Addendum No. 3

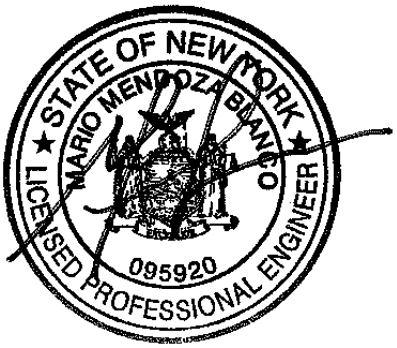
PROJECT NO. 161026-00

PROJECT TITLE: Renovate Plant Science Building - Phase 2

DATE: **November 4, 2026**

State University Construction Fund
State University Plaza
353 Broadway
Albany, New York 12246

New York State College of Agriculture and Life Sciences at Cornell University





Addendum No. 3

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REGISTRATION EXPIRES: 08/31/2028

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Reg. Exp: 04/30/2029
Cert. of Auth: 099088

ADDENDUM NO. 3

The following additions, deletions, and/or changes or clarifications to the drawings, specifications, and bidding documents for this project, shall become and are hereby made part of the Contract Documents. They change the original documents only in the manner and to the extent stated. Each bidder shall acknowledge receipt of this Addendum in the appropriate location on the bid proposal form.

This addendum contains one hundred nineteen (154) pages, which consists of five (5) cover pages, eight (8) addendum description pages, five project manual sections consisting of seventy-one (71) pages, and seventy (70) revised drawings.

2.1: MODIFICATIONS TO PROJECT MANUAL

2.1a: 075216 – SBS Modified Bituminous Membrane Roofing – ADD to 2.2.C: Acceptable modified bitumen roof systems shall conform to either ASTM D6162 Type II, ASTM D6163 Type II or Type or ASTM D6164 Type I.

2.1b: 224213.13 – Commercial Water Closets – REVISED basis of design product selection. REPLACE the text in its entirety with the attached revised section.

2.1c: 224223 – Commercial Showers – REVISED to incorporate a shower base for the washdown station in G04 and update abbreviation for shower base. REPLACE the text in its entirety with the attached revised section.

2.1d: 226313 – Gas Piping for Laboratory and Healthcare Facilities – REVISED to clarify requirements for argon, helium, and specialty gas piping. REPLACE the text in its entirety with the attached revised section.

2.1e: 274116 – Deleted some wireless requirements; clarified Bio-Diversity Hub, Digital Signage, and Collaboration requirements. REPLACE the text in its entirety with the attached revised section.

2.1f: 274116A – Integrated Audiovisual Systems Appendix A – ADDED new appendix to the specification section to provide an Audiovisual System Equipment Summary for OFOI AV equipment.

2.2 MODIFICATIONS TO DRAWINGS

2.2a: A1.5 – REVISED 3 detail tags on Roof Area 007 from 2/A6.3 to 1/A6.3.

2.2b: A3.1 – DELETED 2 secondary roof drain discharges from view 2, along with corresponding note and dimensions.

2.2ca: A3.2 – ADDED a secondary roof drain discharge to View 1 and View 2 with notes stating: "SECONDARY ROOF DRAIN DISCHARGE CENTERED VERT. WITHIN STONE PANEL - SEE PLUMBING DWG P2.0."

2.2cb: A3.3 – REVISED Building Facade & Elevation Key Notes schedule Note F12 to "NOT USED" and DELETED a reference to note F12 from View 2 - North Wing South Elevation.

2.2d: **A3.4** – ADDED note pointing to Louver L2 stating: "COORDINATE OVERFLOW SCUPPER LOCATION WITH LOUVER OPENING." REVISED appearance of L2 to include solid insulated panel segment. REVISED Building Facade & Elevation Key Notes schedule Note F12 to "NOT USED" and DELETED a reference to note F12 from View 1 - North Wing West Elevation and from View 2 - North Wing East Elevation.

2.2e: A9.8A – REVISED L2 to represent an insulated metal panel (IMP) with an opening for an overflow drain outlet, located below L1. ADDED a note stating COORDINATE LOCATION OF OVERFLOW SCUPPER DRAIN. VERIFY SIZE. CUT OPENING IN INSULATED METAL PANEL. REVISED Window Type A15 to reflect the correct overall dimensions of 3'-6" x 5'-1".

2.2f: P000 – REVISED Piping Material and Insulation Schedule to include below grade stormwater piping.

2.2g: P1.U – DELETED text indicating TEACHING LAB SHOWN IS TO REMAIN OPERATIONAL DURING CONSTRUCTION.
2.2h: P1.2 – ADDED SC-1 tag to safety center symbol located in room 219.
2.2i: P2.0 – ADDED CP-1 tag to condensation pump symbol in room G09. ADDED SB-1 and SB-2 tags to shower bases. REVISED locations of storm drain outlets at the east wing of the E.
2.2j: P2.1 – ADDED secondary stormwater outlet and piping serving north wing.
2.2k: P2.2 – ADDED secondary stormwater drain piping serving north wing. ADDED soil trap at sink in room 230.
2.2l: P2.3 – ADDED secondary stormwater drain piping serving north wing. REVISED condensate piping in room 302 suite and room 324. ADDED soil traps at sinks in room 302 and 319E.
2.2m: P2.4 – REVISED condensate piping in north wing and room 416. REVISED combination roof drain tags to RD-2. REVISED location of a roof drain to clear structural grid line N.
2.2n: P2.5 – REVISED combination roof drain tags to RD-2.
2.2o: P6.1 – REVISED Plumbing Equipment Coordination Schedule to update water closet basis of design and add combination roof drain. ADDED sink soil trap to Solids Separator Schedule. ADDED shower pans to Plumbing Fixture Schedule – Phase 2.
2.2p: F0.1 – ADDED note 27: CONTRACTOR SHALL COORDINATE WITH THE CORNELL UNIVERSITY FIRE MARSHAL'S OFFICE TO SCHEDULE ALL SPRINKLER SYSTEM HYDROSTATIC AND FLOW TESTING. A REPRESENTATIVE FROM THE CORNELL UNIVERSITY FIRE MARSHAL'S OFFICE SHALL BE PRESENT TO WITNESS ALL SUCH TESTS. CONTRACTOR SHALL PROVIDE ADVANCE NOTIFICATION AND OBTAIN CONFIRMATION OF ATTENDANCE PRIOR TO CONDUCTING ANY TESTING. Also, ADDED hexagon symbol indicating Hydraulic Node to Symbols legend.
2.2q: F0.2 – REVISED Total (GPM) in Standpipe Type schedule to 1,500 GPM. In Fire Protection Material Schedule, REVISED “SHED” to “SCHEDULE”.
2.2r: FD.U1A, FD.U1B, FD1.0A, FD1.0B, FD1.1A, FD1.1B, FD1.2A, FD1.2B, FD1.3A, FD1.3B, FD1.4A, FD1.4B – ADJUSTED General Notes 2 and 3 to eliminate overlapping text. 2. DEPICTION OF EXISTING CONDITIONS BASED ON OWNER-FURNISHED DOCUMENTS AND LIMITED FIELD OBSERVATIONS. EXISTING ELEMENTS AND CONDITIONS CONCEALED BY IN-PLACE EQUIPMENT AND FINISHES WERE NOT OBSERVED OR INVESTIGATED. ONCE CUTTING AND SELECTIVE DEMOLITION WORK IS COMPLETE, REPORT ANY CONFLICTS TO DESIGNER. THE CONTRACTOR SHALL MAKE ADJUSTMENTS AND/OR ALTERATIONS AS NECESSARY TO INSTALL COMPLETE AND OPERABLE SYSTEMS IN ACCORDANCE WITH THE CODES HAVING JURISDICTION AT NO ADDITIONAL COST TO THE OWNER. FIELD VERIFY ALL EXISTING CONDITIONS. 3. ALL OPENINGS AND SURFACES MADE BARE BY DEMOLITION AND/OR REMOVAL OF MATERIALS SHALL BE REPAIRED AND/OR PATCHED TO MATCH ADJACENT FINISH AND CONSTRUCTION. PREPARE SURFACES TO RECEIVE NEW FINISHES.
2.2s: FD.U1A, FD.U1B – REVISED location of piping to be demolished with tunnel, and revised location of riser to be demolished from between gridlines 17 and 18 to between gridlines 13 and 14.
2.2t: FD1.0B – REVISED disconnect note on FCVA in room G00UF to clarify that it is a 4” FP pipe that is to be disconnected, and to show underslab piping south of gridline V.
2.2u: FD1.1B – ADDED note EXISTING 4” SPRINKLER RISER DN TO BE REMOVED.
2.2v: F1.U – DELETED note EXISTING 4”DRY ALARM CHECK VALVE SERVING LOADING DOCK. REVISED note from 6”FP TO SPRINKLER/STANDPIPE to 6”FP TO SPRINKLER/STANDPIPE. NEW 6” SUPERVISED BUTTERFLY VALVE, MAIN DRAIN, AND FLOW SWITCH. REPLACED 4” existing piping with 6” new piping. ADDED note indicating EXISTING 6” FIRE HEADER. REVISED note from EXISTING

4”FP TO LOADING DOCK to 6”FP TO FLOOR ABOVE. DELETED note EXIST. 6” CHECK VALVE. ADDED second valve at end of east wing.

2.2w: F1.0 – DELETED notes 4” FP DN. SEE F1.U FOR CONNECTION OF EXISTING 4” FP MAIN SERVING THE LOADING DOCK TO EXISTING HEADER. and EXISTING 4”SP SERVING LOADING DOCK. ADDED note 6” FP DN. SEE F1.U FOR CONTINUATION. RELOCATED note regarding existing 1-1/2” sprinkler drain connection to 2-1/2” drain in mechanical room. REVISED label on pipe from 4” to 6”. DELETED 4” pipe serving loading dock that is being demolished, and associated text note EXISTING 4”SP SERVING LOADING DOCK. ADDED connection note RECONNECT EXISTING 4”FP SERVICING LOADING DOCK TO NEW 6” FP

2.2x: F2.1 – REVISED location of existing check valve to the tunnel. RELOCATED representation of courtyard post indicator valve. REVISED representation of tunnel and loading dock regions as shown.

2.2y: MD2.UA – REVISED (E)1” LPC pipe routing within Greenhouse Service B01 and Mechanical B00UG. DELETED demolition note 3 from (E)1” LPC tag and ADDED demolition note 5 from (E)1” LPC tag. REVISED (E)2 1/2” LPC pipe routing. ADDED (E)2 1/2" tag with demolition note 5. ADDED (E)2 1/2" LPC UP tag with demolition note 3. REVISED (E)4” HPS(GREENHOUSE) piping configuration. REVISED (E)10” LPS, and 8” LPS piping configuration. ADDED Mechanical B00UG room tag. ADDED utility tunnel 03 room tag. DELETED Demolition note 3 from (E)2 1/2" PC UP & (E)8" HPS (DISTRICT) UP tags.

2.2z: MD2.0 – REVISED Existing piping configuration for (E)2 ½” CHWS/R and (E)1 ½” GHWS/R within corridor G00CJ and G0042 to reflect existing conditions. REVISED point of disconnect for (E)1 1/4” HWS/R to Lecture Hall. REVISED existing piping configuration to reflect existing conditions and include existing differential pressure sensor. ADDED Demolition Note 20. REVISED existing riser location for (E)2” RHWS/R, (E)4” GHWS/R and (E)3” CHWS/R from Corridor-East G0043 to Existing Research Lab G05. ADDED (E)2 1/2” piping riser and (E)2 1/2" LPC CAPPED DN tag between grid lines 13 and 14.

2.2aa: MD2.1 – ADDED demolition of (E)1” CHWS/R risers down to the ground floor in Lab 1228. REVISED location and piping configuration of (E)2” RHWS/R, (E)4” GHWS/R and (E)3” CHWS/R risers down to ground floor from Corridor 10041 to within Lab 1228. Added “(E)4" GHWS/R DN” tag. ADDED “(E)" CHWS/R DN” tag. Added “(E)2" RHWS/R DN” tag. REVISED “(E)2" HWS/R” tag to “(E)2" RHWS/R”.

2.2ab: M1.0 – REVISED supply duct riser tag at Column line 17/S.2 from 26x10 SA UP to 22x16 SA UP. ADDED General Note F, “Provide 3" stainless steel shoe tap and volume damper or blast gate at each vacuum cabinet exhaust vent connection to the ductwork main. The ductwork from the vacuum pump cabinet to the mains shall be stainless steel.”

2.2ac: M1.1 – ADDED 1 6x6 Type A return grille and volume damper with associated ductwork to each room including 123 Admin Prof. 4, 125 Admin Prof. 1, and Faculty Office 127.

2.2ad: M1.2 – ADDED General Note F, “Provide 3" stainless steel shoe tap and volume damper or blast gate at each vacuum cabinet exhaust vent connection to the ductwork main. The ductwork from the vacuum pump cabinet to the mains shall be stainless steel.”

2.2ae: M1.4 – REVISED vertical exposed FCU-4-33 and FCU-4-34 in Corridor 40040 to horizontal concealed units with ducted supply and return for both units. Revised location of RVAV-4-4 and associated ductwork to accommodate FCU-4-34. Added 1 10x10 Type A return grille with a volume damper and associated ductwork to COMPUTATIONAL LAB 416.

2.2af: M2.0 – DELETED existing PRV in tunnel from view within Corridor G0051. REVISED RHWS/R piping sizes from 2” to 1 1/2” in Corridor G0042. ADDED pipe tag to 3/4" RHWS/R to SVAV-G-11. ADDED existing piping tag for exterior 3” vent piping. ADDED existing piping and equipment tags for existing greenhouse unit heater and associated piping. REVISED existing piping configuration for (E)2 ½” CHWS/R and (E)1 ½” GHWS/R within corridor G00CJ and G0042 to reflect existing conditions. REVISED location of 3/4” RHWS/R penetrations from Corridor G0040 to Corridor G0041. REVISED 1 1/2” HWS/R

connection to Lecture Hall (E)1 1/4" HWS/R. REVISED existing piping configuration to reflect existing conditions and include existing differential pressure sensor. REVISED CHWS/R Branch piping for G40 and G38. REVISED RHWS/R piping for SVAV-G-9 from 3/4" to 1" in Microscopy G17.

2.2ag: M2.2 – REVISED 3/4" RHWS/R piping configuration for SAV-2-14 in Flex Lab support 228.

2.2ah: M4.2, M4.3, M4.4 – ADDED General Note J, "Provide 3" stainless steel shoe tap and volume damper or blast gate at each vacuum cabinet exhaust vent connection to the ductwork main. The ductwork from the vacuum pump cabinet to the mains shall be stainless steel."

2.2ai: M6.1 – ADDED airflows at all locations. Add (E)EF-1-1 and all associated ductwork and accessories. Added tunnel level to plan and update to reflect properly. REVISED location of Duct static pressure sensors

2.2aj: M6.2 – ADDED airflows at all locations. ADDED symbols list. ADDED duct static pressure sensor to 32x12 EA ductwork.

2.2ak: M6.3 – ADDED airflows at all locations. ADDED tunnel level to plan and REVISED to reflect properly.

2.2al: M7.1 – REVISED detail note D on detail 1 from "DRAIN PIPING BY PLUMBING CONTRACTOR." to "DRAIN PIPING BY DIVISION 22. REFER TO P-SERIES DRAWINGS FOR LOCATIONS WITH CONDENSATE PUMPS.". REVISED detail note D on detail 2 from "DRAIN PIPING BY DIVISION 22." to "DRAIN PIPING BY DIVISION 22. REFER TO P-SERIES DRAWINGS FOR LOCATIONS WITH CONDENSATE PUMPS.". REVISED details 3, 4, 5, 6, and 10.

2.2am: M7.2 – REVISED detail notes A, B, C, and D on detail 1. REVISED detail notes A, B, and C on detail 2. REVISED detail notes for detail 3. ADDED detail note D on detail 3. REVISED detail 4. REVISED detail notes for detail 5.

2.2an: M7.3 – REVISED RETURN/EXHAUST GRILLE PLENUM DETAIL – DUCTED detail number from 10 to 2. Added EXPOSED DUCT MOUNTED EXHAUST GRILLE PLENUM DETAIL.

2.2ao: M8.2 – REVISED FCU-4-33 and FCU-4-34 performance criteria in Fan Coil schedule.

2.2ap: E0.1 – REVISED schedule entries. Replace sheet in its entirety with the attached version.

2.2aq: E0.3 – REVISED to include additional light post, in alignment with C2.1. Replace sheet in its entirety with the attached version.

2.2ar: Select Electrical Drawings (E1.0, E1.1, E1.2, E1.3, E1.4, E4.1, E4.3, E6.3, E6.7): The 120V power connections to the following devices are deleted from the Division 26 scope of work: supply VAV units (SVAV), exhaust VAV units (EVAV), return VAV units (RVAV), PVAV, SAV, EAV, PAV and FAV devices. Each deletion location includes the following:

a. The equipment connection symbol and equipment tag at each device.
b. Branch circuit conductors, equipment grounding conductor, conduit, boxes, fittings and supports serving the device, including any homerun.
c. The device disconnect / manual motor starter (Type "M") and its final connection to the device.
d. The circuit designation and circuit breaker assigned to the device.

Where a breaker serves only deleted devices, provide it as a SPARE in the scheduled panelboard.
Where a branch circuit serving a deleted device also serves equipment that remains (e.g., HC-, CP- or FCU- units), maintain and complete the circuit to the remaining equipment.
Where a device is shown on a plan but not on a schedule, or on a schedule but not on a plan, the deletion applies to the drawing(s) on which it is shown, as identified in each Item.
PVAV-tagged and PAV-tagged devices are separate devices; each is listed under its own tag.
The contractor is to confirm all quantities.

2.2as: E1.0 – ADDED power to condensers serving controlled environment rooms G28 and G30. DELETE the 120V power connection, as defined in **2.2au** above, to each of the following devices shown:

Device Type	Equipment Numbers – Delete 120V Power Connection	Qty
Supply VAV (SVAV)	SVAV-G-7, SVAV-G-8, SVAV-G-9, SVAV-G-10, SVAV-G-11, SVAV-G-12, SVAV-G-13, SVAV-G-14, SVAV-G-16, SVAV-G-17, SVAV-G-18, SVAV-G-19, SVAV-G-20, SVAV-G-21, SVAV-G-22 (two locations), SVAV-G-23, SVAV-G-25, SVAV-G-26, SVAV-G-27, SVAV-G-28, SVAV-G-29	22
Exhaust VAV (EVAV)	EVAV-G-7, EVAV-G-8, EVAV-G-9, EVAV-G-10, EVAV-G-12, EVAV-G-13, EVAV-G-14, EVAV-G-15, EVAV-G-16, EVAV-G-17, EVAV-G-18, EVAV-G-19, EVAV-G-20, EVAV-G-21, EVAV-G-22, EVAV-G-23, EVAV-G-24, EVAV-G-25, EVAV-G-26, EVAV-G-27	20
Return VAV (RVAV)	RVAV-G-7	1
PVAV	PVAV-G-2	1
Supply Air Valve (SAV)	SAV-G-20, SAV-G-21, SAV-G-24, SAV-G-39	4
Exhaust Air Valve (EAV)	EAV-G-20, EAV-G-28	2
PAV	PAV-G-1 (two locations), PAV-G-3	3
Total this drawing		**53**

Replace sheet in its entirety with the attached version.

2.2at: E1.1 – DELETED the 120V power connection, as defined above, to each of the following devices shown:

Device Type	Equipment Numbers – Delete 120V Power Connection	Qty
Supply VAV (SVAV)	SVAV-1-8, SVAV-1-9, SVAV-1-10, SVAV-1-11, SVAV-1-12, SVAV-1-13, SVAV-1-14, SVAV-1-15, SVAV-1-16, SVAV-1-19, SVAV-1-20, SVAV-1-21	12
Exhaust VAV (EVAV)	EVAV-1-7, EVAV-1-8, EVAV-1-9, EVAV-1-10, EVAV-1-11, EVAV-1-12, EVAV-1-13	7
Return VAV (RVAV)	RVAV-1-1, RVAV-1-2, RVAV-1-3, RVAV-1-4	4
Return VAV (RVAV)	RVAV-1-15	1
PVAV	PVAV-1-2	1
Supply Air Valve (SAV)	SAV-1-14, SAV-1-17	2
Exhaust Air Valve (EAV)	EAV-1-14	1
PAV	PAV-1-1	1
Total this drawing		**29**

Replace sheet in its entirety with the attached version.

2.2au: E1.2 – DELETED the 120V power connection, as defined above, to each of the following devices shown:

Device Type	Equipment Numbers – Delete 120V Power Connection	Qty
Supply VAV (SVAV)	SVAV-2-6, SVAV-2-7, SVAV-2-8, SVAV-2-9, SVAV-2-10, SVAV-2-11 (two locations), SVAV-2-12, SVAV-2-13, SVAV-2-20, SVAV-2-21, SVAV-2-22, SVAV-2-23	13
Exhaust VAV (EVAV)	EVAV-2-5, EVAV-2-6, EVAV-2-12, EVAV-2-13, EVAV-2-14, EVAV-2-15, EVAV-2-16, EVAV-2-17	8
Return VAV (RVAV)	RVAV-2-2, RVAV-2-4 (two locations), RVAV-2-5	4
Supply Air Valve (SAV)	SAV-2-13, SAV-2-15, SAV-2-16, SAV-2-17, SAV-2-18, SAV-2-19	6
Exhaust Air Valve (EAV)	EAV-2-7, EAV-2-12, EAV-2-16, EAV-2-17, EAV-2-18, EAV-2-19	6
PAV	PAV-2-2	1
Total this drawing		**38**

Replace sheet in its entirety with the attached version.

2.2av: E1.3 – DELETED the 120V power connection, as defined above, to each of the following devices shown:

Device Type	Equipment Numbers – Delete 120V Power Connection	Qty
Supply VAV (SVAV)	SVAV-3-7, SVAV-3-9, SVAV-3-10, SVAV-3-11, SVAV-3-12, SVAV-3-13, SVAV-3-14, SVAV-3-15, SVAV-3-16, SVAV-3-17, SVAV-3-23, SVAV-3-24, SVAV-3-26	13
Exhaust VAV (EVAV)	EVAV-3-7, EVAV-3-11, EVAV-3-15, EVAV-3-17	4
Return VAV (RVAV)	RVAV-3-2 (two locations), RVAV-3-4, RVAV-3-5, RVAV-3-6	5
PVAV	PVAV-3-1	1
Supply Air Valve (SAV)	SAV-3-8, SAV-3-9, SAV-3-11, SAV-3-18, SAV-3-19, SAV-3-20, SAV-3-21, SAV-3-25	8
Exhaust Air Valve (EAV)	EAV-3-8, EAV-3-9, EAV-3-10 (two locations), EAV-3-12, EAV-3-13, EAV-3-14, EAV-3-16, EAV-3-19, EAV-3-21	10
Total this drawing		**41**

Replace sheet in its entirety with the attached version.

2.2aw: E1.4 – DELETED the 120V power connection, as defined above, to each of the following devices shown:

Device Type	Equipment Numbers – Delete 120V Power Connection	Qty
Supply VAV (SVAV)	SVAV-3-30 (as tagged on this drawing, adjacent to Collab 404), SVAV-4-8, SVAV-4-9, SVAV-4-10, SVAV-4-11, SVAV-4-12, SVAV-4-13, SVAV-4-14, SVAV-4-15, SVAV-4-17, SVAV-4-18, SVAV-4-20	12
Exhaust VAV (EVAV)	EVAV-4-6, EVAV-4-10	2
Return VAV (RVAV)	RVAV-4-1, RVAV-4-2, RVAV-4-4, RVAV-4-5	4
Supply Air Valve (SAV)	SAV-4-1	1
Exhaust Air Valve (EAV)	EAV-4-1, EAV-4-8, EAV-4-9	3
PAV	PAV-4-1	1
FAV	FAV-4-1	1
Total this drawing		**24**

Replace sheet in its entirety with the attached version.

2.2ax: E1.5 – REVISED key note 2. Replace sheet in its entirety with the attached version. Replace sheet in its entirety with the attached version.

2.2ay: E4.1 – REVISED enlarged plan 10. ADDED keynotes 6 and 7. DELETED the 120V power connection, as defined above, to each of the following devices shown:

Device Type	Equipment Numbers – Delete 120V Power Connection	Qty
Exhaust VAV (EVAV)	EVAV-4-6, EVAV-G-17	2
Total this drawing		**2**

Replace sheet in its entirety with the attached version.

2.2az: E4.3 – DELETED the 120V power connection, as defined above, to each of the following devices shown:

Device Type	Equipment Numbers – Delete 120V Power Connection	Qty
PVAV	PVAV-3-1	1
Total this drawing		**1**

Replace sheet in its entirety with the attached version.

2.2ba: E5.1 – REVISED label for panel HMP-OS-52; ADDED EF-10 feed to single line. REVISED typo on LEPL-OS-21. Replace sheet in its entirety with the attached version.

2.2bb: E6.1 – REVISED panel schedule LEP-OS-32. Replace sheet in its entirety with the attached version.

2.2bc: E6.2 – REVISED panel schedule LEP-OS-12, LEP-0S-22, LEP-02-42. Replace sheet in its entirety with the attached version.

2.2bd: E6.3 – REVISED panelboards LNP-DP, LNPL-01-2, and LNPL-31-2 as shown. REVISED panelboards LNP-22 AND LNP-32 as shown below, changing the affected circuit description to “SPARE,” with the 20A/1P circuit breaker remaining to be provided as a spare. Each circuit is scheduled at 0 VA; panel load totals are unchanged. Replace sheet in its entirety with the attached version.

Panel	Circuit	Delete Description	Revise To
LNP-22	18	EVAV-2-8	SPARE (20A/1P)
LNP-32	23	EVAV-3-12	SPARE (20A/1P)
LNP-32	37	RVAV-3-2	SPARE (20A/1P)

2.2be: E6.4 – REVISED all panel schedules. Replace sheet in its entirety with the attached version.
2.2bf: E6.5 – REVISED reference to M-series drawings. DELETED Lighting Control Strategy schedule. Replace sheet in its entirety with the attached version.
2.2bg: E6.6 – ADDED Utility Light Fixture Schedule. Replace sheet in its entirety with the attached version.
2.2bh: E6.7 – DELETED the following rows from the schedule in their entirety, and replace sheet in its entirety with the attached version.

Row to Delete (as scheduled)
SVAV-#-#
EVAV-#-#
RVAV-G-1
RVAV-1-1 THRU 5
RVAV-2-1 THRU 5
RVAV-3-1 THRU 6
RAV-4-1 THRU 6
PVAV-G-1 & 2
PVAV-1-1 & 2
PVAV-2-1
PVAV-3-1

2.2bi: E6.12 – ADDED panel schedules. Replace sheet in its entirety with the attached version.
2.2bj: E6.13 – ADDED NEW SHEET with panel schedules.
2.2bk: TY0.0 – REVISED Responsibility Matrix.
2.2bl: TA0.1 – REVISED Responsibility Legend.
2.2bm: TA6.0 – REVISED Audiovisual Systems Line Diagram.
2.2bn: TA6.1 – REVISED Audiovisual Systems Line Diagram.
2.2bo: TA6.2 – REVISED Audiovisual Systems Line Diagram.
2.2bp: TA6.3 – REVISED Audiovisual Systems Line Diagram.
2.2bq: TA6.4 – REVISED Audiovisual Systems Line Diagram.

ATTACHMENTS:

- Project Specifications: 224213.13 (five pages), 224223 (five pages), 226313 (fifteen pages), 274116 (32 pages), 274116A (nine pages)
- Project Drawings: A1.5, A3.1, A3.2, A3.4, A9.8A, P000, P1.U, P1.2, P2.0, P2.1, P2.2, P2.3, P2.4, P2.5, P6.1, F0.1, F0.2, FD.U1A, FD.U1B, FD1.0B, FD1.1B, F1.U, F1.0, F2.1, MD2.UA, MD2.0, MD2.1, M1.0, M1.1, M1.2, M1.4, M2.0, M2.2, M4.2, M4.3, M4.4, M6.1, M6.2, M6.3, M7.1, M7.2, M7.3, M8.2, E0.1, E0.3, E1.0, E1.1, E1.2, E1.3, E1.4, E1.5, E4.1, E4.3, E5.1, E6.1, E6.2, E6.3, E6.4, E6.4, E6.5, E6.6, E6.7, E6.12, E6.13, TY0.0, TA0.1, TA6.0, TA6.1, TA6.2, TA6.3, TA6.4

END OF ADDENDUM NO. 3

SECTION 224213.13 - COMMERCIAL WATER CLOSETS

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. Wall-mounted water closets.
2. Flushometer valves.
3. Toilet seats.
4. Supports.

B. Related Work:

1. Section 017419 – Construction and Demolition Waste Management Disposal.
2. Section 018113 – Sustainable Design Requirements.
3. Section 018119 – Construction Indoor Air Quality Requirements.

1.3 SUSTAINABLE DESIGN REQUIREMENTS

A. Sustainable Design Requirements: The Owner requires the Contractor to implement practices and procedures to meet the Project's environmental performance goals, which include achieving LEED v4 Certification. Refer to Section 01 81 13 "Sustainable Design Requirements" for the Project's target certification level and specific LEED requirements. The Contractor shall ensure that the requirements related to the Project's sustainability design goals are implemented to the fullest extent. Substitutions, or other changes to the work proposed by the Contractor or their Subcontractors, will not be allowed if such changes compromise the Project's sustainability goals and LEED certification.

1.4 DEFINITIONS

A. Effective Flush Volume: Average of two reduced flushes and one full flush per fixture.

B. Remote Water Closet: Located more than 30 feet (9.1 m) from other drain line connections or fixture and where less than 1.5 drainage fixture units are upstream of the drain line connection.

1.5 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for water closets.
2. Include rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.

B. Sustainable Design Submittals:

C. Shop Drawings: Include diagrams for power, signal, and control wiring.

D. LEED v4 Submittals:

1. For all interior, wet-applied adhesives, sealants, paints, and coatings related to the work of this Section, submit product and material documentation as outlined in the Submittals article of Section 018113 “Sustainable Design Requirements.”

1.6 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For flushometer valves to include in operation and maintenance manuals.

1.7 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that are packaged with protective covering for storage and identified with labels describing contents.

1. Flushometer-Valve Repair Kits: Equal to 10 percent of amount of each type installed, but no fewer than one of each type.

PART 2 - PRODUCTS

2.1 WALL-MOUNTED WATER CLOSETS

A. Source Limitations for Water Closets: Obtain each type of water closet from single source from single manufacturer. Acceptable manufacturers:
1. American Standard
2. Kohler
3. Sloan

B. Water Closets, Wall Mounted, Top Spud: WC-1 (Basis of Design: American Standard 3351.101)
1. Bowl:

a. Standards: ASME A112.19.2/CSA B45.1 and ASME A112.19.5.
b. Material: Vitreous china.
c. Type: Siphon jet.
d. Style: Flushometer valve.
e. Height: Standard.
f. Rim Contour: Elongated.
g. Water Consumption: 1.1 gal. per flush.
h. Spud Size and Location: NPS 1-1/2 (DN 40); top.

2. Flushometer Valve: FV-1
3. Toilet Seat: TS-1
4. Support: Water closet carrier.
5. Water-Closet Mounting Height: Standard.

2.2 FLUSHOMETER VALVES

A. Hard-Wired, Solenoid-Actuator, Piston Flushometer Valves: FV-1 (Basis of Design: **American Standard Selectronic 606B.111**)

1. Standard: ASSE 1037.
2. Minimum Pressure Rating: 125 psig (860 kPa).
3. Features: Include integral check stop and backflow-prevention device.
4. Material: Brass body with corrosion-resistant components.
5. Exposed Flushometer-Valve Finish: Chrome plated.
6. Panel Finish: Chrome plated or stainless steel.
7. Style: Exposed.
8. Actuator: Solenoid complying with UL 1951, and listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
9. Trip Mechanism: Hard-wired electronic sensor complying with UL 1951, and listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
10. Consumption: 1.1 gal. per flush.
11. Minimum Inlet: NPS 1 (DN 25).
12. Minimum Outlet: NPS 1-1/4 (DN 32).

2.3 TOILET SEATS

A. Toilet Seats: TS-1
1. Standard: IAPMO/ANSI Z124.5.
2. Material: Plastic.
3. Type: Commercial (Standard).
4. Shape: Elongated rim, open front.
5. Hinge: Self-sustaining, check.
6. Hinge Material: Noncorroding metal.
7. Seat Cover: Not required.
8. Color: White or Black.
9. **Basis of Design: ProFlo PFTSCOF2000WH**

2.4 SUPPORTS

A. Water Closet Carrier:
1. Standard: ASME A112.6.1M.
2. Description: Waste-fitting assembly, as required to match drainage piping material and arrangement with faceplates, couplings gaskets, and feet; bolts and hardware matching fixture.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine roughing-in of water supply and sanitary drainage and vent piping systems to verify actual locations of piping connections before water-closet installation.

B. Examine walls and floors for suitable conditions where water closets will be installed.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

A. Water-Closet Installation:

1. Install level and plumb according to roughing-in drawings.
2. Install accessible, wall-mounted water closets at mounting height for handicapped/elderly, according to ICC/ANSI A117.1.

B. Support Installation:

1. Use carrier supports with waste-fitting assembly and seal.
2. Install wall-mounted, back-outlet water-closet supports with waste-fitting assembly and waste-fitting seals; and affix to building substrate.

C. Flushometer-Valve Installation:

1. Install flushometer-valve, water-supply fitting on each supply to each water closet.
2. Attach supply piping to supports or substrate within pipe spaces behind fixtures.
3. Install lever-handle flushometer valves for accessible water closets with handle mounted on open side of water closet.
4. Install actuators in locations that are easy for people with disabilities to reach.

D. Install toilet seats on water closets.

E. Wall Flange and Escutcheon Installation:

1. Install wall flanges or escutcheons at piping wall penetrations in exposed, finished locations and within cabinets and millwork.
2. Install deep-pattern escutcheons if required to conceal protruding fittings.
3. Comply with escutcheon requirements specified in Section 220518 "Escutcheons for Plumbing Piping."

F. Joint Sealing:

1. Seal joints between water closets and walls and floors using sanitary-type, one-part, mildew-resistant silicone sealant.
2. Match sealant color to water-closet color.
3. Comply with sealant requirements specified in Section 079200 "Joint Sealants."

3.3 CONNECTIONS

A. Connect water closets with water supplies and soil, waste, and vent piping. Use size fittings required to match water closets.

B. Comply with water piping requirements specified in Section 221116 "Domestic Water Piping."

C. Comply with soil and waste piping requirements specified in Section 221316 "Sanitary Waste and Vent Piping."

D. Where installing piping adjacent to water closets, allow space for service and maintenance.

3.4 ADJUSTING

A. Operate and adjust water closets and controls. Replace damaged and malfunctioning water closets, fittings, and controls.

B. Adjust water pressure at flushometer valves to produce proper flow.

C. Install fresh batteries in battery-powered, electronic-sensor mechanisms.

3.5 CLEANING AND PROTECTION

A. Clean water closets and fittings with manufacturers' recommended cleaning methods and materials.

B. Install protective covering for installed water closets and fittings.

C. Do not allow use of water closets for temporary facilities unless approved in writing by Owner.

END OF SECTION 224213.13

SECTION 224223 - COMMERCIAL SHOWERS

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. Shower faucets.
   2. Shower basins.

B. Related Requirements:
   1. Section 224500 "Emergency Plumbing Fixtures" for emergency showers.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

   1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for showers.
   2. Include rated capacities, operating characteristics, and furnished specialties and accessories.

B. Sustainable Design Submittals:
   1. Sustainable Design Requirements: The Owner requires the Contractor to implement practices and procedures to meet the Project’s environmental performance goals, which include achieving LEED v4 Certification. Refer to Section 01 81 13 “Sustainable Design Requirements” for the Project’s target certification level and specific LEED requirements. The Contractor shall ensure that the requirements related to the Project’s sustainability design goals are implemented to the fullest ext
   2. ent. Substitutions, or other ch
   3. anges to the work proposed by the Contractor or their Subcontractors, will not be allowed if such changes compromise the Project’s sustainability goals and LEED certification.

1.4 CLOSEOUT SUBMITTALS

A. Maintenance Data: For shower faucets to include in maintenance manuals.

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. Faucet Washers and O-Rings: Equal to **10** percent of amount of each type and size installed.
2. Faucet Cartridges and O-Rings: Equal to **5** percent of amount of each type and size installed.

PART 2 - PRODUCTS

2.1 SHOWER FAUCETS

A. NSF Standard: Comply with NSF 61 Annex G, "Drinking Water System Components - Health Effects," for shower materials that will be in contact with potable water.

B. Shower Faucets SH-1:

1. Acceptable manufacturer:
   a. Moen 8342EP15
   b. Kohler
   c. American Standard
2. Description: ADA Lever Handle, pressure-balance mixing valve with hot- and cold-water indicators; check stops; and shower head.
3. Faucet:

   a. Standards: ASME A112.18.1/CSA B125.1, ICC A117.1, and ASSE 1016.
   b. Body Material: Solid brass.
   c. Finish: Polished chrome plate.
   d. Shower-Arm, Flow-Control Fitting: **1.5 gpm**.
   e. EPA WaterSense: Required.
   f. Mounting: **Concealed**.
   g. Operation: ADA Lever Handle, **push-pull or twist or rotate** control.
   h. Check Stops: Check-valve type, integral with or attached to body; on hot- and cold-water supply connections.

4. Supply Connections: NPS 1/2 (DN 15).
5. Shower Head:

   a. Standard: ASME A112.18.1/CSA B125.1 and ICC A117.1.
   b. Type: **Ball joint and head integral with mounting flange**.
   c. Shower Head Material: Metallic with chrome-plated finish.
   d. Spray Pattern: **Fixed**.
   e. Integral Volume Control: **Not required**.
   f. Shower-Arm, Flow-Control Fitting: **1.5 gpm**.
   g. Temperature Indicator: **Not required**.

2.2 SHOWER BASINS

A. Precast-Terrazzo Shower Basins: **SB-1**

1. Basis-of-Design Product: Subject to compliance with requirements, provide Acorn Engineering; Morris Group International, model SBADA-36-3F or comparable product by one of the following:

a. Florestone Products Co., Inc.
b. Stern-Williams Co., Inc.

2. Source Limitations: Obtain shower basins from single source from single manufacturer.
3. Description: Precast-terrazzo base for built-up-type shower fixture.
4. Standard:

   a. CSA B45.8/IAPMO Z403.
   b. IAPMO PS 99.
   c. 2010 ADA Standards for Accessible Design.

5. Threshold Type: Handicapped/accessible.
6. Shape: Square, ADA for roll-in.
7. Nominal Size:

   a. Square, ADA for Roll-In: 36 by 36 in. (914 by 914 mm).

8. Color: To be selected by architect from full range of manufacturer's standard color selection.
9. Outlet: Removable stainless steel grid strainer, NPS 2 (DN 50), no-caulk drain.
10. Tiling Flange: Integral, stainless steel.

    a. Square or rectangular fixture: **Three sides**.

11. Rabbeted Joint Shoulders: 1 in. (25 mm).
12. Accessories:

    a. Rubber drain gasket reducer for NPS 2 (DN 50) waste pipe.
    b. Vandal resistant strainer.
    c. Double drain.

B. Precast-Terrazzo Shower Basins: SB-2

1. Basis-of-Design Product: Subject to compliance with requirements, provide Acorn Engineering; Morris Group International, model SBR-6036-3F or comparable product by one of the following:

   a. Florestone Products Co., Inc.
   b. Stern-Williams Co., Inc.

2. Source Limitations: Obtain shower basins from single source from single manufacturer.
3. Description: Precast-terrazzo base for built-up-type shower fixture.
4. Standard:

   a. CSA B45.8/IAPMO Z403.
   b. IAPMO PS 99.
   c. 2010 ADA Standards for Accessible Design.

5. Threshold Type: Handicapped/accessible.
6. Shape: Square, ADA for roll-in.
7. Nominal Size:

Rectangular, ADA for Roll-In: 60 by 36 in. (914 by 914 mm).

8. **Color: To be selected by architect from full range of manufacturer's standard color selection.**
9. **Outlet: Removable stainless steel grid strainer, NPS 2 (DN 50), no-caulk drain.**
10. **Tiling Flange: Integral, stainless steel.**

    a. **Square or rectangular fixture: Three sides.**

11. **Rabbeted Joint Shoulders: 1 in. (25 mm).**
12. **Accessories:**

    a. **Rubber drain gasket reducer for NPS 2 (DN 50) waste pipe.**
    b. **Vandal resistant strainer.**
    c. **Double drain.**

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine roughing-in of water-supply and sanitary drainage and vent piping systems to verify actual locations of piping connections before shower installation.

B. Examine walls and floors for suitable conditions where showers will be installed.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Assemble shower components according to manufacturers' written instructions.

B. Install showers level and plumb according to roughing-in drawings.

C. Install water-supply piping with stop on each supply to each shower faucet.

1. Exception: Use ball or gate valves if supply stops are not specified with shower. Comply with valve requirements specified in Section 220523.12 "Ball Valves for Plumbing Piping" and Section 220523.15 "Gate Valves for Plumbing Piping."
2. Install stops in locations where they can be easily reached for operation.

D. Install shower flow-control fittings with specified maximum flow rates in shower arms.

E. Install wall flanges or escutcheons at piping wall penetrations in exposed, finished locations. Use deep-pattern escutcheons if required to conceal protruding fittings. Comply with escutcheons requirements specified in Section 220518 "Escutcheons for Plumbing Piping."

F. Seal joints between showers and floors and walls using sanitary-type, one-part, mildew-resistant silicone sealant. Match sealant color to fixture color. Comply with sealant requirements specified in Section 079200 "Joint Sealants."

3.3 CONNECTIONS

A. Connect fixtures with water supplies, stops, and risers, and with traps, soil, waste, and vent piping. Use size fittings required to match fixtures.

B. Comply with water piping requirements specified in Section 221116 "Domestic Water Piping."

C. Comply with traps and soil and waste piping requirements specified in Section 221316 "Sanitary Waste and Vent Piping."

3.4 ADJUSTING

A. Operate and adjust showers and controls. Replace damaged and malfunctioning showers, fittings, and controls.

B. Adjust water pressure at faucets to produce proper flow.

3.5 CLEANING AND PROTECTION

A. After completing installation of showers, inspect and repair damaged finishes.

B. Clean showers, faucets, and other fittings with manufacturers' recommended cleaning methods and materials.

C. Provide protective covering for installed fixtures and fittings.

D. Do not allow use of showers for temporary facilities unless approved in writing by Owner.

END OF SECTION 224223

SECTION 226313 - GAS PIPING FOR LABORATORY AND HEALTHCARE FACILITIES

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. Nitrogen piping, designated "laboratory nitrogen".
2. Oxygen piping, designated "laboratory oxygen".
3. **Argon piping**
4. **Helium piping**
5. **Specialty gas piping (SG1)**
6. Ball valves.
7. Check valves.
8. Gas safety valves.
9. Gas-service connections.
10. Nitrogen-pressure-control cabinets.
11. Ceiling columns.
12. Gas manifolds.
13. Simplex specialty gas manifolds.
14. Duplex specialty gas manifolds.
15. Bulk gas storage tanks.
16. Gas cylinder storage racks.

B. Owner-Furnished Material:

1. Patient-service consoles.
2. Ceiling columns.
3. Gas manifolds.
4. Bulk medical gas storage tanks.
5. Owner will furnish gases for laboratory gas concentration testing specified in this Section.

C. Related Requirements:

1. Section 115313 "Laboratory Fume Hoods" for gas outlets in laboratory fume hoods.
2. Section 123553.13 "Metal Laboratory Casework" for gas outlets in laboratory fume hoods.
3. Section 123553.16 "Plastic-Laminate-Clad Laboratory Casework" for gas outlets in plastic-laminate-clad laboratory casework.
4. Section 123553.19 "Wood Laboratory Casework" for gas outlets in laboratory casework.
5. Section 226400 "Medical Gas Alarms" for combined medical air, vacuum, and gas alarms.

1.3 DEFINITIONS

A. CR: Chlorosulfonated polyethylene synthetic rubber.

B. Laboratory gas piping systems include carbon dioxide, helium, **argon,** nitrogen, nitrous oxide, and oxygen for laboratories.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: Include diagrams for power, signal, and control wiring.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer and testing agency.

B. Material Certificates: Signed by Installer, certifying that medical gas piping materials comply with requirements in NFPA 99 for positive-pressure medical gas systems.

C. Brazing certificates.

D. Field quality control reports.

E. Source Quality Control Reports:

1. Certificates of Shop Inspection and Data Report for Bulk Gas Storage Tanks: As required by ASME Boiler and Pressure Vessel Code.

1.6 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For specialty gas piping specialties to include in emergency, operation, and maintenance manuals.

1.7 QUALITY ASSURANCE

A. Installer Qualifications:

1. Medical Gas Piping Systems for Healthcare Facilities: In accordance with ASSE Standard #6010 and NFPA 99 for medical-gas-system installers.
2. Bulk Medical Gas Systems for Healthcare Facilities: According to ASSE Standard #6015 and NFPA 99 for bulk-medical-gas-system installers.
3. Shape-Memory-Metal Coupling Joints: An authorized representative who is trained and approved by manufacturer.

B. Testing Agency Qualifications: An independent testing agency, with the experience and capability to conduct the medical gas piping testing indicated, that is an NRTL, and that is acceptable to authorities having jurisdiction.

1. Qualify testing personnel in accordance with ASSE Standard #6020 and NFPA 99 for medical-gas-system inspectors and ASSE Standard #6030 for medical-gas-system verifiers.

C. Brazing: Qualify processes and operators according to ASME Boiler and Pressure Vessel Code, Section IX, "Welding and Brazing Qualifications," or AWS B2.2/B2.2M.

PART 2 - PRODUCTS

2.1 SYSTEM DESCRIPTION

A. Laboratory carbon dioxide operating at 50 to 55 psig (345 to 380 kPa).

B. Laboratory nitrogen operating at 160 to 185 psig (1100 to 1275 kPa).

C. Laboratory nitrous oxide operating at 50 to 55 psig (345 to 380 kPa)

D. Laboratory oxygen operating at 50 to 55 psig (345 to 380 kPa).

E. Laboratory argon operating at 50 to 55 psig (345 to 380 kPa).

F. Laboratory helium operating at 50 to 55 psig (345 to 380 kPa).

G. Laboratory specialty gas (SG1) operating at 160 to 185 psig (1100 to 1275 kPa).

2.2 PERFORMANCE REQUIREMENTS

A. Comply with NFPA 55

B. Comply with NFPA 99.

2.3 PIPES, TUBES, AND FITTINGS

A. For all laboratory gases, all positive-pressure laboratory gas piping, tubing, and fittings shall have been manufacturer cleaned, purged, and sealed for oxygen service, in accordance with CGA G-4.1.

1. Each length of tubing shall be delivered plugged or capped by the manufacturer and kept sealed until prepared for installation.
2. Fittings and other components shall be delivered manufacturer sealed and labeled, and kept sealed until prepared for installation.

B. Copper Laboratory Gas Tube: ASTM B819, Type K and Type L, seamless, drawn temper. Include standard color marking "OXY," "MED," "OXY/MED," "OXY/ACR," or "ACR/MED" in green for Type K tube and blue for Type L tube.

C. Wrought-Copper Fittings: ASME B16.22, solder-joint pressure type.

D. Copper Unions: ASME B16.22 or MSS SP-123, wrought-copper or cast-copper alloy.

E. Cast-Copper-Alloy Flanges: ASME B16.24, Class 150.

1. Pipe-Flange Gasket Materials: ASME B16.21, nonmetallic, flat, asbestos-free, 1/8-inch (3.2-mm) maximum thickness, full-face type.
2. Flange Bolts and Nuts: ASME B18.2.1 carbon steel.

F. Shape-Memory-Metal Couplings:
1. Description: Cryogenic compression fitting made of nickel-titanium, shape-memory alloy.

2.4 JOINING MATERIALS

A. Brazing Filler Metals: AWS A5.8M/A5.8, BCuP Series, copper-phosphorus alloys.

B. Threaded-Joint Tape: PTFE.

2.5 VALVES

A. General Requirements for Valves: Manufacturer cleaned, purged, and bagged in accordance with CGA G-4.1 for oxygen service.

B. Zone-Valve Box Assemblies: Box with medical gas valves, tube extensions, and gauges.

1. Steel Box with Aluminum Cover:
   a. Description: Formed-steel box with cover, anchors for recessed mounting, holes with grommets in box sides for tubing extension protection, and of size for single or multiple valves with pressure gauges and in sizes required to permit manual operation of valves.[Medical air and medical vacuum tubing, valves, and gauges may be incorporated in zone valve boxes for medical gases.]

      1) Interior Finish: Factory-applied white enamel.
      2) Cover Plate: Aluminum with frangible or removable windows.
      3) Valve-Box Windows: Clear or tinted transparent plastic with labeling that includes rooms served, in accordance with NFPA 99.

2. Positive-pressure medical gas valves, for all medical gas types, shall be manufacturer cleaned, purged, and sealed for oxygen service, in accordance with CGA G-4.1.

   a. Valves shall be delivered sealed and labeled and kept sealed until prepared for installation.

3. Steel Box with Stainless Steel Cover:
   a. Description: Formed-steel box with cover, anchors for recessed mounting, holes with grommets in box sides for tubing extension protection, and of size for single or multiple valves with pressure gauges and in sizes required to permit manual operation of valves.

      1) Interior Finish: Factory-applied white enamel.
      2) Cover Plate: Stainless steel with frangible or removable windows.
      3) Valve-Box Windows: Clear or tinted transparent plastic with labeling that includes rooms served, in accordance with NFPA 99.

b. Positive-pressure gas valves, for all medical gas types, shall be manufacturer cleaned, purged, and sealed for oxygen service, in accordance with CGA G-4.1.

1) Valves shall be delivered sealed and labeled and kept sealed until prepared for installation.

C. Ball Valves:
1. Standard: MSS SP-110.
2. Description: Three-piece body, brass or bronze.
3. Pressure Rating: 300 psig (2070 kPa) minimum.
4. Ball: Full-port, chrome-plated brass.
5. Seats: PTFE or TFE.
6. Handle: Lever[type with locking device].
7. Stem: Blowout proof with PTFE or TFE seal.
8. Ends: Manufacturer-installed ASTM B819, copper-tube extensions
9. Positive-pressure gas valves, for all medical gas types, shall be manufacturer cleaned, purged, and sealed for oxygen service, in accordance with CGA G-4.1.

a. Valves shall be delivered sealed and labeled and kept sealed until prepared for installation.

D. Check Valves:
1. Description: In-line pattern, bronze.
2. Pressure Rating: 300 psig (2070 kPa) minimum.
3. Operation: Spring loaded.
4. Ends: Manufacturer-installed ASTM B819, copper-tube extensions.
5. Positive-pressure gas valves, for all gas types, shall be manufacturer cleaned, purged, and sealed for oxygen service, in accordance with CGA G-4.1.

a. Valves shall be delivered sealed and labeled and kept sealed until prepared for installation.

E. Gas Safety Valves:
1. Bronze body.
2. ASME-construction, poppet, pressure-relief type.
3. Settings to match system requirements.
4. Positive-pressure gas valves, for all gas types, shall be manufacturer cleaned, purged, and sealed for oxygen service, in accordance with CGA G-4.1.

a. Valves shall be delivered sealed and labeled and kept sealed until prepared for installation.

2.6 GAS-SERVICE CONNECTIONS

A. General Requirements for Laboratory Gas-Service Connections:

1. All positive-pressure gas-service connections, for all gas types, shall be manufacturer cleaned, purged, and sealed as for oxygen service in accordance with CGA G-4.1.
2. Suitable for specific gas pressure and suction service listed.
3. Include roughing-in assemblies, finishing assemblies, and cover plates.
4. Recessed-type units made for concealed piping unless otherwise indicated.

B. Roughing-in Assembly:

1. Steel outlet box for recessed mounting and concealed piping.
2. Brass-body outlet block with secondary check valve that will prevent gas flow when primary valve is removed.
3. Double seals that will prevent gas leakage.
4. ASTM B819, NPS 3/8 (DN 10) copper outlet tube brazed to valve with service marking and tube-end dust cap.

C. Finishing Assembly:

1. Brass housing with primary check valve.
2. Double seals that will prevent gas leakage.
3. Cover plate with gas-service label.

D. Quick-Coupler Pressure Service Connections: Outlets for [carbon dioxide] [nitrous oxide] [and] [oxygen] with noninterchangeable keyed indexing to prevent interchange between services, constructed to permit one-handed connection and removal of equipment, and with positive-locking ring that retains equipment stem in valve during use.

E. D.I.S.S. Pressure Service Connections: Outlets, complying with CGA V-5, with threaded indexing to prevent interchange between services, constructed to permit one-handed connection and removal of equipment.

F. Cover Plates: One piece, aluminum or stainless steel and permanent, color-coded, identifying label matching corresponding service.

2.7 NITROGEN PRESSURE-CONTROL PANELS

A. Description: Steel box and support brackets for recessed roughing-in, with stainless steel or anodized-aluminum cover plate with printed operating instructions.

B. Manifold: Assembly consisting of inlet supply valve, inlet supply pressure gauge, line-pressure control regulator, outlet supply pressure gauge, D.I.S.S. service connection, and piping outlet for remote service connection.

C. Minimum Working Pressure: 200 psig (1380 kPa).

D. Line-Pressure Control Regulator: Self-relieving diaphragm type with precision manual adjustment.

E. Pressure Gauges: 0 to 300 psig (0 to 2070 kPa).

F. Service Connection: CGA V-5, D.I.S.S. No. 1120, nitrogen outlet.

G. Before final assembly, provide temporary dust shield and U-tube for testing.

H. Label cover plate "Nitrogen Pressure Control."

I. Manufacturer cleaned, purged, and sealed, for all gas types, for oxygen service in accordance with CGA G-4.1.

2.8 GAS MANIFOLDS

A. Manufacturer cleaned, purged, and sealed, for all medical gas type, for oxygen service in accordance with CGA G-4.1.

B. Comply with NFPA 99 for high-pressure medical gas cylinders.

C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

D. Central Control-Panel Unit:

1. Weatherproof cabinet.
2. Supply and delivery pressure gauges.
3. Electrical alarm-system connections and transformer.
4. Indicator lights or devices.
5. Manifold connection.
6. Pressure changeover switch.
7. Line-pressure regulator.
8. Shutoff valves.
9. Safety valve.

E. Manifold and Headers:

1. Duplex, nonferrous-metal header for number of cylinders indicated, divided into two equal banks.
2. Designed for 2000-psig (13.8-MPa) minimum inlet pressure, except nitrous oxide manifolds may be designed for 800 psig (5520 kPa), and carbon dioxide manifolds may be designed for 1500 psig (10.35 MPa).
3. Cylinder-bank headers with inlet (pigtail) connections complying with CGA V-1.
4. Individual inlet check valves, shutoff valve, pressure regulator, check valve, and pressure gauge.

F. Operation: Automatic, pressure-switch-activated changeover from one cylinder bank to the other when first bank becomes exhausted, without line-pressure fluctuation or resetting of regulators and without supply interruption by shutoff of either cylinder-bank header.

G. Mounting: Wall with mounting brackets for manifold control cabinet and headers

H. Label manifold control unit with permanent label identifying medical gas type and system operating pressure.

I. Laboratory Carbon Dioxide Manifolds: For two cylinders and 55-psig (380-kPa) line pressure.

J. Laboratory Nitrogen Manifolds: For two cylinders and 180-psig (1240-kPa) line pressure.

K. Laboratory Oxygen Manifolds: For two cylinders and 55-psig (380-kPa) line pressure.

L. Laboratory Argon Manifolds: For two cylinders and 55-psig (380-kPa) line pressure

M. Laboratory Specialty Gas (SG1) Manifolds: For two cylinders and 180-psig (1240-kPa) line pressure

N. Laboratory Gas Cylinders: Furnished by Owner

2.9 DUPLEX SPECIALTY GAS MANIFOLDS

A. Manufacturer cleaned, purged, and sealed, for all gas types, for oxygen service in accordance with CGA G-4.1.

B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

C. Central Control-Panel Unit: Weatherproof cabinet, supply and delivery pressure gauges, electrical alarm-system connections and transformer, indicator lights or devices, manifold connection, line-pressure regulator, shutoff valves, and safety valve.

D. Manifold and Headers: Duplex, nonferrous-metal header for number of cylinders indicated, divided into two equal banks. Units include design for 2000-psig (13.8-MPa) minimum inlet pressure, cylinder-bank headers with inlet (pigtail) connections complying with CGA V-1, individual inlet check valves, shutoff valve, pressure regulator, check valve, and pressure gauge.

E. Operation: Automatic, pressure-switch-activated changeover from one cylinder bank to the other when first bank becomes exhausted, without line-pressure fluctuation or resetting of regulators and without supply interruption by shutoff of either cylinder-bank header.

F. Mounting: Wall with mounting brackets for manifold control cabinet and headers.

G. Label manifold control unit with permanent label identifying specialty gas type and system operating pressure.

H. Specialty Gas Cylinders: Furnished by Owner.

2.10 GAS CYLINDER STORAGE RACKS

A. Wall Storage Racks: Fabricate racks with chain restraints for upright cylinders, as indicated, or provide equivalent manufactured wall racks.

B. Freestanding Storage Racks: Fabricate racks as indicated, or provide equivalent manufactured storage racks.

C. Anchor holes in base to permit securing to the floor with anchor bolts supplied by the manufacturer.

D. Rack Support Tubing: Minimum 2-inch by 2-inch by 1/8-inch (50-mm by 50-mm by 3-mm) tube steel finished with baked-on exterior grade polyurethane powder paint. All joints wrap-welded and polished.

E. Tank Restraints: Dual minimum 5/16-inch (8-mm) steel welded link chain, electrically zinc-plated rated for 1,900 pounds (860 kg) with minimum 5/16-inch (8-mm) zinc-plated carabineer hooks rated for minimum 520 pounds (235 kg).

F. Comply with NFPA 55.

G. Comply with NFPA 99.

H. Comply with OSHPD #OPA-2878-10.

PART 3 - EXECUTION

3.1 PREPARATION

A. Cleaning of Medical Gas Tubing: If manufacturer-cleaned and -capped fittings or tubing is not available or if precleaned fittings or tubing must be recleaned because of exposure, have supplier or separate agency acceptable to authorities having jurisdiction perform the following procedures:

1. Clean medical gas tube and fittings, valves, gauges, and other components of oil, grease, and other readily oxidizable materials as required for oxygen service in accordance with CGA G-4.1.
2. Wash medical gas tubing and components in hot, alkaline-cleaner-water solution of sodium carbonate or trisodium phosphate in proportion of 1 lb (0.453 kg) of chemical to 3 gal. (11.3 L) of water.

    a. Scrub to ensure complete cleaning.
    b. Rinse with clean, hot water to remove cleaning solution.

3.2 PIPING INSTALLATION

A. General Location and Arrangements: Drawing plans, schematics, and diagrams indicate general location and arrangement of gas piping. Indicated locations and arrangements were used to size pipe and calculate friction loss, expansion, and other design considerations. Install piping as indicated unless deviations to layout are approved on coordination drawings.

B. Comply with NFPA 55 for installation of laboratory gas piping.

C. Install piping concealed from view and protected from physical contact by building occupants unless otherwise indicated and except in equipment rooms and service areas.

D. Install piping indicated to be exposed and piping in equipment rooms and service areas at right angles or parallel to building walls. Diagonal runs are prohibited unless specifically indicated otherwise.

E. Install piping above accessible ceilings to allow sufficient space for ceiling panel removal, and coordinate with other services occupying that space.

F. Install piping adjacent to equipment and specialties to allow service and maintenance.

G. Install nipples, unions, special fittings, and valves with pressure ratings same as or higher than system pressure rating used in applications specified in "Piping Schedule" Article unless otherwise indicated.

H. Install piping to permit valve servicing.

I. Install piping free of sags and bends.

J. Install fittings for changes in direction and for branch connections.

K. Install medical gas piping to medical gas-service connections specified in this Section, to medical gas-service connections in equipment specified in this Section, and to equipment specified in other Sections requiring medical gas service.

L. Install exterior, buried medical gas piping in protective conduit fabricated with PVC pipe and fittings. Do not extend conduit through foundation wall.

M. Connect gas piping to gas sources and to gas outlets and equipment requiring gas service.

N. Install unions in copper tubing adjacent to each valve and at final connection to each specialty and piece of equipment.

O. Install sleeves for piping penetrations of walls, ceilings, and floors. Comply with requirements for sleeves specified in Section 220517 "Sleeves and Sleeve Seals for Plumbing Piping."

P. Install sleeve seals for piping penetrations of concrete walls and slabs. Comply with requirements for sleeve seals specified in Section 220517 "Sleeves and Sleeve Seals for Plumbing Piping."

Q. Install escutcheons for piping penetrations of walls, ceilings, and floors. Comply with requirements for escutcheons specified in Section 220518 "Escutcheons for Plumbing Piping."

3.3 VALVE INSTALLATION

A. Install shutoff valve at each connection to gas laboratory and healthcare equipment and specialties.

B. Install check valves to maintain correct direction of gas flow from laboratory and healthcare gas supplies.

C. Install valve boxes recessed in wall and anchored to substrate. Single boxes may be used for multiple valves that serve same area or function.

D. Install zone valves and gages in valve boxes. Arrange valves so largest valve is lowest. Rotate valves to angle that prevents closure of cover when valve is in closed position.

E. Install pressure regulators on gas piping where reduced pressure is required.

F. Install emergency oxygen connection with pressure-relief valve and full-size discharge piping to outside, with check valve downstream from pressure-relief valve, and with ball valve and check valve in supply main from bulk oxygen storage tank.

3.4 JOINT CONSTRUCTION

A. Ream ends of pipes and tubes and remove burrs.

B. Remove scale, slag, dirt, and debris from outside of cleaned tubing and fittings before assembly.

C. Threaded Joints: Apply appropriate tape to external pipe threads.

D. Brazed Joints: Join copper tube and fittings in accordance with CDA's "Copper Tube Handbook," Ch. "Brazed Joints." Do not use flux. Continuously purge joint with oil-free, dry nitrogen during brazing.

