Section 1.B for Effluent Limitations Applicable to Discharges from Construction Activities. A successful pollution prevention program relies on careful inspections and adjustments during construction to enhance its effectiveness.

3.1 Erosion and Sedimentation Controls

Various erosion and sediment control practices have been identified on the erosion and sediment control and plan and detail sheets for use on the site to prevent erosion and sediment transport. Additional practices may become necessary due to unforeseen site conditions. Contractors shall familiarize themselves with all controls described in the New York State Standards and Specifications for Erosion and Sediment Control (Blue Book), dated July 2016. The construction specifications and details for control measures can be found in the project's erosion and sediment control plans and details or in the Blue Book.

All practices require maintenance and upkeep during the project construction. Depending on project duration, site and weather conditions, and the intensity of use, periodic replacement of the practices may be necessary.

The following items are to be used to manage Sedimentation and erosion:

1. Silt Fence – Construct temporary barriers of geotextile fabric installed on a contour across a slope to intercept sediment laden runoff from small drainage areas with disturbed soil. The intent is to reduce the velocity of stormwater runoff and cause deposition of most transported sediment at the silt fence. Silt fence is to be utilized during site demolition and remain in place until areas upstream of the silt fence have been properly stabilized.

2. Compost Filter Sock - Install temporary sediment control practices composed of a degradable geotextile mesh tube filled with compost filter media. The intent is to filter sediment and other pollutants to prevent their migration offsite. Filter socks are to be utilized during site demolition and remain in place until the upstream areas have been properly stabilized.

3. Drainage Structure Inlet Protection – Construct temporary, permeable barriers around inlets in the form of fences, berms, prefabricated units, or excavations around inlets to detain water and reduce the sediment content of runoff by settling. The intent is to prevent heavily sediment laden water from entering a storm drain system via surface inlets. Inlet protection is to be utilized during site demolition and remain in place until the inlet's entire drainage area has been properly stabilized.

4. Dust Control – Control dust resulting from land-disturbing activities. The intent is to prevent surface and air movement of dust from disturbed soil surfaces that may cause offsite damage, health hazards, and traffic safety problems. This practice applies to construction roads, access points, and other disturbed areas subject to surface dust movement. Maintain dust control measures through dry weather periods until all disturbed areas are stabilized. For non-driving areas, apply mulching with or without seed to control dust. For driving areas, place woven geotextile barriers on driving surfaces or spray surfaces with water at frequency necessary to control dust. Chemical based dust control products, such as spray adhesives or polymer additives, shall not be used without specific approval from the owner/operator's representative.

5. Permanent Seeding – Apply perennial grass seed mixture conforming to project specifications to disturbed soils with a suitable mulch product. The intent is to provide long-term temporary or permanent erosion and sediment control by covering all bare ground surfaces that exist because of construction. Apply seeding in all exposed areas for temporary and permanent stabilization of soils as soon as practical.

6. Temporary Seeding – Apply annual grass seed mixture conforming to project specifications to disturbed soils with a suitable mulch product. The intent is to provide temporary erosion and sediment control by covering all disturbed soil areas. Apply temporary seeding to inactive, disturbed soils to establish temporary stabilization.

7. Mulching – Apply coarse plant residue or chips, or other suitable materials, to cover the disturbed soil surface. The intent is to provide initial erosion control while seeding or shrub planting is becoming established. Apply mulching in all exposed areas for temporary stabilization of soils as soon as practical.

8. Topsoiling – Topsoil is to be spread over final graded areas to the specified depth prior to seeding to help establish vegetation. No vehicle or pedestrian traffic will be allowed on these areas until such time as the final stabilization has been reached. The intent is to provide acceptable plant growing conditions, thereby reducing erosion; reducing irrigation water needs; and reducing the need for fertilizer application. Apply topsoiling in all exposed areas for temporary and permanent stabilization of soils as soon as practical.

9. Anchored Stabilization Matting (Erosion Control Blankets) – On slopes steeper than 3:1, install temporary or permanent protective covering placed on a prepared, seeded planting area that is anchored in place by

staples or other means. The intent is to aid in controlling erosion by absorbing rain splash energy and withstand overland flow as well as protect and promote seed germination.

10. Dewatering Controls – Install dewatering practices due to the depth of excavation and anticipated water table. Dewatering requires settling tanks, dewatering sump pits, or other means of removal of sediment and solids in the water prior to discharge from the site. Size dewatering controls and pumps appropriately to handle both routine dewatering and storm event dewatering. The intent is to allow sediment to settle out while removing relatively clean water to a suitable, stable outlet.

3.2 Winter Stabilization Practices

Additional stabilization and sediment control measures are required to be utilized by the contractor for any projects with ongoing land disturbance and unstabilized soil between November 15 to the following April 1. These requirements are in accordance with the New York State Standards and Specifications for Erosion and Sediment, dated July 2016.

The contractor shall:

1. Prepare a snow management plan with adequate storage for snow and control of melt water that requires cleared snow to be stored in a manner not affecting ongoing construction activities.
2. Enlarge and stabilize access points to provide for snow management and stockpiling. Snow management activities must not destroy or degrade installed erosion and sediment control practices.
3. A minimum 25-foot buffer shall be maintained from all perimeter controls such as silt fence. Mark silt fence with tall stakes that are visible above snowpack.
4. Edges of disturbed areas that drain to a waterbody within 100 feet will have two rows of silt fence, 5 feet apart, installed on the contour.
5. Drainage structures must be kept open and free of snow and ice dams. All debris, ice dams, or debris from plowing operations that restrict the flow of runoff and meltwater shall be removed.
6. Sediment barriers must be installed at all appropriate perimeter and sensitive locations. Silt fence and other practices requiring earth disturbance must be installed before the ground freezes.
7. Soil stockpiles must be protected using established vegetation, anchored straw mulch, rolled stabilization matting, or other durable covering. A barrier must be installed at least 15 feet from the toe of the stockpile to prevent soil migration and to capture loose soil.
8. In areas where soil disturbance activity has temporarily or permanently ceased, initiate soil stabilization measures by the end of the next business day and complete within three days. Rolled erosion control blankets must be used on all slopes three horizontal to one vertical or steeper.
9. If straw mulch alone is used for temporary stabilization, it shall be applied at double the standard rate of 2 tons per acre. Other manufactured mulches should be applied at double the manufacturer's recommended rate.
10. To ensure adequate stabilization of disturbed soil in advance of a melt event, areas of disturbed soil should be stabilized at the end of each workday unless:
    - Work will resume within 24 hours in the same area and no precipitation is forecast; or
    - The work is in disturbed areas that collect and retain runoff, such as open utility trenches, foundation excavations, or water management areas.
11. Use stone paths to stabilize access perimeters of buildings under construction and areas where construction vehicle traffic is anticipated. Stone paths should be a minimum of 10 feet in width but wider as necessary to accommodate equipment.

The site shall be inspected frequently to ensure that the erosion and sediment control plan is performing its winter stabilization function. If the site will not have earth disturbing activities ongoing during the winter

season, all bare exposed soil must be stabilized by established vegetation, straw, or other acceptable mulch, matting, rock, or other approved material such as rolled erosion control products. Seeding of areas with mulch cover is preferred. Seeding alone is **not** acceptable for proper stabilization.

Compliance inspections must continue to be performed and reports filed properly by the Qualified Inspector in accordance with the SWPPP for all sites under a winter shutdown.

3.3 Construction Sequence

The following construction sequence describes the intended order of construction activities and timing for installation, use, and removal of erosion control measures.

1. Obtain plan approval and all applicable permits.

2. Set up stabilized construction entrance and equipment and material storage area. Maintain these areas in a stable condition for the duration of project construction.

3. Install temporary erosion and sediment control measures to comply with drawings and specifications prior to any site disturbance activities. A Qualified Inspector shall inspect all erosion and sediment control practices weekly. Maintain all erosion and sediment control devices as necessary throughout the construction period.

4. Begin demolition and excavation operations, including clearing, grubbing, and stockpiling topsoil. Stabilize all disturbed areas and stockpiles as soon as practicable.

5. Excavate and construct underground duct bank and utilities.

6. Backfill trenches, place topsoil to established finish grade site, construct pavement, and restore all disturbed areas to prepare for final site stabilization.

7. Apply permanent seed and mulch to all areas that will be vegetated in its final state. Stabilize any other disturbed areas with final surfacing.

8. All erosion and sediment control features shall be maintained until all disturbed areas are stabilized. After acceptance of restoration by the Qualified Inspector, remove all temporary erosion and sediment control features.

9. Upon completion of the project, a NOT form is to be filed with NYSDEC.

3.4 Other Pollution Prevention Controls

Implement the following pollution prevention measures as necessary to control litter, construction chemicals, construction debris, and prevent other forms of waste from becoming a pollutant source in the stormwater discharge.

1. Solid Waste Disposal – No solid materials, including building materials, are allowed to be discharged from the site with stormwater. All solid waste, including disposable materials incidental to the major construction activities, must be collected, and placed in containers. Empty containers as necessary and haul away from the site. The contractor shall denote the location of solid waste receptacles on the

Erosion Control Plan. Waste substances with the potential for polluting surface water and/or groundwater must be controlled by whatever means necessary to ensure that they do not discharge from the site. Disposal of woody debris and stumps must also be accommodated. Excess soil materials, woody debris, stumps, and construction waste shall not be placed in regulated wetlands, streams, or other surface waters.

2. Sanitary Facilities – All personnel involved with construction activities must comply with state and local sanitary or septic system regulations. Provide temporary sanitary facilities at the site throughout construction. They must be utilized by all construction personnel and must be serviced by a commercial operator. The contractor shall denote the location of sanitary facilities on the Erosion Control Plan.

3. Water Source – Non-stormwater components of site discharge must be clean, potable water. Water used for construction which discharges from the site must originate from a public water supply or private well approved by NYS DOH. Water used for construction that does not originate from an approved public supply must be contained and removed for off-site treatment. It may not be discharged as surface water from the site.

4. Concrete Waste from Concrete Ready-Mix Trucks – Discharge of excess or waste concrete and/or wash water from concrete trucks will be allowed on the construction site, but only in specifically designated diked areas prepared to prevent contact between concrete and/or wash water and stormwater that will be discharged from the site. Concrete washout areas must a be a minimum of 100 feet from all wetlands, streams, storm drain inlets, drainage ditches, and other surface water connections. Alternatively, waste concrete can be placed into forms to make riprap or other useful concrete products. The cured residue from the concrete washout diked areas shall be disposed in accordance with applicable state and federal regulations. The contractor shall denote the location of concrete washout areas on the Erosion Control Plan.

5. Fuel Tanks and Re-Fueling Areas – Temporary onsite fuel tanks for construction vehicles shall meet all state and federal regulations. Tanks shall have approved spill containment with the capacity required by the applicable regulations. The tank shall be in sound condition free of rust or other damage which might compromise containment. Hoses, valves, fittings, caps, filler nozzles, and associated hardware shall always be maintained in proper working condition. Fuel tanks and refueling areas must a be a minimum of 100 feet from all wetlands, streams, storm drain inlets, drainage ditches, and other surface water connections. The contractor shall denote the location of temporary fuel tanks on the Erosion Control Plan.

6. Pesticides and Fertilizers – Only the types and approximate quantities of pesticides and fertilizers to be used for the project are permitted to be brought onsite. All local, stated, and federal regulations shall be followed for the storage, handling, application, and usage of these products.

7. Other Hazardous Materials Management – Any hazardous or potentially hazardous materials not specifically identified in section that are brought onto the construction site will be handled properly to reduce the potential for stormwater pollution.

8. Staging and Material Storage – Locate and grade staging and storage areas for equipment and materials so that runoff from these areas are collected, contained, and treated prior to discharge from the site. Store, cover, and isolate construction materials including topsoil and chemicals, to prevent runoff of pollutants and contamination of groundwater and surface waters.

9. Spill Reporting – Spills kits shall be kept on site by the contractor. The contractor shall also distribute or post informational material regarding proper handling, spill response, spill kit location, and emergency actions to be taken to all construction personnel. Should an accidental spill of a petroleum product, chemical, or other hazardous material occur, contractor must take immediate action to contain and remove spilled material. All spilled and contaminated materials must be disposed of by contractor in the manner specified by local, state, and federal regulations and by the manufacturer of such products. As soon as possible, and within required time frames, report the spill to all appropriate federal, state, and local agencies.

4.0 Maintenance and Inspection

4.1 Construction Maintenance and Inspection

Maintenance and inspection of the stormwater management and pollution prevention devices must occur on a regular basis throughout construction. The SWPPP shall be modified as necessary throughout construction to prevent pollutants from leaving the site. The maintenance and inspection procedures during construction are as follows:

1. Prior to the commencement of construction activity, the contractor and subcontractors shall identify at least one person (the trained contractor) from each of their respective companies that will be responsible for implementation of the SWPPP. Prior to beginning any construction activity, all designated trained contractors shall read, understand, and sign a Contractor's Certification Statement contained in the SWPPP. At least one trained contractor shall be onsite during performance of soil-disturbing activities. See Appendix E for Certification form.

2. The owner/operator is responsible for designating a qualified individual familiar with proposed construction activities and knowledgeable in stormwater pollution prevention to perform inspections. The individual responsible for site inspections shall be a qualified inspector as defined in the permit. The qualified inspector will inspect site for compliance with the SWPPP and permit, identify components requiring maintenance or remedial action, and transmit this information to owner and trained contractor within one business day of completion of inspection. Under the direction of trained contractor, efforts to address maintenance needs or corrective actions identified shall be initiated within one business day and completed prior to next inspection. Provided that area of unstabilized soil is less than five acres at one time, the inspections shall occur at least once every seven calendar days until soil disturbance has ceased and site has been temporarily stabilized. More frequent inspections are required if the site disturbance exceeds five acres at one time. Refer to Appendix F for inspection forms.

3. The owner/operator shall have the qualified inspector assess site prior to commencement of construction and certify in an inspection report that the appropriate erosion and sediment controls described within the SWPPP and required by permit have been installed to ensure the site is prepared for the commencement of construction.

4. All erosion and sediment control measures shall be installed and maintained in accordance with the project plans and the most current issuance of “New York State Standards and Specifications for Erosion and Sediment Control, dated July 2016.

5. Greater than five acres of soil shall not be disturbed at any one time without prior written authorization from the NYSDEC Regional Office and compliance with requirements outlined in General Permit.

6. The Qualified Inspector shall complete an inspection at least once every seven calendar days. If authorized and more than 5 acres of land is disturbed, the qualified inspector shall conduct at least two site inspections every seven calendar days. The two inspections shall be separated by a minimum of two calendar days.

7. The trained contractor shall maintain on the site a current record of all SWPPP inspections, together with a copy of the project SWPPP, including any revisions, additions, or modifications to the SWPPP.

8. At a minimum, the trained contractor(s) shall:
    a. Inspect erosion control measures (silt fence, inlet protection, filter socks, etc.) being implemented in active work area daily to ensure they are being maintained in effective operating condition. Repair any minor deficiencies immediately. Corrective actions for other deficiencies must be initiated within one business day and shall be completed in a reasonable timeframe.
    b. Apply seed and mulch and/or plant inactive areas that are to be stabilized with vegetation. Inspect areas where seed and mulch or planting efforts have been previously completed. Repair bare spots, washouts, and maintain a healthy growth of stabilizing vegetation(s).
    c. Monitor adjacent roadways to ensure tracked mud, dust, dirt, or rocks are swept.
    d. See that general worksite housekeeping is maintained.

9. Prior to filing the NOT, the qualified inspector shall perform a final site inspection. The inspector shall certify that the site has undergone final stabilization and that all temporary erosion and sediment controls not needed for long-term erosion control have been removed.

APPENDIX A
SELECT CONTRACT DRAWINGS

Erosion and Sediment Control Plan
Erosion Control and Storm Drainage Details

APPENDIX B
SITE INFORMATION

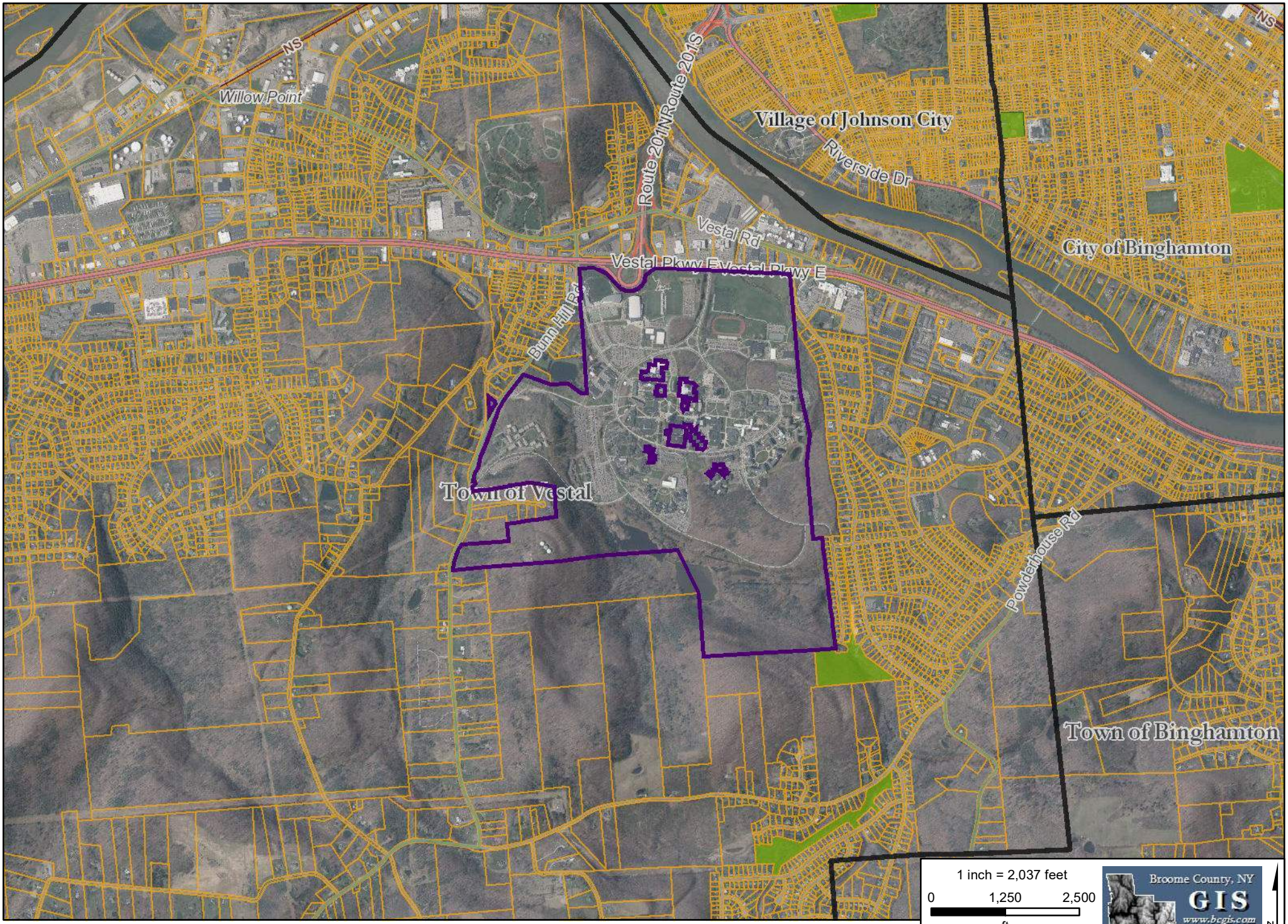
Location Map

NRCS Web Soil Survey Report

Threatened, Endangered, and/or Protected Species Documentation

Historical and Cultural Resources Documentation

Broome County Parcel Mapper



DISCLAIMER: Broome County does not guarantee the accuracy of the data presented. Information should be used for illustrative purposes only.

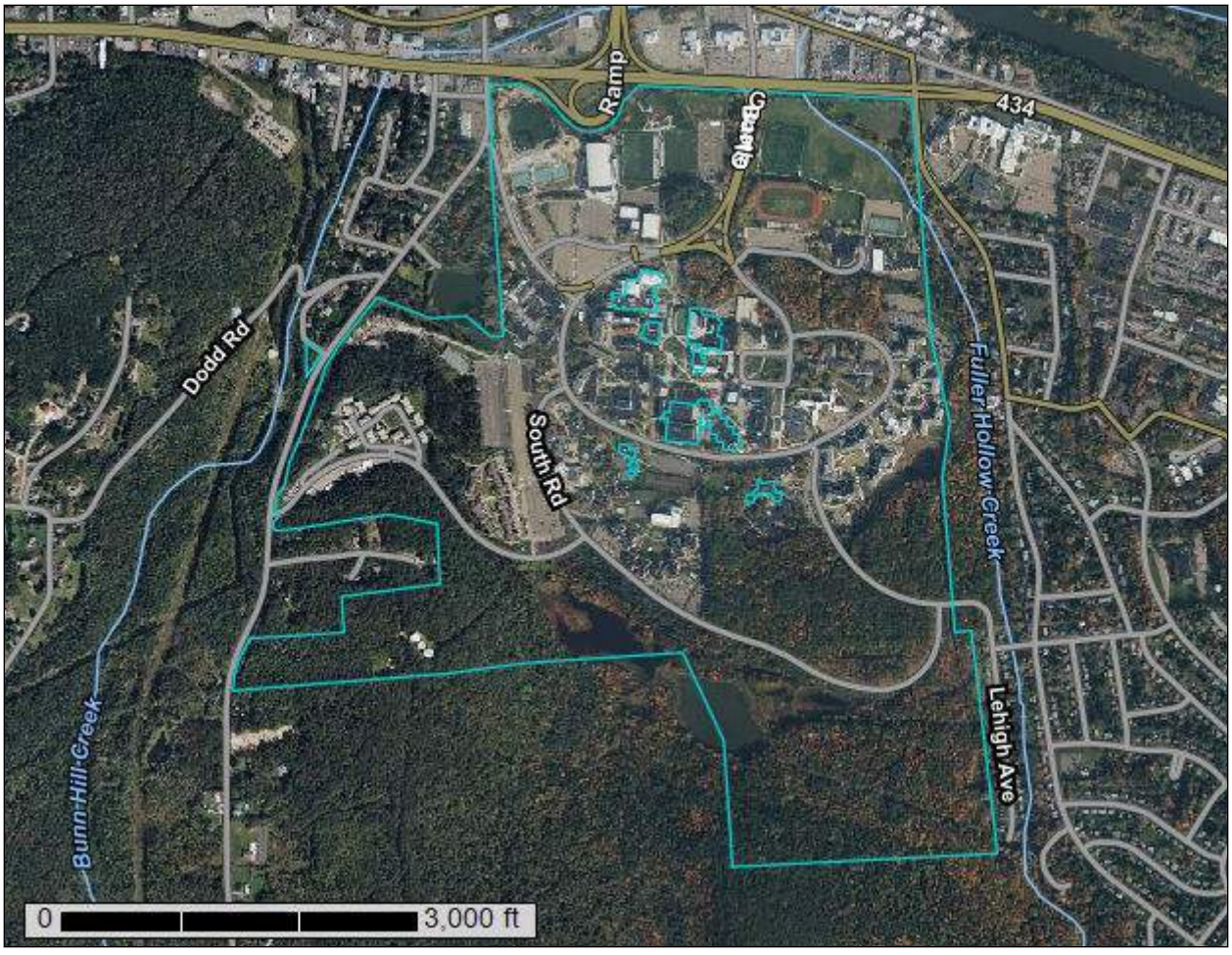
United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Broome County, New York



June 28, 2024

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

Preface.....2
How Soil Surveys Are Made.....5
Soil Map.....8
Soil Map.....9
Legend.....10
Map Unit Legend.....11
Map Unit Descriptions.....12
Broome County, New York.....14
CaB—Canaseraga silt loam, 3 to 8 percent slopes.....14
CaC—Canaseraga silt loam, 8 to 15 percent slopes.....15
Cv—Cut and fill lands, gravelly materials.....16
Cy—Cut and fill lands, silty materials.....18
DaB—Dalton silt loam, 2 to 8 percent slopes.....19
DaC—Dalton silt loam, 8 to 15 percent slopes.....20
LdC—Lordstown channery silt loam, 5 to 15 percent slopes.....21
LdD—Lordstown channery silt loam, 15 to 25 percent slopes.....23
LoE—Lordstown and Oquaga channery silt loams, 25 to 35 percent slopes.....24
MhC—Mardin channery silt loam, 8 to 15 percent slopes.....26
MhD—Bath channery silt loam, 15 to 25 percent slopes.....28
MhE—Bath channery silt loam, 25 to 35 percent slopes.....29
Ms—Middlebury silt loam.....31
Ta—Tioga silt loam.....32
UnC—Unadilla silt loam, 5 to 15 percent slopes.....33
VoB—Volusia channery silt loam, 3 to 8 percent slopes.....34
VoC—Volusia channery silt loam, 8 to 15 percent slopes.....36
VoD—Volusia channery silt loam, 15 to 25 percent slopes.....37
W—Water.....39
Wa—Wallington silt loam.....39
Wd—Wayland soils complex, 0 to 3 percent slopes, frequently flooded.....40
References.....43

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map

Map Scale: 1:15,200 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 200 400 800 1200

Feet: 0 500 1000 2000 3000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Broome County, New York
Survey Area Data: Version 21, Sep 5, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 26, 2020—Nov 10, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
CaB	Canaseraga silt loam, 3 to 8 percent slopes	17.1	3.0%
CaC	Canaseraga silt loam, 8 to 15 percent slopes	5.1	0.9%
Cv	Cut and fill lands, gravelly materials	13.0	2.2%
Cy	Cut and fill lands, silty materials	33.4	5.8%
DaB	Dalton silt loam, 2 to 8 percent slopes	141.1	24.4%
DaC	Dalton silt loam, 8 to 15 percent slopes	131.6	22.7%
LdC	Lordstown channery silt loam, 5 to 15 percent slopes	19.7	3.4%
LdD	Lordstown channery silt loam, 15 to 25 percent slopes	8.4	1.5%
LoE	Lordstown and Oquaga channery silt loams, 25 to 35 percent slopes	5.4	0.9%
MhC	Mardin channery silt loam, 8 to 15 percent slopes	36.1	6.2%
MhD	Bath channery silt loam, 15 to 25 percent slopes	45.8	7.9%
MhE	Bath channery silt loam, 25 to 35 percent slopes	13.3	2.3%
Ms	Middlebury silt loam	2.7	0.5%
Ta	Tioga silt loam	13.9	2.4%
UnC	Unadilla silt loam, 5 to 15 percent slopes	15.6	2.7%
VoB	Volusia channery silt loam, 3 to 8 percent slopes	16.3	2.8%
VoC	Volusia channery silt loam, 8 to 15 percent slopes	22.5	3.9%
VoD	Volusia channery silt loam, 15 to 25 percent slopes	1.0	0.2%
W	Water	5.1	0.9%
Wa	Wallington silt loam	19.3	3.3%
Wd	Wayland soils complex, 0 to 3 percent slopes, frequently flooded	12.7	2.2%
Totals for Area of Interest		**579.1**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas

shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Broome County, New York

CaB—Canaseraga silt loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 9pwz
Elevation: 330 to 2,460 feet
Mean annual precipitation: 36 to 45 inches
Mean annual air temperature: 43 to 48 degrees F
Frost-free period: 110 to 180 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Canaseraga and similar soils: 75 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Canaseraga

Setting

Landform: Till plains, hills, drumlinoid ridges
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: A silty mantle over loamy till derived from siltstone, shale, and sandstone, with varying amounts of limestone

Typical profile

H1 - 0 to 8 inches: silt loam
H2 - 8 to 23 inches: silt loam
H3 - 23 to 60 inches: channery silt loam
H4 - 60 to 65 inches: channery silt loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: 18 to 30 inches to fragipan
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 16 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: Low (about 4.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: D
Ecological site: F140XY024NY - Moist Dense Till
Hydric soil rating: No