E. Shape-Memory-Metal Coupling Joints: Join new copper tube to existing tube according to procedures developed by fitting manufacturer for installation of shape-memory-metal coupling joints.

F. Soldered Joints: Apply ASTM B813, water-flushable flux to tube end. Join copper tube and fittings in accordance with ASTM B828.

G. Extruded-Tee Outlets: Form branches in copper tube in accordance with ASTM F2014, with tools recommended by tube manufacturer.

H. Flanged Joints:

1. Copper Tubing: Install flange on copper tubes. Use pipe-flange gasket between flanges. Join flanges with gasket and bolts in accordance with ASME B31.9 for bolting procedure.
2. PVC Piping: Install PVC flange on PVC pipes. Use pipe-flange gasket between flanges. Join flanges with gasket and bolts in accordance with ASME B31.9 for bolting procedure.

3.5 GAS-SERVICE COMPONENT INSTALLATION

A. Assemble patient-service console with service connections. Install with supplies concealed in walls. Attach console box or mounting bracket to substrate.

B. Install nitrogen pressure-control panels in walls. Attach to substrate.

C. Assemble ceiling columns and install anchored to substrate. Provide structural steel, hanger rods, anchors, and fasteners in addition to components furnished with specialties necessary to fabricate supports.

D. Assemble ceiling-hose assemblies and install anchored to substrate. Provide structural steel, hanger rods, anchors, and fasteners in addition to components furnished with specialties necessary to fabricate supports.

E. Install gas manifolds anchored to substrate.

F. Install gas cylinders and connect to manifold piping.

G. Install bulk gas storage tanks and reserve supply tanks level on concrete bases. Set tanks and connect gas piping to tanks in accordance with applicable requirements in NFPA 55 for bulk oxygen storage systems. Install tanks level and plumb, firmly anchored to concrete bases; maintain NFPA 55 and tank manufacturer's recommended clearances. Orient tanks, so controls and devices are accessible for servicing.

3.6 INSTALLATION OF HANGERS AND SUPPORTS

A. Comply with requirements for hangers, supports, and anchor devices specified in Section 220529 "Hangers and Supports for Plumbing Piping and Equipment."

B. Vertical Piping: MSS Type 8 or Type 42, clamps.

C. Individual, Straight, Horizontal Piping Runs:

1. 100 Feet (30 m) and Less: MSS Type 1, adjustable, steel, clevis hangers.
2. Longer Than 100 Feet (30 m): MSS Type 43, adjustable, roller hangers.

D. Multiple, Straight, Horizontal Piping Runs 100 Feet (30 m) or Longer: MSS Type 44 pipe rolls. Support pipe rolls on trapeze. Comply with requirements in Section 220529 "Hangers and Supports for Plumbing Piping and Equipment" for trapeze hangers.

E. Base of Vertical Piping: MSS Type 52 spring hangers.

F. Install hangers for copper tubing with maximum horizontal spacing and minimum rod diameters to comply with MSS SP-58, NFPA 99, locally enforced codes, and authorities having jurisdiction requirements, whichever are most stringent.

G. Support horizontal piping within 12 inches (300 mm)] of each fitting and coupling.

H. Support vertical runs of copper tubing to comply with MSS SP-58, NFPA 99, locally enforced codes, and authorities having jurisdiction requirements, whichever are most stringent.

3.7 IDENTIFICATION

A. Install identifying labels and devices for specialty gas piping, valves, and specialties. Comply with requirements in Section 220553 "Identification for Plumbing Piping and Equipment."

B. Install identifying labels and devices for healthcare medical gas piping systems in accordance with NFPA 99. Use the following or similar captions and color-coding for piping products where required by NFPA 99:

1. Carbon Dioxide: Black or white letters on gray background.
2. Helium: White letters on brown background.
3. Nitrogen: White letters on black background.
4. Nitrous Oxide: White letters on blue background.
5. Oxygen: White letters on green background or green letters on white background.
6. **Argon: White letters on green background**
7. **Specialty Gas (SG1): White letters on black background.**

3.8 FIELD QUALITY CONTROL FOR HEALTHCARE FACILITY MEDICAL GAS

A. Testing Agency:

1. Owner will engage a qualified testing agency to perform tests and inspections.
2. Engage a qualified testing agency to perform tests and inspections.

B. Manufacturer's Field Service: Engage a factory-authorized service representative to test and inspect components, assemblies, and equipment installations, including connections.

C. Perform tests and inspections with the assistance of a factory-authorized service representative.

D. Tests and Inspections:

1. Gas Piping Testing Coordination: Perform tests, inspections, verifications, and certification of medical gas piping systems concurrently with tests, inspections, and certification of compressed-air piping and medical vacuum piping systems.
2. Preparation: Perform the following Installer tests according to requirements in NFPA 99 and ASSE Standard #6010:

    a. Initial blowdown.
    b. Initial pressure test.
    c. Cross-connection test.
    d. Piping purge test.
    e. Standing pressure test for positive-pressure medical gas piping.
    f. Standing pressure test for vacuum systems.
    g. Repair leaks and retest until no leaks exist.

3. System Verification: Perform the following tests and inspections in accordance with NFPA 99, ASSE Standard #6020, and ASSE Standard #6030:

    a. Standing pressure test.
    b. [Individual-pressurization] [or] [pressure-differential] cross-connection test.
    c. Valve test.
    d. Master and area alarm tests.
    e. Piping purge test.
    f. Piping particulate test.
    g. Piping purity test.
    h. Final tie-in test.
    i. Operational pressure test.
    j. Gas concentration test.
    k. Air-purity test.
    l. Verify correct labeling of equipment and components.
    m. Verify medical gas supply sources.

4. Testing Certification: Certify that specified tests, inspections, and procedures have been performed, and certify report results. Include the following:

    a. Inspections performed.
    b. Procedures, materials, and gases used.
    c. Test methods used.
    d. Results of tests.

E. Piping will be considered defective if it does not pass tests and inspections.

F. Prepare test and inspection reports.

3.9 FIELD QUALITY CONTROL FOR LABORATORY FACILITY SPECIALTY GAS

A. Testing Agency:

1. Owner will engage a qualified testing agency to perform tests and inspections.
2. Engage a qualified testing agency to perform tests and inspections.

B. Manufacturer's Field Service: Engage a factory-authorized service representative to test and inspect components, assemblies, and equipment installations, including connections.

C. Perform tests and inspections with the assistance of a factory-authorized service representative.

D. Tests and Inspections:

1. Piping Leak Tests for Specialty Gas Piping: Test new and modified parts of existing piping. Cap and fill specialty gas piping with oil-free, dry nitrogen to pressure of 50 psig (345 kPa) above system operating pressure, but not less than 150 psig (1035 kPa). Isolate test source and let stand for four hours to equalize temperature. Refill system, if required, to test pressure; hold for two hours with no drop in pressure.
2. Repair leaks and retest until no leaks exist.
3. Inspect specialty gas regulators for proper operation.

E. Piping will be considered defective if it does not pass tests and inspections.

F. Prepare test and inspection reports.

3.10 PROTECTION

A. Protect tubing from damage.

B. Retain sealing plugs in tubing, fittings, and specialties until installation.

C. Clean tubing not properly sealed, and where sealing is damaged, in accordance with "Preparation" Article.

3.11 DEMONSTRATION

A. Train Owner's maintenance personnel to adjust, operate, and maintain bulk gas storage tanks.

3.12 PIPING SCHEDULE

A. Connect new tubing to existing tubing with memory-metal couplings.

B. Laboratory Gas Piping except Laboratory Nitrogen **and Specialty Gas (SG1)** Piping NPS 3 (DN 80) and Smaller Shall Operate at More Than 185 psig (1275 kPa): Type L, copper tube; wrought-copper fittings; and brazed joints.

C. Laboratory Nitrogen **and Specialty Gas (SG1)** Piping NPS 3 (DN 80) and Smaller Shall Operate at More Than 185 psig (1275 kPa): Type K, copper tube; wrought-copper fittings; and brazed joints.

3.13 VALVE SCHEDULE

A. Shutoff Valves: Ball valve with manufacturer-installed ASTM B819, copper-tube extensions.

B. Zone Valves: Ball valve with manufacturer-installed ASTM B819, copper-tube extensions with pressure gauge on one copper-tube extension.

END OF SECTION 226313

SECTION 27 41 16

INTEGRATED AUDIOVISUAL SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

A. PROJECT OVERVIEW

1. This specification covers the Audiovisual Systems to be installed during Phase 2 of the renovation of the Plant Science Building at Cornell University.

B. Room Name/Types:

Room Type	**Room Numbers**
Dry Teaching Lab	104
Plant Physiology Teaching Lab	236
20P General Assignments Classroom	133
Large Meeting Room	340
Meeting Room	116A, 224A, 225, 324A, 435
Bio-Diversity Hub	403
Team Room	431A, 431B
Computational Lab	416
Digital Signage	Vestibule 10042, Corridor North Wing 40040
Collaboration	119, 221, 305, 323, 404

C. Related Requirements

1. Related Work Specified Elsewhere
   a. There will be certain other non-Audiovisual related equipment and materials that will be provided and installed by the Contractor. The Contractor thoroughly understands each project's related requirements. Unless otherwise indicated in these specifications, or on the related AV Contract drawings, these will include the following:
      1) All conduits, wireways, connection boxes, pull boxes, junction boxes, and outlet boxes permanently installed in walls, floors, and ceilings, except as shown on the AV drawings.
      2) Installation of all floor boxes and/or poke thru devices, excluding any plates and connectors to be provided by the contractor.
      3) Fiber optic trunk cabling, including terminations and patch panels.
      4) Telephone and telecommunications jacks and special telecom outlets not related to AV.

5) All room lighting fixtures, dimmers, power receptacle outlets, and interconnecting wiring for these circuits.
6) All electrical breaker panels required to power the audiovisual and television equipment.
7) All structural work, wall openings, platforms, railings, stairs, fire prevention and safety devices, rough and, drapes, carpets, floor coverings, computer floors, glazing, acoustical treatments, and heating, ventilating, and air conditioning systems, except as shown on the AV Contract drawings. Note - All finished trim, painting and patching necessitated as part of the AV systems installation is a part of the Contractor scope of work.
8) Moveable furniture, desks, and chairs.
9) Though not under the scope of this document, the CONTRACTOR coordinates these and any other related items required to provide and integrate a fully functional AV system as described in this specification.

2. Owner furnished data network
   a. Unless specified otherwise, network switches are provided by the client.
   b. The Contractor establishes demarcations, such as bulkheads at the back of racks, to clearly delineate the demark between Contractor scope and client network.
   c. The Contractor works with CONSULTANT and the client to determine the schedule to make sure the data network is useable so that the AV Systems can be deployed and tested in a timely fashion.
   d. The Contractor co-ordinate with the Client and obtains details of the data network and verifies sufficient network connectivity (both passive “infrastructure” and active switch ports with adequate bandwidth etc.) is be provided for the AV Systems to operate correctly.
   e. The Contractor co-ordinates with the Client to verify compatibility/inter-operability between that Client’s data network and the audiovisual systems and identifies in writing any potential deficiencies or areas of concern, prior to commencing on-site installation.
   f. The Contractor coordinates AV/IT Requirements Worksheet, bulkheads and similar physical points of demarcation been Contractor supplied and data services provided by the Owner.

1.2 REFERENCES

A. Abbreviations and Acronyms

1. NIC - Work which is not covered in the scope of this audiovisual systems contract.
2. OFE - Owner Furnished Equipment, provided by the client
3. OFECI - Owner Furnished Equipment, Contractor Installed. Includes the responsibility for removing this equipment from the client’s premises as appropriate and re-installing and integrating this equipment in good working order as detailed herein
4. IDF and MDF closets - An intermediate distribution frame (IDF) is the distribution frame in the client’s premises which cross-connects the user cable media to individual user line circuits and may serve as a distribution point for multipair cables from the main distribution frame (MDF).

B. Definitions

1. The term “Architect” shall refer to “Ellenzweig”
2. The term “Construction Manager (CM)” shall refer to FAHS Construction Group.

3. The term “Consultant” or “Audio Visual Owner’s Representative (CONSULTANT)” shall refer to Shen Milsom & Wilke, LLC
4. The term “Client” and “Owner” shall refer to Cornell College of Agriculture and Life Sciences (CALS) and State University Construction Fund (SUCF)
5. The term “Installer” shall refer to the Contractor.
6. The term “Contractor”, shall refer to the one who has been awarded the contract for the subject job and who has responsibility for performance of the work specified herein.
7. The term “AV Programming Service Provider (AVPSP)” shall refer to the vendor awarded for software programming services.
8. The term “AV Maintenance Provider (AVMAINT)” shall refer to the designated vendor responsible for providing maintenance services after the systems are installed and signed off as ready for use.
9. The Term “Furnish” means to Purchase and deliver to the project site complete with every necessary appurtenance and support, all as part of the Audiovisual Systems Work. Purchasing shall include payment of all sales taxes and other surcharges as may be required to assure that purchased items are free of all liens, claims, or encumbrances.
10. “Install” – Unload at the delivery point at the site and perform every operation necessary to establish secure mounting, connection to power and AV systems and correct operation at the proper location in the project, all as part of the Work.
11. The term “provide” means furnish and install.
12. The term “commissioning” refers to the process by which equipment or systems (which are installed, complete or near completion) are tested to verify if they function according to their design objectives or specifications.
13. The term “AV Contract scope” is the Audiovisual Systems installation in the facility or facilities described within this specification.
14. The term “AV Contract Drawings” refers to Audiovisual systems drawings and any associated sketches, details, riser diagrams, etc. associated with the work.
15. Certain words or phrases as used in the AV Contract Drawings or Specifications for the Work may have multiple meanings such as those specified in codes or other industry standards. The words or phrases mentioned below are understood to have the following specified meanings with regard to the audiovisual systems described herein:
16. “Circuit” – Any specific run of circuitry
17. “Circuitry” – Any Work which consists of wires, cables, raceways, and/or specialty wiring method assemblies complete with associated junction boxes, pull boxes, outlet boxes, joints, couplings, splices, and connections except where limited to a lesser meaning by specific description.
18. “Concealed” (as applied to circuitry) – Covered completely by building materials, except for penetrations (by boxes and fittings) to a level flush with the surface as necessitated by functional or specified accessibility requirements.
19. “Exposed” (as applied to circuitry) – Not covered in any way by building materials.
20. “Normal Work Conditions” – Locations within building confines that are not damp, wet, or hazardous and that are not used for air handling.
21. “Patch Panel” – A System of terminal blocks, patch cords, and backboards that facilitate administration of cross-connecting cables.
22. “Raceway” – Any pipe, duct, extended enclosure, or conduit (as specified for a particular System) which is used to contain wires, and which is of such nature as to require that the wires be installed by a “pulling in” procedure.
23. “Riser” – Shall refer to the portion of the installation that transmits between building floors (or between Audiovisual Systems rooms), also referred to as “Backbone Cabling”.
24. “Audiovisual Closet” – The enclosed area or room specifically designated for the routing, termination, and/or cross connecting of Audiovisual Systems cable (i.e. riser cable) to other Audiovisual Systems cable and/or equipment.

25. "AV Systems Control Room" and/or "AV Systems Headend" – The enclosed area or room specifically designated for the routing, termination, and/or cross connecting of Audiovisual System cable (i.e. riser cable) to other Audiovisual System cable, and/or equipment and racks.
26. "AV System(s)" – Audiovisual System(s), includes all components contained herein that work in conjunction to create and completely integrated and fully functioning system as described within the AV Contract Drawings and Specifications
27. "Audiovisual Systems Wiring" – see "Circuitry"
28. "Standard" (as applied to wiring devices) – Not of a separately designated individual type.
29. "System" – See "AV Systems"
30. "Wiring" – see "Circuitry"
31. Where the term "Conduit" is used without specific reference to type, it is understood to mean "raceway"

C. Reference Standards

1. Section 26 05 11 – General Provisions for Electrical Work
2. Section 27 05 26 – Grounding and Bonding for Communications Systems
3. Division 26 - Electrical: Electrical systems and components.
4. Division 27 - Communications: Communications systems and components.
5. ANSI/INFOCOMM 10:2013 - AV Systems Performance Verification

1.3 ADMINISTRATIVE REQUIREMENTS

A. Coordination

1. Coordinate with the project team on items including but not limited to building access, loading dock, site surveys, connecting into existing lighting and shade control, local IP network (LAN), cable paths and distance limitations.

B. Schedule of Implementation

1. Verify the project schedule and confirm delivery of a complete audiovisual system within the specified time frame.
2. Indicate acceptance of the project schedule by submitting a scheduling plan with the quote for each project indicating the various pertinent milestone dates for each project assigned for completion of design, pre-installation work, on-site installation work, and testing and acceptance on a 'per phase' basis.
3. At a minimum, the schedule should include the following information:
   a. Number of days required for submission of engineering documents from receipt of notice to proceed.
   b. Days to complete the AV Contract scope from receipt of approved documents. This information should be broken down to indicate benchmark dates of other trades and days to completion of tasks associated with those benchmarks.
   c. Issued and updates communicated to reflect any change as the work progresses: Staging date, Installation completion date, Acceptance of System, Delivery of As-Built documentation.

C. Qualifications of Installers

1. Qualifications
   a. The Installer is a firm with at least five years of experience in the fabrication, assembly, and installation of audiovisual and as required by the systems description, telecommunications systems of similar technology, magnitude and quality as specified for the subject project and submits documentation to this effect.
   b. Each Installer must have supervisory personnel dedicated to this project, certified for the type of work they are overseeing (installation and design) from Infocomm International/AVIXA (CTS-I/D), or another recognized organization or institution providing formal training in audiovisual engineering and/or installation. Proof of this is supplied.
   c. All employees of the Contractor to install this system must be competent technicians who are experienced in the installation and interconnection of professional audiovisual systems.
   d. Identify personnel on staff that have the following certifications and indicate whether they are available to work on this project as required:
      1) Cisco CCNA – Routing & Switching
      2) Microsoft MCSE - Productivity
      3) Cisco CCNA – Wireless
      4) Microsoft MCSE - Mobility
      5) AVIXA – CTS-I
      6) AVIXA – CTS-D
      7) Zoom Certification
      8) Crestron Certification
   e. All engineering and project management is to be handled by a qualified, full-time employee of the Contractor.
   f. Each Installer maintains an adequately equipped and staffed service department and regularly provides service for systems similar to this design. and provides an office staffed with personnel at all times, Monday through Friday, between the hours of 9:00 AM and 5:00 PM (local time). Answering services, cellular telephones, pager numbers and call forwarding systems are helpful but do not meet nor comply with the intent of this specification.

2. Information to Be Submitted
   a. Company information
   b. Describe your administrative organizational structure, including:
      1) Number of years in business.
      2) Core business
      3) Staff/headcount
      4) Locations of all currently staffed and operational offices complete with the number of technical support personnel in each office.
   c. Project References (minimum of three (3) required) shall include
      1) End user contact name, with current telephone number and e-mail address.
      2) Functional description of the project.
      3) Project scope and approximate dollar amount (single projects should be equivalent to the size of this project, not accumulative work of a single client).
      4) Completion date.
      5) All projects identified must be verifiable and have been completed within the last thirty-six (36) months.
   d. Project Team

1) List of Key Personnel and their estimated workload during the duration of the entire project.
2) Resumes of key personnel.
3) Resumes must reflect skills relating to audio, video, teleconferencing (audio and video), certifications as required by the technical design, networked audio, networked video, videowalls, videowall processors, control centers, mission critical facilities integrated control systems, programming, project management, etc.
4) Resumes must be submitted for those individuals who will actually be assigned to this project and must include all training background information and certificates.
5) Upon award of contract, those personnel assigned to the project may NOT be changed without the written approval of CONSULTANT.
6) Resumes for the following Key Personnel:
   a) Senior Account Representative (must have global oversight)
   b) Regional Account Representative
   c) Senior Project Manager
   d) Regional Project Managers
   e) Senior AV Engineer
   f) Secondary AV Engineer
   g) Senior Network Engineer
   h) Lead Field Technician
7) Staff Qualifications
   a) Each Installer must have staff assigned to this project with current and relevant training and certifications authorized by the manufacturer of the major components identified in the system design. Include a chart following the format shown below.

Manufacturer	Certification	# of Employees	Comments
Crestron			
BiAmp			
Shure			

   b) Installers must submit all relevant manufacturer originated proof of certification. Final payment may be withheld until qualification certificates have been presented by the vendor for review by CONSULTANT. CONSULTANT retains the right to enlist the services of a third party to verify compliance, and vendor's final payment may be offset by the cost of remediation and verification.
   c) Prospective Installers must attest that they possess, and are skilled in the use of, all the necessary test equipment for verifying that the performance of the system.
   d) If the Installer has AQAV certification, the Contractor must include the name of the certified qualified individual(s) assigned to the project, so that credentials may be verified with the Association for Quality in Audio Visual Technology, Inc. (AQAV), or on the Infocomm International Association's website.
8) Approach
   a) The Installer describes their approach for handing the project of this scale and with reporting roles and responsibilities set forth in this specification.

b) The Installer defines the unique attributes that provide differential from the competition
c) The Installer describes the value-added benefits that they will be delivering to the project.

D. Sub-contractors

1. No sub-contract will be permitted for the responsibilities, as herein defined, unless specifically identified and approved by CONSULTANT.
2. No outsourcing or sub-contracting accepted for engineering and project management.
3. The Contractor must not engage in any work with the client outside this scope without written request and approval by CONSULTANT.
4. If the Installer proposes to sub-contract portions of the work, such sub-contractors must be identified, and their responsibilities and qualifications. This includes any arrangements with CWA labor- provided organizations. The work as performed by a sub-contractor is considered as part of the Contractor's responsibility with that work as part of the Contractor's statement. Any contract arising as a direct result of these proceedings is binding on the successful Installer and the terms of said contract is be submitted.
5. The Contractor has sole responsibility for the satisfactory implementation of each system, even if the Contractor has sub-contracted a portion of the installation or had certain manufacturers install their own equipment.
6. If the Installer proposes to sub-contract the installation and wiring, or other portions of the work, the Installer provides direct supervision of the sub-contracted work. The supervision is continuous, not intermittent.
7. It is the sole responsibility of the Installer to research and provide any and all necessary sub-contracts pricing for union labor that cannot be provided from within its own organization. Information related to this must be provided. While CWA is permitted by Contractor, anything that is hard wired to electrical power is installed by a licensed IBEW electrician (items such as projection screens, power distribution, etc.). The AV vendor must hire the appropriate vendor(s) to complete work within these parameters and maintain union harmony in the building."
8. The Contractor, its representatives or sub-contractors does not establish or maintain any associations or partnerships that conflicts with this agreement and the ability to represent CONSULTANT or perform work on behalf of client. If any conflict of interest arises at any time, the Contractor immediately notifies CONSULTANT and rectifies the situation.
9. If CONSULTANT or the client has any concerns with the Contractor or any subcontractor, this concern is addressed within 10 business days of determination. If concerns cannot promptly be remedied to CONSULTANT or the client's satisfaction, this agreement is terminated as soon as practicable. Reasonable time is provided by both parties to minimize the impact to existing or pending work throughout the process.
10. For each proposed subcontractor, the Contractor must include at least three client references, with contact names and phone numbers, for comparable projects accomplished by those subcontractors.
11. If it is the intent of the Installer to "team" with one or more additional Contractors, then this is clearly stated and so identified by the Installer. The Installer is considered as the "prime" with respect to these services and assumes and accept full responsibility for the performance of all members of the "team," including themselves and all other subcontractors engaged in the performance of the contract.
12. In the event that the Contractor intends for a particular subcontract package to be completed internally, the Contractor still provides base pricing for use of any mandated subcontractor and in addition to providing alternate pricing and justification for the alternate.

13. For systems that require manufacturer support for the implementation of said systems, that requirement is called out as individual line item cost for each manufacturer to be provided.

E. Statement of Compliance

1. Installers must provide a “Statement of Compliance” cover letter that explicitly details that they comply with all of the requirements defined in the documents or details any area of non-compliance with the reason for non-compliance clearly stated. In the event that alternatives or exceptions are indicated, this statement of compliance need to be reissued.

F. Equipment Costs

1. The Contractor shall include detailed lists of all equipment to be supplied. Each piece of equipment is individually priced in local currency, with US dollar equivalent in summary categories. Copies of these lists are used, with the appropriate price information added.
2. The equipment list spreadsheet is made available to the Installers electronically, CONSULTANT is not responsible for any formulas that may be resident in the spreadsheet. The results of any calculations in the spreadsheet are the sole responsibility of the Installer.
3. The design intent of the system may require equipment not listed in the attached spreadsheet, but indicated elsewhere in the contract documents, in either the AV Contract drawings or the written specification.
4. Provide costs for Basis-of Design (BOD) product plus a minimum 2 additional Manufacturers offering comparable products that meet the listed equipment’s performance requirements.
5. Equipment totals from each equipment list are entered in the Summary page of the Audiovisual Equipment Schedule form.

G. Non-Equipment Costs

1. Non-equipment costs are detailed for the following categories:
   a. Engineering: Including all required designs, shop drawings, run sheets, instruction manuals, etc.
   b. Pre-installation: Including all fabrication, modification, assembly, rack wiring, etc., performed on the Contractor’s premises.
   c. Installation: Including all on-site installation and wiring, coordination and supervision, testing, checkout, Client training, etc. performed on the Client’s premises.
   d. General and Administrative: Including all ‘G & A’ expenses, shipping, insurance, and guarantees.
   e. Applicable Taxes
   f. Identify the % over dealer cost for each item on the equipment list
   g. Identify the products on the standardized equipment list for which the firm is a direct dealer, including the duration of the dealership and the extent of any factory training.

H. Warranty Statement

1. To maintain certain manufacturer’s warranties, said equipment must be installed, aligned and serviced by those installers authorized by said manufacturer to perform those duties. If the Contractor is not authorized, by said manufacturer, it is his sole responsibility to make the appropriate arrangements and bear all cost and consequences thereof.

2. The Installer shall include a statement of warranty on the entire system and on the individual pieces of equipment. The system warranty is for a minimum of three (3) years from the date of final commissioning by the Client and CONSULTANT (refer to Section 3.22 for "Commissioning Test" requirements). This warranty shall obligate the Contractor to provide all equipment, material, and labor at no charge to the Client, during the warranty period, in the event of a system or equipment malfunction.
3. In cases where the manufacturer's warranty period is greater than three years, the Contractor is required to honor that warranty for the full extent of the manufacturer's warranty period. This shall exclude any labor costs incurred by the Contractor removing and re-installing the defective items after the system warranty expiration.
4. In cases where the manufacturer's warranty period is less than three years, the Contractor is liable for defects in the item up to-but not exceeding-the three-year period on any Contractor provided items.
5. Preventative Maintenance: The system warranty shall include a minimum of **one (1) preventative maintenance visit per year**, to perform operation checks of the equipment, screens, projector lenses and other critical surfaces, to lubricate moving parts as recommended by the respective manufacturers, and to adjust and align projector(s) to maintain optimum registration and focus.
6. The system warranty shall also include quarterly visits to perform software and firmware updates as required to keep all devices current, except in cases where software or firmware upgrades are identified that compromise data security, in which case the appropriate upgrades must be provided **within 48 hours**. A log must be maintained of all revisions to software and firmware.
7. All manufacturers' equipment warranties are activated in the Client's name and shall commence on the date that commissioning is completed. In the case of Contractor-modified equipment, the manufacturer's warranty is normally voided. In such cases, the Contractor shall provide the Client with a warranty equivalent to that of the original manufacturer.
8. In the event of malfunction or failure of any audiovisual equipment provided by the Contractor during the warranty period, the Contractor is responsible for providing replacement of faulty equipment or providing "loaner" equipment. If "loaner" equipment is provided, said equipment shall meet or exceed the original equipment specifications until the original equipment can be replaced.
9. In cases where the Contractor is providing and installing audiovisual equipment and/or hardware to be integrated with other equipment furnished it is their responsibility to warrant their equipment as described herein; unless said equipment shows misuse and or abuse during re-installation of or connection of equipment.

I. Emergency Service:

1. Emergency Service is defined as any Service or Support after normal business hours. Include a price per instance for On-Site Support for:
   a. Emergency Service Response Time
   b. Phone Response 2 hours
   c. On-Site Within 4 hours

J. Telephone Support During Warrantee

1. The Contractor shall respond during business hours via telephone **within two (2) hours** to any request for service. This first contact should outline the nature of the problem or functional anomaly. The Contractor shall make available an individual knowledgeable with the installed system, and who can address specific system issues described by the system operators.

K. On-Site Warranty

1. The system warranty is an “on-site” warranty, **with a twenty-four (24) hour response time**. The Installer shall include alternate pricing for **twelve (12) hour response time**. Telephone support is available between normal business hours, Monday through Friday.
2. The Installer shall include an allowance for **40 hours of “Post commissioning support**”, to be utilized by the client during the first 90 days of operation after the date of commissioning completion

L. Extended Service Agreement

1. In addition to the preventative maintenance performed under warrantee, the Installer shall offer an extended service contract. The service contract is established as an option for the Client to exercise immediately after expiration of the warranty period.
2. The costs for this service contract shall not be commingled with the costs for the systems.

M. Schedule of Implementation

1. Each project will have a unique schedule. It is the responsibility of the Installer to verify each project schedule and confirm that they will comply with the project schedule and deliver a complete audiovisual system within the specified time frame.
2. Installers shall indicate their acceptance of each project schedule by submitting a scheduling plan, indicating the various pertinent milestone dates after award of contract for completion of design, pre-installation work, on-site installation work, and testing and acceptance on a “per phase” basis.
3. At a minimum the schedule should include the following information:
    a. Number of days required for submission of engineering documents from receipt of notice to proceed.
    b. Days to complete the AV Contract scope from receipt of approved documents. This information should be broken down to indicate benchmark dates of other trades and days to completion of tasks associated with those benchmarks.
    c. Submittal approval deadline date and dependency date for ordering all hardware and estimated date that equipment will be on hand to commence work.
    d. Issued and updates communicated to reflect any change as the work progresses: Staging date, Installation completion date, Acceptance of System, Delivery of As-Built documentation.

1.4 AV CONTRACT DRAWINGS

A. All AV Contract drawings referred to herein are furnished with and have equal weight to this specification. When furnished together (along with attachments), they form the complete AV contract documents. These AV Contract drawings and specifications shall remain the property of the Client and hard copies are returned or destroyed by all unsuccessful Installers, within 10 days after formal notification.

1.5 MASTER QUOTATIONS

A. During the preparation of the specification documents, master quotations for certain sub-systems have been developed with the major vendors. This is typical for control systems and certain audio and video sub-systems that cannot be commingled with other vendors. Please be aware of the following:

1. While every effort has been made to ensure that the master quotation is complete, it is the sole responsibility of the Installer to ensure that the quotation is complete and provides all equipment needed to provide a fully functional system. In cases where additional equipment is needed and is not covered under the Master Quotation, the Installer shall clearly identify the additional equipment and costs as a separate line item.
2. Unless otherwise noted, complete systems from competing manufacturers may be provided, pursuant to sections of this specification relating to Alternate Equipment and Exceptions and Proposed Modifications.

1.6 REQUESTS FOR INFORMATION (RFI)

A. Any requests for clarification, substitution, or changes in these specifications or drawings are directed to the CM.

B. All requests for information must be in writing (electronically submitted is acceptable).

C. Information Requests and answers of a general nature will be published and made available to all Installers.

1.7 INVESTIGATION OF CONTRACTUAL AND SCHEDULING QUESTIONS

A. It is the responsibility of the Installer to investigate all potential contract, union, and scheduling questions, and to guarantee compliance with all requirements and regulations in effect on the job site. Any potential problems in this respect are identified. The Contractor shall comply with all local state and federal regulations.

PART 2 - PRODUCTS

2.1 AV CONTRACT DRAWINGS

A. QUALITY OF MATERIALS AND EQUIPMENT

1. All materials and equipment supplied by the Contractor are new and shall meet or exceed the latest published specification of the manufacturer in all respects.
2. The Contractor shall supply the latest model available at the time of order placement for each piece of equipment.
3. All equipment is UL listed, or equivalent.

2.2 DETAILED SPECIFICATIONS

A. DRY TEACHING LAB

The Dry Teaching Lab will be a space with students seated at work benches and the Professor at a Lectern and Demonstration Table at the front of the room. Two projection screens will be placed left and right of the Lectern. Projectors will be ceiling mounted. Wired ~~**and wireless**~~ connections for Laptop PCs, a desktop PC, and other BYOD devices will be available. PTZ cameras will be mounted on the rear wall to capture the Professor at the front of the room and at the front wall to capture the students. Another camera will be available for capture of notes

written on the whiteboard. These cameras will be used for the PC based video conferencing system. Wireless microphone systems and ceiling microphones will support the voice reinforcement for the conferencing systems and the room. A control system with a touch panel will be utilized to operate the AV system. The AV equipment will be housed inside an AV equipment cabinet located at the front of the room next to the Lectern. The AV system design for the Plant Physiology Lab will be based on Cornell University's standard Full Distance Learning Classroom system design.

B. PLANT PHYSIOLOGY TEACHING LAB

The Plant Physiology Teaching Lab will be a space with students seated at work benches and the Professor at a Lectern and Demonstration Table at the front of the room. Due to the large width of the room, two projection screens will be placed left and right of the Lectern so the students can view the lesson comfortably from their locations. Projectors will be ceiling mounted. Wired ~~**and wireless**~~ connections for Laptop PCs, a desktop PC, and other BYOD devices will be available. PTZ cameras will be mounted on the rear wall to capture the Professor at the front of the room and at the front wall to capture the students. Another camera will be available for capture of notes written on the whiteboard. These cameras will be used for the PC based video conferencing system. Wireless microphone systems and ceiling microphones will support the voice reinforcement for the conferencing systems and the room. A control system with a touch panel will be utilized to operate the AV system. The AV equipment will be housed inside an AV equipment cabinet located at the front of the room next to the Lectern. The AV system design for the Plant Physiology Lab will be based on Cornell University's standard Full Distance Learning Classroom system design.

C. 20 PERSON GENERAL ASSIGNMENTS CLASSROOM

The 20 Person General Assignment Classroom will be a teaching space with desks arranged in rows for the students and the Professor at an adjustable height Lectern and AV equipment cabinet at the front of the room. A large projection screen with a ceiling mounted projector will be used as the main display. Wired ~~**and wireless**~~ connections for Laptop PCs, a desktop PC, and other BYOD devices will be available. PTZ cameras will be mounted on the rear wall to capture the Professor at the front of the room and at the front wall to capture the students. Another camera will be available for capture of notes written on the whiteboard. These cameras will be used for the PC based video conferencing system. Wireless microphone systems and ceiling microphones will support the voice reinforcement for the conferencing systems and the room. A control system with a touch panel will be utilized to operate the AV system. The AV equipment will be housed inside the AV equipment cabinet. The AV system design for the 20p Classrooms will be based on Cornell University's standard Full Distance Learning Classroom system design.

D. LARGE MEETING ROOM

The Large Meeting Room will be conference and presentation type space for 20 or more people at a large table. A large projection screen with a ceiling mounted projector will be used as the main display. Wired ~~**and wireless**~~ connections for Laptop PCs, a desktop PC, and other BYOD devices will be available from table. PTZ cameras will be mounted on the front and rear walls to capture the participants at the table for the PC -based video conferencing system. Ceiling microphones will support the voice reinforcement for the conferencing systems. A control system with a touch panel will be utilized to operate the AV system. The AV equipment will be housed inside a rack located in the room's credenza. The AV system design for the Large Meeting Room will be based on Cornell University's standard Large Conference Room system design.

E. BIO-DIVERSITY HUB

The Bio-Diversity Hub will be a teaching space with desks arranged in rows for the students and the Professor at an adjustable height Lectern and AV equipment cabinet at the front of the room. A large projection screen with a ceiling mounted projector will be used as the main display. Wired ~~**and wireless**~~ connections for Laptop PCs, a desktop PC, and other BYOD devices will be available. PTZ cameras will be mounted on the rear wall to capture the Professor at the front of the room and at the front wall to capture the students. Another camera will be available for capture of notes written on the whiteboard. These cameras will be used for the PC based video conferencing system. Wireless microphone systems and ceiling microphones will support the voice reinforcement for the conferencing systems and the room. A control system with a touch panel will be utilized to operate the AV system. The AV equipment will be housed inside the AV equipment cabinet. The AV system design for the **Bio-Diversity Hub** will be based on Cornell University's standard Full Distance Learning Classroom system design.

F. DIGITAL SIGNAGE

There will be flat panel displays for digital signage in the corridors, vestibules, and near some of the elevators in the Plant Science Building.

G. MEETING ROOMS, TEAM ROOMS, COMPUTATIONAL LAB

The Team Rooms will be where a small group of faculty and/or students can get together at a table with a wall mounted flat panel display and have an impromptu meeting or collaboration session. An All-In-One Appliance Conferencing Soundbar will provide Zoom conferencing. A control touch panel for the Appliance Soundbar will be located at the table.

H. COLLABORATION SPACES

The Collaboration Spaces will have an HDMI wall plate for a laptop PC connection to a display. ~~**Wireless sharing from a laptop PC or other device to the display can be done as well.**~~ **When there is no laptop PC connected, the display will playback Digital Signage content.**

2.3 SYSTEM INTERCONNECTION & FUNCTIONAL DESCRIPTION

A. The functional interconnections of the audio, video and control systems are as detailed on the AV Systems drawings (TA-6.** series drawings).

B. The Contractor shall provide all interconnection cable, connectors, terminal strips, wireways, flexible conduit, etc., to facilitate the audiovisual systems as detailed within these specifications and AV Contract drawings.

1. The conduit and power systems are detailed in the Electrical Engineer's drawings.

C. Display and Video

1. Provide and integrate projectors, displays, switching, video distribution and processing equipment (Network AV over IP based and HDBaseT), interfaces and cabling as detailed on the AV Contract drawings and as described in this specification.

2. Provide, install and integrate Network AV over IP based digital video matrix switching/routing system, complete with all necessary twisted pair HDMI encoders/decoders.
   a. The Managed 24-Port Gigabit Ethernet PoE+ Network Switches for AV over IP distribution will be provided by the Owner.

3. Plant Physiology Teaching Lab and Dry Teaching Lab
   a. Display
      1) Provide and install two (2) 5000 lumen, laser-based, WUXGA (1900x1200) data video projectors, complete with zoom lens, and all necessary mounting hardware for display of high definition and standard definition video and PC images.
      2) Two (2) Motorized 96”Wx54”H (110” diagonal) projection screens. Refer to Specification Section 11 52 13-Motorized Front Projection Screens.
   b. Video source devices
      1) Laptop PC (OFE) images from the Lectern via AV over IP transmitter.
      2) Desktop PC (OFE) with dual HDMI outputs. The Desktop PC shall be used for room conferencing (Zoom, MS Teams, Goto Meeting, Google Meet, etc.)
      3) ~~**Wireless Video Gateway interface to connect laptop PCs, tablets, smart phones and other devices via wireless to the display.**~~ AV to USB Production System Bridge Encoder for integrating the audiovisual system with the software based conferencing applications on the Desktop PC.
      4) Two (2) High Definition Pan/Tilt/Zoom cameras for use with the conferencing system mounted at the front wall of the room to the left and right side of the projection screen. for video capture of the students.
      5) Two (2) High Definition Pan/Tilt/Zoom cameras for use with the conferencing system mounted at the rear wall of the room. One camera will be used for video capture of the Professor, the other for video capture of content on the whiteboard.

4. 20 Person General Assignments Classroom & Bio-Diversity Hub
   a. Display
      1) Provide and install a 5000 lumen, laser-based, WUXGA (1900x1200) data video projector, complete with zoom lens, and all necessary mounting hardware for display of high definition and standard definition video and PC images.
      2) Motorized 96”Wx54”H (110” diagonal) projection screen. Refer to Specification Section 11 52 13-Motorized Front Projection Screens.
   b. Video source devices
      1) Laptop PC (OFE) images from the Lectern via portable HDBaseT transmitter.
      2) Desktop PC (OFE) with an HDMI output images. The Desktop PC shall be used for room conferencing (Zoom, MS Teams, Goto Meeting, Google Meet, etc.)
      3) ~~Wireless Video Gateway interface to connect laptop PCs, tablets, smart phones and other devices via wireless to the display.~~
      4) AV to USB Production System Bridge Encoder for integrating the audiovisual system with the software based conferencing applications on the Desktop PC.
      5) Two (2) High Definition Pan/Tilt/Zoom cameras for use with the conferencing system mounted at the front wall of the room to the left and right side of the projection screen. for video capture of the students.

6) Two (2) High Definition Pan/Tilt/Zoom cameras for use with the conferencing system mounted at the rear wall of the room. One camera will be used for video capture of the Professor, the other for video capture of content on the whiteboard.

5. Large Meeting Room
   a. Display
      1) Provide and install a 5000 lumen, laser-based, WUXGA (1900x1200) data video projector, complete with zoom lens, and all necessary mounting hardware for display of high definition and standard definition video and PC images.
      2) Motorized 96”Wx54”H (110” diagonal) projection screen. Refer to Specification Section 11 52 13-Motorized Front Projection Screens.
   b. Video source devices
      1) Laptop PC (OFE) images from the front table via AV over IP transmitter.
      2) Desktop PC (OFE) with an HDMI output images. The Desktop PC shall be used for room conferencing (Zoom, MS Teams, Goto Meeting, Google Meet, etc**.)**
      3) ~~**Wireless Video Gateway interface to connect laptop PCs, tablets, smart phones and other devices via wireless to the display.**~~
      4) AV to USB Production System Bridge Encoder for integrating the audiovisual system with the software based conferencing applications on the Desktop PC.
      5) Two (2) High Definition Pan/Tilt/Zoom cameras for use with the conferencing system mounted at the front wall of the room to the left and right side of the projection screen. for video capture of the conferencing participants at the table.
      6) A High Definition Pan/Tilt/Zoom mounted on the rear wall for video capture of the person at the head of the table or the presentation shown on the projections screen.

6. Meeting Rooms, Team Rooms, Computational Lab
   a. Displays
      1) Provide a 55” flat panel monitor and wall mount for display of high definition and standard definition video images.
   b. Video source devices
      1) Laptop PC (OFE) images from the table via HDBaseT auto switcher/transmitter.
      2) USB ePTZ camera for use with Zoom conferencing. The camera will be part of the All-In-One Zoom Certified Appliance Conferencing Soundbar.

7. Digital Signage
   a. Displays
      1) Provide a wall mounted 55” flat panel display portrait oriented for playback of digital signage content.
   b. Video source devices
      1) Digital signage/media player will be OFE.

8. Collaboration
   a. Displays
      1) Provide a 55” flat panel monitor and wall mount for display of high definition and standard definition video images.
   b. Video source devices
      1) Wired Laptop PC (OFE) images from an HDMI extension wall plate.

2) ~~**Wireless Video Gateway interface to connect laptop PCs, tablets, smart phones and other devices via wireless to the display.**~~
2) **Digital Signage Media Player (OFE).**

D. Audio

1. Provide and integrate speakers, amplifiers, hard-wired and wireless microphones, audio digital signal processing, AVB and Dante Network Audio devices, and cabling as described in this specification.
2. Furnish and install an infrared based assistive listening system, complete with IR emitters, modulators, IR receivers and charging stations **(Listen Technologies Quote # to be provided.)**

3. Plant Physiology Teaching Lab and Dry Teaching Lab
   a. Provide and install ceiling mounted speaker assemblies for playback of program and conferencing audio.
   b. Provide ceiling mounted tracking microphones for audio pickup of the students audience in the middle of the room.
   c. Provide a wireless microphone system, complete with wireless handheld and lavalier transmitters and receivers, directional antenna and antenna distribution system for use with the voice reinforcement and conferencing systems.

4. 20 Person General Assignments Classroom & Bio-Diversity Hub
   a. Provide and install ceiling mounted speaker assemblies for playback of program and conferencing audio.
   b. Provide ceiling mounted tracking microphones for audio pickup of the students audience in the middle of the room.
   c. Provide a wireless microphone system, complete with wireless handheld and lavalier transmitters and receivers, directional antenna and antenna distribution system for use with the voice reinforcement and conferencing systems.

5. Large Meeting Room
   a. Provide and install ceiling mounted speaker assemblies for playback of program and conferencing audio.
   b. Provide ceiling mounted tracking microphones for audio pickup of the students audience in the middle of the room.

6. Meeting Rooms, Team Rooms, Computational Lab
   a. Provide and install an All-In-One Zoom Certified Appliance Conferencing Soundbar, complete with wide angle ePTZ camera, beamtracking microphone array, and speakers for playback of program and conferencing audio

E. Control

1. Provide, program and install touch panels as described in this specification.
2. Provide remote control of systems with an integrated network-based master controller that provides ports for IR/serial, RS-232/422/485, Ethernet, relay closures and input and output control card frames and rack mounted, as indicated on the AV Contract drawings and in this specification. Master controller to be installed in AV equipment rack.
3. Provide control of all equipment as indicated within this specification and as indicated on AV Contract drawings.
4. Provide all loose cables, connectors, etc. required to complete a full working system.

5. Coordinate with the owner and provide system interface to the local IP network (LAN). Provide interfacing of multiple control systems components over IP, for the application of future interface to any Owner-furnished AV-system monitoring systems.
6. When a choice of control protocols is available for a piece of equipment, the most secure and flexible one is used; i.e. RS-232 control, where available, is used in place of either infrared or relay control.
7. Where the power state of a piece of equipment is indeterminate, power sensors are provided to indicate the devices power state to prevent misalignment of system and equipment power cycles.
8. Where two or more panels are controlling the same device, each panel shall reflect the devices current status.
9. Provide electrical on/off power
10. Plant Physiology Teaching Lab
    a. Provide audiovisual system control from one wired color LCD touch panel at the Lectern. The touch panel will provide basic user-level audiovisual system control, including source selection, program audio volume, mic volume, mic mute. camera preset recall.
    b. Establish control system functionality for the following devices and capabilities:
        1) Video Projector
        2) Projection Screens
        3) Audiovisual Source Selection
        4) PTZ cameras
        5) Program Volume Control
        6) Speech Volume Control
        7) Far End Volume Control

11. ~~**36 Person and**~~ 20 Person General Assignments Classrooms **& Bio-Diversity Hub.**
    a. Provide audiovisual system control from one wired color LCD touch panel at the Lectern. The touch panel will provide basic user-level audiovisual system control, including source selection, program audio volume, mic volume, mic mute. camera preset recall.
    b. Establish control system functionality for the following devices and capabilities:
        1) Video Projector
        2) Projection Screen
        3) Audiovisual Source Selection
        4) PTZ cameras
        5) Program Volume Control
        6) Speech Volume Control
        7) Far End Volume Control

12. Large Meeting Room
    a. Provide audiovisual system control from one wall mounted color LCD touch panel. The touch panel will provide basic user-level audiovisual system control, including source selection, program audio volume, mic volume, mic mute. camera preset recall.
    b. Establish control system functionality for the following devices and capabilities:
        1) Video Projector
        2) Projection Screens
        3) Audiovisual Source Selection
        4) PTZ cameras
        5) Program Volume Control
        6) Speech Volume Control
        7) Far End Volume Control

13. Meeting Rooms, Team Rooms, Computational Lab
    a. The touch panel for the All-In-One Zoom Certified Appliance Conferencing Soundbar will be used for Zoom meeting and system control

14. Collaboration
    a. A 2x1 auto-switcher will auto-switch between the wall plate HDMI connection and the OFE Digital Signage Media Player. When a laptop PC or other device is connected to the wall plate, the display will auto switch to that device. When it is removed or no signal is detected, the display will auto switch back to the Digital Signage Media Player.

F. Software

1. Provide control capability for every function available on every piece of equipment being controlled by the system. Define and provide “macro” commands for the most used functions.
2. Provide password protection for any operations that can adversely affect certain room set-up functions. Provide for the ability for remote monitoring of system functions and adjustments via TCP/IP. Capability for configuration will require password protection for use of facility management. Provide for the delivery of email fault alerts to facility management.
3. Final Software is provided to the Owner with the As Built Drawings. If the vendor is chosen to provide a maintenance contract, they are obligated to maintain the latest copy and provide a copy to the owner at the termination of the maintenance contract – per room.
4. Control Software shall have a 60 day “burn-in” period for bug fix – troubleshooting after the date of beneficial first use. This shall include at least two full revisions of the software to achieve the required operation.

G. Miscellaneous

1. Provide and install all hardware, cabling, connectors, faceplates, terminators, adapters, audio combiners, balanced-unbalanced audio converters, wall boxes, etc. required to ensure installation of a fully functional audiovisual system as depicted in the attached AV Systems drawings.
2. Provide a Custom ADA Compliant Lectern with motorized height adjustable work surface and 18RU equipment rack **(Spectrum Industries Quote # to be provided).**

2.4 EQUIPMENT LAYOUT

A. Provide the equipment layout as indicated on the AV Contract drawings. Provide audiovisual equipment racks with blank and vent panels as indicated on the AV Contract drawings. There are not to be any open areas on the front of the racks.

B. All equipment is installed with rack ears/mounts or custom rackmounts/face-plates, using security screws. There shall not be any shelf-mounted components in the audiovisual racks.

C. Convection airflow is to be considered when placing equipment and venting

D. All credenzas and enclosed cabinetry that contain electronics are to have undercut doors with venting along the top of the cabinet that promote free airflow.

2.5 OWNER FURNISHED EQUIPMENT

A. All room furniture will be furnished by the Owner (Unless otherwise noted in this specification).

B. All laptop and desktop PCs will be furnished by the Owner.

C. All Managed Gigabit Ethernet PoE+ Network Switches. These network switches will be used for routing and distribution of control system, IT network communications, Dante Audio, and AV over IP signals for the room's AV system.

D. Appspace Digital Signage software.

2.6 RELATED WORK SPECIFIED ELSEWHERE

A. The following systems and equipment are not provided under this contract. The Contractor is to coordinate as necessary to insure compatibility.

1. Installation of all furniture stub-ups, floor boxes and/or poke thru devices (excluding any plates and connectors to be provided by the contractor.
2. Telephone and telecommunications jacks and special telecom outlets not related directly to AV, (LAN/WAN, ISDN, POTS, etc.).
3. Single mode fiber feeds to managed 24-Port Gigabit Ethernet PoE+ Network Switches at the audiovisual equipment racks

2.7 AUDIOVISUAL EQUIPMENT SCHEDULE

A. See the attached, detailed equipment lists for the audiovisual systems. The Installers are responsible for supplying all equipment necessary to provide complete and working systems, whether or not the equipment is specifically enumerated herein.

PART 3 - EXECUTION

3.1 CONTRACTOR'S GENERAL RESPONSIBILITIES

A. The Contractor is responsible for delivering a complete, fully operational turnkey system to the Client

B. The Contractor shall furnish all equipment and materials, whether specifically mentioned herein or not, to ensure a complete and operating system. The NIC and OFE equipment and materials are exempted from this requirement.

C. The Contractor shall generate all shop drawings and information for the complete installation and wiring of the system. The Contractor shall provide (or sub-contract) the on-site installation and wiring and shall provide on-going supervision and coordination during the implementation phase.

D. The Contractor is responsible for the adjustment of the systems as herein prescribed and shall provide all test equipment for the system checkout and commissioning.

E. The Contractor shall coordinate and submit to all site policies and adhere to all site safety procedures put in place by the client, project team and General Contractor. If safety or policy meetings are specific to AV Systems, the Contractor shall provide and issue minutes/record of meeting.

F. The Contractor shall attend all project and construction manager/sub-contractor coordination meetings as required by CONSULTANT.

G. The Contractor shall perform an RF Spectrum Analysis Survey identifying all available frequencies that may be required by any wireless equipment under this specification such that appropriate frequency allocations may be identified for the purpose of purchasing corresponding transmitters and receivers. The Contractor is responsible for the validity of the survey and any subsequent equipment substitution that may result even if such equipment has been previously accepted by submittal.

3.2 PROJECT IMPLEMENTATION PROCESS

A. Construction Administration

1. CONSULTANT schedules and hosts a kickoff meeting with the client's project team and the designated Contractor to review the scope, answer engineering and design questions, finalize the project schedule, and set expectations for the successful completion of the work by the Contractor.
2. CONSULTANT reviews and approves shop drawings and submittals and respond to Contractor's RFIs. The Contractor will be directed by CONSULTANT to respond to RFIs, review and comment on product specifications and literature pertaining submitted by the general contractor/construction manager or subcontractor (as applicable).
3. The Contractor performs site inspections and supervision, examine installer's quality of work, and ensure adherence to the designs and requirements for the project(s)n, and issues status reports at a frequency established by the project team. The Consultant will verify these tasks are being performed as expected.
4. CONSULTANT will coordinate with the Contractor project manager on system checkouts and perform final inspections of the facility and the systems. The Contractor will establish a punch list and manage the completion all items related to AV system installation and communicate back to CONSULTANT and the project team all non-AV system related items.

B. Project Management

1. The Contractor shall provide a consistent implementation process to ensure continuity and quality across all projects.
2. The Contractor will perform project manage responsibilities and coordinate the installation of the AV systems under the direction of CONSULTANT.
3. The Contractor will ensure that the systems are delivered on-time and on-budget and that they meet all performance requirements and comply with the design specifications.
4. The Contractor will be responsive to all queries from the project team, the architect (where applicable), the general contractor/construction manager, engineers, and other trade consultants regarding the project design contract drawings, submittals and construction progress.
5. The Contractor shall provide project meeting and site attendance, and proactively participate in day to day activities as it relates to the on-going deployment of the project. The Contractor will provide a skilled representative to be either on-site daily or as frequently as required to meet project deliverables and deadlines.

C. Closeout

1. The Contractor will issue to CONSULTANT for approval a closeout package of all relevant project information to facilitate the transition of the audiovisual system to operational and support staff, which will include associated warrantees, equipment maintenance agreements and third-party support agreements.
2. All equipment and software purchased as part of this specification is owned by the client.
3. The Contractor shall provide a seamless transfer of ownership to client's designated AV support vendor, inclusive of all as-built documentation and product warrantees.

D. Project Manager's Duties and Responsibilities:

1. The Contractor shall provide a Project Manager to oversee and coordinate all activities on the Project
2. The Project Manager shall maintain the ability of making all managerial decisions on behalf of the Contractor on a day-to-day basis, and shall retain the authority of accepting notices of deduction, inspection reports, payment schedules and any other project related correspondence on behalf of CONSULTANT.
3. The Project Manager shall attend project meetings as required, during which time all System related issues are discussed, scheduled, confirmed, and/or resolved.
4. The Project Manager is available during normal business hours (8:00 am to 5:00 pm) by telephone during the term of the project.
    a. After normal business hours, the Project Manager is available within four (4) hours (5:00 pm to 9:00 pm) by email during the term of the project for urgent matters.
    b. In the event that the Project Manager is not available within the allotted time frame, the Contractor may designate additional staff to temporarily act as the Project Manager for all correspondence with CONSULTANT and the client.
    c. The Contractor shall ensure that any individual temporarily assuming the duties of the Project Manager is at equal or higher level in the Contractor's managerial chain of command.

5. Upon notification by CONSULTANT of any AV Contract scope related installation issue, or issue that may contradict the Specifications as stated herein, the Project Manager shall respond to such issue, verbally and/or in writing within an eight (8) hour period.
    a. Responses to such issues as stated above shall include a clear understanding of the issue, along with a tentative plan of action, reflecting milestones and/or deadlines to resolve the issue.
    b. Where appropriate, based on the overall importance of the AV Contract scope issue, the Project Manager shall follow-up their initial response with a written response to the issue within 24 hours of identification of the issue.

3.3 PROJECT SCHEDULE

A. Prior to the initiation of the Work, the Project Manager shall submit an updated schedule reflecting key milestones of the Work, including but not limited to the following:

1. Kick-off meeting
2. Preliminary pricing estimate
3. Program Report (as applicable)
4. Shop drawing submittal (architectural and system)
5. AV/IP worksheet
6. Prefabrication submittal
7. Staging of major systems

8. Ordering, delivery, and installation of System equipment
9. Field equipment delivery
10. Room Ready
11. Payment schedule
12. Installation completion date
13. System training (as applicable)
14. Commissioning
15. Acceptance of System
16. Delivery of As-Built documentation
17. Delivery of Operations & Maintenance Manuals
18. Go-Live date

B. The project schedule must be consistent with the schedule submitted, as well as the overall project schedule as developed by the GC.

C. The Project Manager shall update the schedule on a weekly basis to reflect the status of each key milestone as the Work progresses.

D. As the System installation progresses, the Project Manager is capable of discussing any/or all of the above-mentioned items at the request of CONSULTANT, and shall address each item, as it relates to the current status of the Work.

E. If for any reason, the Contractor becomes unable to meet the milestones outlined in their project schedule, the project manager shall notify the CONSULTANT, design team, and trades associated with related work, so as minimize delays in other project work paths, and shall present a plan for restoring the project back to schedule.

3.4 REFERENCE TO ARCHITECT/OWNER GENERAL CONDITIONS

A. The Architect and/or owner's General Conditions are considered part of this Specification except where this Specification contains statements which are more definitive or more restrictive than those contained in the General Conditions regarding a specific item or items. This specification shall not be interpreted as waiving or overruling of any requirements expressed in the General Conditions.

3.5 APPLICABLE CODES, STANDARDS, PERMITS AND INSPECTIONS

A. All audiovisual work shall meet or exceed the latest requirements of all National, State, City, County, Municipal and other Authorities having Jurisdiction over the audiovisual work and the project. It is the responsibility of the Contractor to obtain copies of all applicable codes.

B. Any portion of the audiovisual work not subject to the requirements of an electrical code published by a specific authority having jurisdiction over such work is governed by the National Electrical Code and any and all applicable sections of the National Fire code, as published by the National Fire Protection Association.

C. Installation procedures, methods and conditions shall comply with the latest requirements of the Federal Occupational Safety and Health Administration (OSHA), the Americans with Disabilities Act (ADA) and the Architectural Barriers Act (ABA).

D. The Contractor is responsible for all costs incurred to meet these codes and conditions.

E. Codes and requirements pertaining to the work:

1. NFPA-72 National Fire Alarm and Signaling Code
2. International and National Electric Codes (IEC/ NEC)
3. IEC 60268-16 Third Edition 2003-05 Objective rating of speech intelligibility
4. ANSI/Infocomm
   a. 10:2013 Audiovisual Systems Performance Verification
   b. 1M:2009 Audio Coverage Uniformity Standard in Enclosed Listener Areas
   c. 2M:2010 Standard Guide for Audiovisual Systems Design and Coordination
   d. 3M:2011 Projected Image System Contrast Ratio
5. Sustainable Technology Environments Program
6. Underwriters Laboratories, Inc. (UL)
7. Building Industry Consulting Service International (BICSI) Telecommunications Distribution Methods Manual - latest edition.
8. ANSI/TIA/EIA-568-B - Commercial Building Telecommunications Cabling Standard
9. ANSI/TIA/EIA-569 - Commercial Building Standards for Telecommunications Pathways and Spaces
10. ANSI/TIA/EIA-606-A. Administration Standard for Commercial Telecommunications Infrastructure
11. TIA-607-A, Commercial Building Grounding (Earthing) and Bonding Requirements for Telecommunications
12. EIA RS-232 Serial Communications Electrical Interface
13. EIA RS-310-C Racks, Panels and Associated Equipment
14. FCC Part 15
15. FCC Part 68
16. IEEE 802.3
17. IEEE 802.5
18. NEC Article 770 Optical Fiber Cables
19. NEC Article 800 Communications Circuits
20. NFPA 70 National Electrical Code
21. NFPA 75 Protection of Electronic Computer / Data Processing Equipment
22. United States Green Building Council (USGBC): Leadership in Energy & Environmental Design (LEED®): Green Building Rating System for New Construction & Major Renovations (NC) Version 3.0 (2009) www.usgbc.org.

3.6 STATUS REPORTS

A. After the award of contract, the Contractor is responsible for providing weekly status reports outlining his progress on the AV Contract scope. These reports should include information on the work completed during the week, the work to be completed during the upcoming week and any potential scheduling issues.

B. The following items are included in the Status Report:

1. Expected date of AV submittals, including equipment cut sheets, shop drawings, control system interface designs, etc. (see schedule above)
2. Anticipated completion date and percentage complete of control system programming for staging and on-site installation.
3. Anticipated completion date and percentage complete of in-house rack fabrication, testing and staging prior to shipping to the job-site. (refer to schedule above)

4. Field Reports prior to infrastructure completion: verify conduit sizing, nylon bushings back boxes at proper height, possible conflicts with HVAC ducting, wall reinforcement, cable pulls proceeding, electrical contractor following best practice for bend radius, etc.
5. Schedule and percentage complete of on-site wiring and supervision.
6. Schedule and adherence to room-ready milestones:
    a. Monitor room-ready dates tracked in GC schedule, provide notification of any anticipated slippage, modify AV schedule accordingly.
    b. AV Room Ready Definition: wall painted, lighting installed and functioning, AV interfaces for shade installed and functioning, HVCA systems installed and balanced, ceiling grid and tiles completed, furniture installed, electrical system installed, IT system installed and functioning, carpet installed, doors in place with locks or security on site.

7. Schedule and percentage complete of on-site installation.
    a. Field reports on installation in progress: verify non-installed equipment is secure, installed equipment is protected if exposed to construction work, installation is proceeding and following best practice, that there are no network or GC dependencies.

8. Schedule for client training (as applicable)
9. Schedule and percentage complete for systems checkout and turnover to the Client.