Minor Components

Dalton
Percent of map unit: 5 percent
Hydric soil rating: No

Mardin
Percent of map unit: 5 percent
Hydric soil rating: No

Unadilla
Percent of map unit: 5 percent
Hydric soil rating: No

Scio
Percent of map unit: 5 percent
Hydric soil rating: No

Volusia
Percent of map unit: 5 percent
Hydric soil rating: No

CaC—Canaseraga silt loam, 8 to 15 percent slopes

Map Unit Setting
National map unit symbol: 9px0
Elevation: 330 to 2,460 feet
Mean annual precipitation: 36 to 45 inches
Mean annual air temperature: 43 to 48 degrees F
Frost-free period: 110 to 180 days
Farmland classification: Farmland of statewide importance

Map Unit Composition
Canaseraga and similar soils: 75 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Canaseraga

Setting
Landform: Till plains, hills, drumlinoid ridges
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: A silty mantle over loamy till derived from siltstone, shale, and sandstone, with varying amounts of limestone

Typical profile
H1 - 0 to 8 inches: silt loam
H2 - 8 to 23 inches: silt loam

H3 - 23 to 60 inches: channery silt loam
H4 - 60 to 65 inches: channery silt loam

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: 18 to 30 inches to fragipan
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 16 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: Low (about 4.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: D
Ecological site: F140XY024NY - Moist Dense Till
Hydric soil rating: No

Minor Components

Volusia

Percent of map unit: 5 percent
Hydric soil rating: No

Dalton

Percent of map unit: 5 percent
Hydric soil rating: No

Mardin

Percent of map unit: 5 percent
Hydric soil rating: No

Lordstown

Percent of map unit: 5 percent
Hydric soil rating: No

Unadilla

Percent of map unit: 5 percent
Hydric soil rating: No

Cv—Cut and fill lands, gravelly materials

Map Unit Setting

National map unit symbol: 9pxd
Elevation: 160 to 1,970 feet
Mean annual precipitation: 36 to 45 inches
Mean annual air temperature: 43 to 48 degrees F
Frost-free period: 110 to 180 days

Farmland classification: Not prime farmland

Map Unit Composition

Udorthents, gravelly, and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Udorthents, Gravelly

Typical profile

H1 - 0 to 4 inches: very gravelly silt loam
H2 - 4 to 70 inches: very gravelly sandy loam

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (0.20 to 19.98 in/hr)
Depth to water table: About 36 to 72 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: Low (about 4.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: A
Hydric soil rating: No

Minor Components

Chenango

Percent of map unit: 5 percent
Hydric soil rating: No

Udorthents, loamy

Percent of map unit: 5 percent
Hydric soil rating: No

Howard

Percent of map unit: 5 percent
Hydric soil rating: No

Udifluvents

Percent of map unit: 5 percent
Hydric soil rating: No

Cy—Cut and fill lands, silty materials

Map Unit Setting

National map unit symbol: 9pxg
Elevation: 160 to 1,970 feet
Mean annual precipitation: 36 to 45 inches
Mean annual air temperature: 43 to 48 degrees F
Frost-free period: 110 to 180 days
Farmland classification: Not prime farmland

Map Unit Composition

Udorthents, silty, and similar soils: 75 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Udorthents, Silty

Typical profile

H1 - 0 to 4 inches: silt loam
H2 - 4 to 70 inches: silt loam

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.06 to 5.95 in/hr)
Depth to water table: About 36 to 72 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: Low (about 5.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: A
Hydric soil rating: No

Minor Components

Scio

Percent of map unit: 5 percent
Hydric soil rating: No

Udifluvents

Percent of map unit: 5 percent
Hydric soil rating: No

Unadilla

Percent of map unit: 5 percent

Hydric soil rating: No

Fluvaquents

Percent of map unit: 5 percent
Landform: Flood plains
Hydric soil rating: Yes

Wayland

Percent of map unit: 5 percent
Landform: Flood plains
Hydric soil rating: Yes

DaB—Dalton silt loam, 2 to 8 percent slopes

Map Unit Setting

National map unit symbol: 9pxh
Elevation: 330 to 2,460 feet
Mean annual precipitation: 36 to 45 inches
Mean annual air temperature: 43 to 48 degrees F
Frost-free period: 110 to 180 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Dalton and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Dalton

Setting

Landform: Till plains, hills, drumlinoid ridges
Landform position (two-dimensional): Footslope, summit
Landform position (three-dimensional): Base slope, tread
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: A silty mantle of glaciolacustrine deposits over loamy till derived from siltstone, shale, and sandstone

Typical profile

H1 - 0 to 6 inches: silt loam
H2 - 6 to 20 inches: silt loam
H3 - 20 to 60 inches: channery silt loam

Properties and qualities

Slope: 2 to 8 percent
Depth to restrictive feature: 12 to 22 inches to fragipan
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None

Frequency of ponding: None
Calcium carbonate, maximum content: 1 percent
Available water supply, 0 to 60 inches: Low (about 3.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: D
Ecological site: F140XY024NY - Moist Dense Till
Hydric soil rating: No

Minor Components

Volusia

Percent of map unit: 5 percent
Hydric soil rating: No

Canaseraga

Percent of map unit: 5 percent
Hydric soil rating: No

Wallington

Percent of map unit: 5 percent
Hydric soil rating: No

DaC—Dalton silt loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 9pxj
Elevation: 330 to 2,460 feet
Mean annual precipitation: 36 to 45 inches
Mean annual air temperature: 43 to 48 degrees F
Frost-free period: 110 to 180 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Dalton and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Dalton

Setting

Landform: Till plains, hills, drumlinoid ridges
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope, tread
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: A silty mantle of glaciolacustrine deposits over loamy till derived from siltstone, shale, and sandstone

Typical profile

H1 - 0 to 6 inches: silt loam
H2 - 6 to 20 inches: silt loam
H3 - 20 to 60 inches: channery silt loam

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: 12 to 22 inches to fragipan
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 1 percent
Available water supply, 0 to 60 inches: Low (about 3.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: D
Ecological site: F140XY024NY - Moist Dense Till
Hydric soil rating: No

Minor Components

Canaseraga

Percent of map unit: 5 percent
Hydric soil rating: No

Mardin

Percent of map unit: 5 percent
Hydric soil rating: No

Volusia

Percent of map unit: 5 percent
Hydric soil rating: No

Wallington

Percent of map unit: 5 percent
Hydric soil rating: No

LdC—Lordstown channery silt loam, 5 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2wzmp
Elevation: 330 to 2,460 feet
Mean annual precipitation: 31 to 70 inches
Mean annual air temperature: 39 to 52 degrees F
Frost-free period: 105 to 180 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Lordstown and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lordstown

Setting

Landform: Hills, mountains
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Mountaintop, interfluve, nose slope, crest
Down-slope shape: Convex
Across-slope shape: Linear, convex
Parent material: Loamy till derived from sandstone and siltstone

Typical profile

Ap - 0 to 7 inches: channery silt loam
Bw1 - 7 to 17 inches: channery silt loam
Bw2 - 17 to 26 inches: channery silt loam
C - 26 to 30 inches: very channery silt loam
2R - 30 to 40 inches: bedrock

Properties and qualities

Slope: 5 to 15 percent
Surface area covered with cobbles, stones or boulders: 0.0 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.14 to 1.42 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C
Ecological site: F140XY027NY - Well Drained Till Uplands
Hydric soil rating: No

Minor Components

Arnot

Percent of map unit: 5 percent
Landform: Hills, mountains
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Mountaintop, interfluve, crest
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Mardin

Percent of map unit: 5 percent
Landform: Mountains, hills
Landform position (two-dimensional): Summit, shoulder

Landform position (three-dimensional): Interfluve, side slope
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

LdD—Lordstown channery silt loam, 15 to 25 percent slopes

Map Unit Setting

National map unit symbol: 2wzmr
Elevation: 330 to 2,460 feet
Mean annual precipitation: 31 to 70 inches
Mean annual air temperature: 39 to 52 degrees F
Frost-free period: 105 to 180 days
Farmland classification: Not prime farmland

Map Unit Composition

Lordstown and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lordstown

Setting

Landform: Hills, mountains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank, nose slope, side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy till derived from sandstone and siltstone

Typical profile

Ap - 0 to 7 inches: channery silt loam
Bw1 - 7 to 17 inches: channery silt loam
Bw2 - 17 to 26 inches: channery silt loam
C - 26 to 30 inches: very channery silt loam
2R - 30 to 40 inches: bedrock

Properties and qualities

Slope: 15 to 25 percent
Surface area covered with cobbles, stones or boulders: 0.0 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.14 to 1.42 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Ecological site: F140XY027NY - Well Drained Till Uplands
Hydric soil rating: No

Minor Components

Mardin
Percent of map unit: 5 percent
Landform: Mountains, hills
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Interfluve, side slope
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Cadosia, very stony
Percent of map unit: 5 percent
Landform: Ridges
Landform position (two-dimensional): Backslope, footslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Arnot
Percent of map unit: 5 percent
Landform: Hills, mountains
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Mountainflank, mountaintop, interfluve, nose slope, side slope, crest
Down-slope shape: Convex, linear
Across-slope shape: Linear, convex
Hydric soil rating: No

LoE—Lordstown and Oquaga channery silt loams, 25 to 35 percent slopes

Map Unit Setting
National map unit symbol: 9pxn
Elevation: 600 to 1,800 feet
Mean annual precipitation: 36 to 45 inches
Mean annual air temperature: 43 to 48 degrees F
Frost-free period: 110 to 180 days
Farmland classification: Not prime farmland

Map Unit Composition
Lordstown and similar soils: 41 percent
Oquaga and similar soils: 39 percent
Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lordstown

Setting

Landform: Benches, ridges, hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy till derived from sandstone and siltstone

Typical profile

H1 - 0 to 7 inches: channery silt loam
H2 - 7 to 26 inches: channery silt loam
H3 - 26 to 28 inches: very channery silt loam
H4 - 28 to 32 inches: bedrock

Properties and qualities

Slope: 25 to 35 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: C
Ecological site: F140XY027NY - Well Drained Till Uplands
Hydric soil rating: No

Description of Oquaga

Setting

Landform: Hills, benches, ridges
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Channery loamy till with lithology dominated by reddish sandstone, siltstone, and shale

Typical profile

H1 - 0 to 6 inches: channery silt loam
H2 - 6 to 32 inches: very channery silt loam
H3 - 32 to 36 inches: bedrock

Properties and qualities

Slope: 25 to 35 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)

Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 2.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: C
Ecological site: F140XY027NY - Well Drained Till Uplands
Hydric soil rating: No

Minor Components

Arnot

Percent of map unit: 5 percent
Hydric soil rating: No

Rock outcrop

Percent of map unit: 5 percent
Hydric soil rating: Unranked

Mardin

Percent of map unit: 5 percent
Hydric soil rating: No

Cattaraugus

Percent of map unit: 5 percent
Hydric soil rating: No

MhC—Mardin channery silt loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2srhj
Elevation: 330 to 2,460 feet
Mean annual precipitation: 31 to 70 inches
Mean annual air temperature: 39 to 52 degrees F
Frost-free period: 105 to 180 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Mardin and similar soils: 88 percent
Minor components: 12 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Mardin

Setting

Landform: Mountains, hills
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Interfluve, side slope

Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy till

Typical profile

Ap - 0 to 8 inches: channery silt loam
BE - 8 to 12 inches: channery silt loam
Bw1 - 12 to 16 inches: channery silt loam
Bw2 - 16 to 20 inches: channery silt loam
Bx1 - 20 to 36 inches: channery silt loam
Bx2 - 36 to 57 inches: channery silt loam
C - 57 to 72 inches: channery silt loam

Properties and qualities

Slope: 8 to 15 percent
Surface area covered with cobbles, stones or boulders: 0.0 percent
Depth to restrictive feature: 14 to 26 inches to fragipan
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 13 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: D
Ecological site: F140XY024NY - Moist Dense Till
Hydric soil rating: No

Minor Components

Bath

Percent of map unit: 5 percent
Landform: Mountains, hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Nose slope, side slope
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Volusia

Percent of map unit: 5 percent
Landform: Mountains, hills
Landform position (two-dimensional): Summit, footslope
Landform position (three-dimensional): Interfluve, base slope, side slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Lordstown

Percent of map unit: 2 percent
Landform: Hills, mountains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountaintop, nose slope, side slope

Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

MhD—Bath channery silt loam, 15 to 25 percent slopes

Map Unit Setting

National map unit symbol: 2v316
Elevation: 330 to 2,460 feet
Mean annual precipitation: 31 to 70 inches
Mean annual air temperature: 39 to 52 degrees F
Frost-free period: 105 to 180 days
Farmland classification: Not prime farmland

Map Unit Composition

Bath and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Bath

Setting

Landform: Mountains, hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Nose slope, side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy till derived mainly from gray and brown siltstone, sandstone, and shale

Typical profile

Ap - 0 to 9 inches: channery silt loam
Bw1 - 9 to 15 inches: channery silt loam
Bw2 - 15 to 25 inches: channery loam
E - 25 to 29 inches: channery loam
Bx - 29 to 52 inches: very channery silt loam
C - 52 to 72 inches: very channery silt loam

Properties and qualities

Slope: 15 to 25 percent
Surface area covered with cobbles, stones or boulders: 0.0 percent
Depth to restrictive feature: 26 to 38 inches to fragipan
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 24 to 36 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: Low (about 4.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Ecological site: F140XY030NY - Well Drained Dense Till
Hydric soil rating: No

Minor Components

Lordstown

Percent of map unit: 10 percent
Landform: Hills, mountains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountaintop, nose slope, side slope
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Mardin

Percent of map unit: 5 percent
Landform: Mountains, hills
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Interfluve, side slope
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

MhE—Bath channery silt loam, 25 to 35 percent slopes

Map Unit Setting

National map unit symbol: 2v319
Elevation: 330 to 2,460 feet
Mean annual precipitation: 31 to 70 inches
Mean annual air temperature: 39 to 52 degrees F
Frost-free period: 105 to 180 days
Farmland classification: Not prime farmland

Map Unit Composition

Bath and similar soils: 75 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Bath

Setting

Landform: Mountains, hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Nose slope, side slope
Down-slope shape: Linear
Across-slope shape: Linear

Parent material: Loamy till derived mainly from gray and brown siltstone, sandstone, and shale

Typical profile

A - 0 to 4 inches: channery silt loam
Bw1 - 4 to 15 inches: channery silt loam
Bw2 - 15 to 25 inches: channery loam
E - 25 to 29 inches: channery loam
Bx - 29 to 52 inches: very channery silt loam
C - 52 to 72 inches: very channery silt loam

Properties and qualities

Slope: 25 to 35 percent
Surface area covered with cobbles, stones or boulders: 0.0 percent
Depth to restrictive feature: 26 to 38 inches to fragipan
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 24 to 36 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: Low (about 4.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: C
Ecological site: F140XY030NY - Well Drained Dense Till
Hydric soil rating: No

Minor Components

Cadosia, very stony

Percent of map unit: 10 percent
Landform: Ridges
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Lordstown

Percent of map unit: 10 percent
Landform: Hills, mountains
Landform position (two-dimensional): Backslope, shoulder
Landform position (three-dimensional): Mountainflank, base slope, crest
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Mardin

Percent of map unit: 5 percent
Landform: Mountains, hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Head slope, side slope
Down-slope shape: Concave

Across-slope shape: Linear
Hydric soil rating: No

Ms—Middlebury silt loam

Map Unit Setting

National map unit symbol: 9py1
Elevation: 160 to 1,970 feet
Mean annual precipitation: 36 to 45 inches
Mean annual air temperature: 43 to 48 degrees F
Frost-free period: 110 to 180 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Middlebury and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Middlebury

Setting

Landform: Flood plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Talf
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Loamy alluvium predominantly from areas of shale and sandstone with some lime-bearing material

Typical profile

H1 - 0 to 7 inches: silt loam
H2 - 7 to 16 inches: silt loam
H3 - 16 to 60 inches: fine sandy loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 15 to 24 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 5.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: B/D
Ecological site: F140XY014NY - Low Floodplain
Hydric soil rating: No

Minor Components

Tioga

Percent of map unit: 5 percent
Hydric soil rating: No

Udifluvents

Percent of map unit: 5 percent
Hydric soil rating: No

Ta—Tioga silt loam

Map Unit Setting

National map unit symbol: 9py9
Elevation: 600 to 1,800 feet
Mean annual precipitation: 36 to 45 inches
Mean annual air temperature: 43 to 48 degrees F
Frost-free period: 110 to 180 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Tioga and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Tioga

Setting

Landform: Flood plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Rise
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy alluvium

Typical profile

H1 - 0 to 9 inches: silt loam
H2 - 9 to 35 inches: silt loam
H3 - 35 to 60 inches: very gravelly coarse sand

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)
Depth to water table: About 36 to 72 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Calcium carbonate, maximum content: 1 percent

Available water supply, 0 to 60 inches: Moderate (about 6.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 1
Hydrologic Soil Group: A
Ecological site: F140XY013PA - High Floodplain
Hydric soil rating: No

Minor Components

Middlebury

Percent of map unit: 5 percent
Hydric soil rating: No

Udifluvents

Percent of map unit: 5 percent
Hydric soil rating: No

UnC—Unadilla silt loam, 5 to 15 percent slopes

Map Unit Setting

National map unit symbol: 9pyf
Elevation: 600 to 1,800 feet
Mean annual precipitation: 36 to 45 inches
Mean annual air temperature: 43 to 48 degrees F
Frost-free period: 110 to 180 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Unadilla and similar soils: 75 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Unadilla

Setting

Landform: Lake plains
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Glaciolacustrine deposits, eolian deposits, or old alluvium, comprised mainly of silt and very fine sand

Typical profile

H1 - 0 to 10 inches: silt loam
H2 - 10 to 32 inches: very fine sandy loam
H3 - 32 to 52 inches: very fine sandy loam
H4 - 52 to 72 inches: gravelly sandy loam

Properties and qualities

Slope: 5 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 1 percent
Available water supply, 0 to 60 inches: High (about 10.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Ecological site: F140XY017NY - Well Drained Lake Plain
Hydric soil rating: No

Minor Components

Chenango

Percent of map unit: 5 percent
Hydric soil rating: No

Scio

Percent of map unit: 5 percent
Hydric soil rating: No

Tioga

Percent of map unit: 5 percent
Hydric soil rating: No

Wallington

Percent of map unit: 5 percent
Hydric soil rating: No

Howard

Percent of map unit: 5 percent
Hydric soil rating: No

VoB—Volusia channery silt loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2srfh
Elevation: 330 to 2,460 feet
Mean annual precipitation: 31 to 70 inches
Mean annual air temperature: 39 to 52 degrees F
Frost-free period: 105 to 180 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Volusia and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Volusia

Setting

Landform: Mountains, hills
Landform position (two-dimensional): Summit, footslope
Landform position (three-dimensional): Interfluve, base slope, side slope
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Loamy till derived from interbedded sedimentary rock

Typical profile

Ap - 0 to 9 inches: channery silt loam
Bw - 9 to 15 inches: channery silt loam
Eg - 15 to 17 inches: channery silt loam
Bx1 - 17 to 29 inches: channery loam
Bx2 - 29 to 54 inches: channery loam
C - 54 to 72 inches: channery silt loam

Properties and qualities

Slope: 3 to 8 percent
Surface area covered with cobbles, stones or boulders: 0.0 percent
Depth to restrictive feature: 10 to 22 inches to fragipan
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Available water supply, 0 to 60 inches: Very low (about 3.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: D
Ecological site: F140XY024NY - Moist Dense Till
Hydric soil rating: No

Minor Components

Chippewa

Percent of map unit: 5 percent
Landform: Depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Mardin

Percent of map unit: 5 percent

Landform: Mountains, hills
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Interfluve, side slope
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

VoC—Volusia channery silt loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2srfj
Elevation: 330 to 2,460 feet
Mean annual precipitation: 31 to 70 inches
Mean annual air temperature: 39 to 52 degrees F
Frost-free period: 105 to 180 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Volusia and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Volusia

Setting

Landform: Mountains, hills
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Interfluve, side slope
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Loamy till derived from interbedded sedimentary rock

Typical profile

Ap - 0 to 9 inches: channery silt loam
Bw - 9 to 15 inches: channery silt loam
Eg - 15 to 17 inches: channery silt loam
Bx1 - 17 to 29 inches: channery loam
Bx2 - 29 to 54 inches: channery loam
C - 54 to 72 inches: channery silt loam

Properties and qualities

Slope: 8 to 15 percent
Surface area covered with cobbles, stones or boulders: 0.0 percent
Depth to restrictive feature: 10 to 22 inches to fragipan
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None

Calcium carbonate, maximum content: 5 percent
Available water supply, 0 to 60 inches: Very low (about 3.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: D
Ecological site: F140XY024NY - Moist Dense Till
Hydric soil rating: No

Minor Components

Mardin

Percent of map unit: 6 percent
Landform: Mountains, hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Head slope, side slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Chippewa

Percent of map unit: 4 percent
Landform: Depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

VoD—Volusia channery silt loam, 15 to 25 percent slopes

Map Unit Setting

National map unit symbol: 2srfl
Elevation: 330 to 2,460 feet
Mean annual precipitation: 31 to 70 inches
Mean annual air temperature: 39 to 52 degrees F
Frost-free period: 105 to 180 days
Farmland classification: Not prime farmland

Map Unit Composition

Volusia and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Volusia

Setting

Landform: Mountains, hills
Landform position (two-dimensional): Backslope, footslope
Landform position (three-dimensional): Head slope, side slope

Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Loamy till derived from interbedded sedimentary rock

Typical profile

Ap - 0 to 9 inches: channery silt loam
Bw - 9 to 15 inches: channery silt loam
Eg - 15 to 17 inches: channery silt loam
Bx1 - 17 to 29 inches: channery loam
Bx2 - 29 to 54 inches: channery loam
C - 54 to 72 inches: channery silt loam

Properties and qualities

Slope: 15 to 25 percent
Surface area covered with cobbles, stones or boulders: 0.0 percent
Depth to restrictive feature: 10 to 22 inches to fragipan
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Available water supply, 0 to 60 inches: Very low (about 3.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: D
Ecological site: F140XY024NY - Moist Dense Till
Hydric soil rating: No

Minor Components

Mardin

Percent of map unit: 7 percent
Landform: Mountains, hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Head slope, side slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Chippewa

Percent of map unit: 3 percent
Landform: Depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

W—Water

Map Unit Setting

National map unit symbol: 9pym
Mean annual precipitation: 36 to 45 inches
Mean annual air temperature: 43 to 48 degrees F
Frost-free period: 110 to 180 days
Farmland classification: Not prime farmland

Map Unit Composition

Water: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Wa—Wallington silt loam

Map Unit Setting

National map unit symbol: 9pyn
Elevation: 160 to 1,970 feet
Mean annual precipitation: 36 to 45 inches
Mean annual air temperature: 43 to 48 degrees F
Frost-free period: 110 to 180 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Wallington and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Wallington

Setting

Landform: Lake plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Glaciolacustrine or eolian deposits high in silt and very fine sand

Typical profile

H1 - 0 to 7 inches: silt loam
H2 - 7 to 18 inches: very fine sandy loam
H3 - 18 to 38 inches: silt loam
H4 - 38 to 60 inches: very fine sandy loam

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: 15 to 18 inches to fragipan

Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 6 to 17 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: D
Ecological site: F140XY018NY - Moist Lake Plain
Hydric soil rating: No

Minor Components

Dalton

Percent of map unit: 5 percent
Hydric soil rating: No

Unadilla

Percent of map unit: 5 percent
Hydric soil rating: No

Scio

Percent of map unit: 5 percent
Hydric soil rating: No

Wd—Wayland soils complex, 0 to 3 percent slopes, frequently flooded

Map Unit Setting

National map unit symbol: 2srgv
Elevation: 160 to 1,970 feet
Mean annual precipitation: 31 to 68 inches
Mean annual air temperature: 43 to 52 degrees F
Frost-free period: 105 to 180 days
Farmland classification: Not prime farmland

Map Unit Composition

Wayland and similar soils: 60 percent
Wayland, very poorly drained, and similar soils: 30 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Wayland

Setting

Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Linear

Across-slope shape: Linear
Parent material: Silty and clayey alluvium derived from interbedded sedimentary rock

Typical profile

A - 0 to 6 inches: silt loam
Bg1 - 6 to 12 inches: silt loam
Bg2 - 12 to 18 inches: silt loam
C1 - 18 to 46 inches: silt loam
C2 - 46 to 72 inches: silty clay loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Very high (about 12.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: B/D
Ecological site: F139XY009OH - Wet Floodplain
Hydric soil rating: Yes

Description of Wayland, Very Poorly Drained

Setting

Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Silty and clayey alluvium derived from interbedded sedimentary rock

Typical profile

A - 0 to 6 inches: mucky silt loam
Bg1 - 6 to 12 inches: silt loam
Bg2 - 12 to 18 inches: silt loam
C1 - 18 to 46 inches: silt loam
C2 - 46 to 72 inches: silty clay loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: Frequent
Frequency of ponding: Frequent

Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Very high (about 12.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: B/D
Ecological site: F139XY009OH - Wet Floodplain
Hydric soil rating: Yes

Minor Components

Wakeville

Percent of map unit: 10 percent
Landform: Flood plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Talf
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

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APPENDIX C

NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activity, GP-0-25-001

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL
CONSERVATION (NYSDEC)

SPDES GENERAL PERMIT
FOR STORMWATER DISCHARGES

From

CONSTRUCTION ACTIVITY

Permit No. GP-0-25-001

Construction General Permit (CGP)

Issued Pursuant to Article 17, Titles 7, 8 and Article 70

of the Environmental Conservation Law

Effective Date: January 29, 2025 Expiration Date: January 28, 2030

Scott E. Sheeley

Chief Permit Administrator

Scott E. Sheeley JAN. 29, 2025

Authorized Signature Date

Address: NYSDEC
Division of Environmental Permits
625 Broadway, 4th Floor
Albany, N.Y. 12233-1750

PREFACE

Pursuant to Section 402 of the Clean Water Act (CWA), and 40 CFR 122.26(b)(14)(x), (15)(i), and (15)(ii), *stormwater discharges* from certain *construction activities* are unlawful unless they are authorized by a National Pollutant Discharge Elimination System (NPDES) permit or by a state permit program. New York State administers the approved State Pollutant Discharge Elimination System (SPDES) program with permits issued in accordance with the New York State Environmental Conservation Law (ECL) Article 17, Titles 7 and 8, and Article 70, as well as 6 NYCRR Parts 621 and 750.

C*onstruction activities* constitute construction of a *point source* and, therefore, pursuant to ECL sections 17-0505, 17-0701, and 17-0803, the *owner or operator* must have coverage under a SPDES permit prior to *commencement of construction activities*. The *owner or operator* cannot wait until there is an actual *discharge* from the *construction site* to obtain permit coverage.

***Note: The italicized words/phrases within this permit are defined in Appendix A.**

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SPDES CONSTRUCTION GENERAL PERMIT (CGP) GP-0-25-001
FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES

Table of Contents

Part I. How to Obtain Coverage and General Requirements 5
A. Eligibility Requirements 5
B. Types of *Discharges* Authorized 9
C. Prohibited *Discharges* 10
D. Electronic Notice of Intent (eNOI) Submittal 10
E. General Requirements for *Owners or Operators* with Permit Coverage 14
F. Permit Coverage for *Discharges* Authorized Under GP-0-20-001 18
G. Change of *Owner or Operator* 19
Part II. Water Quality-Based Effluent Limitations 20
A. Maintaining Water Quality 20
B. Effluent Limitations Applicable to *Discharges* from *Construction Activities* 20
C. Post-Construction Stormwater Management Practice (SMP) Requirements 23
Part III. Stormwater Pollution Prevention Plan (SWPPP) 28
A. General *SWPPP* Requirements 28
B. Required *SWPPP* Contents 32
C. Required *SWPPP* Components by Project Type 37
Part IV. Inspection and Maintenance Requirements 37
A. General Construction Site Inspection and Maintenance Requirements 37
B. Contractor Maintenance Inspection Requirements 37
C. *Qualified Inspector* Inspection Requirements 38
Part V. How to Terminate CGP Coverage 43
A. Electronic Notice of Termination (eNOT) Submittal 43
Part VI. Record Retention and Reporting 45
A. Record Retention 46
B. Reporting 46
Part VII. Standard Permit Requirements 46
A. Duty to Comply 46
B. Need to Halt or Reduce Activity Not a Defense 46
C. Penalties 46
D. False Statements 47
E. Re-Opener Clause 47
F. Duty to Mitigate 47
G. Requiring Another General Permit or Individual SPDES Permit 47
H. Duty to Provide Information 49
I. Extension 49
J. Signatories and Certification 50
K. Inspection and Entry 52
L. Confidentiality of Information 53
M. Other Permits May Be Required 53

N. NYSDEC Orders or Civil Decrees/Judgments 53
O. Property Rights 53
P. Compliance with Interstate Standards 53
Q. Oil and Hazardous Substance Liability 54
R. Severability 54
S. NYSDEC Approved Forms 54
APPENDIX A – Abbreviations and Definitions 55
Abbreviations 55
Definitions 56
APPENDIX B – Required SWPPP Components by Project Type 64
Table 1 64
Table 2 66
APPENDIX C – Watersheds Requiring Enhanced Phosphorus Removal 68
APPENDIX D – Impaired Waterbodies (by Construction Related Pollutants) 74
APPENDIX E – List of NYSDEC Regional Offices 80
APPENDIX F – SWPPP Preparer Certification Form 81
APPENDIX G – MS4 SWPPP Acceptance Form 83
APPENDIX H – NYCDEP SWPPP Acceptance/Approval Form 86
APPENDIX I – MS4 No Jurisdiction Form 89
APPENDIX J – Owner/Operator Certification Form 91

Part I. How to Obtain Coverage and General Requirements

To be covered under this permit, the *owner or operator* must meet all eligibility requirements in Part I.A. and follow the requirements for obtaining permit coverage in Part I.D., F., or G.

A. Eligibility Requirements

For a *common plan of development or sale*, the *phase(s)* that meet the eligibility requirements in Part I.A. may obtain coverage under this permit even if other *phase(s)* of the same *common plan of development or sale* do not meet the eligibility requirements and require an individual SPDES permit.

1. The *owner's or operator's construction activities* involve soil disturbances of:

    a. one or more acres; or

    b. less than one acre which are part of a *common plan of development or sale* that will ultimately disturb one or more acres; or

    c. less than one acre where NYSDEC has determined that a SPDES permit is required for *stormwater discharges* based on the potential for contribution to a violation of a *water quality standard* or for significant contribution of pollutants to *surface waters of the State*.

        i. 5,000 square feet or more, but less than one acre, and are in the New York City Watershed located east of the Hudson River, Appendix C Figure 1; or

        ii. 20,000 square feet or more, but less than one acre, within the municipal boundaries of the City of New York (NYC); or

        iii. less than 20,000 square feet which are part of a *common plan of development or sale* that will ultimately disturb 20,000 square feet or more, but less than one acre, within the municipal boundaries of NYC; or

        iv. that creates 5,000 square feet or more of *impervious area* within the municipal boundaries of NYC.

2. *Discharges* from the *owner's or operator's construction activities* are/were not:

    a. already covered by a different SPDES permit; or

    b. covered under a different SPDES permit that was denied, terminated, or revoked; or

    c. identified in an expired individual SPDES permit that was not renewed; or

    d. required to obtain an individual SPDES permit or another general SPDES permit in accordance with Part VII.K.

3. If *construction activities* may adversely affect a species that is endangered or threatened, the *owner or operator* must obtain a:

    a. permit issued pursuant to 6 NYCRR Part 182 for the project; or

    b. letter issued by NYSDEC of non-jurisdiction pursuant to 6 NYCRR Part 182 for the project.

4. If *construction activities* have the potential to affect an *historic property*, the *owner or operator* must obtain one of the following:

    a. documentation that the *construction activity* is not within an archeological buffer area indicated on the sensitivity map, and that the *construction activity* is not located on or immediately adjacent to a property listed or determined to be eligible for listing on the National or State Registers of Historic Places, and that there is no new permanent building on the *construction site* within the following distances from a building, structure, or object that is more than 50 years old, or if there is such a new permanent building on the *construction site* within those parameters that NYS Office of Parks, Recreation and Historic Preservation (OPRHP), a Historic Preservation Commission of a Certified Local Government, or a qualified preservation professional has determined that the building, structure, or object more than 50 years old is not historically/archeologically significant:

        i. 1-5 acres of disturbance - 20 feet; or

        ii. 5-20 acres of disturbance - 50 feet; or

iii. 20+ acres of disturbance - 100 feet.

b. NYSDEC consultation form sent to OPRHP,[1] and copied to NYSDEC's Agency Historic Preservation Officer (APO), and

i. the State Environmental Quality Review Act (SEQR) Environmental Assessment Form (EAF) with a negative declaration or the Findings Statement, with documentation of OPRHP's agreement with the resolution; or

ii. documentation from OPRHP that the *construction activity* will result in No Impact; or

iii. documentation from OPRHP providing a determination of No Adverse Impact; or

iv. a Letter of Resolution signed by the *owner or operator*, OPRHP and the DEC APO which allows for this *construction activity* to be eligible for coverage under the general permit in terms of the State Historic Preservation Act (SHPA).

c. documentation of satisfactory compliance with Section 106 of the National Historic Preservation Act for a coterminous project area:

i. No Affect; or

ii. No Adverse Affect; or

iii. Executed Memorandum of Agreement.

d. documentation that SHPA Section 14.09 has been completed by NYSDEC or another state agency.

5. If *construction activities* are subject to SEQR, the *owner or operator* must obtain documentation that SEQR has been satisfied.

6. If *construction activities* are not subject to SEQR, but subject to the equivalent environmental review from another New York State or federal agency, the

[1] The consultation form can be submitted, along with other project information, through OPRHP's Cultural Resource Information System (CRIS) portal. If submitted through CRIS, paper copies of the consultation form need not be mailed.

owner or operator must obtain documentation that project review, pursuant to a process equivalent to SEQR from another New York State or federal agency, has been satisfied.

7. If *construction activities* require Uniform Procedures Act (UPA) Permits (see 6 NYCRR Part 621) from NYSDEC, or the equivalent from another New York State or federal agency, the *owner or operator* must:

    a. obtain all such necessary permits; or

    b. receive notification from NYSDEC pursuant to 6 NYCRR 621.3(a)(4) excepting Part I.A.7.a.

8. *Construction activities* are not eligible if they meet the following criteria in Part I.A.8.a. or b.:

    a. For linear transportation and linear utility project types, the *construction activities*:

        i. are within the watershed of *surface waters of the State* classified as AA or AA-S identified utilizing the Stormwater Interactive Map on NYSDEC's website; and

        ii. are undertaken on land with no existing *impervious cover*; and

        iii. disturb two or more acres of *steep slope*.

    b. For all other project types, the *construction activities*:

        i. are within the watershed of *surface waters of the State* classified as AA or AA-S identified utilizing the Stormwater Interactive Map on NYSDEC's website; and

        ii. are undertaken on land with no existing *impervious cover*; and

        iii. disturb one or more acres of *steep slope*.

B. Types of *Discharges* Authorized

1. The following *stormwater discharges* are authorized under this permit:

   a. *Stormwater discharges*, including *stormwater* runoff, snowmelt runoff, and surface runoff and drainage, associated with *construction activity*, are authorized under this permit provided that appropriate *stormwater* controls are designed, installed, and maintained in accordance with Part II. and Part III.

   b. *Stormwater discharges* from construction support activities at the *construction site* (including concrete or asphalt batch plants, equipment staging yards, material storage areas, excavated material disposal areas, and borrow areas) if the following requirements are met:

      i. The support activity is directly related to the *construction site* required to have permit coverage for *stormwater discharges*; and

      ii. The support activity is not a commercial operation, nor does it serve multiple unrelated *construction sites*; and

      iii. The support activity does not continue to operate beyond the completion of the *construction activity* at the site it supports; and

      iv. *Stormwater* controls are implemented in accordance with Part II. and Part III. for *discharges* from the support activity areas.

2. The following non-*stormwater discharges* associated with *construction activity* are authorized under this permit:

   a. Non-*stormwater discharges* listed in 6 NYCRR 750-1.2(a)(29)(vi), with the following exception: "*Discharges* from firefighting activities are authorized only when the firefighting activities are emergencies/unplanned"; and

   b. Non-*stormwater discharges* of waters to which other components have not been added that are used in accordance with the *SWPPP* to control dust or irrigate vegetation in stabilized areas; and

   c. Uncontaminated *discharges* from *dewatering* operations

3. Authorized *discharges* of *stormwater* or authorized *discharges* of non-*stormwater*, commingled with a *discharge* authorized by a different SPDES permit and/or a *discharge* that does not require SPDES permit authorization, are also authorized under this permit.

C. Prohibited *Discharges*

1. Non-*stormwater discharges* prohibited under this permit include but are not limited to:

    a. Wastewater from washout of concrete; and

    b. Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds, and other construction materials; and

    c. Fuels, oils, or other *pollutants* used in vehicle and equipment operation and maintenance; and

    d. Soaps, solvents, or detergents used in vehicle and equipment washing or external building washdown; and

    e. Toxic or hazardous substances from a spill or other release.

D. Electronic Notice of Intent (eNOI) Submittal

To receive authorization in accordance with Part I.D.3.b., the *owner or operator* must submit a complete eNOI in accordance with the requirements in Part I.D. The eNOI contains questions to: ensure eligibility requirements in Part I.A. have been met; obtain *owner or operator* contact information; obtain the total area to be disturbed and the existing/future *impervious areas* (rounded to the nearest tenth of an acre); confirm *Traditional Land Use Control MS4 Operator* jurisdiction over construction projects; satisfy the EPA eRule requirements; confirm that the Water Quality-Based Effluent Limitations in Part II. have been met; demonstrate consideration of the future risks due to climate change in accordance with Part III.A.2.; and confirm that the other *Stormwater Pollution Prevention Plan (SWPPP)* requirements in Part III. have been met.

1. An eNOI may be submitted for:

    a. *construction activities* that are not part of a *common plan of development or sale*; or

b. an entire *common plan of development or sale*; or

c. separate *phase(s)* of a *common plan of development or sale* if the following requirements are met:

    i. the *common plan of development or sale* meets the eligibility requirements of Part I.A.5. or 6.; and

    ii. the *phase(s)* meet(s) all other eligibility requirements of Part I.A.; and

    iii. Part III.C. Required *SWPPP* Components by Project Type is based on the *common plan of development or sale*, not the *phase(s)*; or

d. *tree clearing* that is associated with, or will support, a *renewable energy* generation, transmission, or storage project that meets Part I.A.5. and 6., if the *tree clearing*:

    i. meets all other eligibility requirements of Part I.A.; and

    ii. will occur in NYSDEC's Regions 3-9; and

    iii. is not within ¼ mile of a bat hibernaculum protected pursuant to 6 NYCRR Part 182; and

    iv. will occur between November 1st and March 31st.

2. As prerequisites for submitting an eNOI, the *owner or operator* must:

    a. prepare a *SWPPP* for Part I.D.1.a., b., c., or d. in accordance with Part III.; and

    b. based on the following criteria, upload the following signature forms signed in accordance with Part VII.J. to the eNOI prior to submission:

        i. for all eNOIs:

            1. the SWPPP Preparer Certification Form, Appendix F, signed by the *SWPPP* preparer; and

2. the Owner/Operator Certification Form, Appendix J, signed by the *owner or operator*; and

ii. if an eNOI includes *construction activities* within the municipal boundary(ies) of *Traditional Land Use Control MS4 Operator(s)* that will *discharge* to the *MS4(s)*:

1. determine if the *Traditional Land Use Control MS4 Operator(s)* have review authority. A *Traditional Land Use Control MS4 Operator* does not have review authority where:

a. the *owner or operator* of the *construction activities* in Part I.D.2.b.ii. is the same entity as the *Traditional Land Use Control MS4 Operator* identified in Part I.D.2.b.ii.; or

b. there is a statute exempting the *owner or operator* from zoning review by the *Traditional Land Use Control MS4 Operator*; or

c. there is no such statute per Part I.D.2.b.ii.1.b., the *Traditional Land Use Control MS4 Operator* concludes, after public hearing, that it does not have zoning review authority in accordance with Legal Memorandum LU14 Updated January 2020 “Governmental Immunity from Zoning and Other Legislation”; and

2. if the *Traditional Land Use Control MS4 Operator(s)* have review authority, submit the *SWPPP* to the *Traditional Land Use Control MS4 Operator(s)* for review and have:

a. if outside the municipal boundaries of NYC: the MS4 SWPPP Acceptance Form, Appendix G, signed by the principal executive officer or ranking elected official from the *Traditional Land Use Control MS4 Operator,* or by a duly authorized representative of that person in accordance with Part VII.J.2.; or

b. if within the municipal boundaries of NYC: The City of New York Department of Environmental Protection (NYCDEP) SWPPP Acceptance/Approval Form, Appendix H, signed by the principal executive officer or ranking elected official from the Traditional Land Use Control MS4 Operator, or by a duly authorized representative of that person in accordance with Part VII.J.2.; and

3. if the *Traditional Land Use Control MS4 Operator* does not have review authority, have the MS4 No Jurisdiction Form, Appendix I, signed by the principal executive officer or ranking elected official from the *Traditional Land Use Control MS4 Operator,* or by a duly authorized representative of that person in accordance with Part VII.J.2.

3. Submitting an eNOI:

a. The *owner or operator* must submit a complete Notice of Intent electronically using a NYSDEC approved form.[2]

b. The *owner or operator* is authorized to *commence construction activity* as of the authorization date indicated in the Letter of Authorization (LOA), which is sent by NYSDEC after a complete eNOI is submitted.

i. If an eNOI is received for a *SWPPP* that deviates from one of the technical standards but demonstrates *equivalence* in accordance with Part III.B.1.a.ii. or Part III.B.2.b.ii., if the *SWPPP* includes *construction activities* that are not within the municipal boundary(ies) of *Traditional Land Use Control MS4 Operator(s)*, and/or if the *SWPPP* includes *construction activities* within the municipal boundary(ies) of *Traditional Land Use Control MS4 Operator(s)* that do not have review authority in accordance with Part I.D.2.b.ii.1., the authorization date indicated in the LOA will be 60 business days after the eNOI submission date.

[2] Unless NYSDEC grants a waiver in accordance with 40 CFR 127.15(c) or (d). All waiver requests must be submitted to Stormwater_info@dec.ny.gov or NYSDEC, Bureau of Water Permits, 625 Broadway, 4th Floor, Albany, New York 12233-3505.

c. If *Traditional Land Use Control MS4 Operator(s)* have review authority in accordance with Part I.D.2.b.ii.2., the *owner or operator* must, within five business days of receipt of the LOA, send an electronic copy of the LOA to the *Traditional Land Use Control MS4 Operator(s)* with review authority.

E. General Requirements for *Owners or Operators* with Permit Coverage

1. As of the date the LOA is received, the *owner or operator* must make the eNOI, *SWPPP*, and LOA available for review and copying in accordance with the requirements in Part VII.H. When applicable, as of the date an updated LOA is received, the *owner or operator* must make the updated LOA available for review and copying in accordance with the requirements in Part VII.H.

2. The *owner or operator* must ensure compliance with all requirements of this permit and that the provisions of the *SWPPP*, including any changes made to the *SWPPP* in accordance with Part III.A.5., are properly implemented and maintained from the *commencement of construction activity* until:

   a. all areas of disturbance have achieved *final stabilization;* and

   b. the owner's or operator's coverage under this permit is terminated in accordance with Part V.A.5.a.

3. As of the date of the *commencement of construction activities* until Part I.E.2.a. and b. have been met, the *owner or operator* must maintain at the *construction site*, a copy of:

   a. all documentation necessary to demonstrate eligibility with this permit; and

   b. this permit; and

   c. the *SWPPP*; and

   d. the signed SWPPP Preparer Certification Form; and

   e. the signed MS4 SWPPP Acceptance Form or signed NYCDEP SWPPP Acceptance/Approval Form or signed MS4 No Jurisdiction Form (when applicable); and

   f. the signed Owner/Operator Certification Form; and

g. the eNOI; and

h. the LOA; and

i. the LOA transmittal to the Traditional Land Use Control MS4 Operator in accordance with Part I.D.3.c. (when applicable).

4. The *owner or operator* must maintain at the *construction site*, until Part I.E.2.a. and b. have been met, as of the date the documents become final or are received, a copy of the:

   a. responsible contractor's or subcontractor's certification statement(s) in accordance with Part III.A.7.; and

   b. inspection reports in accordance with Part IV.C.4. and 6.; and

   c. Request to Disturb Greater Than Five Acres and the Authorization Letter to Disturb Greater Than Five Acres in accordance with Part I.E.6. (when applicable); and

   d. Request to Continue Coverage and the Letter of Continued Coverage (LOCC) in accordance with Part I.F.2. and 4. (when applicable); and

   e. The updated LOA(s) in accordance with Part I.E.9. (when applicable).

5. The *owner or operator* must maintain the documents in Part I.E.3. and 4. in a secure location, such as a job trailer, on-site construction office, or mailbox with lock. The secure location must be accessible during normal business hours to an individual performing a compliance inspection. The documents must be paper documents unless electronic documents are accessible to the inspector during an inspection to the same extent as a paper copy stored at the site would be. If electronic documents are kept on site, the *owner or operator* must maintain functional equipment on site available to an inspector during normal hours of operation such that an inspector may view the electronic documents in a format that can be read in a similar manner as a paper record and in a legally dependable format with no less evidentiary value than their paper equivalent.

6. The *owner or operator* must meet the following requirements prior to disturbing greater than five acres of soil at any one time:

   a. The *owner or operator* must submit a written Request to Disturb Greater Than Five Acres to:

i. NYSDEC's Regional Office Division of Water staff based on the project location, Appendix E, if a *Traditional Land Use Control MS4 Operator* does not have review authority in accordance with Part I.D.2.b.ii.1.; or

ii. the *Traditional Land Use Control MS4 Operator*, if a *Traditional Land Use Control MS4 Operator* has review authority in accordance with Part I.D.2.b.ii.1.; or

iii. NYSDEC's Regional Office Division of Water staff based on the project location, Appendix E, and each involved *Traditional Land Use Control MS4 Operator*, if the project spans multiple municipalities with more than one *Traditional Land Use Control MS4 Operator* involved with review authority in accordance with Part I.D.2.b.ii.1.

b. The written Request to Disturb Greater Than Five Acres must include:

i. The SPDES permit identification number (Permit ID); and

ii. Full technical justification demonstrating why alternative methods of construction that would result in five acres of soil disturbance or less at any one time are not feasible; and

iii. The phasing plan for the project and sequencing plans for all *phases* from the *SWPPP* in accordance with Part III.B.1.d.; and

iv. Plans with locations and details of erosion and sediment control practices such that the heightened concern for erosion when disturbing greater than five acres at one time has been addressed; and

v. Acknowledgment that "the *owner or operator* will comply with the requirements in Part IV.C.2.b."; and

vi. Acknowledgment that "the *owner or operator* will comply with the requirements in Part II.B.1.b."

c. The *owner or operator* must be in receipt of an Authorization Letter to Disturb Greater Than Five Acres, which will include when the

authorization begins and ends and indicate a maximum area (acres) of soil disturbance allowed at any one time, from:

i. NYSDEC, if Part I.E.6.a.i. or iii. apply; or

ii. the *Traditional Land Use Control MS4 Operator*, if Part I.E.6.a.ii. applies.

7. Upon a finding of significant non-compliance with the practices described in the *SWPPP* or violation of this permit, NYSDEC may order an immediate stop to all *construction activity* at the site until the non-compliance is remedied. The stop work order must be in writing, describe the non-compliance in detail, and be sent to the *owner or operator*.

8. If any human remains or archaeological remains are encountered during excavation, the *owner or operator* must immediately cease, or cause to cease, all *construction activity* in the area of the remains and notify the appropriate Regional Water Engineer (RWE).[3] *Construction activity* shall not resume until written permission to do so has been received from the RWE.

9. To be authorized to implement modifications to the information previously submitted in the eNOI, the *owner or operator* must:

   a. notify NYSDEC via email at Stormwater_info@dec.ny.gov requesting access to update the eNOI; and

   b. update the eNOI to reflect the modifications and resubmit the eNOI in accordance with Part I.D.; and

   c. receive an updated LOA.

10. The eNOI, *SWPPP*, LOA, updated LOAs (when applicable), and inspection reports required by this permit are public documents that the *owner or operator* must make available for review and copying by any person within five business days of the *owner or operator* receiving a written request by any such person to review these documents. Copying of documents will be done at the requester's expense.

[3] The Regional Water Manager where a DEC Region does not have a RWE.

F. Permit Coverage for *Discharges* Authorized Under GP-0-20-001

When applicable:

1. Upon the effective date of this permit, an *owner or operator* of *a construction activity*, with coverage under GP-0-20-001, will have interim coverage under GP-0-25-001 for 45 calendar days starting on the effective date of GP-0-25-001 so long as the *owner or operator* maintains compliance with all applicable requirements of this permit.

2. Within 30 calendar days of the effective date of this permit, the *owner or operator*, with coverage under GP-0-20-001, must submit a complete Request to Continue Coverage electronically using a NYSDEC approved form,[4] which contains the information identified in Part I.F.3. below, if:

   a. the *owner or operator* continues to implement the SMP component in conformance with the technical standards in place at the time of initial project authorization; and

   b. the *owner or operator* will comply with all non-design requirements of GP-0-25-001.

3. The Request to Continue Coverage form contains questions to: ensure eligibility requirements in Part I.A. have been met; verify *owner or operator* contact information; verify the permit identification number; verify the original eNOI submission ID, if applicable; verify Part I.F.2.a. and b.; verify the version of the Design Manual that the technical/design components conform to; and receive an updated Owner/Operator Certification Form, Appendix I.

4. The *owner or operator* has obtained continued coverage under GP-0-25-001 as of the date indicated in the LOCC, which is sent by NYSDEC after a complete Request to Continue Coverage form is submitted.

5. If the owner or operator does not submit the Request to Continue Coverage form in accordance with Part I.F.2. and 3., coverage under this permit is automatically terminated after interim coverage expires.

[4] Unless NYSDEC grants a waiver in accordance with 40 CFR 127.15(c) or (d). All waiver requests must be submitted to Stormwater_info@dec.ny.gov or NYSDEC, Bureau of Water Permits, 625 Broadway, 4th Floor, Albany, New York 12233-3505.

G. Change of *Owner or Operator*

When applicable:

1. When property ownership changes, or when there is a change in operational control over the construction plans and specifications, the following process applies:

    a. The new *owner or operator* must meet the applicable prerequisites for submitting an eNOI in accordance with Part I.D.2.; and

    b. The new *owner or operator* must submit an eNOI in accordance with Part I.D.3.; and

    c. Permit coverage for the new *owner or operator* will be effective upon receipt of the LOA in accordance with Part I.D.3.b.; and

    d. The new *owner or operator*, upon receipt of their LOA, must provide their Permit ID to the original *owner or operator*; and

    e. If the original *owner or operator* will no longer be the *owner or operator* of the *construction activity* identified in the original *owner's or operator's* eNOI, the original *owner or operator*, upon receipt of the new *owner's or operator's* Permit ID in accordance with Part I.G.1.d., must submit to NYSDEC a completed eNOT in accordance with Part V. that includes the name and Permit ID of the new *owner or operator*; or

    f. If the original *owner or operator* maintains ownership of a portion of the *construction activity*, the original *owner or operator* must maintain their coverage under the permit by modifying their eNOI; modifications to the eNOI must include:

        i. the revised area of disturbance and/or *impervious area(s)*; and

        ii. the revised SMP information, if applicable; and

        iii. a narrative description of what has changed; and

        iv. the new *owner's or operator's* Permit ID for the portion of the project removed from the eNOI.

    Owners or operators must follow Part I.E.9. to modify the eNOI.

Part II. Water Quality-Based Effluent Limitations

A. Maintaining Water Quality

NYSDEC expects that compliance with the requirements of this permit will control *discharge*s necessary to meet applicable *water quality standards*. It shall be a violation of the *ECL* for any *discharge* to either cause or contribute to a violation of the following *water quality standards* as contained in Parts 700 through 705 of Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York:

1. There must be no increase in turbidity that will cause a substantial visible contrast to natural conditions; and

2. There must be no increase in suspended, colloidal or settleable solids that will cause deposition or impair the waters for their best usages; and

3. There must be no residue from oil and floating substances, nor visible oil film, nor globules of grease.

If there is evidence indicating that the *stormwater discharge*s authorized by this permit are causing, have the reasonable potential to cause, or are contributing to a violation of the *water quality standard,* the *owner or operator* must take appropriate corrective action in accordance with Part IV.C.5. of this permit and document in accordance with Part IV.C.4. of this permit. To address the *water quality standard* violation the *owner or operator* must include and implement appropriate controls in the *SWPPP* to correct the problem or obtain an individual SPDES permit.

If, despite compliance with the requirements of this permit, it is demonstrated that the *stormwater discharge*s authorized by this permit are causing or contributing to a violation of *water quality standards*, or if NYSDEC determines that a modification of this permit is necessary to prevent a violation of *water quality standards*, the authorized *discharge*s will no longer be eligible for coverage under this permit, and the *owner or operator* must obtain an individual SPDES permit prior to further *discharges* from the *construction site*.

B. Effluent Limitations Applicable to *Discharges* from *Construction Activities*

*Discharge*s authorized by this permit must achieve, at a minimum, the effluent limitations in Part II.B.1.a., b., c., d., and e. These limitations represent the

degree of effluent reduction attainable by the application of best practicable technology currently available.