3.7 CONTRACTOR'S DOCUMENTATION

A. Pre-Construction Submittals

1. At the beginning of each project, the Contractor shall prepare a submission for approval to CONSULTANT a shop drawing package that applies the standards to the project's custom spaces.
2. The submission shall show evidence that a cross functional design review has been performed, including calculations to conform the performance of the system that will be installed.
3. The Contractor shall also submit, for approval, any custom designs pertaining to the systems.
4. Approval of shop drawings does not relieve the Contractor of meeting the specifications in product, performance, and practices. The submission shall include the equipment list and all calculations verifying the predicted performance, including but not limited to ceiling speaker and ceiling microphones coverage, camera angles and sight lines, and display viewing distances, custom mounting, power and ventilation coordination.
5. The Contractor is to provide one (1) sets of all documentation. Drawing submittals to be delivered electronically in PDF and working format (such as AutoCAD) to CONSULTANT, and at their option to the architect and the client. These designs include, but are not limited to, the following:
    a. A complete set of engineering drawings, prepared in CAD, including but not limited to AV flow with EDID Plan, control flow, , rack elevations, wiring details, conduit details, I/O and user interface plates, and reflected ceiling plans, AV layouts, and elevations as required to clearly show the system in an unambiguous manner such that it may be reviewed, fabricated, installed, and calibrated.
    b. System construction and point to point wiring schematic drawings shall include all component values and showing complete letter and number identification of all wire and cable as well as jacks, terminals and connectors. All connections are to be shown; details with "typical" connection diagrams are not acceptable.

c. Provide bound (.pdf) technical specification details (cut sheets) on all equipment required to complete the AV Contract scope with a table of contents and page number reference.
d. All control system front panel layouts, where applicable.
e. All panels, plates, and designation strips, including details relating terminology, engraving finish and color.
f. All custom designed consoles, tables, carts, support bases, and shelves.
g. Schematic drawings of all custom components, assemblies and circuitry, including wall and/or floor plates.
h. All unusual equipment modifications.
i. Run sheets or field wiring details.
j. Patch panel assignment layout drawings.
k. Elevation Drawings of each equipment rack, both front and rear.
l. Where applicable, suspension arrangement for the loudspeaker clusters. This drawing shall indicate hanging details and orientation of loudspeakers as required for proper coverage as specified. When deemed necessary, shop drawings is sealed by a Structural Engineer licensed in the state (or another jurisdiction as required).
m. Verification of the focal lengths of projection lenses and cameras to achieve the specified image sizes.
n. Staging and final acceptance testing checklists that will be used on the project. These checklists are in Microsoft Excel Workbook tailored to the project and test reports modified to be applicable for each system type. AVIXA/Infocomm/AQAV is used as reference standard for staging and commissioning checklists.
o. Testing procedures are to include (at a minimum) passing criteria and checklists for all systems included in this specification. testing methods, materials, equipment, and documentation of results to be provided. Note: Submittals not providing testing procedures will be rejected.
p. The AVI shall provide a list of the calibrated equipment that will be used on the performance tests in the Staging and Commissioning Checklists, along with the calibration date and serial numbers for each.
q. All items of equipment, whether a stock manufactured item or custom-built item, is supported by complete and detailed schematic drawings and replacement parts lists. No “black boxes” or unidentified components is acceptable under this specification.

B. Close Out Submittals

1. At the completion of the installation, the Contractor shall provide one (1) copies each in both Physical an Electronic (PDF) form of the following:
   a. Test results, in “spreadsheet” format, of electrical audio and/or video performance testing for all systems end-to-end in every room and/or between rooms as applicable.
   b. Note: It is the sole responsibility of the Contractor to fully test the audiovisual systems prior to CONSULTANT check-out and verification. Until these test results are provided, no audiovisual systems check-out or verifications (functional or otherwise) will be performed by the CONSULTANT. If any anomalies in system performance are detected, the Contractor shall correct these before performing any other tests.
   c. Results of RF Spectrum analysis as used to establish available frequencies for wireless devices included in this contract.
   d. Equipment manufacturer’s operation manuals for each piece of equipment.
   e. “As-built” drawings for every item indicated in the “Detailed Specification” sections of this specification as installed. Contractor shall coordinate the preferred format

(hard copy or digital) and location of these documents with CONSULTANT and the client upon completion.

f. Any exceptions to the standardized system specifications and functional block drawings requires the issuance of unique “As-built drawings for the complete system.

g. System functional block drawings showing all input and output circuit cable and terminal block numbers as well as all jack field circuit I.D. designations. A copy of these drawings are framed in protective plastic and mounted behind the display or inside the equipment racks 24 hours prior to first use by the client, or as otherwise directed by the CONSULTANT.

h. A Systems Operation and Maintenance Manual. This manual is produced by the Contractor especially for all non-standard systems. The “Operation” section shall describe all typical procedures necessary to activate each system to provide for the functional requirements as listed under the Detailed Specifications. Manuals will use graphical representation of touch panel screens, as to easily be identified by user. Owner’s Manuals and/or Operations manuals supplied by manufacturers for a given piece of equipment, though required, are not acceptable substitutes for these materials.

i. A laminated, quick-reference card outlining Audiovisual Systems start-up and operation is provided for all non-standard rooms.

j. The reader of this manual is assumed to be technically competent, but unfamiliar with this particular facility. Additionally, the Contractor shall provide a single page of basic operating instructions for each room, and other audio-visually equipped spaces.

k. The “Maintenance” section shall provide a recommended maintenance schedule with reference to the applicable pages in the manufacturer’s maintenance manuals. Where inadequate information is provided by the manufacturer, the Contractor shall provide the information necessary for proper maintenance.

l. In addition to the Operation and Maintenance Manual(s), the Contractor shall provide a simplified user’s guide (“cheat sheet”) for each audiovisual system.

2. Distribution
   a. All documentation is electronic.
   b. The Contractor shall follow all procedures regarding posting of documents and comply in a timely manner to any discrepancies.
   c. One hard copy is delivered to the CONSULTANT prior to the System Commissioning.

3. One copy of the above documentation will be retained by the Contractor.
4. Procedure for Resubmitting
   a. Make corrections or changes in O & M and/or Record Drawings as required by the Architect and resubmit when the Architect’s stamp requires re-submittal.
   b. Clearly identify changes made other than those specifically requested by the Architect when resubmitting Record Drawings. Changes are clouded or similarly highlighted as coordinated with the Architect. Only changes that have been specifically requested by the Architect or have been clouded by the Contractor will be reviewed on resubmittals.
   c. Any drawing sheets added to the resubmittal are clearly identified and clouded and shall not change the sheet numbering scheme for previously issued Record Drawings.
   d. The Contractor is responsible for any delays caused by the re-submittal process.

3.8 COOPERATION WITH OTHER TRADES

A. It is the responsibility of the Contractor to cooperate at all times, and to the fullest extent, with all trades doing work in the building, to the end that lost time, work stoppages, interference, and inefficiencies do not occur.

B. It is also the responsibility of the Contractor to participate in the preparation of coordination drawings and attend coordination meetings, before and during construction, at the request of the Construction Manager. It is not anticipated that these meetings will be held more than once a week.

3.9 EQUIPMENT DELIVERY AND STORAGE

A. All equipment delivered prior to installation is stored by the Contractor, at their place of business. Costs of all shipping, and of all unusual storage requirements, is borne by the Contractor. The Contractor shall inform CONSULTANT and the project team seven (7) days in advance to delivery to the site. It is the responsibility of the Contractor to make appropriate arrangements, and to coordinate with authorized personnel at the site, for the acceptance, handling, protection, and storage of equipment so delivered.

3.10 CLEANUP AND REPAIR

A. Upon completion of work each day the Contractor shall remove all his refuse and rubbish from and about the premises and shall leave the relevant areas and equipment clean and in an operational state. The Contractor is responsible for repairing any damage caused to the premises by the Contractor's installation activities, at no cost to CONSULTANT or the client. All repairs are to be completed by the General Contractor and billed to the Contractor.

3.11 CLIENT TRAINING

A. The Contractor shall quote to provide on-the-job training that the client may choose to include or decline.

B. All training is conducted by a suitably qualified instructor, to personnel designated by the Client, to instruct them in the operation and maintenance of the systems. In the event the Contractor does not have qualified instructors on staff for certain sophisticated equipment, the Contractor will provide a manufacturer's representative for such instruction to the client at no additional cost. All training shall take place after the systems are operational and accepted. CONSULTANT may choose to retain 10% of contract fee until completion of owner training. Unless otherwise directed by CONSULTANT,

C. There is a minimum of 30 hours of end-user training included in this specification.

D. Unless requested otherwise: the training sessions is divided into three groups. The first group will be "Super-users" who are trained on all aspects of the AV Systems including operations and trouble-shooting. The second group is a wider group of users who will be trained on general operations. Finally, the Contractor shall provide follow-up training for users who require "refresher" training, up to the maximum number of hours included.

3.12 PUBLICATION

A. No information relative to this job may be released for publication without prior written approval from CONSULTANT and the Client.

3.13 INSURANCE

A. Before commencing work, the Contractor shall procure and maintain, during the life of the contract, such comprehensive liability and property damage insurance as shall protect him, CONSULTANT and the client from claims for bodily injury, including death, and claims for property damage which may arise from the operations under this contract.

B. The Contractor shall obtain and comply with all insurance requirements established by the client, including any regional requirements.

C. The Contractor may be requested to set-aside contingency funds in the event of a design-directed change. The amount of contingency is identified and contracted upon during project award, held in abeyance by the Contractor and released at the end of the project, either in its entirety or in part.

3.14 INSTALLATION PRACTICES

A. General

1. Installation shall include the delivery to the installation site, unloading, setting in place, fastening to walls, floors, ceilings, counters, or other structures where required, interconnecting wiring of the system components, equipment alignment and adjustment, programming and configuration and all other work whether or not expressly required herein which is necessary to result in complete and fully operational systems.
2. Prior to ordering equipment, the Contractor shall coordinate the frequencies of all wireless devices to prevent unwanted interaction between devices and rooms. This includes, but is not limited to, wireless microphones, assisted listening system devices, wireless control panels, etc.
3. All accessories, including rack mounting hardware, power supplies, etc., are obtained from the original equipment manufacturer. Unless otherwise noted or specified, third party accessories shall not be used.
4. All installation practices are in accordance with, but not limited to, these specifications and AV Contract drawings. Installation is performed in accordance with the applicable standards, requirements, and recommendations of National, State, and Local authorities having jurisdiction.
5. If, in the opinion of the Contractor, an installation practice is desired or required, which is contrary to these specifications or AV Contract drawings, a written request for modification is made to the Design Team. Modifications shall not commence without written approval from the Design Team
6. During the installation, and up to the date of final acceptance, the Contractor is under obligation to protect his finished and unfinished work against damage and loss. In the event of such damage or loss, the damage is replaced or repaired at no cost to the Client.

B. Physical Installation

1. All equipment is firmly secured in place unless requirements of portability dictate otherwise.
2. All equipment shall have an engraved plaque permanently affixed, denoting its function.
3. Fastenings and supports are adequate to support their loads with a safety factor as per AHJ. All boxes, equipment, etc., are secured plumb and square.
4. Projectors, lenses, and mirrors are solidly mounted and braced or isolated, so that there is no observable movement in the image induced by motor vibration or other mechanical operations at the intended minimum viewing distance.
5. In the installation of equipment and cable, consideration is given not only to operational efficiency, but also to overall aesthetic factors.
6. All overhead equipment must have security cables attached to the building structure to assist in the prevention of loss as required by building code.

C. Finishes, Trim and Escutcheon Components

1. To insure a proper finished appearance, the Contractor shall furnish and install trim/escutcheon components at all conditions where A/V components pass through the finished ceilings. This would include but not be limited to video projector supports, television monitor/receiver supports and any other component which is not specifically supplied with integral flanges/trim components, i.e. speaker mounts, assistance listening devices, etc.
2. The visible component of any trim should be minimal in size, preferably no wider than 1/2". All trim components at the ceiling plane are finished to match the approved ceiling finish. The audiovisual Contractor should obtain a sample from the General Contractor, including any custom color information, or standard color numbers.
3. All visible components and finish options are submitted to the Design Team for review and approval prior to fabrication.
4. Raceway Systems and Cable Installation
5. All Cable must be Shielded, all connectors must be shielded and as per Audiovisual Systems Equipment manufacturers' specifications.
6. All wire bundles are to be neat and combed free of cable crossovers.
7. All cables, regardless of length, are marked with a permanent, self-laminating wrap-around number or letter cable marker at both ends, similar to the Panduit "Pan-Code" system. Labels must be computer-generated for legibility. Wire labels done by hand in the field must be replaced with computer generated labels. There are no unmarked cables at any place in the system. Marking codes used on cables shall correspond to codes shown on shop/installation drawings and or run sheets.
8. Group all cables are according to the signals being carried on them. In order to reduce signal contamination, group cables into the separate families:
   a. Power cables
   b. Control cables
   c. Video cables
   d. Audio cables carrying signals less than – 20 dBm
   e. Audio cables carrying signals between – 20 dBm and +20 dBm
   f. Audio cables carrying signals above +20 dBm
9. As a general practice, all power cables, control cables, and high-level cables run on the left side of an equipment rack as viewed from the rear. All other cables run on the right side of an equipment rack, as viewed from the rear.
10. Cables ties are placed at appropriate intervals of no greater than six inches for vertical bundles, two inches for horizontal bundles.
11. All vertical cable bundles are attached to the rack frame.
12. All cables are continuous lengths without splices. All system wire, after being cut and stripped, shall have the wire strands twisted back to their original lay and be terminated

by approved soldered or mechanical means. Except where noted otherwise in the specifications, NO BARE WIRE TERMINATIONS WILL BE ACCEPTED. Heat-shrink tubing is used to insulate the ground or drain wire. Unused wires at the end of a cable shall remain unstripped and are laid back and held in place with wire ties.

13. All solder connections are made with rosin-core solder using temperature-controlled solder stations. Care is taken to avoid cold or cracked solder joints. Any connections that do not appear to be clean and shiny, or which show signs of cracking, is re-soldered by the Contractor before final acceptance of the system.
14. Mechanical connections using insulated, crimp-type connectors are bonded to the connector by soldering the wire to the metal part of the connector.
15. Connections made with screw actuated pressure type terminal strips are made by stripping approximately 1/4 inch of insulation from the stranded conductor. Then the un-tinned wire is inserted into the terminal and the screw tightened using a secure fitting precision screwdriver.
16. Terminal blocks, boards, strips or connectors are furnished for all cables which interface with racks, cabinets, consoles, or equipment modules. No audio cables shall run directly to the audio patch panel jacks. Each audio patch panel is furnished with an audio terminal block, and all audio cables to and from the audio patch panel shall terminate on this block.
17. All wire markers shall face a common direction.
18. All cables shall have proper connector housing.
19. Cables shall not protrude from the back of racks.
20. All cable entry is through the tops of racks or through entrance holes in the base of the rack. No cable shall enter racks through front, rear or side panel openings.
21. All cables that can be terminated in the field (except video and pulse cables, which must be cut to an electrical length) are cut to the length dictated by the run. No splices are permitted in any pull boxes without prior permission of the CONSULTANT. For equipment mounted on casters, in drawers or on slides, the interconnecting cables are provided with a service loop of appropriate length.
22. No cable is installed with a bend radius less than that recommended by the cable manufacturer.
23. Where cables are visible, the cables will be sheathed in a color wrap that has been submitted for approval by the Design Team.

D. Connection Plate Receptacles unless otherwise specified

1. Audio (microphone or line level) – XLR type.
2. Audio (loudspeaker level) – Neutrik Speakon®.
3. RF – “F” type. Receptacles are insulated from panel type.
4. HDMI – HDMI with locking nut.
5. USB – USB Type A
6. Category 5/6 – RJ45 Type (Shielded)
7. Note: All connectors on wall plates, or in other exposed locations, are to be recessed.

E. Patch Panel Assignments

1. All patch panels are wired so that signal “sources” (outputs from) appear on the upper row of a row pair; and all “loads” (inputs to) appear on the lower row of a row pair.

F. Patch Panel Designation Strips

1. All audio and video patch panel designation strips shall utilize alphanumeric Identifications and descriptive information.

2. The jack position in each horizontal row are numbered sequentially from left to right. The horizontal jack rows are lettered sequentially from top to bottom.
3. The alphanumeric identification of each jack is included on the functional block drawings, as well as on reproductions of these drawings, which is mounted in an appropriate location near the patch bays.

G. Maintaining Ground Integrity

1. In order to minimize problems resulting from improper grounding, and to achieve maximum signal-to-noise ratios, the following grounding practices are adhered to in order to maintain the integrity of the grounding system.
2. Because of the great number of possible variations in grounding systems, it is the responsibility of the Contractor to follow good engineering practice, as outlined below, and to deviate from these practices only when necessary to minimize crosstalk, ground loops, ground-induced noise, and to maximize signal-to-noise ratios in the audio, video, and control systems.
3. System Power Ground:
   a. A single primary “system ground” is established for the system in each particular area. All grounding conductors in that area connects to this primary system ground.
   b. The system ground is provided at the audio equipment rack for the area and shall consist of a copper bar of sufficient size to accommodate all secondary ground conductors. A copper conductor having a maximum of 0.1 Ohms total resistance shall connect the primary system ground bar to the nearest approved ground. The Contractor is responsible for determining if the metallic conduit is properly electrically bonded to the building ground system.
   c. Secondary system grounding conductors are provided between all racks, audio consoles, and audiovisual system equipment local to the area. Each of these grounding conductors shall have a maximum of 0.1 Ohms total resistance.
   d. Under no conditions shall the AC neutral conductor, either in the power panel or in a receptacle outlet, be used as a system ground, except as specifically defined by NFPA 70 for bonding.
   e. Ungrounded equipment with either an inline transformer or a 2-prong plug, is bonded to the rack bus bar using #12awg cable.

4. Audio Cable Shields
   a. All audio cable shields are grounded at one point only. There are no exceptions. For inter and intra-rack wiring, this requires that the shield be connected at one end only. For ungrounded portable equipment, such as microphones, the shield is connected at both ends but grounded at only one end.

5. Video Receptacles
   a. All video receptacles that are provided and installed by the Contractor are insulated from the mounting panel, outlet box, or wireway. Unless otherwise detailed herein, this is accomplished by using insulated-from-panel type receptacles.

6. Audio Receptacles
   a. All audio receptacles that are provided and installed by the Contractor are insulated from the mounting panel, outlet box, or wireway. Unless otherwise detailed herein, this is accomplished by using insulated-from-panel type receptacles.

3.15 GENERAL SYSTEM PERFORMANCE STANDARDS

A. Unless restricted by the published specifications of a particular piece of equipment, or unless otherwise required under the Detailed Specifications, the following performance standards are met by each system. The signal paths for the above Performance Standards are as follows: From all source inputs to all signal destinations. Refer to Contractor System Checkout for testing procedures.

1. Analog Audio
   a. Frequency Response - Within plus or minus 0.5dB, 20 Hz to 20,000 Hz
   b. Signal to Noise Ratio - Greater than 90dB (including crosstalk and hum at all input / output levels)
   c. Total Harmonic Distortion - 0.05% maximum from 20 Hz to 20,000 Hz.

2. Input Levels:
   a. Microphone (Nominal) -50dbu
   b. Overload (Minimum gain) -5dbu
   c. Maximum Gain -26dbu
   d. Line (Nominal) +4dbu
   e. Overload (Minimum gain) +24dbu
   f. Maximum Gain +9dbu
   g. Input Common Mode Rejection >100db

3. Output Levels
   a. Line (Nominal) +4dbu
   b. Maximum +24dbu
   c. Output Impedance < 0.5 Ohms
   d. Load Impedance >150 Ohms

4. Analog Video (signal)
   a. Frequency Response: Within plus or minus 0.5dB, DC to 4.2 MHz
   b. Signal to Noise Ra: 55 dB minimum, (peak to RMS) unweighted, DC to 4.2 MHz
   c. Crosstalk: 45 dB minimum, unweighted DC to 4.2 MHz
   d. Line and Field Tilt: 2% maximum
   e. Differential Gain: 3% maximum, 2 degrees maximum

5. SDI: Per SMPTE 259M
6. HD SDI: Per SMPTE 292M
7. HD SD I(Dual Link); Per SMPTE 424M
8. 3G SDI: Per SMPTE 424M
9. HDMI: Per HDMI Ver. 2.0
10. HDCP: Per HDCP2.2
11. Audio Video Bridging (AVB)
    a. IEEE 802.1AS: Timing and Synchronization for Time-Sensitive Applications
    b. IEEE 802.1Qat: Stream Reservation Protocol (SRP)
    c. IEEE 802.1Qav: Forwarding and Queuing for Time-Sensitive Streams
    d. IEEE 802.1BA: Audio Video Bridging Systems

3.16 CONTRACTOR'S SYSTEM TESTING

A. At a minimum, the following sub-components of the Audiovisual System are tested, and verified:

1. Cable and Connectors

a. All cables and connectors are tested and verified to comply with the manufacturer's specifications and design intent.
b. Cable test results are submitted in advance of the Commissioning for review by CONSULTANT.

2. Devices
   a. All devices shall meet the functionality as specified by manufacturer.
   b. If any device is found to deviate from the manufacturer's functionality it is replaced by the Audiovisual Contractor at no cost to CONSULTANT or the client.

3. Signal Types
   a. The Audiovisual System is tested to comply with all video and audio standards as specified in the Performance Standards section and described by the design intent.

4. System Function
   a. The cables and connectors, devices, and signal types shall meet the functional requirements as specified by the design intent.
   b. Acceptable testing procedures may include but is not limited to that which is described in the detailed specifications such as (streaming, push-to-talk, annotation, etc.)
   c. Document that all matrix switching cross points have been tested and verified.

5. Network
   a. Compliance with the client's network configuration and security requirements is the responsibility of the Contractor. Respect to client's configuration and security requirements shall apply even if the network devices reside on a network that is considered independent and isolated from the other network services.
   b. For this purpose of this document, Network cabling shall include:

      1) Network jacks terminating the user end of a connection, structured cabling in the walls, ceilings, or furniture, Network jacks terminating the patch-panel end of a connection and Patch panels used to terminate connections
      2) All copper cabling installed as network cabling shall conform to, or exceed, the CAT6 specification for network cabling. This shall include all components of a connection, as listed in (a) above.
      3) All copper cabling installed for "digital video/audio/control transport/HDBaseT" shall conform to, or exceed, the CAT6a specification for network cabling. This shall include all components of a connection, as listed in (a) above.
      4) All fiber cabling installed as network cabling shall conform to, or exceed, the TIA 492AAAD specification for network cabling. This shall include all components of a connection, as listed in (a) above.

3.17 TEST EQUIPMENT

A. The following properly calibrate test equipment (or submit equivalent for approval) is used to configure, test and demonstrate the systems on site.

1. Video Testing:
   a. Digital Video test generator with EDID and HDCP components, Kramer 860 or similar

b. Media and portable hardware (i.e laptop) representative of all types found in the subject system including but not limited to Blu-ray ™ players and discs (provide discs with and without HDCP encrypted content), mobile PC/Tablets.
c. Set of terminations, 'T' pieces etc.

2. Audio Testing:
   a. Time based measurement system, Goldline TEF20 or SIA Smartlive with laptop PC, calibrated omnidirectional mic, and appropriate interfaces
   b. Audio test set, Audio Precision ATS-1DD
   c. Media representative of all types found in the subject system
   d. Audio cables as required to connect test equipment to the system
   e. Set of terminations, adapters etc.

3. Gain Setting
   a. Adjust all systems (end to end within a system) for maximum signal-to-noise ratio. No hiss should be audible through any loudspeaker at the completion of gain structure setting, and all audio gain stages should clip simultaneously.

4. Audio Signal Paths
   a. Connect the output of the audio test set to a floor box/table/rack program audio connector and connect the input of the audio test set to a final output point, e.g. an input to a program speaker power amplifier. Ensure that the test signal is routed to the selected output, that the volume control is set to 100% and that the equalizers are bypassed.
   b. Measure and record the signal/noise ratio, total harmonic distortion and frequency response.
   c. Repeat items 'xii' and 'xiii' for other audio signal paths.
   d. Connect the output of the audio test set to a floor box/table/rack speech audio connector and connect the input of the audio test set to a final output point, e.g. an input to a speech speaker power amplifier. Ensure that the test signal is routed to the selected output, that the volume control is set to 100% and that the equalizer is bypassed.
   e. Measure and record the signal/noise ratio, total harmonic distortion and frequency response.
   f. Repeat items 'xv' and 'xvi' for other audio signal paths.

5. HDMI
   a. Connect the HDMI output of the signal generator to a floor box/table/rack connector and select the HDMI signal at the various scan rates as follows:
      1) 720 X 480p @60Hz
      2) 1024 X 768 @60Hz
      3) 1280 X 720p @60Hz
      4) 1920 X 1080p @60Hz
      5) 1920 X 1200 @60Hz
      6) 3840 x 2160 @60Hz
   b. Check that the image is correctly displayed on the picture monitor(s) and/or by the video projector.
   c. Repeat item '1' using Crosshatch signal, checkerboard signal and H Pattern signal.
   d. Repeat item '2' for other HDMI connection locations.

6. At the end of the tests:
   a. Provide written records of all test results in spreadsheet form.
   b. Check all control functions, from all controlling devices to all controlled devices, for proper operations.

c. Adjust, balance, and align all equipment for optimum quality and to meet the manufacturer's published specifications. Establish and mark normal settings for all level controls and record these settings in the "System Operation and Maintenance Manual".
d. Check all optical projection images for average light level, light fall-off, and image alignment and size to comply with the Performance Standards and specifications drawings. Check to determine that all projectors, projector bases, carts, tables, and mirrors are rigid and vibration-less in operation.
e. Maintain documentation of all performance tests for reference by CONSULTANT during the Commissioning.

3.18 CONTRACTOR'S SYSTEM CHECKOUT: STAGING

A. Before delivery to the jobsite, all systems are staged in the Contractor's shop. A test of the AV system, with peripheral equipment and working control system programming is scheduled. CONSULTANT and the client may elect to inspect the staging.

1. Notification of any revisions to staging schedule (included in the Contractor's project schedule/milestones) is communicated to the project team by the Contractor's project manager one week in advance of staging. No less than 24 hours of acceptance, a test report is prepared and signed by qualified individual described above, using the Staging Checklist template submitted and approved in advance by the CONSULTANT, and issued to the project team stating that the system(s) is ready for review.
2. The CONSULTANT may elect to request a remote demonstration of the readiness of the staged system prior to on-site inspection. The AV System Installer shall pre-test and arrange a web conferencing call with audio and video camera in the staging area in order to sufficiently demonstrate the staged system's functionality.

B. The Contractor must request in writing and receive approval by the CONSULTANT to the staging of "typical" systems of each type. The arrangement is incorporated into the Contractor's milestones and issued to the team. The Contractor's request shall include the methodology that will be implemented to assure quality assurance for the remaining systems.

C. On the day of staging, both subjective and objective tests will be demonstrated to the CONSULTANT to determine compliance with the specifications. The Contractor is responsible for providing calibrated test equipment and test material for these demonstrations.

D. Network configuration and security

1. All videoconferencing, unified collaboration, IP cameras, transmitters, receivers and AV over IP distribution systems are staged on as close approximation of the client's network as possible.
2. Compliance with the client's network configuration and security requirements is the responsibility of the Contractor. To the extent possible, all network devices are configured in advance in the Contractor's shop to the Client-provided network security requirements. Respect to client's security requirements shall apply even if the network devices will reside on a network that is considered independent and isolated from the other network services.

E. Upon completion of the staging, the CONSULTANT shall issue a staging punch list identifying non-conformance and performance notes and the responsible party. The Contractor's Project Manager shall maintain the punch list henceforth, issue a response within 24 hours with the expected resolution date, identified owner of the item and tasks required to achieve closure.

The Contractor shall own the list through to closure of all items, issuing updates no less than weekly, responding to all quires in writing by the project team.

1. Non-Conformance: If during checking the CONSULTANT identifies any system components or functionality does not perform as expected, the acceptance for that system will stop. The discrepancy will be noted on the punch list the representative will be notified. The CONSULTANT will proceed to the next system. Non-conformance on key components and software require a full re-test of the system by the Contractor after remediation. Additional fees may be incurred if the CONSULTANT is asked to repeat the acceptance process.
2. Performance Notes: Items that do not impact the system design but are not in alignment with expected system completion may be identified during acceptance checks. The items are noted by the CONSULTANT on the punch list, addressed by the Contractor without requiring system reacceptance, with completion noted in punch list updates.

3.19 CONTRACTOR'S SYSTEM CHECKOUT: ON-SITE ACCEPTANCE

A. It is the responsibility of the Contractor to fully test the audiovisual systems prior to CONSULTANT 's final on-site check-out. Acceptance will not be performed until the Contractor's has notified the project team that system is ready the test results have been submitted to the project team and reviewed by the CONSULTANT. The Contractor's checkout process is in accordance with AVIXA/Infocomm's most current standard for Audiovisual Systems Performance Verification.

B. One Week Prior to Acceptance:

1. The Contractor shall provide a schedule of the rooms/systems that will be ready for acceptance for the upcoming week. The CONSULTANT shall determine the days and times that they will be available on site to accept these rooms.

C. Two Days Prior:

1. Completed test sheet for each space.
2. Written confirmation that space has been full tested.
3. Designated individual who will be available during acceptance, including email and cell phone
4. As-Built documentation in electronic form:
5. Equipment lists with serial numbers
6. Network Data sheet
7. System drawings
8. Staging Snagging List
9. Software Documentation: The Contractor shall provide a copy of the Software and Firmware Maintenance contract to CONSULTANT prior to system acceptance.

D. Day of Acceptance

1. The acceptance process shall consist of the following at a minimum:
   a. The operation of all system equipment is demonstrated by the Contractor. Both subjective and objective tests will be required to determine compliance with the specifications. The Contractor is responsible for demonstrating compliance with the specifications using properly calibrated test equipment and test material.
   b. A physical inventory of all equipment on site compared to equipment lists in the contract documents.

c. Review of final As-Build documentation (hard copy provided by the Contractor) as described in the “Contractors Documentation” section of this specification
d. Space is clear of all refuse, clean, complete and in operational-ready state
e. Contractor shall demonstrate to CONSULTANT and the client that the system conforms to the functional requirements detailed in the specification (or revised through documented submittal and RFI process), and the system is installed to the performance standards set forth.
f. If any non-conformance, where further adjustment is required, or where defective equipment must be repaired or replaced, the CONSULTANT may choose to immediately suspend the acceptance process and proceed to the next system that is ready for system. It is the responsibility of the Contractor to perform remediation outside the acceptance session.

2. Post-Acceptance and Snagging List
   a. The CONSULTANT shall issue a commissioning punch list identifying non-conformance and performance notes and the responsible party. The Contractor’s Project Manager shall maintain the punch list henceforth, issue a response within 24 hours with the expected resolution date, identified owner of the item and tasks required to achieve closure. The Contractor shall own the list through to closure of all items, issuing updates no less than weekly, responding to all quires in writing by the project team.
   b. Any modifications to the system after acceptance process, including but not limited to replacing hardware, updating firmware, changing audio settings and updates to the control system shall require a full re-test of the system. The Contractor’s shall coordinate a re-acceptance arrange at the convenience of the project team and CONSULTANT and address any impact to the schedule. The Contractor shall absorb all costs associated with additional system tests and re-acceptance due to improper system installation, configuration or previous failed system tests.
   c. All effort is made by the Contractor to complete the acceptance process before Client’s scheduled first-use milestone, meaning that all non-confirming punch list items are closed, and the system is signed off by the client. If the system cannot be fully accepted before first-use, then the Contractor must arrange all remediation work outside of client scheduled use (i.e. nights and weekends), and fully re-test the system before the next scheduled client use, at no additional cost to the client, until all punch list items are resolved to CONSULTANT and the client’s satisfaction.
   d. As noted herein under the sections on “Warranty Statement” and “Preventative Maintenance & Service Contract,” Warranty and Preventative Maintenance Periods shall commence after final acceptance by both the client and CONSULTANT.

END OF SECTION

27 41 16A - Integrated Audiovisual Systems Appendix A - OFOI Scope

Renovate Cornell Plant Science Building Phase 2 — **09-Nov-26**

Audiovisual System Summary

ITEM	SYSTEM NAME	ROOM #'s				QTY	SYSTEM EXTENDED
	Dry Lab, Plant Physiology Lab	104, 236				2	
	20 Person Classroom	133				1	
	Bio-Diversity Hub	403				1	
	Large Meeting Room	340				1	
	Meeting & Team Rooms (65" Display)	223, 435				2	
	Meeting & Team Rooms, Lounge, Computational Lab (55" Display)	116A, 224A, 324A, 431A, 431B, 404, 416				7	
	Digital Signage	10042, 40040				2	
	Collaboration Rooms	119, 221, 305, 323, 416				4	
						TOTAL EQUIPMENT COST SUBTOTAL	
						TOTAL NON-EQUIPMENT COST SUBTOTAL	
						TOTAL INSTALLED COST	

Renovate Cornell Plant Science Building Phase 2 — 9-Nov-26

Large Meeting Room

ID	DESCRIPTION	MFR	MODEL	NOTES	QTY	UNIT COST	EXTENDED COST	SYSTEM SUBTOTAL
PROJECTION/DISPLAY					0			
PRJ01	Laser Projector, UHD, 5000 Lumens	Epson	PowerLite L530U		1			
NETAV-DEC-01	Network AV Decoder - 4K60 4:4:4 HDR Network AV Decoder	Crestron	DM-NVX-D30		1			
PS01	Motorized Projection Screen, ceiling recessed, tab tensioned, 16:9 Format, 96"x54"	Draper	Access V with XH700X Grey (#140109TDL)		1			
PRJ01	Universal Ceiling Mount for Video Projector	Chief	RPMAU		1			
PRJ01	Extension Column, Adjustable 9"-12"	Chief	CMS009012		1			
NETAV-DEC-01	Network AV Decoder - 4K60 4:4:4 HDR Network AV Decoder	Crestron	DM-NVX-D30		1			
VIDEO SOURCES					0			
PC-OFE	Host PC	Dell	Optiplex	OFE Small Form Factor PC	1			
	Rack Shelf - Host PC, 3RU	Middle Atlantic	RC-3		1			
NETAV-SWR-4X1	DM NVX 5K 4x1 AV-over-IP Switcher with HDMI and USB-C Connectivity	Crestron	DM-NVX-384		1			
USB-PWR-INJ-01	Single Channel Midspan USB Power Injector with Cables	Crestron	PSU-MIDSPAN-USB-1-C KIT		1			
NETAV-ENC-01	Network AV Encoder - 4K60 4:4:4 HDR Network AV Encoder/Decoder	Crestron	DM-NVX-360		1			
VIDEOCONFERENCING SYSTEM					0			
CAM01	Video Camera - PTZ 4K/30p , PoE+	Panasonic	AW-UE40		3			
CAM01	Wall Mount for Video Camera - PTZ 4K/30p , PoE+	Panasonic	FEC-40WM		3			
NETAV-ENC-02	DM NVX® 4K60 4:4:4 HDR Network AV Encoder	Crestron	DM-NVX-E30		3			
CAM01	Ceiling Pole Mount Mount for Video Camera - PTZ 4K/30p , PoE+	Panasonic	FEC-PA1		1			
AV-BRDG	AV to USB Bridge Encoder/Decoder	Extron	MediaPort 200 (#60-1488-01)		1			
NETAV-ENC/DEC-01-DAN	Network AV Encoder - 4K60 4:4:4 HDR Network AV Encoder/Decoder with Downmixing and Dante Audio	Crestron	DM-NVX-363		1			
AUDIO PROCESSING & DISTRIBUTION SYSTEM					0			
AUD-DSP01	Audio DSP - 12x8 w/ Dante, AEC	Biamp	TesiraFORTÉ DAN CI		1			
AMP02	Two-channel Amplified Loudspeaker Controller, 1200W total power with DSP, Dante & AVB	Biamp	Voltera D 1200.2		1			
	Assistive Listening System, IR to include:	Listen Technologies	Quote #		1			
AST01	ListenIR System	Listen Technologies			1			
SPK01	Loudspeaker - Ceiling Recessed 6.5" two-way	Biamp	Desono C-IC6LP		6			
WIRED MICRPHONES					0			
MIC03	Microphone - Ceiling-Mount, 2'x2' Grid w/ DANTE	Shure	MXA920		2			
CONTROL SYSTEM					0			
NET-SW-48	Network Switch - Managed 48-Port Gigabit Ethernet PoE + Rack Mount Kit	Hewlett Packard	JL675A HPE Aruba 6100 48G 4SFP Managed Switch 48 Ports POE 370W	OFE	1			
CTRL-MN	Control Processor	Crestron	CP4		1			
CP-07	Control Touch Panel - Wired 7" Table Top	Crestron	TS-770-B-S		1			
MISC. EQUIPMENT & SYSTEMS					0			
RCK02	Equipment Rack - Credenza 12RU, 18"D	Middle Atlantic	CFR-12-18		1			
	Surge Suppressor/Power Distribution	Surge-X	SEQ-1U		1			
	Misc. Wire, Cables, Plates/Panels & Connectors	Custom	By AV Contractor		1			

COST ESTIMATE SUMMARY

TOTAL EQUIPMENT COST SUBTOTAL	
TOTAL NON-EQUIPMENT COST SUBTOTAL	
ENGINEERING	
PROJECT MANAGEMENT	
PRE-INSTALLATION & RACK FABRICATION	
INSTALLATION	
ELECTRICAL INSTALLATION	
TAX	
G&A	
TOTAL INSTALLED COST	

Renovate Cornell Plant Science Building Phase 2 — 9-Nov-26
Bio-Diversity Hub

ID	DESCRIPTION	MFR	MODEL	NOTES	QTY	UNIT COST	EXTENDED COST	SYSTEM SUBTOTAL
PROJECTION/DISPLAY					0			
PRJ01	Laser Projector, UHD, 5000 Lumens	Epson	PowerLite L530U		1			
NETAV-DEC-01	Network AV Decoder - 4K60 4:4:4 HDR Network AV Decoder	Crestron	DM-NVX-D30		1			
PS01	Motorized Projection Screen, ceiling recessed, tab tensioned, 16:9 Format, 96"x54"	Draper	Access V with XH700X Grey (#140109TDL)		1			
PRJ01	Universal Ceiling Mount for Video Projector	Chief	RPMAU		1			
PRJ01	Extension Column, Adjustable 9"-12"	Chief	CMS009012		1			
PC-MON	Touch Display PC Monitor	DelL	P2424HT	OFE	1			
NETAV-DEC-01	Network AV Decoder - 4K60 4:4:4 HDR Network AV Decoder	Crestron	DM-NVX-D30		1			
VIDEO SOURCES					0			
PC-OFE	Host PC	Dell	Optiplex	OFE Small Form Factor PC	1			
	Rack Shelf - Host PC, 3RU	Middle Atlantic	RC-3		1			
NETAV-SWR-4X1	DM NVX 5K 4x1 AV-over-IP Switcher with HDMI and USB-C Connectivity	Crestron	DM-NVX-384		1			
USB-PWR-INJ-01	Single Channel Midspan USB Power Injector with Cables	Crestron	PSU-MIDSPAN-USB-1-C KIT		1			
NETAV-ENC-01	Network AV Encoder - 4K60 4:4:4 HDR Network AV Encoder/Decoder	Crestron	DM-NVX-360		2			
DOC-CAM-01	Document Camera, 4K UHD	Wolfvision	VZ-8.UHD	Mount on top of rack	1			
VIDEOCONFERENCING SYSTEM					0			
CAM01	Video Camera - PTZ 4K/30p , PoE+	Panasonic	AW-UE40		4			
CAM01	Wall Mount for Video Camera - PTZ 4K/30p , PoE+	Panasonic	FEC-40WM		4			
NETAV-ENC-02	DM NVX® 4K60 4:4:4 HDR Network AV Encoder	Crestron	DM-NVX-E30		4			
CAM01	Ceiling Pole Mount Mount for Video Camera - PTZ 4K/30p , PoE+	Panasonic	FEC-PA1		1			
AV-BRDG	AV to USB Bridge Encoder/Decoder	Extron	MediaPort 200 (#60-1488-01)		1			
NETAV-ENC/DEC-01-DAN	Network AV Encoder - 4K60 4:4:4 HDR Network AV Encoder/Decoder with Downmixing and Dante Audio	Crestron	DM-NVX-363		1			
AUDIO PROCESSING & DISTRIBUTION SYSTEM					0			
AUD-DSP01	Audio DSP - 12x8 w/ Dante, AEC	Biamp	TesiraFORTÉ DAN CI		1			
AMP02	Two-channel Amplified Loudspeaker Controller, 1200W total power with DSP, Dante & AVB	Biamp	Voltera D 1200.2		1			
	Assistive Listening System, IR to include:	Listen Technologies	Quote #		1			
AST01	ListenIR System	Listen Technologies			1			
SPK01	Loudspeaker - Ceiling Recessed 6.5" two-way	Biamp	Desono C-IC6LP		6			
WIRED MICRPHONES					0			
MIC03	Microphone - Ceiling-Mount, 2'x2' Grid w/ DANTE	Shure	MXA920		2			
WIRELESS MIC SYSTEM					0			
WLS-MIC-RX	Wireless Mic - Receiver 2ch.	Shure	ULXD4D		1			
WLS-MIC-TX02	Wireless Mic - Bodypack Tx	Shure	ULDXD1		1			
	Wireless Mic - Headset Mic	Shure	MX153		1			
	Wireless Mic - Mini Lavalier, Omni directional	Countryman	B3		1			
	Wireless Mic - Battery Charger 2-bay	Shure	SBC200-US	Mount on top of rack	1			
	Wireless Mic - Battery	Shure	SB900A		1			
	Wireless Mic - Antenna Dist. Amp	Shure	UA845-SWB		1			
WLS-MIC-ANT01	Wireless Mic - Wall-Mounted Wideband Antenna	Shure	UA864US		2			
CONTROL SYSTEM					0			
NET-SW-48	Network Switch - Managed 48-Port Gigabit Ethernet PoE + Rack Mount Kit	Hewlett Packard	JL675A HPE Aruba 6100 48G 4SFP Managed Switch 48 Ports POE 370W	OFE	1			
CTRL-MN	Control Processor	Crestron	CP4		1			
CP-07	Control Touch Panel - Wired 7" Table Top	Crestron	TS-770-B-S		1			
MISC. EQUIPMENT & SYSTEMS					0			
LEC-RL	ADA Motorized Raise/Lower Lectern	Spectrum Industries, Inc.	Freedom One e-Lift Lectern #55542	Part of Quote #	1			
RCK03	Equipment Rack for ADA Motorized Raise/Lower Lectern (18RU)	Spectrum Industries, Inc.	Freedom One Equipment Rack #55508	Part of Quote #	1			
	Surge Suppressor/Power Distribution	Surge-X	SEQ-1U		1			
	Misc. Wire, Cables, Plates/Panels & Connectors	Custom	By AV Contractor		1			

COST ESTIMATE SUMMARY

TOTAL EQUIPMENT COST SUBTOTAL	
TOTAL NON-EQUIPMENT COST SUBTOTAL	
ENGINEERING	
PROJECT MANAGEMENT	
PRE-INSTALLATION & RACK FABRICATION	
INSTALLATION	
ELECTRICAL INSTALLATION	
TAX	
G&A	
TOTAL INSTALLED COST	

Renovate Cornell Plant Science Building Phase 2								9-Nov-26
20 Person Classroom								
ID	**DESCRIPTION**	**MFR**	**MODEL**	**NOTES**	**QTY**	**UNIT COST**	**EXTENDED COST**	**SYSTEM SUBTOTAL**
PROJECTION/DISPLAY					0			
PRJ01	Laser Projector, UHD, 5000 Lumens	Epson	PowerLite L530U		1			
NETAV-DEC-01	Network AV Decoder - 4K60 4:4:4 HDR Network AV Decoder	Crestron	DM-NVX-D30		1			
PS01	Motorized Projection Screen, ceiling recessed, tab tensioned, 16:9 Format, 96"x54"	Draper	Access V with XH700X Grey (#140109TDL)		1			
PRJ01	Universal Ceiling Mount for Video Projector	Chief	RPMAU		1			
PRJ01	Extension Column, Adjustable 9"-12"	Chief	CMS009012		1			
PC-MON	Touch Display PC Monitor	DelL	P2424HT	OFE	1			
NETAV-DEC-01	Network AV Decoder - 4K60 4:4:4 HDR Network AV Decoder	Crestron	DM-NVX-D30		1			
VIDEO SOURCES					0			
PC-OFE	Host PC	Dell	Optiplex	OFE Small Form Factor PC	1			
	Rack Shelf - Host PC, 3RU	Middle Atlantic	RC-3		1			
NETAV-SWR-4X1	DM NVX 5K 4x1 AV-over-IP Switcher with HDMI and USB-C Connectivity	Crestron	DM-NVX-384		1			
USB-PWR-INJ-01	Single Channel Midspan USB Power Injector with Cables	Crestron	PSU-MIDSPAN-USB-1-C KIT		1			
NETAV-ENC-01	Network AV Encoder - 4K60 4:4:4 HDR Network AV Encoder/Decoder	Crestron	DM-NVX-360		2			
DOC-CAM-01	Document Camera, 4K UHD	Wolfvision	VZ-8.UHD	Mount on top of rack	1			
VIDEOCONFERENCING SYSTEM					0			
CAM01	Video Camera - PTZ 4K/30p , PoE+	Panasonic	AW-UE40		4			
CAM01	Wall Mount for Video Camera - PTZ 4K/30p , PoE+	Panasonic	FEC-40WM		4			
NETAV-ENC-02	DM NVX® 4K60 4:4:4 HDR Network AV Encoder	Crestron	DM-NVX-E30		4			
CAM01	Ceiling Pole Mount Mount for Video Camera - PTZ 4K/30p , PoE+	Panasonic	FEC-PA1		1			
AV-BRDG	AV to USB Bridge Encoder/Decoder	Extron	MediaPort 200 (#60-1488-01)		1			
NETAV-ENC/DEC-01-DAN	Network AV Encoder - 4K60 4:4:4 HDR Network AV Encoder/Decoder with Downmixing and Dante Audio	Crestron	DM-NVX-363		1			
AUDIO PROCESSING & DISTRIBUTION SYSTEM					0			
AUD-DSP01	Audio DSP - 12x8 w/ Dante, AEC	Biamp	TesiraFORTÉ DAN CI		1			
AMP02	Two-channel Amplified Loudspeaker Controller, 1200W total power with DSP, Dante & AVB	Biamp	Voltera D 1200.2		1			
	Assistive Listening System, IR to include:	Listen Technologies	Quote #		1			
AST01	ListenIR System	Listen Technologies			1			
SPK01	Loudspeaker - Ceiling Recessed 6.5" two-way	Biamp	Desono C-IC6LP		4			
WIRED MICRPHONES					0			
MIC03	Microphone - Ceiling-Mount, 2'x2' Grid w/ DANTE	Shure	MXA920		2			
WIRELESS MIC SYSTEM					0			
WLS-MIC-RX	Wireless Mic - Receiver 2ch.	Shure	ULXD4D		1			
WLS-MIC-TX02	Wireless Mic - Bodypack Tx	Shure	ULDXD1		1			
	Wireless Mic - Headset Mic	Shure	MX153		1			
	Wireless Mic - Mini Lavalier, Omni directional	Countryman	B3		1			
	Wireless Mic - Battery Charger 2-bay	Shure	SBC200-US	Mount on top of rack	1			
	Wireless Mic - Battery	Shure	SB900A		1			
	Wireless Mic - Antenna Dist. Amp	Shure	UA845-SWB		1			
WLS-MIC-ANT01	Wireless Mic - Wall-Mounted Wideband Antenna	Shure	UA864US		2			
CONTROL SYSTEM					0			
NET-SW-48	Network Switch - Managed 48-Port Gigabit Ethernet PoE + Rack Mount Kit	Hewlett Packard	JL675A HPE Aruba 6100 48G 4SFP Managed Switch 48 Ports POE 370W	OFE	1			
CTRL-MN	Control Processor	Crestron	CP4		1			
CP-07	Control Touch Panel - Wired 7" Table Top	Crestron	TS-770-B-S		1			
MISC. EQUIPMENT & SYSTEMS					0			
LEC-RL	ADA Motorized Raise/Lower Lectern	Spectrum Industries, Inc.	Freedom One e-Lift Lectern #55542	Part of Quote #	1			
RCK03	Equipment Rack for ADA Motorized Raise/Lower Lectern (18RU)	Spectrum Industries, Inc.	Freedom One Equipment Rack #55508	Part of Quote #	1			
	Surge Suppressor/Power Distribution	Surge-X	SEQ-1U		1			
	Misc. Wire, Cables, Plates/Panels & Connectors	Custom	By AV Contractor		1			
COST ESTIMATE SUMMARY								
							TOTAL EQUIPMENT COST SUBTOTAL	
							TOTAL NON-EQUIPMENT COST SUBTOTAL	
							ENGINEERING	
							PROJECT MANAGEMENT	
							PRE-INSTALLATION & RACK FABRICATION	
							INSTALLATION	
							ELECTRICAL INSTALLATION	
							TAX	
							G&A	
							TOTAL INSTALLED COST	

Renovate Cornell Plant Science Building Phase 2 — 9-Nov-26

Dry Lab, Plant Physiology Lab

ID	DESCRIPTION	MFR	MODEL	NOTES	QTY	UNIT COST	EXTENDED COST	SYSTEM SUBTOTAL
PROJECTION/DISPLAY					0			
PRJ01	Laser Projector, UHD, 5000 Lumens	Epson	PowerLite L530U		2			
NETAV-DEC-01	Network AV Decoder - 4K60 4:4:4 HDR Network AV Decoder	Crestron	DM-NVX-D30		2			
PS01	Motorized Projection Screen, ceiling recessed, tab tensioned, 16:9 Format, 96"x54"	Draper	Access V with XH700X Grey (#140109TDL)		2			
PRJ01	Universal Ceiling Mount for Video Projector	Chief	RPMAU		2			
PRJ01	Extension Column, Adjustable 9"-12"	Chief	CMS009012		2			
PC-MON	Touch Display PC Monitor	DelL	P2424HT	OFE	1			
NETAV-DEC-01	Network AV Decoder - 4K60 4:4:4 HDR Network AV Decoder	Crestron	DM-NVX-D30		1			
VIDEO SOURCES					0			
PC-OFE	Host PC	Dell	Optiplex	OFE Small Form Factor PC	1			
	Rack Shelf - Host PC, 3RU	Middle Atlantic	RC-3		1			
NETAV-SWR-4X1	DM NVX 5K 4x1 AV-over-IP Switcher with HDMI and USB-C Connectivity	Crestron	DM-NVX-384		1			
USB-PWR-INJ-01	Single Channel Midspan USB Power Injector with Cables	Crestron	PSU-MIDSPAN-USB-1-C KIT		1			
NETAV-ENC-01	Network AV Encoder - 4K60 4:4:4 HDR Network AV Encoder/Decoder	Crestron	DM-NVX-360		2			
DOC-CAM-01	Document Camera, 4K UHD	Wolfvision	VZ-8.UHD	Mount on top of rack	1			
VIDEOCONFERENCING SYSTEM					0			
CAM01	Video Camera - PTZ 4K/30p , PoE+	Panasonic	AW-UE40		4			
CAM01	Wall Mount for Video Camera - PTZ 4K/30p , PoE+	Panasonic	FEC-40WM		4			
NETAV-ENC-02	DM NVX® 4K60 4:4:4 HDR Network AV Encoder	Crestron	DM-NVX-E30		4			
CAM01	Ceiling Pole Mount Mount for Video Camera - PTZ 4K/30p , PoE+	Panasonic	FEC-PA1		1			
AV-BRDG	AV to USB Bridge Encoder/Decoder	Extron	MediaPort 200 (#60-1488-01)		1			
NETAV-ENC/DEC-01-DAN	Network AV Encoder - 4K60 4:4:4 HDR Network AV Encoder/Decoder with Downmixing and Dante Audio	Crestron	DM-NVX-363		1			
AUDIO PROCESSING & DISTRIBUTION SYSTEM					0			
AUD-DSP01	Audio DSP - 12x8 w/ Dante, AEC	Biamp	TesiraFORTÉ DAN CI		1			
AMP04	Four-channel Amplified Loudspeaker Controller, 1200W total power with DSP, Dante & AVB	Biamp	Voltera D 1200.4		1			
	Assistive Listening System, IR to include:	Listen Technologies	Quote #		1			
AST01	ListenIR 2 ch. IR System w/Dante Combo	Listen Technologies			1			
SPK01	Loudspeaker - Ceiling Recessed 6.5" two-way	Biamp	Desono C-IC6LP		10			
WIRED MICRPHONES					0			
MIC03	Microphone - Ceiling-Mount, 2'x2' Grid w/ DANTE	Shure	MXA920		2			
WIRELESS MIC SYSTEM					0			
WLS-MIC-RX	Wireless Mic - Receiver 2ch.	Shure	ULXD4D		1			
WLS-MIC-TX02	Wireless Mic - Bodypack Tx	Shure	ULDXD1		1			
	Wireless Mic - Headset Mic	Shure	MX153		1			
	Wireless Mic - Mini Lavalier, Omni directional	Countryman	B3		1			
	Wireless Mic - Battery Charger 2-bay	Shure	SBC200-US	Mount on top of rack	1			
	Wireless Mic - Battery	Shure	SB900A		1			
	Wireless Mic - Antenna Dist. Amp	Shure	UA845-SWB		1			
WLS-MIC-ANT01	Wireless Mic - Wall-Mounted Wideband Antenna	Shure	UA864US		2			
CONTROL SYSTEM					0			
NET-SW-48	Network Switch - Managed 48-Port Gigabit Ethernet PoE + Rack Mount Kit	Hewlett Packard	JL675A HPE Aruba 6100 48G 4SFP Managed Switch 48 Ports POE 370W	OFE	1			
CTRL-MN	Control Processor	Crestron	CP4		1			
CP-07	Control Touch Panel - Wired 7" Table Top	Crestron	TS-770-B-S		1			
MISC. EQUIPMENT & SYSTEMS					0			
LEC-RL	ADA Motorized Raise/Lower Lectern	Spectrum Industries, Inc.	Freedom One e-Lift Lectern #55542	Part of Quote #	1			
RCK03	Equipment Rack for ADA Motorized Raise/Lower Lectern (18RU)	Spectrum Industries, Inc.	Freedom One Equipment Rack #55508	Part of Quote #	1			
	Surge Suppressor/Power Distribution	Surge-X	SEQ-1U		1			
	Misc. Wire, Cables, Plates/Panels & Connectors	Custom	By AV Contractor		1			

COST ESTIMATE SUMMARY

TOTAL EQUIPMENT COST SUBTOTAL	
TOTAL NON-EQUIPMENT COST SUBTOTAL	
ENGINEERING	
PROJECT MANAGEMENT	
PRE-INSTALLATION & RACK FABRICATION	
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TOTAL INSTALLED COST	

Renovate Cornell Plant Science Building Phase 2 — **9-Nov-26**

Meeting & Team Rooms (65" Display)

ID	DESCRIPTION	MFR	MODEL	NOTES	QTY	UNIT COST	EXTENDED COST	SYSTEM SUBTOTAL
FLAT PANEL DISPLAYS					0			
FPD04	Flat Panel Display - 65"	LG	65UH5J-H		1			
	Flat Panel Display - Wall Mount Fixed Large	Chief	LTM1U		1			
	Flat Panel Display - Large Low-Profile In-Wall Swing Arm Mount	Chief	PAC501		1			
VIDEO SOURCES					0			
	4K60 4:4:4 Transmitter for HDMI®, RS-232, and IR Signal Extension over CATx Cable	Crestron	HD-TXC-4KZ-101		1			
AUDIO PROCESSING & DISTRIBUTION SYSTEM					0			
	Assistive Listening System, IR to include:	Listen Technologies	Quote #		1			
AST01	ListenIR System	Listen Technologies			1			
SPK04	All-In-One Conferencing Appliance, Pre-configured for Zoom	Logitech	Rally Bar		1			
SPK04	TV Mount Adapter Kit for All-In-One Conferencing Appliance	Logitech	952-000248		1			
CONTROL SYSTEM					0			
CP-10-02	Control Touch Panel for All-In-One Conferencing Appliance, 10"	Logitech	Tap IP		1			
CP-10-02	Wall Mount for Control Touch Panel for All-In-One Conferencing Appliance, 10"	Logitech	939-001817		1			
MISC. EQUIPMENT & SYSTEMS					0			
	Misc. Wire, Cables, Plates/Panels & Connectors	Custom	By AV Contractor		1			
			COST ESTIMATE SUMMARY					
							TOTAL EQUIPMENT COST SUBTOTAL	
							TOTAL NON-EQUIPMENT COST SUBTOTAL	
							ENGINEERING	
							PROJECT MANAGEMENT	
							PRE-INSTALLATION & RACK FABRICATION	
							INSTALLATION	
							ELECTRICAL INSTALLATION	
							TAX	
							G&A	
							TOTAL INSTALLED COST	

Renovate Cornell Plant Science Building Phase 2 — **9-Nov-26**

Meeting & Team Rooms, Lounge, Computational Lab (55" Display)

ID	DESCRIPTION	MFR	MODEL	NOTES	QTY	UNIT COST	EXTENDED COST	SYSTEM SUBTOTAL
FLAT PANEL DISPLAYS					0			
FPD03	Flat Panel Display - 55"	Samsung	QM55C/LH55QMCEBGCXGO		1			
	Flat Panel Display - Wall Mount Fixed Large	Chief	LTM1U		1			
	Flat Panel Display - Large Low-Profile In-Wall Swing Arm Mount	Chief	PAC501		1			
VIDEO SOURCES					0			
	4K60 4:4:4 Transmitter for HDMI®, RS-232, and IR Signal Extension over CATx Cable	Crestron	HD-TXC-4KZ-101		1			
AUDIO PROCESSING & DISTRIBUTION SYSTEM					0			
	Assistive Listening System, IR to include:	Listen Technologies	Quote #		1			
AST01	ListenIR System	Listen Technologies			1			
SPK04	All-In-One Conferencing Appliance, Pre-configured for Zoom	Logitech	Rally Bar Huddle		1			
SPK04	TV Mount Adapter Kit for All-In-One Conferencing Appliance	Logitech	952-000248		1			
CONTROL SYSTEM					0			
CP-10-02	Control Touch Panel for All-In-One Conferencing Appliance, 10"	Logitech	Tap IP		1			
CP-10-02	Wall Mount for Control Touch Panel for All-In-One Conferencing Appliance, 10"	Logitech	939-001817		1			
MISC. EQUIPMENT & SYSTEMS					0			
	Misc. Wire, Cables, Plates/Panels & Connectors	Custom	By AV Contractor		1			

COST ESTIMATE SUMMARY

TOTAL EQUIPMENT COST SUBTOTAL	
TOTAL NON-EQUIPMENT COST SUBTOTAL	
ENGINEERING	
PROJECT MANAGEMENT	
PRE-INSTALLATION & RACK FABRICATION	
INSTALLATION	
ELECTRICAL INSTALLATION	
TAX	
G&A	
TOTAL INSTALLED COST	

Renovate Cornell Plant Science Building Phase 2								9-Nov-26
Digital Signage								
ID	**DESCRIPTION**	**MFR**	**MODEL**	**NOTES**	**QTY**	**UNIT COST**	**EXTENDED COST**	**SYSTEM SUBTOTAL**
FLAT PANEL DISPLAYS								
FPD03	Flat Panel Display - 55"	Samsung	QM55C/LH55QMCEBGCXGO		1			
VIDEO SOURCES								
	Cornell University Media Player	CU View	CU View Media Player		1			
	Digital Signage App	Appspace	App		1			
MISC. EQUIPMENT & SYSTEMS								
	Misc. Wire, Cables, Plates/Panels & Connectors	Custom	By AV Contractor	Miscellanous for Flat Panel Display Digital Signage	5			
COST ESTIMATE SUMMARY								
							TOTAL EQUIPMENT COST SUBTOTAL	
							TOTAL NON-EQUIPMENT COST SUBTOTAL	
							ENGINEERING	
							PROJECT MANAGEMENT	
							PRE-INSTALLATION & RACK FABRICATION	
							INSTALLATION	
							ELECTRICAL INSTALLATION	
							TAX	
							G&A	
							TOTAL INSTALLED COST	

Renovate Cornell Plant Science Building Phase 2 — **9-Nov-26**

Collaboration Rooms

ID	DESCRIPTION	MFR	MODEL	NOTES	QTY	UNIT COST	EXTENDED COST	SYSTEM SUBTOTAL
FLAT PANEL DISPLAYS					0			
FPD03	Flat Panel Display - 55"	Samsung	QM55C/LH55QMCEBGCXGO		1			
	Flat Panel Display - Wall Mount Fixed Large	Chief	LTM1U		1			
	Flat Panel Display - Large Low-Profile In-Wall Swing Arm Mount	Chief	PAC501		1			
VIDEO SWITCHING & DISTRIBUTION SYSTEM								
	Video Switcher -2x1 8K AV Switcher and Smart Display Controller	Crestron	HD-MD2X1-8K		1			
VIDEO SOURCES					0			
	~~Wireless Video Gateway~~	~~Mersive~~	~~Solstice POD Gen3 SGE-Enterprise~~	~~Provide five (5) years total license~~	0			
	Cornell University Media Player	CU View	CU View Media Player		1			
	4K60 4:4:4 Transmitter for HDMI®, RS-232, and IR Signal Extension over CATx Cable, Wall Plate, White	Crestron	HD-TXC-4KZ-101-1G-W		1			
MISC. EQUIPMENT & SYSTEMS					0			
	Misc. Wire, Cables, Plates/Panels & Connectors	Custom	By AV Contractor		1			

COST ESTIMATE SUMMARY

TOTAL EQUIPMENT COST SUBTOTAL	
TOTAL NON-EQUIPMENT COST SUBTOTAL	
ENGINEERING	
PROJECT MANAGEMENT	
PRE-INSTALLATION & RACK FABRICATION	
INSTALLATION	
ELECTRICAL INSTALLATION	
TAX	
G&A	
TOTAL INSTALLED COST	

RFI #	Date	Question	Response
1	10/16/2026	Do you have any budget information for this project?	Bid as shown in documents.
2	10/16/2026	We respectfully request a two-week extension to the bid submission deadline. Given the size and complexity of this project, additional time is needed to prepare a thorough and comprehensive estimate. We appreciate your consideration of this request.	See Addendum 2
3	10/16/2026	Will this be issues as a Single Prime or Multi Prime Contact?	Bid as shown in documents.
4	10/16/2026	1. Contract scope: Volume 1, Section 14 states this is a single-bid general construction project, and Section 27 41 16 (dated 08-31-2026) is listed in the Table of Contents of both Volume 1 and Volume 2. However, Section 01 11 00, Summary of the Work, paragraph 1.2.B (dated 4 September 2025) lists "AV Integrator" under Concurrent / Future Work Under Other Contracts. Please confirm whether the work of Section 27 41 16 is included in the single prime contract base bid or will be procured under a separate contract.	See Addendum 3
5	10/16/2026	2. Equipment list: Section 27 41 16, Part 1 (Equipment Costs) refers to an equipment list spreadsheet made available to installers electronically. We could not locate it in the bid documents. Please advise how bidders can obtain it.	See Addendum 3
6	10/19/2026	I'm a sales rep for Universal Window, a US manufacturer of commercial aluminum windows that specializes in historic replication. I see that Phase 2 of the Plant Science Building renovation bids on November 10 and includes replacing the exterior windows as part of returning the 1931 facade to its original appearance. We match original profiles, sightlines and muntin patterns in aluminum for SHPO review. We have products that allow hung sash and projected vents to operate at larger sizes than many other manufacturers. A couple of quick questions: 1. What window basis of design is specified for Phase 2, and will approved equals be considered? 2. What is the deadline for substitution requests or bidder questions before the bid? I can send product data, details, performance information, or draft specification language. If someone else is the technical contact on Phase 2, I'd appreciate it if you could point me to the right person.	See Section 2.20 of the Construction Agreement in Volume 1 of the Project Manual.
7	10/19/2026	Just want to confirm date and time for 10/20 at 1pm for pre-bid site walk. Also are photos allowed and can we use open space Digital?	Bid as shown in documents.
8	10/19/2026	Thank you also for the opportunity to submit this question before bid. I'm the Upstate New York Representative for Peerless Products, Inc., and I'm asking in advance for your openness to considering Peerless as an alternative that meets or exceeds the Basis of Design, with a thicker, harder finish and longer finish and insulating glass warranties than specified. Project: Renovate Plant Science Building, Phase 2, SUCF Project No. 161026-00 Section: 08 51 13 Aluminum Windows (Bid Documents dated August 31, 2026) 1. REQUEST TO ADD PEERLESS AS AN ACCEPTABLE MANUFACTURER Section 2.2.A limits manufacturers to the five listed, with Architectural Window Manufacturing Corp. Series 3400i as Basis of Design. Agreement Section 2.20(1)(a) and (b) provide that "similar and equal to" is deemed inserted wherever products are specified, that named products establish a standard of quality rather than limit competition, and that other products may be used if approved by the Consultant, except in the single/sole-source sections. Section 01 26 43 Amendments lists those sections (14 21 00, 23 09 23, 23 57 00, 28 00 00, 28 31 11), and 08 51 13 is not among them. Information for Bidders Section 4(1)(b) also directs that requests for equivalents follow Agreement Section 2.20. Please confirm that the Section 2.2.A list sets the standard of quality rather than excluding equals, and add Peerless Products, Inc. G200 Series (G241 fixed and G251/G255 outswing casement) to Section 2.2.A by addendum.	See Section 2.20 of the Construction Agreement in Volume 1 of the Project Manual.