1. Erosion and Sediment Control Requirements - The *owner or operator* must select, design, install, implement, and maintain control measures to *minimize* the *discharge* of *pollutants* and prevent a violation of the *water quality standards*. The selection, design, installation, implementation, and maintenance of these control measures must meet the non-numeric effluent limitations in Part II.B.1.a., b., c., d., and e. and be in accordance with the New York State Standards and Specifications for Erosion and Sediment Control (BB), dated November 2016, using sound engineering judgment. Where control measures are not designed in conformance with the design criteria included in the technical standard, the *owner or operator* must include in *SWPPP* the reason(s) for the deviation, or alternative design, and provide information in the *SWPPP* demonstrating that the deviation or alternative design is *equivalent* to the technical standard.

    a. **Erosion and Sediment Controls.** At a minimum, erosion and sediment controls must be selected, designed, installed, implemented, and maintained to:

        i. *Minimize* soil erosion through application of runoff control and soil stabilization control measure to *minimize pollutant discharge*s; and

        ii. Control *stormwater discharge*s, including both peak flow rates and total *stormwater* volume, to *minimize* channel and *streambank* erosion and scour in the immediate vicinity of the *discharge* points; and

        iii. *Minimize* the amount of soil exposed during *construction activity*; and

        iv. *Minimize* the disturbance of *steep slope*; and

        v. *Minimize* sediment *discharge*s from the site; and

        vi. Provide and maintain *natural buffers* around surface waters, direct *stormwater* to vegetated areas and maximize *stormwater* infiltration to reduce *pollutant discharge*s, unless *infeasible*; and

        vii. *Minimize* soil compaction. *Minimizing* soil compaction is not required

where the intended function of a specific area of the site dictates that it be compacted; and

viii. Unless *infeasible*, preserve a sufficient amount of topsoil to complete soil restoration and establish a uniform, dense vegetative cover; and

ix. *Minimize* dust. On areas of exposed soil, *minimize* dust through the appropriate application of water or other dust suppression techniques to control the generation of *pollutants* that could be discharged from the site.

b. **Soil Stabilization**. In areas where soil disturbance activity has ceased, whether permanently or *temporarily ceased*, the application of soil stabilization measures must be initiated by the end of the next business day and completed within 14 calendar days from the date the current soil disturbance activity ceased. For *construction sites* that *directly discharge* to one of the 303(d) segments listed in Appendix D, or are located in one of the watersheds listed in Appendix C, or are authorized to disturb greater than five acres in accordance with Part I.E.5.a.viii., the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven calendar days from the date the soil disturbance activity ceased.

c. **Dewatering**. *Discharge*s from *dewatering* activities, including *discharge*s from *dewatering* of trenches and excavations, must be managed by appropriate control measures.

d. **Pollution Prevention Measures**. Select, design, install, implement, and maintain effective pollution prevention measures to *minimize* the *discharge* of *pollutants* and prevent a violation of the *water quality standards*. At a minimum, such measures must be selected, designed, installed, implemented, and maintained to:

i. *Minimize* the *discharge* of *pollutants* from equipment and vehicle washing, wheel wash water, and other wash waters. Soaps, detergents and solvents cannot be used; and

ii. *Minimize* the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste, hazardous and toxic waste, and other materials present on the site to precipitation

and to *stormwater*. *Minimization* of exposure is not required in cases where the exposure to precipitation and to *stormwater* will not result in a *discharge* of *pollutants*, or where exposure of a specific material or product poses little risk of *stormwater* contamination (such as final products and materials intended for outdoor use); and

iii. Prevent the *discharge* of *pollutants* from spills and leaks and implement chemical spill and leak prevention and response procedures.

e. **Surface Outlets.** When discharging from basins and impoundments, the surface outlets must be designed, constructed, and maintained in such a manner that sediment does not leave the basin or impoundment and that erosion at or below the outlet does not occur.

C. Post-Construction Stormwater Management Practice (SMP) Requirements

1. The *owner or operator* of a *construction activity* that requires post-construction SMPs, in accordance with Part III.C., must select, design, install, implement, and maintain the SMPs to meet the *performance criteria* in the New York State Stormwater Management Design Manual, dated July 31, 2024 (DM), using sound engineering judgment. Where SMPs are not designed in conformance with the *performance criteria* in the DM, the *owner or operator* must include in the *SWPPP* the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

2. The *owner or operator* of a *construction activity*, that requires SMPs in accordance with Part III.C., must design the practices to meet the applicable *sizing criteria* in Part II.C.2.a., b., c., or d.

a. Sizing Criteria for *New Development*

i. Runoff Reduction Volume (RRv) and Water Quality Volume (WQv):

1. Reduce the total WQv by application of RR techniques and standard SMPs with RRv capacity. The total WQv must be calculated in accordance with the criteria in Section 4.2 of the DM; or

2. Minimum RRv and Treatment of Remaining Total WQv: *Construction activities* that cannot meet the requirements in Part II.C.2.a.i.1. due to *site limitations* must direct runoff from all newly constructed *impervious areas* to a RR technique or standard SMP with RRv capacity unless *infeasible*. The specific *site limitations* that prevent the reduction of 100% of the WQv must be documented in the *SWPPP*. For each *impervious area* that is not directed to a RR technique or standard SMP with RRv capacity, the *SWPPP* must include documentation which demonstrates that all options were considered and for each option explains why it is considered *infeasible*.

   In no case shall the runoff reduction achieved from the newly constructed *impervious areas* be less than the Minimum RRv as calculated using the criteria in Section 4.4 of the DM. The remaining portion of the total WQv that cannot be reduced must be treated by application of standard SMPs.

ii. Channel Protection Volume (CPv): Provide 24 hour extended detention of the post-developed 1-year, 24-hour storm event, remaining after runoff reduction. Where a CPv control orifice is provided, the minimum orifice size must be 3 inches, with acceptable external trash rack or orifice protection. The CPv requirement does not apply when:

   1. Reduction of the entire CPv is achieved by application of runoff reduction techniques or infiltration systems; or

   2. The 1-year post-development peak *discharge* is less than or equal to 2.0 cfs without detention or velocity controls; or

   3. The site *directly discharges* into a fifth order or larger water body (stream, river, or lake), or tidal waters, where the increase in smaller flows will not impact the stream bank or channel integrity. However, the point of *discharge* must be adequately protected against scour and erosion by the increased peak *discharge*.

iii. *Overbank* Flood Control Criteria (Qp): Requires storage to attenuate the post-development 10-year, 24-hour peak *discharge* rate (Qp) to predevelopment rates. The Qp requirement does not apply when:

1. the site *directly discharges* to tidal waters or fifth order or larger streams, or

2. A downstream analysis reveals that *overbank* control is not required.

iv. Extreme Flood Control Criteria (Qf): Requires storage to attenuate the post-development 100-year, 24-hour peak *discharge* rate (Qf) to predevelopment rates. The Qf requirement does not apply when:

1. the site *directly discharges* to tidal waters or fifth order or larger streams, or

2. A downstream analysis reveals that *overbank* control is not required.

b. *Sizing Criteria* for *New Development* in Enhanced Phosphorus Removal Watersheds

i. Runoff Reduction Volume (RRv) and Water Quality Volume (WQv):

1. Reduce the WQv by application of RR techniques and standard SMPs with RRv capacity. The total WQv is the runoff volume from the 1-year, 24-hour design storm over the post-developed watershed and must be calculated in accordance with the criteria in Section 4.3 of the DM; or

2. Minimum RRv and Treatment of Remaining Total WQv: *Construction activities* that cannot meet the criteria in Part II.C.2.b.i.1. due to *site limitations* must direct runoff from all newly constructed *impervious areas* to a RR technique or standard SMP with RRv capacity unless *infeasible*. The specific *site limitations* that prevent the reduction of 100% of the WQv must be documented in the *SWPPP*. For each *impervious area* that is not directed to a RR technique or standard SMP with RRv capacity, the *SWPPP* must include

documentation which demonstrates that all options were considered and for each option explains why it is considered *infeasible.*

In no case shall the runoff reduction achieved from the newly constructed *impervious areas* be less than the Minimum RRv as calculated using the criteria in Section 4.5 of the DM. The remaining portion of the total WQv that cannot be reduced must be treated by application of standard SMPs.

ii. Channel Protection Volume (CPv): Provide 24 hour extended detention of the post-developed 1-year, 24-hour storm event, remaining after runoff reduction. Where a CPv control orifice is provided, the minimum orifice size must be 3 inches, with acceptable external trash rack or orifice protection. The CPv requirement does not apply when:

1. Reduction of the entire CPv is achieved by application of runoff reduction techniques or infiltration systems; or

2. The 1-year post-development peak *discharge* is less than or equal to 2.0 cfs; or

3. The site *directly discharges* to tidal waters, or a fifth order or larger water body (stream, river, or lake) where the increase in smaller flows will not impact the stream bank or channel integrity. However, the point of *discharge* must be adequately protected against scour and erosion by the increased peak *discharge*.

iii. *Overbank* Flood Control Criteria (Qp): Requires storage to attenuate the post-development 10-year, 24-hour peak *discharge* rate (Qp) to predevelopment rates. The Qp requirement does not apply when:

1. the site *directly discharges* to tidal waters or fifth order or larger streams; or

2. A downstream analysis reveals that *overbank* control is not required.

iv. Extreme Flood Control Criteria (Qf): Requires storage to attenuate the post-development 100-year, 24-hour peak *discharge* rate (Qf) to predevelopment rates. The Qf requirement does not apply when:

1. the site *directly discharges* to tidal waters or fifth order or larger streams; or

2. A downstream analysis reveals that *overbank* control is not required.

c. *Sizing Criteria* for *Redevelopment Activity*

i. Water Quality Volume (WQv): The WQv treatment objective for *redevelopment activity* must be addressed by one of the following options, as outlined in Section 9.2.1. *Redevelopment activities* located in an Enhanced Phosphorus Removal Watershed (see Part III.B.3. and Appendix C) must calculate the WQv in accordance with Section 4.3 of the DM. All other *redevelopment activities* must calculate the WQv in accordance with Section 4.2 of the DM.

1. Reduce the existing *impervious cover* by a minimum of 25% of the total disturbed, *impervious area*. The Soil Restoration criteria in Section 5.1.6 of the DM must be applied to all newly created pervious areas; or

2. Capture and treat 100% of the required WQv, for a minimum of 25% of the disturbed redevelopment *impervious area*, by implementation of standard SMPs or reduced by application of runoff reduction techniques; or

3. Capture and treat 100% of the required WQv, for a minimum of 75% of the disturbed redevelopment *impervious area*, by implementation of a volume-based alternative SMP, as defined in Section 9.4 of the DM; or

4. Capture and treat 100% of the required WQv, for a minimum of 75% of the disturbed redevelopment *impervious area*, by implementation of a flow-through alternative SMP sized to treat the peak rate of runoff from the WQv design storm; or

5. Application of a combination of 1 through 4 above that provide a weighted average of at least two of the above methods. Application of this method must be in accordance with the criteria in Section 9.2.1(A)(V) of the DM; or

6. If there is an existing SMP located on the site that captures and treats runoff from the *impervious area* that is being disturbed, the WQv treatment option selected must, at a minimum, provide treatment equal to the treatment that was being provided by the existing practice(s) if that treatment is greater than the treatment required by options 1 through 5 above.

ii. Channel Protection Volume (CPv) is not required if there is 0% change to hydrology that increases the *discharge* rate and volume from the project site.

iii. *Overbank* Flood Control (Qp) is not required if there is 0% change to hydrology that increases the *discharge* rate from the project site.

iv. Extreme Flood Control (Qf) is not required if there is 0% change to hydrology that increases the *discharge* rate from the project site.

d. *Sizing Criteria* for Combination of *Redevelopment Activity* and *New Development*

Construction projects, that include both *new development* and *redevelopment activity*, must use SMPs that meet the *sizing criteria* calculated as an aggregate of the *sizing criteria* in Part II.C.2.a. or b. for the *new development* portion of the project and Part II.C.2.c. for the *redevelopment activity* portion of the project.

Part III. Stormwater Pollution Prevention Plan (SWPPP)

A. General *SWPPP* Requirements

1. A *SWPPP* must be prepared and implemented by the *owner or operator* of all *construction activity* covered by this permit. All authorized *discharges* must be identified in the *SWPPP*. The *SWPPP* must document the selection, design, installation, implementation and maintenance of the control measures and

practices that will be used to meet the effluent limitations in Part II.B. and, where applicable, the SMP requirements in Part II.C.

2. The *SWPPP* must demonstrate consideration in narrative format of the future physical risks due to climate change pursuant to the Community Risk and Resiliency Act (CRRA), 6 NYCRR Part 490, and associated guidance.

    a. The owner or operator must consider:

        i. the following physical risks due to climate change:

            (i) increasing temperature; and

            (ii) increasing precipitation; and

            (iii) increasing variability in precipitation, including chance of drought; and

            (iv) increasing frequency and severity of flooding; and

            (v) rising sea level; and

            (vi) increasing storm surge; and

            (vii) shifting ecology.

        ii. for each of the following:

            (i) overall site planning; and

            (ii) location, elevation, and sizing of:

                a. control measures and practices; and

                b. conveyance system(s); and

                c. detention system(s).

3. The *SWPPP* must describe the erosion and sediment control practices and where required, SMPs that will be used and/or constructed to reduce the *pollutants* in *stormwater discharges* and to assure compliance with the

requirements of this permit. In addition, the *SWPPP* must identify potential sources of pollution which may reasonably be expected to affect the quality of *stormwater discharges*.

4. All *SWPPPs*, that require the SMP component in accordance with Part III.B.2., must be prepared by a *qualified professional*.

5. The *owner or operator* must keep the *SWPPP* current so that, at all times, it accurately documents the erosion and sediment control practices that are being used or will be used during construction, and all SMPs that will be constructed on the site. At a minimum, the *owner or operator* must modify the *SWPPP*, including construction drawings:

   a. whenever the current provisions prove to be ineffective in *minimizing pollutants* in *stormwater discharges* from the site; and

   b. whenever there is a change in design, construction, or operation at the *construction site* that has or could have an effect on the *discharge* of *pollutants*; and

   c. to address issues or deficiencies identified during an inspection by the *qualified inspector,* NYSDEC, or other regulatory authority; and

   d. to document the final construction conditions in an as-built drawing.

6. NYSDEC may notify the *owner or operator* at any time that the *SWPPP* does not meet one or more of the minimum requirements of this permit. The notification must be in writing and identify the provisions of the *SWPPP* that require modification. Within fourteen (14) calendar days of such notification, or as otherwise indicated by NYSDEC, the *owner or operator* must make the required changes to the *SWPPP* and submit written notification to NYSDEC that the changes have been made. If the *owner or operator* does not respond to NYSDEC's comments in the specified time frame, NYSDEC may suspend the *owner's or operator's* coverage under this permit or require the *owner or operator* to obtain coverage under an individual SPDES permit in accordance with Part II.D.4.

7. Prior to the *commencement of construction activity*, the *owner or operator* must identify the contractor(s) and subcontractor(s) that will be responsible for installing, constructing, repairing, replacing, inspecting, and maintaining the erosion and sediment control practices included in the *SWPPP* and the

contractor(s) and subcontractor(s) that will be responsible for constructing the SMPs included in the *SWPPP*. The *owner or operator* must have each of the contractors and subcontractors identify at least one person from their company to be *trained contractor* that will be responsible for implementation of the *SWPPP*. The *owner or operator* must ensure that at least one *trained contractor* is on site daily when soil disturbance activities are being performed.

The *owner or operator* must have each of the contractors and subcontractors identified above sign a copy of the following certification statement below before the *commencement of construction activities*:

> "I hereby certify under penalty of law that I understand and agree to comply with the requirements of the *SWPPP* and agree to implement any corrective actions identified by the *qualified inspector* during a site inspection. I also understand that the *owner or operator* must comply with the requirements of the most current version of the New York State Pollutant Discharge Elimination System (SPDES) Construction General Permit (CGP) for Stormwater Discharges from Construction Activities and that it is unlawful for any person to cause or contribute to a violation of *water quality standards*. Furthermore, I am aware that there are significant penalties for submitting false information, that I do not believe to be true, including the possibility of fine and imprisonment for knowing violations"

In addition to providing the certification statement above, the certification page must also identify the specific elements of the *SWPPP* that each contractor and subcontractor will be responsible for and include the name and title of the person providing the signature; the name and title of the *trained contractor* responsible for *SWPPP* implementation; the name, address and telephone number of the contracting firm; the address (or other identifying description) of the site; and the date the certification statement is signed. The *owner or operator* must attach the certification statement(s) to the copy of the *SWPPP* that is maintained at the *construction site*. If new or additional contractors are hired to implement measures identified in the *SWPPP* after the *commencement of construction activities*, they must also sign the certification statement and provide the information listed above prior to performing *construction activities*.

B. Required *SWPPP* Contents

1. Erosion and sediment control component - The *owner or operator* must prepare a *SWPPP* that includes erosion and sediment control practices.

    a. Erosion and sediment control practices must be designed:

        i. in conformance with the BB; or

        ii. *equivalent* to the BB if deviating from Part III.B.1.a.i.

    b. If the erosion and sediment control practices are designed in conformance with Part III.B.1.a.ii., the *SWPPP* must include a demonstration of *equivalence* to the BB.

    c. At a minimum, the erosion and sediment control component of the *SWPPP* must include the following:

        i. Background information about the scope of the project, including the location, type and size of project; and

        ii. A site map/construction drawing(s) with north arrows for the project, including a general location map. At a minimum, the site map must show the total site area; all improvements; areas of disturbance; areas that will not be disturbed; existing vegetation; on-site and adjacent off-site surface water(s); floodplain/floodway boundaries; wetlands and drainage patterns that could be affected by the *construction activity*; existing and final contours; locations of different soil types with boundaries; material, waste, borrow or equipment storage areas located on adjacent properties; and location(s) of the *stormwater discharge*(s) and receiving surface water(s); and

        iii. A description of the soil(s) present at the site, including an identification of the Hydrologic Soil Group (HSG); and

        iv. A phasing plan for the project and sequencing plans for all *phases*, both of which must address clearing and grubbing, excavation and grading, utility and infrastructure installation, *final stabilization*,

and any other *construction activity* at the site that will result in soil disturbance.

1. The phasing plan must include:

    a. a map delineating and labeling the limits of soil disturbance for all *phases* of a project; and

    b. a table identifying the order and intended schedule of when each *phase* will begin and end its sequencing plan. The table must identify the total disturbed area for each *phase* at any one time and the total disturbed area for the overall project at any one time all on one timeline showing all overlapping quantities of disturbed area at any one time; and

2. A sequencing plan for a specific *phase* must include:

    a. a table indicating the order and intended schedule of *construction activities* within a *phase*, and corresponding construction drawings with a description of the work to be performed; and

    b. all permanent and *temporary stabilization* measures; and

v. A description of the minimum erosion and sediment control practices to be installed or implemented for each *construction activity* that will result in soil disturbance. Include a schedule that identifies the timing of initial placement or implementation of each erosion and sediment control practice and the minimum time frames that each practice should remain in place or be implemented; and

vi. A site map/construction drawing(s) showing the specific location(s), size(s), and length(s) of each erosion and sediment control practice; and

vii. The dimensions, material specifications, installation details, and operation and maintenance requirements for all erosion and sediment control practices. Include the location and sizing of any

temporary sediment basins and structural practices that will be used to divert flows from exposed soils; and

viii. A maintenance inspection schedule for the contractor(s) and subcontractor(s) identified in Part III.A.7. to ensure continuous and effective operation of the erosion and sediment control practices. The maintenance inspection schedule must be in accordance with the requirements in the BB technical standard; and

ix. A description of the pollution prevention measures that will be used to control litter, construction chemicals and construction debris from becoming a *pollutant* source in the *stormwater discharges*; and

x. A description and location of any *stormwater discharges* associated with industrial activity other than construction at the site, including, but not limited to, *stormwater discharges* from asphalt plants and concrete plants located on the *construction site*; and

xi. Identification of any elements of the design that are not in conformance with the design criteria in the BB technical standard. Include the reason for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

2. SMP component – The *owner or operator* of *construction activity* identified in Table 2 of Appendix B must prepare a *SWPPP* that includes SMPs.

   a. SMPs must be designed in conformance with the applicable *sizing criteria* in Part II.C.2.a., c., or d.; and

   b. SMPs must be designed in conformance with the *performance criteria*:

      i. in the DM; or

      ii. *equivalent* to the DM if deviating from Part III.B.2.b.i.; or

      iii. in the New York State Stormwater Management Design Manual, dated January 2015 (2015 Design Manual), or *equivalent* to it, if the following criteria are met:

1. The eNOI is submitted in accordance with Part I.D. before January 29, 2027 for *construction activities* that are either:

    a. subject to governmental review and approval:

        i. where the *owner or operator* made any application to that governmental entity prior to the effective date of this permit; and

        ii. such application included a *SWPPP* developed using the 2015 Design Manual or *equivalent* to it; or

    b. not subject to governmental review and approval:

        i. where a fiscal allocation for the *construction activities* has been developed and approved by a governmental entity; and

        ii. the *SWPPP* was developed using the 2015 Design Manual or *equivalent* to it; and

c. If SMPs are designed in conformance with Part III.B.2.b.ii., the *SWPPP* must include the reason(s) for the deviation or alternative design and a demonstration of *equivalence* to the DM; and

d. If SMPs are designed in conformance with Part III.B.2.b.iii., the *SWPPP* must include supporting information or documentation demonstrating that Part III.B.2.b.iii.1.a. or b. apply; and

e. The SMP component of the *SWPPP* must include the following:

    i. Identification of all SMPs to be constructed as part of the project, including which option the SMP designs conform to, either Part III.B.2.b.i., ii., or iii. Include the dimensions, material specifications and installation details for each SMP; and

    ii. A site map/construction drawing(s) showing the specific location and size of each SMP; and

iii. A Stormwater Modeling and Analysis Report that includes:

(i) Map(s) showing pre-development conditions, including watershed/subcatchments boundaries, flow paths/routing, and design points; and

(ii) Map(s) showing post-development conditions, including watershed/subcatchments boundaries, flow paths/routing, design points and SMPs; and

(iii) Results of *stormwater* modeling (i.e. hydrology and hydraulic analysis) for the required storm events. Include supporting calculations (model runs), methodology, and a summary table that compares pre- and post-development runoff rates and volumes for the different storm events; and

(iv) Summary table, with supporting calculations, which demonstrates that each SMP has been designed in conformance with the *sizing criteria* included in the DM; and

(v) Identification of any *sizing criteria* that is not required based on the requirements included in Part II.C.; and

(vi) Identification of any elements of the design that are not in conformance with the *performance criteria* in the DM. Include the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the DM.

iv. Soil testing results and locations (test pits, borings); and

v. Infiltration test results, when required in accordance with Part III.B.2.a.; and

vi. An operations and maintenance plan that includes inspection and maintenance schedules and actions to ensure continuous and effective operation of each SMP. The plan must identify the entity

that will be responsible for the long-term operation and maintenance of each practice; and

3. Enhanced Phosphorus Removal Standards - The *owner or operator* of *construction activity* identified in Table 2 of Appendix B that is located in a watershed identified in Appendix C must prepare a *SWPPP* that includes SMPs designed in conformance with the applicable *sizing criteria* in Part II.C.2.b., c., or d. and the *performance criteria* Enhanced Phosphorus Removal Standards included in the DM. At a minimum, the SMP component of the *SWPPP* must meet the requirements of Part III.B.2.

C. Required *SWPPP* Components by Project Type

Owners or operators of *construction activities*, identified in Table 1 of Appendix B, are required to prepare a *SWPPP* that only includes erosion and sediment control practices designed in accordance with Part III.B.1. *Owners or operators* of the *construction activities*, identified in Table 2 of Appendix B, must prepare a *SWPPP* that also includes SMPs designed in accordance with Part III.B.2 or 3.

For the entire area of disturbance, including the entire *common plan of development or sale* if applicable, the owner or operator must evaluate every bullet from Appendix B Table 1 and Table 2 separately. If bullets from both Table 1 and Table 2 apply, the *SWPPP* must include erosion and sediment control practices for all *construction activities* but SMPs for only those portions of the *construction activities* that fall under Table 2 bullet(s).

Part IV. Inspection and Maintenance Requirements

A. General Construction Site Inspection and Maintenance Requirements

1. The *owner or operator* must ensure that all erosion and sediment control practices (including pollution prevention measures), and all SMPs identified in the *SWPPP*, are inspected and maintained in accordance with Part IV.B. and C.

B. Contractor Maintenance Inspection Requirements

1. The *owner or operator* of each *construction activity*, identified in Tables 1 and 2 of Appendix B, must have a *trained contractor* inspect the erosion and sediment control practices and pollution prevention measures being

implemented within the active work area daily to ensure that they are being maintained in effective operating condition at all times. If deficiencies are identified, the contractor must:

a. if the corrective action does not require engineering design:

    i. begin implementing corrective actions within one business day; and

    ii. complete the corrective actions within five business days; or

b. if the corrective action requires engineering design:

    i. begin the engineering design process within five business days; and

    ii. complete the corrective action in a reasonable time frame but no later than within 60 calendar days.

2. For *construction sites* where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and *temporary stabilization* measures have been applied to all disturbed areas, the *trained contractor* can stop conducting the maintenance inspections in accordance with Part IV.B.1. The *trained contractor* must begin conducting the maintenance inspections in accordance with Part IV.B.1. as soon as soil disturbance activities resume.

3. For *construction sites* where soil disturbance activities have been shut down with partial project completion, the *trained contractor* can stop conducting the maintenance inspections in accordance with Part IV.B.1. if all areas disturbed as of the project shutdown date have achieved *final stabilization* and all SMPs required for the completed portion of the project have been constructed in conformance with the *SWPPP* and are operational.

C. *Qualified Inspector* Inspection Requirements

1. With the exception of the following *construction activities* identified in Tables 1 and 2 of Appendix B, a *qualified inspector* must conduct site inspections for all other *construction activities* identified in Tables 1 and 2 of Appendix B:

    a. the construction of a single-family residential subdivision with 25% or less *impervious cover* at total site build-out that involves a soil disturbance of one (1) or more acres of land but less than or equal to five (5) acres and is

not located in one of the watersheds listed in Appendix C and not *directly discharging* to one of the 303(d) segments listed in Appendix D; and

b. the construction of a single-family home that involves soil disturbances of one (1) or more acres but less than or equal to five (5) acres and is not located in one of the watersheds listed in Appendix C and not *directly discharging* to one of the 303(d) segments listed in Appendix D; and

c. construction on *agricultural property* that involves soil disturbances of one (1) or more acres but less than five (5) acres; and

d. *construction activities* located in the New York City Watershed located east of the Hudson River, see Appendix C Figure 1, that involve soil disturbances of 5,000 square feet or more, but less than one acre.

2. The *qualified inspector* must conduct site inspections in accordance with the following timetable:

   a. For *construction sites* where soil disturbance activities are on-going, the *qualified inspector* must conduct a site inspection at least once every seven (7) calendar days; or

   b. For *construction sites* where soil disturbance activities are on-going and the *owner or operator* has received authorization in accordance with Part I.E.6. to disturb greater than five (5) acres of soil at any one time, the *qualified inspector* must conduct at least two (2) site inspections every seven (7) calendar days. The two (2) inspections must be separated by a minimum of two (2) full calendar days; or

   c. For *construction sites* where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and *temporary stabilization* measures have been applied to all disturbed areas, the *qualified inspector* must conduct a site inspection at least once every thirty (30) calendar days. The *owner or operator* must notify the DOW Water (SPDES) Program contact at the Regional Office (see contact information in Appendix E) or, in areas under the jurisdiction of a *Traditional Land Use Control MS4 Operator,* the *Traditional Land Use Control MS4 Operator* (provided the *Traditional Land Use Control MS4 Operator* is not the *owner or operator* of the *construction activity*) by hard copy or email prior to reducing the inspections to this frequency and again by hard copy or email prior to re-commencing construction; or

d. For *construction sites* where soil disturbance activities have been shut down with partial project completion, the requirement to have the *qualified inspector* conduct inspections ceases if all areas disturbed as of the project shutdown date have achieved *final stabilization* and all SMPs required for the completed portion of the project have been constructed in conformance with the *SWPPP* and are operational. The *owner or operator* must notify the DOW Water (SPDES) Program contact at the Regional Office (see contact information in Appendix E) or, in areas subject to the review authority of *Traditional Land Use Control MS4 Operator(s)* in accordance with Part I.D.2.b.ii.1., the *Traditional Land Use Control MS4 Operator(s)* (provided the *Traditional Land Use Control MS4 Operator(s)* are not the *owners or operators* of the *construction activity*) in writing prior to the shutdown and again in writing prior to resuming *construction activity*. If soil disturbance activities are not resumed within 2 years from the date of shutdown, the *owner or operator* must terminate coverage by meeting the requirements of Part V; or

e. For *construction sites* involving soil disturbance of one (1) or more acres that *directly discharge* to one of the 303(d) segments listed in Appendix D or is located in one of the watersheds listed in Appendix C, the *qualified inspector* must conduct at least two (2) site inspections every seven (7) calendar days. The two (2) inspections must be separated by a minimum of two (2) full calendar days.

3. At a minimum, the *qualified inspector* must inspect:

   a. all erosion and sediment control practices and pollution prevention measures to ensure integrity and effectiveness; and

   b. all SMPs under construction to ensure that they are constructed in conformance with the *SWPPP*; and

   c. all areas of disturbance that have not achieved *final stabilization*; and

   d. all points of *discharge* to *surface waters of the State* located within, or immediately adjacent to, the property boundaries of the *construction site*; and

   e. all points of *discharge* from the *construction site*.