RFI #	Date	Question	Response
		The proposed Peerless products against the specified requirements: - Class and grade (1.1.A.1): Fixed: AW-PG105, tested at 60" x 99". Casement: AW-PG100. - Air infiltration (1.4.D.2): Complies. 0.10 cfm/sf max at 6.24 psf, ASTM E283. - Water (1.4.D.3): Complies. No leakage at 15 psf, ASTM E331 and E547. - Deflection and structural (1.4.D.5, D.6): Complies. Fixed: L/175 max at 90 psf, structural at 135 psf. Casement: L/175 max at 100 psf, structural at 150 psf. No glass breakage or permanent damage, 0.2% max permanent set. - AAMA 910 life cycle (1.4.D.4): Complies. The casement's AW-class certification includes AAMA 910 life-cycle testing. - Thermal (1.4.D.7, D.8): CRF 71 frame / 72 glass for the fixed unit, AAMA 1503 (exceeds 55). U-factor, NFRC 100 with 1" argon-filled low-E IGU: fixed 0.297, casement 0.334. - Material (2.3.D): 6063-T5 extrusions, complies. Typical wall thickness 0.080"; frame depth 3-1/4" (see question 4). - Thermal barrier (2.3.D.5): Complies. Crimped-in-place, glass-fiber-reinforced polyamide struts, 1-5/16" minimum depth. - Ventilators and weatherstripping (2.3.D.4, 2.3.H): Double-tubular vent rails and stiles, mitered and gusseted, hinged at the jamb on two concealed stainless-steel hinges per vent (AAMA 904), with a single-action handle and multipoint locks. Compression weatherstripping per AAMA 702: two rows at the vent top rail and stiles, one row at the bottom rail. - Interior glazing (1.4.B, 2.5.B.1): Complies. Glass is dry-glazed against an exterior gasket and retained by interior aluminum glazing beads with compression gaskets, so it is replaceable from the interior. - Gasket glazing (2.3.G.2): Complies. Dry glazed; no wet glazing. - Simulated divided lites (2.3.I): Extruded aluminum grids, interior and exterior, finished to match the frame, with a between-glass grid at the same locations. - Receptors (2.3.J): Two-piece receptor and head expander with polyamide thermal break, sill angle, and two-piece interior snap trim. - Finish (2.6.A): Same performance standard, different coating type. One-coat superior-performance powder coat, 70% fluoropolymer (FEVE) resin, meeting AAMA 2605 including 10-year Florida exposure. Dry film thickness 1.9 to 3.14 mils, versus about 1.2 mils for liquid PVDF, with zero solvent content. Dual colors custom-matched to Phase 1 (Hidden Falls UC#148097 exterior, Charcoal Gray UC#103578 interior), with samples submitted for approval. - Warranties (1.11): Window 10 years (complies). Insulating glass 20 years (exceeds 10). Finish 20 years standard, 30 years extended available (meets or exceeds 20). - Shop drawings (1.5.A.4.a): Complies. Prepared by Peerless. Attached: G200 Series fixed and outswing casement technical data, and powder coat finish data.	

RFI #	Date	Question	Response
		2. PERFORMANCE GRADE Section 1.1.A.1.c reads "Performance Grade-100 (AW-PG150)." Sections 1.4.D.5 and D.6 set the deflection test at +/-90 psf and the structural test at +/-135 psf, which correspond to a 90 psf design pressure (structural test at 1.5 times design pressure under AAMA/WDMA/CSA 101/I.S.2/A440). Please confirm the governing performance grade and test pressures. 3. PHASE 1 DIMENSIONS Section 2.3.D.6 requires matching the dimensions of all components of the Phase 1 windows. Bidders who did not supply Phase 1 cannot verify this from the bid documents. Please issue, by addendum, the Phase 1 approved shop drawings or the profile and sightline dimensions for frames, ventilators, mullions, and muntins. 4. FRAME DEPTH AND WALL THICKNESS Section 2.3.D.3 specifies a 3-1/2" frame depth. At the drawn 3" = 1'-0" scale, the fixed jamb and sill details on A9.8C (1 and 2) scale at 3-1/2", while the head, mullion, and operable details (5, 4, 8A, 7A) scale at 3-3/8" for the frame. The listed Oldcastle Signature Series 3375 has a published frame depth of 3-3/8". Section 2.3.D also calls for a 0.125" minimum wall thickness, while Section 2.3.K.1 provides for fastening into aluminum less than 0.125" thick. Please confirm whether a 3-1/4" frame depth and a 0.080" typical wall thickness are acceptable where the windows meet the specified AW performance grade, structural tests, and sightlines. I can provide custom-matched finish samples and any additional documentation you need for the review, and I'm glad to facilitate a call with my dedicated engineer at Peerless to go over any questions you may have.	
9	10/21/2026	During the walkthrough, elevator use was mentioned. Can you please clarify what elevators are available for use during construction and provide any limitation (if any)?	Refer to future Addendum.
10	10/21/2026	It was mentioned during the walkthrough that the exterior materials (mortar, window frame finish, etc.) need to match exactly to phase 1. Can the submittals from phase 1 be provided so that materials and finishes can be obtained during the bid period?	Refer to future Addendum.
11	10/21/2026	Drawing P000, General Note 20 states that existing services that cause conflict are to be relocated at no cost. Is there additional information that can be provided in order to quantify cost? If additional information is not able to be provided, can an allowance value be considered?	See Addendum 2
12	10/21/2026	P6.1 has two schedules for fixtures. The Water Closet model is different on the schedules. Please confirm which is correct.	See Addendum 3
13	10/21/2026	P1.2 near room 219D, there appears to be an SC-1 that is not tagged. Please confirm if this is an SC-1.	See Addendum 3
14	10/21/2026	P2.0, Room G09, there appears to be a CP-1 that is not tagged. Please confirm if this is a CP-1.	See Addendum 3
15	10/21/2026	P2.0, Room G04, there appears to be a FD in the plan view southeast corner. This appears to be a 3” FD-1 per drawing P7.3. Please confirm.	See Addendum 3
16	10/21/2026	P2.4 includes several notes referencing a combined roof drain. Fixture schedule on P6.1 provides a model number for a single roof drain. Specification 221423 alludes to a single roof drain. Please confirm desired manufacturer/model for the combined roof drains.	See Addendum 3
17	10/21/2026	P2.5, column 24/O has a not to provide new roof drain but there is no storm pipe on P2.4. Please confirm if there is a roof drain to be installed here and if so, where the piping is to be routed.	See Addendum 3
18	10/21/2026	P2.5, column 24/Q states to replace roof drain. Please confirm this is to be a single RD-1.	See Addendum 3
19	10/21/2026	P2.5, column 24/S.2 states there is a new roof drain to replace existing. Please confirm this is the same RD-1 shown in this location on P2.4.	See Addendum 3
20	10/21/2026	P2.5, column 12/E.5 calls for a new roof drain to replace existing. Please confirm if this is to be a single RD-1.	See Addendum 3
21	10/21/2026	There were a lot of subcontractors in attendance at the walkthrough. Can the pre-bid attendance sheet please me shared via addendum?	See Addendum 1
22	10/21/2026	What are the procedures for requesting a second walkthrough for those subcontractors and suppliers who couldn't make it to the pre-bid meeting.?	Bid as shown in documents.

RFI #	Date	Question	Response
23	10/21/2026	We would like to request a two-week bid extension for this project. A project of this size needs more than the intial time given.	See Addendum 2
24	10/21/2026	During the walkthrough, there was a lot of talk regaring phasing and enabling. Can the phasing and logistics be clarified to ensure all bidders understand the requirements?	See 01 32 13 Special Project Schedule/Phasing
25	10/21/2026	Please provide the number of Campus furnished sings for the contractor to install per spec 01 00 00 Item 01 64 00 1.b)	See A11.22-A11.26.
26	10/21/2026	Please provide the current rental agreement for the Consultants Field Ofiice. Per 01 52 13 we are to continue the current agreement used for phase 1.	See Addendum 2
27	10/21/2026	Logistics Plans and Active Labs Question: Will there be logistics plans provided noting what is to remain active within the Plant Science building and a planned egress plan for said active areas. Based on the walkthrough yesterday it appears that there are going to be at least 5 active occupied areas around the project. There are notes about enabling some of these areas with utilities but there do not appear to be any temporary doors or walls shown. Drawing P1.U notes that the teaching labs in the Phase 2 side of construction are to stay active but there are not any drawings showing where temporary walls should be placed or any other methods to keep the room active and remain in use during construction. There are other locations like Mann Library on the 1st floor, Plant Science on the 1st floor at the breezeway, Plant Science Loading dock elevator, Mann Library at the 2nd floor and the greenhouses that connect to the work area, is there a plan for securing these areas from the construction areas during construction? Please review and advise.	See P1.U in Addendum 3. Refer to future Addendum.
28	10/21/2026	Existing and New Office Trailers Question 1: While onsite for the prebid it was noted that there are 2 office trailers that exist from Phase 1. Drawing C0.1indicates that the trailers and the existing fence and gate are to remain at these trailers. There was no fence at these trailers during the walk through, is this area to be fenced in?	Bid as shown in documents.
29	10/21/2026	Existing and New Office Trailers Question 2: In the General Requirements specification section 015213 Field Office for the Consultant and Contractor talks about the contractor taking over the rental of the 2 units observed onsite but it also talks about a 3rd trailer for the Consultant that is 30 ft by 12 ft that is fitted out with accessories and office equipment for the project. Please provide a location for this trailer (including utilities for connection).	See Addendum 2.
30	10/21/2026	Light Pole and Conduit Installation Question #1: There are light poles and conduit shown to be installed on E0.3. Drawings C0.2 (Site Demo) and C2.1 (Layout and Materials Plan) do not show any sidewalk or asphalt removals. The pathway for conduit shown on E0.3 appears to run through the new stairs poured during Phase 1 and runs along some of the plantings in the beds that are shown to be protected to remain. The light pole bases along the sidewalk adjacent to the greenhouse are in a planting bed that was noted as being very important to the campus. Please review and advise if boring under the stairs is required and if any of the protected plants in the vicinity of the new light pole bases are to be removed during this excavation.	Refer to future Addendum.
31	10/21/2026	Light Pole and Conduit Installation Question #2: The quantity of light poles and bases shown on E0.3 and C2.1 do not match. Please confirm which drawing is correct.	See Addendum 3
32	10/21/2026	Staging Storage Question: Is the staging storage area (next to the Plant Science Building) shown on C1.1 to be fenced in? Currently C 1.1 does not show any fencing around this area. Is this area to be restored at the end of the project?	Refer to future Addendum.
33	10/21/2026	Column Reinforcing at Tunnel Level Question: On drawing S1.00 in the north to south tunnel section that runs between Column Line 18 and 19 the columns at J-M line show the * symbol for column reinforcing per 10 on S5.0. This reinforcing is shown at the floor level. The columns noted to be reinforced appear to be in the tunnel wall. Is the intent for the slab on grade to be demoed and lead abatement at the Ground floor enough for this reinforcing to occur at ground floor or done the tunnel wall need to be removed and patched to allow this reinforcing at the tunnel floor level?	See details and reinforcing schedule on S5.0.

RFI #	Date	Question	Response
34	10/21/2026	2nd Floor Door to Green Roof Floor and Ramp Question: AD1.2 states to remove the concrete ramp and stairs at door X20041, the door is elevated above the corridor slab. Drawing A11.05 seems to show terrazzo being installed over an existing surface at this location where the ramp and stair are shown. Please provide details on what the ramp and stairs should be constructed from.	Refer to future Addendum.
35	10/21/2026	Exhaust Fan F-3 and F-4 Demo Question: On drawing MD1.1 note 20 states that the exhaust fan and ductwork are to be removed complete. There does not appear to be any details on the structural or architectural drawings to infill these openings. What type of roof is this area? What type of infill should be done at this location?	See Addendum 2
36	10/21/2026	Question: What is the extent of the mat footing shown on 1/S2.0?	Bid as shown in documents.
37	10/22/2026	Question: Section 011100 states under work under other contracts that the Security work is by Cornell University then the schedule of owner furnished items in this spec states that the security equipment (selected) is by the owner. The security integrator is noted on drawing TY0.0 as FF&E. FF&E is typically provided by the owner (Cornell) or SUCF. Is the security integrator to be provided as part of the contract or will they be hired by others during the course of construction?	See Addendum 3
38	10/22/2026	Question: On drawing C1.1 note numbers 11 and 12 state that the area has built up space below, coordinate with Cornell for existing conditions information. Note 13 on this drawing noted that this area is currently slated for redesign and that any Phase 2 work should take that into account. In these areas there is work on the façade removing and replacing windows. C1.1 has the hash for 6' scaffolding to be set up in these areas. There are no point loading requirements shown on this drawing or the structural drawing. Will there be any special shoring requirements for these areas? Is the work in area 13 going to occur during Phase 2, if so how will this impact the construction in that area?	Refer to future Addendum.
39	10/22/2026	Question: Details / Drawings 1/S2.3, 2/S2.9 show underpinning at existing footings to facilitate the new elevator shaft. Will an engineered underpinning sequencing drawing be issued? Underpinning is not an included item in section 01 35 73 Delegated Design, nor is delegated design required per section 312301 Excavation, Backfill, And Compaction (Building Area).	Refer to future Addendum.
40	10/23/2026	1.Please provide a bid extension for the project. Numerous subcontractors and suppliers are requesting one.	See Addendum 2
41	10/23/2026	We're pricing the doors, frames, and hardware on Plant Science Building Phase 2 (SUCF 161026-00). Quick question before we finalize: Section 08 71 00 lists Sargent as the preferred brand, but also names BEST 45H locks, BEST EDH9000 closers and Precision Apex exit devices as acceptable equals. Would you and Cornell be open to a full BEST/dormakaba package? It would save the Owner money with no change to function or Grade 1 performance, every item is already in your spec, and it puts locks, closers and keying under one manufacturer. If Cornell is standardized on Sargent, just let me know and we'll price it as written. What we're proposing (all named as acceptable manufacturers in your spec): • Mortise locks: BEST 45H series in place of Sargent 8200 (same Grade 1 functions: storeroom, office, classroom, privacy) • Electrified locks: BEST 45H electrified in place of Sargent SN200 82271 (24VDC, fail-safe/fail-secure per the sets) • Exit devices: Precision Apex 2000 in place of Sargent 80 series, including the fire-rated devices • Closers: BEST EDH9000 in place of Sargent 351 • Hinges: McKinney as specified, no change	Bid as shown in documents.
42	10/23/2026	The electrical drawings E1.0 through E1.4 show a 120VAC circuit being run to every VAV box location, however, this is not the typical way that VAV boxes are powered at Cornell buildings and does not match how the VAV boxes on Phase 1 of this project are powered. In lieu of having 120VAC run to every VAV box, it would be our preference to instead have five 120VAC circuits installed in locations spread out throughout each floor. I would suggest three circuit in the main corridor, one in the east wing, and one in the north wing.	See Addendum 3

RFI #	Date	Question	Response
43	10/23/2026	1.Spec 01 52 13 states within 2 weeks of receipt of NTP, we are to assume reasonability for the rentals of the existing consultant and contractor structures. Please provide the monthly rental for these structures and the removal cost that we would need to figure into our proposal. 2.Spec 01 52 13, Number 1, 2 and 3 under the “provide new equipment”, list off (3) cell phones with unlimited plans, (1) all-in-one printer and (1) water cooler. Please “specify” what brand is required or equivalent too. 3.Spec 01 52 13, Number 4, please specify what the existing print is for ink purchases and service contracts. 4.With the contractor taking over the rentals of the existing office structures, do we still need to provide a 30’x12’ movable office that is connected to water and sanitary?	See Addendum 2
44	10/23/2026	CAS Reps represents Boyd Aluminum for windows, storefront and curtain wall. We'd like to add some more competition to the bid if that is okay with you. Attached is a substitution request to add Boyd Aluminum as an acceptable manufacturer under Section 08 51 13 Aluminum Windows for the Renovate Plant Science Building Phase 2 at Cornell (SUCF 161026-00, bid date 11/10/2026). Proposed: Boyd Series 3250XT thermal strut windows (3250XTF fixed, 3250XTP project-out / 3250XTC casement per the window schedule; 3-1/4" frame, 39 mm thermal strut, AW-PG80/PG100). The spec calls for a PVDF finish with a 20-year warranty, so I've included Boyd's finish chart.	See Section 2.20 of the Construction Agreement in Volume 1 of the Project Manual.
45	10/26/2026	In response to Phase II at Cornell, I would like to see if any of my sub-contractors would be willing to use Henry’s All Weather STPE, PDS attached. I wanted to confirm with you, if submitted, would you approve as an acceptable alternate?	See Section 2.20 of the Construction Agreement in Volume 1 of the Project Manual.
46	10/26/2026	Drawing A1.5 has a note that states, New Seedum trays to match existing. At the prebid walk through it could not be determined the size or depth of the trays. Please provide details and a specification for the sedum trays that are to be replaced including what species of plants or grasses are to be used and if there is a specific dirt mix desired.	Refer to future Addendum.
47	10/26/2026	Unfortunately, our team was unable to attend the scheduled walkthrough for the Cornell Plant Science Project (#161026-00) Is there any possibility for us to visit the site on Wednesday (10/28)?	Bid as shown in documents.
48	10/27/2026	Slab thickness: Drawings S1.0 and AD1.0. Slabs at CL 17-20, D-F and 23.9-26, D-H. What are the thicknesses of the topping slab and cork insulation that are being removed and what are the thicknesses of the topping slab and geofoam that are going back?	See Addendum 2
49	10/27/2026	On the specifications for 13 21 00, it only mentions rooms G28 and G30. But on the drawings, it shows rooms G62, G60 as cold rooms as well. Additionally, I see a Warm Room (G64) and Growth Room (G50), are these able to be bid on as well? Sorry, also rooms G67D (Culture room), and G67E (Plant Growth/Equipment Room). Are these controlled environment rooms that we could review and bid on?	Bid as shown in documents; see A10.21.
50	10/27/2026	1. Can Norman manual roller shades be accepted as an equal to the products in the Windo w Treatment Legend on A9.05 (RS-1 Draper; RS-1A, RS-2, RS-3 MechoShade)? The proposed Norman shades match the specified fabric openness (1%, 3%, and opaque blackout), include fascia, include side/sill channels at RS-2, and have chain clutch operation. Product data and fabric samples are available on request. 2. Roller shade type RS-3 (motorized) is listed in the legend on A9.05, but no RS-3 tags appear on the plans. Please confirm whether RS-3 applies to any locations. 3. Please confirm whether the motorized projection screens (PS01) are in the Division 12 / window treatment scope or in the AV contractor's scope. 4. Please confirm which specification sections cover roller shades and projection screens, a nd send copies of those sections if possible.	1. See Section 2.20 of the Construction Agreement in Volume 1 of the Project Manual. 2. Refer to future Addendum. 3. See 11 52 13. 4. Bid as shown in documents.

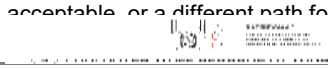
RFI #	Date	Question	Response
51	10/27/2026	1. On the specifications for 13 21 00, it only mentions rooms G28 and G30 as cold room. Bu t on the drawings, it shows rooms G62, G60 as cold rooms as well. Please clarify the intent. 2. Also rooms G67D (Culture room), and G67E (Plant Growth/Equipment Room). Are these controlled environment rooms as well?	Bid as shown in documents; see A10.21.
52	10/27/2026	•RFI 1: Aluminum Door Details oOn A9.10 details 14-21 depict aluminum storefront and aluminum doors. In reviewing the door and frame schedule on A9.10 & A9.11, it appears that there are no callouts for these particular details. Could you please confirm or advise if these details are/are not applicable to any of the doors/frames on the previously noted pages?	Refer to future Addendum.
53	10/27/2026	•RFI 2: Doors on Schedule with Missing Info oOn the door schedule (A9.11), the following door/frame types and materials were left blank: G09S, G0043A, 111S, 402U, 202S, 211S, 20040A, 302S, 315S, 402T, 30042A, 30060S, 402S, 40061A. Could you please advise which door & frame types and materials these are to be?	Refer to future Addendum.
54	10/27/2026	•RFI 3: Door Glass Types oOn 16/A10.11 doors 113B, 113C, 113D and 113E are shown, but have no glass tags. Could you please advise what makeups these are to be? oDoors 128A.2, 128B, 128C, 128D and 10042 have no elevation view. Could you please advise what glass types these doors are to get? oOn 18/A10.14 doors 202A, 202B, 202C, and 202F are shown, but have no glass tags. Could you please advise what makeups these are to be? oOn 14/A10.12 doors 219B, 219C, 219D, 219E, and 219F are shown, but have no glass tags. Could you please advise what makeups these are to be? oDoor 230.2 is shown on 5/A10.30 but has no glass tags. Could you please advise the makeups these are to be? oDoor 236 is shown on 3/A10.30 but has no glass tags. Could you please advise the makeups these are to be? oOn 17/A10.15 doors 302A and 302B are shown but have no glass tags. Could you please advise what makeups these are to be? oDoor 302E is shown on 15/A10.15 but has no glass tags. Could you please advise the makeups these are to be? oOn 14/A10.13 doors 319B, 319C.1, 319C.2, 319D, 319E, and 319F are shown but have no glass tags. Could you please advise what makeups these are to be? oOn 15/A10.16 doors 402A, 402B and 402D are shown but have no glass tags. Could you please advise what makeups these are to be?	Refer to future Addendum.
55	10/27/2026	•RFI 4: Door Discrepancies oDoors G01, G02, G03, G04 and G05 are listed on the door schedule to be door type G2, but in elevation views on 9 & 10/A8.10 are shown to be door type C. Could you please advise which is correct? oDoors G0051 and G0052 are listed on the door schedule to be door type D, but in elevation views on 1 & 11/A8.10 appear to be shown as door type C. Could you please advise which is correct? oDoor 133 is listed on the door schedule to be type A, but in elevation view on 1/A8.11 is shown as door type B. Could you please advise which is correct?	Refer to future Addendum.
56	10/27/2026	Is there more info available on eyewashes? We have been asked for model #'s that do not appear to be in the schedules or specs.	Refer to future Addendum.
57	10/27/2026	Question 1: In the bid set specifications there is a specification for Integrated Door Assemblies but after reviewing A 9.11 there does not appear to be integrated doors indicated on the door schedule. Please review and advise if there are any integrated doors on the project and if so please update the door schedule to show which doors are to be integrated doors. Question 2: If there are integrated doors for the project which hardware set should be used for the doors, the hardware set in the 087100 specification or the hardware set that is in the 081713 Integrated Door Assemblies.	Refer to future Addendum.

RFI #	Date	Question	Response
58	10/27/2026	1.In the specifications for 13 21 00, it only mentions rooms G28 and G30. But on the drawings, it shows rooms G62, G60 as cold rooms as well. Are rooms G60 & G62 part of bid package 13 21 00? 2.We are seeing a Warm Room (G64), Growth Room (G50), G67D (Culture room), and G67E (Plant Growth/Equipment Room). Are these controlled environment rooms? If so, are we to follow spec 13 21 00 or please provide additional specifications.	Bid as shown in documents; see A10.21.
59	10/27/2026	3.Please provide spec for Operable Glass Partition, drawing A11.06.	Refer to future Addendum.
60	10/27/2026	4.ACT-2 is called out on the legend on the Reflected ceiling plans but is not called out anywhere on the drawings. Looking at the finish schedule, ACT-2 is not called out as well. Please advise.	Refer to future Addendum.
61	10/27/2026	5.Please provide date for when last questions are due.	See Addendum 1
62	10/27/2026	6.Please provide a 2 week bid extension. Numerous subcontractors and suppliers are requesting one. With the size of the project, this was a very short bid period. Additional time is needed and requested.	See Addendum 2
63	10/27/2026	2.)Please identify locations for temporary partitions?	Refer to future Addendum.
64	10/27/2026	3.)Drawing MD2.0 shows the demolition of mechanical piping and equipment. Can we receive better clarity of the extent of the piping demolition on this floor. All lines are bolded but not indicating they are being demolished.	See Addendum 2
65	10/27/2026	4.)Spec 011100-3, Item C, mentions the GC is responsible for renting a warehouse facility. Can you please clarify this note? Shouldn't this be contractors means & methods?	Refer to future Addendum.
66	10/27/2026	5.)Would scaffolding services / shoring services be excluded from the PLA? Please confirm.	Refer to future Addendum.
67	10/27/2026	6.)We are unable to get pricing on the specified 30x12 trailer as this is a custom layout and requires the NYS insignia which will need to come from the factory. Lead time would be approximately 6 months from order. Would a standard rental option like a 44x10 or 50x12 be acceptable? Is there a scheduled location where this will be going?	See Addendum 2
68	10/27/2026	7.)Spec 010000-73: Are the (3) touch-tone phones a project requirement? Would cell phones work?	See Addendum 2
69	10/27/2026	8.)Spec 010000-41 mentions providing 3 cell phones. Spec 010000-44 also mentions providing 3 cell phones. Can you please confirm whether it is 3 or 6?	See Addendum 2
70	10/27/2026	9.)Can you please confirm we are able to utilize the existing elevator?	Refer to future Addendum.
71	10/27/2026	10.)I don't have a SUCF bid submission envelope. Can you please confirm we can submit in a standard envelope with the appropriate identification on the outside.	Refer to future Addendum.
72	10/27/2026	11.)Please advise whether the temporary fencing needs screening? The specs and drawings are contradictory to each other.	Refer to future Addendum.
73	10/27/2026	12.)Is the concrete encased steel beam patching limited to spray fireproofing? Please further clarify expectations for patching.	See Structural Steel Note 11 on S0.2.
74	10/27/2026	13.)We have had subcontractors ask if it would be possible to arrange for a second site visit walkthrough?	Bid as shown in documents.
75	10/27/2026	14.)4 / S2.0 references detail 14 / S5.2. Please provide this detail.	See Addendum 2
76	10/27/2026	15.)Roof walkway pads: please clarify if you would like a 2' wide pad or 4' wide pad.	Refer to future Addendum.
77	10/27/2026	16.)Drawing TA0.1 has an AV responsibility matrix. Can you please confirm whether the items labeled by AV contractor will be hired direct by Cornell or hired direct by GC?	Refer to future Addendum.
78	10/27/2026	17.)Drawing C1.1 show's numerous plantings within the note #10 hashed area preventing material access to building. Can these plantings be temporarily relocated to allow material access into building?	Refer to future Addendum.
79	10/27/2026	18.)We are receiving feedback from the subcontracting community requesting additional time to prepare bids due to the size and complexity of this project. Accordingly, we respectfully request a two-week extension to the bid deadline to allow subcontractors sufficient time to develop comprehensive and competitive proposals.	See Addendum 2

RFI #	Date	Question	Response
80	10/27/2026	19.)Please provide structural detailing for the new exterior wall opening at loading dock.	See Addendum 2
81	10/27/2026	20.)BIM Coordination: What Revit versions are the design files?	Refer to future Addendum.
82	10/28/2026	Equipment list (27 41 16 §1.3.F.2, F.5; TA0.1): The itemized SM&W equipment list and AV Equipment Schedule form are referenced but not included in the specs, Vol 1/2, or TA drawings. Please issue them with basis-of-design models and quantities.	See Addendum 3
83	10/28/2026	Please provide information on the following fixture types not shown on fixture schedules. TypeShown On AX04Site E0.3 AX07Site E0.3 KE2.0 (Elevator Pit) SNE2.0 through E2.4 EXITE2.0 through E2.4	See Addendum 3 for fixture types KE, SNE, EXIT. See future addendum for AX04 and AX07.
84	10/28/2026	Please provide information on the following fixture type. AK01 – Lab Bench Task Lighting This fixture is furnished with the bench and looks like it plugs into a USB type outlet on the bench. Where is the power for this coming from? Is it fed from one of the Receptacle circuits to the bench shown on the power drawings or from the Room Lighting circuit via the RC Room Controller for the room shown on the lighting drawings?	Refer to future Addendum.
85	10/28/2026	AX05 counts and locations on E0.2 demo and E0.3 new drawings The upper right group on E0.2 shows 3 fixtures to be replaced in kind but E0.3 only shows 2 fixtures at that location. Should the 3rd fixture also be replaced? The lower right group shows 3 fixtures to be replaced in kind but E0.3 shows 2 fixtures being replaced and 2 more in new locations. Is the right most fixture intended to move down?	Bid as shown in documents.
86	10/28/2026	Rooms G08A, G08B & G080 -Please confirm unmarked fixtures are Existing to Remain. Please provide fixture type for Unmarked fixture between the Type K in the elevator and the AW01 in the GN Toilet / Shower Room	Refer to future Addendum.
87	10/28/2026	Drawing E2.1 Please verify the Fixtures shown in Breezeway 10043 are existing to remain.	Refer to future Addendum.
88	10/28/2026	Drawing E2.4 shows a small black line marked AK01 next to a wall cabinet. Drawings E2.1, 2,2 & 2.3 Show a similar strip unmarked or with a “?” next to them in the labs at the end of the Lab Tables. Are these also type AK01?	Refer to future Addendum.
89	10/28/2026	We purchased the bid documents and plan on bidding the Cornell-SUCF Renovate Plant Science Building as a major subcontractor that will sign the Project Labor Agreement. However we are requesting a bid extension of no less than 2 weeks (11/24/26). Currently bids are due 11/10/26 at 2 pm. Please advise as soon as possible if this can happen. Thank you and any questions please reach out.	See Addendum 2
90	10/28/2026	Is RUF duct acceptable for Roof Top Applications?	Bid as shown in documents.
91	10/28/2026	Please provide written specifications for Argon and Helium piping.	See Addendum 3
92	10/28/2026	The P4 series drawings reference piping that is labeled SG1. Could you please clarify what that service is and provide specifications?	See Addendum 3
93	10/28/2026	Please Clarify Note D17 on AD2.0-AD2.4. The note makes reference to topping slab and cork insluation, however these are reflected ceiling demolition drawings. Is there really a topping slab with cork insulation in the ceiling?	Refer to future Addendum.
94	10/28/2026	10/S5.0 has a note regarding lead paint abatement @ existing columns, and refers to HAZMAT DRAWINGS. The HAZMAT DRAWINGS do not adress what is required at these locations	See Lead Removal Note L-1 on Sheet HM0.0 and throughout HM series. See S-series drawings for structural steel scope.

RFI #	Date	Question	Response
95	10/28/2026	Note 6 on S1.0 shows a symbol that represents Concrete Slab on Metal Deck. The symbol is shown in plan where there is no deck, there was an existing cold room that was removed leaving a depression in the slab on grade. The note shown at these areas says to remove the topping provide geofoam and place a 4" slab. Please confirm 1. there is no metal deck : and 2. The thickness of the geofoam to be placed under the new 4" slab.	See Addendum 2
96	10/28/2026	Drawings A3.3 and A3.4 have drawing note F12 - Obscure Glass Type IGU-B in This Unit pointing to single windows with "Typ." after it. Does this mean that all windows on this elevation, just that window type, or just windows in that row get the obscure glass? Please advise.	Refer to future Addendum.
97	10/28/2026	The size of window A15 as shown on drawing A9.8A does not seem to match the window size as shown on the exterior elevation drawings. Please advise which is correct.	Refer to future Addendum.
98	10/28/2026	The table of contents says that the signage is to be OFCI but the 10 14 00 does not indicate this. Please confirm whether or not the signage as part of 10 14 00 is to be OFCI.	Refer to future Addendum.
99	10/29/2026	1)The equipment schedule for room 219G (A10.72) calls for (2) EQ-1 and (2) EQ-1A fume hoods. One of each are shown. How many EQ1 & EQ1A Fume hoods should be included in room G23?	Refer to future Addendum.
100	10/29/2026	2)The equipment schedule (A10.77) calls for (1) EQ11 snorkel in G01 and (4) EQ11 snorkels in G02. None are shown in G01 and (3) are shown in G02. Please verify the correct number of EQ11 snorkels in G01 & G02.	Refer to future Addendum.
101	10/29/2026	3)Is the SH5 shelving in Cold Room G34 OFOI? In Cold Room G30 & G28 the SH5 shelving is noted to be OFOI, but the SH5 shelving in G34 is not listed on the equipment schedule.	Refer to future Addendum.
102	10/29/2026	4)According to the specifications, there is one EQ-7 Liquid Nitrogen Pour-Off Station in 228 (Flex Lab Support). One LN cylinder is shown on A10.22 with the designation 9-E06 which is OFOI. Please clarify what is to be provided for EQ-7.	Refer to future Addendum.
103	10/29/2026	5)Is the Biological Safety Cabinet in room G02 OFOI per the designation SE03 or CFCI per the designation EQ-8. Both designations are on the drawing for the BSC.	Refer to future Addendum.
104	10/29/2026	6)The equipment schedule in spec section 115300A lists qty. 1 EQ-3A in G61/G63. Please verify that there is (1) EQ-3A and it is in 304/304A.	Refer to future Addendum.
105	10/29/2026	7)The A10.77 equipment schedule calls for (1) CFCI ice maker but notes that the ice maker is from room 302 and is existing. Please clarify.	Refer to future Addendum.
106	10/29/2026	Reinforcing schedule on S5.0 calls out beam reinforcing of 12I36 beams at the first floor. There are no 12I36 beams shown to receive reinforcing on S1.1 or on any enlargements, please advise.	See Addendum 2
107	10/29/2026	In Phase 1 a square foot allotment of beam patching per floor was added by addendum in response to an RFI regarding the note “All existing framing not shown. Slabs are supported by concrete encased steel beams. Patch existing concrete encasement where damaged”. This note is not biddable without some type of quantity. Can the same be done for Phase 2?	Refer to future Addendum.
108	10/29/2026	1.Specification 015213 Field Office For The Consultant And Contractor, paragraph 1 states “Provide (3) three cellphone(s) with unlimited wireless and data services equivalent to <specify>.”. Please specify what is desired.	See Addendum 2
109	10/29/2026	2.Specification 015213 Field Office For The Consultant And Contractor, paragraph 2 states “Provide one (1) “all-in-one” printer/copier/fax/scanner with networking capabilities similar to <specify>. Please specify what is desired.	See Addendum 2
110	10/29/2026	3.Specification 015213 Field Office For The Consultant And Contractor, paragraph 4.b states “Provide a service contract for existing photocopiers and printers <specify>, including all toner cartridge(s) and monthly service contract for the duration of the job.”. Please specify what is desired.	See Addendum 2
111	10/29/2026	4.Specification 083113 Access Doors And Frames was issued twice in the project manual. One version is 3 pages, the other is 7. Which is the correct specification?	Refer to future Addendum.
112	10/29/2026	5.Drawing A1.1 First Floor Plan – Phase 2 has an elevation callout at the lower right hand corner for elevation 3/A3.4. There is no detail 3 on drawing A3.4. Please provide.	Refer to future Addendum.
113	10/29/2026	6.Drawing A1.2 Second Floor Plan – Phase 2 has a detail callout on the left hand side of door 219.1 for detail 5/A11.03. There is no detail 5 on A11.03. Please provide.	Refer to future Addendum.

RFI #	Date	Question	Response
114	10/29/2026	7.Drawing A1.5 Roof Plan – Phase 2 has multiple detail callouts for 2/A6.3. There is not detail 2 on A6.3. Please provide.	See Addendum 3
115	10/29/2026	8.Detail 13/A6.5 has a section cut of 12A/A6.5. There is no 12A detail on drawing A6.5. Please provide.	Refer to future Addendum.
116	10/29/2026	9.Detail 8/A7.05 Enlarged Plans And Views – Open Office Spaces shows a glass transom. Which frame type is it 8, 16 or 26?	Refer to future Addendum.
117	10/29/2026	10.Drawing A7.07 Enlarged Plans And Views – Support Spaces lacks identifying information regarding casework, countertops, shelving and other items. Please provide more information.	Refer to future Addendum.
118	10/29/2026	11.Drawing A9.10 Door & Frame Elevations And Details – Phase 2, Frame Types 1D, 12, 16 and 26 thru 31 do not have head, jamb, sill and butt glazing/intermediate mullion details noted. Please provide.	Refer to future Addendum.
119	10/29/2026	12.Drawing A9.10 Door & Frame Elevations And Details – Phase 2, Frame Type 2D has a section cut of 16/A11.00. There is no detail 16 on drawing A11.00, please provide. Frame 2D also has a jamb detail noted as number 1. There is no detail 1 on A9.10, please provide.	Refer to future Addendum.
120	10/29/2026	13.Drawing A9.11 Door & Frame Schedule – Phase 2 a.Please provide a column for door glazing. b.Please provide a column for glazing films for door glazing. Glazing films are called for throughout the interior elevations. However, every door that may potentially have glazing film does not have an elevation. Adding a column to the door schedule for film will greatly reduce the amount of time required to determine what is desired. c.Door number, G01 is marked as Yes for Power Operation, no Auto Operator is listed in hardware set #16. Please advise if one is desired at this opening. d.Door number G09S does not indicate door type, frame type or hardware set. Please provide. e.Door number G0043A does not indicate door type, frame type or hardware set. Please provide. f.Door number 111S does not indicate door type, frame type or hardware set. Please provide. g.Door number 402U does not indicate door type, frame type or hardware set. Please provide. h.Door number 202S does not indicate door type, frame type or hardware set. Please provide. i.Door number 211S does not indicate door type, frame type or hardware set. Please provide. j.Door number 219.2 is noted as using frame type 18 as aluminum. Drawing A9.10 notes detail 4 for head and jamb of frame type 18. Detail 4 notates the material as hollow metal. Please clarify what material frame is desired at this location. k.Door number 20040A does not indicate door type, frame type or hardware set. Please provide. l.Door number 302A does not provide valid dimensions or thickness. Please provide. m.Door number 302S does not indicate door type, frame type or hardware set. Please provide. n.Door number 315S does not indicate door type, frame type or hardware set. Please provide. o.Door number 402T does not indicate door type, frame type or hardware set. Please provide. p.Door number 30042A does not indicate door type, frame type or hardware set. Please provide. q.Door number 30060S does not indicate door type, frame type or hardware set. Please	Refer to future Addendum.
121	10/29/2026	14.Please reference drawing A11.06 Interior Details – Operable Glass Partition. Please provide a specification.	Refer to future Addendum.
122	10/29/2026	15.Please reference A11.22 Ground Floor Signage Plan – Phase 2. There are several signs listed in the Ground Floor Signage Schedule Phase 2 that are not detailed on A11.20 & A11.21. Please provide complete information so that installation costs can be determined accurately. This occurs again on A11.23 and A11.25.	Refer to future Addendum.

RFI #	Date	Question	Response
123	10/30/2026	Mullion Mates: In rooms 105, 205 & 311, there is a callout that takes you to 7/A11.01 that depicts a gap closure similar to that of a Mullion Mate. It calls for these to maintain a 1-hour fire-rating. After reviewing the Mullion Mate information online, they have a two-hour rated option that can close a gap =<8.5" and an option that can close a gap =<13.5" with no listed fire-rating. When scaling this detail, it appears that the gap between the wall and the mullion is 13.25". See below snip. Could you please advise/confirm if the 13.25" gap is accurate, if it is - whether the non-rated option is acceptable, or a different path forward. 	Refer to future Addendum.
124	10/30/2026	Insulation at Metal Panels: Details 1, 2, & 3/A6.21 depict three different wall conditions as it pertains to the Headhouse/metal panels. These details depict insulation, and call it out as such, but do not specify whether it is to be rigid insulation or mineral wool. Could you please advise which of these are to be used in these applications?	Refer to future Addendum.
125	10/30/2026	Louvers L6 & L7: On sheet A6.21, there is a Louver schedule depicted for presumably the new louvers on this project. All Louvers L1-L5 have been located, but L6 and L7 have not been able to be found. Could you please confirm/advise that these louvers are applicable, and if so, where they occur?	Refer to future Addendum.
126	10/30/2026	Due to the size and complexity of this project, on behalf of our team and many of our prospective subcontractors, respectfully request a bid date extension of at least two weeks.	See Addendum 2
127	10/30/2026	Can we receive an approximate volume of the existing glycol system that needs to be drained and refilled. Also can it be verified whether the owner will provide the mechanical contractor with the glycol required for this or will the mechanical be responsible for replacing the glycol in the system?	Refer to future Addendum.
128	10/30/2026	References – 01 32 13. 2 (page 12 of section 01 00 00, there are two section 2's under this spec.) The spec states "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." While there are phasing notes in the plumbing, fire suppression, mechanical, electrical and fire alarm drawings, there do not appear to be architectural phasing drawings indicating a preferred sequence of work or pedestrian control from adjacent buildings (Weill Hall Tunnel for example). Please confirm if there are additional phasing drawings.	Bid as shown in documents.
129	10/30/2026	Specification 13 21 00 Controlled Environmental Rooms - Please provide an estimated installation date required for CER combo room	Bid as shown in documents
130	10/30/2026	Specification 13 21 00 Controlled Environmental Rooms - Per utility appendix included in the specification. oLine 1: Regarding the external room dimensions. The external height listed is 7'6", while RCP dwg. A2.0 calls for 8' ceiling height. Please confirm if 9'7" over all external height is acceptable, which would result in ~7'6" ceiling plenum internal clearance above finish floor. oLine 11: Based on the building ventilation temperature and relative humidity provided a dehumidifier will be required. Please advise where the dehumidifier will be located and electrical supply available	Refer to future Addendum.
131	10/30/2026	Specification 13 21 00 Controlled Environmental Rooms - Please provide electrical supply available for condensers.	See Addendum 3
132	10/30/2026	Specification 13 21 00 Controlled Environmental Rooms - Please confirm 230 volt outlets included in these rooms are to terminate at disconnect on top of walk in.	See Addendum 3
133	10/30/2026	Specification 13 21 00 Controlled Environmental Rooms - Please confirm the raceways are to be powered through the CER control panel	See Addendum 3
134	10/30/2026	1.S1.0 – area of existing depressed slab. T/Slab (878') between column lines 17 & 20 – states to infill w/ geofoam and 4" slab. Top of concrete to match existing. The existing top of concrete in the hallway is 878. So if we add geofoam (How much?) and a 4" slab, we will be higher than the existing slab. Please advise. Also, the shading in this area is the same shading as Note #6 shadowing, which is a totally different slab configuration than what is called out. Please advise.	See Addendum 2

RFI #	Date	Question	Response
135	10/30/2026	2.S1.1, 1.2, 1.3, 1.4 and 1.5. Bold Boxed Note states patch existing concrete encasement where damaged. There is no way to quantify the extent of “Damaged” encasement. Please explain more or provide a quantity of area we can provide a price on so all contractors are biding the same thing.	Refer to future Addendum.
136	10/30/2026	3.Please provide an additional time for another walk-through of the space to better understand existing conditions and access within areas.	Bid as shown in documents.
137	10/30/2026	In the AD 2 series drawings there is a note D18 that indicated in the red shared areas the plaster ceiling is to be demoed and exterior wall to be parged above where the ceiling is removed. This appears to be detailed again with Note D 2 on AD5.1 which shows this plaster ceiling demo. Detail 2 on A 6.2 also appears to show this parging referenced on the demo drawings but none of the drawings have a ceiling height to allow for a takeoff on quantity to be parged. Please provide ceiling heights so that an accurate takeoff on parging can be done at these locations.	Refer to future Addendum.
138	10/30/2026	Question #2: A 6.2 Detail 4 calls for patching at the void where existing walls joined the exterior walls. The AD 1 series drawings only has a typical wall removal note but does not saw what type of wall construction the existing walls are. The patching shown on A6.2 Detail 4 would only be required where masonry walls were removed. Are all interior walls to be demolished to be considered masonry?	Refer to future Addendum.
139	10/30/2026	The contract documents contain specification section 321216 Asphalt Paving and Drawing C6.1 has details for asphalt mill & overlay and striping. However, there are no areas shown on the plans that are to be milled and paved. Please advise.	Refer to future Addendum.
140	10/30/2026	Detail 4 on A6.2, shows to areas of plaster patching/repair. There is no way to quantify the amount of repairs/patching that is required. Please provide an amount to base our bid on so all contractors are on the same playing field.	Refer to future Addendum.
141	10/30/2026	There is a spec for asphalt paving, but C2.1 does not call out anything for paving. I see the detail for Mill and overlay on C6.1, but where does it happen? Please advise.	Refer to future Addendum.
142	10/30/2026	Please advise we are to provide NO new plantings/trees. We are only seeding the lawn areas of disturbance. Is this correct?	Refer to future Addendum.
143	10/30/2026	On lab equipment schedules. a.A10.71 – room #113G – 6-E28 States under “provided by/installed by” “CFCI? Could Be?” b.A10.73 – Room #319E – Mott Tall Cabinet States under “provided by/installed by” “CASE” c.A10.76 – Room #402D – 11-E23 States under “provided by/installed by” “OFOI?” d.A10.77 – Room G14 - States under “provided by/installed by” “Place Holder” for several equipment i.Please advise on all of these.	Refer to future Addendum.
144	10/30/2026	Detail 6/A9.8C notes that existing plaster is to remain if sound and replaced if damaged. There is no way to quantify this pre-bid. Can an allowance (dollar or square footage) be established to reasobly account for this scope?	Refer to future Addendum.
145	10/30/2026	Question regarding storm drain piping: - Specification section 221413 provides a spec for hub/spigot cast iron (2.2) and hubless cast iron (2.3) - Execution section (3.11) provides an option for use of PVC at underground applications - The pipe material schedule on P000 calls for cast iron on all pipe sizes of stormwater/does not permit use of PVC *Please confirm if PVC will be acceptable for underground stormwater.	See Addendum 3
146	10/30/2026	Drawing AD1.5 calls for the existing sedum trays to be removed and turned over for reinstallation after the façade restoration. Drawing A1.5 calls for new sedum trays where the old ones were removed. Which direction should we follow?	Refer to future Addendum.
147	10/30/2026	On S1.4 there is a section 5/S3.2 through the North Parapet of the west wing which shows FRP slab reinforcing. In addition there is a note Reinforce parapet walls shown shaded see S4.1-S4.3. This is very vague please provide the appropiate section at the appropiate location intended.	Refer to future Addendum.
148	10/30/2026	S1.4 has wall sections 5,6/S4.3 these sections refer to 4/S5.2 for wall to slab angle. However 4/S5.2 does not seem to be the correct detail, should the reference be 5/S5.2?	Refer to future Addendum.

RFI #	Date	Question	Response
149	10/30/2026	On the following drawings we are noted to relabel pipe in areas without pipe sizing or length shown or quantified. Could this please be quantified or an allowance be provided (drawings M2.0 note 4, M2.1 note 2, M2.2, note 2, M2.3 note 2, M4.1 note 1)	Refer to future Addendum.
150	10/30/2026	On M2.0 compressors are shown north of CL 20/D please confirm these are supplied and installed by owner.	Refer to future Addendum.
151	10/30/2026	Per note 2 on M4.0 & M4.1 re-insulation of existing pipe after abatement is required, please confirm that all pipe is show that requires re-insulation. If not shown please quantify.	Refer to future Addendum.
152	10/30/2026	What are the numbered note in the hexigon noting on drawing F1.4 and all other drawings noted?	See Addendum 3
153	10/30/2026	The fire suppression demo drawings only show demo of mains in corridors and noted risers. No demo is shown for the majority of the branches that would be in the existing offices. Branches are shown in the install drawings in these areas. Were these missed on the demo drawings or do they not exist? (see FD1.0A & F1.0 for one example)	Bid as shown in documents.
154	10/30/2026	Section 01 11 13 of the Cornell General Requirements (01 00 00) states that there is no coordination required with other Contracts. However, the TT, TY, and TA drawings call out several contractors we are to coordinate with. Please advise if the following contractors are by the owner or the GC: Audiovisual Contractor, Structured Cabling or Telecommunications Contractor, Security Integrator, Tel/Data Installer, and all responsibilities listed under "Owner" on the responsibility matrices.	See Addendum 3
155	10/30/2026	The responsibility matrix shown on TA0.1 indicates that Audio/Visual devices are by the AV contractor "As Described in the AV Bid Docs." Are these bid docs available to verify what is required of the AV contractor if they are separate from the GC contract?	See Addendum 3
156	10/30/2026	Please advise if all equipment/devices as shown in the "Audiovisual Equipment Schedule - Phase 2" schedule on TA0.1 is by the AV contractor. If not, please provide a matrix of who is responsible for each device/piece of equipment.	See Addendum 3
157	10/30/2026	Detail 5/A11.11 shows unistrut supports for the Projector. Who is responsible for these unistrut supports? If the GC is responsible, please provide detailed drawings of what supports are necessary.	Refer to future Addendum.
158	10/30/2026	Can the standard height of the typical corner guards in the land and corridors at labs be provided?	Refer to future Addendum.
159	10/30/2026	Detail 2/A6.2 – 'Infill wall' – Detail is showing an 'infill wall' and also wall type EXT-1A. Is the 'infill wall' only needed directly below all exterior windows? Can architect please provide location where the 'infill wall' is needed? For instance, detail 3/A6.2 does not show 'infill wall'.	Refer to future Addendum.
160	10/30/2026	Shelving required by Division 105613 Metal Storage Shelving vs. the shelving required by Div 12 123553 Laboratory Casework - Are the shelving units noted as SH1, SH2, SH2.24, SH3, SH5.48, SH5 by Section 105613 or Section 123553? For example- drawings A10.10 through A10.30, shown SH shelving alongside other metal shelving which I think are laboratory casework shelving.	Refer to future Addendum.
161	10/30/2026	Shelving required by Division 105613 Metal Storage Shelving vs. the shelving required by Div 12 123553 Laboratory Casework - Are the shelving units noted as SH1, SH2, SH2.24, SH3, SH5.48, SH5 by Section 105613 or Section 123553? For example- drawings A10.10 through A10.30, shown SH shelving alongside other metal shelving which I think are laboratory casework shelving.	Refer to future Addendum.
162	10/30/2026	Millwork – Can a schedule be provided for millwork (non-Labcasework) – There is confusion between the Div. 6 and Div. 12 subcontractors. For instance, detail 4/A11.04. Is the Corain solid surface in main research lab Div. 6 millwork or Div. 12? All millwork in the Collab Rm is Div. 6 millwork, please confirm?	Refer to future Addendum.
163	10/30/2026	Spec. 09 62 29 – Please confirm location of Cork Flooring BOD Tomkt. Finish Schedule A9.05 calls CO-01 (cork flooring) in rms 119, 221,305 & 323. Finish Plans A9.1-A9.3 contradict and call out Terrazzo flooring. Please confirm Cork flooring Co-01 is needed for this project?	Refer to future Addendum.
164	10/30/2026	Spec 321216: Is this spec applicable to project? Please provide locations.	Refer to future Addendum.
165	10/30/2026	Spec 321216: Is this spec applicable to project? Please provide locations.	Refer to future Addendum.

RFI #	Date	Question	Response
166	10/30/2026	Spec 321723: Is this spec applicable to project? Please provide locations.	Refer to future Addendum.
167	10/30/2026	Drawing C2.1, Note #1: Please identify locations on drawing or include a square footage to include in our base bid.	Refer to future Addendum.
168	10/30/2026	Spec 078413: Is the intent of this specification to have a single source firestopping contractor?	Refer to future Addendum.
169	10/30/2026	Spec 01 00 00-43, Item 2.c.a: Please name the AutoDesk subscription you are looking for?	Refer to future Addendum.
170	10/30/2026	General Roofing Note 5 / A1.5: Please further clarify the expectation for this 1,000 sqft of LW concrete repair? Additionally, is the general design note #4 the same note?	Refer to future Addendum.
171	10/30/2026	Is there a specification for the sikalastic floor traffic coating? A3.6	Refer to future Addendum.
172	10/30/2026	Please provide the thickness of geofoam at the slab depression infill locations.	See Addendum 2
173	11/2/2026	It appears; the E-series drawings are missing the following Panel Schedules: LNPL-41-2, LNPL-31-2, LNPL-21-2, LNPL-22A & B, LEPL-OS-22, LNPL-11-1 & 2, LEPL-OS-11, LEPL-OS-01, HNLP-DP, HNLP-02, LNP-02, HELP-LS-02.	See Addendum 3 for LNPL-41-2, LNPL-31-2, LNPL-21-2, LNPL-11-1&2, LEPL-OS-01, LNP-02. See future addendum for additional panel schedules.
174	11/2/2026	On drawing E5.1, to the right-middle side of the one-line, two panels are labeled “LEPL-OS-22”. Please verify the correct labeling for these two panels.	See Addendum 3
175	11/2/2026	In specification 077200 there is a ballasted guardrail system noted in section 2.7. The roof drawing A1.5 does not appear to show any guardrail. Please advise if this is applicable to the project and if so please identify where it is to be installed.	Refer to future Addendum.
176	11/2/2026	Specification 077200 section 2.5 called out the duct supports for the ductwork on the roof. This section also refers contractors to 230550 for wind restraint for HVAC systems. There is a specific detail 13 on A 6.6 for guy wire anchors that is shown and called out at the exhaust fan stack on A1.5 Roof #010. Understanding that the system is a delegated design, for bidding purposes should the roofing contractors carry any additional penetrations through the roof at the duct supports beyond what is shown on A1.5A or detail 2 on A 6.6?	Refer to future Addendum.
177	11/2/2026	"Exit Signs References: Luminaire Schedule E6.8–E6.10; Spec Section 26 51 01, 2.12.A; lighting plans E2.0–E2.5 Issue: Exit signs are shown on the lighting plans, but no exit sign type is designated in the luminaire schedule, and the specifications contain no exit sign section."	See Addendum 3
178	11/2/2026	"Fixture Type SN References; Luminaire Schedule E6.8–E6.10 Issue: Fixture tag ""SN"" appears on the drawings, but there is no corresponding entry in the luminaire schedule legend."	See Addendum 3
179	11/2/2026	Refrigerator @ details 2/3/11 A7.07, who is responsible for furnishing and installing these?	Refer to future Addendum.
180	11/2/2026	1/A7.07 – states floor care equipment storage below shelving. Elevation details do not show any shelving. Please advise what is to be used.	Refer to future Addendum.
181	11/2/2026	9/A8.11 – restore/reinstall historic cold room entrance door. Please provide spec for restoration. What needs to happen?	Refer to future Addendum.
182	11/2/2026	4.AD1.2, states to demolish concrete ramp & landing. A11.05 shows new ramp configuration but where are the details for the new ramp concrete/steps/landing? Nothing is shown on structural drawings. Please advise.	Refer to future Addendum.
183	11/2/2026	A3.6 has notes about repairing Sikalastic Floor Traffic Coating, but there is no specification for this work, please provide a spec for the Traffic Coating.	Refer to future Addendum.
184	11/2/2026	There are specifications that are included in the spec book but do not have corresponding work on the drawings. Please advise why the following specs are included: 32 12 16 - Asphalt Paving, 32 17 23 - Pavement Markings, and any others that may be included without corresponding work on the drawings.	Refer to future Addendum.

RFI #	Date	Question	Response
185	11/2/2026	It appears; the E-series drawings are missing the following Panel Schedules: LNPL-41-2, LNPL-31-2, LNPL-21-2, LNPL-22A & B, LEPL-OS-22, LNPL-11-1 & 2 LEPL-OS-11, LEPL-OS-01, HNLP-DP, HNLP-02, LNP-02, HELP-LS-02.	See Addendum 3 for LNPL-41-2, LNPL-31-2, LNPL-21-2, LNPL-11-1&2, LEPL-OS-01, LNP-02. See future addendum for additional panel schedules.
186	11/2/2026	On drawing E5.1, to the right-middle side of the one-line, two panels are labeled “LEPL-OS-22”. Please verify the correct labeling for these two panels.	See Addendum 3
187	11/2/2026	Spec 01 52 13 Field Office for the Consultant Item 4b "Service contract for existing photocopiers, Printers including toner cartridges and monthly service contract for the duration of the job" Please provide the specifics for copiers printers etc	See Addendum 2
188	11/2/2026	The finish plans have SC-01 and SC-02 indicated, what are these products?	Refer to future Addendum.
189	11/2/2026	13 21 00 section there are two rooms included (G28 & G30), but I also see a Warm Room (G64), Growth Room (G50), Culture Room (G67D) and Plant Growth/Equipment Room (G67E). Are these rooms that can be bid on?	Bid as shown in documents.
190	11/2/2026	We have received multiple requests from subcontractors for a bid date extension. Can an extension please be provided for this project?	See Addendum 2
191	11/2/2026	Where is detail 5 on A11.03? Only goes to detail 4 on A11.03. Call out is on A1.2 @ door 219.1.	Refer to future Addendum.
192	11/2/2026	What happens @ the terrace on the 2nd floor? Benches are shown, no details. What’s the floor composition? What’s the speckled area around the “floor”? detail 2 on A4.3 shows possibly a new concrete slab. Nothing called out on structural drawings. Is this part of contract work? please advise.	Refer to future Addendum.
193	11/2/2026	We are reviewing the plans for the Cornell Plant Science Building Phase 2 project and would like to see how National Partitions can support the new interior partitions and room build-outs. We manufacture 3-inch modular wall systems, including certified 1-hour and 2-hour fire-rated options, along with systems designed to meet sound-deadening requirements. We would like to schedule a Microsoft Teams call with your design team to review the project scope and discuss where our systems may be a good fit. Could you please share your availability or direct us to the appropriate contact?	See Section 2.20 of the Construction Agreement in Volume 1 of the Project Manual.
194	11/3/2026	Drawing A7.07 & Sim. – Labeling of shelving, cabinetry and etc. is missing on drawing A7.07 (and other similar interior elevations). Can identification of shelving, cabinetry and etc. be provided for drawing A7.07 and other interior elevations missing callouts?	Refer to future Addendum.
195	11/3/2026	Request for Equivalent Product, Div 11 Fume Hoods & Div 12 Lab Casework - In accordance with Information for Bidders 4(1)(b) and Agreement 2.20, requests review of BICASA North America as an equivalent manufacturer for: Laboratory Fume Hoods – Section [11 53 13] & Laboratory Casework – Section [12 35 53]?	See Section 2.20 of the Construction Agreement in Volume 1 of the Project Manual.
196	11/3/2026	Are Sections [11 53 13] and [12 35 53] sole-source, or is “similar and equal to” deemed inserted per 2.20(1)(a)? Will the Consultant review this request before bid and confirm BICASA North America by addendum? Or will equivalents for these sections only be considered after award under 2.20(2)?	See Section 2.20 of the Construction Agreement in Volume 1 of the Project Manual.
197	11/3/2026	LabCasework 12 35 53 - Table frame type - The specification calls for C-frame tables, but the drawings show 4-legged tables (e.g. A10.00 – T1/T1A/T1B). Please confirm whether we should price C-frame as specified or 4-legged as drawn.	Refer to future Addendum.
198	11/3/2026	LabCasework 12 35 53 - Snorkels / exhaust - Please confirm the scope for snorkels. Should we supply all snorkels, only those labelled EQ-11, or none?	Refer to future Addendum.
199	11/3/2026	ADA fume hoods - The drawings show 4 additional ADA fume hoods beyond those listed in the specification, in rooms 202, G.14, Plant Physiology, and Plant Physiology Prep. Please confirm whether we should follow the drawings or the specification	Refer to future Addendum.
200	11/3/2026	Spec. 06 01 20 - Maintenance of Finish Carpentry – Please identify in drawings all restorations identified in spec. such as: Remove and salvage existing wood railing/handrails, wood gate, and historic wood entrance doors and trim for off-site restoration and refinishing.	Refer to future Addendum.