4. The *qualified inspector* must prepare an inspection report subsequent to each and every inspection. At a minimum, the inspection report must include and/or address all of the following, for all *construction activities* except those listed in Part IV.C.1.:

   a. Permit identification number; and

   b. Date and time of inspection; and

   c. Name and title of person(s) performing inspection; and

   d. A description of the weather and soil conditions (e.g. dry, wet, saturated) at the time of the inspection, including the temperature at the time of the inspection; and

   e. A description of the condition of the runoff at all points of *discharge* from the *construction site*. This must include identification of any *discharges* of sediment from the *construction site*. Include *discharges* from conveyance systems (i.e. pipes, culverts, ditches, etc.) and overland flow; and

   f. A description of the condition of all *surface waters of the State* located within, or immediately adjacent to, the property boundaries of the *construction site* which receive runoff from disturbed areas. This must include identification of any *discharges* of sediment to the *surface waters of the State*; and

   g. Identification of all erosion and sediment control practices and pollution prevention measures that need repair or maintenance; and

   h. Identification of all erosion and sediment control practices and pollution prevention measures that were not installed properly or are not functioning as designed and need to be reinstalled or replaced; and

   i. Description and sketch (map) of areas with active soil disturbance activity, areas that have been disturbed but are inactive at the time of the inspection, and areas that have been stabilized (temporary and/or final) since the last inspection; and

   j. Estimates, in square feet or acres, of the following areas:

i. Total area with active soil disturbance (not requiring either *temporary stabilization* or *final stabilization*); and

ii. Total area with inactive soil disturbance (requiring either *temporary stabilization* or *final stabilization*); and

iii. Total area that has achieved *temporary stabilization*; and

iv. Total area that has achieved *final stabilization*; and

k. Current stage of construction of all SMPs and identification of all *construction activity* on site that is not in conformance with the *SWPPP* and technical standards; and

l. Corrective action(s) that must be taken to install, repair, replace or maintain erosion and sediment control practices and pollution prevention measures; and to correct deficiencies identified with the construction of the SMP(s); and

m. Identification and status of all corrective actions that were required by previous inspection; and

n. Digital photographs, with date stamp, that clearly show the condition of all practices that have been identified as needing corrective actions. The *qualified inspector* must attach color copies of the digital photographs to the inspection report being maintained onsite within seven (7) calendar days of the date of the inspection. The *qualified inspector* must also take digital photographs, with date stamp, that clearly show the condition of the practice(s) after the corrective action has been completed. The *qualified inspector* must attach paper color copies of the digital photographs to the inspection report that documents the completion of the corrective action work within seven (7) calendar days of that inspection.

5. Within one business day of the completion of an inspection, the *qualified inspector* must notify the *owner or operator*, and appropriate contractor or subcontractor identified in Part III.A.7., of any corrective actions that need to be taken. The contractor or subcontractor must:

a. if the corrective action does not require engineering design:

i. begin implementing corrective actions within one business day; and

ii. complete the corrective actions within five business days; or

b. if the corrective action requires engineering design:

i. begin the engineering design process within five business days; and

ii. complete the corrective action in a reasonable time frame but no later than within 60 calendar days.

6. All inspection reports must be signed by the *qualified inspector.* In accordance with Part I.E.3., the inspection reports must be maintained on site with the *SWPPP*.

Part V. How to Terminate CGP Coverage

A. Electronic Notice of Termination (eNOT) Submittal

The eNOT contains questions to ensure requirements in Part V.A. have been met.

1. An *owner or operator* must terminate coverage when one or more of the following requirements have been met:

a. Total project completion:

i. all *construction activity* identified in the *SWPPP* has been completed; and

ii. all areas of disturbance have achieved *final stabilization*; and

iii. all temporary, structural erosion and sediment control measures have been removed; and

iv. all SMPs have been constructed in conformance with the *SWPPP* and are operational; and

v. an as-built drawing has been prepared; or

b. Planned shutdown with partial project completion:

   i. all soil disturbance activities have ceased; and

   ii. all areas disturbed as of the project shutdown date have achieved *final stabilization*; and

   iii. all temporary, structural erosion and sediment control measures have been removed; and

   iv. all SMPs required for the completed portion of the project have been constructed in conformance with the *SWPPP* and are operational; and

   v. an as-built drawing has been prepared; or

c. In accordance with Part I.G. Change of Owner or Operator; or

d. The *owner or operator* has obtained coverage under an alternative general SPDES permit or an individual SPDES permit.

2. For *construction activities* that require *qualified inspector* inspections in accordance with Part IV.C.1. and have met Part V.A.1.a. or b., the *owner or operator* must have the *qualified inspector* perform a final site inspection prior to submitting the eNOT. The *qualified inspector* must, by signing the "Final Stabilization" and "Post-Construction Stormwater Management Practice(s)" certification statements on the eNOT, certify that all the requirements in Part V.A.1.a. or b. have been achieved.

3. For *construction activities* that are subject to the review authority of *Traditional Land Use Control MS4 Operator(s)* in accordance with Part I.D.2.b.ii.1. and meet Part V.A.1.a. or b., the *owner or operator* must have the *Traditional Land Use Control MS4 Operator(s)* sign the "MS4 Acceptance" statement on the eNOT in accordance with the requirements in Part VII.J. A *Traditional Land Use Control MS4 Operator* official, by signing this statement, determined that it is acceptable for the *owner or operator* to submit the eNOT in accordance with the requirements of this Part. A *Traditional Land Use Control MS4 Operator* can make this determination by performing a final site inspection themselves or by accepting the *qualified inspector*'s final site inspection certification(s) when required in Part V.A.2.

4. For *construction activities* that require SMPs and meet Part V.A.1.a. or b., the *owner or operator* must, prior to submitting the eNOT, ensure one of the following:

    a. for SMP(s) that were constructed by a private entity, but will be owned, operated, and maintained by a public entity, the SMP(s) and any right-of-way(s) needed to operate and maintain such practice(s) have been deeded to the municipality in which the practice(s) is located; or

    b. for SMP(s) that are privately owned, but will be operated and maintained by a public entity, an executed operation and maintenance agreement is in place with the municipality that will operate and maintain the SMP(s); or

    c. for SMP(s) that are privately owned, the *owner or operator* has a mechanism in place that requires operation and maintenance of the practice(s) in accordance with the operation and maintenance plan, such as a deed covenant in the *owner or operator's* deed of record; or

    d. for SMP(s) that are owned by a public or private institution (e.g. school, university, hospital), government agency or authority, or public utility, the *owner or operator* has policies and procedures in place that ensure operation and maintenance of the practices in accordance with the operation and maintenance plan.

5. An *owner or operator* that has met the requirements of Part V.A.1., 2., 3., and 4. must request termination of coverage under this permit by submitting a complete Notice of Termination form electronically using a NYSDEC approved form.[5]

    a. The owner's or operator's coverage is terminated as of the termination date indicated in the Letter of Termination (LOT), which is sent by NYSDEC after a complete eNOT is submitted.

[5] Unless NYSDEC grants a waiver in accordance with 40 CFR 127.15(c) or (d). All waiver requests must be submitted to Stormwater_info@dec.ny.gov or NYSDEC, Bureau of Water Permits, 625 Broadway, 4th Floor, Albany, New York 12233-3505.

Part VI. Record Retention and Reporting

A. Record Retention

The *owner or operator* must retain a copy of the documents listed in Part I.E.3. and a copy of the LOT for a period of at least five years from the date that NYSDEC accepts a complete NOT submitted in accordance with Part V.

B. Reporting

Except for the eNOI, the signature forms associated with the eNOI, and the eNOT, all other written correspondence requested by NYSDEC, including individual permit applications, must be sent to the address of the appropriate DOW (SPDES) Program contact at the Regional Office listed in Appendix E.

Part VII. Standard Permit Requirements

For the purposes of this permit, examples of contractors and subcontractors include: third-party maintenance and construction contractors.

A. Duty to Comply

The *owner or operator*, and all contractors or subcontractors, must comply with all requirements of this permit. Any non-compliance with the requirements of this permit constitutes a violation of the New York State Environmental Conservation Law (ECL), and its implementing regulations, and is grounds for enforcement action. Filing of a request for termination of coverage under this permit, or a notification of planned changes or anticipated non-compliance, does not limit, diminish or stay compliance with any requirements of this permit.

B. Need to Halt or Reduce Activity Not a Defense

The necessity to halt or reduce the *construction activity* regulated by this permit, in order to maintain compliance with the requirements of this permit, must not be a defense in an enforcement action.

C. Penalties

There are substantial criminal, civil, and administrative penalties associated with violating the requirements of this permit. Fines of up to $37,500 per day for each

violation and imprisonment for up to 15 years may be assessed depending upon the nature and degree of the offense.

D. False Statements

Any person who knowingly makes any false material statement, representation, or certification in any application, record, report, or other document filed or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance must, upon conviction, be punished in accordance with ECL §71-1933 and or New York State Penal Law Articles 175 and 210.

E. Re-Opener Clause

Upon issuance of this permit, a determination has been made on the basis of a submitted Notice of Intent, plans, or other available information, that compliance with the specified permit requirements will reasonably protect classified water use and assure compliance with applicable *water quality standards*. Satisfaction of the requirements of this permit notwithstanding, if operation pursuant to this permit causes or contributes to a condition in contravention of State *water quality standards* or guidance values, or if NYSDEC determines that a modification is necessary to prevent impairment of the best use of the waters or to assure maintenance of *water quality standards* or compliance with other provisions of ECL Article 17 or the Clean Water Act (CWA), or any regulations adopted pursuant thereto, NYSDEC may require such modification and the Commissioner may require abatement action to be taken by the *owner or operator* and may also prohibit such operation until the modification has been implemented.

F. Duty to Mitigate

The *owner or operator*, and its contractors and subcontractors, must take all reasonable steps to *minimize* or prevent any *discharge* in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

G. Requiring Another General Permit or Individual SPDES Permit

NYSDEC may require any *owner or operator* authorized to *discharge* in accordance with this permit to apply for and obtain an individual SPDES permit or apply for authorization to *discharge* in accordance with another general SPDES permit.

1. Cases where an individual SPDES permit or authorization to discharge in accordance with another general SPDES permit may be required include, but is not limited to the following:

a. the *owner or operator* is not in compliance with the conditions of this permit or does not meet the requirements for coverage under this permit; and

b. a change has occurred in the availability of demonstrated technology or practices for the control or abatement of *pollutants* applicable to the *point source*; and

c. new effluent limitation guidelines or new source performance standards are promulgated that are applicable to *point sources* authorized to *discharge* in accordance with this permit; and

d. existing effluent limitation guidelines or new source performance standards that are applicable to *point sources* authorized to *discharge* in accordance with this permit are modified; and

e. a water quality management plan containing requirements applicable to such *point sources* is approved by NYSDEC; and

f. circumstances have changed since the time of the request to be covered so that the *owner or operator* is no longer appropriately controlled under this permit, or either a temporary or permanent reduction or elimination of the authorized *discharge* is necessary; and

g. the *discharge* is in violation of section 17-0501 of the ECL; and

h. the *discharge(s)* is a significant contributor of *pollutants*. In making this determination, NYSDEC may consider the following factors:

   i. the location of the *discharge(s)* with respect to *surface waters of the State*; and

   ii. the size of the *discharge(s)*; and

   iii. the quantity and nature of the *pollutants discharged* to *surface waters of the State*; and

   iv. other relevant factors including compliance with other provisions of ECL Article 17, or the CWA.

2. When NYSDEC requires any *owner or operator* authorized by this permit to apply for an individual SPDES permit as provided for in this subdivision, it must notify the *owner or operator* in writing that a permit application is required. This notice must include a brief statement of the reasons for this decision, an application

form, a statement setting a time for the *owner or operator* to file the application for an individual SPDES permit, and a deadline, not sooner than 180 days from the *owner's or operator's* receipt of the notification letter, whereby the authorization to *discharge* under this permit must be terminated. NYSDEC may grant additional time upon demonstration, to the satisfaction of the RWE,[6] that additional time to apply for an alternative authorization is necessary or where NYSDEC has not provided a permit determination in accordance with 6 NYCRR Part 621.

3. When an individual SPDES permit is issued to an *owner or operator* authorized to *discharge* under this permit for the same *discharge(s)*, this permit authorization for *construction activities* authorized under the individual SPDES permit is automatically terminated on the effective date of the individual SPDES permit unless termination is earlier in accordance with 6 NYCRR Part 750.

H. Duty to Provide Information

The *owner or operator* must furnish to NYSDEC, within five business days, unless otherwise set forth by NYSDEC, any information that NYSDEC may request to determine whether cause exists to determine compliance with this permit or to determine whether cause exists for requiring an individual SPDES permit in accordance with 6 NYCRR 750-1.21(e) (see Part VII.G. Requiring Another General Permit or Individual Permit).

The *owner or operator* must make available to NYSDEC, for inspection and copying, or furnish to NYSDEC within 25 business days of receipt of a NYSDEC request for such information, any information retained in accordance with this permit.

Except for Part I.D.4. and 5. and Part I.G., the following applies: where the *owner or operator* becomes aware that it failed to submit any relevant facts on the Notice of Intent, or submitted incorrect information in a Notice of Intent or in any report to NYSDEC, the *owner or operator* must submit such facts or corrected information to NYSDEC within five business days.

I. Extension

In the event a new permit is not issued and effective prior to the expiration of this permit, and this permit is extended pursuant to the State Administrative Procedure Act and 6 NYCRR Part 621, then the *owner or operator* with coverage under this permit may continue to operate and *discharge* in accordance with the requirements of this permit until a new permit is issued and effective.

[6] The Regional Water Manager where a DEC Region does not have a RWE.

J. Signatories and Certification

The Notice of Intent, Notice of Termination, and reports required by this permit must be signed as provided in 40 CFR §122.22.

1. All Notices of Intent and Notices of Termination must be signed as follows:

    a. For a corporation. By a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:

        (i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation; or

        (ii) the manager of one or more manufacturing, production or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for Notice of Intent or Notice of Termination requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

        Note: NYSDEC does not require specific assignments or delegations of authority to responsible corporate officers identified in 40 CFR §122.22(a)(1)(i). NYSDEC will presume that these responsible corporate officers have the requisite authority to sign the Notice of Intent or Notice of Termination unless the corporation has notified NYSDEC to the contrary. Corporate procedures governing authority to sign a Notice of Intent or Notice of Termination may provide for assignment or delegation to applicable corporate positions under 40 CFR §122.22(a)(1)(ii) rather than to specific individuals.

    b. For a partnership or sole proprietorship. By a general partner or the proprietor, respectively.

c. For a municipality, State, Federal, or other public agency. By either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:

    1. the chief executive officer of the agency; or

    2. a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

2. All reports required by this permit, and other information requested by NYSDEC, must be signed by a person described in Part VII.J.1., or by a duly authorized representative of that person. A person is a duly authorized representative only if:

    a. The authorization is made in writing by a person described in Part VII.J.1. or using the Duly Authorized Form, found on the DEC website; and

    b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and

    c. The written authorization is submitted to NYSDEC.

3. Changes to authorization. If an authorization under Part VII.J.2. is no longer accurate because a different individual or position has responsibility for the overall operation of the *construction activity*, a new authorization satisfying the requirements of Part VII.J.2. must be submitted to NYSDEC prior to or together with any reports, information, or applications to be signed by an authorized representative.

4. Certification. Any person signing a document under Part VII.J.1. or 2. must make the following certification:

    I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who

manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

5. Electronic reporting. If documents described in Part VII.J.1. or 2. are submitted electronically by or on behalf of the *construction activity* with coverage under this permit, any person providing the electronic signature for such documents must meet all relevant requirements of this section, and must ensure that all of the relevant requirements of 40 CFR Part 3 (including, in all cases, subpart D to Part 3) (Cross-Media Electronic Reporting) and 40 CFR Part 127 (NPDES Electronic Reporting Requirements) are met for that submission.

K. Inspection and Entry

The *owner or operator* must allow NYSDEC, the USEPA Regional Administrator, the applicable county health department, or any authorized representatives of those entities, or, in the case of a *construction site* which *discharges* through an *MS4*, an authorized representative of the *MS4* receiving the *discharge*, upon the presentation of credentials and other documents as may be required by law, to:

1. enter upon the *owner's or operator's* premises where a regulated facility or activity is located or conducted or where records must be kept under the requirements of this permit; and

2. have access to and copy at reasonable times, any records that must be kept under the requirements of this permit, including records required to be maintained for purposes of operation and maintenance; and

3. inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices or operations regulated or required under this permit; and

4. sample or monitor at reasonable times, for the purposes of assuring general SPDES permit compliance or as otherwise authorized by the CWA or ECL, any substances or parameters at any location; and

5. enter upon the property of any contributor to the regulated facility or activity under authority of the *owner or operator*.

L. Confidentiality of Information

The following must not be held confidential: this permit, the fact sheet for this permit, the name and address of any *owner or operator*, effluent data, the Notice of Intent, and information regarding the need to obtain an individual permit or an alternative general SPDES permit. This includes information submitted on forms themselves and any attachments used to supply information required by the forms (except information submitted on usage of substances). Upon the request of the *owner or operator*, NYSDEC must make determinations of confidentiality in accordance with 6 NYCRR Part 616, except as set forth in the previous sentence. Any information accorded confidential status must be disclosed to the Regional Administrator upon his or her written request. Prior to disclosing such information to the Regional Administrator, NYSDEC will notify the Regional Administrator of the confidential status of such information.

M. Other Permits May Be Required

Nothing in this permit relieves the *owner or operator* from a requirement to obtain any other permits required by law.

N. NYSDEC Orders or Civil Decrees/Judgments

The issuance of this permit by the NYSDEC, and the coverage under this permit by the *owner or operator*, does not supersede, revoke, or rescind any existing order on consent or civil Decree/Judgment, or modification to any such documents or to any order issued by the Commissioner, or any of the terms, conditions, or requirements contained in such order or modification therefore, unless expressly noted.

O. Property Rights

Coverage under this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State, or local laws or regulations, nor does it obviate the necessity of obtaining the assent of any other jurisdiction as required by law for the *discharge* authorized.

P. Compliance with Interstate Standards

If the *construction activity* covered by this permit originates within the jurisdiction of an interstate water pollution control agency, then the *construction activity* must also comply with any applicable effluent standards or *water quality standards* promulgated by that interstate agency and as set forth in this permit for such *construction activities*.

Q. Oil and Hazardous Substance Liability

Coverage under this permit does not affect the imposition of responsibilities upon, or the institution of any legal action against, the *owner or operator* under section 311 of the CWA, which must be in conformance with regulations promulgated pursuant to section 311 governing the applicability of section 311 of the CWA to *discharges* from facilities with *NPDES* permits, nor must such issuance preclude the institution of any legal action or relieve the *owner or operator* from any responsibilities, liabilities, or penalties to which the *owner or operator* is or may be subject pursuant to the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. section 9601 et seq. (CERCLA).

R. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, must not be affected thereby.

S. NYSDEC Approved Forms

The *owner or operator* must provide all relevant information that is requested by NYSDEC, and required by this permit, on all NYSDEC approved forms.

APPENDIX A – Abbreviations and Definitions

Abbreviations

APO – Agency Preservation Officer
BB – New York State Standards and Specifications for Erosion and Sediment Control (Blue Book), dated November 2016
BMP – Best Management Practice
CPESC – Certified Professional in Erosion and Sediment Control
CPv – Channel Protection Volume
CWA – Clean Water Act (or the Federal Water Pollution Control Act, 33 U.S.C. §1251 et seq)
DM – New York State Stormwater Management Design Manual (Design Manual), dated July 31, 2024
DOW – Division of Water
EAF – Environmental Assessment Form
ECL – chapter 43-B of the Consolidated Laws of the State of New York, entitled the Environmental Conservation Law
EPA – U.S. Environmental Protection Agency
HSG – Hydrologic Soil Group
MS4 – Municipal Separate Storm Sewer System
NOI – Notice of Intent
NOT – Notice of Termination
NPDES – National Pollutant Discharge Elimination System
NYC – The City of New York
NYCDEP – The City of New York Department of Environmental Protection
NYSDEC – The New York State Department of Environmental Conservation
OPRHP – Office of Parks, Recreation and Historic Places
Qf – Extreme Flood
Qp – Overbank Flood
RR – Runoff Reduction
RRv – Runoff Reduction Volume
RWE – Regional Water Engineer
SEQR – State Environmental Quality Review Act
SHPA – State Historic Preservation Act
SMP – Post-Construction Stormwater Management Practice
SPDES – State Pollutant Discharge Elimination System
SWPPP – Stormwater Pollution Prevention Plan
TMDL – Total Maximum Daily Load
UPA – Uniform Procedures Act
USDA – United States Department of Agriculture
WQv – Water Quality Volume

Definitions

All definitions in this section are solely for the purposes of this permit. If a word is not italicized in the permit, use its common definition.

Agricultural Building – a structure designed and constructed to house farm implements, hay, grain, poultry, livestock or other horticultural products; excluding any structure designed, constructed or used, in whole or in part, for human habitation, as a place of employment where agricultural products are processed, treated or packaged, or as a place used by the public.

Agricultural Property – the land for construction of a barn, *agricultural building*, silo, stockyard, pen or other structural practices identified in Table II in the "Agricultural Best Management Practice Systems Catalogue" (dated June 2023).

Alter Hydrology from Pre- to Post-Development Conditions – the post-development peak flow rate(s) has increased by more than 5% of the pre-developed condition for the design storm of interest (e.g. 10 yr and 100 yr).

Combined Sewer System – a sewer system which conveys sewage and *stormwater* through a single pipe system to a publicly owned treatment works.

Commence (Commencement of) Construction Activities – the initial disturbance of soils associated with clearing, grading or excavation activities; or other construction related activities that disturb or expose soils such as demolition, stockpiling of fill material, and the initial installation of erosion and sediment control practices required in the *SWPPP*. See definition for "*Construction Activity(ies)*" also.

Common Plan of Development or Sale – a contiguous area where multiple separate and distinct *construction activities* are occurring, or may occur, under one plan. The "common plan" of development or sale is broadly defined as any announcement or piece of documentation (including a sign, public notice or hearing, marketing plan, advertisement, drawing, permit application, State Environmental Quality Review Act (SEQR) environmental assessment form or other documents, zoning request, computer design, etc.) or physical demarcation (including boundary signs, lot stakes, surveyor markings, etc.) indicating *construction activities* may occur on a specific plot. A *common plan of development or sale* is comprised of two or more *phases*.

Common plan of development or sale does not include separate and distinct *construction activities* that are occurring, or may occur, under one plan that are at least 1/4 mile apart provided any interconnecting road, pipeline or utility project that is part of the same "common plan" is not concurrently being disturbed.

Construction Activity(ies) – identified within 40 CFR 122.26(b)(14)(x), 122.26(b)(15)(i), and 122.26(b)(15)(ii), any clearing, grading, excavation, filling, demolition or stockpiling activities that result in soil disturbance. Clearing activities can include, but are not limited to, mechanized logging equipment operation, the cutting and skidding of trees, stump removal and/or brush root removal.

Construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of a facility, which is excluded from the calculation of the soil disturbance for a project. Routine maintenance includes, but is not limited to:

- Re-grading of gravel roads or parking lots; and
- Cleaning and shaping of existing roadside ditches and culverts that maintains the approximate original line and grade, and maintains or improves the hydraulic capacity of the ditch; and
- Replacement of existing culverts that maintains the approximate original line and grade, and maintains or improves the hydraulic capacity of a ditch; and
- Replacement of existing bridges that maintains the approximate original line and grade, and maintains or improves the hydraulic capacity beneath the bridges; and
- Cleaning and shaping of existing roadside ditches that does not maintain the approximate original grade, hydraulic capacity and purpose of the ditch if the changes to the line and grade, hydraulic capacity or purpose of the ditch are installed to improve water quality and quantity controls (e.g. installing grass lined ditch); and
- Placement of aggregate shoulder backing that stabilizes the transition between the road shoulder and the ditch or *embankment*; and
- Full depth milling and filling of existing asphalt pavements, replacement of concrete pavement slabs, and similar work that does not expose soil or disturb the bottom six (6) inches of subbase material; and
- Long-term use of equipment storage areas at or near highway maintenance facilities; and
- Removal of sediment from the edge of the highway to restore a previously existing sheet-flow drainage connection from the highway surface to the highway ditch or *embankment*; and
- Existing use of Canal Corp owned upland disposal sites for the canal, and
- Replacement of curbs, gutters, sidewalks and guide rail posts; and
- Maintenance of ski trails including brush hog use and mowing; and
- Above ground snowmaking pipe replacement; and
- Replacement of existing utility poles; etc.

Construction Site – the land area where *construction activity(ies)* will occur. See also the definitions for "*Commence (Commencement of) Construction Activities"* and "*Common Plan of Development or Sale."*

Dewatering – the act of draining rainwater and/or groundwater from building foundations, vaults or excavations/trenches.

Directly Discharge(s)(ing) (to a specific surface waterbody) – runoff flows from a *construction site* by overland flow and the first point of *discharge* is the specific surface waterbody, or runoff flows from a *construction site* to a separate storm sewer system and the first point of *discharge* from the separate storm sewer system is the specific surface waterbody.

Discharge(s)(d) – any addition of any *pollutant* to waters of the State through an outlet or *point source*.

Embankment – an earthen or rock slope that supports a road/highway.

Equivalent (Equivalence) – the practice or measure meets all the performance, longevity, maintenance, and safety objectives of the technical standard and will provide an equal or greater degree of water quality protection.

Final Stabilization – all soil disturbance activities have ceased and a uniform, perennial vegetative cover with a density of eighty (80) percent over the entire pervious surface has been established; or other *equivalent* stabilization measures, such as permanent landscape mulches, rock rip-rap or washed/crushed stone have been applied on all disturbed areas that are not covered by permanent structures, concrete or pavement.

Historic Property – any building, structure, site, object or district that is listed on the State or National Registers of Historic Places or is determined to be eligible for listing on the State or National Registers of Historic Places.

Impervious Area (Cover) – all impermeable surfaces that cannot effectively infiltrate rainfall. This includes paved, concrete and compacted gravel surfaces (i.e. parking lots, driveways, roads, runways and sidewalks); building rooftops and miscellaneous impermeable structures such as patios, pools, and sheds.

Infeasible – not technologically possible, or not economically practicable and achievable considering best industry practices.

Minimize(ing)(ation) – reduce and/or eliminate to the extent achievable using control measures (including best management practices) that are technologically available and economically practicable and achievable in light of best industry practices.

Municipal Separate Storm Sewer System (MS4) - a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

1. owned or operated by a State, city, town, village, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, *stormwater*, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA, that *discharges* to *surface waters of the State*; and

2. designed or used for collecting or conveying *stormwater*; and

3. which is not a *combined sewer system*; and

4. which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

Natural Buffer(s) – an undisturbed area with natural cover running along a surface water (e.g. wetland, stream, river, lake, etc.).

New Development – any land disturbance that does not meet the definition of *Redevelopment Activity* included in this appendix.

New York State Erosion and Sediment Control Certificate Program – a certificate program that establishes and maintains a process to identify and recognize individuals who are capable of developing, designing, inspecting and maintaining erosion and sediment control plans on projects that disturb soils in New York State. The certificate program is administered by the New York State Conservation District Employees Association.

Nonpoint Source(s) – any source of water pollution or *pollutants* which is not a discrete conveyance or *point source* permitted pursuant to Title 7 or 8 of Article 17 of the Environmental Conservation Law (see ECL Section 17-1403).

Overbank – flow events that exceed the capacity of the stream channel and spill out into the adjacent floodplain.

Owner or Operator – the person, persons, or legal entity which owns or leases the property on which the *construction activity* is occurring; an entity that has operational control over the construction plans and specifications, including the ability to make modifications to the plans and specifications; and/or an entity that has day-to-day operational control of those activities at a project that are necessary to ensure compliance with the permit requirements.