RFI #	Date	Question	Response
201	11/3/2026	A9.00 calls for installation of RS-02 in the Mech Corridor but the room is not listed on the Finish Legend. Please provide more information regarding finishes in this room.	Refer to future Addendum.
202	11/3/2026	A9.01 calls for TZ-01A as the flooring of Collab 119, but the Room Finish Schedule on A9.05 lists for CO-01 which is annotated as the Tomkt Cork Flooring in the Flooring Legend of the same page. Please Clarify.	Refer to future Addendum.
203	11/3/2026	A9.02 calls for Hydraulic Cement Underlayment at various locations of the floor. The Finish Legend on the same drawing refers to Note 1 on A9.05, Div 3 and 9 Specifications but does not clarify an assumed depth like drawing A9.01 does. Please provide a quantifiable amount so we can accurately estimate these areas.	Refer to future Addendum.
204	11/3/2026	A9.02 calls for TZ-01A for flooring in Collab 221, but the Room Finish Schedule calls for CO-01/TZ-01A. Please clarify which is the correct flooring for this space.	Refer to future Addendum.
205	11/3/2026	Neither A9.02 nor A9.05 list any finishes for Room 20062 Sec. Cl., please provide this information.	Refer to future Addendum.
206	11/3/2026	Drawing A9.02 shows Flex Lab Support rm 228 as RS-05 for the flooring but A9.05 calls for RS-03 in that space. Please clarify which is correct.	Refer to future Addendum.
207	11/3/2026	Darkroom 302EA has the legend designation of RS-01, however the tag is missing in that space and the Room Finish Schedule has absolutely no information for this space. Please provide the required finishes for this space.	Refer to future Addendum.
208	11/3/2026	The entire Base column for the 3rd and 4th floor on the Room Finish Schedule of A9.05 lacks information. There is a designation given for types applied, but no specific selection provided. Please revise and provide the applicable finishes.	Refer to future Addendum.
209	11/3/2026	The Room Finish Schedule of A9.05 is blank for the Penthouse. Please provide the applicable or required finishes for this space.	Refer to future Addendum.
210	11/3/2026	Drawing A9.03 does not give a flooring tag for Room 309 Cyl. Clo. but shows the legend pattern for RS-01, but the Room Finish Schedule on A9.05 calls for RS-02. Please clarify.	Refer to future Addendum.
211	11/3/2026	Drawing A9.03 does not give a flooring tag for Room 309 Cyl. Clo. but shows the legend pattern for RS-01, but the Room Finish Schedule on A9.05 calls for RS-02. Please clarify.	Refer to future Addendum.
212	11/3/2026	A9.03 shows TZ-01A for the flooring at room 305 Collab., however, the Room Finish Schedule has this space as CO-01. Please clarify which finish is to be used on the floor in this space.	Refer to future Addendum.
213	11/3/2026	Volume 1, Section 01 11 00, 1.2.B lists "AV Integrator" as a separate concurrent contract. Can the AV Integrator bid as a subcontractor to the Electrical Contractor, or must 27 41 16 be bid as a separate prime contract directly to SUCF?	See Addendum 3
214	11/3/2026	The TA sheet title blocks read "PRE-BID PRICING SET" dated 07/09/2025 and 08/14/2025, while the bid documents are dated 08/31/2026. Please confirm the TA sheets are the current bid issue, or issue updated sheets.	See Addendum 3
215	11/3/2026	Does Cornell/CALS have standard Crestron code and UI templates that will be furnished to the AV Integrator for reuse? If so, please confirm whether custom programming is expected for SY01-SY03 and configuration-only for SY04-SY06.	See Addendum 3
216	11/3/2026	How are the 24 AV spaces split across Phases IIA-IID and any micro-phasing?	Bid as shown in documents.
217	11/3/2026	AST01 IR emitters are tagged in all 8 SY04 meeting/team rooms (and 404), but the specification does not state the assistive listening scope for these rooms, and the Listen Technologies quote referenced for the assistive listening system is missing from the bid documents. Please provide the Listen Technologies quote and confirm these rooms are included in the assistive listening system scope.	See Addendum 3
218	11/3/2026	Spec 1.3.F.4 requires costs for the Basis of Design product plus a minimum of 2 additional manufacturers. Please confirm how alternate manufacturer pricing is to be submitted, whether it is required for every line item, and whether the base bid may carry any listed or comparable manufacturer that meets the performance requirements.	See Addendum 3
219	11/3/2026	Spec 1.3.F.5 states that equipment totals from each equipment list are entered on the Summary page of the Audiovisual Equipment Schedule form. The form and equipment lists were not included in the bid documents we received. Please issue the Audiovisual Equipment Schedule form and confirm whether it is to be submitted with the bid.	See Addendum 3
220	11/3/2026	Small AV equipment rack RCK-03 (18RU, mobile on casters) is shown in the SY01 and SY02 systems. Please confirm whether RCK-03 is a separate rack from the 18RU rack within the lectern, or the same unit.	Bid as shown in documents.

RFI #	Date	Question	Response
221	11/3/2026	SPK-02 appears only in a TA7.1 detail (QSC AD-C6T-LP) and is not tagged on any plan. Please confirm the quantity and locations of SPK-02, or confirm none are required.	Bid as shown in documents.
222	11/3/2026	TA7.1 notes "PROJECTOR, MOUNTING BRACKET & PIPE (LENGTH TBD IN FIELD) BY CIT AV." Please confirm projectors, mounting brackets and pipes are owner-furnished and installed by others, and excluded from the AV Integrator's scope.	Bid as shown in documents.
223	11/3/2026	For SY01 (Room 104), the TA3.0 ceiling plan shows 10 SPK-01 ceiling speakers, which does not match the quantity shown on TA6.0. Please confirm the SPK-01 quantity for Room 104.	See Addendum 3
224	11/3/2026	Assistive Listening: Can you obtain the referenced Listen Technologies quotation and confirm the required quantities of receivers, neck loops, and charging stations?	See Addendum 3
225	11/3/2026	Credenza rack RCK-02: Is RCK-02 integrated rack rail within the credenza or a standalone rack? Please confirm the rack capacity, manufacturer, and model.	See Addendum 3
226	11/3/2026	FPD03 Mounting: Should FPD03 in the Team Rooms be wall-mounted, pole-mounted, or installed on a freestanding display stand? Can you provide the applicable mounting detail?	Refer to future Addendum.
227	11/3/2026	Schedule and site logistics: Can you confirm the AV installation/commissioning window, normal working hours, site-access restrictions, and whether secure on-site equipment storage will be available	See Project Manual, Volume 1.
228	11/3/2026	We did not see a list of preferred AV equipment. Does such a list exist and will it be provided	See Addendum 3
229	11/3/2026	Note Provided: EXISTING AHU WITHIN THE HIGHLIGHTED AREA IS SCHEDULED TO BE REPLACED. PHASE 2 CONTRACTOR SHALL FIELD VERIFY EXISTING SPRINKLER COVERAGE AND CONFIRM THAT THE NEW AHU INSTALLATION WILL BE ADEQUATELY PROTECTED IN ACCORDANCE WITH NFPA 13. MODIFY OR PROVIDE ADDITIONAL SPRINKLERS AS REQUIRED TO MAINTAIN CODE COMPLIANT COVERAGE. The existing sprinkler coverage can not be field verified unitl the new AHU is set in its location. Please provide allowance or contingency for this work since it may or may not be necessary.	Refer to future Addendum.
230	11/3/2026	Drawing C1.1 indicates that the existing vegetation protection from phase 1 must be maintained. However, during the walkthrough, it was noted that there is no vegetation protection present. Please provide details as to what is currently in place and what needs to be maintained so adequate costs can be appropriated.	Refer to future Addendum.
231	11/3/2026	Please identify the areas affected by Note 1. on drawing C2.1	Refer to future Addendum.
232	11/3/2026	Detail 2, 7, and 8/A8.20 look to be missing a toilet paper dispenser and a sanitary napkin deisposal. Please advise if these are required.	Refer to future Addendum.
233	11/3/2026	The elevation drawings on A8.20 looks to be missing the ADA grab bar(s) in the shower. Please advise if this would be required.	Refer to future Addendum.
234	11/3/2026	Where are the details for note 2 duct supports on drawing M1.5?	Refer to future Addendum.
235	11/3/2026	Please confirm there are no RS-3 window treatments on the project. They are on the schedule on A9.05, but do not look like they are on the drawings. Please advise.	Refer to future Addendum.
236	11/3/2026	It looks as though the plan set is missing drawing A9.06. Can this please be provided.	Refer to future Addendum.
237	11/3/2026	Can detail 5/A11.03 be provided? Callout on drawing A1.2	Refer to future Addendum.
238	11/3/2026	Can the wire shelving of spec section 105613 be chrome plated steel or powder coated steel? The listed manufacturers, such as Equipto, doesn’t offer stainless steel as the spec. mentions.	Refer to future Addendum.
239	11/3/2026	The Specialty Materials Schedule on A9.05 lists FORBO tackboard. The spec section 101100 Visual Display Surfaces specifies Tackboard Assemblies under part 2.5. Can Architect please identity in the drawings where the FORBO tackboards are?	Refer to future Addendum.
240	11/3/2026	Please confirm the intent is to have two all in one printer/copier/scanner with monthly service contract. Or is it just one?	See Addendum 2

RFI #	Date	Question	Response
241	11/3/2026	Drawing A9.10 & A9.11 Per door schedule A9.11 these frames are listed as aluminum, but elevations and details on A9.10 show hollow metal frames. Please verify the correct framing material . Frame types: Door # No. 1A G0041 2B.3 113, 319.1 12 202 2B.2 219.1 18 219.2 2B.1 302, 402V 27 319.2 29 403 28 404A 30 416	Refer to future Addendum.
242	11/3/2026	Is there a specification section for these sliding door systems? The frame and track is aluminum but the door is wood. Frame type: 1D Door type: L	Refer to future Addendum.
243	11/3/2026	Please provide spec for the modular Stainless Steel Wall in room 304 small autoclave. Detail 2 on A10.22.	Refer to future Addendum.
244	11/3/2026	Door # G0043A, 402U, 202S, 211S, 20040A, 315S, 402T, 30042A, 30060S and 402S are all missing door type/material and frame type/material.	Refer to future Addendum.
245	11/3/2026	Doors G0065 & G0066 have door type H and material as Paint and is missing frame type/material	Refer to future Addendum.
246	11/3/2026	Doors 431.2, 431A and 431B all have frame type 26 called out, frame type 26 is a 10’10”Lx1’7”H HM Window with no doors/door frame shown.	Refer to future Addendum.
247	11/3/2026	Door 302A has a height of 0’-0”x0’-0”.	Refer to future Addendum.
248	11/3/2026	Came across attached report. We have not had the opportunity to fully review or independently verify each item and are forwarding the report for your reference, to the extent helpful.	Bid as shown in documents.
249	11/4/2026	Opening – 403: No Frame Type is defined on Door Schedule but on the Drawings (A1.4) shows this opening to be Frame Type 29. Please verify Frame Type 29 is being used on this Opening?	Refer to future Addendum.
250	11/4/2026	Opening – 404A: No Frame Type is defined on Door Schedule but on the Drawings (A1.4) shows this opening to be Frame Type 28. Please verify Frame Type 28 is being used on this Opening?	Refer to future Addendum.
251	11/4/2026	Opening – 416: No Frame Type is defined on Door Schedule but on the Drawings (A1.4) shows this opening to be Frame Type 30. Please verify Frame Type 30 is being used on this Opening?	Refer to future Addendum.
252	11/4/2026	Opening – 431.2: Frame Type on Door Schedule is listed as 26 but on the Drawings (A1.4) shows the Frame Type 31. Please clarify which is accurate?	Refer to future Addendum.
253	11/4/2026	Opening – 431A: Frame Type on Door Schedule is listed as 26 but on the Drawings (A1.4) shows the Frame Type 31. Please clarify which is accurate?	Refer to future Addendum.
254	11/4/2026	Opening – 431B: Frame Type on Door Schedule is listed as 26 but on the Drawings (A1.4) shows the Frame Type 31. Please clarify which is accurate?	Refer to future Addendum.
255	11/4/2026	Specification 13 21 00 Controlled Environmental Rooms - Please confirm expected overhead clearance above CER. Per S2.12 it appears there is ~11' clearance between ground floor and T/Steel First Floor. Phase I required ceiling access hatches to assist during the installation of refrigeration / electrical & other utilities. These hatches also allow for future access if necessary	Refer to future Addendum.
256	11/4/2026	There are several openings that are unequal pairs that specify a single width instead of the typical two widths that are associated with unequal pairs. These widths include 3’0”, 3’6”, 4’6”, and 5’0”. Please advise what both dimensions for each unequal pair should be.	Refer to future Addendum.

RFI #	Date	Question	Response
257	11/4/2026	Openings G0043A, 402U, 20040A, 402T, 30042A, 402S, and 40061A have widths and heights specified but no hardware sets or door and frame material. Please advise.	Refer to future Addendum.
258	11/4/2026	Opening G0042A.5 has a hardware set and height and width specified but no door and frame material. Please advise.	Refer to future Addendum.
259	11/4/2026	Opening 302A has no height or width specified, please advise	Refer to future Addendum.
260	11/4/2026	BICASA North America is a manufacturer of laboratory furniture, laboratory casework, and laboratory fume hoods. We are writing in advance of bid submission to request review of BICASA North America as an equivalent manufacturer for the following specification sections: •Laboratory Fume Hoods – Section 11 53 13 •Laboratory Casework – Section 12 35 53 We understand that Information for Bidders 4(1)(b) and Agreement 2.20 govern the consideration of equivalent products. As we understand that determinations regarding equivalent manufacturers rest with the Architect and/or Engineer of Record (EOR), we are submitting this request directly for your consideration prior to bid. We would appreciate your guidance on the following: 1.Are Sections 11 53 13 and 12 35 53 intended to be sole-source specifications, or is "similar and equal to" deemed inserted pursuant to Agreement 2.20(1)(a)? 2.Will the Architect and/or Engineer of Record review proposed equivalent manufacturers prior to bid and identify acceptable manufacturers by addendum, or will equivalent manufacturers for these sections only be considered following contract award pursuant to Agreement 2.20(2)? Basis for Equivalency: Standards Compliance Our products are designed to meet applicable laboratory industry standards, including SEFA 8 (Laboratory Casework), SEFA 1 (Laboratory Fume Hoods), and ASHRAE 110 testing protocols. Our systems utilize laboratory-grade polyurethane powder-coated finishes, modular steel construction, removable backs for utility access, and seismic anchorage provisions.	See Section 2.20 of the Construction Agreement in Volume 1 of the Project Manual.
	11/4/2026	Design Intent: BICASA products meet or exceed the performance requirements of the specified sections applicable to our product offering. Any deviations have been identified within the accompanying side-by-side comparison for review. Documentation: Completed CSI substitution forms, technical literature, testing information, and a detailed side-by-side specification comparison can be provided upon request. Sustainability: BICASA reports Scope 1 and Scope 2 emissions through EcoVadis. Our steel casework contains approximately 27% post-consumer recycled content, and our aluminum components contain approximately 80% recycled content, including up to 60% post-consumer recycled material. Domestic Manufacturing: Our steel casework is manufactured in North Carolina, with final assembly performed at our Charlotte, North Carolina facility. Relevant Laboratory Experience: BICASA designed, supplied, and installed the Nicholas Stavros Laboratory at Rockefeller University, recipient of the 2020 SEFA Laboratory of the Year Award. Given that all bidders should have access to the same information during procurement, if BICASA North America is determined to be an acceptable equivalent manufacturer, we respectfully request that this determination be communicated through an addendum so that all bidders may evaluate and price the project on an equal basis.	

RFI #	Date	Question	Response
	11/4/2026	Attached for Review: To facilitate your evaluation, we have attached the following documentation: 1.BICASA North America Company Overview 2.Side-by-Side Specification Comparison 3.CSI Product Substitution Request Form 4.Laboratory Casework Product Data 5.Laboratory Fume Hood Product Data 6.SEFA Compliance Information 7.ASHRAE 110 Testing Information 8.Sustainability and Environmental Reporting Summary 9.Relevant Project Experience and References 10.Nicholas Stavros Laboratory at Rockefeller University Project Profile Should additional technical, testing, performance, or compliance information be required by the Architect or Engineer of Record, we would be pleased to provide it promptly. Thank you for your consideration.	
261	11/5/2026	The electrical single line diagram on E5.1 show 13 new electrical meters being provided and installed by the division 26 electrical contractor and Spec section 26 27 13 calls for these meters to have BACnet communication for BMS interface. The M-Drawings however do not show any scope of work for the BMS system to monitor the new electric meters. Can you please clarify if the intent is to have the BMS monitor these new meters via BACnet integration?	See future addendum.
262	11/5/2026	Power Distribution 1.ECB-ELV (E5.1, Keynote 5): The 90A/3P LSIG enclosed circuit breaker for the elevator has no corresponding spec section (26 28 16.16 covers safety switches only). Please confirm product requirements and whether a shunt-trip is required. 2.Panel 'EP' (E5.1, Keynote 4): Elevator panel EP (50A, 208Y/120V) is shown on the single line, but no panel schedule is provided. Keynote 4 says to match the existing breaker type. Please confirm whether Panel EP is new or existing and provide a panel schedule if new. 3.Missing panel schedules (E6 series): No schedules were found for HNLP-DP, HNLP-02, HEDP-OS-G2, HELP-LS-02, LNP-02, LNPL-01-2/11-1/11-2/21-2/22-1/22-2/31-2/32-2/41-2, LEPL-OS-01/11/22 or EP. Please provide them, or confirm requirements (SPD, metering, mains, AIC) for these panels. 4.Panel designations (E4.5): The conduit routing notes reference LEDP-LS-02, LNPL-DP and LNPL-22A, which don't match the single line or panel schedules. Please confirm the intended panels.	1&2. See future addendum. 3. See Addendum 3 for panel schedules for LNP-02, LNPL-01-2/11-1//11-2/21-2/22-1/22-2/31-2/32-2/41-2, LEPL-OS-01. See future addendum for additional panel schedules. 4. See future addendum.
263	11/5/2026	Mechanical Equipment Connections 5. On E6.7 Equipment SVAV and EVAV "Homerun to" references note 4 which references "Utilizing existing space available within panel PPS1 for the replacement AHU-1 feeds". Is this where the homeruns for equipment SVAV and EVAV? If not, please provide a homerun location. 6. P-2 / P-2A (E5.1 Keynote 12 / E6.5): E6.5 lists new VFDs furnished by Div 26, fed from HMP-OS-G1 20/3. The single line shows these pumps as existing (D/R), intercepted and migrated to HEDP-OS-G2. Keynote 12 references "HESB-OS-G2." Please confirm the source panel and whether the VFDs are new and furnished by Div 26. 7.P-3, P-3A, P-5, P-5A (E5.1): These are shown D/R at HEDP-OS-G2 (50A/3P each) but are not on the equipment connection schedule. Please confirm existing starters/VFDs are to remain and be reused 8.Hydronic cassette units (E6.6 / E6.7): The schedule shows disconnect type "M" and starter type "M" furnished by Div 23. Please confirm whether this is a single device and which division furnishes it. HC-G-5 is also listed at 120V with a 20/2 breaker; please confirm voltage and poles. 9.EFTR-1 (E6.7, Remark 1): The fin tube radiator is listed at 277V, 1PH with a 20/2 breaker, and the quantity is "refer to floor plans." Please confirm the breaker poles and the total quantity (EFTR-1 is tagged on E1.1–E1.3). 10.SAV and EAV boxes (E1.0–E1.4): 21 SAV and 21 EAV tags appear on the electrical power plans but are not on the Mechanical Equipment Connection Schedule. Please confirm whether these units require power and local disconnects.	5. See Addendum 3. 6,7,8,9. See future addendum. 10. See Addendum 3.

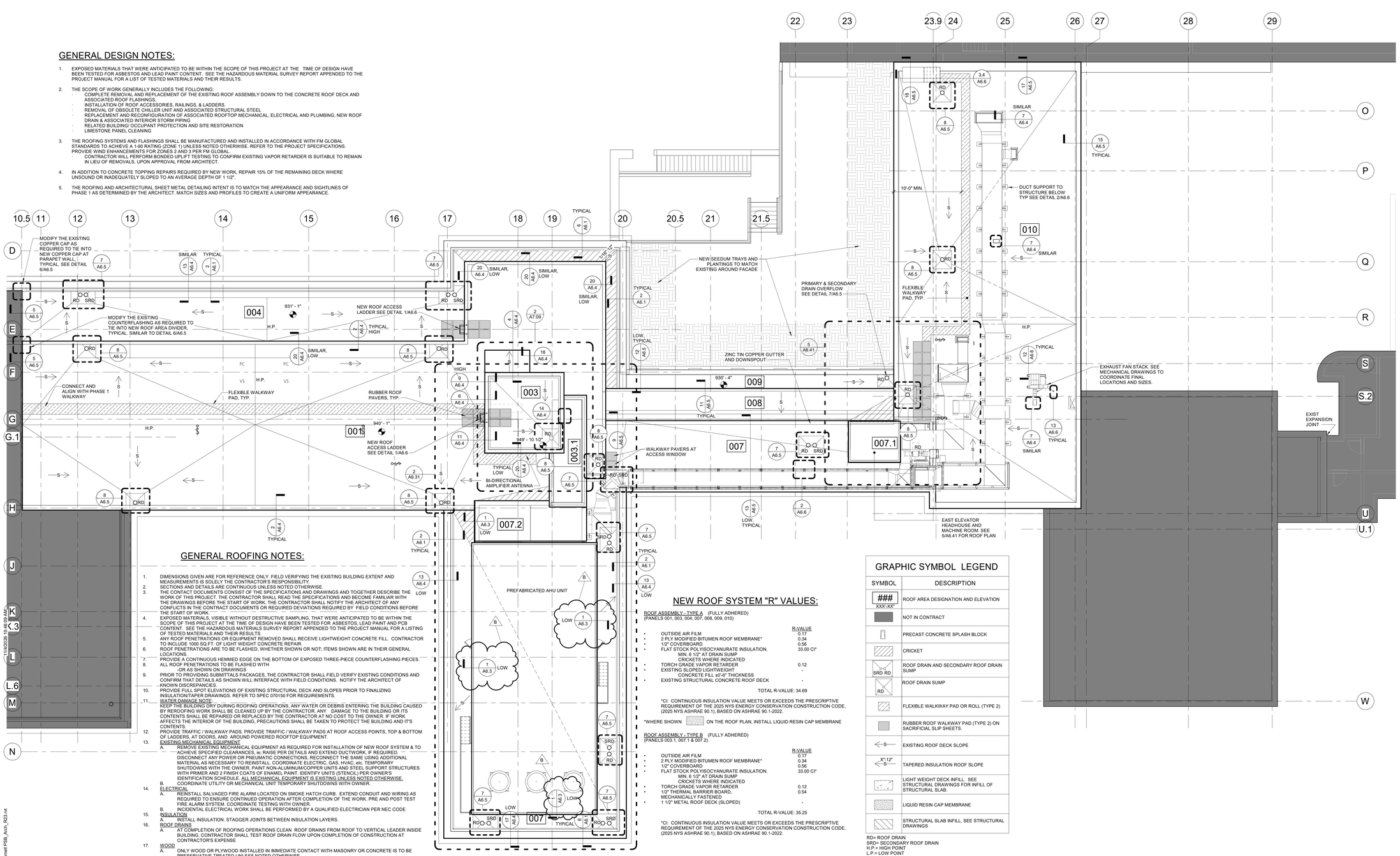
RFI #	Date	Question	Response
264	11/5/2026	Site Lighting 11.Concrete pole bases (E8.2): The pole-mounted luminaire detail refers to the civil drawings for the concrete footing, but no footing dimensions were found in the documents. Please provide the pole base diameter, depth, reinforcing and anchor bolt requirements. Please confirm whether pole bases are by Div 26 or the site contractor, and whether precast bases are acceptable. Please also confirm whether the Lighted Bollard Foundation Detail (3/E8.2) applies, as no bollards were found on E0.3. 12.Fixture AX04 (E0.3 / E8.2 / E6.9): (7) AX04 pole-mounted fixtures are shown on the site lighting plan and the exterior lighting control detail. The luminaire schedule lists "AX03, AX04 – Not Used." Please provide the AX04 fixture and pole specification (pole height, material, finish, arm configuration), or confirm the fixtures are deleted. 13.Fixture AX07 (E0.3): AX07 fixtures are shown on the site lighting plan, but type AX07 is not on the luminaire schedule. Please provide the fixture specification.	Refer to future Addendum.
265	11/5/2026	There are several doors on A9.11 that do not indicate Door/Frame types or finishes. Can these missing items be provided?	Refer to future Addendum.
266	11/5/2026	Spec 07 72 00 Roof Accesssories has Ballasted Guardrail Systems specified , but not shown. Are these required and if so where?	Refer to future Addendum.
267	11/5/2026	Section 1.8 C of specification 07 84 43 calls for the "installation of through-penetration firestop system and fire-resistive joint systems in Project to a single qualified installer." However, no such note exists in section 07 84 13. Please advise if all penetration firestopping needs to be by a single installer.	Refer to future Addendum.
268	11/5/2026	The louver schedule on A6.21 shows seven different louver types. Only four louvers are found on the drawings, and one of the L1 louvers found on the elevation drawings does not match the schedule (in size). Please revise the louver schedule to only include louvers that are on this project and provide all louvers shown on the drawings.	Refer to future Addendum.
269	11/5/2026	Specification section 12 48 13 calls out two different basis of design manufacturers. The drawings indicate a Matter Surfaces product with a frame. Please advise what product is required for this project.	Refer to future Addendum.
270	11/5/2026	For the existing trailers, what utilities are currently connected to the trailers? Water, sewer, and electric connections? Assuming the toilets are working, are they hard piped into the existing sanitary system? What needs to happen at the completion of the project to these connects? Please advise.	See Addendum 2
271	11/5/2026	On roof plan A1.5, detail 2/A6.3 is called out around the new AHU. There is no detail 2 on A6.3. Please provide.	Refer to future Addendum.
272	11/5/2026	Please provide roof edge details for roof 003.1. No callouts on this roof.	Refer to future Addendum.
273	11/5/2026	Please provide roof edge details for roof 007.1. No callouts on the blow-up plans.	Refer to future Addendum.
274	11/5/2026	Please provide spec for SC-2 (sealed concrete 2). Spec 03 35 15 – Concrete Finishing only talks about SC-1	Refer to future Addendum.
275	11/5/2026	A9.05, detail 1, the note stating if the floor slab is not 5” thick, to infill with structural concrete fill to bring slab depth up to 5” min. to maintain 2 hr FR. Please advise as to where this would occur. There is no way to quantify the amount required and know the thickness of existing conditions that are hidden. Please provide an area for quantification.	Refer to future Addendum.
276	11/5/2026	Specification 13 21 00 Controlled Environmental Rooms - Per section 2.3.B the CER manufacturer is being asked to provide finished sheet metal wall facing matching finished facing of controlled environmental rooms panels for installation over gypsum board. Please confirm where it is to be installed and amount / how much is required	Refer to future Addendum.
277	11/5/2026	Division 132100 - Please clarify the required exterior height and interior clear height of Rooms G28 and G30. The “Utility Requirements” index included in Division 132100 indicates a room height of 7'-6", while Drawing A.20 indicates a ceiling elevation of 8'-0". Please confirm whether the 8'-0" dimension represents the top or underside of the ceiling panels. As the floor panels are to be recessed into the slab, this distinction would result in an interior clear height of approximately 7'-8" or 8'-0", respectively.	Refer to future Addendum.

RFI #	Date	Question	Response
278	11/5/2026	Division 132100 - Please clarify the relative humidity requirements for Rooms G28 and G30. No specific RH conditions are identified in Division 132100; however, the “Utility Requirements” index indicates that dehumidification is required. Please confirm whether desiccant dryers are required for these rooms and, if so, provide the required RH operating range and control tolerances.	Refer to future Addendum.
279	11/5/2026	Division 132100 - Division 132100 references Cornell University Design and Construction Standard 232300, “Refrigeration”; however, this document was not included in the project specifications. Please provide a copy of the referenced standard for review.	Refer to future Addendum.
280	11/5/2026	Division 132100 - Please clarify the electrical service requirements for the control consoles serving Rooms G28 and G30. Section 2.7.A of Division 132100 indicates that three-phase power is required, while the “Utility Requirements” index indicates single-phase power.	Refer to future Addendum.
281	11/5/2026	Division 132100 - Section 1.9.C of Division 132100 references supplemental R-410A safety technician certification; however, the required refrigerant for the condensing units is not explicitly specified. Please confirm whether R-448A refrigerant is acceptable for the refrigeration systems serving Rooms G28 and G30.	Refer to future Addendum.
282	11/5/2026	Would it be acceptable to remove the existing consultant trailer and provide a single double wide trailer that takes care of the consultant trailer and conference room trailer? If not, where do you want the conference room trailer?	See Addendum 2
283	11/5/2026	Would it be acceptable to have primary access for materials to be on the Quad side of building in lieu of Tower Road side of building?	Refer to future Addendum.
284	11/5/2026	Spec. 06 42 00 Paneling - Can architect identify where 3form, Varia (BOD) can be found in the drawing set?	Refer to future Addendum.
285	11/5/2026	Detail 3/A8.11 has detail 2/A11.03 through the sink location, which calls out metal casework. Detail 4/A8.11 has detail 4/A11.04 called out, this shows the same sink as being wood veneer with a solid surface top. Please advise if this should fall under millwork or casework and if it is metal or wood.	Refer to future Addendum.
286	11/9/2026	Question: Drawing A10.54 has a detail showing a hook up for duct to flammable storage cabinets, in the detail there is reference to fusible link fire dampers in the ductwork within the wall. In the detail there is an access door shown above the cabinets but in all of the elevations where the cabinets are shown there are no access panels shown. Also on the mechanical floor plans for the lab areas there is a note 9 and 10 at specific flammable cabinet locations which refers you to A10.54 and M7.4 for cabinet connection requirements. M7.4 does not have any details that are for fusible link dampers in a wall or showing any cabinet connections. Are the fusible links and access doors required at these locations?	Refer to future Addendum.
287	11/9/2026	Drawing A11.10 shows many different ceiling and soffit details and where the window shades are mounted. All of the details on this page appear to depict a window shade in a headbox with the small snap in trim not the simple end brackets with the larger fascia piece. Specification 122413 section 2.3 calls for the different shade types to be in a metal shade pocket. The verbiage between the specification and the drawings was an issue with all of the shade vendors in Phase 1, all subcontractors bid the fascia when the headbox was what was desired and needed given the mounting application. Please review and advise is headboxes with snap on trim or end caps with fascia are the desired installation method for Phase 2.	Refer to future Addendum.
288	11/9/2026	On the lab floor plans in the A10 series drawings there are tombstones noted at many of the ADA locations. There do not appear to be any tombstones specified in the div 12 or 26 specifications. Please provide a specification for what is required for the tombstones installed on some of the ADA lab benches.	Refer to future Addendum.
289	11/9/2026	Are the sleeper equipment supports, rail roof supports, duct supports shown in spec section 07 72 00-2 Roof Accessories supposed to be purchased by the mechanical contractor and given to the roofing contractor to install? There is nothing referenced in the M drawings for this.	Refer to future Addendum.

RFI #	Date	Question	Response
290	11/9/2026	Currently there are 2 office trailers in the phase 1 trailer compound. Are both of these being used by SUCF / LeChase, and are they both to remain? In addition, we are not clear whether another trailer is required for for the exclusive use of the Consultant 12x30(Minimum 360sf), is it? If the 2 that are currently there remain there does not appear to be enough room for a third. If the 2 that are there remain and another is added for the Consultant, where will our trailer go, can we occupy a space in the building?	See Addendum 2
291	11/9/2026	Specification section 08 17 13 - Integrated Door Assemblies does not appear to be on the door schedule on A9.11. Please advise if there are any of these door assemblies in this phase.	Refer to future Addendum.
292	11/9/2026	Drawing A10.71, Room 113G, Equipment Tag 6-E28? - This item has a comment in the responsibility column that indicates it could be CFCI or something else. Please advise if this is to be by the owner or contractor.	Refer to future Addendum.
293	11/9/2026	Drawing A10.71, Room 113G, Equipment Tag 6-EXX - There are two items with this tag. The responsibility tag is blank. Please advise if this is to be by the owner or contractor.	Refer to future Addendum.
294	11/9/2026	Is the Division 23 mechanical contractor to include the controls quote from Automated Logic Solutions in their quote to the General Contractors bidding?	Refer to future Addendum.
295	11/9/2026	Drawing A1.5: Please provide further information on the new Seedum Trays.	Refer to future Addendum.
296	11/9/2026	Based on the new bid date being during a holiday week, can the post bid documentation required be extended to the following week as most people will be on vacation / out of office?	Refer to future Addendum.

GENERAL DESIGN NOTES:

1. EXPOSED MATERIALS THAT WERE ANTICIPATED TO BE WITHIN THE SCOPE OF THIS PROJECT AT THE TIME OF DESIGN HAVE BEEN TESTED FOR ASBESTOS AND LEAD PAINT CONTENT. SEE THE HAZARDOUS MATERIAL SURVEY REPORT APPENDED TO THE PROJECT MANUAL FOR A LIST OF TESTED MATERIALS AND THEIR RESULTS.
2. THE SCOPE OF WORK GENERALLY INCLUDES THE FOLLOWING:
   - COMPLETE REMOVAL AND REPLACEMENT OF THE EXISTING ROOF ASSEMBLY DOWN TO THE CONCRETE ROOF DECK AND ASSOCIATED ROOF FLASHINGS,
   - INSTALLATION OF ROOF ACCESSORIES, RAILINGS, & LADDERS.
   - REMOVAL OF OBSOLETE CHILLER UNIT AND ASSOCIATED STRUCTURAL STEEL
   - REPLACEMENT AND RECONFIGURATION OF ASSOCIATED ROOFTOP MECHANICAL, ELECTRICAL AND PLUMBING, NEW ROOF DRAIN & ASSOCIATED INTERIOR STORM PIPING
   - RELATED BUILDING/ OCCUPANT PROTECTION AND SITE RESTORATION
   - LIMESTONE PANEL CLEANING
3. THE ROOFING SYSTEMS AND FLASHINGS SHALL BE MANUFACTURED AND INSTALLED IN ACCORDANCE WITH FM GLOBAL STANDARDS TO ACHIEVE A 1-90 RATING (ZONE 1) UNLESS NOTED OTHERWISE. REFER TO THE PROJECT SPECIFICATIONS. PROVIDE WIND ENHANCEMENTS FOR ZONES 2 AND 3 PER FM GLOBAL.
   - CONTRACTOR WILL PERFORM BONDED UPLIFT TESTING TO CONFIRM EXISTING VAPOR RETARDER IS SUITABLE TO REMAIN IN LIEU OF REMOVALS, UPON APPROVAL FROM ARCHITECT.
4. IN ADDITION TO CONCRETE TOPPING REPAIRS REQUIRED BY NEW WORK, REPAIR 15% OF THE REMAINING DECK WHERE UNSOUND OR INADEQUATELY SLOPED TO AN AVERAGE DEPTH OF 1 1/2".
5. THE ROOFING AND ARCHITECTURAL SHEET METAL DETAILING INTENT IS TO MATCH THE APPEARANCE AND SIGHTLINES OF PHASE 1 AS DETERMINED BY THE ARCHITECT. MATCH SIZES AND PROFILES TO CREATE A UNIFORM APPEARANCE.



GENERAL ROOFING NOTES:

1. DIMENSIONS GIVEN ARE FOR REFERENCE ONLY. FIELD VERIFYING THE EXISTING BUILDING EXTENT AND MEASUREMENTS IS SOLELY THE CONTRACTOR'S RESPONSIBILITY.
2. SECTIONS AND DETAILS ARE CONTINUOUS UNLESS NOTED OTHERWISE.
3. THE CONTACT DOCUMENTS CONSIST OF THE SPECIFICATIONS AND DRAWINGS AND TOGETHER DESCRIBE THE WORK OF THIS PROJECT. THE CONTRACTOR SHALL READ THE SPECIFICATIONS AND BECOME FAMILIAR WITH THE DRAWINGS BEFORE THE START OF WORK. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT OF ANY CONFLICTS IN THE CONTRACT DOCUMENTS OR REQUIRED DEVIATIONS REQUIRED BY FIELD CONDITIONS BEFORE THE START OF WORK.
4. EXPOSED MATERIALS, VISIBLE WITHOUT DESTRUCTIVE SAMPLING, THAT WERE ANTICIPATED TO BE WITHIN THE SCOPE OF THIS PROJECT AT THE TIME OF DESIGN HAVE BEEN TESTED FOR ASBESTOS, LEAD PAINT AND PCB CONTENT. SEE THE HAZARDOUS MATERIALS SURVEY REPORT APPENDED TO THE PROJECT MANUAL FOR A LISTING OF TESTED MATERIALS AND THEIR RESULTS.
5. ANY ROOF PENETRATIONS OR EQUIPMENT REMOVED SHALL RECEIVE LIGHTWEIGHT CONCRETE FILL. CONTRACTOR TO INCLUDE 1000 SQ.FT. OF LIGHT WEIGHT CONCRETE REPAIR.
6. ROOF PENETRATIONS ARE TO BE FLASHED, WHETHER SHOWN OR NOT; ITEMS SHOWN ARE IN THEIR GENERAL LOCATIONS.
7. PROVIDE A CONTINUOUS HEMMED EDGE ON THE BOTTOM OF EXPOSED THREE-PIECE COUNTERFLASHING PIECES.
8. ALL ROOF PENETRATIONS TO BE FLASHED WITH -OR AS SHOWN ON DRAWINGS
9. PRIOR TO PROVIDING SUBMITTALS PACKAGES, THE CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND CONFIRM THAT DETAILS AS SHOWN WILL INTERFACE WITH FIELD CONDITIONS. NOTIFY THE ARCHITECT OF KNOWN DISCREPANCIES.
10. PROVIDE FULL SPOT ELEVATIONS OF EXISTING STRUCTURAL DECK AND SLOPES PRIOR TO FINALIZING INSULATION/TAPER DRAWINGS. REFER TO SPEC 070150 FOR REQUIREMENTS.
11. WATER DAMAGE NOTE:
    KEEP THE BUILDING DRY DURING ROOFING OPERATIONS, ANY WATER OR DEBRIS ENTERING THE BUILDING CAUSED BY REROOFING WORK SHALL BE CLEANED UP BY THE CONTRACTOR. ANY DAMAGE TO THE BUILDING OR ITS CONTENTS SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT NO COST TO THE OWNER. IF WORK AFFECTS THE INTERIOR OF THE BUILDING, PRECAUTIONS SHALL BE TAKEN TO PROTECT THE BUILDING AND IT'S CONTENTS.
12. PROVIDE TRAFFIC / WALKWAY PADS. PROVIDE TRAFFIC / WALKWAY PADS AT ROOF ACCESS POINTS, TOP & BOTTOM OF LADDERS, AT DOORS, AND AROUND POWERED ROOFTOP EQUIPMENT.
13. EXISTING MECHANICAL EQUIPMENT
    A. REMOVE EXISTING MECHANICAL EQUIPMENT AS REQUIRED FOR INSTALLATION OF NEW ROOF SYSTEM & TO ACHIEVE SPECIFIED CLEARANCES. ie; RAISE PER DETAILS AND EXTEND DUCTWORK, IF REQUIRED. DISCONNECT ANY POWER OR PNEUMATIC CONNECTIONS, RECONNECT THE SAME USING ADDITIONAL MATERIAL AS NECESSARY TO REINSTALL. COORDINATE ELECTRIC, GAS, HVAC, etc. TEMPORARY SHUTDOWNS WITH THE OWNER. PAINT NON-ALUMINUM/COPPER UNITS AND STEEL SUPPORT STRUCTURES WITH PRIMER AND 2 FINISH COATS OF ENAMEL PAINT. IDENTIFY UNITS (STENCIL) PER OWNER'S IDENTIFICATION SCHEDULE. ALL MECHANICAL EQUIPMENT IS EXISTING UNLESS NOTED OTHERWISE.
    B. COORDINATE UTILITY OR MECHANICAL UNIT TEMPORARY SHUTDOWNS WITH OWNER.
14. ELECTRICAL
    A. REINSTALL SALVAGED FIRE ALARM LOCATED ON SMOKE HATCH CURB. EXTEND CONDUIT AND WIRING AS REQUIRED TO ENSURE CONTINUED OPERATION AFTER COMPLETION OF THE WORK. PRE AND POST TEST FIRE ALARM SYSTEM. COORDINATE TESTING WITH OWNER.
    B. INCIDENTAL ELECTRICAL WORK SHALL BE PERFORMED BY A QUALIFIED ELECTRICIAN PER NEC CODE
15. INSULATION
    A. INSTALL INSULATION. STAGGER JOINTS BETWEEN INSULATION LAYERS.
16. ROOF DRAINS
    A. AT COMPLETION OF ROOFING OPERATIONS CLEAN ROOF DRAINS FROM ROOF TO VERTICAL LEADER INSIDE BUILDING. CONTRACTOR SHALL TEST ROOF DRAIN FLOW UPON COMPLETION OF CONSTRUCTION AT CONTRACTOR'S EXPENSE
17. WOOD
    A. ONLY WOOD OR PLYWOOD INSTALLED IN IMMEDIATE CONTACT WITH MASONRY OR CONCRETE IS TO BE PRESERVATIVE TREATED UNLESS NOTED OTHERWISE.
    B. IF WOOD DIMENSIONS ARE NOT GIVEN, STACKED WOOD HEIGHT, 3 BOARDS OR LESS, ARE 2x4 MINIMUM. HIGHER LIFTS OF WOOD ARE TO BE 2x6 MINIMUM.
    C. ALL WOOD TO BE ANCHORED AS SPECIFIED, OR SHOWN. GENERALLY, FASTENER SPACING, RING SHANK NAILS OR SCREWS, NOT MORE THAN 12" O.C. AND ANCHOR BOLTS -3/8" O.D. MIN., NOT MORE THAN 36" O.C. AND FROM ENDS OF BOARDS - 9" MAXIMUM.
18. FASTENERS
    A. UNLESS OTHERWISE NOTED ALL FASTENERS TO BE NON-RUSTING TYPE (HOT DIPPED GALVANIZED, STAINLESS STEEL). ALL FASTENERS IN PRESSURE-TREATED WOOD ARE TO BE OF STAINLESS STEEL, TYPE A304 OR A316 ONLY.
    B. ALL NAILS SHALL BE SPIRAL OR RING-SHANKED
    C. POP-RIVETS ARE NOT PERMITTED.
    D. FASTENERS IN METAL FLASHINGS - TO BE COMPATIBLE WITH METAL USED; FASTENERS OF STAINLESS STEEL UNLESS NOTED OTHERWISE. FASTENER SPACING, SCREWS, NOT MORE THAN 9" O.C., NAILS USED FOR CLEATING - 3" O.C. UNLESS NOTED OTHERWISE FROM ENDS OF UNITS - 3" MAXIMUM
19. MISCELLANEOUS:
    A. METAL COPING OR FASCIA ENDLAPS, FOLDS, OR SEAMS ARE TO BE FULLY BEDDED WITH SEALANT BETWEEN PIECES OF METAL.

NEW ROOF SYSTEM "R" VALUES:

ROOF ASSEMBLY - TYPE A (FULLY ADHERED)
(PANELS 001, 003, 004, 007, 008, 009, 010)

	R-VALUE
• OUTSIDE AIR FILM	0.17
• 2 PLY MODIFIED BITUMEN ROOF MEMBRANE*	0.34
• 1/2" COVERBOARD	0.56
• FLAT STOCK POLYISOCYANURATE INSULATION. MIN. 6 1/2" AT DRAIN SUMP CRICKETS WHERE INDICATED	33.00 CI*
• TORCH GRADE VAPOR RETARDER	0.12
• EXISTING SLOPED LIGHTWEIGHT CONCRETE FILL #2'-6" THICKNESS	-
• EXISTING STRUCTURAL CONCRETE ROOF DECK	-
TOTAL R-VALUE: 34.69	

*CI: CONTINUOUS INSULATION VALUE MEETS OR EXCEEDS THE PRESCRIPTIVE REQUIREMENT OF THE 2025 NYS ENERGY CONSERVATION CONSTRUCTION CODE, (2025 NYS ASHRAE 90.1), BASED ON ASHRAE 90.1-2022.

*WHERE SHOWN ON THE ROOF PLAN, INSTALL LIQUID RESIN CAP MEMBRANE

ROOF ASSEMBLY - TYPE B (FULLY ADHERED)
(PANELS 003.1, 007.1 & 007.2)

	R-VALUE
• OUTSIDE AIR FILM	0.17
• 2 PLY MODIFIED BITUMEN ROOF MEMBRANE*	0.34
• 1/2" COVERBOARD	0.56
• FLAT STOCK POLYISOCYANURATE INSULATION. MIN. 6 1/2" AT DRAIN SUMP CRICKETS WHERE INDICATED	33.00 CI*
• TORCH GRADE VAPOR RETARDER	0.12
• 1/2" THERMAL BARRIER BOARD, MECHANICALLY FASTENED	0.54
• 1 1/2" METAL ROOF DECK (SLOPED)	-
TOTAL R-VALUE: 35.25	

*CI: CONTINUOUS INSULATION VALUE MEETS OR EXCEEDS THE PRESCRIPTIVE REQUIREMENT OF THE 2025 NYS ENERGY CONSERVATION CONSTRUCTION CODE, (2025 NYS ASHRAE 90.1), BASED ON ASHRAE 90.1-2022.

GRAPHIC SYMBOL LEGEND

SYMBOL	DESCRIPTION
### XXX'-XX"	ROOF AREA DESIGNATION AND ELEVATION
	NOT IN CONTRACT
	PRECAST CONCRETE SPLASH BLOCK
	CRICKET
SRD RD	ROOF DRAIN AND SECONDARY ROOF DRAIN SUMP
RD	ROOF DRAIN SUMP
	FLEXIBLE WALKWAY PAD OR ROLL (TYPE 2)
	RUBBER ROOF WALKWAY PAD (TYPE 2) ON SACRIFICIAL SLIP SHEETS.
S	EXISTING ROOF DECK SLOPE
X":12" S	TAPERED INSULATION ROOF SLOPE
	LIGHT WEIGHT DECK INFILL. SEE STRUCTURAL DRAWINGS FOR INFILL OF STRUCTURAL SLAB.
	LIQUID RESIN CAP MEMBRANE
	STRUCTURAL SLAB INFILL, SEE STRUCTURAL DRAWINGS

RD= ROOF DRAIN
SRD= SECONDARY ROOF DRAIN
H.P.= HIGH POINT
L.P.= LOW POINT
E.J.= EXPANSION JOINT

1 ROOF PLAN - PHASE 2
1/8" = 1'-0"

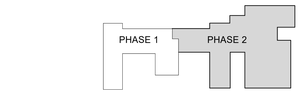
RENOVATE PLANT SCIENCE BUILDING - PHASE 2
SUCF Project No. 161026-00
236 Tower Road
Ithaca, NY 14853

Cornell CALS College of Agriculture and Life Sciences
SUNY State University Construction Fund

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Ryan Biggs Clark Davis Structural Engineers	257 Ushers Road Clifton Park, NY 12065 T 518 406-5506
Salas O'Brien Consulting & Engineering Group of NY, Inc. Mechanical Engineers	300 Trolley Blvd. Rochester, NY 14606 T 585 288-5590
Jade Stone Engineering Electrical Engineers	444 Vanduzee St. Watertown, NY 13601 T 315 836 4062
Watson Engineering Plumbing	4500 State Route 434 Apalachin, NY 13732 T 607 223-4334
DM Engineers Fire Protection Engineers	1007 Yonkers Ave Yonkers, NY 10704 T 929 333-2339
Bell & Spina Building Envelope	215 Wyoming Street S Syracuse, NY 13204 T 315 488-0377
Environ. Design & Research Historic Preservation, Landscape, Civil Engineering	217 Montgomery St, Suite 1000 Syracuse, NY 13202 T 315 471-0688
Schuler Shook Lighting Design	240 W 40th Street, 2nd Floor New York, NY 10018 T 212 439-5650
D2D Green Design Sustainability PH2	10 Hallenbeck Hill East Greenbush, NY 12061 T 518 729-2967
Shen Milsom & Wilke Acoustics, IT, AV, Security	417 Fifth Avenue New York, NY 10016 T 212 725-6800
Watts Architects & Engineers Asbestos, Haz Mat	95 Perry Street, Suite 300 Buffalo, NY 14203 T 716 206-5122
Hastings Consulting Building Code	142 Hanlon Rd Holliston, MA 01746 T 508 397-8417
Ellana Cost Consulting	32 Broadway, Suite 801 New York, NY 10004 T 212971-0936

Notes:

GENERAL NOTE:
GC TO COORDINATE WORK OF ALL TRADES, INCLUDING CONCRETE PATCHING AND FIRESTOPPING AS REQUIRED TO MAINTAIN EXISTING AND NEW FIRE RATINGS OF SLABS, WALLS, STRUCTURAL STEEL, AND SHAFTS WHERE AFFECTED BY SCOPE OF WORK, AND AT NON-RATED PARTITIONS, TO SEPARATE SPACES ACOUSTICALLY.



Keyplan

Job Number	31909.00
Drawing By	BF
Checked By	DKA
Filename	
Date	August 31, 2026

Revisions

B	ADDENDUM 3	11/3/2026

ROOF PLAN - PHASE 2

REGISTERED ARCHITECT DOUGLAS K. ANDERSON 032699 STATE OF NEW YORK
REGISTRATION EXPIRES: 08/31/2028

BID DOCUMENTS
Scale: As indicated

A1.5

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TYPICAL MASONRY CLEANING NOTES (APPLIES TO ALL EXTERIOR ELEVATION SHEETS):

TYPICAL MASONRY CLEANING NOTES (APPLIES TO ALL EXTERIOR ELEVATION SHEETS):

1. MICRO ABRASIVE CLEANING REFER TO MASONRY CLEANING SPEC..

2. DEMONSTRATE CLEANING METHODS THROUGH IN PLACE MOCKUPS. CONDUCT CLEANING MOCKUPS OF 2'X2' AREAS FOR EACH TYPE OF SURFACE FOR REVIEW AND APPROVAL BY THE CAMPUS AND THE ARCHITECT PRIOR TO PROCEEDING. REDO MOCKUPS TO ACHIEVE THE APPROVED APPEARANCE AS DIRECTED BY THE ARCHITECT. SUBMIT A FORMAL RECORD OF THE MOCKUP WITH A WRITTEN DESCRIPTION.

3. THE INTENT IS TO REMOVE AS MUCH OF THE ENVIRONMENTAL STAINING AND COPPER STAINING FROM THE BRICK, STONE AND LIMESTONE SURFACES WITHOUT ADVERSELY AFFECTING THE STONE OR CAUSING DAMAGE.

4. CONDUCT CLEANING BEFORE INSTALLATION OF NEW ROOF SYSTEMS BUT AFTER REMOVAL OF METAL FLASHINGS CONCEALING PORTIONS OF THE STONE. REMOVE EQUIPMENT AND ANCHORS MOUNTED TO THE LIMESTONE (AND PATCH HOLES) WHERE SCHEDULED IN THE CONTRACT DOCUMENTS PRIOR TO THE CLEANING. PROTECT THE ROOF, WALL AREAS AND ADJACENT HVAC EQUIPMENT FROM DAMAGE.

5. CAPTURE THE CLEANING WATER USED IN THE CLEANING AND DISPOSE OF IN 55 GALLON DRUMS OR SIMILAR.

6. AVOID DAMAGE TO EXISTING BEDDING MORTARS AND SEALANT JOINTS. REPLACE IN-KIND IF DAMAGED.

7. CLEAN ALL SURFACES THAT WILL BE EXPOSED UPON COMPLETION OF ALL THE WORK. IN ADDITION, EXTEND CLEANING ONTO SURFACES THAT WILL BE CONCEALED UPON COMPLETION AS REQUIRED TO ACHIEVE PROPER CLEANING OF EXPOSED SURFACES.

TYPICAL ADDITIONAL MASONRY SCOPE NOTES (APPLIES TO ALL EXTERIOR ELEVATION SHEETS):

1. IN ADDITION TO REPOINTING AREAS AND QUANTITIES INDICATED ON THE EXTERIOR ELEVATION DRAWINGS, PROVIDE AN ADDITIONAL 1,500 SF OF BRICK MASONRY REPOINTING. FINAL LOCATIONS AND AREAS TO BE DETERMINED BY THE ARCHITECT BASED ON FIELD CONDITIONS.

2. IN ADDITION TO THE BRICK REPLACEMENT (FACE BRICK) AREAS AND QUANTITIES INDICATED ON THE EXTERIOR ELEVATION DRAWINGS, PROVIDE AN ADDITIONAL 500 SF OF FLEMISH BOND BRICK REPLACEMENT. FINAL LOCATIONS AND AREAS TO BE DETERMINED BY THE ARCHITECT BASED ON FIELD CONDITIONS.

3. IN ADDITION TO THE LIMESTONE/ NATURAL STONE REPAIR AREAS AND QUANTITIES INDICATED ON THE EXTERIOR ELEVATIONS, PROVIDE AN ADDITIONAL 50 LF OF STONE CRACK REPAIR. FINAL LOCATIONS AND AREAS TO BE DETERMINED BY THE ARCHITECT BASED ON FIELD CONDITIONS.

4. REPAIR 4TH FLOOR AND PENTHOUSE EXTERIOR STUCCO FINISHES PER SPEC 09 25 33, TYPICAL. BID TO INCLUDE 500 LF OF STUCCO CRACK REPAIRS, 12" WIDE, 1 INCH DEEP. REVIEW FINAL LOCATIONS AND QUANTITIES WITH THE ARCHITECT.

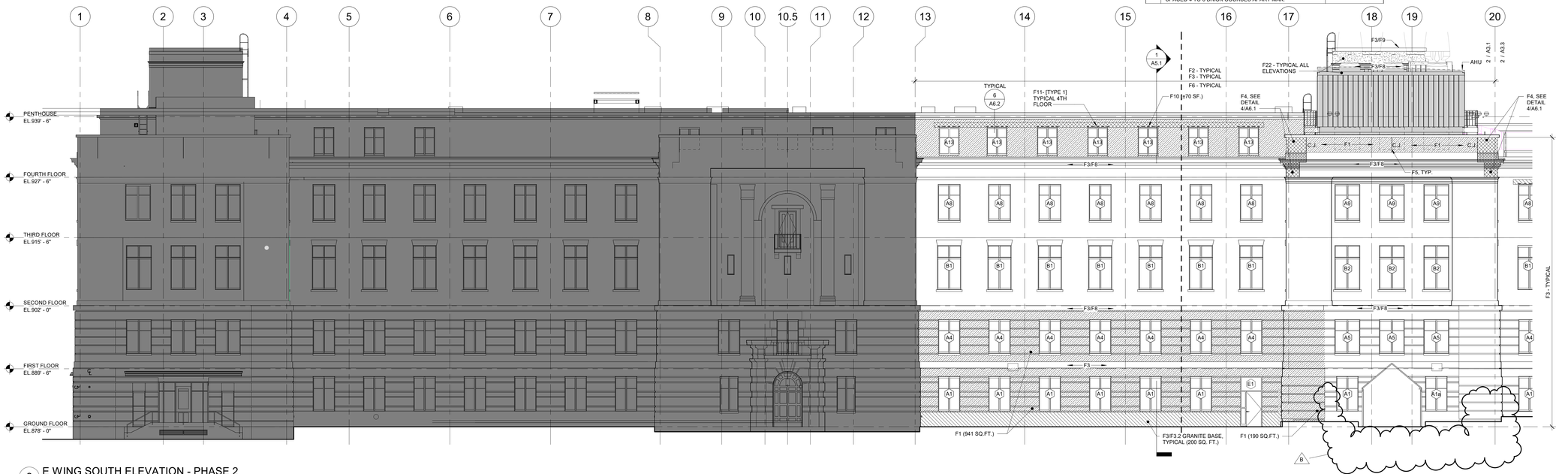
5. FOR THE ADDITIONAL BID QUANTITIES SHOWN ABOVE INSPECT THE ENTIRE SURFACE WHERE ADDITIONAL WORK MAY BE NEEDED IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE, MARK OUT AREAS WHERE ADDITIONAL WORK IS NEEDED, AND SUBMIT MARKED UP ELEVATIONS SHOWING ACTUAL LOCATIONS AND QUANTITIES NEEDED. SEE SECTION 4.02 OF THE AGREEMENT FOR ADJUSTMENTS DUE TO ACTUAL QUANTITIES REQUIRED.

6. ASSUME 15% OF REPOINTING TO BE DEEP REPOINTING WHERE UNSOUND MORTAR IS FOUND DEEPER THAN STANDARD REPOINTING DETAIL. DEEP REPOINTING AREAS TO BE RANDOMLY DISTRIBUTED THROUGHOUT WORK AREAS OF REPOINTING. SEE DETAIL 8/A6.1

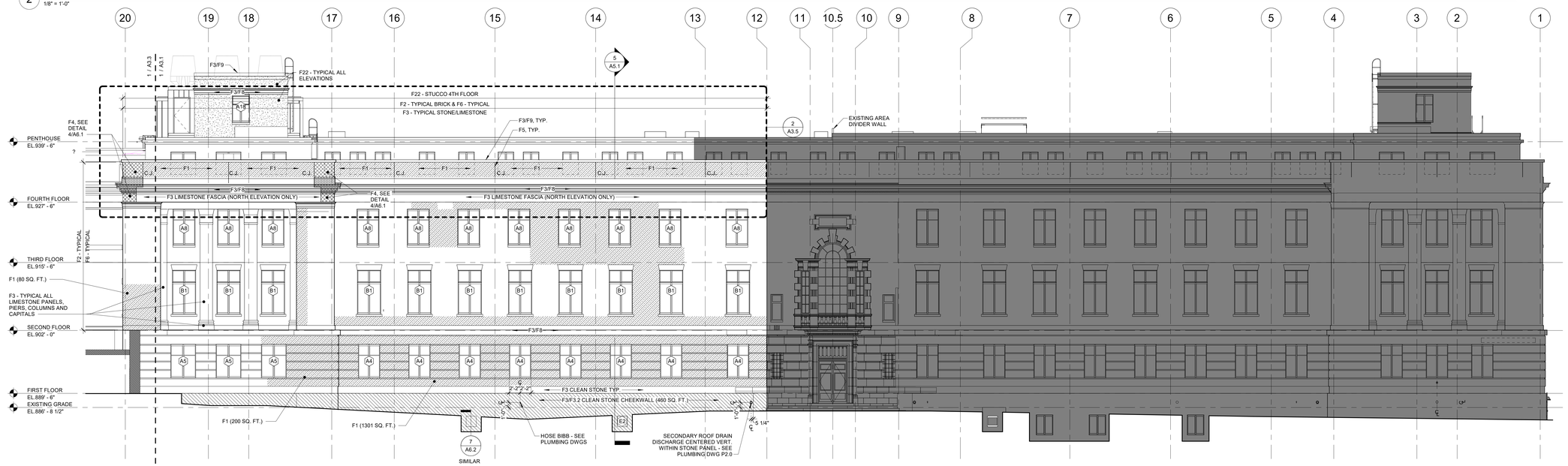
BUILDING FACADE & ELEVATION KEY NOTES (ALL ELEVATIONS)		
		REF. DETAIL/SHEET
F1	REPOINT BRICK MASONRY	2, 4, 7, & 8A / A6.1
F2	CLEAN BRICK MASONRY	-
F3	CLEAN LIMESTONE/STONE	4 & 6 / A6.1
F3.1	REPOINT LIMESTONE JOINTS	9 & 10 / A6.1
F3.2	REPOINT GRANITE BASE	8A / A6.1
F4	REPLACE BRICK MASONRY TYPE I BRICK UNLESS NOTED OTHERWISE	4 & 6 / A6.1
F5	SAW CUT NEW CONTROL JOINTS (C.J.) IN PARAPET AND PROVIDE BACKER ROD AND SEALANT	4 & 8E / A6.1
F6	APPLY BREATHABLE SILOXANE SEALER OVER BRICK AND LIMESTONE MASONRY SUBSTRATE	-
F7	REPAIR LIMESTONE CRACKS/STONE CRACKS	11 / A6.1
F8	NEW BACKER ROD AND SEALANT AND WEATHER CAP LEAD TEE, TYPICAL ALL LIMESTONE HEAD JOINTS	9 / A6.1
F9	NEW BACKER ROD AND SEALANT IN PARAPET LIMESTONE CAP STONES PRIOR TO COPING INSTALLATION	7 & 10 / A6.1
F10	REPLACE BRICK MASONRY, MULTIPLE WYTHES.	6 / A6.1 & 6 / A6.2
F11	REPLACE GALVANIZED PAINTED STEEL LINTEL. TYPE AS INDICATED ON ELEVATIONS.	6 / A6.2

BUILDING FACADE & ELEVATION KEY NOTES (ALL ELEVATIONS)		
		REF. DETAIL/SHEET
F12	OBSCURE GLASS TYPE IGU-B IN THIS UNIT	-
F13	RAISE WINDOW SILLS FOR NEW ROOF ASSEMBLY	5 & 6 / A6.2
F14	METAL RAINSCREEN WALL PANEL	3 & 7 / A6.1
F15	LIMESTONE DUTCHMAN REPAIR	-
F16	REINSTALL LATTICE/TRELLIS SYSTEM	-
F17	REMOVE AND RESET LOOSE LIMESTONE AND REPAINT. REPLACE BOTTOM STONES TO MATCH +/- 24" TALL	-
F18	NEW WALL MOUNTED LIGHT FIXTURES. REFER TO ELECTRICAL DRAWINGS	E-SERIES
F19	PREP, PRIME AND PAINT EXISTING IRON ORNAMENTAL BALCONY RAILING	-
F20	PREP PRIME AND PAINT IRON WINDOW BARS/ TURN BUCKLE	-
F21	HAND WASH DECORATIVE MARBLE PANEL	-
F22	APPLY BREATHABLE STUCCO COATING OVER EXISTING STUCCO	-
F23	PATCH AND REPAIR STUCCO CRACKING/SPALLS	-
F24	CMU INFILL AND NEW MATCHING BRICK WYTHE TOOTH INTO COURSING AND MATCH FLEMISH BOND.	4 / A6.1
F25	S.S. HORIZONTAL JOINT REINFORCING SET IN BED JOINTS, SPACED 4 TO 6 BRICK COURSES APART MAX.	8B / A6.1

HATCH LEGEND	
	BRICK REPLACEMENT (TOOTH IN UNLESS NOTED OTHERWISE)
	BRICK/LIMESTONE REPOINTING
	EXISTING N.I.C.
	STUCCO COATING
	LIMESTONE REPAIR
	EXISTING BRICK MASONRY (RUNNING AND FLEMISH BOND, TYP.)
	LIMESTONE OR GRANITE
	METAL PANEL
	GRANITE REPOINTING



2 E WING SOUTH ELEVATION - PHASE 2
1/8" = 1'-0"



1 E WING NORTH ELEVATION - PHASE 2
1/8" = 1'-0"

RENOVATE PLANT SCIENCE BUILDING - PHASE 2
SUCF Project No. 161026-00
236 Tower Road
Ithaca, NY 14853

Cornell CALS College of Agriculture and Life Sciences
SUNY State University Construction Fund

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Watson Engineering
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Apalachin, NY 13732
T 607 223-4334

DM Engineers
Fire Protection Engineers
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Yonkers, NY 10704
T 929 333-2339

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Syracuse, NY 13204
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Environ. Design & Research
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Syracuse, NY 13202
T 315 471-0688

Schuler Shook
Lighting Design
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New York, NY 10018
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D2D Green Design
Sustainability PH2
10 Hallenbeck Hill
East Greenbush, NY 12061
T 518 729-2967

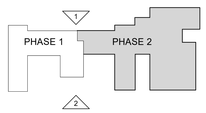
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T 212 725-6800

Watts Architects & Engineers
Asbestos, Haz Mat
95 Perry Street, Suite 300
Buffalo, NY 14203
T 716 206-5122

Hastings Consulting
Building Code
142 Hanlon Rd
Holliston, MA 01746
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Ellana
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32 Broadway, Suite 801
New York, NY 10004
T 212971-0936

Notes:



Keyplan

Job Number 31909.00
Drawing By DJS
Checked By DKA
Filename
Date August 31, 2026

Revisions
B ADDENDUM 3 11/3/2026

NORTH AND SOUTH ELEVATIONS - PHASE 2

REGISTERED ARCHITECT DOUGLAS K. ANSEN 032699 STATE OF NEW YORK
REGISTRATION EXPIRES: 08/31/2028

BID DOCUMENTS
Scale: As indicated

A3.1

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TYPICAL MASONRY CLEANING NOTES (APPLIES TO ALL EXTERIOR ELEVATION SHEETS):

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BUILDING FACADE & ELEVATION KEY NOTES (ALL ELEVATIONS)

		REF. DETAIL/SHEET
F1	REPOINT BRICK MASONRY	2, 4, 7, & 8A / A6.1
F2	CLEAN BRICK MASONRY	-
F3	CLEAN LIMESTONE/STONE	4 & 6 / A6.1
F3.1	REPOINT LIMESTONE JOINTS	9 & 10 / A6.1
F3.2	REPOINT GRANITE BASE	8A / A6.1
F4	REPLACE BRICK MASONRY TYPE I BRICK UNLESS NOTED OTHERWISE	4 & 6 / A6.1
F5	SAW CUT NEW CONTROL JOINTS (C.J.) IN PARAPET AND PROVIDE BACKER ROD AND SEALANT	4 & 8E / A6.1
F6	APPLY BREATHABLE SILOXANE SEALER OVER BRICK AND LIMESTONE MASONRY SUBSTRATE	-
F7	REPAIR LIMESTONE CRACKS/STONE CRACKS	11 / A6.1
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F25	S.S. HORIZONTAL JOINT REINFORCING SET IN BED JOINTS, SPACED 4 TO 6 BRICK COURSES APART MAX.	8B / A6.1

HATCH LEGEND

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RENOVATE PLANT SCIENCE BUILDING - PHASE 2

SUCF Project No. 161026-00

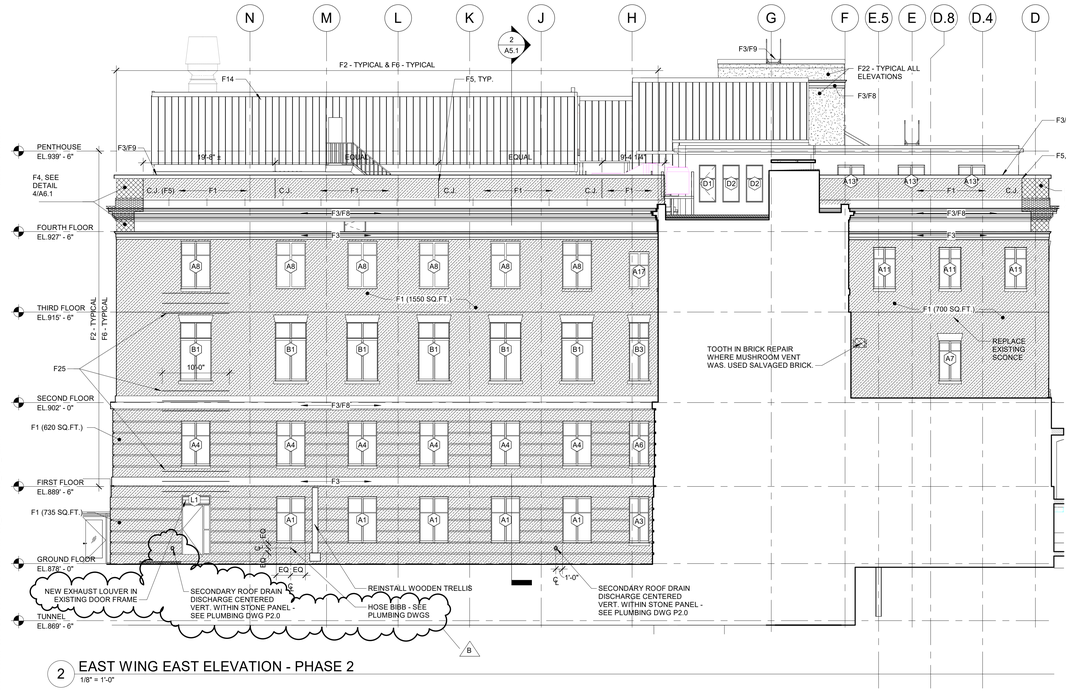
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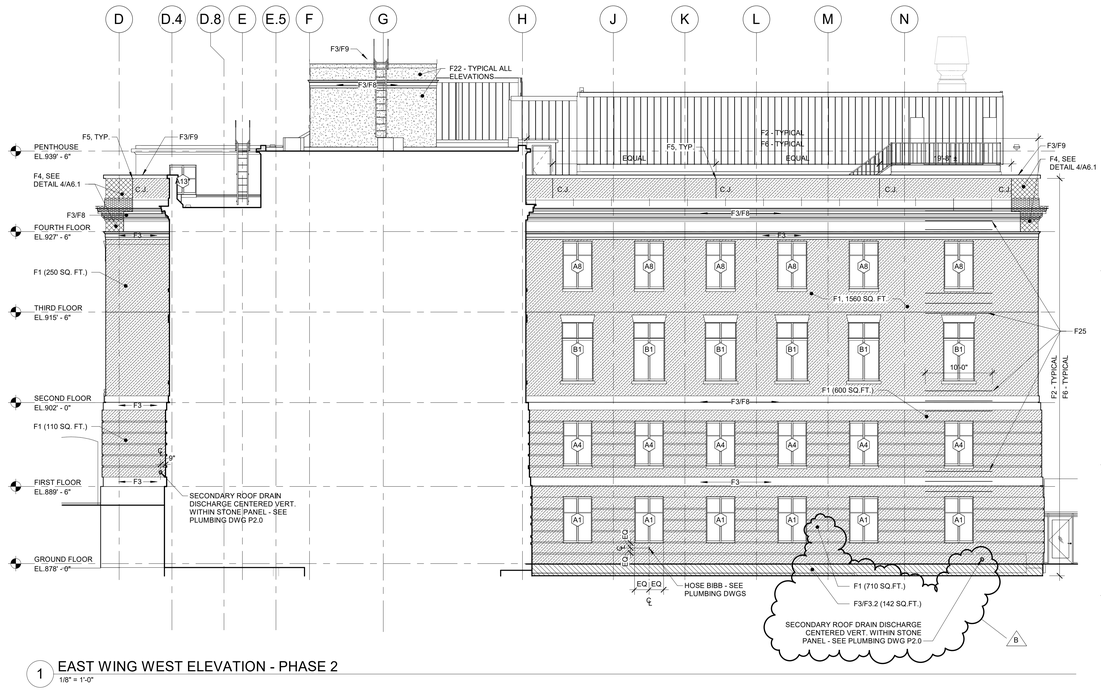
SUNY State University Construction Fund

Ellenzweig Architecture | Planning	230 Congress Street Boston, MA 02110 T 617 491-5575
Ryan Biggs Clark Davis Structural Engineers	257 Ushers Road Clifton Park, NY 12065 T 518 406-5506
Salas O'Brien Consulting & Engineering Group of NY, Inc. Mechanical Engineers	300 Trolley Blvd. Rochester, NY 14606 T 585 288-5590
Jade Stone Engineering Electrical Engineers	444 Vanduzee St. Watertown, NY 13601 T 315 836 4062
Watson Engineering Plumbing	4500 State Route 434 Apalachin, NY 13732 T 607 223-4334
DM Engineers Fire Protection Engineers	1007 Yonkers Ave Yonkers, NY 10704 T 929 333-2339
Bell & Spina Building Envelope	215 Wyoming Street S Syracuse, NY 13204 T 315 488-0377
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Schuler Shook Lighting Design	240 W 40th Street, 2nd Floor New York, NY 10018 T 212 439-5650
D2D Green Design Sustainability PH2	10 Hallenbeck Hill East Greenbush, NY 12061 T 518 729-2967
Shen Milsom & Wilke Acoustics, IT, AV, Security	417 Fifth Avenue New York, NY 10016 T 212 725-6800
Watts Architects & Engineers Asbestos, Haz Mat	95 Perry Street, Suite 300 Buffalo, NY 14203 T 716 206-5122
Hastings Consulting Building Code	142 Hanlon Rd Holliston, MA 01746 T 508 397-8417
Ellana Cost Consulting	32 Broadway, Suite 801 New York, NY 10004 T 212971-0936

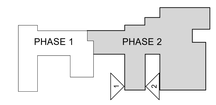
Notes:



2 EAST WING EAST ELEVATION - PHASE 2
1/8" = 1'-0"



1 EAST WING WEST ELEVATION - PHASE 2
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Keyplan

Job Number	31909.00
Drawing By	DJS
Checked By	DKA
Filename	
Date	August 31, 2026

Revisions

B	ADDENDUM 3	11/3/2026

EAST WING ELEVATIONS - PHASE 2

BID DOCUMENTS
Scale: As indicated

REGISTERED ARCHITECT DOUGLAS K. ALBERT 032459 STATE OF NEW YORK

REGISTRATION EXPIRES: 09/31/2028

A3.2

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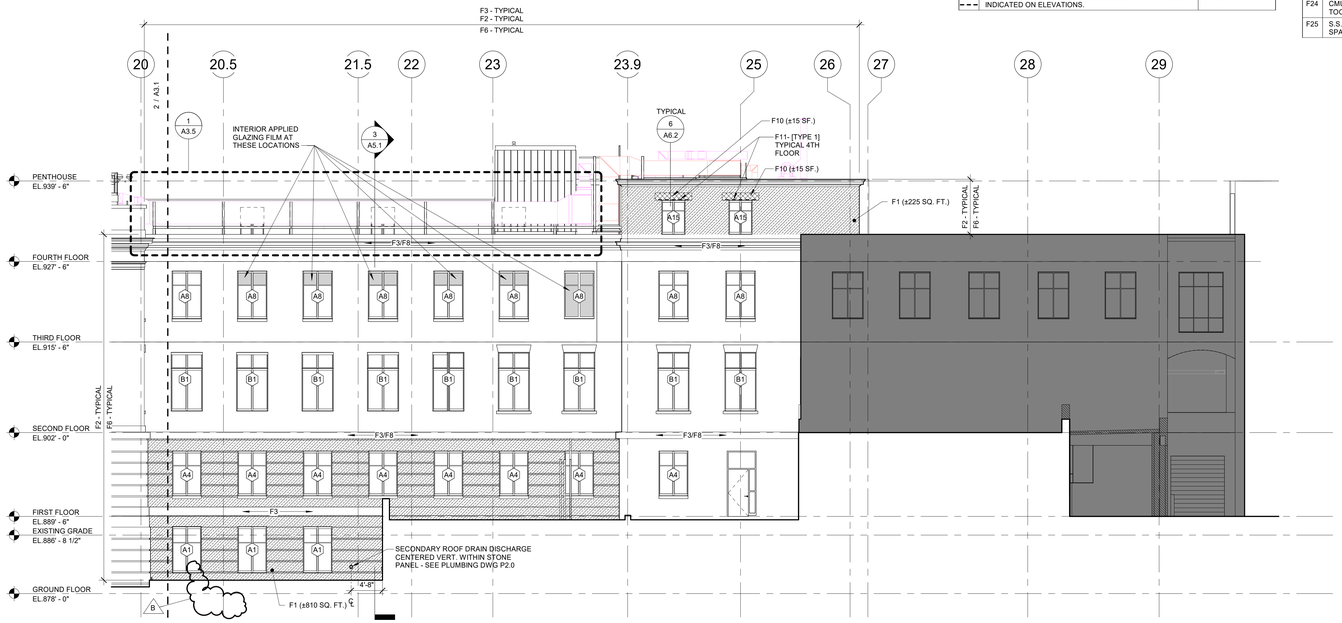
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2 NORTH WING SOUTH ELEVATION

1/8" = 1'-0"



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RENOVATE PLANT SCIENCE BUILDING - PHASE 2

SUCF Project No. 161026-00

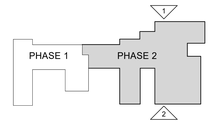
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Ithaca, NY 14853

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Ellenzweig Architecture | Planning	230 Congress Street Boston, MA 02110 T 617 491-5575
Ryan Biggs Clark Davis Structural Engineers	257 Ushers Road Clifton Park, NY 12065 T 518 406-5506
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Jade Stone Engineering Electrical Engineers	444 Vanduzee St. Watertown, NY 13601 T 315 836 4062
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DM Engineers Fire Protection Engineers	1007 Yonkers Ave Yonkers, NY 10704 T 929 333-2339
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Shen Milsom & Wilke Acoustics, IT, AV, Security	417 Fifth Avenue New York, NY 10016 T 212 725-6800
Watts Architects & Engineers Asbestos, Haz Mat	95 Perry Street, Suite 300 Buffalo, NY 14203 T 716 206-5122
Hastings Consulting Building Code	142 Hanlon Rd Holliston, MA 01746 T 508 397-8417
Ellana Cost Consulting	32 Broadway, Suite 801 New York, NY 10004 T 212971-0936

Notes:



Keyplan

Job Number	31909.00
Drawing By	DJS
Checked By	DKA
Filename	
Date	August 31, 2026

Revisions

B	ADDENDUM 3	11/3/2026

NORTH WING NORTH AND SOUTH ELEVATIONS - PHASE 2

BID DOCUMENTS
Scale: As indicated

A3.3

REGISTERED ARCHITECT DOUGLAS K. SCHULER 032689 STATE OF NEW YORK

REGISTRATION EXPIRES: 08/31/2028

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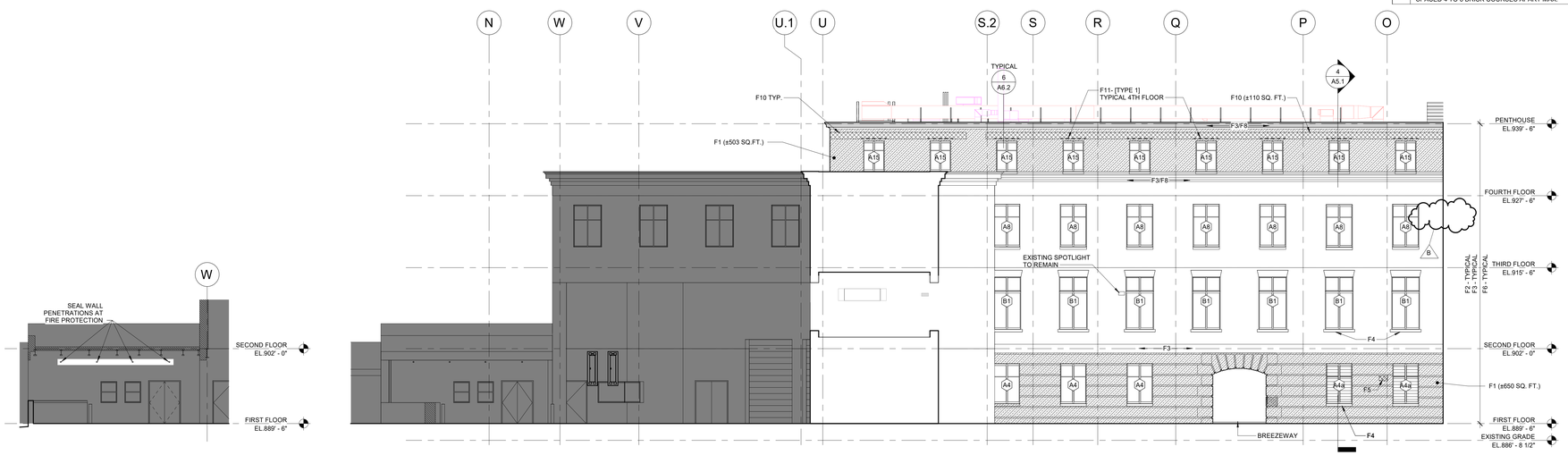
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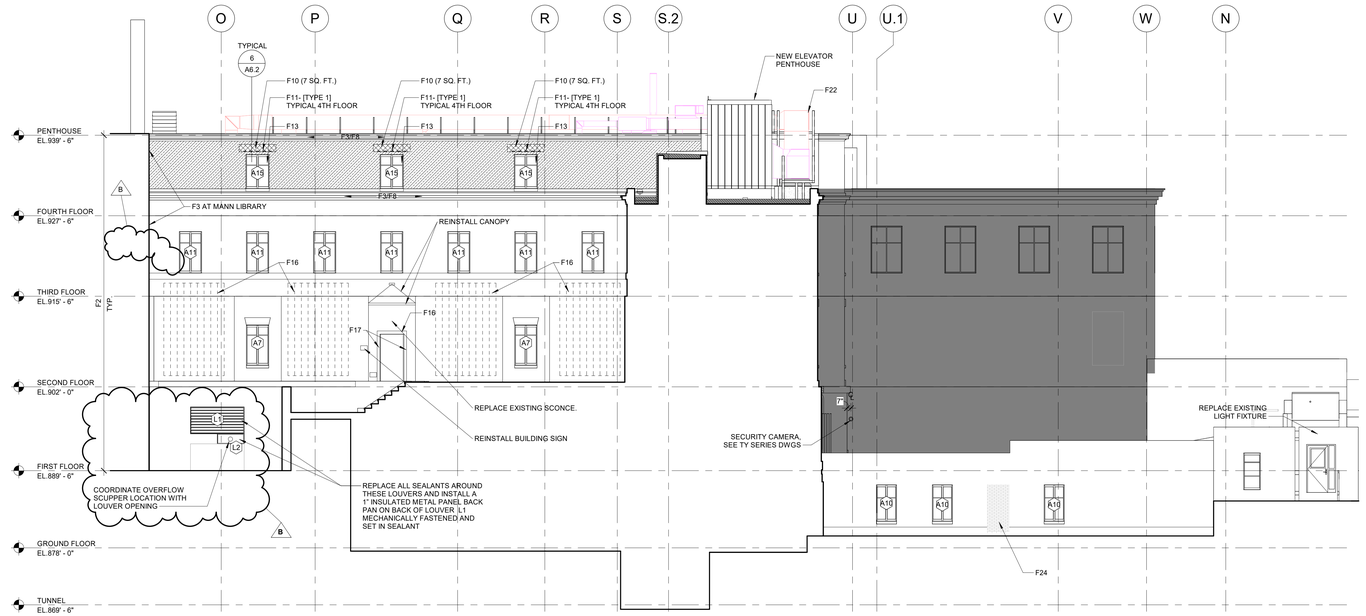
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F23	PATCH AND REPAIR STUCCO CRACKING/SPALLS	-
F24	CMU INFILL AND NEW MATCHING BRICK WYTHE TOOTH INTO COURSING AND MATCH FLEMISH BOND.	4 / A6.1
F25	S.S. HORIZONTAL JOINT REINFORCING SET IN BED JOINTS, SPACED 4 TO 6 BRICK COURSES APART MAX.	8B / A6.1

HATCH LEGEND	
	BRICK REPLACEMENT (TOOTH IN UNLESS NOTED OTHERWISE)
	BRICK/LIMESTONE REPOINTING
	EXISTING N.I.C.
	STUCCO COATING
	LIMESTONE REPAIR
	EXISTING BRICK MASONRY (RUNNING AND FLEMISH BOND, TYP.)
	LIMESTONE OR GRANITE
	METAL PANEL
	GRANITE REPOINTING



3 SOUTH WING EAST ELEVATION
1/8" = 1'-0"

2 NORTH WING EAST ELEVATION
1/8" = 1'-0"



1 NORTH WING WEST ELEVATION
1/8" = 1'-0"

RENOVATE PLANT SCIENCE BUILDING - PHASE 2

SUCF Project No. 161026-00

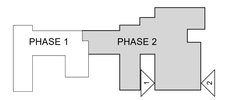
236 Tower Road
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Ellenzweig Architecture | Planning	230 Congress Street Boston, MA 02110 T 617 491-5575
Ryan Biggs Clark Davis Structural Engineers	257 Ushers Road Clifton Park, NY 12065 T 518 406-5506
Salas O'Brien Consulting & Engineering Group of NY, Inc. Mechanical Engineers	300 Trolley Blvd. Rochester, NY 14606 T 585 288-5590
Jade Stone Engineering Electrical Engineers	444 Vanduzee St. Watertown, NY 13601 T 315 836 4062
Watson Engineering Plumbing	4500 State Route 434 Apalachin, NY 13732 T 607 223-4334
DM Engineers Fire Protection Engineers	1007 Yonkers Ave Yonkers, NY 10704 T 929 333-2339
Bell & Spina Building Envelope	215 Wyoming Street S Syracuse, NY 13204 T 315 488-0377
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Schuler Shook Lighting Design	240 W 40th Street, 2nd Floor New York, NY 10018 T 212 439-5650
D2D Green Design Sustainability PH2	10 Hallenbeck Hill East Greenbush, NY 12061 T 518 729-2967
Shen Milsom & Wilke Acoustics, IT, AV, Security	417 Fifth Avenue New York, NY 10016 T 212 725-6800
Watts Architects & Engineers Asbestos, Haz Mat	95 Perry Street, Suite 300 Buffalo, NY 14203 T 716 206-5122
Hastings Consulting Building Code	142 Hanlon Rd Holliston, MA 01746 T 508 397-8417
Ellana Cost Consulting	32 Broadway, Suite 801 New York, NY 10004 T 212971-0936

Notes:



Keyplan

Job Number	31909.00
Drawing By	DJS
Checked By	DKA
Filename	
Date	August 31, 2026

Revisions

B	ADDENDUM 3	11/3/2026

NORTH WING WEST AND EAST ELEVATIONS - PHASE 2

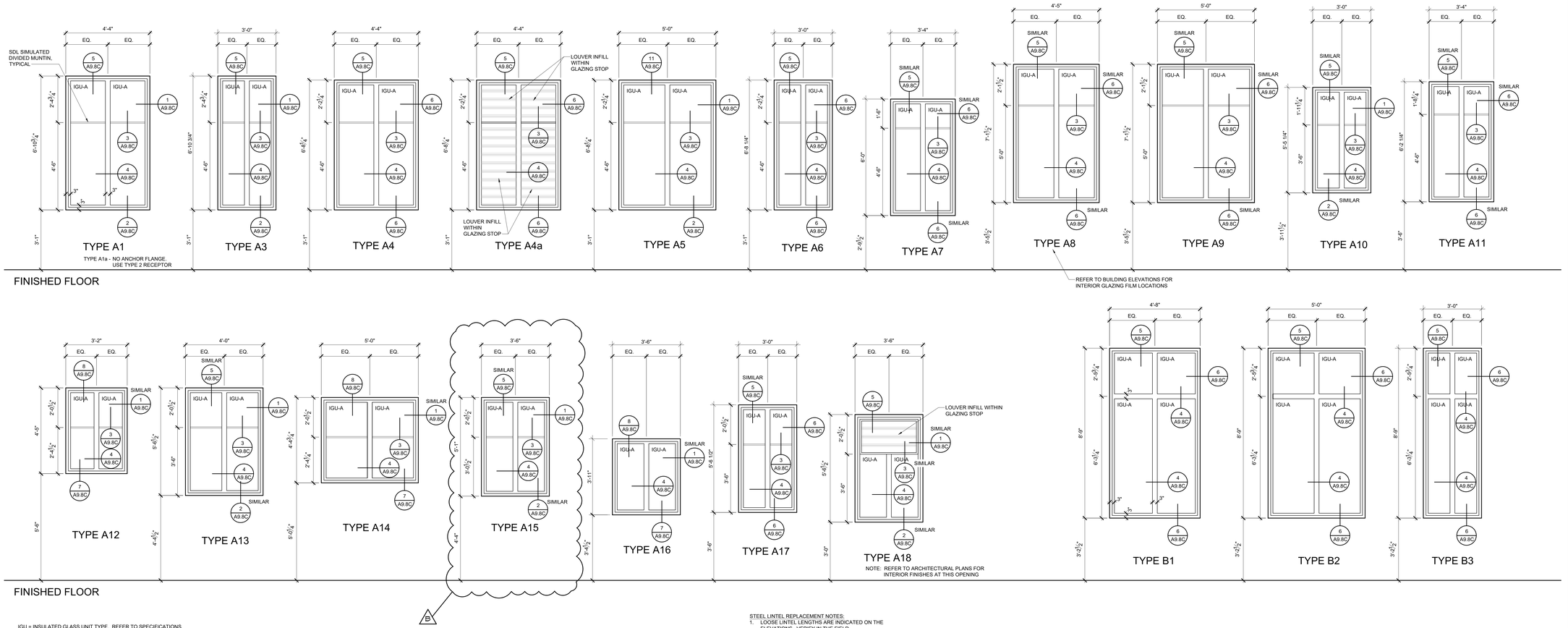
BID DOCUMENTS
Scale: As indicated

A3.4

REGISTERED ARCHITECT DOUGLAS K. ARMS 032659 STATE OF NEW YORK
REGISTRATION EXPIRES: 08/31/2028

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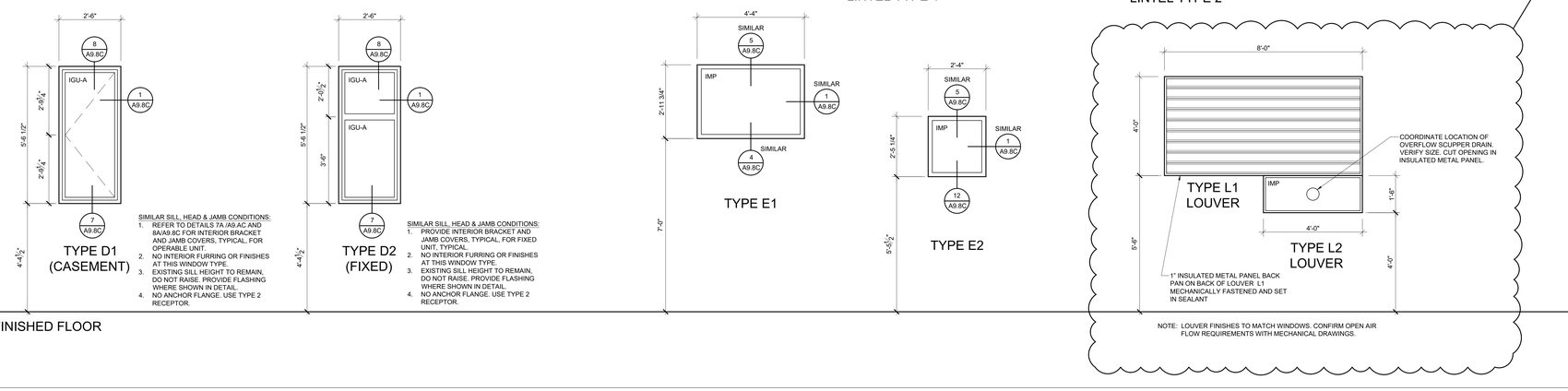
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Autodesk Docs://31909 SUCF Cornell Plant Science/31909_Cornell PSB_Arch_R23.rvt



IGU = INSULATED GLASS UNIT TYPE. REFER TO SPECIFICATIONS
IMP = PREFINISHED INSULATED METAL PANEL.
SDL = SIMULATED DIVIDED LIGHT

TYPICAL WINDOW NOTES:
1. ALL WINDOW TYPES ARE FIXED ALUMINUM WINDOWS WITH THERMALLY BROKEN RECEPTOR TRACKS, UNLESS SPECIALLY NOTED. PROVIDE CUSTOM EXTRUSIONS FOR OFFSET RECEPTOR ANCHORING AND BRACKET CLIPS AS NOTED IN THE DETAILS.
2. FIELD VERIFY WINDOW OPENINGS. OUTSIDE DIMENSIONS SHOWN ARE TO MASONRY OPENING TYPICAL.
3. ALL FRAMES AND SASHES ARE EXTERIOR PREFINISHED KYNAR PAINTED, AND INTERIOR PREFINISHED BAKED ENAMEL FINISH TO MATCH THE CUSTOM COLORS FROM PHASE 1.
4. PROVIDE WEATHERSEAL JOINT SEALANT AND BACKERROD, ALL SIDES TYPICAL. SEQUENCE THE INSTALLATION TO ACHIEVE CONTINUITY OF INTERIOR APPLIED AIR BARRIER MEMBRANE AND INSULATION TO WINDOW OPENINGS.
5. THE OWNER WILL ENGAGE A TESTING AGENT FOR AIR & WATER SPRAY TESTING OF REPRESENTATIVE WINDOW OPENINGS. THE CONTRACTOR SHALL PROVIDE SAFE ACCESS FOR TESTING AND MAKE REQUIRED MODIFICATIONS UNTIL SUCCESSFUL TEST PERFORMANCE. REFER TO THE WINDOW SPECIFICATIONS.
6. SEE REMOVAL NOTES AND DETAILS ON SHEET A9.8B FOR TYPICAL REMOVAL DETAILS. PREP OPENINGS TO RECEIVE NEW WINDOW UNITS INCLUDING RAISING SILL HEIGHTS.
7. COORDINATE FIELD GLAZED LOUVER INFILL PANELS WITHIN THE WINDOW FRAMES AS NOTED.

STEEL LINTEL REPLACEMENT NOTES:
1. LOOSE LINTEL LENGTHS ARE INDICATED ON THE ELEVATIONS. VERIFY IN THE FIELD.
2. MINIMUM 4" BEARING ONTO SOLID MASONRY.
3. SHORE OPENINGS AS REQUIRED.
4. ALL LINTELS SHALL BE HOT DIPPED GALVANIZED. PAINT SURFACES WHERE EXPOSED TO VIEW.



RENOVATE PLANT SCIENCE BUILDING - PHASE 2

SUCF Project No. 161026-00

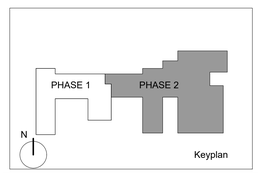
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Notes:



Job Number	31909.00
Drawing By	TJG
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Filename	
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B	ADDENDUM 3	11/3/2026

WINDOW & LINTEL TYPES - PHASE 2

REGISTERED ARCHITECT DOUGLAS K. ARGUE 032660 STATE OF NEW YORK

REGISTRATION EXPIRES: 09/31/2028

BID DOCUMENTS
Scale: As indicated

A9.8A

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A/E	ARCHITECT / ENGINEER
AD	AREA DRAIN/ACCESS DOOR
AFF	ABOVE FINISH FLOOR
AFG	ABOVE FINISH GRADE
AG	AIR GAP
AP	ACCESS PANEL
AS	AUTOMATIC SPRINKLER
ASD	ADJUSTABLE SPEED DRIVES
ASD	AUTOMATIC SPRINKLER DRAIN
ASHRAE	AMERICAN SOCIETY OF HEATING, REFRIGERATION, AIR CONDITIONING ENGINEERS
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS
ASPE	AMERICAN SOCIETY OF PLUMBING ENGINEERS
ASR	AUTOMATIC SPRINKLER RISER
AV	ACID VENT
AW	ACID WASTE
BFP	REDUCED PRESSURE BACKFLOW PREVENTER
BHP	BREAK HORSEPOWER
BSP	BLACK STEEL PIPE
BT	BATHTUB
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNIT PER HOUR
C	CELSIUS
CA	COMPRESSED AIR
CGA	COMPRESSED GAS ASSOCIATION
CFM	CUBIC FEET PER MINUTE
CI	CAST IRON
CO	CLEANOUT
CS	CLINICAL SINK
CV	CONTROL VALVE
DCW	DOMESTIC COLD WATER
DFU	DRAINAGE FIXTURE UNITS
DHW	DOMESTIC HOT WATER
DHWR	DOMESTIC HOT WATER RETURN
DHWS	DOMESTIC HOT WATER SUPPLY
DI	DEIONIZED WATER
DN	DOWN
DOE	DEPARTMENT OF ENERGY
DS	DOWNSPOUT
DW	DISHWASHER
DWG	DRAWING
DWH	DOMESTIC WATER HEATER
DWR	DRINKING WATER RETURN
DWS	DRINKING WATER SUPPLY
DWV	DRAIN WASTE VENT
EL	ELEVATION
EMCS	ENERGY MONOSERRAT AND CENTRAL SYSTEM
EPA	ENVIROMENTAL PROTECTION AGENCY
EPACT	ENERGY POLICY ACT
ESC	ESCUTCHEON
ESH	EMERGENCY SHOWER
ET	EXPANSION TANK
EWH	ELECTRIC WATER HEATER
EWS	EYE WASH STATION
EWS/SH	EYE WASH/DRENCH SHOWER
EX	EXISTING
F	FAHRENHEIT
FCO	FLOOR CLEANOUT
FCW	FILTERED COLD WATER
FD	FLOOR DRAIN
FDC	FIRE DEPARTMENT (HOSE CONNECTION
FM	FLOW METER
FOP	FUEL OIL PUMP
FOR	FUEL OIL RETURN
FOS	FUEL OIL SUPPLY
FOV	FUEL OIL VENT
FS	FLOOR SINK
FS	FLOW SWITCH
FU	FIXTURE UNITS
GAL	GALLON
GCO	GRADE CLEANOUTS
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GPR	GAS PRESSURE REGULATOR
GRS	GAS REGULATOR STATION
GT	GREASE TRAP
GVTR	GAS VENT THROUGH ROOF
GWH	GAS FIRED WATER HEATER
H&CW	HOT AND COLD WATER
HB	HOSE BIBB
HD	HUB DRAIN
HEX	HEAT EXCHANGER
HP	HORSEPOWER
HS	HAND SINK
HST	HOT WATER STORAGE TANK (DOMESTIC)
HWB	HOT WATER BOILER
HWCP	HOT WATER CIRCULATING PUMP
HWP	HOT WATER PUMP
HYD	HYDRANT
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
ICW	INDUSTRIAL COLD WATER
IHW	INDUSTRIAL HOT WATER
INV	INVERT
IPC	INTERNATIONAL PLUMBING CODE
IRW	IRRIGATION WATER
IW	INDIRECT WASTE
IWH	INSTANTANEOUS WATER HEATER
IWR	INDUSTRIAL WATER RETURN
IWS	INDUSTRIAL WATER SUPPLY
KW	KILOWATT
KWH	KILOWATT-HOUR
L/S	LITER PER SECOND
LA	LABORATORY AIR
LAV	LAVATORY
LBS/HR	POUNDS PER HOUR
LCW	LABORATORY COLD WATER
LHW	LABORATORY HOT WATER
LNG	LIQUID NATURAL GAS
LOX	LIQUID OXYGEN
LV	LABORATORY VACUUM
LW	LAB WASTE
M	METER
MA	MEDICAL AIR
MAV	MANUAL AIR VENT
MBH	1000 BTUH
MED	MEDICAL
MER	MECHANICAL EQUIPMENT ROOM
MH	MANHOLE
MOU	MEMORANDUM OF UNDERSTADING
MSB	MOP SERVICE BASIN
MV	MEDICAL VACUUM
N2	NITROGEN
N20	NITROUS OXIDE
NC	NORMALLY CLOSED
NG	NATURAL GAS
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NOM.A.	NOMINAL
NPW	NON POTABLE WATER
NTS	NOT TO SCALE
O2	OXYGEN
OC	ON CENTER
OD	OUTSIDE DIAMETER
OFD	OVERFLOW DRAIN
OR	OPERATING ROOM
OVFL	OVERFLOW
PA	PASCAL
PD	PRESSURE DROP OR DIFFERENCE
PDI	PLUMBING AND DRAINAGE INSTITUTE
PG	PRESSURE GAGE
PP	PLUMBING PUMP
PPM	PARTS PER MILLION
PRS	PRESSURE REDUCING STATION
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
PSIA	POUNDS PER SQUARE INCH ATMOSPHERE
PSIG	POUNDS PER SQUARE INCH GAGE
PTRV	PRESSURE TEMPERATURE RELIEF VALVE
PW	POTABLE WATER
RD	ROOF DRAIN
RDL	ROOF DRAIN LEADER
RL	ROOF LEADER
RP	RECIRCULATION PUMP
RO	REVERSE OSMOSIS WATER
RWL	RAIN WATER LEADER
SAN	SANITARY SEWER
SMACNA	SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION
SCFM	STANDARD CUBIC FOOT/MINUTE
SCW	SOFTENED COLD WATER
SDMH	STORM DRAIN MANHOLE
SMH	SANITARY MANHOLE
SP	SUMP PUMP
SPR	SPRINKLER LINE
SQFT/SF	SQUARE FEET
SS	STAINLESS STEEL
ST	STORAGE TANK
SW	STORM WATER
TCV	TEMPERATURE CONTROL VALVE
TD	TEMPERATURE DIFFERENCE
TD	TRENCH DRAIN
TDH	TOTAL DYNAMIC HEAD
TEMP	TEMPERATURE
TMV	THERMOSTATIC MIXING VALVE
TP	TRAP PRIMER
TSTAT	THERMOSTAT
TWR	TEMPERED WATER RETURN
TWS	TEMPERED WATER SUPPLY
TYP	TYPICAL
V	VENT
VAC	VACUUM
VB	VACUUM BREAKER
VCO	VACUUM CLEANER OUTLET
VP	VACUUM PUMP
VS	VENT STACK
VSD	VARIABLE SPEED DRIVE
VTR	VENT THROUGH ROOF
W	WASTE
WC	WATER CLOSET
WCO	WALL CLEANOUT
WG	WATER GAGE
WH	WALL HYDRANT
WH	WATER HEATER
WHA	WATER HAMMER ARRESTER
WL	WATER LINE
WM	WATER METER
WPD	WATER PRESSURE DROP
WS	WASTE STACK
WSFU	WATER SUPPLY FIXTURE UNITS
YCO	YARD CLEANOUT
YH	YARD HYDRANT

DRAWING SYMBOLS

- 2 / PL105 — DETAIL NUMBER; DRAWING NUMBER WHERE DRAWN
- A / PL105 — SECTION LETTER; DRAWING NUMBER WHERE SHOWN
- 26-P3 — BUILDING NO. WHERE EQUIPMENT IS LOCATED.; EQUIPMENT ABBREVIATION (PUMP); PUMP NO.3 IN BUILDING NO.26; TYPICAL UNIT NO.
- EXISTING TO REMAIN

GENERAL PLUMBING SYMBOLS

- DIRECTION OF PIPE PITCH (DOWN)
- DIRECTION OF FLOW
- ANCHOR
- REDUCER OR INCREASER
- ECCENTRIC REDUCER
- TOP CONNECTION, 45° OR 90°
- BOTTOM CONNECTION, 45° OR 90°
- SIDE CONNECTION
- CAPPED OUTLET
- RISE OR DROP IN PIPE
- UNION
- PIPE UP
- PIPE DOWN
- POINT OF CONNECTION BETWEEN NEW AND EXISTING WORK
- LIMIT OF DEMOLITION
- INVERTED BUCKET TRAP SET INCLUDING PIPING ACCESSORIES
- FLOAT & THERMOSTATIC TRAP SET INCLUDING PIPING ACCESSORIES
- STRAINER
- STRAINER WITH BLOWDOWN VALVE, BRASS HOSE CONNECTION CAP, AND CHAIN
- THERMOMETER
- PRESSURE GAGE
- FE — FLOW ELEMENT
- CO — CLEAN OUT
- HOSE BIB
- STEAM TRAP

PLUMBING PIPING SYMBOLS

- EXISTING PIPE TO REMAIN
- EXISTING PIPE TO BE DEMOLISHED
- DOMESTIC COLD WATER, COLD WATER
- DOMESTIC HOT WATER, HOT WATER
- DOMESTIC HOW WATER RETURN, HOT WATER RETURN
- COMPRESSED AIR
- RODI WATER
- VENT (SANITARY)
- SAN — SANITARY
- TW — TW — TW — TEPID WATER
- CW — DOMESTIC COLD WATER CONNECTION REQUIRED
- HW — DOMESTIC HOT WATER CONNECTION REQUIRED
- EW — EYEWASH CONNECTION REQUIRED
- DH — DRENCH HOSE CONNECTION REQUIRED
- A — COMPRESSED AIR CONNECTION REQUIRED
- V — VACUUM CONNECTION REQUIRED
- RO — RO/DI WATER CONNECTION REQUIRED
- SG1 — SPECIALTY GAS CONNECTION REQUIRED

PLUMBING VALVE SYMBOLS

- ISOLATION VALVE: NPS 2" AND SMALLER BALL VALVE, NPS 2-1/2" AND ABOVE BUTTERFLY
- DRAIN VALVE
- GLOBE VALVE
- GATE VALVE WITH 3/4 " HOSE ADAPTER
- CHECK VALVE
- ANGLE GLOBE VALVE
- BUTTERFLY VALVE
- BALL VALVE
- MODULATING CONTROL VALVE
- TWO-WAY DIGITAL CONTROL VALVE
- BYPASS VALVE
- THREE-WAY DIGITAL CONTROL VALVE
- THREE-WAY MODULATING CONTROL VALVE
- THREE-WAY TWO POSITION CONTROL VALVE
- PRESSURE REGULATING VALVE
- PRESSURE REDUCING VALVE
- AUTOMATIC FLOW CONTROL VALVE
- PRESSURE RELIEF VALVE
- SAFETY RELIEF VALVE
- PRESSURE SUSTAINING VALVE
- MANUAL AIR VENT
- TO PRESSURE GAUGE MANIFOLD
- TEST PLUG (PRESSURE/TEMPERATURE)
- TEMPERATURE WELL
- AUTOMATIC AIR VENT
- BALANCING VALVE
- BACKFLOW PREVENTER
- PRESSURE GAUGE WITH ISOLATION VALVE
- A — WATER HAMMER ARRESTOR
- CIRCUIT SETTER BALANCING VALVE

PIPING MATERIAL AND INSULATION SCHEDULE

SYSTEM	PIPE MATERIAL	PIPE SIZE RANGE	INSULATION THICKNESS	INSULATION TYPE	NOTES
ARGON GAS	COPPER, TYPE L				
COMPRESSED AIR	COPPER, TYPE L				
DOMESTIC COLD WATER	COPPER, TYPE L	NPS 1 AND SMALLER	1/2"	MINERAL FIBER	
DOMESTIC COLD WATER	COPPER, TYPE L	NPS 1-1/2" AND LARGER	1"	MINERAL FIBER	
DOMESTIC HOT & RECIRCULATED WATER	COPPER, TYPE L	NPS 1-1/4" AND SMALLER	1"	MINERAL FIBER	
DOMESTIC HOT & RECIRCULATED WATER	COPPER, TYPE L	NPS 1-1/2" AND LARGER	1 1/2"	MINERAL FIBER	
NATURAL GAS	BLACK STEEL				
NITROGEN GAS	COPPER, TYPE L				
RO/DI (CPVC)	SCHEDULE 80 CPVC	ALL SIZES	1"	MINERAL FIBER	2, 3
RO/DI (POLYPROPYLENE)	FIRE RETARDANT POLYPROPYLENE	ALL SIZES	1"		2
SANITARY, ABOVE GRADE	POLYPROPYLENE	ALL SIZES	1"	MINERAL FIBER	
SANITARY, BELOW GRADE	CAST IRON				
STORMWATER, ABOVE GRADE	CAST IRON	ALL SIZES	1"	MINERAL FIBER	
STORMWATER, BELOW GRADE	CAST IRON OR PVC	ALL SIZES			
TEPID WATER (EMERGENCY FIXTURES)	COPPER, TYPE L	NPS 1-1/4" AND SMALLER	1"	MINERAL FIBER	
TEPID WATER (EMERGENCY FIXTURES)	COPPER, TYPE L	NPS 1-1/2" AND LARGER	1 1/2"	MINERAL FIBER	

B

NOTES:
1. REFER TO DIVISION 22 SPECIFICATIONS FOR ADDITIONAL PLUMBING PIPING AND INSULATION REQUIREMENTS.
2. INSULATION SHALL ONLY BE REQUIRED WHEN PIPING PASSES THROUGH AN ABOVE CEILING SPACE BEING USED AS A RETURN AIR PLENUM. COORDINATE WITH MECHANICAL FOR RETURN AIR PLENUM LOCATIONS.
3. CPVC SHALL BE USED ONLY AS NECESSARY WHEN CONNECTING TO EXISTING CPVC PIPING SYSTEMS. ALL NEW RO PIPING SHALL BE POLYPROPYLENE.

2025 ENERGY CONSERVATION CONSTRUCTION CODE OF NYS (2025 ECCCNYS)
THE MAXIMUM ALLOWABLE PIPING LENGTH FROM THE NEAREST SOURCE OF HEATED WATER TO THE TERMINATION OF THE FIXTURE SUPPLY PIPE SHALL BE IN ACCORDANCE WITH THE FOLLOWING. WHERE THE PIPING CONTAINS MORE THAN ONE SIZE OF PIPE, THE LARGEST SIZE OF PIPE WITHIN THE PIPING SHALL BE USED FOR DETERMINING THE MAXIMUM ALLOWABLE LENGTH OF THE PIPING IN TABLE C404.5.1.

TABLE C404.5.1

NOMINAL PIPE SIZE	VOLUME (LIQUID OUNCES PER FOOT LENGTH)	MAXIMUM PIPING LENGTH: PUBLIC LAVATORY FAUCETS	MAXIMUM PIPING LENGTH: OTHER FIXTURES AND APPLIANCES
1/2"	1.5	2	43
3/4"	3	0.5	21
1"	5	0.5	13
1-1/4"	8	0.5	8
1-1/2"	11	0.5	6
2" OR LARGER	18	0.5	4

NOTE: ONLY BATHROOMS WITH MULTIPLE LAVATORIES ARE CONSIDERED "PUBLIC LAVATORY FAUCETS."

GENERAL PLUMBING NOTES:

1. THE GENERAL NOTES ON THIS SHEET APPLY TO ALL PLUMBING DRAWINGS.
2. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY ALL ASPECTS OF THE DESIGN, TO INCLUDE THE WORK OF SUB-TRADES.
3. THE DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS POSSIBLE, ALTHOUGH NO ATTEMPT WAS MADE TO SHOW EVERY OFFSET, FITTING, BEAM, PIPE SUPPORT, CLEARANCE, ETC. IT IS THE CONTRACTOR'S RESPONSIBILITY TO SURVEY ALL WORK AREAS AND SUBMIT FINAL, DETAILED COORDINATED SHOP DRAWINGS FOR REVIEW BY THE DESIGNER OF RECORD TO ENSURE THAT THE DESIGN INTENT WILL BE MET AND THAT ALL TRADES ARE PROPERLY COORDINATED. CHANGES REQUIRED TO FIT EQUIPMENT, AND PIPING SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.
4. THE WORK INCLUDES ALL ITEMS OF THE SPECIFICATIONS THAT ARE WRITTEN SEPARATELY IN A SPECIFICATIONS BOOK.
5. ALL WORK SHALL BE DONE WITH COMPLETE COMPLIANCE WITH THE PUBLISHED EDITIONS OF THE APPLICABLE CODES AND STANDARDS WHETHER STATUTORY OR NOT. ALL WORK SHALL BE INSTALLED TO COMPLY WITH THE NEW YORK STATE BUILDING, PLUMBING, AND FIRE CODES, UNDERWRITER'S LABORATORY, INC., AMERICAN NATIONAL STANDARD INSTITUTE, INC., AND CODES AND STANDARDS OF THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA). IF ANY PART OF THE INSTALLATION DOES NOT MEET CODE, NOTIFY THE OWNER'S REPRESENTATIVE PRIOR TO BEGINNING THE INSTALLATION. IF ANY PART OF THE PROJECT CANNOT BE INSTALLED TO CONFORM WITH THE PLANS AND/OR SPECIFICATIONS, NOTIFY THE OWNER'S REPRESENTATIVE PRIOR TO BEGINNING THE INSTALLATION.
6. UNLESS STATED OTHERWISE, ALL EXISTING MATERIAL AND EQUIPMENT SHALL REMAIN THE PROPERTY OF THE PROJECT OWNER.
7. THE CONTRACTOR SHALL DEVELOP AND PRESENT A CONSTRUCTION PLAN AND WORK SCHEDULE WITH ALL PHASING, STAGING, AND SEQUENCING OF WORK FOR APPROVAL PRIOR TO THE COMMENCEMENT AND BEGINNING IMPLEMENTATION OF HIS WORK. THE CONTRACTOR SHALL DETERMINE PRIOR TO SUBMITTING HIS WORK SCHEDULE, THE SPECIFIC TIME AVAILABILITY OF ALL AREAS AND SPACES AND DETERMINE WHAT WORK MUST BE DONE DURING "OFF HOURS".
8. WITH THE EXCEPTION OF SIGNIFICANT NOISE GENERATING ACTIVITIES SUCH AS CORE DRILLING, ETC., WORK OUTSIDE OF THE OCCUPIED SPACES, SUCH AS ON THE ROOF, ETC., MAY BE PERFORMED DURING NORMAL WORKING HOURS.
9. UNLESS SPECIFICALLY NOTED AS EXISTING, ALL ITEMS, EQUIPMENT, AND WORK SHOWN IS NEW AND SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR.
10. DURING THE EXECUTION OF THIS CONTRACT, THE SITE AND BUILDINGS WILL BE OCCUPIED AND IN USE. WORK DONE UNDER THIS CONTRACT SHALL BE PERFORMED WITHOUT INCONVENIENCE TO THE OWNER INSOFAR AS POSSIBLE. ALL WORK SHALL BE COORDINATED WITH THE OWNER'S REPRESENTATIVE AND IS SUBJECT TO THEIR CONTINUOUS APPROVAL.
11. THE CONTRACTOR IS COMPLETELY RESPONSIBLE FOR ALL CHARACTERISTICS OF THE EQUIPMENT THAT HE INTENDS TO INSTALL AND MUST FOLLOW MANUFACTURER RECOMMENDATIONS FOR PROPER INSTALLATION. IF THERE ARE ANY DIFFERENCES IN THE EQUIPMENT SHOWN ON THE DESIGN DRAWINGS AND THE EQUIPMENT TO BE INSTALLED, THE CONTRACTOR SHALL MAKE ALL CHANGES AND ADJUSTMENTS TO ACCOMMODATE THE PROPOSED EQUIPMENT AT NO ADDITIONAL COST TO THE OWNER. THIS APPLIES TO ALL SUPPORT SERVICES AND FACILITIES NECESSARY TO PROPERLY INSTALL THE EQUIPMENT TO FUNCTION ADEQUATELY AS PART OF THE SYSTEMS FOR WHICH THEY WERE DESIGNED AND SELECTED. THESE CHARACTERISTICS INCLUDE SUCH THINGS AS WEIGHT, CLEARANCE, DIMENSIONS, ELECTRICAL, MECHANICAL, PLUMBING, AND UTILITY SERVICES, ETC. ACCOMMODATING SERVICES INCLUDE SUCH THINGS AS DIMENSIONS, LOCATIONS, AND SIZES OF SUPPORTING MEMBERS, PIPE, CONNECTION SIZES, ELECTRICAL SERVICE SIZE AND PROTECTION, ELECTRICAL CONNECTION LOCATION, UTILITY AND PLUMBING CONNECTION SIZES AND LOCATIONS, ETC. ALL CHANGES SHALL BE SUBJECT TO THE APPROVAL OF THE PROJECT A/E AND THE OWNER'S REPRESENTATIVE.
12. BEFORE ANY DEMOLITION OR CONSTRUCTION WORK IS BEGUN, THE CONTRACTOR AND THE OWNER'S REPRESENTATIVE SHALL SURVEY THE EXISTING BUILDING AREA TO BE MODIFIED AND/OR REPLACED TO ACCURATELY DOCUMENT EXISTING CONDITIONS. THIS SURVEY WILL BE USED BY THE OWNER'S REPRESENTATIVE AT JOB COMPLETION TO DETERMINE WHICH BUILDING/SITE COMPONENTS MUST BE REPLACED WITH NEW.
13. UNLESS STATED OTHERWISE, REQUEST APPROVAL FROM THE OWNER'S REPRESENTATIVE SEVEN DAYS IN ADVANCE FOR THE SHUTDOWN OF ANY EXISTING SYSTEM.
14. UNLESS STATED OTHERWISE, FINAL ADVANCE NOTICE OF 48 HOURS SHALL BE GIVEN TO THE OWNER'S REPRESENTATIVE PRIOR TO THE PROPOSED SHUTDOWN OF ANY SYSTEM.
15. THE CLOSING AND OPENING OF VALVES SHALL BE WITNESSED BY THE OWNER'S REPRESENTATIVE; NOTIFY LOCAL AUTHORITIES AS REQUIRED.
16. THE CONTRACTOR SHALL NOT PENETRATE OR CUT ANY STRUCTURAL MEMBERS NOT SPECIFICALLY SHOWN ON THE DRAWINGS (E.G., JOISTS, BEAMS, ETC.). IF STRUCTURAL MEMBERS CONFLICT WITH ROUTING, CONTACT THE OWNER'S REPRESENTATIVE FOR DIRECTION BEFORE PROCEEDING. EXERCISE CAUTION IN CUTTING CONCRETE FLOORS AND WALLS TO AVOID EXISTING UTILITIES WHICH MAY BE LOCATED IN AND UNDER CONCRETE SURFACES.
17. THE CONTRACTOR SHALL PROVIDE NEW OPENINGS IN WALLS, FLOOR, AND ROOF, AND PATCH EXISTING OPENINGS IN CONJUNCTION WITH THE DEMOLITION ANDINSTALLATION OF THE NEW BUILDING COMPONENTS, INCLUDING MECHANICAL, PLUMBING, ELECTRICAL, AND GENERAL CONTRACTOR'S ITEMS. ALL NECESSARY FRAMING, COUNTER-FLASHING, ETC. SHALL BE INCLUDED.
18. FOR ALL FLOOR, WALL, AND ROOF PENETRATION, VERIFY THE LOCATION OF THE EXISTING STRUCTURAL MEMBERS PRIOR TO DRILLING AND CUTTING, RELOCATE OPENINGS AS REQUIRED AND OFFSET DUCTS, PIPES, CONDUIT, ETC.
19. FOR EACH PHASE AND BEFORE INTERRUPTING EACH EXISTING UTILITY, DETERMINE, IN ADVANCE, IF ANY DOWNSTREAM SERVICE BEYOND THE CONSTRUCTION AREA OF THE PHASE, WILL BE INTERRUPTED AND PROVIDE A TEMPORARY SERVICE BYPASSING THE CONSTRUCTION AREA. PREPARE A DETAILED SHOP DRAWING SHOWING ALL OF THE EXISTING UTILITIES IN THEIR RELOCATED LOCATION AND ALL NEW PLUMBING SYSTEMS.
20. EXISTING DUCTWORK, DOMESTIC COLD WATER PIPING, DOMESTIC HOT WATER PIPING, CHILLED AND HEATING HOT WATER PIPING, WASTE, VENT, FIRE SPRINKLER LINES, FIRE ALARM EQUIPMENT, ELECTRICAL CONDUIT, TELEPHONE CONDUIT, COMMUNICATION CONDUIT, PNEUMATIC TUBING, ETC., MAY HAVE TO BE RELOCATED TO FACILITATE THE INSTALLATION OF THE NEW WORK. NO ADDITIONAL COMPENSATION WILL BE PROVIDED TO THE CONTRACTOR FOR RELOCATIONS, MODIFICATIONS, OR CORRECTIVE WORK RESULTING FROM FAILURE TO IDENTIFY AND RESOLVE CONFLICTS DURING THE SHOP DRAWING PROCESS OR FROM INADEQUATE INTERTRADE COORDINATION.
21. THE CONTRACTOR SHALL PAY FOR ALL DAMAGE, INCLUDING WATER DAMAGE, TO PROPERTY AND EQUIPMENT CAUSED BY HIS WORK THROUGHOUT THE CONSTRUCTION AND WARRANTEE PERIOD. A
22. ANY DEVICE THAT REQUIRES ACCESS FOR ADJUSTMENT OR ROUTINE MAINTENENANCE, SUCH AS BUT NOT LIMITED TO VALVES, CONTROL DEVICES, ETC. SHALL BE INSTALLED IN AN ACCESSIBLE LOCATION.
23. ALL UL LISTED EQUIPMENT SHALL BE INSTALLED AS PER LISTING OR LABELING.
24. PATCH AND PAINT TO MATCH EXISTING, ALL SURFACES DAMAGED BY THE DEMOLITION AND ALL OPENINGS NOT TO BE REUSED.
25. REPAIR DAMAGE TO CEILING, WALLS, ETC. TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE.
26. WHEN A DETAIL OR NOTE IS IDENTIFIED AS TYPICAL, THE CONTRACTOR IS TO APPLY THE DETAIL OR NOTE TO EVERY SIMILAR CONDITION, WHETHER OR NOT THE REFERENCED DETAIL OR NOTE IS REPEATED OR REFERENCED.
27. WHERE NO CONSTRUCTION DETAIL IS INDICATED, SUCH WORK SHALL BE SIMILAR TO COMPARABLE WORK DETAILED OR NOTED ELSEWHERE OR TO MATCH EXISTING CONDITIONS, SUBJECT TO THE APPROVAL OF THE OWNER'S REPRESENTATIVE.
28. ALL HOLES, VOIDS, AND DAMAGED OR UNEVEN SURFACES WHICH ARE CAUSED BY THE CONTRACTOR'S WORK AND WHICH REMAIN EXPOSED IN THE WALL, FLOOR, CEILING, OR OTHER SURFACES SHALL BE PATCHED, REPAIRED, AND BROUGHT FLUSH WITH THE ADJACENT CONSTRUCTION. SUCH SURFACES, NOT CONCEALED BY THE NEW CONSTRUCTION, SHALL MATCH IN EVERY RESPECT THE EXISTING NON-DAMAGED CONSTRUCTION. REMOVE EXISTING UTILITIES BACK BEHIND EXISTING SURFACES AND CAP SO AS NOT TO INTERFERE WITH NEW PATCHES.
29. WHEREVER NEW WALL, FLOOR, OR CEILING FINISHES ARE INDICATED, THE CONTRACTOR SHALL BRING EXISTING PLUMBING, AND OTHER BUILDING COMPONENTS FLUSH WITH THE NEW FINISHED SURFACES IF APPROPRIATE.
30. THE DEMOLITION SHALL INCLUDE ALL ASSOCIATED ANCHORAGES, HANGERS, SUPPORTS, BRACES, FASTENERS, MASTIC, MORTAR, LATH, AND RELATED ITEMS. THE EXISTING SUBSTRATE, INCLUDING CONCRETE, MASONRY, METAL FRAMING AND FURRING SHALL BE REPAIRED WHERE DAMAGE BY THE CONTRACTOR'S WORK.
31. PROVIDE ALL VALVES, INSTRUMENTS, FITTINGS, ETC. AS SHOWN ON THE PIPING DIAGRAMS, SCHEMATICS, ETC. IT IS NOT POSSIBLE TO SHOW ALL VALVES, INSTRUMENTS, ETC. ON THE PLANS, HOWEVER, SELECTED VALVES HAVE BEEN SHOWN FOR REFERENCE. ALL VALVES SHALL BE ACCESSIBLE FROM THE FLOOR OR FROM FIXED PLATFORMS.
32. ALL EQUIPMENT AND MATERIALS SUBJECT TO THE WEATHER THAT ARE NOT FACTORY PAINTED SHALL BE FIELD PAINTED AND WEATHER PROOFED WITH PRIMER, AND TWO COATS OF EXTERIOR PAINT. MATCH THE COLOR OF THE EXISTING BUILDING EXTERIOR. THE COLOR AND QUANTITY OF THE PAINT IS SUBJECT TO THE APPROVAL OF THE OWNER'S REPRESENTATIVE. SUBMITTAL REQUIRED.
33. INSTALL SLEEVES FOR PIPING PENETRATIONS OF WALLS, CEILINGS, AND FLOORS. COMPLY WITH REQUIREMENTS FOR SLEEVES SPECIFIED IN SECTION 220517 "SLEEVES AND SLEEVE SEALS FOR PLUMBING PIPING."
34. INSTALL SLEEVE SEALS FOR PIPING PENETRATIONS OF CONCRETE WALLS AND SLABS. COMPLY WITH REQUIREMENTS FOR SLEEVE SEALS SPECIFIED IN SECTION 220517 "SLEEVES AND SLEEVE SEALS FOR PLUMBING PIPING."
35. FOR FIRE-RESISTANCE-RATED PENETRATIONS, HORIZONTAL ASSEMBLY PENETRATIONS, AND SMOKE BARRIER PENETRATIONS, MAINTAIN INDICATED FIRE OR SMOKE RATING OF WALLS, PARTITIONS, CEILINGS, AND FLOORS AT PIPE PENETRATIONS. SEAL PIPE PENETRATIONS WITH FIRE- AND SMOKE-STOP MATERIALS. COMPLY WITH REQUIREMENTS FOR FIRESTOPPING AND FILL MATERIALS SPECIFIED IN SECTION 078413 "PENETRATION FIRESTOPPING."