Performance Criteria – the six performance criteria for each group of SMPs in Chapters 5 and 6 of the technical standard, New York State Stormwater Management Design Manual (DM), dated July 31, 2024. These include feasibility, conveyance, pretreatment, treatment, landscaping, and maintenance. It does not include the *Sizing Criteria* (i.e. WQv, RRv, CPv, Qp and Qf) in Part I.C.2. of the permit.

Phase – a defined area in which *construction activities* are occurring or will occur separate from other defined area(s).

Point Source – any discernible, confined, and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, vessel or other floating craft, or landfill leachate collection system from which *pollutants* are or may be *discharged*.

Pollutant(s) – dredged spoil, filter backwash, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand and industrial, municipal, agricultural waste and ballast *discharged* into water; which may cause or might reasonably be expected to cause pollution of the waters of the state in contravention of the standards or guidance values adopted as provided in 6 NYCRR Parts 700 et seq.

Qualified Inspector – a person that is knowledgeable in the principles and practices of erosion and sediment control, such as a licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, *New York State Erosion and Sediment Control Certificate Program* holder or other NYSDEC endorsed individual(s).

It can also mean someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided that person has training in the principles and practices of erosion and sediment control. Training in the principles and practices of erosion and sediment control means that the individual working under the direct supervision of the licensed Professional Engineer or Registered Landscape Architect has received four (4) hours of NYSDEC endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other NYSDEC endorsed entity. After receiving the initial training, the individual working under the direct supervision of the licensed Professional Engineer or Registered Landscape Architect shall receive four (4) hours of training every three (3) years.

It can also mean a person that meets the *Qualified Professional* qualifications in addition to the *Qualified Inspector* qualifications.

Note: Inspections of any SMPs that include structural components, such as a dam for an impoundment, shall be performed by a licensed Professional Engineer.

Qualified Professional – a person that is knowledgeable in the principles and practices of *stormwater* management and treatment, such as a licensed Professional Engineer, Registered Landscape Architect or other NYSDEC endorsed individual(s). Individuals preparing *SWPPPs* that require the SMP component must have an understanding of the principles of hydrology, water quality management practice design, water quantity control design, and, in many cases, the principles of hydraulics. All components of the *SWPPP* that involve the practice of engineering, as defined by the NYS Education Law (see Article 145), shall be prepared by, or under the direct supervision of, a professional engineer licensed to practice in the State of New York.

Redevelopment Activity(ies) – the disturbance and reconstruction of existing *impervious area*, including *impervious areas* that were removed from a project site within five (5) years of preliminary project plan submission to the local government (i.e. site plan, subdivision, etc.).

Renewable Energy – electricity or thermal energy generated by renewable energy systems through use of the following technologies: solar thermal, photovoltaics, on land and offshore wind, hydroelectric, geothermal electric, geothermal ground source heat, tidal energy, wave energy, ocean thermal, and fuel cells which do not utilize a fossil fuel resource in the process of generating electricity.

Site Limitations – site conditions that prevent the use of an infiltration technique and or infiltration of the total WQv. Typical *site limitations* include: seasonal high groundwater, shallow depth to bedrock, and soils with an infiltration rate less than 0.5 inches/hour. The existence of *site limitations* shall be confirmed and documented using actual field testing (i.e. test pits, soil borings, and infiltration test) or using information from the most current United States Department of Agriculture (USDA) Soil Survey for the County where the project is located.

Sizing Criteria – the criteria included in Part I.C.2 of the permit that are used to size SMPs. The criteria include; Water Quality Volume (WQv), Runoff Reduction Volume (RRv), Channel Protection Volume (Cpv), *Overbank* Flood (Qp), and Extreme Flood (Qf).

Steep Slope – land area designated on the current United States Department of Agriculture (USDA) Soil Survey as Soil Slope Phase D, (provided the map unit name or description is inclusive of slopes greater than 25%), or Soil Slope Phase E or F, (regardless of the map unit name), or a combination of the three designations.

Stormwater – that portion of precipitation that, once having fallen to the ground, is in excess of the evaporative or infiltrative capacity of soils, or the retentive capacity of surface features, which flows or will flow off the land by surface runoff to waters of the State.

Streambank – the terrain alongside the bed of a creek or stream. The bank consists of the sides of the channel, between which the flow is confined.

Stormwater Pollution Prevention Plan (SWPPP) – a project specific report, including construction drawings, that among other things: describes the *construction activity(ies)*, identifies the potential sources of pollution at the *construction site*; describes and shows the *stormwater* controls that will be used to control the *pollutants* (i.e. erosion and sediment controls; for many projects, includes SMPs); and identifies procedures the *owner or operator* will implement to comply with the requirements of the permit. See Part III of the permit for a complete description of the information that must be included in the *SWPPP*.

Surface Waters of the State – shall be construed to include lakes, bays, sounds, ponds, impounding reservoirs, springs, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Atlantic ocean within the territorial seas of the state of New York and all other bodies of surface water, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters that do not combine or effect a junction with natural surface waters), which are wholly or partially within or bordering the state or within its jurisdiction. Waters of the state are further defined in 6 NYCRR Parts 800 to 941.

Temporarily Ceased – an existing disturbed area will not be disturbed again within 14 calendar days of the previous soil disturbance.

Temporary Stabilization – exposed soil has been covered with material(s) as set forth in the technical standard, New York Standards and Specifications for Erosion and Sediment Control, to prevent the exposed soil from eroding. The materials can include, but are not limited to, mulch, seed and mulch, and erosion control mats (e.g. jute twisted yarn, excelsior wood fiber mats).

Total Maximum Daily Load (TMDL) – the sum of the allowable loads of a single *pollutant* from all contributing point and *nonpoint source*s. It is a calculation of the maximum amount of a *pollutant* that a waterbody can receive and still meet *water quality standards*, and an allocation of that amount to the *pollutant's* sources. A TMDL stipulates Waste Load Allocations (WLA) for *point source discharges*, Load Allocations (LA) for *nonpoint source*s, and a margin of safety (MOS).

Traditional Land Use Control MS4 Operator – a city, town, or village with land use control authority that is authorized to *discharge* under New York State DEC's SPDES General Permit For Stormwater Discharges from Municipal Separate Stormwater Sewer Systems (MS4s) or the City of New York's Individual SPDES Permit for their Municipal Separate Storm Sewer Systems (NY-0287890).

Trained Contractor – an employee from the contracting (construction) company, identified in Part III.A.7., that has received four (4) hours of NYSDEC endorsed training

in proper erosion and sediment control principles from a Soil and Water Conservation District, or other NYSDEC endorsed entity. After receiving the initial training, the *trained contractor* shall receive four (4) hours of training every three (3) years.

It can also mean an employee from the contracting (construction) company, identified in Part III.A.7., that meets the *qualified inspector* qualifications (e.g. licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, *New York State Erosion and Sediment Control Certificate Program* holder, or someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided they have received four (4) hours of NYSDEC endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other NYSDEC endorsed entity).

The *trained contractor* is responsible for the day-to-day implementation of the *SWPPP*.

Tree Clearing – *construction activities* limited to felling and removal of trees.

Tree clearing does not include hand felling and leaving the trees in place with no support from mechanized equipment, which is not considered *construction activity* requiring coverage under this permit.

Water Quality Standard – such measures of purity or quality for any waters in relation to their reasonable and necessary use as promulgated in 6 NYCRR Part 700 et seq.

APPENDIX B – Required SWPPP Components by Project Type

Table 1
CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A *SWPPP* THAT ONLY INCLUDES EROSION AND SEDIMENT CONTROLS

The following *construction activities* that involve soil disturbances of one (1) or more acres of land, but less than five (5) acres:

- Single-family home not located in one of the watersheds listed in Appendix C and not *directly discharging* to one of the 303(d) segments listed in Appendix D
- Single-family residential subdivisions with 25% or less *impervious cover* at total site build-out and not located in one of the watersheds listed in Appendix C and not *directly discharging* to one of the 303(d) segments listed in Appendix D
- Construction of a barn or other *agricultural building*, silo, stock yard or pen.
- Structural agricultural conservation practices as identified in Table II in the "Agricultural Best Management Practice Systems Catalogue" (dated June 2023) that include construction or reconstruction of *impervious area* or *alter hydrology from pre- to post-development* conditions.

The following *construction activities* that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land:

- All construction activities located in the New York City Watershed located east of the Hudson River, see Appendix C Figure 1, that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.

Within the municipal boundaries of NYC:

- Stand-alone road reconstruction, where the total soil disturbance from only that road construction, is less than one (1) acre of land.

The following *construction activities*:

- Installation of underground linear utilities; such as gas lines, fiber-optic cable, cable TV, electric, telephone, sewer mains, and water mains
- Environmental enhancement projects, such as wetland mitigation, *stormwater* retrofits, stream restoration, and resiliency projects that reconstruct shoreline areas to address sea level rise
- Pond construction
- Linear bike paths running through areas with vegetative cover, including bike paths surfaced with an *impervious cover*
- Cross-country ski trails, walking/hiking trails, and mountain biking trails, including a de minimis parking lot (maximum 10 spaces total, sized for passenger cars) with 35 feet minimum preservation of undisturbed area downgradient from the parking lot
- Dam rehabilitation (the structure of the dam itself)
- Sidewalks, bike paths, or walking paths, surfaced with an *impervious cover*, that are not part of residential, commercial, or institutional development;
- Sidewalks, bike paths, or walking paths, surfaced with an *impervious cover*, that include incidental shoulder or curb work along an existing highway to support construction of the sidewalk, bike path, or walking path.

Table 1 (Continued)
CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A *SWPPP* THAT ONLY INCLUDES EROSION AND SEDIMENT CONTROLS

The following *construction activities*:

- Slope stabilization
- Slope flattening that changes the grade of the site, but does not significantly change the runoff characteristics
- Spoil areas that will be covered with vegetation
- Vegetated open space (i.e. recreational parks, lawns, meadows, fields, downhill ski trails) that do not *alter hydrology from pre- to post-development* conditions
- Athletic fields (natural grass) that do not include the construction or reconstruction of *impervious area* and do not *alter hydrology from pre- to post-development* conditions
- Demolition where vegetation will be established, and no *redevelopment activity* is planned[1]
- Installation or replacement of either an overhead electric transmission line or a ski lift tower that does not include the construction of permanent access roads or parking areas surfaced with *impervious cover*.
- Solar array field areas that have tables elevated off the ground, spaced one table width apart, do not *alter hydrology from pre- to post-development conditions*, and address water quality volume and runoff reduction volume by maintaining sheet flow on slopes less than 8%.
- Structural agricultural conservation practices as identified in Table II in the "Agricultural Best Management Practice Systems Catalogue" (dated June 2023) that do not include construction or reconstruction of *impervious area* and do not *alter hydrology from pre- to post-development* conditions.
- Temporary access roads, median crossovers, detour roads, lanes, or other temporary *impervious areas* that will be restored to pre-construction conditions once the *construction activity* is complete (in this context, "temporary" means the *impervious area* will be in place for two years or less)
- Other *construction activities* that do not include the construction or reconstruction of *impervious area*, and do not *alter hydrology from pre- to post-development* conditions, and are not listed in Table 2.

1. If the site is redeveloped in the future, a new eNOI must be submitted.

Table 2
CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A *SWPPP* THAT INCLUDES POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES (SMPS)

The following *construction activities*:

- Single-family home located in one of the watersheds listed in Appendix C or *directly discharging* to one of the 303(d) segments listed in Appendix D
- Single-family home that disturbs five (5) or more acres of land
- Single-family residential subdivisions located in one of the watersheds listed in Appendix C or *directly discharging* to one of the 303(d) segments listed in Appendix D
- Single-family residential subdivisions that involve soil disturbances of between one (1) and five (5) acres of land with greater than 25% *impervious cover* at total site build-out
- Single-family residential subdivisions that involve soil disturbances of between 20,000 square feet and one (1) acre of land within the municipal boundaries of NYC with greater than 25% *impervious cover* at total site build-out
- Single-family residential subdivisions that involve soil disturbances of five (5) or more acres of land, and single-family residential subdivisions that involve soil disturbances of less than five (5) acres that are part of a *common plan of development or sale* that will ultimately disturb five (5) or more acres of land
- Multi-family residential developments; includes duplexes, townhomes, condominiums, senior housing complexes, apartment complexes, and mobile home parks
- Creation of 5,000 square feet or more of *impervious area* in the municipal boundaries of NYC
- Airports
- Amusement parks
- Breweries, cideries, and wineries, including establishments constructed on agricultural land
- Campgrounds
- Cemeteries that include the construction or reconstruction of *impervious area* (>5% of disturbed area) or *alter the hydrology from pre- to post-development* conditions
- Commercial developments
- Churches and other places of worship
- Construction of a barn or other *agricultural building* (e.g. silo) that involves soil disturbance greater than five acres.
- Structural agricultural conservation practices as identified in Table II in the “Agricultural Best Management Practice Systems Catalogue” (dated June 2023) that involves soil disturbance greater than five acres and include the construction or reconstruction of *impervious area* or *alter hydrology from pre- to post-development* conditions.
- Facility buildings, including ski lodges, restroom buildings, pumphouses, ski lift terminals, and maintenance and groomer garages
- Institutional development; includes hospitals, prisons, schools and colleges
- Industrial facilities; includes industrial parks
- Landfills; including creation of landfills or capping landfills.
- Municipal facilities; includes highway garages, transfer stations, office buildings, POTWs, water treatment plants, and water storage tanks
- Golf courses
- Office complexes

Table 2 (Continued)

CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A *SWPPP* THAT INCLUDES POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES (SMPS)

The following *construction activities*:

- Permanent laydown yards and equipment storage lots
- Playgrounds that include the construction or reconstruction of *impervious area*
- Sports complexes
- Racetracks; includes racetracks with earthen (dirt) surfaces
- Road construction or reconstruction, outside the municipal boundaries of NYC
- Road construction within the municipal boundaries of NYC
- Stand-alone road reconstruction, within the municipal boundaries of NYC where the total soil disturbance from that road reconstruction involves soil disturbance of one (1) acre or more of land
- Parking lot construction or reconstruction (as with all Table 2 bullets, this includes parking lots constructed as part of the *construction activities* listed in Table 1, unless a Table 1 bullet specifies otherwise)
- Athletic fields (natural grass) that include the construction or reconstruction of *impervious area* (>5% of disturbed area) or *alter the hydrology from pre- to post-development* conditions
- Athletic fields with artificial turf
- Permanent access roads, parking areas, substations, compressor stations, and well drilling pads, surfaced with *impervious cover,* and constructed as part of an overhead electric transmission line, wind-power, cell tower, oil or gas well drilling, sewer or water main, ski lift, or other linear utility project
- Sidewalks, bike paths, or walking paths, surfaced with an *impervious cover*, that are part of a residential, commercial or institutional development
- Sidewalks, bike paths, or walking paths, surfaced with an *impervious cover*, that are part of highway construction or reconstruction
- Solar array field areas on slopes greater than 8% that cannot maintain sheet flow using management practices identified in the BB or the DM
- Solar array field areas on slopes less than 8% that will *alter the hydrology from pre- to post-development* conditions
- Solar array field areas with tables that are not elevated high enough to achieve *final stabilization* beneath the tables
- Traditional *impervious areas* associated with solar development (e.g. roads, buildings, transformers)
- Utility pads surfaced with *impervious cover*, including electric vehicle charging stations
- All other *construction activities* that include the construction or reconstruction of *impervious area* or *alter the hydrology from pre- to post-development* conditions, and are not listed in Table 1

APPENDIX C – Watersheds Requiring Enhanced Phosphorus Removal

Watersheds where *owners or operators* of *construction activities* identified in Table 2 of Appendix B must prepare a *SWPPP* that includes SMPs designed in conformance with the Enhanced Phosphorus Removal Standards included in the DM technical standard.

- Entire New York City Watershed located east of the Hudson River – Figure 1
- Onondaga Lake Watershed – Figure 2
- Greenwood Lake Watershed – Figure 3
- Oscawana Lake Watershed – Figure 4
- Kinderhook Lake Watershed – Figure 5

Figure 1 - New York City Watershed East of the Hudson

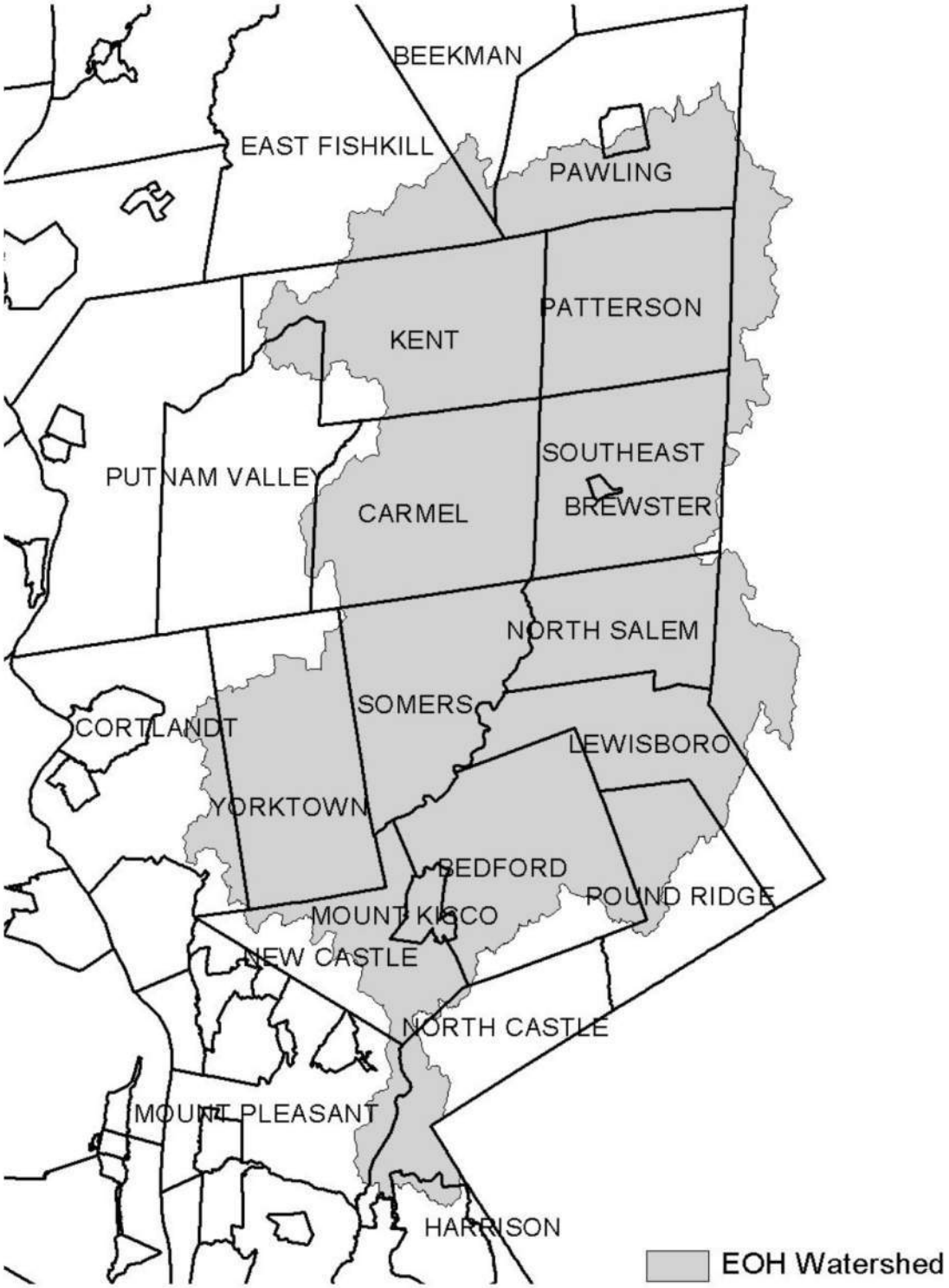


Figure 2 - Onondaga Lake Watershed

Figure 3 - Greenwood Lake Watershed

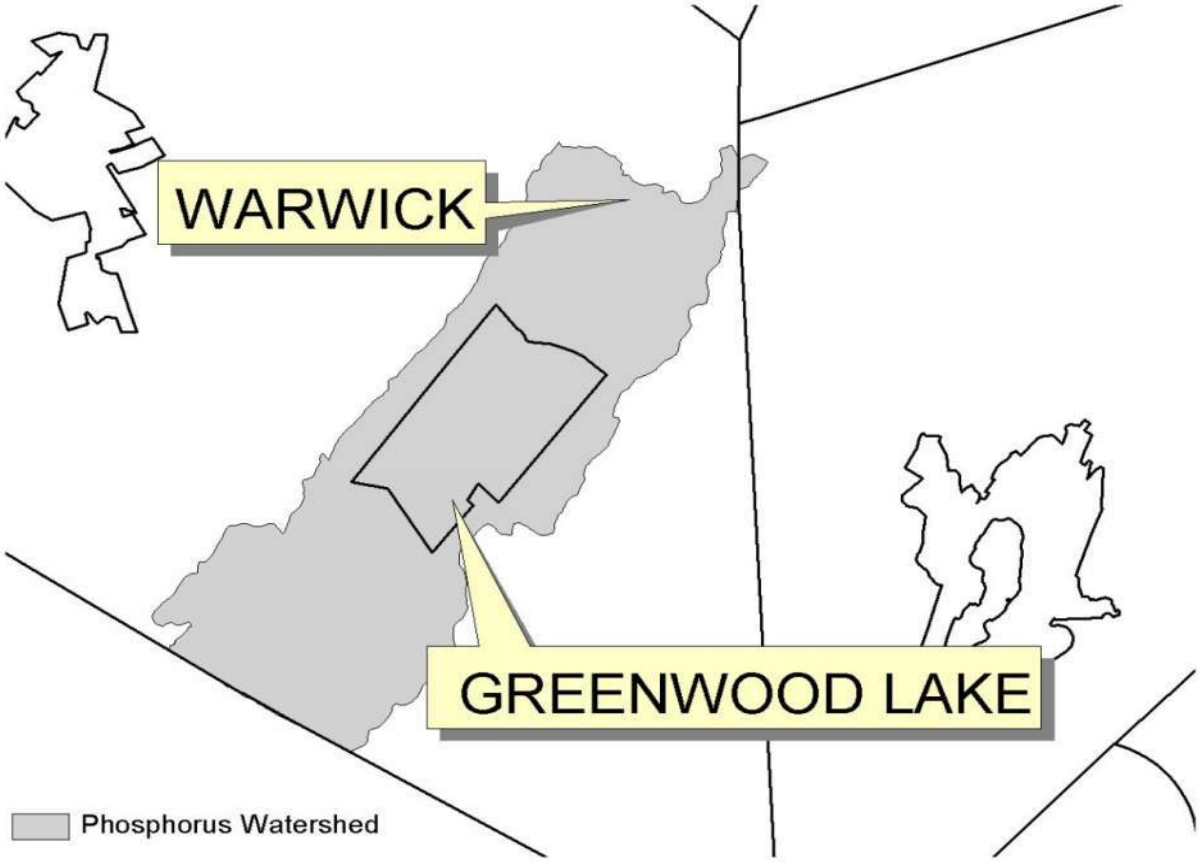


Figure 4 - Oscawana Lake Watershed

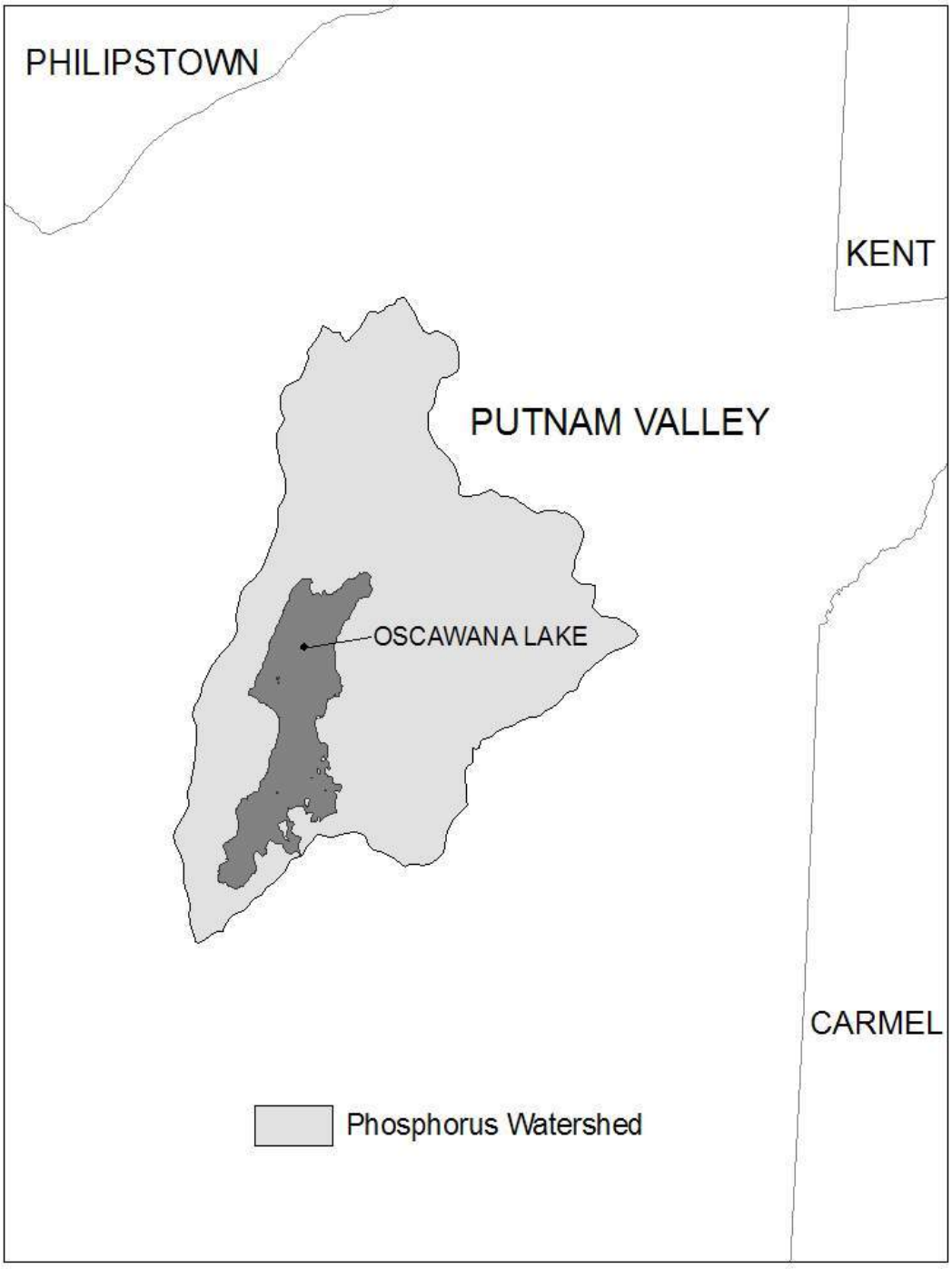
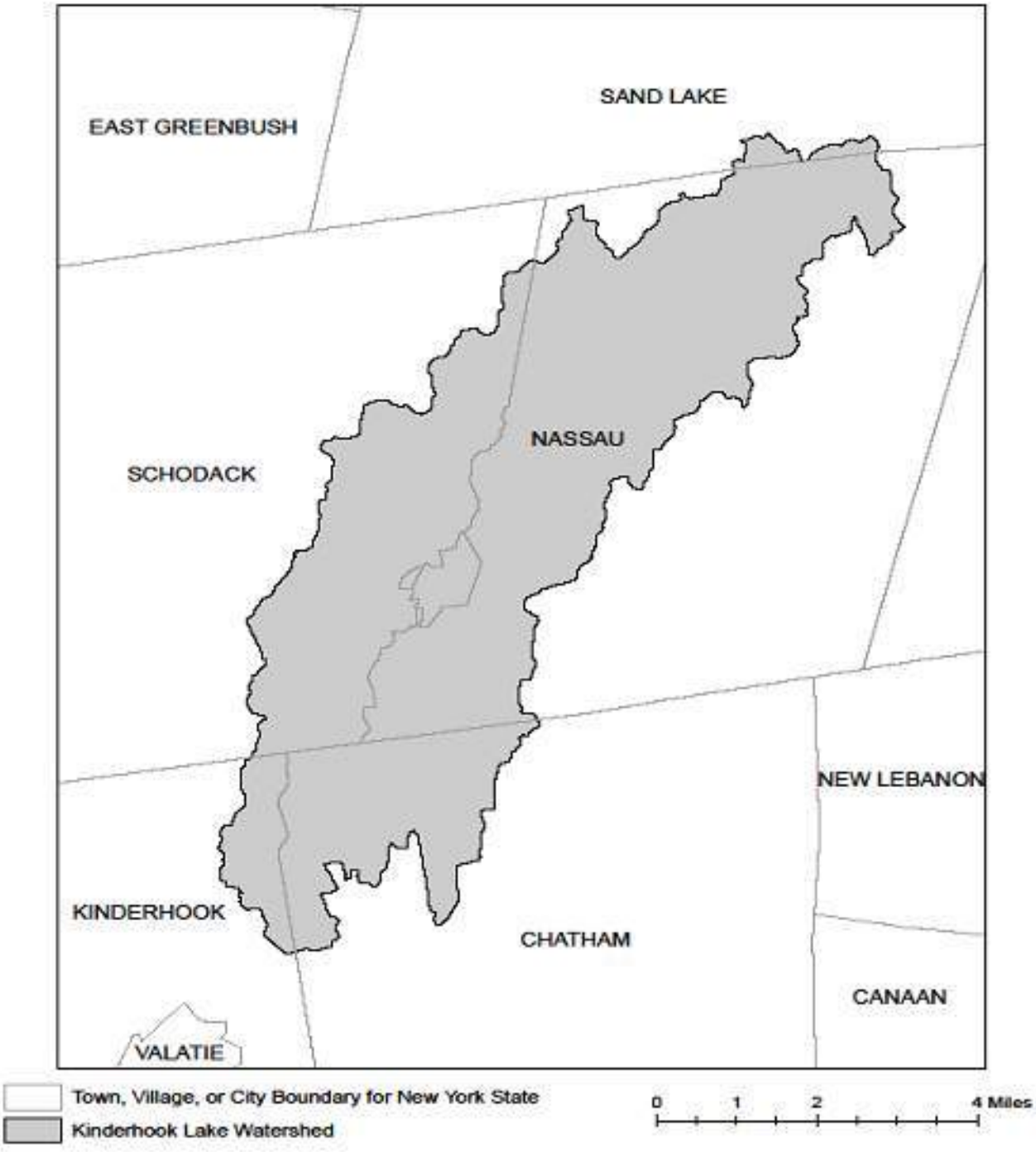


Figure 5 - Kinderhook Lake Watershed



APPENDIX D – Impaired Waterbodies (by Construction Related Pollutants)

List of waterbodies impaired by *pollutants* related to *construction activity*, including turbidity, silt/sediment, and nutrients (e.g. nitrogen, phosphorus). This list is a subset of "The Final New York State 2018 Section 303(d) List of Impaired Waters Requiring a TMDL" dated June 2020.