GENERAL ASBESTOS AWARENESS NOTES

1. ALL TRADES SHALL BE AWARE OF ASBESTOS-CONTAINING MATERIALS (ACM) THAT EXIST WITHIN THE PROJECT LIMITS SO THEY ARE NOT UNINTENTIONALLY DISTURBED. ALL WORK THAT DISTURBS ACM IS CONSIDERED ASBESTOS ABATEMENT, WHICH IS COVERED UNDER SECTION 028213 ASBESTOS ABATEMENT. REFER TO THE HM SERIES DRAWINGS AND THE PRE-RENOVATION SURVEY REPORT BOUND IN THE PROJECT MANUAL FOR MORE INFORMATION ON IDENTIFIED ACM.

GENERAL LEAD AWARENESS NOTES

1. LEAD-BASED PAINT (LBP) AND ELEMENTAL LEAD HAVE BEEN IDENTIFIED WITHIN THE PROJECT LIMITS. ALL TRADES ARE REQUIRED TO COMPLY WITH OSHA 29 CFR 1926.62: LEAD EXPOSURE IN CONSTRUCTION; INTERIM FINAL RULE FOR ALL ACTIVITIES DURING WHICH AN EMPLOYEE MAY BE OCCUPATIONALLY EXPOSED TO LEAD. REFER TO SECTION 028313 LEAD REMEDIATION, THE HM SERIES DRAWINGS AND THE PRE-RENOVATION SURVEY REPORT BOUND IN THE PROJECT MANUAL FOR MORE INFORMATION ON IDENTIFIED LBP.
2. ELEMENTAL LEAD AND LEAD-BASED METAL COMPONENTS THAT ARE REMOVED AS PART OF THE PROJECT ARE TO BE RECYCLED. DO NOT DISPOSE OF LEAD- BASED METALS WITH THE CONSTRUCTION AND DEMOLITION DEBRIS WASTE STREAM.

OZONE DEPLETING SUBSTANCES AWARENESS NOTE

1. ALL OZONE DEPLETING SUBSTANCES (I.E. CHLOROFLUOROCARBONS, FREON ETC.) ASSOCIATED WITH DRINKING FOUNTAINS, REFRIGERATION UNITS, CONDENSERS, ROOFTOP AC UNITS, WINDOW-MOUNTED AC UNITS, ETC. SHALL BE RECOVERED BY A LICENSED REFRIGERANT PROFESSIONAL AND SENT FOR PROPER DISPOSAL AND/OR RECYCLING IN COMPLIANCE WITH SECTION 608 OF THE FEDERAL CLEAN AIR ACT.

LABORATORY SANITARY/ACID WASTE PLUMBING CONTAMINATION AWARENESS NOTE

1. ALL WORK ASSOCIATED WITH SANITARY AND ACID WASTE PLUMBING SYSTEM COMPONENTS THAT ARE DOWNSTREAM OF LABORATORY SINKS AND FUME HOODS IS CONSIDERED HAZARDOUS WASTE REMEDIATION WORK, WHICH IS COVERED UNDER SECTIONS 028100 HAZARDOUS WASTE AND CONTAMINATED MATERIALS AND 028613 ACID WASTE PLUMBING SYSTEM REMEDIATION. REFER TO THE HM SERIES DRAWINGS FOR ADDITIONAL INFORMATION.

RENOVATE PLANT SCIENCE BUILDING - PHASE 2

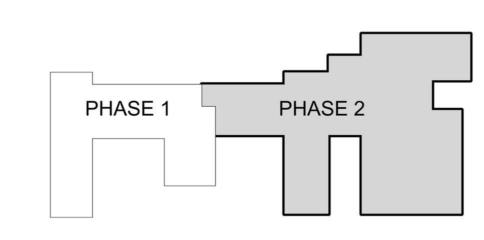
SUCF Project No. 161026-00

236 Tower Road
Ithaca, NY 14853

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Notes:



Keyplan

Job Number 161026-00 / 31909
Drawing By SRB
Checked By JWE
Filename
Date August 31, 2026

Revisions

A	ADDENDUM 2	10-29-2026
B	ADDENDUM 3	11-4-2026

PLUMBING SYMBOLS, NOTES, AND ABBREVIATIONS

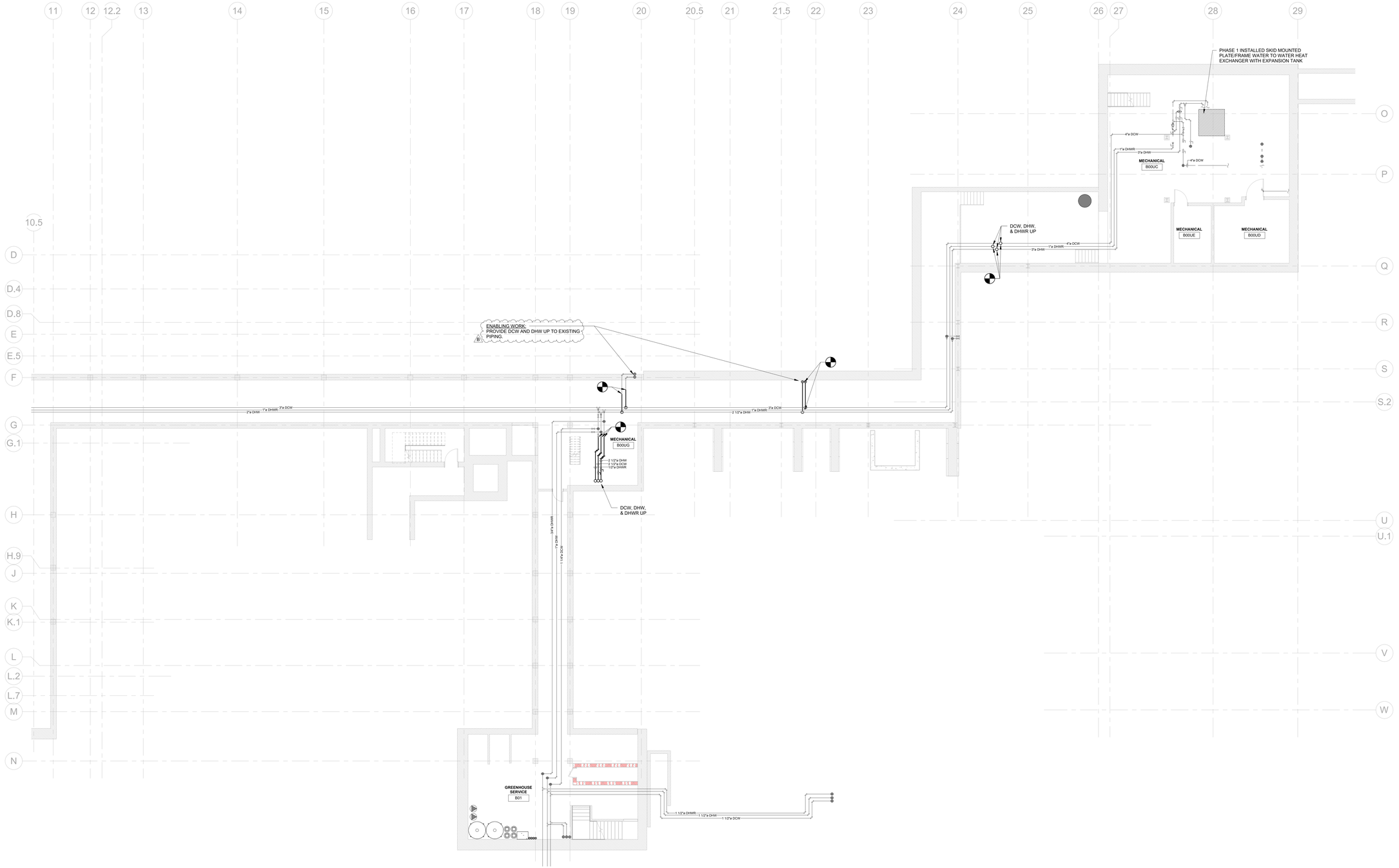


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PLUMBING UTILITY TUNNEL LEVEL PLAN
1 - PART A (PHASE 2)
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RENOVATE PLANT SCIENCE BUILDING - PHASE 2

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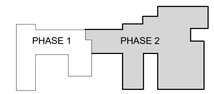
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Notes:



Keyplan

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Revisions

B	ADDENDUM 3	11-4-2026

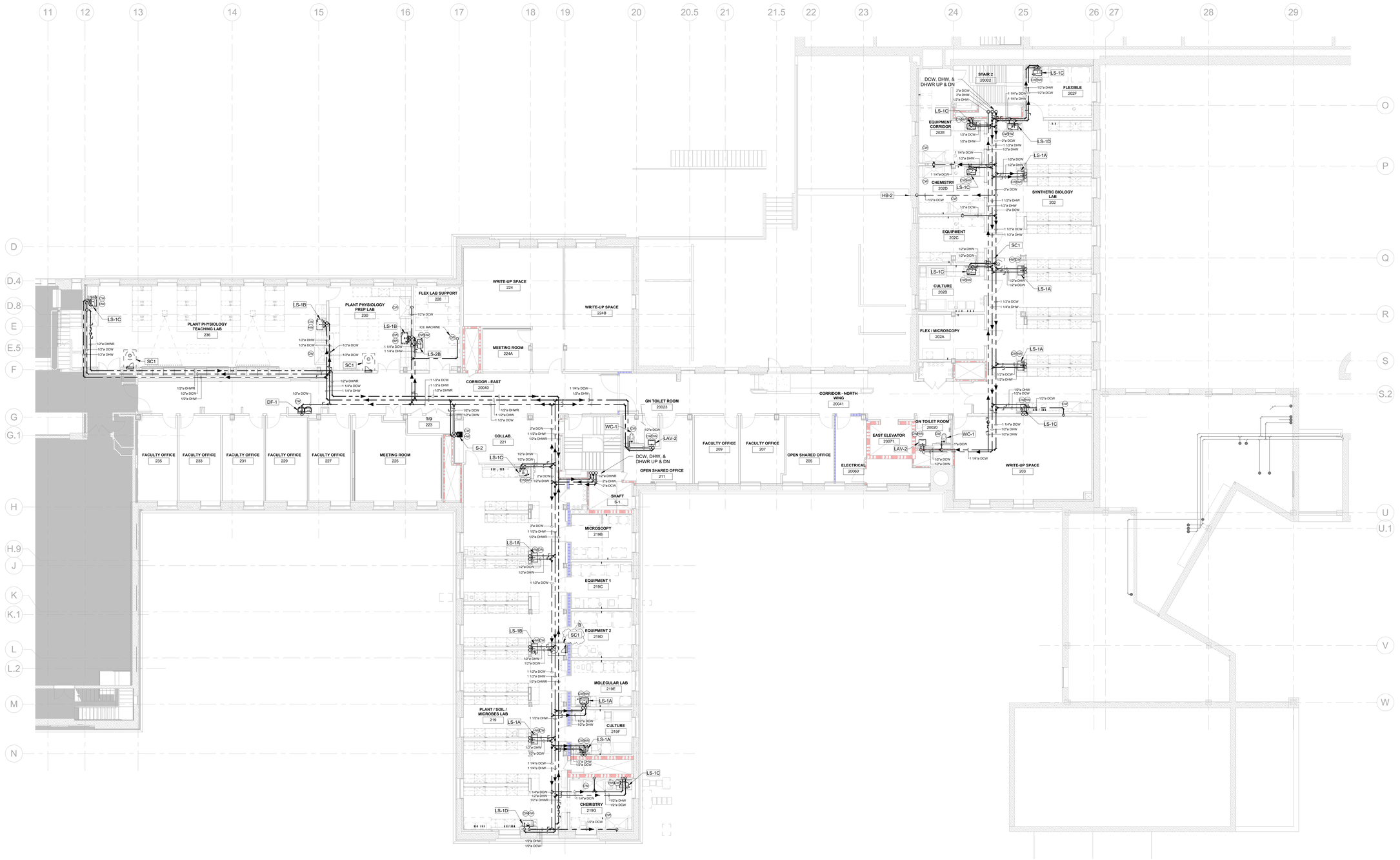
PLUMBING UTILITY TUNNEL LEVEL DOMESTIC WATER PLAN - PHASE 2



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1 PLUMBING SECOND FLOOR PLAN - PART A (PHASE 2)
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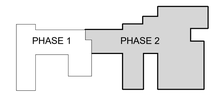
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B	ADDENDUM 3	11-4-2026

PLUMBING SECOND FLOOR DOMESTIC WATER PLAN - PHASE 2

STATE OF NEW YORK
JOHN W. EVANGELISTI
LICENSED PROFESSIONAL ENGINEER
095335

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Scale: 1/8" = 1'-0"

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GENERAL PLUMBING DRAINAGE NOTES:

1. REFER TO SHEET P000 FOR SCHEDULE OF PIPING AND INSULATION REQUIREMENTS.
2. MECHANICAL TRAP SEALS SHALL BE INSTALLED ON EACH FLOOR DRAIN AND FLOOR SINK. ALL SANITARY PIPING BEING REUSED SHALL BE CLEANED AND PRESSURE FLUSHED.
3. ALL SINKS WITH RODI POLISHERS REQUIRE A DEDICATED OPEN-PIPE DRAIN/TRAP. REFER TO DETAIL 10/A-10.03 FOR ADDITIONAL INFORMATION.
4. VENT PIPING ABOVE ROOF SHALL BE FLASHED A MINIMUM OF 18" FROM TOP OF MEMBRANE (CONTRACTOR TO EXTEND AS REQUIRED).
5. SLOPE OF SANITARY SEWER PIPE:
   - A. 2.5" OR LESS = 1/4" PER FOOT
   - B. 3" TO 6" = 1/8" PER FOOT
   - C. 8" OR LARGER = 1/16" PER FOOT
6. ALL DRAIN CLEANOUTS SHALL BE THE SAME SIZE AS THE PIPING SERVED BY THE CLEANOUT, EXCEPT THAT CLEANOUTS FOR PIPING LARGER THAN 4 IN NEED NOT BE LARGER THAN 4 IN. IN ADDITION TO THOSE SHOWN ON PLANS AND SCHEMATICS, CLEANOUTS SHALL BE PROVIDED AT ALL OF THE FOLLOWING LOCATIONS:
   - A. HORIZONTAL SANITARY PIPES WITH A MAXIMUM INTERVAL OF 100 FT.
   - B. AT ALL CHANGES OF DIRECTION ON HORIZONTAL DRAIN PIPING GREATER THAN 45 DEGREES
     - a. WHERE MORE THAN ONE CHANGE OF DIRECTION GREATER THAN 45 DEGREES OCCURS WITHIN 40 FT OF PIPING, THE CLEANOUT INSTALLED AT THE FIRST CHANGE OF DIRECTION SHALL SERVE AS THE CLEANOUT FOR ALL CHANGES OF DIRECTION WITHIN THAT 40 FT.
   - C. AT CONNECTION TO BUILDING SEWER EXITING BUILDING
7. FAN COIL CONDENSATE DRAINS SHALL BE RUN BY GRAVITY THROUGH DEDICATED INSULATED COPPER LINES WITH AN INDIRECT CONNECTION TO SANITARY DRAIN WITH A PITCH OF 1/8-INCH PER FOOT.

KEYED NOTE:

① ALL FAN COIL UNITS TO HAVE DRAIN PANS AND TO BE PROVIDED (BY THE PLUMBER) WITH DRAIN PIPING TO THE NEAREST RISER. REFER TO MECHANICAL FOR ADDITIONAL INFORMATION.

② ALL HYDRONIC CASSETTE UNITS TO HAVE DRAIN PANS AND TO BE PROVIDED (BY THE PLUMBER) WITH DRAIN PIPING TO THE NEAREST RISER. REFER TO MECHANICAL FOR ADDITIONAL INFORMATION.

1 PLUMBING GROUND FLOOR DRAINAGE PLAN - PART A (PHASE 2)
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Notes:

PHASE 1 PHASE 2

Keyplan

Job Number 161026-00 / 31909
Drawing By SRB
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Date August 31, 2026

Revisions

B	ADDENDUM 3	11-4-2026

PLUMBING GROUND FLOOR DRAINAGE PLAN - PHASE 2

STATE OF NEW YORK JOHN G. EVANGELISTA 090338 LICENSED PROFESSIONAL ENGINEER

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Scale: As indicated

P2.0

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GENERAL PLUMBING DRAINAGE NOTES:

1. REFER TO SHEET P000 FOR SCHEDULE OF PIPING AND INSULATION REQUIREMENTS.
2. MECHANICAL TRAP SEALS SHALL BE INSTALLED ON EACH FLOOR DRAIN AND FLOOR SINK. ALL SANITARY PIPING BEING REUSED SHALL BE CLEANED AND PRESSURE FLUSHED.
3. ALL SINKS WITH RODI POLISHERS REQUIRE A DEDICATED OPEN-PIPE DRAIN/TRAP. REFER TO DETAIL 10/A-10.03 FOR ADDITIONAL INFORMATION.
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1 PLUMBING FIRST FLOOR DRAINAGE PLAN - PART A (PHASE 2)
1/8" = 1'-0"

RENOVATE PLANT SCIENCE BUILDING - PHASE 2
SUCF Project No. 161026-00
236 Tower Road
Ithaca, NY 14853

CornellCALS College of Agriculture and Life Sciences
SUNY State University Construction Fund

Ellenzweig Architecture | Planning	230 Congress Street Boston, MA 02110 T 617 491-5575
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Notes:

PHASE 1 PHASE 2

Keyplan

Job Number 161026-00 / 31909
Drawing By SRB
Checked By JWE
Filename
Date August 31, 2026

Revisions
B ADDENDUM 3 11-4-2026

PLUMBING FIRST FLOOR DRAINAGE PLAN - PHASE 2

BID DOCUMENTS
Scale: As indicated

P2.1

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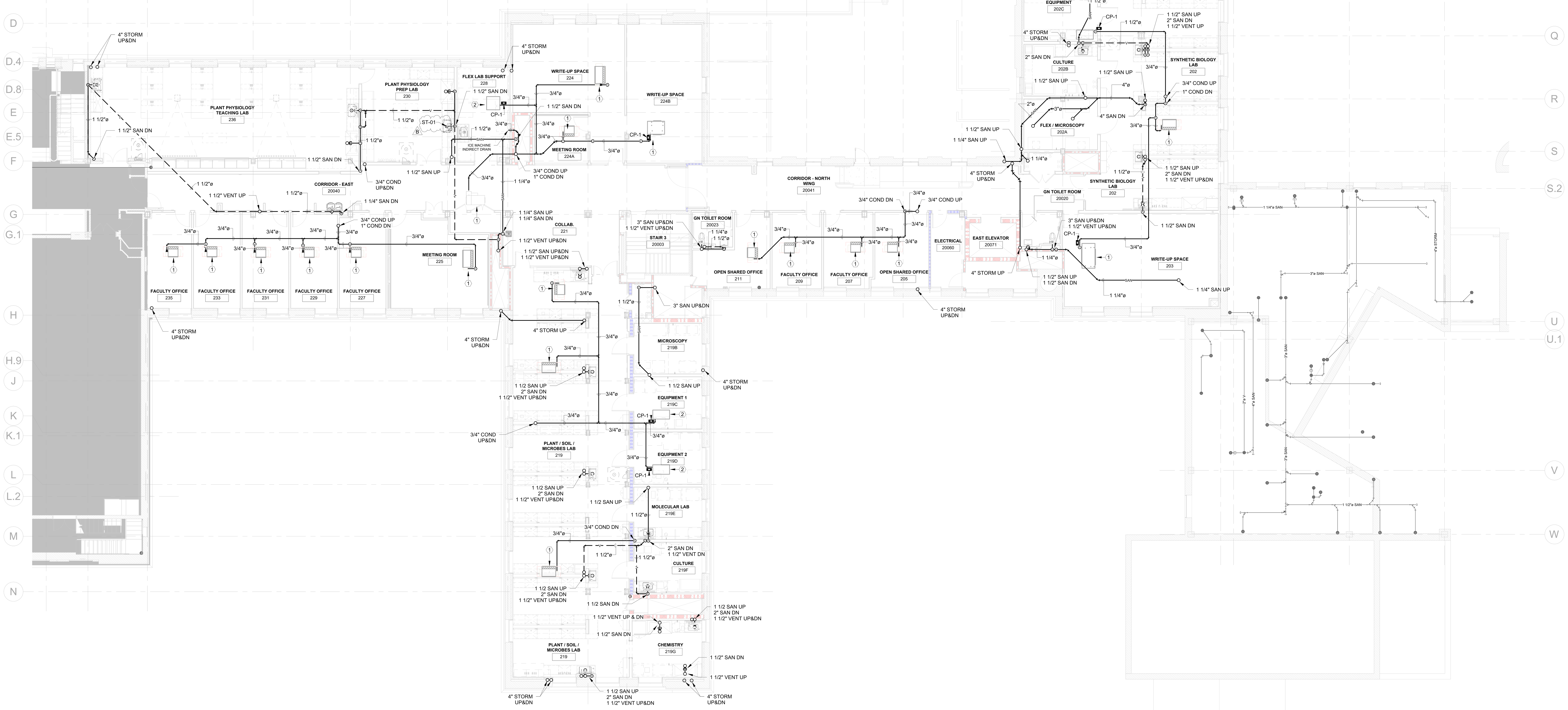
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PLUMBING SECOND FLOOR DRAINAGE PLAN - PART A (PHASE 2)
1/8" = 1'-0"

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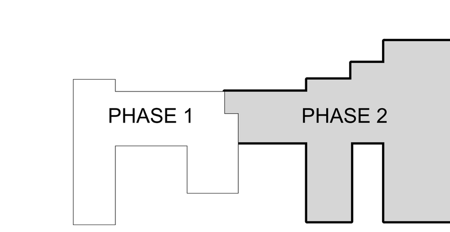
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Keyplan

Job Number	161026-00 / 31909
Drawing By	SRB
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Date	August 31, 2026

Revisions

B	ADDENDUM 3	11-4-2026

PLUMBING SECOND FLOOR DRAINAGE PLAN - PHASE 2

STATE OF NEW YORK · JOHN W. EVANGELISTA · LICENSED PROFESSIONAL ENGINEER · 095338

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Scale: As indicated

P2.2

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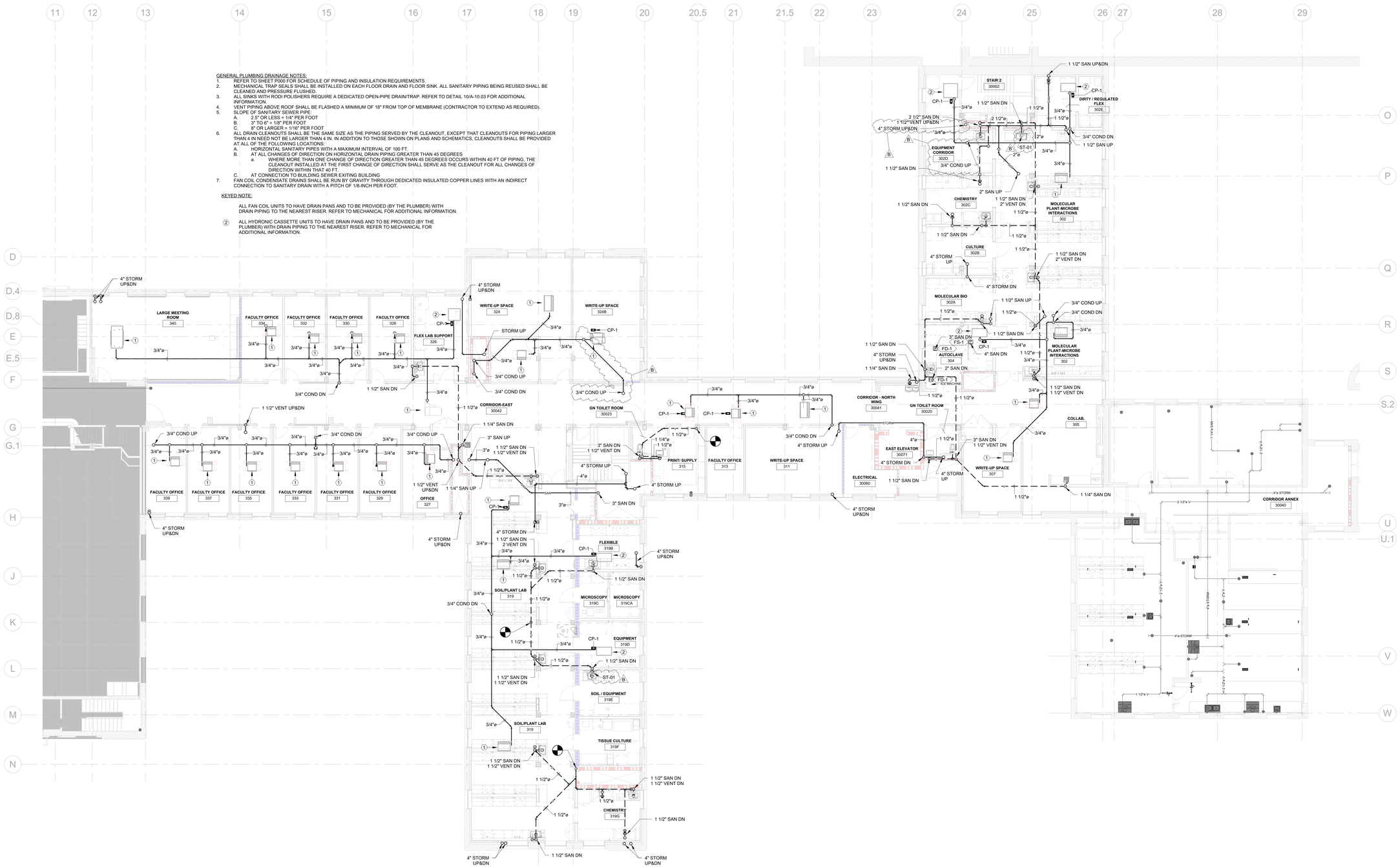
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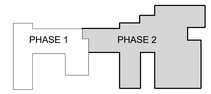
1 PLUMBING THIRD FLOOR DRAINAGE PLAN - PART A (PHASE 2)
1/8" = 1'-0"

RENOVATE PLANT SCIENCE BUILDING - PHASE 2
SUCF Project No. 161026-00
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Notes:



Keyplan

Job Number	161026-00 / 31909
Drawing By	SRB
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Revisions

B	ADDENDUM 3	11-4-2026

PLUMBING THIRD FLOOR DRAINAGE PLAN - PHASE 2

STATE OF NEW YORK JOHN W. EVANGELISTI 095338 LICENSED PROFESSIONAL ENGINEER

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Scale: As indicated

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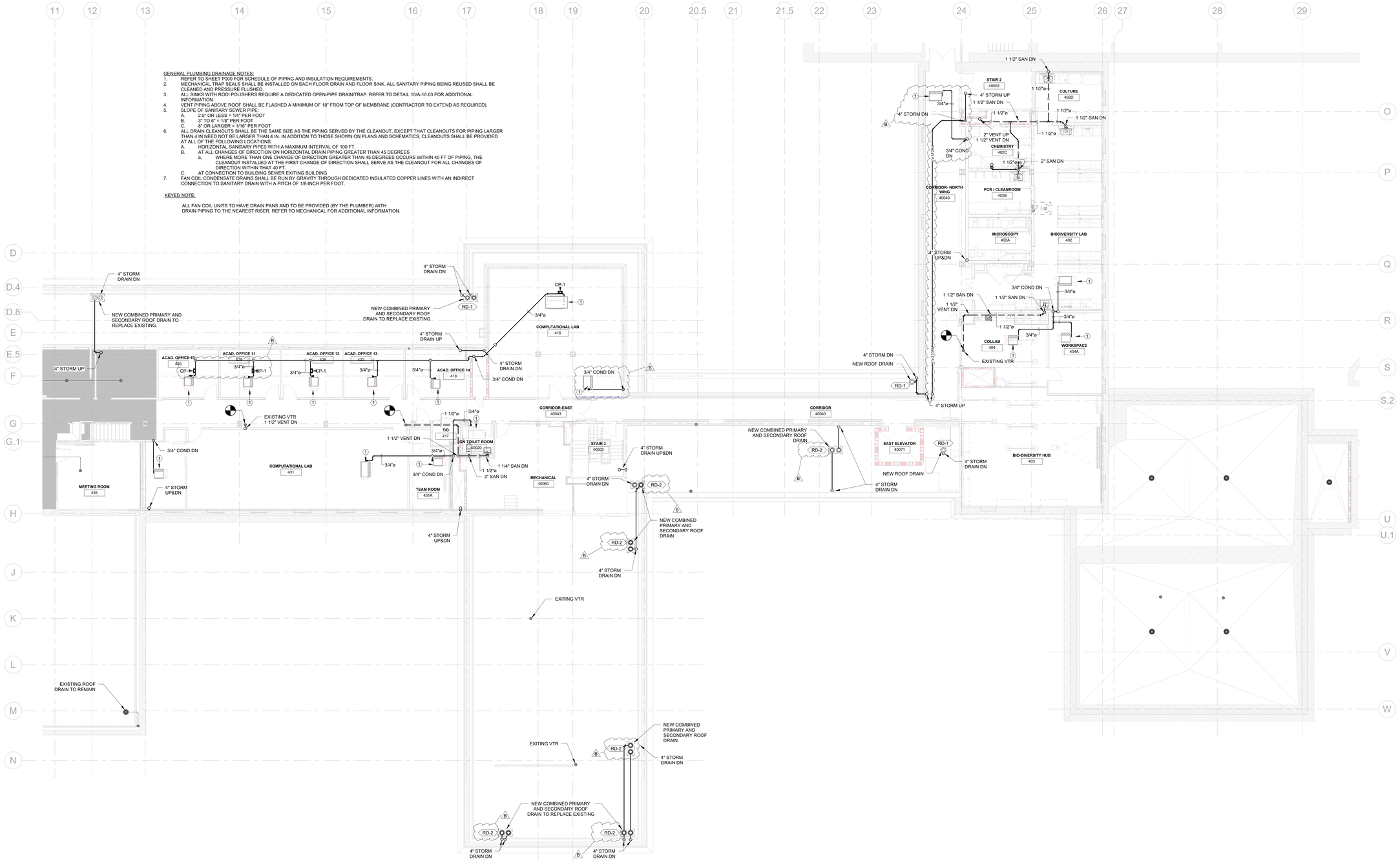
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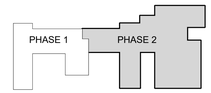
1 PLUMBING FOURTH FLOOR DRAINAGE PLAN - PART A (PHASE 2)
1/8" = 1'-0"

RENOVATE PLANT SCIENCE BUILDING - PHASE 2
SUCF Project No. 161026-00
236 Tower Road
Ithaca, NY 14853

Cornell CALS College of Agriculture and Life Sciences
SUNY State University Construction Fund

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Keyplan

Job Number	161026-00 / 31909
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Revisions

B	ADDENDUM 3	11-4-2026

PLUMBING FOURTH FLOOR DRAINAGE PLAN - PHASE 2

STATE OF NEW YORK JOHN R. EVANGELISTA 095338 LICENSED PROFESSIONAL ENGINEER

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Scale: As indicated

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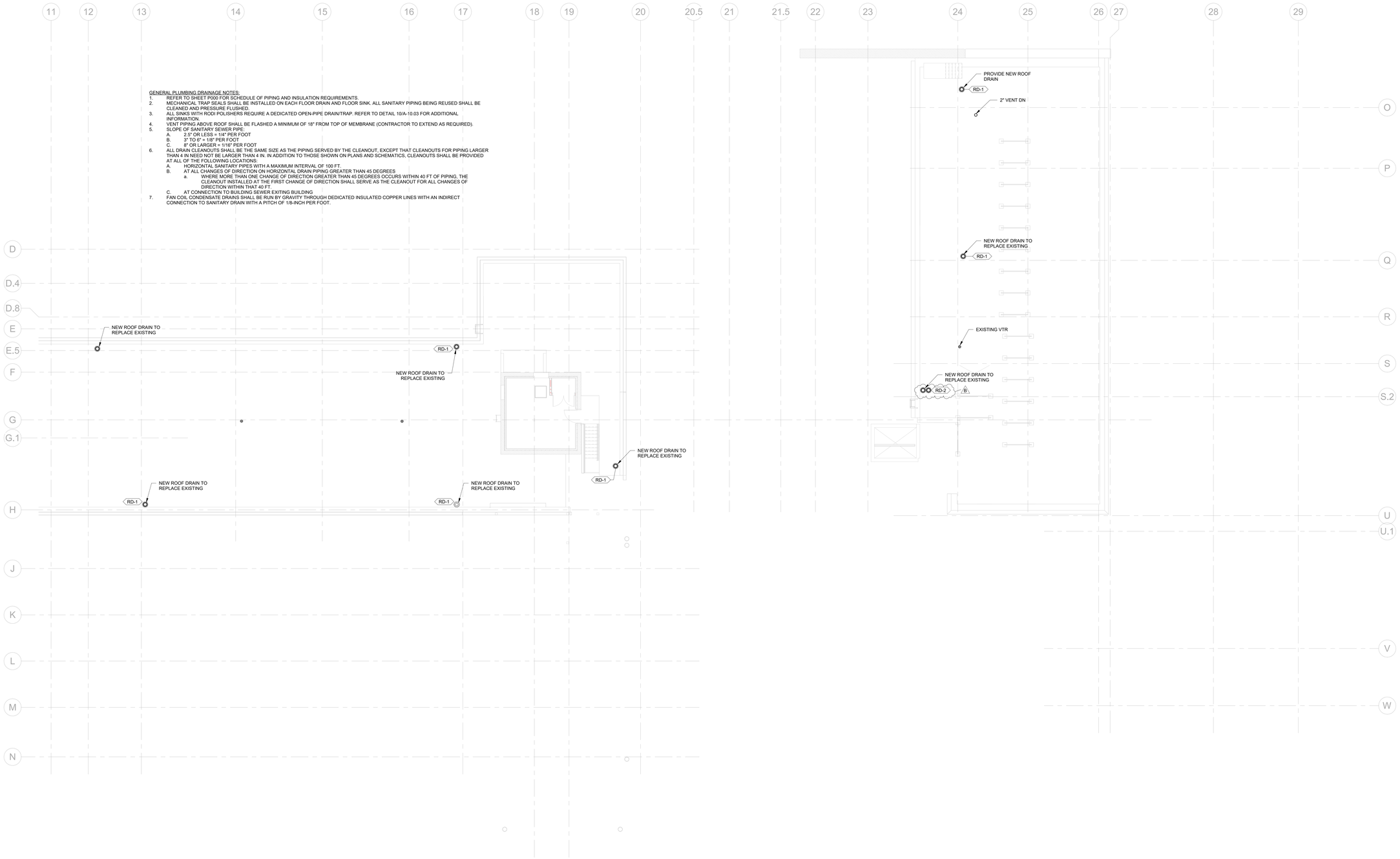
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1 PLUMBING ROOF LEVEL DRAINAGE PLAN - PART A (PHASE 2)
1/8" = 1'-0"

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RENOVATE PLANT SCIENCE BUILDING - PHASE 2

SUCF Project No. 161026-00

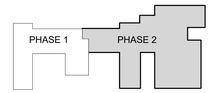
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PLUMBING ROOF LEVEL DRAINAGE PLAN - PHASE 2

STATE OF NEW YORK JOHN W. EVANGELISTA LICENSED PROFESSIONAL ENGINEER 095338

BID DOCUMENTS
Scale: As indicated

P2.5

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PLUMBING EQUIPMENT COORDINATION SCHEDULE

GENERAL				DOCUMENT COORDINATION					ELECTRICAL COORDINATION		MECHANICAL / FIRE PROTECTION COORDINATION		NOTES
EQUIP TAG	LOCATION	DESCRIPTION	BASIS OF DESIGN MAKE/MODEL	PLUMBING DETAIL SHEET	SCHEDULE SHEET	PLUMBING DRAWING REFERENCE	SPECIFICATION SECTION	DATA SHEET (YES/NO)	REQUIRED (YES/NO)	ELECTRIC REQ (VOLT/PHASE/HZ)	MECHANICAL OR FIRE PROTECTION SYSTEM INTERFACE/CONNECTION	BAS CONNECTION (YES/NO)	
ESP-2	ELEVATOR SUMP	ELEVATOR SUMP PUMP	ZOELLER M95	P5.1	P6.1	P1.UA	221429 - SUMP PUMPS	YES	YES	120/1/60	NA	NO	
WC-	VARIOUS-SEE DRAWINGS	WATER CLOSETS	AMERICAN STANDARD 3351.101	-	P6.1	VARIOUS-SEE DRAWINGS	224213.13 - COMMERCIAL WATER CLOSETS	YES	YES	LOW VOLT	NA	NO	
LAV-	VARIOUS-SEE DRAWINGS	LAVATORIES	KOHLER	-	P6.1	VARIOUS-SEE DRAWINGS	224216.13 - COMMERCIAL LAVATORIES	YES	NO	NA	NA	NO	
-	VARIOUS-SEE DRAWINGS	LAVATORY FAUCET	AMERICAN STANDARD 775B.103	-	P6.1	VARIOUS-SEE DRAWINGS	224216.13 - COMMERCIAL LAVATORIES	YES	YES	LOW VOLT	NA	NO	
S-	VARIOUS-SEE DRAWINGS	SINKS	ELKAY	-	P6.1	VARIOUS-SEE DRAWINGS	224216.16 - COMMERCIAL SINKS	YES	NO	NA	NA	NO	
-	VARIOUS-SEE DRAWINGS	SINK FAUCETS	GROHE 3134900E	-	-	VARIOUS-SEE DRAWINGS	224216.16 - COMMERCIAL SINKS	YES	NO	NA	NA	NO	
LS-	VARIOUS-SEE DRAWINGS	LAB SINKS	LAB ACCESSORY SCHEDULE	A10 SERIES	P6.1	VARIOUS-SEE DRAWINGS	224216.16 - COMMERCIAL SINKS	YES	NO	NA	NA	NO	
-	VARIOUS-SEE DRAWINGS	LAB SINK FAUCET	LAB ACCESSORY SCHEDULE	A10 SERIES	-	VARIOUS-SEE DRAWINGS	224216.16 - COMMERCIAL SINKS	YES	NO	NA	NA	NO	
MS-	VARIOUS-SEE DRAWINGS	JANITOR SINKS	MUSTEE 65M	-	P6.1	VARIOUS-SEE DRAWINGS	224216.16 - COMMERCIAL SINKS	YES	NO	NA	NA	NO	
-	VARIOUS-SEE DRAWINGS	JANITOR SINK FAUCET	MUSTEE 63.600A	-	-	VARIOUS-SEE DRAWINGS	224216.16 - COMMERCIAL SINKS	YES	NO	NA	NA	NO	
DF-	VARIOUS-SEE DRAWINGS	DRINKING FOUNTAINS	ELKAY LZS8WSLP	-	P6.1	VARIOUS-SEE DRAWINGS	224713 - DRINKING FOUNTAINS	YES	YES	120/1/60 - RCPT	NA	NO	
SC1	VARIOUS-SEE DRAWINGS	EMERGENCY SHOWER	LAB ACCESSORY SCHEDULE	-	P6.1	VARIOUS-SEE DRAWINGS	224500 - EMERGENCY PLUMBING FIXTURES	YES	NO	NA	NA	NO	
SH-1	VARIOUS-SEE DRAWINGS	SHOWER	MOEN 8342	-	P6.1	VARIOUS-SEE DRAWINGS	224223 - COMMERCIAL SHOWERS	YES	NO	NA	NA	NO	
FD	VARIOUS-SEE DRAWINGS	FLOOR DRAINS	SMITH D2050	P5.1	P6.1	VARIOUS-SEE DRAWINGS	221319.13 - SANITARY DRAINS	YES	NO	NA	NA	NO	
FS	VARIOUS-SEE DRAWINGS	FLOOR SINKS	SMITH 320-Y04	-	P6.1	VARIOUS-SEE DRAWINGS	221319.13 - SANITARY DRAINS	YES	NO	NA	NA	NO	
RD-1	ROOF	ROOF DRAINS	SMITH 1015-08	P5.1	-	P2.4 AND P2.5	221423 - STORM DRAINAGE PIPING SPECIALTIES	YES	NO	NA	NA	NO	
RD-2	ROOF	ROOF DRAIN WITH OVERFLOW	SMITH 1800T-E	-	-	P2.4 AND P2.5	221423 - STORM DRAINAGE PIPING SPECIALTIES	YES	NO	NA	NA	NO	

B

ELEVATOR SUMP PUMP SCHEDULE - PHASE 2

TAG	LOCATION	TYPE	BASIS OF DESIGN MANUFACTURER	BASIS OF DESIGN MODEL	FLOW	HEAD	V/PH/HZ
ESP-2	ELEVATOR SUMP PIT	ELEVATOR SUMP PUMP	ZOELLER	M95	50 GPM	10 ftH2O	120/1/60

SOLIDS SEPARATOR SCHEDULE

TAG	MANUFACTURER	MODEL	CONSTRUCTION	FLOW RATE	MAX CAPACITY	DIAMETER	TANK HEIGHT	INLET/OUTLET SIZE
SS-01	TRAPZILLA	TSS-27-SSA	POLYETHYLENE	35 GPM	27.0 gal	1' - 7"	2' - 11"	3"
ST-01	JAY R SMITH	8872Y02	STEEL	10 GPM	7.5 gal		1' - 1 1/4"	2"

B

PLUMBING FIXTURE SCHEDULE - PHASE 2

TAG	MAKE/MODEL	DESCRIPTION
DF-1	ELKAY LZSTL8WSLP	DRINKING FOUNTAIN, BOTTLE FILLING STATION, BI-LEVEL ADA WALL MOUNT COOLER, PUSH BAR CONTROL
FD-1	SMITH D2050	FLOOR DRAIN
FS-1	SMITH 320-Y04	FLOOR SINK
HB-1	ZURN Z1341XL	COMMERCIAL HOSE BIB
HB-2	JAY R SMITH 5609QT	1/4 TURN NON-FREEZE WALL HYDRANT W/ INTEGRAL VACUUM BREAKER
LAV-2	KOHLER K-2084	LAVATORY, WALL MOUNTED VITREOUS CHINA, APPROX. 20 BY 18 WITH SINGLE HOLE PUNCHING. AUTOMATIC OPERATED SENSOR FAUCET. FAUCET BOD: AMERICAN STANDARD NEXTGEN SELECTRONIC
LS-1A	SEE 123555A - LAB ACCESSORY SCHEDULE	SEE 123555A - LAB ACCESSORY SCHEDULE
LS-1B	SEE 123555A - LAB ACCESSORY SCHEDULE	SEE 123555A - LAB ACCESSORY SCHEDULE
LS-1C	SEE 123555A - LAB ACCESSORY SCHEDULE	SEE 123555A - LAB ACCESSORY SCHEDULE
LS-1D	SEE 123555A - LAB ACCESSORY SCHEDULE	SEE 123555A - LAB ACCESSORY SCHEDULE
LS-2B	SEE 123555A - LAB ACCESSORY SCHEDULE	SEE 123555A - LAB ACCESSORY SCHEDULE
LS-2C	SEE 123555A - LAB ACCESSORY SCHEDULE	SEE 123555A - LAB ACCESSORY SCHEDULE
LS-2D	SEE 123555A - LAB ACCESSORY SCHEDULE	SEE 123555A - LAB ACCESSORY SCHEDULE
LS-2E	SEE 123555A - LAB ACCESSORY SCHEDULE	SEE 123555A - LAB ACCESSORY SCHEDULE
LS-2F	SEE 123555A - LAB ACCESSORY SCHEDULE	SEE 123555A - LAB ACCESSORY SCHEDULE
LS-2G	SEE 123555A - LAB ACCESSORY SCHEDULE	SEE 123555A - LAB ACCESSORY SCHEDULE
LS-2H	SEE 123555A - LAB ACCESSORY SCHEDULE	SEE 123555A - LAB ACCESSORY SCHEDULE
MS-1	PROFLO PFMB3624S	MOP SINK, FIBERGLASS, SINGLE BOWL, APPROXIMATELY 24 INCHES BY 36 INCHES BY 10 INCHES DEEP.
S-1	ELKAY ELUHAD121255PD	SINK, CRS, SINGLE COMPARTMENT, COUNTER TOP MOUNTED, APPROX. 14.5 INCHES BY 14.5 INCHES WITH SINGLE COMPARTMENT INSIDE DIMENSIONS APPROX. 12 INCHES BY 12 INCHES BY 5 1/2 INCHES DEEP. SHALL BE MINIMUM OF 18 GAUGE CRS. FAUCET BOD: GROHE 32665 CONCETTO SINGLE HANDLE PULLDOWN DUAL SPRAY 1.75 GPM WITH OPTIONAL QUICK COUPLING TO REDUCE FLOW TO 1.0 GPM
S-2	ELKAY ELUHAD1212555PD	SINK, CRS, SINGLE COMPARTMENT, UNDER-COUNTER MOUNTED, APPROX. 15 INCHES BY 15 INCHES WITH SINGLE COMPARTMENT INSIDE DIMENSIONS APPROX. 14 INCHES BY 14 INCHES BY 5 1/2 INCHES DEEP. SHALL BE MINIMUM OF 18 GAUGE CRS. FAUCET BOD: GROHE 32665 CONCETTO SINGLE HANDLE PULLDOWN DUAL SPRAY 1.75 GPM WITH OPTIONAL QUICK COUPLING TO REDUCE FLOW TO 1.0 GPM
SB-1	ACORN ENGINEERING SBADA-36-3F	SHOWER BATH FIXTURE (DETACHABLE, WALL MOUNTED, CONCEALED SUPPLIES, TYPE T/P COMBINATION VALVE)
SB-2	ACORN ENGINEERING SBR-6036-3F	SHOWER BASE WITH INTEGRAL THRESHOLD
SC1	SEE 123555A - LAB ACCESSORY SCHEDULE	RECESSED SAFETY CENTER, ES W/ EXPOSED SHOWER HEAD. INTEGRATED FIRE EXTINGUISHER CABINET AND AUDIO/VISUAL ALARM.
WC-1	AMERICAN STANDARD 3351.101	WATER CLOSET, WALL MOUNTED, TOP SPUD, VITEROUS CHINA, ELONGATED BOWL, HARDWIRE SENSOR OPERATED FLUSH VALVE 1.1 GPF, BACK OUTLET
WS-1	T&S BRASS MV-0771-12CW	WASHDOWN STATION

B

FAN COIL CONDENSATE PUMP

TAG	LOCATION	BASIS OF DESIGN MANUFACTURER	BASIS OF DESIGN MODEL	FLOW (GPH @ 5FT HEAD)	V/PH/HZ	COMMENTS
CP-1	SEE M-SERIES	BECKETT	CL201ULP	110 GPH	120/1/60	PLENUM RATED

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RENOVATE PLANT SCIENCE BUILDING - PHASE 2

SUCF Project No. 161026-00

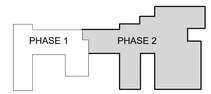
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Watson Engineering Plumbing	4500 State Route 434 Apalachin, NY 13732 T 607 223-4334
DM Engineers Fire Protection Engineers	1007 Yonkers Ave Yonkers, NY 10704 T 929 333-2339
Bell & Spina Building Envelope	215 Wyoming Street S Syracuse, NY 13204 T 315 488-0377
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Notes:



Keyplan

Job Number 161026-00 / 31909
Drawing By SRB
Checked By JWE
Filename
Date August 31, 2026

Revisions

B	ADDENDUM 3	11-4-2026

PLUMBING SCHEDULES

STATE OF NEW YORK JOHN M. EVANGELISTI LICENSED PROFESSIONAL ENGINEER 095338

BID DOCUMENTS
Scale: 12" = 1'-0"

P6.1

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ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR
AP	ACCESS PANEL
CB	CATCH BASIN
CFH	CUBIC FEET PER HOUR
CIP	CAST IRON PIPE
CW	COLD WATER
DIP	DUCTILE IRON PIPE
DFU	DRAINAGE FIXTURE UNITS
DN	DOWN
DWG	DRAWING
FD	FLOOR DRAIN
FDC	FIRE DEPARTMENT CONNECTION
FH	FIRE HYDRANT
HW	HOT WATER
HWP	HOT WATER PUMP
HWR	HOT WATER RETURN
INV	INVERT
LS	LAB SINK
CS	CUP SINK
LDR	LEADER
MH	MANHOLE
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
PC	PLUMBING CONTRACTOR
PIV	POST INDICATOR VALVE
SAN	SANITARY
ST	STORM
SK	SINK
TB	THRUST BLOCK
V	VENT
G	GAS
A	COMPRESSED AIR
DW	DEIONIZED WATER
CO	CLEANOUT
WC	WATER CLOSET
UR	URINAL
LAV	LAVATORY
MR	MOP RECEPTOR
EWC	ELECTRIC WATER COOLER
VTR	VENT THRU ROOF
HB	HOSE BIBB
D	DRY HEAD

NOTE:

ALL ABBREVIATIONS AND SYMBOLS MAY NOT APPEAR ON THE DRAWINGS FOR THIS PROJECT.

SYMBOLS

F	FIRE STANDPIPE LINE
SP	SPRINKLER LINE
CA	COMPRESSED AIR LINE
	OS&Y VALVE WITH TAMPER SWITCH
	UPRIGHT SPRINKLER HEAD
	CONCEALED SPRINKLER HEAD
	PENDENT SPRINKLER HEAD
	HIGH TEMPERATURE (175°F) SPRINKLER HEAD
	SIDEWALL SPRINKLER HEAD
	EXISTING SPRINKLER HEAD
	FIRE HOSE CABINET WITH HOSE
	CONNECT TO EXISTING
	DISCONNECT
	FLOW SWITCH
	CHECK VALVE
FDVC	FIRE DEPARTMENT VALVE CABINET
	PRESSURE GAUGE
	PIPE CAP
	STRAINER
	UNION
	FLANGE
	SIGHT GLASS
	FLEXIBLE CONNECTION
	PIPE UP
	PIPE DOWN
	PRESSURE GAUGE COCK
	PIPE CONTINUATION
	GATE VALVE
	GLOBE VALVE
	BUTTERFLY VALVE
	BALL VALVE
	FIRE DEPARTMENT CONNECTON (2-WAY)
#	HYDRAULIC NODE

SPRINKLER GENERAL NOTES:

1. ALL AUTOMATIC SPRINKLER HEADS, PIPE FITTINGS, PIPE HANGERS, AUTOMATIC CONTROL VALVES AND MANUAL CONTROL VALVES SHALL BEAR FACTORY MUTUAL APPROVAL AND SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.
2. ALL EXPOSED PIPE, FITTINGS, HANGERS AND SUPPLEMENTARY STEEL SHALL BE PAINTED.
3. PROVIDE FLUSHING CONNECTIONS WHERE REQUIRED BY SPECIFIC REQUIREMENTS OF THE CORNELL UNIVERSITY DESIGN AND CONSTRUCTION STANDARDS.
4. COORDINATE HEAD LOCATIONS AND PIPING RUNS WITH ARCHITECTURAL REFLECTED CEILING PLANS.
5. PROVIDE COVER PLATES ON ALL SPRINKLER HEADS IN FINISHED AREAS, AND UPRIGHT HEADS IN NON-FINISHED AREAS.
6. ALL PIPING CROSSING THE EXPANSION JOINTS SHALL BE PROVIDED WITH "DRESSER COUPLING" OR SIMILAR.
7. AFTER AWARD OF CONTRACT AND PRIOR TO FABRICATION AND INSTALLATION OF THE SPRINKLER SYSTEM, THE CONTRACTOR SHALL SUBMIT FOR APPROVAL DETAILED SHOP DRAWINGS, SHOWING DIMENSIONS, ELEVATIONS, SIZES AND LOCATION OF ALL PIPING AND HYDRAULIC CALCULATIONES.
8. THIS CONTRACTOR SHALL SET ALL SLEEVES, HANGERS AND ANCHORS REQUIRED FOR THE AUTOMATIC SPRINKLER SYSTEM AND SHALL BE RESPONSIBLE FOR THEIR PROPER AND PERMANENT LOCATION.
9. SPRINKLER PIPING SHALL BE INSTALLED ABOVE LIGHTS AND SHALL BE AS HIGH AS POSSIBLE, ABOVE HUNG CEILING AND SOFFIT UNLESS OTHERWISE NOTED.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH ALL TRADES.
11. CONTRACTOR SHALL FURNISH A CERTIFICATE OF FINAL INSPECTION TO THE OWNER FROM THE INSPECTOR DEPARTMENT HAVING JURISDICTION.
12. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY FACILITIES, WATER OR COMPRESSED AIR, GAUGES AND OTHER MEASURING DEVICES, PUMP AND LABOR, AS REQUIRED FOR THE TEST.
13. ALL REQUIRED FEES, PERMITS AND INSPECTIONS SHALL BE OBTAINED AND PAID FOR BY THIS CONTRACTOR.
14. ALL HANGERS, BRACKETS AND STRAPS SHALL BE STRONGLY SECURED TO THE BUILDING CONSTRUCTION AND PROVIDED BY THIS CONTRACTOR.
15. FIRE PROTECTION WATER PIPING SHALL HAVE A 175 PSI PRESSURE RATING.
16. SPRINKLERS AND FITTINGS SHALL BE UL LISTED AND FACTORY MUTUAL APPROVED.
17. ALL PIPING SHALL BE LABELED IN COLOR CODE IN ACCORDANCE WITH ANSI REQUIREMENTS. VALVE TAGS SHALL BE FURNISHED AND ATTACHED BY BRASS LINE CHAIN TO EACH VALVE. NUMBER AND LOCATIONS SHALL BE ACCURATELY MARKED ON THE OWNER'S SET OF RECORD DRAWINGS.
18. IF FIRE PROTECTION SYSTEM DOES NOT PASS THE TEST, THE CONTRACTOR SHALL BE REQUIRED TO MAKE THE NECESSARY REPAIR, AT HIS OWN EXPENSE, AND THE WORK SHALL BE RESUBMITTED FOR INSPECTION AND TESTING.
19. ALL FIRE PROTECTION SYSTEM SHALL BE LEFT UNCONCEALED UNTIL IT HAS BEEN INSPECTED, TESTED AND APPROVED BY FIRE MARSHALL AND AUTHORITY HAVING JURISDICTION.
20. THE WORK INDICATED ON THESE DRAWINGS ARE DRAWN DIAGRAMMATIC AND ARE INTENDED TO INDICATE GENERAL ARRANGEMENT OF EQUIPMENT. THE CONTRACTOR MAY MAKE CHANGES WHEN APPROVED IN WRITING BY THE ARCHITECT/ENGINEER WITH NO ADDITIONAL COST.
21. SPRINKLER PIPING SHALL NOT BE INSTALLED TOUCHING OR TOO CLOSE TO CEILING SUPPORT MEMBERS; CORROSION MAY RESULT.
22. THE SPRINKLER SYSTEM SHALL BE CONSTRUCTED AS DETAILED ON CONTRACT DOCUMENTS. NO REDUCTION IN THE PIPE SIZES SHOWN SHALL BE ALLOWED.
23. CHANGES TO THE SPRINKLER SYSTEM REQUIRED BY FIELD CONDITIONS DURING CONSTRUCTION SHALL BE MADE BY A NYS LICENSED PROFESSIONAL ENGINEER AND APPROVED BY SUCF.
24. PROPOSED REVISIONS TO THE SPRINKLER SYSTEM RECOMMENDED BY THE CONTRACTOR SHALL BE IN SUFFICIENT DETAIL TO ALLOW THE ENGINEER TO ISSUE A CHANGE ORDER REVISING THE CONTRACT DRAWINGS.
25. SEAL ALL PENETRATIONS. FIRESTOP ALL PENETRATIONS THROUGH FIRE RATED SEPARATIONS.
26. SPRINKLER LAYOUT SHALL CONSIDER ALL CASEWORK, EQUIPMENT AND OTHER POTENTIAL OBSTRUCTIONS.
27. CONTRACTOR SHALL COORDINATE WITH THE CORNELL UNIVERSITY FIRE MARSHAL'S OFFICE TO SCHEDULE ALL SPRINKLER SYSTEM HYDROSTATIC AND FLOW TESTING. A REPRESENTATIVE FROM THE CORNELL UNIVERSITY FIRE MARSHAL'S OFFICE SHALL BE PRESENT TO WITNESS ALL SUCH TESTS. CONTRACTOR SHALL PROVIDE ADVANCE NOTIFICATION AND OBTAIN CONFIRMATION OF ATTENDANCE PRIOR TO CONDUCTING ANY TESTING.

B

NEW YORK STATE SPRINKLER NOTES

REFERENCES:
- LATEST BUILDING CODE OF NEW YORK STATE (BC-NYS 2025), CHAPTER 9.
- LATEST UNIFORM FIRE PREVENTION CODE OF NEW YORK STATE.
- NFPA-13 "STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS, 2022 EDITION.

1. AUTOMATIC SPRINKLER SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH BC-NYS 903.3 AND NFPA 13.
2. EXEMPT LOCATIONS IN ACCORDANCE WITH BC-NYS 903.2 (EXCEPTIONS) AND 903.3.1.1.1.
3. SPRINKLER SYSTEM MONITORING AND ALARMS SHALL COMPLY WITH BC-NYS 903.4.
4. ALARM, SUPERVISORY AND TROUBLE SIGNALS IN ACCORDANCE WITH BC-NYS 903.4.1.
5. ALARMS SHALL CONFORM WITH BC-NYS 903.4.2 AND 903.4.3..
6. SPRINKLER SYSTEMS SHALL BE TESTED AND MAINTAINED IN ACCORDANCE WITH THE FIRE CODE OF NEW YORK STATE.
7. CLASSIFICATION OF OCCUPANCIES IN ACCORDANCE WITH NFPA 13 CHAPTER 4.
8. SPRINKLER TEMPERATURE RATINGS SHALL COMPLY WITH NFPA 13 SECTION 9.4.2.
9. POSITION, LOCATION, SPACING, AND USE OF SPRINKLERS SHALL COMPLY WITH NFPA 13 CHAPTER 9 SECTION 9.5
10. HANGER AND SUPPORTS SHALL BE IN ACCORDANCE WITH NFPA 13 CHAPTER 17.

OCCUPANT SAFETY NOTES:

1. CONSTRUCTION WORK WILL BE CONFINED TO THE ITEMS AS INDICATED IN THE DRAWING, AND WILL NOT CREATE DUST, DIRT OR OTHER SUCH INCONVENIENCE TO THE OTHER TENANTS WITHIN THE BUILDING.
2. CONSTRUCTION OPERATION WILL NOT BLOCK HALLWAYS OR MEANS OF EGRESS FOR THE TENANTS OF THE BUILDING.
3. CONSTRUCTION OPERATION WILL NOT INVOLVE INTERRUPTION OF HEATING, WATER, OR OTHER ELECTRICAL SERVICES TO OTHER TENANTS OF THE BUILDING.
4. THE WORK AREA SHALL NOT BE OCCUPIED DURING CONSTRUCTION. APPROVAL OF THESE DRAWINGS IS LIMITED TO THE SCOPE OF WORK SPECIFICALLY INDICATED HEREIN. ITEMS, CONDITIONS, OR WORK SHOWN OUTSIDE THE APPROVED SCOPE SHALL NOT BE CONSTRUED AS APPROVED. ALL WORK SHALL COMPLY WITH THE APPLICABLE PROVISIONS OF THE NYS CONSTRUCTION CODES AND ALL OTHER APPLICABLE LAWS, RULES, AND REGULATIONS.
5. NO STRUCTURAL WORK SHALL BE DONE THAT MAY ENDANGER THE OCCUPANTS.
6. CONSTRUCTION OPERATION SHALL COMPLY WITH APPLICABLE PROVISIONS OF LAW RELATING TO LEAD AND ASBESTOS.

SPRINKLER SHOP DRAWING NOTE:

THE CONTRACTOR SHALL SUBMIT COORDINATED SHOP DRAWINGS OF THE SPRINKLER SYSTEM FOR REVIEW. THIS SHALL BE DONE BEFORE THE INSTALLATION OF ANY PIPING OR EQUIPMENT. THE SHOP DRAWING SHALL INCLUDE PIPE ROUTING, SIZES, ELEVATIONS, SLEEVES LOCATIONS AND SIZES. THE DRAWINGS SHALL CONTAIN ALL THE INFORMATION NECESSARY FOR THE PROPER INSTALLATION OF THE JOB. THE SHOP DRAWINGS SHALL BE COORDINATED WITH OTHER TRADES AND OR EXISTING PIPING OR EQUIPMENT THAT MIGHT AFFECT THE INSTALLATION. THE DRAWING SHALL BE SUBMITTED AT A MINIMUM 3/8" SCALE OR AT SCALE THAT IS EASILY LEGIBLE. THE DESIGN DRAWINGS ARE ESSENTIALLY DIAGRAMMATIC AND ARE NOT INTENDED TO BE USED AS A SHOP DRAWING THEREFORE A COPY OF THE DESIGN DRAWING IS NOT ACCEPTABLE AS A SHOP DRAWING.

PHASING NOTES

FIRE PROTECTION DESIGN INTENT

DURING PHASE 2 WORK, OCCUPIED AREAS INCLUDING THE SEGMENTS OF THE BUILDING WEST OF THE WORK AREA: THE LOADING DOCK; AND THE LABS AND OFFICES LOCATED DIRECTLY ABOVE THE LOADING DOCK, SHALL STAY FULLY OPERATIONAL THROUGHOUT THE CONSTRUCTION PERIOD. REFER TO THE PROJECT MANUAL FOR GUIDANCE REGARDING PLANNED SHUTDOWNS.