County	Waterbody	Pollutant
Albany	Ann Lee (Shakers) Pond, Stump Pond (1201-0096)	Phosphorus
Albany	Lawsons Lake (1301-0235)	Phosphorus
Allegany	Amity Lake, Saunders Pond (0403-0054)	Phosphorus
Allegany	Andover Pond (0403-0056)	Phosphorus
Bronx	Reservoir No.1/Lake Isle (1702-0075)	Phosphorus
Bronx	Van Cortlandt Lake (1702-0008)	Phosphorus
Broome	Blueberry, Laurel Lakes (1404-0033)	Phosphorus
Broome	Fly Pond, Deer Lake (1404-0038)	Phosphorus
Broome	Minor Tribs to Lower Susquehanna (0603-0044)	Phosphorus
Broome	Whitney Point Lake/Reservoir (0602-0004)	Phosphorus
Cattaraugus	Allegheny River/Reservoir (0201-0023)	Phosphorus
Cattaraugus	Beaver Lake/Alma Pond (0201-0073)	Phosphorus
Cattaraugus	Case Lake (0201-0020)	Phosphorus
Cattaraugus	Linlyco/Club Pond (0201-0035)	Phosphorus
Cayuga	Duck Lake (0704-0025)	Phosphorus
Cayuga	Owasco Inlet, Upper, and tribs (0706-0014)	Nutrients
Chautauqua	Chadakoin River and tribs (0202-0018)	Phosphorus
Chautauqua	Hulburt/Clymer Pond (0202-0079)	Phosphorus
Chautauqua	Middle Cassadaga Lake (0202-0002)	Phosphorus
Clinton	Great Chazy River, Lower, Main Stem (1002-0001)	Silt/Sediment
Columbia	Robinson Pond (1308-0003)	Phosphorus
Cortland	Dean Pond (0602-0077)	Phosphorus
Dutchess	Fallkill Creek (1301-0087)	Phosphorus
Dutchess	Hillside Lake (1304-0001)	Phosphorus
Dutchess	Wappingers Lake (1305-0001)	Phosphorus
Dutchess	Wappingers Lake (1305-0001)	Silt/Sediment
Erie	Beeman Creek and tribs (0102-0030)	Phosphorus
Erie	Delaware Park Pond (0101-0026)	Phosphorus
Erie	Ellicott Creek, Lower, and tribs (0102-0018)	Phosphorus
Erie	Ellicott Creek, Lower, and tribs (0102-0018)	Silt/Sediment
Erie	Green Lake (0101-0038)	Phosphorus
Erie	Little Sister Creek, Lower, and tribs (0104-0045)	Phosphorus
Erie	Murder Creek, Lower, and tribs (0102-0031)	Phosphorus

Erie	Rush Creek and tribs (0104-0018)	Phosphorus
Erie	Scajaquada Creek, Lower, and tribs (0101-0023)	Phosphorus
Erie	Scajaquada Creek, Middle, and tribs (0101-0033)	Phosphorus
Erie	Scajaquada Creek, Upper, and tribs (0101-0034)	Phosphorus
Erie	South Branch Smoke Cr, Lower, and tribs (0101-0036)	Phosphorus
Erie	South Branch Smoke Cr, Lower, and tribs (0101-0036)	Silt/Sediment
Genesee	Bigelow Creek and tribs (0402-0016)	Phosphorus
Genesee	Black Creek, Middle, and minor tribs (0402 0028)	Phosphorus
Genesee	Black Creek, Upper, and minor tribs (0402-0048)	Phosphorus
Genesee	Bowen Brook and tribs (0102-0036)	Phosphorus
Genesee	LeRoy Reservoir (0402-0003)	Phosphorus
Genesee	Mill Pond (0402-0050)	Phosphorus
Genesee	Oak Orchard Cr, Upper, and tribs (0301-0014)	Phosphorus
Genesee	Oatka Creek, Middle, and minor tribs (0402-0031)	Phosphorus
Genessee	Tonawanda Cr, Middle, Main Stem (0102-0002)	Phosphorus
Greene	Schoharie Reservoir (1202-0012)	Silt/Sediment
Greene	Sleepy Hollow Lake (1301-0059)	Silt/Sediment
Herkimer	Steele Creek tribs (1201-0197)	Phosphorus
Herkimer	Steele Creek tribs (1201-0197)	Silt/Sediment
Kings	Hendrix Creek (1701-0006) 18	Nitrogen
Kings	Prospect Park Lake (1701-0196)	Phosphorus
Lewis	Mill Creek/South Branch, and tribs (0801-0200)	Nutrients
Livingston	Christie Creek and tribs (0402-0060)	Phosphorus
Livingston	Conesus Lake (0402-0004)	Phosphorus
Livingston	Mill Creek and minor tribs (0404-0011)	Silt/Sediment
Monroe	Black Creek, Lower, and minor tribs (0402-0033)	Phosphorus
Monroe	Buck Pond (0301-0017)	Phosphorus
Monroe	Cranberry Pond (0301-0016)	Phosphorus
Monroe	Durand, Eastman Lakes (0302-0037)	Phosphorus
Monroe	Lake Ontario Shoreline, Western (0301-0069) 9	Phosphorus
Monroe	Long Pond (0301-0015)	Phosphorus
Monroe	Mill Creek and tribs (0302-0025)	Phosphorus 2
Monroe	Mill Creek/Blue Pond Outlet and tribs (0402-0049)	Phosphorus
Monroe	Minor Tribs to Irondequoit Bay (0302-0038)	Phosphorus
Monroe	Rochester Embayment - East (0302-0002) [9]	Phosphorus
Monroe	Rochester Embayment - West (0301-0068) 9	Phosphorus
Monroe	Shipbuilders Creek and tribs (0302-0026)	Phosphorus 2
Monroe	Thomas Creek/White Brook and tribs (0302-0023)	Phosphorus

Nassau	Bannister Creek/Bay (1701-0380)	Nitrogen
Nassau	Beaver Lake (1702-0152)	Phosphorus
Nassau	Browswere Bay (1701-0383)	Nitrogen
Nassau	Camaans Pond (1701-0052)	Phosphorus
Nassau	East Meadow Brook, Upper, and tribs (1701-0211)	Silt/Sediment
Nassau	East Rockaway Channel (1701-0381)	Nitrogen
Nassau	Glen Cove Creek, Lower, and tribs (1702-0146)	Silt/Sediment
Nassau	Grant Park Pond (1701-0054)	Phosphorus
Nassau	Hempstead Bay, Broad Channel (1701-0032)	Nitrogen
Nassau	Hempstead Lake (1701-0015)	Phosphorus
Nassau	Hewlett Bay (1701-0382)	Nitrogen
Nassau	Hog Island Channel (1701-0220)	Nitrogen
Nassau	Massapequa Creek, Upper, and tribs (1701-0174)	Phosphorus
Nassau	Milburn/Parsonage Creeks, Upp, and tribs (1701-0212)	Phosphorus
Nassau	Reynolds Channel, East (1701-0215) [12]	Nitrogen
Nassau	Reynolds Channel, West (1701-0216) 12	Nitrogen
Nassau	Tidal Tribs to Hempstead Bay (1701-0218)	Nitrogen
Nassau	Tribs (fresh) to East Bay (1701-0204)	Silt/Sediment
Nassau	Tribs (fresh) to East Bay (1701-0204)	Phosphorus
Nassau	Tribs to Smith Pond/Halls Pond (1701-0221)	Phosphorus
Nassau	Woodmere Channel (1701-0219)	Nitrogen
New York	Harlem Meer (1702-0103)	Phosphorus
New York	The Lake in Central Park (1702-0105)	Phosphorus
Niagara	Bergholtz Creek and tribs (0101-0004)	Phosphorus
Niagara	Hyde Park Lake (0101-0030)	Phosphorus
Niagara	Lake Ontario Shoreline, Western (0301-0053) 9	Phosphorus
Niagara	Lake Ontario Shoreline, Western (0301-0072) 9	Phosphorus
Oneida	Ballou, Nail Creeks (1201-0203)	Phosphorus
Onondaga	Ley Creek and tribs (0702-0001) 10	Nutrients (phosphorus)
Onondaga	Minor Tribs to Onondaga Lake (0702-0022) 10	Nutrients (phosphorus)
Onondaga	Minor Tribs to Onondaga Lake (0702-0022) 10	Nitrogen (NH3, NO2)
Onondaga	Onondaga Creek, Lower (0702-0023) 10	Nutrients (phosphorus)
Onondaga	Onondaga Creek, Lower, and tribs (0702-0023)	Turbidity
Onondaga	Onondaga Creek, Middle, and tribs (0702-0004)	Turbidity
Onondaga	Onondaga Creek, Upper, and tribs (0702-0024)	Turbidity
Ontario	Great Brook and minor tribs (0704-0034)	Phosphorus 2
Ontario	Great Brook and minor tribs (0704-0034)	Silt/Sediment

Ontario	Hemlock Lake Outlet and minor tribs (0402-0013)	Phosphorus
Ontario	Honeoye Lake (0402-0032)	Phosphorus
Orange	Brown Pond Reservoir (1303-0013)	Phosphorus
Orange	Lake Washington (1303-0012)	Phosphorus
Orange	Minor Tribs to Middle Wallkill (1306-0061)	Phosphorus
Orange	Monhagen Brook and tribs (1306-0074)	Phosphorus
Orange	Orange Lake (1301-0008) [16]	Phosphorus
Orange	Quaker Creek and tribs (1306-0025)	Phosphorus
Orange	Wallkill River, Middle, Main Stem (1306-0038)	Phosphorus
Orange	Wallkill River, Upper, and Minor tribs (1306-0017)	Phosphorus
Orleans	Glenvwood Lake (0301-0041)	Phosphorus
Orleans	Lake Ontario Shoreline, Western (0301-0070) 9	Phosphorus
Orleans	Lake Ontario Shoreline, Western (0301-0071) 9	Phosphorus
Oswego	Lake Neatahwanta (0701-0018)	Nutrients (phosphorus)
Oswego	Pleasant Lake (0703-0047)	Phosphorus
Putnam	Lost Lake, Putnam Lake (1302-0053)	Phosphorus
Putnam	Minor Tribs to Croton Falls Reservoir (1302-0001)	Phosphorus
Queens	Bergen Basin (1701-0009) 18	Nitrogen
Queens	Jamaica Bay, Eastern, and tribs, Queens (1701-0005) 18	Nitrogen
Queens	Kissena Lake (1702-0258)	Phosphorus
Queens	Meadow Lake (1702-0030)	Phosphorus
Queens	Shellbank Basin (1701-0001) 18	Nitrogen
Queens	Willow Lake (1702-0031)	Phosphorus
Rensselaer	Nassau Lake (1310-0001)	Phosphorus
Rensselaer	Snyders Lake (1301-0043)	Phosphorus
Richmond	Grassmere Lake/Bradys Pond (1701-0357)	Phosphorus
Rockland	Congers Lake, Swartout Lake (1501-0019)	Phosphorus
Rockland	Rockland Lake (1501-0021)	Phosphorus
Saratoga	Ballston Lake (1101-0036)	Phosphorus
Saratoga	Dwaas Kill and tribs (1101-0007)	Phosphorus
Saratoga	Dwaas Kill and tribs (1101-0007)	Silt/Sediment
Saratoga	Lake Lonely (1101-0034)	Phosphorus
Saratoga	Round Lake (1101-0060)	Phosphorus
Saratoga	Tribs to Lake Lonely (1101-0001)	Phosphorus
Schenectady	Collins Lake (1201-0077)	Phosphorus
Schenectady	Duane Lake (1311-0006)	Phosphorus
Schenectady Lake	Mariaville Lake (1201-0113)	Phosphorus
Schuyler	Cayuta Lake (0603-0005)	Phosphorus

Seneca	Reeder Creek and tribs (0705-0074)	Phosphorus
St.Lawrence	Black Lake Outlet, Black Lake (0906-0001)	Phosphorus
St.Lawrence	Fish Creek and minor tribs (0906-0026)	Phosphorus
Steuben	Smith Pond (0502-0012)	Phosphorus
Suffolk	Agawam Lake (1701-0117)	Phosphorus
Suffolk	Big/Little Fresh Ponds (1701-0125)	Phosphorus
Suffolk	Canaan Lake (1701-0018)	Phosphorus
Suffolk	Canaan Lake (1701-0018)	Silt/Sediment
Suffolk	Fresh Pond (1701-0241)	Phosphorus
Suffolk	Great South Bay, East (1701-0039)	Nitrogen
Suffolk	Great South Bay, Middle (1701-0040)	Nitrogen
Suffolk	Great South Bay, West (1701-0173)	Nitrogen
Suffolk	Lake Ronkonkoma (1701-0020)	Phosphorus
Suffolk	Mattituck/Marratooka Pond (1701-0129)	Phosphorus
Suffolk	Mill and Seven Ponds (1701-0113)	Phosphorus
Suffolk	Millers Pond (1702-0013)	Phosphorus
Suffolk	Moriches Bay, East (1701-0305)	Nitrogen
Suffolk	Moriches Bay, West (1701-0038)	Nitrogen
Suffolk	Quantuck Bay (1701-0042)	Nitrogen
Suffolk	Shinnecock Bay and Inlet (1701-0033)	Nitrogen
Suffolk	Tidal Tribs to West Moriches Bay (1701-0312)	Nitrogen
Sullivan	Bodine, Mongomery Lakes (1401-0091)	Phosphorus
Sullivan	Davies Lake (1402-0047)	Phosphorus
Sullivan	Evens Lake (1402-0004)	Phosphorus
Sullivan	Pleasure Lake (1402-0055)	Phosphorus
Sullivan	Swan Lake (1401-0063)	Phosphorus
Tompkins	Cayuga Lake, Southern End (0705-0040)	Phosphorus
Tompkins	Cayuga Lake, Southern End (0705-0040)	Silt/Sediment
Ulster	Ashokan Reservoir (1307-0004)	Silt/Sediment
Ulster	Esopus Creek, Lower, Main Stem (1307-0010) [17]	Turbidity
Ulster	Esopus Creek, Middle, Main Stem (1307-0003) 17	Turbidity
Ulster	Esopus Creek, Upper, and minor tribs (1307-0007)[3]	Silt/Sediment
Ulster	Wallkill River, Lower, Main Stem (1306-0027)	Phosphorus
Warren	Hague Brook and tribs (1006-0006)	Silt/Sediment
Warren	Huddle/Finkle Brooks and tribs (1006-0003)	Silt/Sediment
Warren	Indian Brook and tribs (1006-0002)	Silt/Sediment
Warren	Lake George (1006-0016) and tribs	Silt/Sediment
Warren	Tribs to Lake George, East Shore (1006-0020)	Silt/Sediment
Warren	Tribs to Lake George, Lk.George Village (1006-0008)	Silt/Sediment

Washington	Wood Cr/Champlain Canal and tribs (1005-0036)	Phosphorus
Westchester	Lake Katonah (1302-0136)	Phosphorus
Westchester	Lake Lincolndale (1302-0089)	Phosphorus
Westchester	Lake Meahagh (1301-0053)	Phosphorus
Westchester	Lake Mohegan (1301-0149)	Phosphorus
Westchester	Lake Shenorock (1302-0083)	Phosphorus
Westchester	Mamaroneck River, Lower (1702-0071)	Silt/Sediment
Westchester	Mamaroneck River, Upp, & minor tribs (1702-0123)	Silt/Sediment
Westchester	Saw Mill River (1301-0007)	Phosphorus
Westchester	Saw Mill River, Middle, and tribs (1301-0100)	Phosphorus
Westchester	Sheldrake River (1702-0069)	Phosphorus
Westchester	Sheldrake River (1702-0069)	Silt/Sedimnt
Westchester	Silver Lake (1702-0040)	Phosphorus
Westchester	Teatown Lake (1302-0150)	Phosphorus
Westchester	Truesdale Lake (1302-0054)	Phosphorus
Westchester	Wallace Pond (1301-0140)	Phosphorus

APPENDIX E – List of NYSDEC Regional Offices

Region	Covering the following counties:	DIVISION OF ENVIRONMENTAL PERMITS (DEP) Permit Administrators	DIVISION OF WATER (DOW) Water (SPDES) Program
1	Nassau and Suffolk	50 Circle Road Stony Brook, NY 11790 Tel. (631) 444-0365	50 Circle Road Stony Brook, NY 11790-3409 Tel. (631) 444-0405
2	Bronx, Kings, New York, Queens and Richmond	1 Hunters Point Plaza, 47-40 21st St. Long Island City, NY 11101-5407 Tel. (718) 482-4997	1 Hunters Point Plaza, 47-40 21st St. Long Island City, NY 11101-5407 Tel. (718) 482-4933
3	Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster and Westchester	21 South Putt Corners Road New Paltz, NY 12561-1696 Tel. (845) 256-3059	220 White Plains Road, Suite 110 Tel. (914) 428 - 2505
4	Albany, Columbia, Delaware, Greene, Montgomery, Otsego, Rensselaer, Schenectady and Schoharie	1130 North Westcott Road Schenectady, NY 12306-2014 Tel. (518) 357-2069	1130 North Westcott Road Schenectady, NY 12306-2014 Tel. (518) 357-2045
5	Clinton, Essex, Franklin, Fulton, Hamilton, Saratoga, Warren and Washington	1115 State Route 86, Po Box 296 Ray Brook, NY 12977-0296 Tel. (518) 897-1234	232 Golf Course Road Warrensburg, NY 12885-1172 Tel. (518) 623-1200
6	HERKIMER, JEFFERSON, LEWIS, ONEIDA AND ST. LAWRENCE	STATE OFFICE BUILDING 317 WASHINGTON STREET WATERTOWN, NY 13601-3787 TEL. (315) 785-2245	STATE OFFICE BUILDING 207 GENESEE STREET UTICA, NY 13501-2885 TEL. (315) 793-2554
7	BROOME, CAYUGA, CHENANGO, CORTLAND, MADISON, ONONDAGA, OSWEGO, TIOGA AND TOMPKINS	5786 WIDEWATERS PARKWAY SYRACUSE, NY 13214-1867 TEL. (315) 426-7438	5786 WIDEWATERS PARKWAY SYRACUSE, NY 13214-1867 TEL. (315) 426-7500
8	CHEMUNG, GENESEE, LIVINGSTON, MONROE, ONTARIO, ORLEANS, SCHUYLER, SENECA, STEUBEN, WAYNE AND YATES	6274 EAST AVON-LIMA ROADAVON, NY 14414-9519 TEL. (585) 226-2466	6274 EAST AVON-LIMA RD. AVON, NY 14414-9519 TEL. (585) 226-2466
9	ALLEGANY, CATTARAUGUS, CHAUTAUQUA, ERIE, NIAGARA AND WYOMING	700 DELAWARE AVENUE BUFFALO, NY 14209-2999 TEL. (716) 851-7165	700 DELAWARE AVENUE BUFFALO, NY 14209-2999 TEL. (716) 851-7070

APPENDIX F – SWPPP Preparer Certification Form

The SWPPP Preparer Certification Form required by this permit begins on the following page.

SWPPP Preparer Certification Form

SPDES General Permit for Stormwater Discharges from Construction Activity, GP-0-25-001 (CGP)

(In accordance with CGP Part I.D.2.b., the completed form must be attached to the eNOI and submitted to NYSDEC electronically.)

Project/Site Name:

eNOI Submission ID:

Owner/Operator Name:

Certification Statement – SWPPP Preparer

I hereby certify that the Stormwater Pollution Prevention Plan (SWPPP) has been prepared in accordance with the requirements of GP-0-25-001. I certify under penalty of law that the SWPPP and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SWPPP Preparer First Name | MI | SWPPP Preparer Last Name

Signature | Date

Revised: January 2025

APPENDIX G – MS4 SWPPP Acceptance Form

The MS4 SWPPP Acceptance Form required by this permit begins on the following page.

MS4 SWPPP Acceptance Form

for construction activities seeking authorization under the

SPDES General Permit for Stormwater Discharges from Construction Activity, GP-0-25-001 (CGP)

(In accordance with CGP Part I.D.2.b., the completed form must be attached to the eNOI and submitted to NYSDEC electronically.)

I. Project Owner/Operator Information
1. Owner/Operator Name:
2. Contact Person:
3. Street Address:
4. City/State/Zip:
II. Project Site Information
5. Project/Site Name:
6. Street Address:
7. City/State/Zip:
III. Stormwater Pollution Prevention Plan (SWPPP) Review and Acceptance Information
8. SWPPP Reviewed by:
9. Title/Position:
10. Date Final SWPPP Reviewed and Accepted:
IV. Regulated MS4 Information
11. Name of MS4 Operator:
12. MS4 SPDES Permit Identification Number: NYR20A
13. Street Address:
14. City/State/Zip:
15. Telephone Number:

MS4 SWPPP Acceptance Form - continued

V. Certification Statement - MS4 Official (principal executive officer or ranking elected official) or Duly Authorized Representative

I hereby certify that the final Stormwater Pollution Prevention Plan (SWPPP) for the construction project identified in section II. of this form has been reviewed and meets the substantive requirements in the SPDES General Permit for Stormwater Discharges from Construction Activity, GP-0-25-001 (CGP). Note: The MS4 Operator, through the acceptance of the SWPPP, assumes no responsibility for the accuracy and adequacy of the design included in the SWPPP. In addition, review and acceptance of the SWPPP by the MS4 Operator does not relieve the owner/operator or their SWPPP preparer of responsibility or liability for errors or omissions in the plan.

Printed Name[1]:

Title/Position:

Signature:

Date:

VI. Additional Information

[1] Printed name of the principal executive officer or ranking elected official for the MS4 Operator or their duly authorized representative in accordance with CGP Part VII.J.2.

APPENDIX H – NYCDEP SWPPP Acceptance/Approval Form

The City of New York Department of Environmental Protection (NYCDEP) SWPPP Acceptance/Approval form required by this permit begins on the following page.

THE CITY OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Environmental Planning and Analysis
59-17 Junction Blvd., 9th Floor; Flushing, NY 11373

SWPPP Acceptance/Approval

Application Number:

I. Project Owner/Operator Information

1. Owner/Operator Name:
2. Contact Person:
3. Street Address:
4. City/State/Zip:

II. Project Site Information

5. Project/Site Name:
6. Street Address:
7. City/State/Zip:

III. Stormwater Pollution Prevention Plan (SWPPP) Review and Acceptance/Approval

8. SWPPP Reviewed by:
9. Title/Position: /
10. Date Final SWPPP Reviewed and Accepted:
11. Acceptance/Approval Expiration Date:

IV. Regulated MS4 Information for projects that require coverage under the NY State Pollution Discharge Elimination System General Permit for Stormwater Discharges from Construction Activity

12. Name of MS4: *CITY OF NEW YORK*
13. MS4 SPDES Permit Identification Number: *NY-0287890*
14. Contact Person:
15. Street Address: *59-17 Junction Blvd. 9th Floor*
16. City/State/Zip: *Flushing, NY 11373*
17. Telephone Number:

Projects in the MS4 area must submit a copy of this SWPPP Acceptance with a Notice of Intent for coverage under the NY SPDES General Permit for Stormwater Discharges from Construction Activity to: NYS Department of Environmental Conservation, Division of Water; 625 Broadway, 4th Floor; Albany, New York 12233-3505.

V. Certification Statement - MS4 Official (principal executive officer or ranking elected official) or Duly Authorized Representative

I hereby certify that the final Stormwater Pollution Prevention Plan (SWPPP) for the construction project identified in question 5 has been reviewed and meets the substantive requirements in the SPDES General Permit For Stormwater Discharges from Municipal Separate Storm Sewer Systems (MS4s).

Note: The MS4, through the acceptance of the SWPPP, assumes no responsibility for the accuracy and adequacy of the design included in the SWPPP. In addition, review and acceptance of the SWPPP by the MS4 does not relieve the owner/operator or their SWPPP preparer of responsibility or liability for errors or omissions in the plan.

Printed Name:

Title/Position:

Signature:

Date:

VI. Conditions of Acceptance/Approval and Additional Information

Projects in the MS4 area must submit a copy of this SWPPP Acceptance with a Notice of Intent for coverage under the NY SPDES General Permit for Stormwater Discharges from Construction Activity to: NYS Department of Environmental Conservation, Division of Water; 625 Broadway, 4th Floor; Albany, New York 12233-3505.

APPENDIX I – MS4 No Jurisdiction Form

The MS4 No Jurisdiction Form required by this permit begins on the following page.

MS4 No Jurisdiction Form

for construction activities seeking authorization under the

SPDES General Permit for Stormwater Discharges from Construction Activity, GP-0-25-001 (CGP)

(In accordance with CGP Part I.D.2.b., the completed form must be attached to the eNOI and submitted to NYSDEC electronically.)

I. Project Owner/Operator Information

a. Owner/Operator Name:

b. Contact Person:

c. Street Address:

d. City/State/Zip:

II. Project Site Information

a. Project/Site Name:

b. Street Address:

c. City/State/Zip:

d. eNOI Submission ID:

III. Traditional Land Use Control MS4 Operator Information

a. Name of MS4 Operator:

b. MS4 SPDES Permit ID Number: NYR20A

c. Street Address:

d. City/State/Zip:

e. Telephone Number:

IV. Certification Statement

In accordance with CGP Part I.D.2.b.ii.3., I hereby certify that the Traditional Land Use Control MS4 Operator identified in section III. of this form does not have review authority over the construction project identified in section II. of this form, which is owned/operated by the entity identified in section I. of this form. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

a. Printed name of the principal executive officer or ranking elected official for the MS4 Operator or their duly authorized representative in accordance with CGP Part VII.J.2.:

b. Title/Position:

c. Signature:

d. Date:

APPENDIX J – Owner/Operator Certification Form

The Owner/Operator Certification Form required by this permit begins on the following page.

Owner/Operator Certification Form

SPDES General Permit for Stormwater Discharges from Construction Activity, GP-0-25-001 (CGP)

(In accordance with CGP Part I.D.2.b. or Part I.F.2. and 3., the completed form must be attached to the eNOI or the Request to Continue Coverage, and submitted to NYSDEC electronically.

Project/Site Name: _____

eNOI Submission ID: _____

eNOI Submitted by: ☐ **Owner/Operator** ☐ **SWPPP Preparer** ☐ **Other**

Certification Statement - Owner/Operator

I hereby certify that I read, and will comply with, the GP-0-25-001 permit requirements. I understand that authorization to discharge under the permit for the project/site named above is dependent on receipt of a Letter of Authorization (LOA) or a Letter of Continued Coverage (LOCC) from the New York State Department of Environmental Conservation (NYSDEC) in accordance with CGP Part I.D.3.b. or Part I.F.4. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Owner/Operator First Name MI Owner/Operator Last Name

_____

Signature

_____

Date

Revised: January 2025

APPENDIX D
NYSDEC FORMS

Notice of Intent (NOI)

NOI Acknowledgement Letter

Notice of Termination (NOT)

Construction General Permit (CGP) Electronic Notice of Intent (eNOI) GP-0-25-001

version 1.11

(Submission #: HQB-QDWF-X4SCM, version 1)

Details

Submission Alias	Construction General Permit (CGP) Electronic Notice of Intent (eNOI) GP-0-25-001 _071095 Upgrade Electrical Distribution
Originally Started By	Foit-Albert Site Engineer
Alternate Identifier	Binghamton University Upgrade Electrical Distribution—Region 7
Submission ID	HQB-QDWF-X4SCM
Status	Draft

Form Input

Eligibility

Disturbance Threshold

1. Will the construction activity involve soil disturbances listed in Part I.A.1 of GP-0-25-001?
Yes

1.a. Will any runoff from the site enter a sewer system classified as a combined sewer?
No

1.b. Is this a remediation project being done under a Department approved work plan (i.e. CERCLA, RCRA, Voluntary Cleanup Agreement, etc.) with a SWPPP which meets the substantive requirements of GP-0-25-001?
No

1.c. Is the construction activity related to a stormwater discharge that does not require a permit as described in 40 CFR 122.3(e), e.g. non-point source agriculture or silviculture activities?
No

Other SPDES Permits

2. Will the discharge from the construction activity meet all conditions listed in Part I.A.2 of GP-0-25-001?
Yes

Threatened and Endangered Species

3. Will the construction activity potentially adversely affect a species that is endangered or threatened per Part I.A.3.?
No

State Historic Preservation Act (SHPA)

4. Is the construction activity designated by the Commissioner of the Office of Parks, Recreation and Historic Preservation (OPRHP), pursuant to 9 NYCRR §§428.12 or 428.13 as exempt from the SHPA review (see Attachment 2 of the Letter of Resolution between NYSDEC and OPRHP, dated January 9, 2015)?
Yes

State Environmental Quality Review (SEQR)

5. Is the construction activity subject to SEQR (Part I.A.5.), or the equivalent environmental review from another NYS or federal agency (Part I.A.6.)?
No

Uniform Procedures Act (UPA) Permits

6. Has the owner/operator obtained all necessary UPA permits from NYSDEC, or the equivalent from another NYS or federal agency per Part I.A.7.a. of GP-0-25-001?
Yes

Steep Slope

7. Is the construction activity within the watershed of surface waters of the State classified as AA or AA-S identified utilizing the Stormwater Interactive Map on NYSDEC's website?
No

Owner/Operator Information

8. Owner/Operator Name
State University Construction Fund

9. Owner/Operator Contact Person Information

First and Last Name	Phone	E-mail
Anne Garrity	518-320-3210	SUCF.spdes@suny.edu

10. Owner/Operator Mailing Address
4400 Vestal Pkwy E
Binghamton, NY 13902
USA

11. Is the billing contact different from the Owner/Operator Contact?
No

12. What type of organization is the owner/operator?
State Government

Site Information

13. Project/Site Name
Binghamton University Upgrade Electrical Distribution

14. Site Address
440 Vestal Pkwy E
Binghamton, NY 13902
Broome

DEC Region
7

15. Site Latitude & Longitude
42.09024983035048,-75.96912206365546

Project Details

16. This eNOI submission is for:
A construction activity not part of a common plan of development or sale in accordance with Part I.D.1.a.

17. Does the project type fall under Table 1 or Table 2 of Appendix B of GP-0-25-001? If any portion of the construction activity falls under Table 2, regardless of the size of the disturbance, select "Table 2".
Table 1

18. Consistent with Part III.B.1.c.i. of GP-0-25-001, provide a concise overview of the project. Describe existing and proposed conditions, and include any other relevant information.
The project proposes to install new electrical duct banks through an already developed college campus. Disturbed areas will be replaced in-kind.

Enter the total project site acreage, the acreage to be disturbed, and the future impervious area (acreage) within the disturbed area, rounded to the nearest tenth of an acre.

19. Total Site Area (acres)
579.0

20. Total Area to be Disturbed (acres)
4.7

21. Existing Impervious Area to be Disturbed (acres)
3.2

22. Future Impervious Area Within Disturbed Area (acres)
3.2

Nature of the project:
Redevelopment with no increase in impervious area

23. Do you plan to disturb more than 5 acres of soil at any one time?
No

---

24. Indicate the percentage (%) of each Hydrologic Soil Group(HSG) at the site.

A (%)
10

B (%)
3

C (%)
11

D (%)
76

25. Enter the planned start and end dates of the disturbance activities.

Start Date
04/01/2026

End Date
09/01/2026

26. Identify the nearest surface waterbody(ies) to which construction site runoff will discharge.
Minor Tribs to Lower Susquehanna (north) - 0603-0002

27. Type of waterbody identified in question 26?
River Off Site

28. Has the surface waterbody in question 26 been identified as a 303(d) segment in Appendix D of GP-0-25-001?
No

29. Is this project located in one of the Watersheds identified in Appendix C of GP-0-25-001?
No

30. Will the project disturb soils within a State regulated wetland or the protected 100 foot adjacent area?
Yes

31. Does the site runoff enter a separate storm sewer system (including roadside drains, swales, ditches, culverts, etc)?
Yes

31.a. What is the name of the municipality/entity that owns the separate storm sewer system? If the separate sewer system is owned by an MS4 Operator, enter the MS4 Operator name.
Town of Vestal

32. Will future use of this site be an agricultural property as defined by the NYS Agriculture and Markets Law?
No

33. Is this property owned by a state authority, state agency, federal government or local government?
Yes

Required SWPPP Components

General SWPPP Requirements

34. Has a SWPPP been developed in conformance with the requirements in Part III. of GP-0-25-001?
Yes

35. Does the SWPPP demonstrate consideration of the future physical risks due to climate change pursuant to the CRRA, 6 NYCRR Part 490, and associated guidance per Part III.A.2. of GP-0-25-001?
Yes

36. Has the required Erosion and Sediment Control component of the SWPPP been developed in conformance with the current NYS Standards and Specifications for Erosion and Sediment Control (aka Blue Book)?
Yes

SWPPP Preparer

39. The Stormwater Pollution Prevention Plan (SWPPP) was prepared by:
Professional Engineer (P.E.)

40. Name of the person who prepared the SWPPP
Max Faduski

41. SWPPP Preparer Organization Name
Azar Design Co

42. SWPPP Preparer Contact Information

First and Last Name	Phone	E-mail
Max Faduski	(716) 245 3652	mfaduski@azardzn.com

43. SWPPP Preparer Address

295 Main St #200
Buffalo, NY 14203

Download SWPPP Preparer Certification Form

Please take the following steps to prepare and upload your preparer certification form:

1) Click on the link below to download a blank certification form
2) The certified SWPPP preparer should sign this form
3) Upload the completed form
Download SWPPP Preparer Certification Form

44. Please upload the SWPPP Preparer Certification

NONE PROVIDED

Comment

NONE PROVIDED

44.a. Has the SWPPP Preparer Certification Form been signed by the SWPPP preparer in accordance with Part VII.J of GP-0-25-001?
Yes

Erosion & Sediment Control Criteria

45. Has a construction sequence schedule for the planned management practices been prepared?
Yes

Other Permits

56. Identify other permits, existing and new, that are required for this project/facility.
None

57. Is this NOI for a change in owner/operator per Part I.G.?
No

MS4 SWPPP Acceptance

59. Will the construction activities be within the municipal boundary(ies) of Traditional Land Use Control MS4 Operator(s) and discharge to the MS4(s)?
Yes

59.a. Which form is required per Part I.D.2.b.ii.?
MS4 No Jurisdiction Form

MS4 No Jurisdiction Form Download

Download the MS4 No Jurisdiction Form from the link below.
MS4 No Jurisdiction Form

60. MS4 Acceptance or No Jurisdiction Form Upload

NONE PROVIDED

Comment

NONE PROVIDED

60.a. Has the form been signed by the principal executive officer or ranking elected official—or duly authorized representative of that person—in accordance with Part VII.J. and submitted along with this NOI?

NONE PROVIDED

Owner/Operator Certification

Owner/Operator Certification Form Download

Download the Owner/Operator Certification Form by clicking the link below.
Owner/Operator Certification Form

61. Upload Owner/Operator Certification Form

NONE PROVIDED

Comment

NONE PROVIDED

61.a. Has the Owner/Operator Certification Form from Appendix J been signed by the owner/operator, or a representative of the owner/operator in accordance with Part VII.J of GP-0-25-001 and uploaded to the eNOI?

NONE PROVIDED

Additional Project Information

62. Enter any additional pertinent project information in the text box below.

NONE PROVIDED

SWPPP Preparer Certification Form

SPDES General Permit for Stormwater Discharges from Construction Activity, GP-0-25-001 (CGP)

(In accordance with CGP Part I.D.2.b., the completed form must be attached to the eNOI and submitted to NYSDEC electronically.)

Project/Site Name:	071095 Upgrade Electrical Distribution
eNOI Submission ID:	HQB-QDWF-X4SCM
Owner/Operator Name:	SUNY Binghamton

Certification Statement – SWPPP Preparer

I hereby certify that the Stormwater Pollution Prevention Plan (SWPPP) has been prepared in accordance with the requirements of GP-0-25-001. I certify under penalty of law that the SWPPP and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Max		Faduski
SWPPP Preparer First Name	MI	SWPPP Preparer Last Name

	10/31/2025
Signature	Date

Owner/Operator Certification Form

SPDES General Permit for Stormwater Discharges from Construction Activity, GP-0-25-001 (CGP)

(In accordance with CGP Part I.D.2.b. or Part I.F.2. and 3., the completed form must be attached to the eNOI or the Request to Continue Coverage, and submitted to NYSDEC electronically.

Project/Site Name: 071095 Upgrade Electrical Distribution

eNOI Submission ID: HQB-QDWF-X4SCM

eNOI Submitted by: ☐ **Owner/Operator** ☑ **SWPPP Preparer** ☐ **Other**

Certification Statement - Owner/Operator

I hereby certify that I read, and will comply with, the GP-0-25-001 permit requirements. I understand that authorization to discharge under the permit for the project/site named above is dependent on receipt of a Letter of Authorization (LOA) or a Letter of Continued Coverage (LOCC) from the New York State Department of Environmental Conservation (NYSDEC) in accordance with CGP Part I.D.3.b. or Part I.F.4. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Anne		Garrity
Owner/Operator First Name	MI	Owner/Operator Last Name

_____

Signature

_____

Date

Revised: January 2025

NEW YORK STATE | Department of Environmental Conservation

MS4 No Jurisdiction Form

for construction activities seeking authorization under the

SPDES General Permit for Stormwater Discharges from Construction Activity, GP-0-25-001 (CGP)

(In accordance with CGP Part I.D.2.b., the completed form must be attached to the eNOI and submitted to NYSDEC electronically.)

I. Project Owner/Operator Information

a. Owner/Operator Name: State University Construction Fund (SUCF)

b. Contact Person: Anne Garrity, PE

c. Street Address: H. Carl McCall SUNY Building 353 Broadway

d. City/State/Zip: Albany, NY 12246

II. Project Site Information

a. Project/Site Name: 071095 Upgrade Electrical Distribution

b. Street Address: 4400 Vestal Pkwy E

c. City/State/Zip: Binghamton, NY, 13902

d. eNOI Submission ID: HQB-QDWF-X4SCM

III. Traditional Land Use Control MS4 Operator Information

a. Name of MS4 Operator:

b. MS4 SPDES Permit ID Number: NYR20A

c. Street Address:

d. City/State/Zip:

e. Telephone Number:

IV. Certification Statement

In accordance with CGP Part I.D.2.b.ii.3., I hereby certify that the Traditional Land Use Control MS4 Operator identified in section III. of this form does not have review authority over the construction project identified in section II. of this form, which is owned/operated by the entity identified in section I. of this form. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

a. Printed name of the principal executive officer or ranking elected official for the MS4 Operator or their duly authorized representative in accordance with CGP Part VII.J.2.:

b. Title/Position:

c. Signature:

d. Date:

New York State Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505
(NOTE: Submit completed form to address above)

NOTICE OF TERMINATION for Storm Water Discharges Authorized under the SPDES General Permit for Construction Activity

Please indicate your permit identification number: NYR ___ ___ ___ ___ ___ ___

I. Owner or Operator Information

1. Owner/Operator Name:

2. Street Address:

3. City/State/Zip:

4. Contact Person: | 4a.Telephone:

4b. Contact Person E-Mail:

II. Project Site Information

5. Project/Site Name:

6. Street Address:

7. City/Zip:

8. County:

III. Reason for Termination

9a. □ All disturbed areas have achieved final stabilization in accordance with the general permit and SWPPP. ***Date final stabilization completed** (month/year): _____

9b. □ Permit coverage has been transferred to new owner/operator. Indicate new owner/operator's permit identification number: NYR ___ ___ ___ ___ ___ ___
(Note: Permit coverage can not be terminated by owner identified in I.1. above until new owner/operator obtains coverage under the general permit)

9c. □ Other (Explain on Page 2)

IV. Final Site Information:

10a. Did this construction activity require the development of a SWPPP that includes post-construction stormwater management practices? □ yes □ no (If no, go to question 10f.)

10b. Have all post-construction stormwater management practices included in the final SWPPP been constructed? □ yes □ no (If no, explain on Page 2)

10c. Identify the entity responsible for long-term operation and maintenance of practice(s)?

_____

NOTICE OF TERMINATION for Storm Water Discharges Authorized under the SPDES General Permit for Construction Activity - continued

10d. Has the entity responsible for long-term operation and maintenance been given a copy of the operation and maintenance plan required by the general permit? □ yes □ no

10e. Indicate the method used to ensure long-term operation and maintenance of the post-construction stormwater management practice(s):

□ Post-construction stormwater management practice(s) and any right-of-way(s) needed to maintain practice(s) have been deeded to the municipality.

□ Executed maintenance agreement is in place with the municipality that will maintain the post-construction stormwater management practice(s).

□ For post-construction stormwater management practices that are privately owned, a mechanism is in place that requires operation and maintenance of the practice(s) in accordance with the operation and maintenance plan, such as a deed covenant in the owner or operator's deed of record.

□ For post-construction stormwater management practices that are owned by a public or private institution (e.g. school, university or hospital), government agency or authority, or public utility; policy and procedures are in place that ensures operation and maintenance of the practice(s) in accordance with the operation and maintenance plan.

10f. Provide the total area of impervious surface (i.e. roof, pavement, concrete, gravel, etc.) constructed within the disturbance area? _____ (acres)

11. Is this project subject to the requirements of a regulated, traditional land use control MS4? □ yes □ no

(If Yes, complete section VI - "MS4 Acceptance" statement

V. Additional Information/Explanation:

(Use this section to answer questions 9c. and 10b., if applicable)

VI. MS4 Acceptance - MS4 Official (principal executive officer or ranking elected official) or Duly Authorized Representative (Note: Not required when 9b. is checked -transfer of coverage)

I have determined that it is acceptable for the owner or operator of the construction project identified in question 5 to submit the Notice of Termination at this time.

Printed Name:

Title/Position:

Signature:	Date:

NOTICE OF TERMINATION for Storm Water Discharges Authorized under the SPDES General Permit for Construction Activity - continued

VII. Qualified Inspector Certification - Final Stabilization:

I hereby certify that all disturbed areas have achieved final stabilization as defined in the current version of the general permit, and that all temporary, structural erosion and sediment control measures have been removed. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Printed Name:	
Title/Position:	
Signature:	Date:

VIII. Qualified Inspector Certification - Post-construction Stormwater Management Practice(s):

I hereby certify that all post-construction stormwater management practices have been constructed in conformance with the SWPPP. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Printed Name:	
Title/Position:	
Signature:	Date:

IX. Owner or Operator Certification

I hereby certify that this document was prepared by me or under my direction or supervision. My determination, based upon my inquiry of the person(s) who managed the construction activity, or those persons directly responsible for gathering the information, is that the information provided in this document is true, accurate and complete. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Printed Name:	
Title/Position:	
Signature:	Date:

(NYS DEC Notice of Termination - January 2015)

APPENDIX E
Pre-Construction Requirements

Pre-Construction meeting documents

Contractor Certification Statement

I. **PRE-CONSTRUCTION MEETING DOCUMENTS**

Project Name _____

Permit No. _____ **Date of Authorization** _____

Name of Operator _____

Prime Contractor _____

a. **Preamble to Site Assessment and Inspections**

The Following Information To Be Read By All Person's Involved in The Construction of Stormwater Related Activities:

The Operator agrees to have a qualified inspector[1] conduct an assessment of the site prior to the commencement of construction[2] and certify in this inspection report that the appropriate erosion and sediment controls described in the SWPPP have been adequately installed or implemented to ensure overall preparedness of the site for the commencement of construction.

Prior to the commencement of construction, the Operator shall certify in this site logbook that the SWPPP has been prepared in accordance with the State's standards and meets all Federal, State and local erosion and sediment control requirements. A preconstruction meeting should be held to review all of the SWPPP requirements with construction personnel.

When construction starts, site inspections shall be conducted by the qualified inspector at least every 7 calendar days. The Operator shall maintain a record of all inspection reports in this site logbook. The site logbook shall be maintained on site and be made available to the permitting authorities upon request.

Prior to filing the Notice of Termination or the end of permit term, the Operator shall have a qualified inspector perform a final site inspection. The qualified inspector shall certify that the site has undergone final stabilization[3] using either vegetative or structural stabilization methods and that all temporary erosion and sediment controls (such as silt fencing) not needed for long-term erosion control have been removed. In addition, the Operator must identify and certify that all permanent structures described in the SWPPP have been constructed and provide the owner(s) with an operation and maintenance plan that ensures the structure(s) continuously functions as designed.

1 Refer to "Qualified Inspector" inspection requirements in the current SPDES General Permit for Stormwater Discharges from Construction Activity for complete list of inspection requirements.

2 "Commencement of construction" means the initial removal of vegetation and disturbance of soils associated with clearing, grading or excavating activities or other construction activities.

3 "Final stabilization" means that all soil-disturbing activities at the site have been completed and a uniform, perennial vegetative cover with a density of eighty (80) percent has been established or equivalent stabilization measures (such as the use of mulches or geotextiles) have been employed on all unpaved areas and areas not covered by permanent structures.

b. Pre-construction Site Assessment Checklist
(NOTE: Provide comments below as necessary)

1. Notice of Intent, SWPPP, and Contractors Certification:

Yes No NA

[ ] [ ] [ ] Has a Notice of Intent been filed with the NYS Department of Conservation?
[ ] [ ] [ ] Is the SWPPP on-site? Where?_____
[ ] [ ] [ ] Is the Plan current? What is the latest revision date?_____
[ ] [ ] [ ] Is a copy of the NOI (with brief description) onsite? Where?_____
[ ] [ ] [ ] Have all contractors involved with stormwater related activities signed a contractor's certification?

2. Resource Protection

Yes No NA

[ ] [ ] [ ] Are construction limits clearly flagged or fenced?
[ ] [ ] [ ] Important trees and associated rooting zones, on-site septic system absorption fields, existing vegetated areas suitable for filter strips, especially in perimeter areas, have been flagged for protection.
[ ] [ ] [ ] Creek crossings installed prior to land-disturbing activity, including clearing and blasting.

3. Surface Water Protection

Yes No NA

[ ] [ ] [ ] Clean stormwater runoff has been diverted from areas to be disturbed.
[ ] [ ] [ ] Bodies of water located either on site or in the vicinity of the site have been identified and protected.
[ ] [ ] [ ] Appropriate practices to protect on-site or downstream surface water are installed.
[ ] [ ] [ ] Are clearing and grading operations divided into areas <5 acres?

4. Stabilized Construction Access

Yes No NA

[ ] [ ] [ ] A temporary construction entrance to capture mud and debris from construction vehicles before they enter the public highway has been installed.
[ ] [ ] [ ] Other access areas (entrances, construction routes, equipment parking areas) are stabilized immediately as work takes place with gravel or other cover.
[ ] [ ] [ ] Sediment tracked onto public streets is removed or cleaned on a regular basis.

5. Sediment Controls

Yes No NA

[ ] [ ] [ ] Silt fence material and installation comply with the standard drawing and specifications.
[ ] [ ] [ ] Silt fences are installed at appropriate spacing intervals
[ ] [ ] [ ] Sediment/detention basin was installed as first land disturbing activity.
[ ] [ ] [ ] Sediment traps and barriers are installed.

6. Pollution Prevention for Waste and Hazardous Materials

Yes No NA

[ ] [ ] [ ] The Operator or designated representative has been assigned to implement the spill prevention avoidance and response plan.
[ ] [ ] [ ] The plan is contained in the SWPPP on page _____
[ ] [ ] [ ] Appropriate materials to control spills are onsite. Where? _____

SWPPP Contractor (Sub-contractor) Certification Statement

In accordance with **SPDES GENERAL PERMIT FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES**, Permit Number GP-0-20-001, Part III.A.6,

I hereby certify under penalty of law that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the qualified inspector during a site inspection. I also understand that the owner or operator must comply with the terms and conditions of the most current version of the New York State Pollutant Discharge Elimination System ("SPDES") general permit for stormwater discharges from construction activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards. Furthermore, I am aware that there are significant penalties for submitting false information, that I do not believe to be true, including the possibility of fine and imprisonment for knowing violations.

Project Title: Binghamton University - Upgrade Electrical Distribution

Elements of the SWPPP for which the undersigned is responsible:

_____

_____

_____

Name of Contracting Company: _____

Address: _____

Phone:_____

_____

Authorized Representative of Contracting Company (print):

Title: _____

_____

Signature: Date:

Name of Trained Contractor*:_____ ID #:_____

_____

Signature: Date:

Name of Trained Contractor*:_____ ID #:_____

_____

Signature: Date:

* as defined in GP-0-20-001

APPENDIX F
Qualified Inspector Inspection Reports

Construction Duration Inspection Form

Stormwater Pollution Prevention Plan

Inspection Report

Binghamton University Upgrade Electrical Distribution
440 Vestal Pkwy E
Binghamton, NY

A Qualified Inspector[1] shall prepare an inspection report subsequent to each and every inspection, as required in Part IV.C of the SPDES General Permit GP-0-25-001. All sections of this report are to be completed.

1. Inspection Information

Inspection number: _____

Date and Time of Inspection: _____

Weather Conditions: _____

Soil Conditions (e.g. dry, wet, saturated): _____

2. Inspector Information

Qualified Inspector[1]

Printed Name:_____Date: _____

Signature:

Qualified Professional[1]

Printed Name _____ Date: _____

Signature:

On the included site plan, provide a sketch of areas that are disturbed at the time of the inspection and areas that have been stabilized (temporary and/or final) since the last inspection. Provide additional descriptions below if necessary.

_____

_____

_____

[1] *A Qualified Inspector means a person that is knowledgeable in the principles and practices of erosion and sediment control, such as licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, or other Department endorsed individual(s). It can also mean someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided that person has training in the principles and practices of erosion and sediment control. Training in the principles and practices of erosion and sediment control means that the individual working under the direct supervision of the licensed Professional Engineer or Registered Landscape Architect has received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity. After receiving the initial training, the individual working under the direct supervision of the licensed Professional Engineer or Registered Landscape Architect shall receive four (4) hours of training every three (3) years. It can also mean a person that meets the Qualified Professional qualifications in addition to the Qualified Inspector qualifications. Note: Inspections of any post-construction stormwater management practices that include structural components, such as a dam for an impoundment, shall be performed by a licensed Professional Engineer.*

3. In the following table, provide a description of the condition of the runoff at all points of discharge from the construction site, including conveyance systems (pipes, culverts, ditches, etc.) and overland flow. Provide a description of the condition of all natural surface waterbodies located within the property boundaries of the construction site which receive runoff from disturbed areas. Identify any discharges of sediment from the construction site. Use additional sheets if necessary.

Description of Discharge Point/Adjacent Natural Surface Waterbodies	Condition of Runoff	Sediment Discharge Noted
		Yes / No
		Yes / No
		Yes / No
		Yes / No

4. For all discharge points where sediment discharge has been noted in the above table, provide detailed corrective actions that are required. Use additional sheets if necessary.

5. In the following table, provide checkmarks in the appropriate columns to indicate the condition of all erosion and sediment control practices at the site.

Erosion & Sediment Control Practice	Not Applicable	Functioning as Designed	Needs Repair or Maintenance	Not Installed Properly	Date Deficiency First Reported (If Applicable)	Deficiency Corrected? Y/N (If Applicable) NOTES:
Temporary Erosion & Sediment Control Practices						
Construction access						
Inlet protection measures						
Soil stockpiles						
Dust control measures						
Pavement sweeping						
Temporary stabilization						
Temporary parking areas						
Concrete washout						
Dewatering operations						
Other:						
Permanent Erosion & Sediment Control Practices						
Permanent stabilization						
Other:						

6. For all erosion and sediment control practices identified in the above table as "needs repair or maintenance" or "not installed properly", provide detailed corrective actions that are required. Use additional sheets if necessary.

---

7. In the following table, indicate the current phase of construction of all post-construction stormwater management practices and identify all construction that is not in conformance with the SWPPP and technical standards.

SWM Practice	Current Phase of Construction	Items not in conformance with the SWPPP
Stormwater Trench	Has not commenced	N/A
Detention Pipe	Has not commenced	N/A

8. For all post-construction stormwater management practices which are identified in the above table as including "items not in conformance with the SWPPP", provide detailed corrective action(s) that are required to correct the deficiencies. Use additional sheets if necessary.