LIFE SAFETY MUST BE MAINTAINED WITHIN THE BUILDING THROUGHOUT ALL PHASES OF WORK.

PHASING NOTES:

CLOSE SHUT-OFF VALVES ON EXISTING 6" SPRINKLER MAIN LINE TO STOP WATER FLOW WITHIN THE SYSTEM, AND SHALL BE DRAINED OF ALL WATER. FIRE WATCH SHALL BEGIN AT THIS POINT FOR THE ENTIRE BUILDING WHILE THE SYSTEM IS NOT CHARGED WITH WATER.

DISCONNECT SPRINKLER PIPES AND RISERS SERVING THE PHASE 2 WORK AREA AND PREPARE THEM FOR DEMO.

DEMOLISH AND REMOVE IN THEIR ENTIRETY FROM THE JOB SITE ALL SPRINKLER PIPES, STANDPIPE RISERS, AND SPRINKLER HEADS FOUND ON THE GROUND FLOOR TO FOURTH FLOOR THAT HAD SERVED THE PHASE 2 WORK AREA , EXCLUDING THE EXISTING FDC PIPING. SEE DEMO PLANS.

INSTALL ALL NEW SPRINKLER PIPES, STANDPIPE RISERS, AND SPRINKLER HEADS THROUGHOUT THE WORK AREA SHALL BE INSTALLED ON ALL FLOORS, FROM THE UTILITY TUNNEL UP TO THE FOURTH-FLOOR LEVEL AND THE PENTHOUSES LOCATED AT THE ROOF LEVEL, THROUGHOUT THE WORK AREA.

ADDITIONAL GENERAL NOTES:

SCHEDULE ALL SERVICE INTERRUPTIONS A MINIMUM OF (2) WEEKS IN ADVANCE WITH THE CORNELL PM.

CONTRACTOR SHALL FIELD VERIFY ALL SERVICE IMPACTED BY A SCHEDULED SHUTDOWN/IMPAIRMENT.

CONTRACTOR SHALL COMPLY WITH ALL STATE, CODE, AND CORNELL EH&S REQUIREMENTS FOR THE FIRE WATCH.

CONTRACTOR RESPONSIBLE TO VERIFY ALL BUILDING SERVICES ARE FULLY RESTORED BEFORE LEAVING.

CONTRACTOR SHALL COORDINATE ALL DRAINAGE WITHIN THE UTILITY TUNNEL WITH PLUMBING CONTRACTOR. ENSURE METHOD OF DRAINAGE TO SUMP PIT IN SPRINKLER ROOM IS MAINTAINED THROUGHOUT PHASE 1 UNTIL NO LONGER REQUIRED.

ALL ABANDONED SPRINKLER/FIRE PROTECTION PIPING LOCATED IN MECHANICAL ROOM / TUNNEL AREA (B00UC) TO BE REMOVED FROM SITE. SEE DEMO PLANS.

EXISTING SPRINKLERS ARE NOT TO BE TAKEN OFFLINE UNTIL TEMPORARY HEAT DETECTORS ARE INSTALLED AND TESTED IN THE CONSTRUCTION AREA.

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RENOVATE PLANT SCIENCE BUILDING - PHASE 2

SUCF Project No. 161026-00

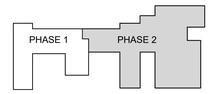
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Salas O'Brien Consulting & Engineering Group of NY, Inc. Mechanical Engineers	300 Trolley Blvd. Rochester, NY 14606 T 585 288-5590
Jade Stone Engineering Electrical Engineers	444 Vanduzee St. Watertown, NY 13601 T 315 836 4062
Watson Engineering Plumbing	4500 State Route 434 Apalachin, NY 13732 T 607 223-4334
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Schuler Shook Lighting Design	240 W 40th Street, 2nd Floor New York, NY 10018 T 212 439-5650
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Shen Milsom & Wilke Acoustics, IT, AV, Security	417 Fifth Avenue New York, NY 10016 T 212 725-6800
Watts Architects & Engineers Asbestos, Haz Mat	95 Perry Street, Suite 300 Buffalo, NY 14203 T 716 206-5122
Hastings Consulting Building Code	142 Hanlon Rd Holliston, MA 01746 T 508 397-8417
Ellana Cost Consulting	32 Broadway, Suite 801 New York, NY 10004 T 212971-0936

Notes:



Keyplan

Job Number	31909
Drawing By	Author
Checked By	Checker
Filename	
Date	August 31, 2026

Revisions

B	ADDENDUM NO 3	11/04/2026

FIRE PROTECTION SYMBOLS, ABBREVIATIONS AND NOTES - PHASE2

BID DOCUMENTS
Scale: 12" = 1'-0"



F0.1

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SPRINKLER/CLASSIFICATION SUMMARY

LOCATION	ALL AREAS WITH SUSPENDED CEILINGS INCLUDING VESTIBULES (UNLESS OTHERWISE NOTED)	ALL AREAS WITH NO CEILING (UNLESS OTHERWISE NOTED)	ELECTRICAL ROOM/TEL ROOM	COLD/FREEZER ROOMS / GROWTH ROOMS
OCCUPANCIES	LIGHT/ ORDINARY HAZARD(NOTE)	LIGHT/ORDINARY HAZARD	LIGHT HAZARD	ORDINARY HAZARD
MAX. COVERAGE	225/130 SQ.FT.	225/130 SQ.FT.	225 SQ.FT.	130 SQ.FT.
SPRINKLER STYLE	RECESSED PENDENT	UPRIGHT	HORIZONTAL SIDEWALL	DRY PENDENT
RESPONSE	QUICK/STANDARD	QUICK	QUICK	STANDARD
K-FACTOR	5.6	5.6	5.6	5.6
TEMPERATURE	155°	155°	155°	ORDINARY
MANUFACTURER	RELIABLE	RELIABLE	RELIABLE	VICTAULIC
MODEL	F1FR56	F1FR56	F1FR56	VICFLEX STYLE AB6 ASSEMBLY
NOTES	1. ORDINARY HAZARD AREA HAVING 130 SQ.FT. MAX COVERAGE. STANDARD RESPONSE	SPRINKLERS IN AREA WITH LOW CLEARANCE SHALL BE PROTECTED WITH LISTED GUARDS. PROVIDE INTERMEDIATE TEMPERATURE SPRINKLER HEADS IN TUNNEL.	SPRINKLERS IN AREA WITH LOW CLEARANCE SHALL BE PROTECTED WITH LISTED GUARDS	

STANDPIPE TYPE	
TYPE	CLASS I
HOSE CONNECTION	2-1/2"
TYPE	MANUAL
MOST REMOTE RISER	STAIR - G0003 (500 GPM)
TOTAL (GPM)	1,500 GPM

A

FIRE PROTECTION MATERIAL SCHEDULE

SYSTEM	PIPE						
ALL MATERIALS SELECTED ON THIS SCHEDULE MUST BE APPROVED BY THE LOCAL AUTHORITIES.	DUCTILE IRON	CAST IRON/TR PIPE	STEEL SCHEDULE 10	STEEL SCHEDULE 30	BLACK STEEL SCHEDULE 40	COPPER TUBE, ASTM B 88, TYPE K TEMPER WITH COPPER FITTINGS AND BRAZED JOINTS	
ALL AREAS					O		

B

DESIGN CRITERIA:

LIGHT HAZARD DESIGN CRITERIA		
1	LOCATION	ALL AREAS EXCEPT LABS
2	MINIMUM FLOW DENSITY	0.10 GPM/SQ.FT.
3	MAXIMUM AREA PER SPRINKLER	225 SQ.FT.
4	SPRINKLER SIZE/ K FACTOR	1/2" /5.5
5	FIRE AREA	1500 SQ.FT.

ORDINARY HAZARD DESIGN CRITERIA		
1	LOCATION	ALL WET, DRY AND RESEARCH AND FLEXIBLE LAB AREAS
2	MINIMUM FLOW DENSITY	0.20 GPM/SQ.FT.
3	MAXIMUM AREA PER SPRINKLER	130 SQ.FT.
4	SPRINKLER SIZE/ K FACTOR	1/2" /5.6
5	FIRE AREA	1500 SQ.FT.

FLUSHING BALL VALVE SCHEDULE

PIPE SIZE	BALL VALVE SIZE
1" THRU 2-1/2"	LINE-SIZE FULL-PORT BALL VALVE
3"	One (1) 2-1/2"
4"	TWO (2) 2-1/2"
6"	THREE (3) 2-1/2"
8"	FOUR (4) 2-1/2"

NOTE:

1. FLUSHING FULL-PORT BALL VALVES SHALL BE PROVIDED ON UNDERGROUND MAINS (INSIDE THE BUILDING) AND ABOVE-GROUND MAINS, CROSS-MAINS, BRANCH LINES AND RUN OUTS OF NEW SPRINKLER SYSTEMS (WET AND DRY), TO FACILITATE ANY FUTURE PERIODIC INTERNAL INSPECTIONS, OBSTRUCTION INVESTIGATIONS AND AS-NEEDED FLUSHING WORK.

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FIRE PROTECTION SCHEDULES - PHASE 2

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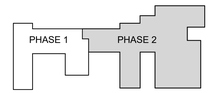
RENOVATE PLANT SCIENCE BUILDING - PHASE 2
SUCF Project No. 161026-00
236 Tower Road
Ithaca, NY 14853

Cornell CALS College of Agriculture and Life Sciences

SUNY State University Construction Fund

Ellenzweig Architecture | Planning	230 Congress Street Boston, MA 02110 T 617 491-5575
Ryan Biggs Clark Davis Structural Engineers	257 Ushers Road Clifton Park, NY 12065 T 518 406-5506
Salas O'Brien Consulting & Engineering Group of NY, Inc. Mechanical Engineers	300 Trolley Blvd. Rochester, NY 14606 T 585 288-5590
Jade Stone Engineering Electrical Engineers	444 Vanduzee St. Watertown, NY 13601 T 315 836 4062
Watson Engineering Plumbing	4500 State Route 434 Apalachin, NY 13732 T 607 223-4334
DM Engineers Fire Protection Engineers	1007 Yonkers Ave Yonkers, NY 10704 T 929 333-2339
Bell & Spina Building Envelope	215 Wyoming Street S Syracuse, NY 13204 T 315 488-0377
Environ. Design & Research Historic Preservation, Landscape, Civil Engineering	217 Montgomery St, Suite 1000 Syracuse, NY 13202 T 315 471-0688
Schuler Shook Lighting Design	240 W 40th Street, 2nd Floor New York, NY 10018 T 212 439-5650
D2D Green Design Sustainability PH2	10 Hallenbeck Hill East Greenbush, NY 12061 T 518 729-2967
Shen Milsom & Wilke Acoustics, IT, AV, Security	417 Fifth Avenue New York, NY 10016 T 212 725-6800
Watts Architects & Engineers Asbestos, Haz Mat	95 Perry Street, Suite 300 Buffalo, NY 14203 T 716 206-5122
Hastings Consulting Building Code	142 Hanlon Rd Holliston, MA 01746 T 508 397-8417
Ellana Cost Consulting	32 Broadway, Suite 801 New York, NY 10004 T 212971-0936

Notes:



Keyplan

Job Number 31909
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Filename
Date August 31, 2026

Revisions

B	ADDENDUM NO 3	11/04/2026

FIRE PROTECTION SCHEDULES - PHASE2

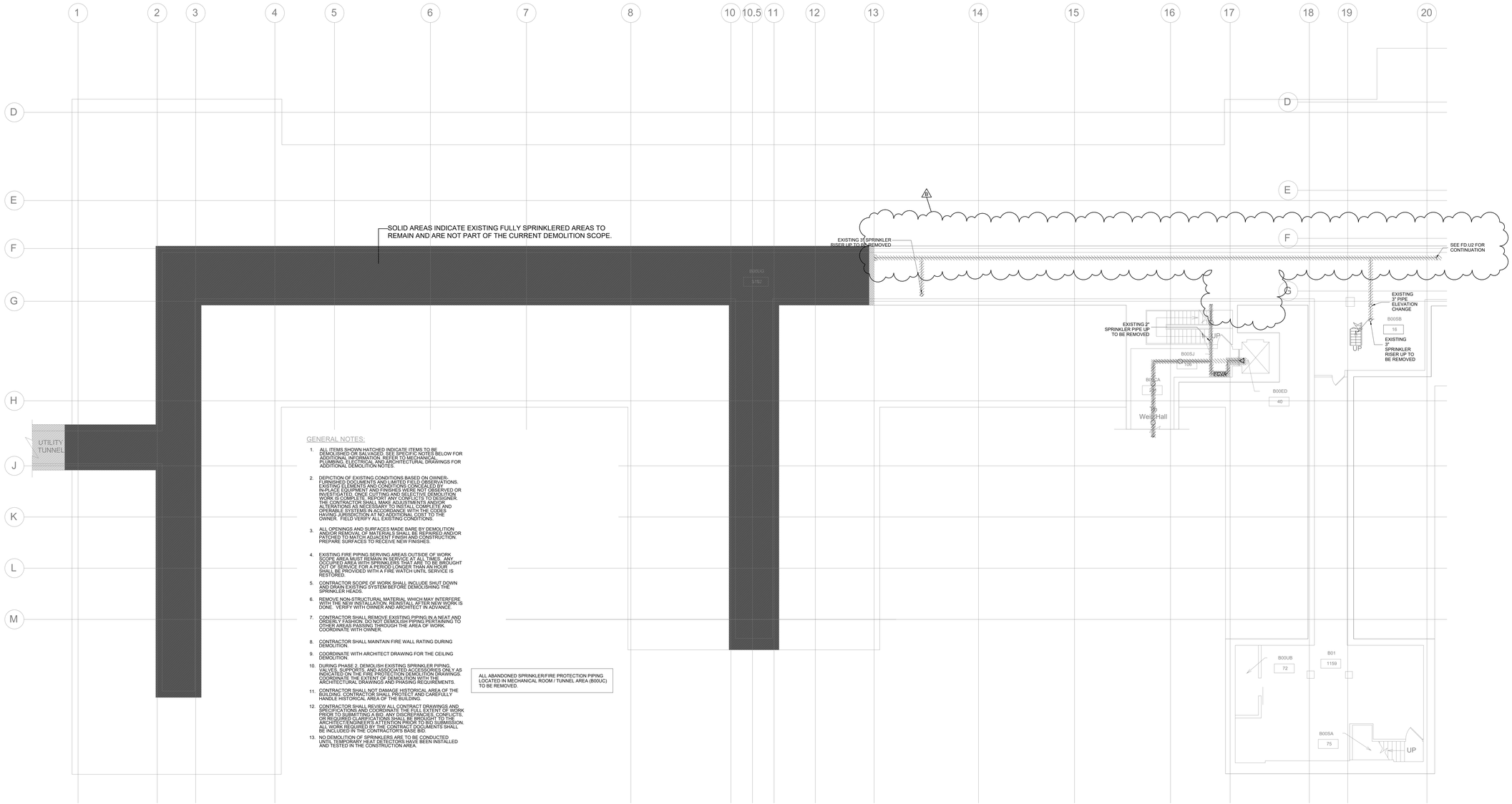
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D 1 FD.U1A FIRE PROTECTION UTILITY TUNNEL FLOOR DEMOLITION PLAN PART A

SCALE: 1/8" = 1'-0"

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RENOVATE PLANT SCIENCE BUILDING - PHASE 1

SUCF Project No. 161026-04

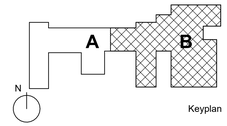
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Notes:



Keyplan

Job Number	31909
Drawing By	JG/DB
Checked By	RW
Filename	
Date	August 31, 2026

Revisions

B	ADDENDUM NO 3	11/04/2026

FIRE PROTECTION UTILITY TUNNEL FLOOR DEMOLITION PLAN PART A

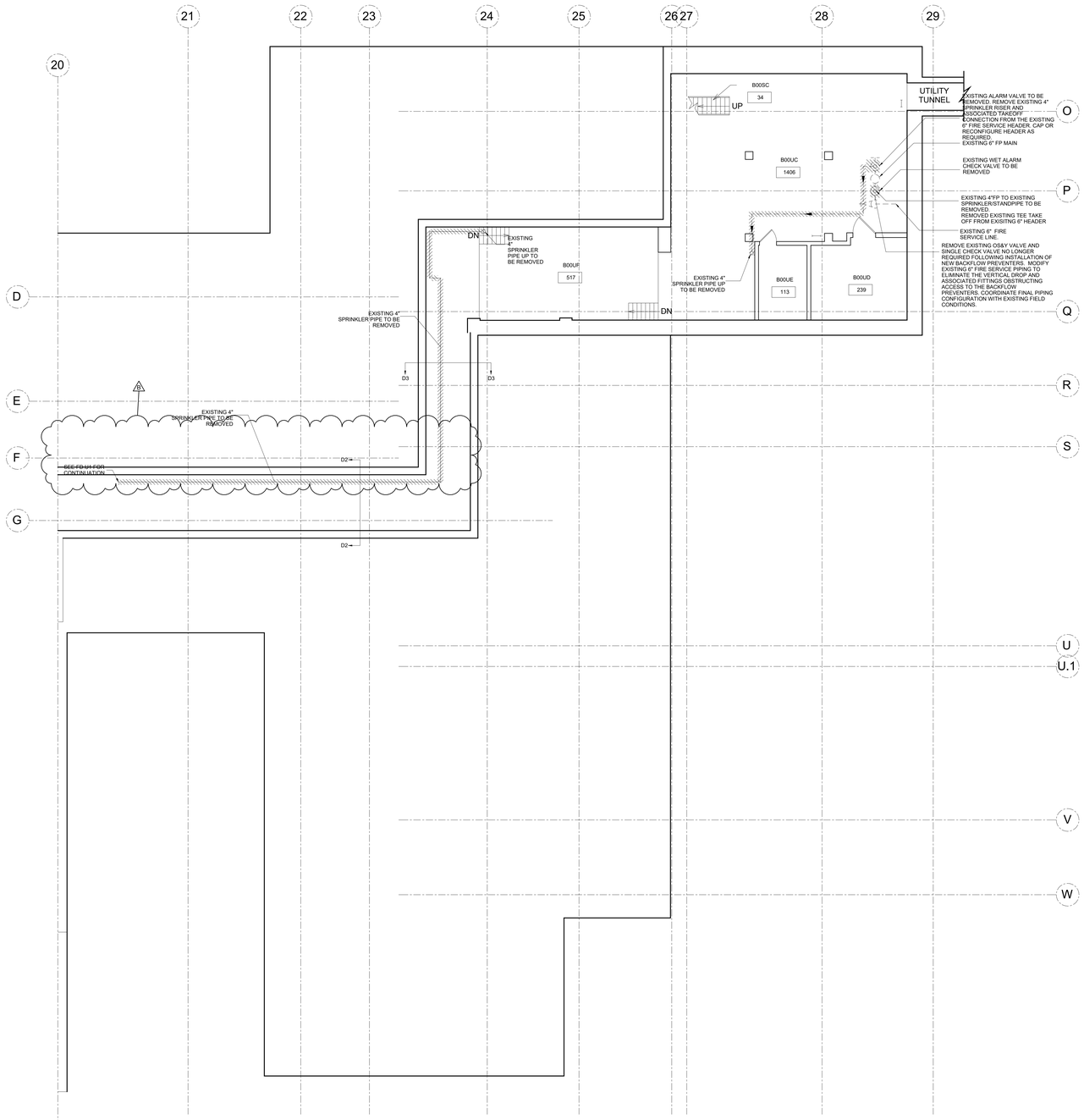
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FIRE PROTECTION UTILITY TUNNEL FLOOR DEMOLITION PLAN PART B

SCALE: 1/8" = 1'-0"

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RENOVATE PLANT SCIENCE BUILDING - PHASE 1

SUCF Project No. 161026-04

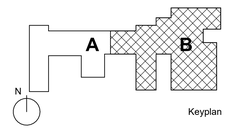
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Notes:



Keyplan

Job Number 31909
Drawing By JG/DB
Checked By RW
Filename
Date August 31, 2026

Revisions

B	ADDENDUM NO 3	11/04/2026

FIRE PROTECTION UTILITY TUNNEL FLOOR DEMOLITION PLAN PART B

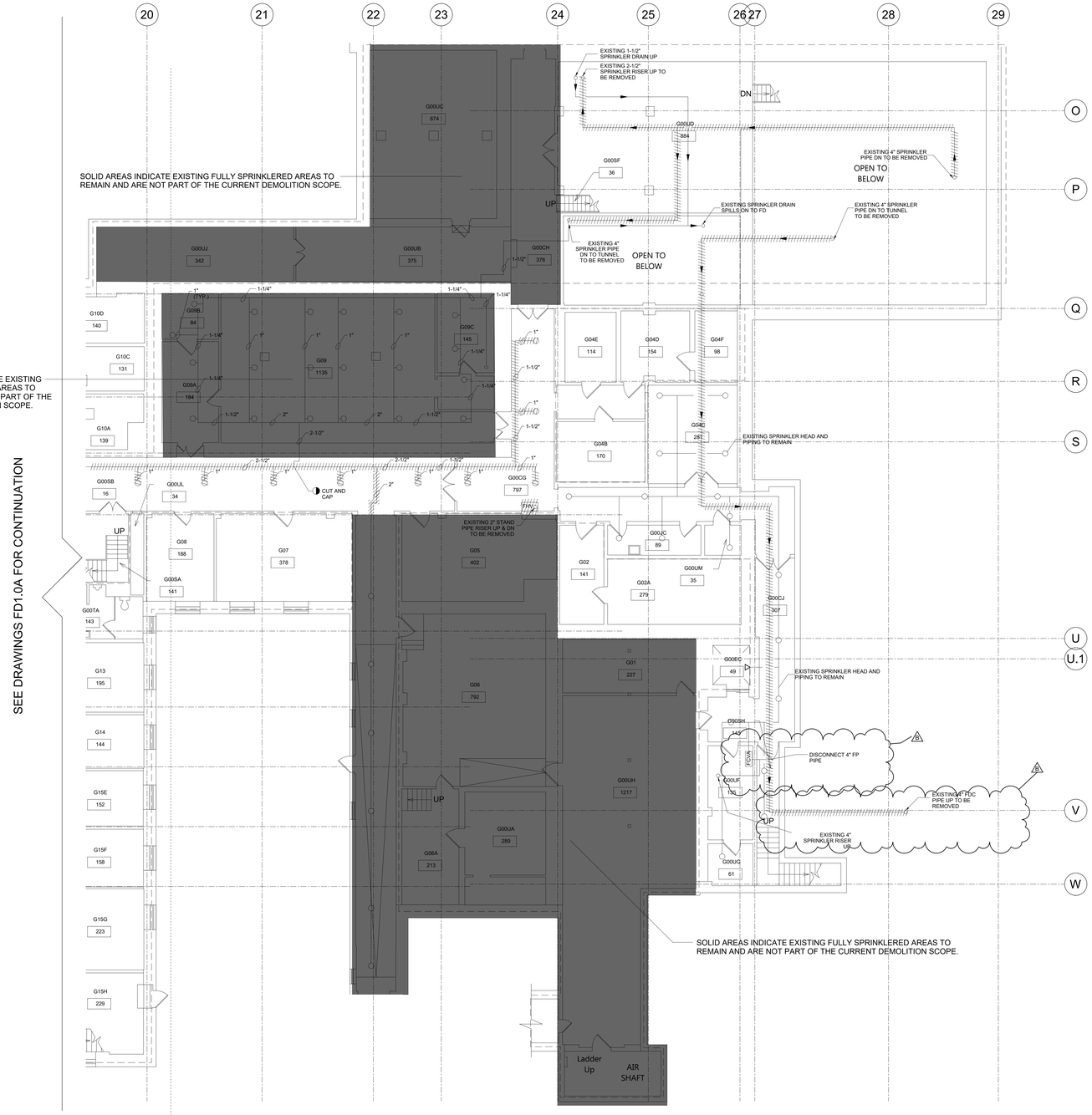
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FIRE PROTECTION GROUND FLOOR DEMOLITION PLAN - PART B

SCALE: 1/8" = 1'-0"

RENOVATE PLANT SCIENCE BUILDING - PHASE 1
SUCF Project No. 161026-04
236 Tower Road
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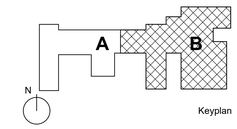
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Notes:



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Revisions

B	ADDENDUM NO 3	11/04/2026

FIRE PROTECTION
GROUND FLOOR
DEMOLITION PLAN PART B

BID DOCUMENTS

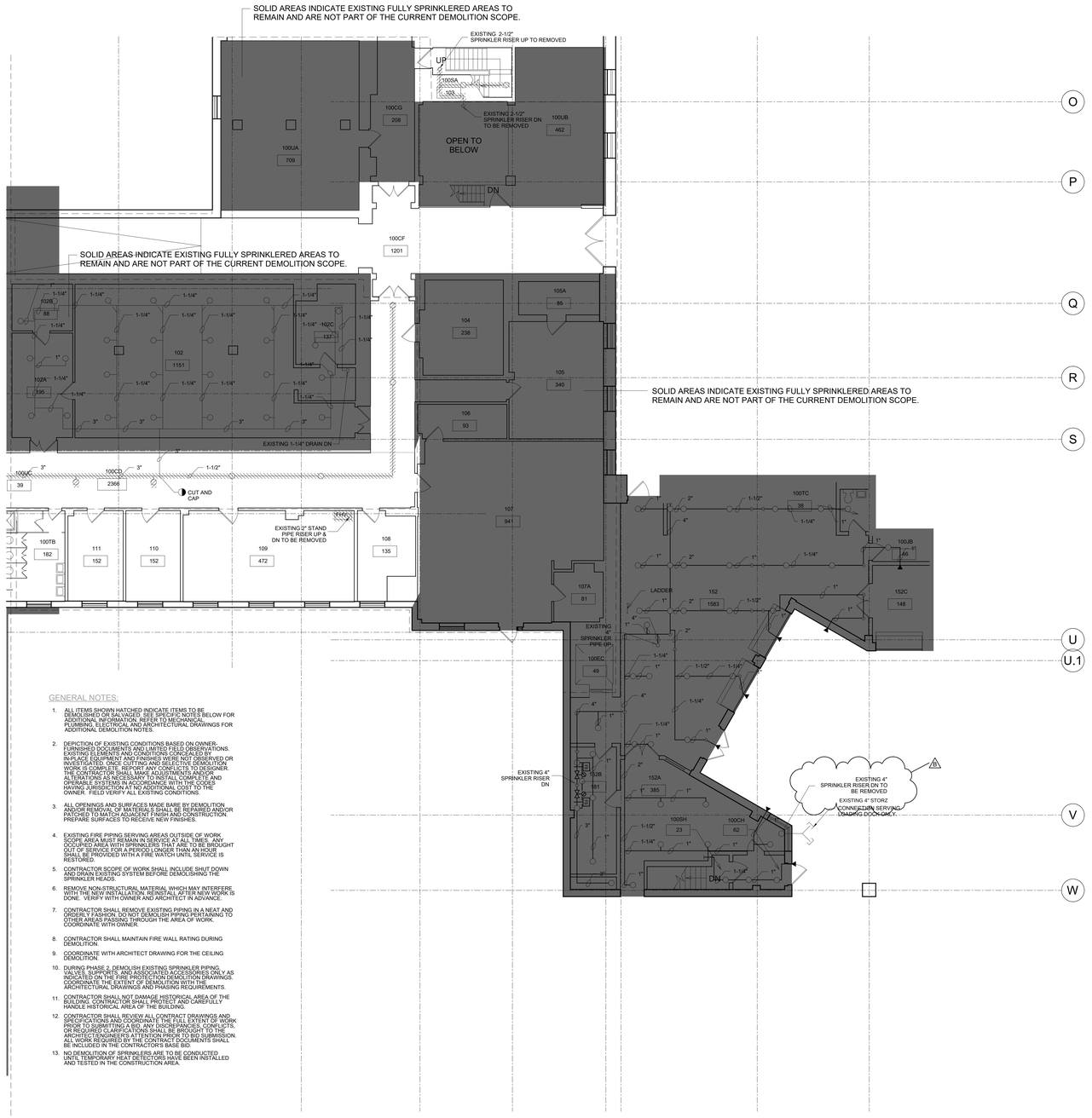
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13. NO DEMOLITION OF SPRINKLERS ARE TO BE CONDUCTED UNTIL TEMPORARY HEAT DETECTORS HAVE BEEN INSTALLED AND TESTED IN THE CONSTRUCTION AREA.

D | 1
FD1.1B

FIRE PROTECTION FIRST FLOOR DEMOLITION PLAN PART B

SCALE: 1/8" = 1'-0"

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RENOVATE PLANT SCIENCE BUILDING - PHASE 1

SUCF Project No. 161026-04

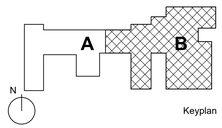
236 Tower Road
Ithaca, NY 14853

State University Construction Fund

CornellCALS College of Agriculture and Life Sciences

Ellenzweig Architecture | Planning	230 Congress Street Boston, MA 02110 T 617 491-5575
Ryan Biggs Clark Davis Structural Engineers	257 Ushers Road Clifton Park, NY 12065 T 518 406-5506
A&J Consulting Engineering Mechanical, Fire Protection, Electrical Engineers	164 Brighton Road Clifton, NJ 07012 T 973 777-9696
Watson Engineering Plumbing	1112 State Route 434 Owego, NY 13827 T 607 223-4334
Bell & Spina Building Envelope	215 Wyoming Street Syracuse, NY 13204 T 315 488-0377
EDR Landscape Architect & Civil Engineers	217 Montgomery St, Suite 1000 Syracuse, NY 13202 T 315 471-0688
Atelier Ten Sustainability, Lighting Design	45 East 20th St, 4th Flr New York, NY 10003 T 212 254-4500
Shen Milsom & Wilke Acoustics, IT, AV, Security	417 Fifth Avenue New York, NY 10016 T 212 725-6800
RWDI Wind Wake Dispersion	600 Southgate Drive Guelph, ON N1G 4P6 Canada T 519 823-1311x2429
TTI Environmental Asbestos, Haz Mat	1253 North Church Street Moorestown, NJ 08057 T 856 840-8800
Hastings Consulting Building Code	142 Hanlon Rd Holliston, MA 01746 T 508 397-8417
Ellana Cost Consulting	32 Broadway, Suite 801 New York, NY 10004 T 212971-0936

Notes:



Job Number	31909
Drawing By	JG/DB
Checked By	RW
Filename	
Date	August 31, 2026

Revisions

B	ADDENDUM NO 3	11/04/2026

FIRE PROTECTION FIRST FLOOR DEMOLITION PLAN PART B

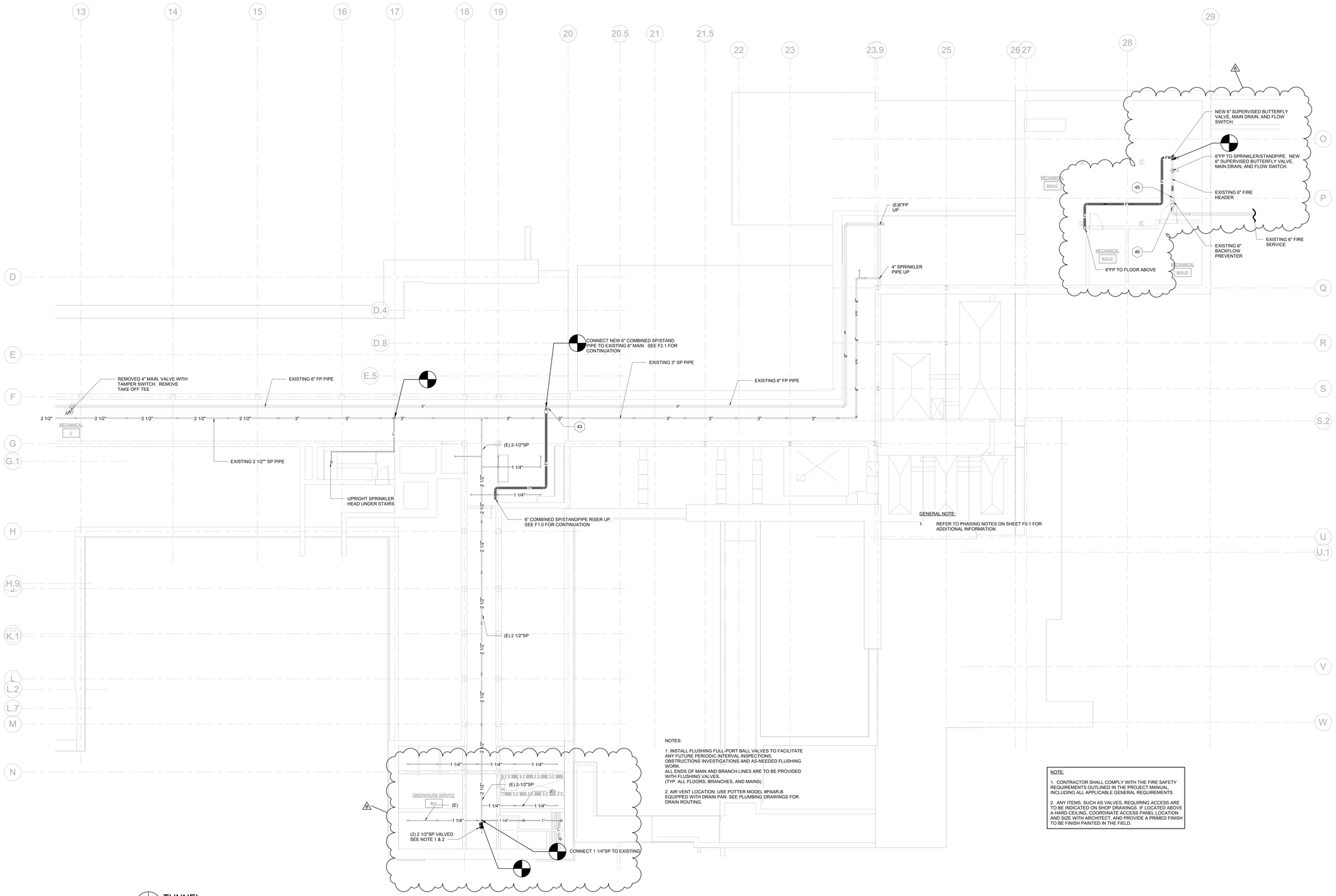
BID DOCUMENTS

Scale: 1/8" = 1'-0"



FD1.1B

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GENERAL NOTE:

1. REFER TO PHASING NOTES ON SHEET F0.1 FOR ADDITIONAL INFORMATION

NOTES:

1. INSTALL FLUSHING FULL-PORT BALL VALVES TO FACILITATE ANY FUTURE PERIODIC INTERVAL INSPECTIONS, OBSTRUCTIONS INVESTIGATIONS AND AS-NEEDED FLUSHING WORK.
ALL ENDS OF MAIN AND BRANCH LINES ARE TO BE PROVIDED WITH FLUSHING VALVES.
(TYP. ALL FLOORS, BRANCHES, AND MAINS)

2. AIR VENT LOCATION: USE POTTER MODEL #PAAR-B EQUIPPED WITH DRAIN PAN. SEE PLUMBING DRAWINGS FOR DRAIN ROUTING.

NOTE:

1. CONTRACTOR SHALL COMPLY WITH THE FIRE SAFETY REQUIREMENTS OUTLINED IN THE PROJECT MANUAL, INCLUDING ALL APPLICABLE GENERAL REQUIREMENTS.

2. ANY ITEMS, SUCH AS VALVES, REQUIRING ACCESS ARE TO BE INDICATED ON SHOP DRAWINGS. IF LOCATED ABOVE A HARD CEILING, COORDINATE ACCESS PANEL LOCATION AND SIZE WITH ARCHITECT, AND PROVIDE A PRIMED FINISH TO BE FINISH PAINTED IN THE FIELD.

D | 1
F1.U

TUNNEL

SCALE: 1/8" = 1'-0"

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RENOVATE PLANT SCIENCE BUILDING - PHASE 2

SUCF Project No. 161026-00

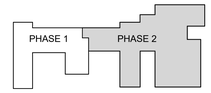
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Ithaca, NY 14853

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Ryan Biggs Clark Davis Structural Engineers	257 Ushers Road Clifton Park, NY 12065 T 518 406-5506
Salas O'Brien Consulting & Engineering Group of NY, Inc. Mechanical Engineers	300 Trolley Blvd. Rochester, NY 14606 T 585 288-5590
Jade Stone Engineering Electrical Engineers	444 Vanduzee St. Watertown, NY 13601 T 315 836 4062
Watson Engineering Plumbing	4500 State Route 434 Apalachin, NY 13732 T 607 223-4334
DM Engineers Fire Protection Engineers	1007 Yonkers Ave Yonkers, NY 10704 T 929 333-2339
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Schuler Shook Lighting Design	240 W 40th Street, 2nd Floor New York, NY 10018 T 212 439-5650
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Watts Architects & Engineers Asbestos, Haz Mat	95 Perry Street, Suite 300 Buffalo, NY 14203 T 716 206-5122
Hastings Consulting Building Code	142 Hanlon Rd Holliston, MA 01746 T 508 397-8417
Ellana Cost Consulting	32 Broadway, Suite 801 New York, NY 10004 T 212971-0936

Notes:



Keyplan

Job Number	31909
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Checked By	Checker
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Revisions

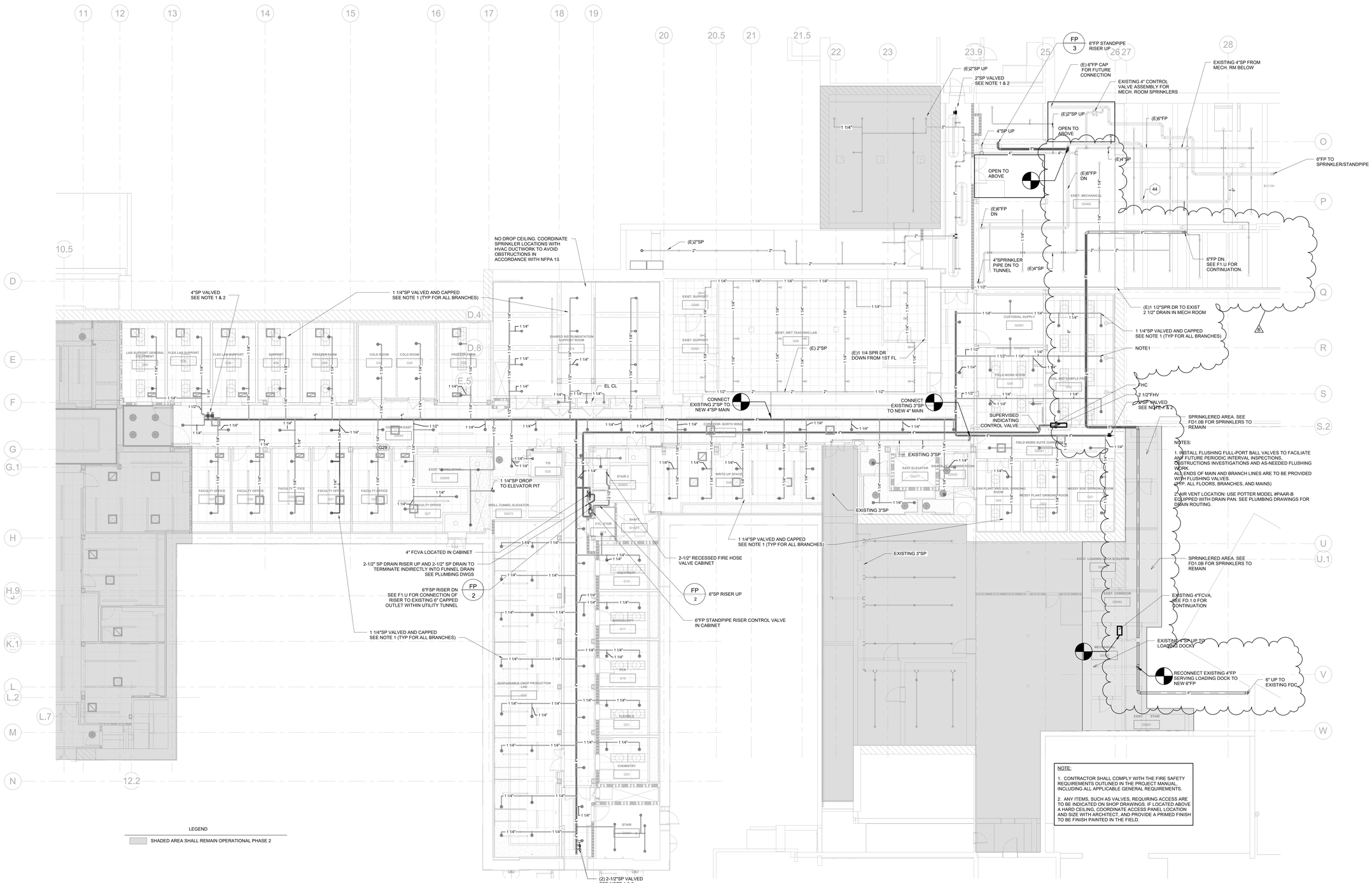
B	ADDENDUM NO 3	11/04/2026

FIRE PROTECTION UTILITY TUNNEL PLAN - PHASE 2

BID DOCUMENTS
Scale: 1/8" = 1'-0"

F1.U

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D 2 GROUND FLOOR
F1.0 SCALE: 1/8" = 1'-0"

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RENOVATE PLANT SCIENCE BUILDING - PHASE 2
SUCF Project No. 161026-00

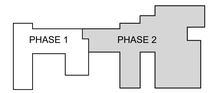
236 Tower Road
Ithaca, NY 14853

Cornell CALS College of Agriculture and Life Sciences

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Ellenzweig Architecture | Planning	230 Congress Street Boston, MA 02110 T 617 491-5575
Ryan Biggs Clark Davis Structural Engineers	257 Ushers Road Clifton Park, NY 12065 T 518 406-5506
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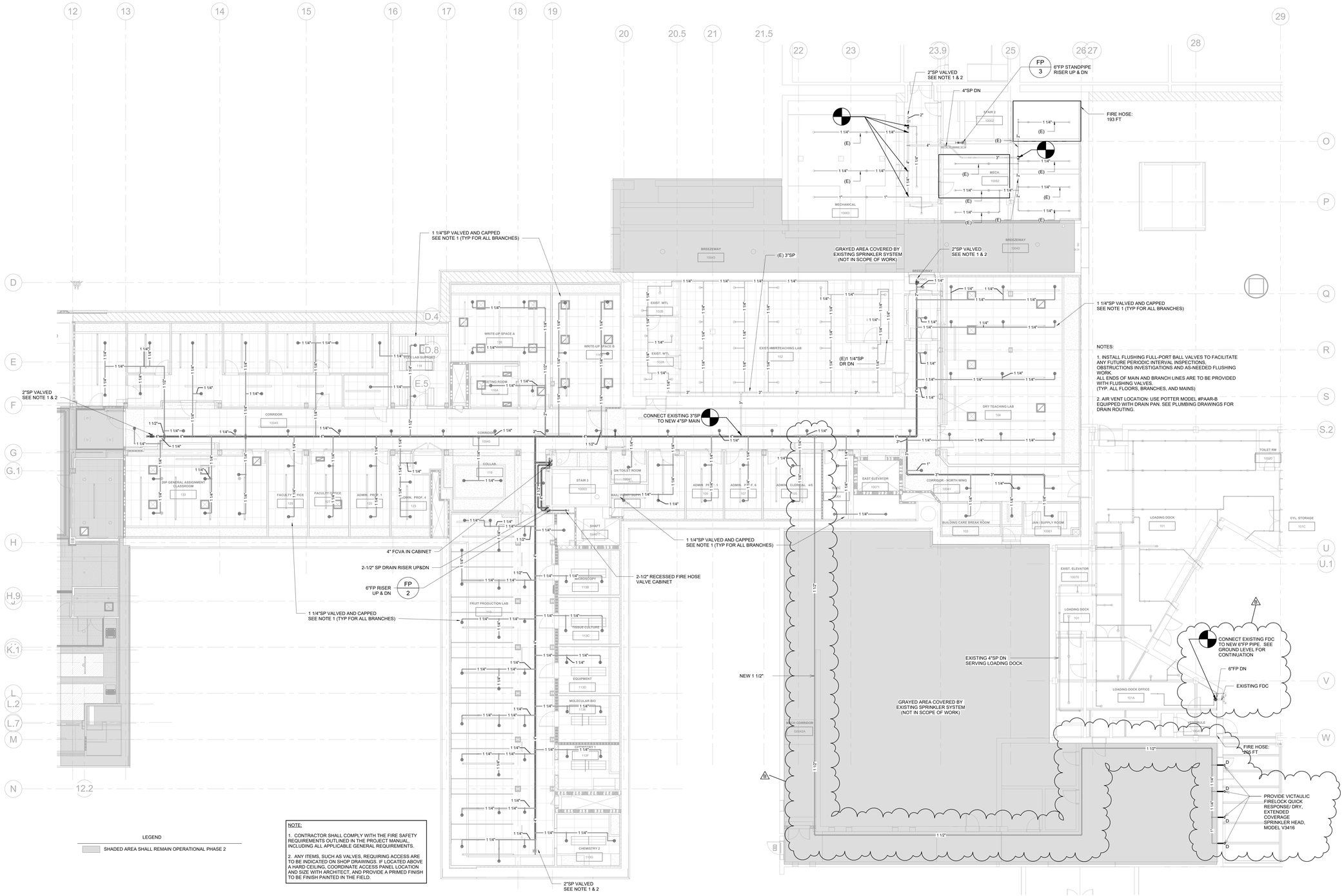
FIRE PROTECTION GROUND FLOOR PLAN - PHASE 2

STATE OF NEW YORK KASEY STEPHEN DEVLIN 095920 LICENSED PROFESSIONAL ENGINEER

BID DOCUMENTS
Scale: 1/8" = 1'-0"

F1.0

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D 2 / F1.1 FIRST FLOOR
SCALE: 1/8" = 1'-0"

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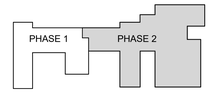
RENOVATE PLANT SCIENCE BUILDING - PHASE 2
SUCF Project No. 161026-00
236 Tower Road
Ithaca, NY 14853

Cornell CALS College of Agriculture and Life Sciences

SUNY State University Construction Fund

Ellenzweig Architecture | Planning	230 Congress Street Boston, MA 02110 T 617 491-5575
Ryan Biggs Clark Davis Structural Engineers	257 Ushers Road Clifton Park, NY 12065 T 518 406-5506
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Ellana Cost Consulting	32 Broadway, Suite 801 New York, NY 10004 T 212971-0936

Notes:



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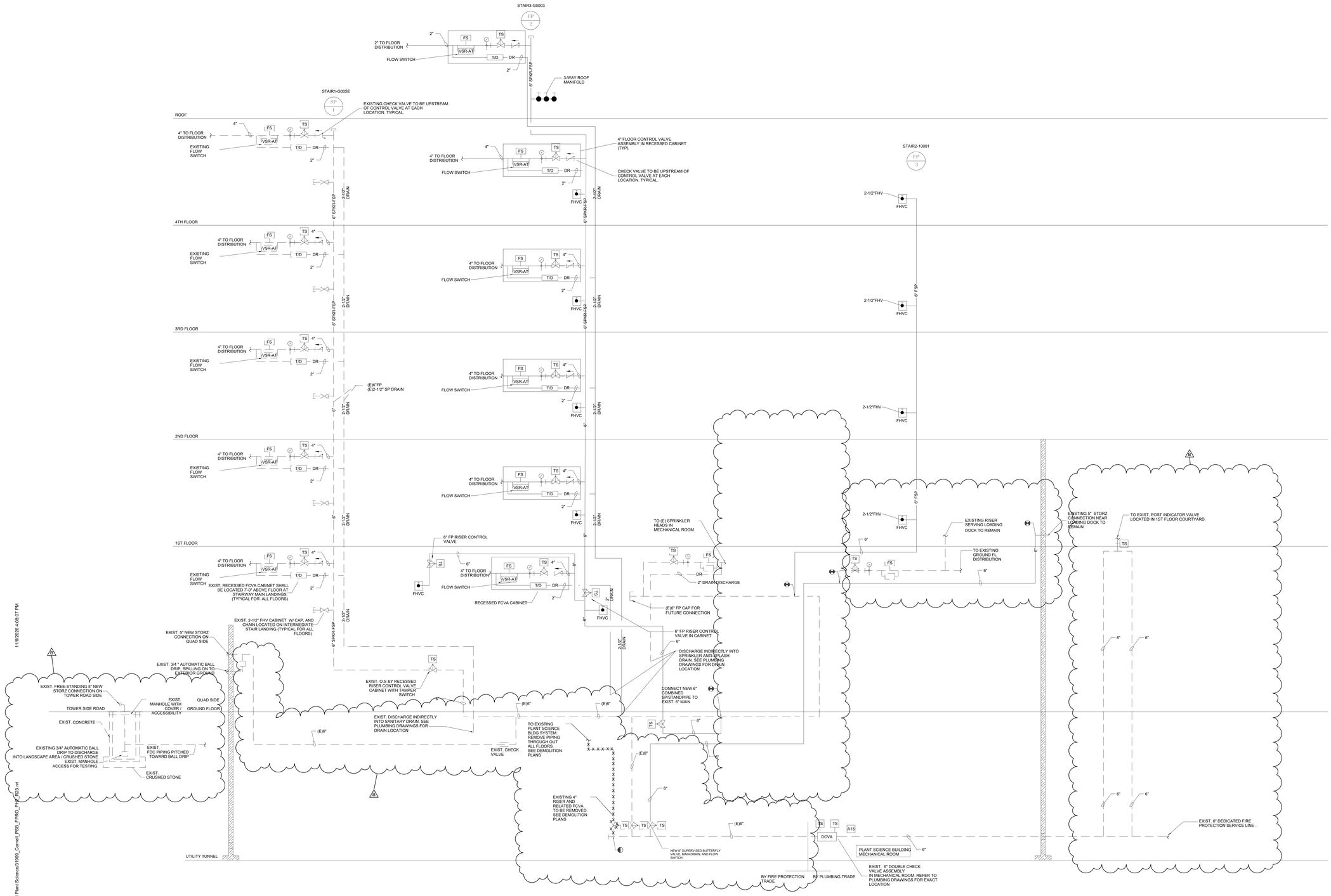
FIRE PROTECTION FIRST FLOOR PLAN - PHASE 2

STATE OF NEW YORK REGISTERED ARCHITECT 095920 DUANE E. ELLENZWEIG LICENSED PROFESSIONAL ENGINEER

BID DOCUMENTS
Scale: 1/8" = 1'-0"

F1.1

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D 1 F2.1 SCALE: 12" = 1'-0"

SPRINKLER AND STADPIPE RISER DRIAGRAMS

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RENOVATE PLANT SCIENCE BUILDING - PHASE 2

SUCF Project No. 161026-00

236 Tower Road
Ithaca, NY 14853

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Notes:



Keyplan

Job Number	31909
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Date	August 31, 2026

Revisions

B	ADDENDUM NO 3	11/04/2026

SPRINKLER AND STANDPIPE RISER DIAGRAMS

STATE OF NEW YORK KYLE REBAPPOZ CHRISTOPHER 095939 LICENSED PROFESSIONAL ENGINEER

BID DOCUMENTS
Scale: 12" = 1'-0"

F2.1

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RENOVATE PLANT SCIENCE BUILDING - PHASE 2

SUCF Project No. 161026-00

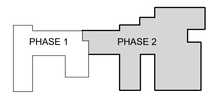
236 Tower Road
Ithaca, NY 14853

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Ellenzweig Architecture | Planning	230 Congress Street Boston, MA 02110 T 617 491-5575
Ryan Biggs Clark Davis Structural Engineers	257 Ushers Road Clifton Park, NY 12065 T 518 406-5506
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Ellana Cost Consulting	32 Broadway, Suite 801 New York, NY 10004 T 212971-0936

Notes:



Keyplan

Job Number	31909.00
Drawing By	ZMH
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Date	August 31, 2026

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B	Addendum No. 3	11/04/2026

MECHANICAL TUNNEL PIPING DEMOLITION PLAN - STEAM HEATING SYSTEMS - PHASE 2

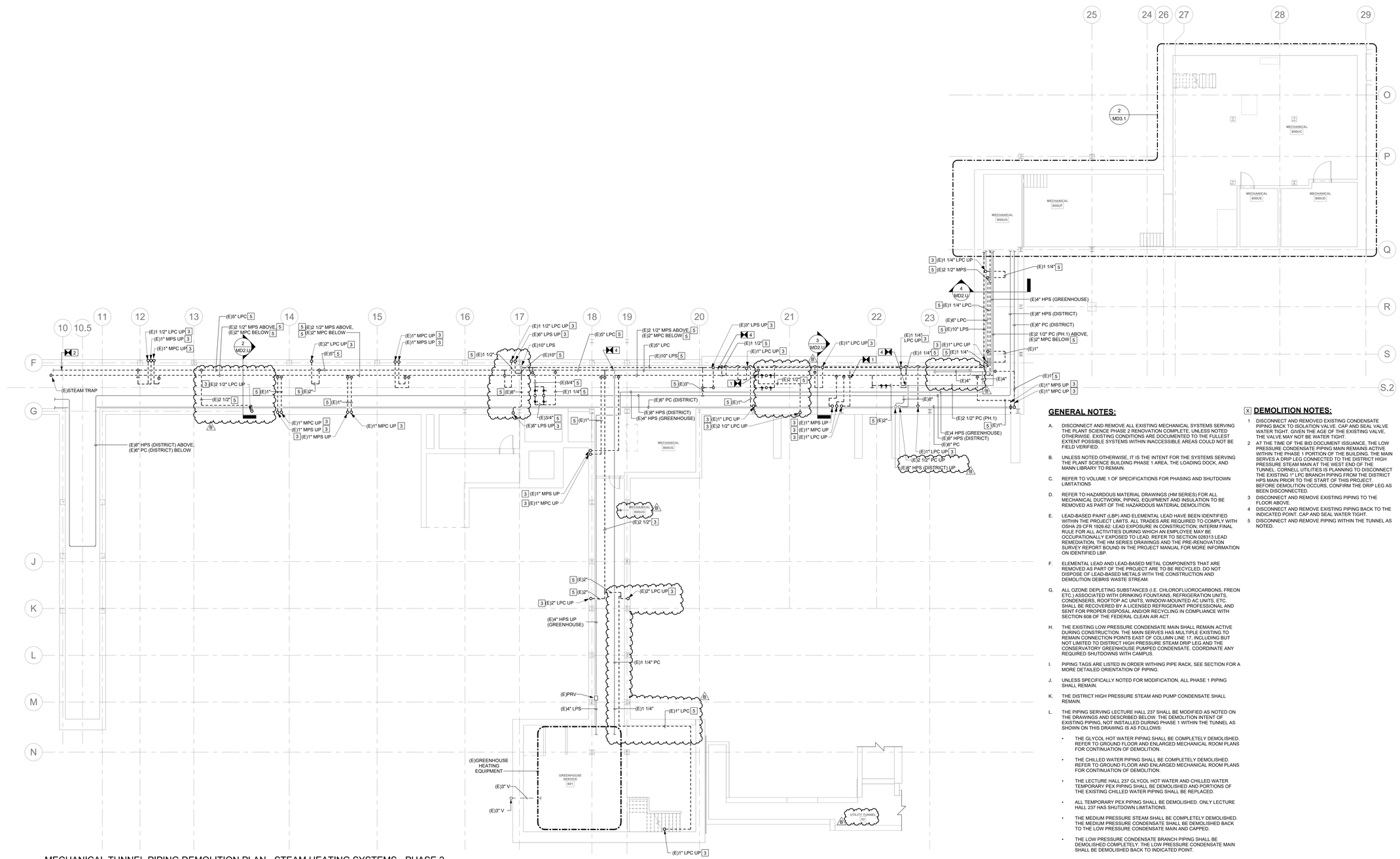
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STATE OF NEW YORK · SCOTT DANIEL WALKER · LICENSED PROFESSIONAL ENGINEER · 094525

Reg. Exp: 04/30/2029
Cert. of Auth: 099089

MD2.UA

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1 MECHANICAL TUNNEL PIPING DEMOLITION PLAN - STEAM HEATING SYSTEMS - PHASE 2
1/8" = 1'-0"

GENERAL NOTES:

A. DISCONNECT AND REMOVE ALL EXISTING MECHANICAL SYSTEMS SERVING THE PLANT SCIENCE PHASE 2 RENOVATION COMPLETE, UNLESS NOTED OTHERWISE. EXISTING CONDITIONS ARE DOCUMENTED TO THE FULLEST EXTENT POSSIBLE SYSTEMS WITHIN INACCESSIBLE AREAS COULD NOT BE FIELD VERIFIED.

B. UNLESS NOTED OTHERWISE, IT IS THE INTENT FOR THE SYSTEMS SERVING THE PLANT SCIENCE BUILDING PHASE 1 AREA, THE LOADING DOCK, AND MANN LIBRARY TO REMAIN.

C. REFER TO VOLUME 1 OF SPECIFICATIONS FOR PHASING AND SHUTDOWN LIMITATIONS

D. REFER TO HAZARDOUS MATERIAL DRAWINGS (HM SERIES) FOR ALL MECHANICAL DUCTWORK, PIPING, EQUIPMENT AND INSULATION TO BE REMOVED AS PART OF THE HAZARDOUS MATERIAL DEMOLITION.

E. LEAD-BASED PAINT (LBP) AND ELEMENTAL LEAD HAVE BEEN IDENTIFIED WITHIN THE PROJECT LIMITS. ALL TRADES ARE REQUIRED TO COMPLY WITH OSHA 29 CFR 1926.62: LEAD EXPOSURE IN CONSTRUCTION: INTERIM FINAL RULE FOR ALL ACTIVITIES DURING WHICH AN EMPLOYEE MAY BE OCCUPATIONALLY EXPOSED TO LEAD. REFER TO SECTION 028313 LEAD REMEDIATION, THE HM SERIES DRAWINGS AND THE PRE-RENOVATION SURVEY REPORT BOUND IN THE PROJECT MANUAL FOR MORE INFORMATION ON IDENTIFIED LBP.

F. ELEMENTAL LEAD AND LEAD-BASED METAL COMPONENTS THAT ARE REMOVED AS PART OF THE PROJECT ARE TO BE RECYCLED. DO NOT DISPOSE OF LEAD-BASED METALS WITH THE CONSTRUCTION AND DEMOLITION DEBRIS WASTE STREAM.

G. ALL OZONE DEPLETING SUBSTANCES (I.E. CHLOROFLUOROCARBONS, FREON ETC.) ASSOCIATED WITH DRINKING FOUNTAINS, REFRIGERATION UNITS, CONDENSERS, ROOFTOP AC UNITS, WINDOW-MOUNTED AC UNITS, ETC. SHALL BE RECOVERED BY A LICENSED REFRIGERANT PROFESSIONAL AND SENT FOR PROPER DISPOSAL AND/OR RECYCLING IN COMPLIANCE WITH SECTION 608 OF THE FEDERAL CLEAN AIR ACT.

H. THE EXISTING LOW PRESSURE CONDENSATE MAIN SHALL REMAIN ACTIVE DURING CONSTRUCTION. THE MAIN SERVES HAS MULTIPLE EXISTING TO REMAIN CONNECTION POINTS EAST OF COLUMN LINE 17, INCLUDING BUT NOT LIMITED TO DISTRICT HIGH PRESSURE STEAM DRIP LEG AND THE CONSERVATORY GREENHOUSE PUMPED CONDENSATE. COORDINATE ANY REQUIRED SHUTDOWNS WITH CAMPUS.

I. PIPING TAGS ARE LISTED IN ORDER WITHING PIPE RACK, SEE SECTION FOR A MORE DETAILED ORIENTATION OF PIPING.

J. UNLESS SPECIFICALLY NOTED FOR MODIFICATION, ALL PHASE 1 PIPING SHALL REMAIN.

K. THE DISTRICT HIGH PRESSURE STEAM AND PUMP CONDENSATE SHALL REMAIN.

L. THE PIPING SERVING LECTURE HALL 237 SHALL BE MODIFIED AS NOTED ON THE DRAWINGS AND DESCRIBED BELOW. THE DEMOLITION INTENT OF EXISTING PIPING, NOT INSTALLED DURING PHASE 1 WITHIN THE TUNNEL AS SHOWN ON THIS DRAWING IS AS FOLLOWS:

- THE GLYCOL HOT WATER PIPING SHALL BE COMPLETELY DEMOLISHED. REFER TO GROUND FLOOR AND ENLARGED MECHANICAL ROOM PLANS FOR CONTINUATION OF DEMOLITION.
- THE CHILLED WATER PIPING SHALL BE COMPLETELY DEMOLISHED. REFER TO GROUND FLOOR AND ENLARGED MECHANICAL ROOM PLANS FOR CONTINUATION OF DEMOLITION.
- THE LECTURE HALL 237 GLYCOL HOT WATER AND CHILLED WATER TEMPORARY PEX PIPING SHALL BE DEMOLISHED AND PORTIONS OF THE EXISTING CHILLED WATER PIPING SHALL BE REPLACED.
- ALL TEMPORARY PEX PIPING SHALL BE DEMOLISHED. ONLY LECTURE HALL 237 HAS SHUTDOWN LIMITATIONS.
- THE MEDIUM PRESSURE STEAM SHALL BE COMPLETELY DEMOLISHED. THE MEDIUM PRESSURE CONDENSATE SHALL BE DEMOLISHED BACK TO THE LOW PRESSURE CONDENSATE MAIN AND CAPPED.
- THE LOW PRESSURE CONDENSATE BRANCH PIPING SHALL BE DEMOLISHED COMPLETELY. THE LOW PRESSURE CONDENSATE MAIN SHALL BE DEMOLISHED BACK TO INDICATED POINT.

X DEMOLITION NOTES:

1 DISCONNECT AND REMOVED EXISTING CONDENSATE PIPING BACK TO ISOLATION VALVE. CAP AND SEAL VALVE WATER TIGHT. GIVEN THE AGE OF THE EXISTING VALVE, THE VALVE MAY NOT BE WATER TIGHT.

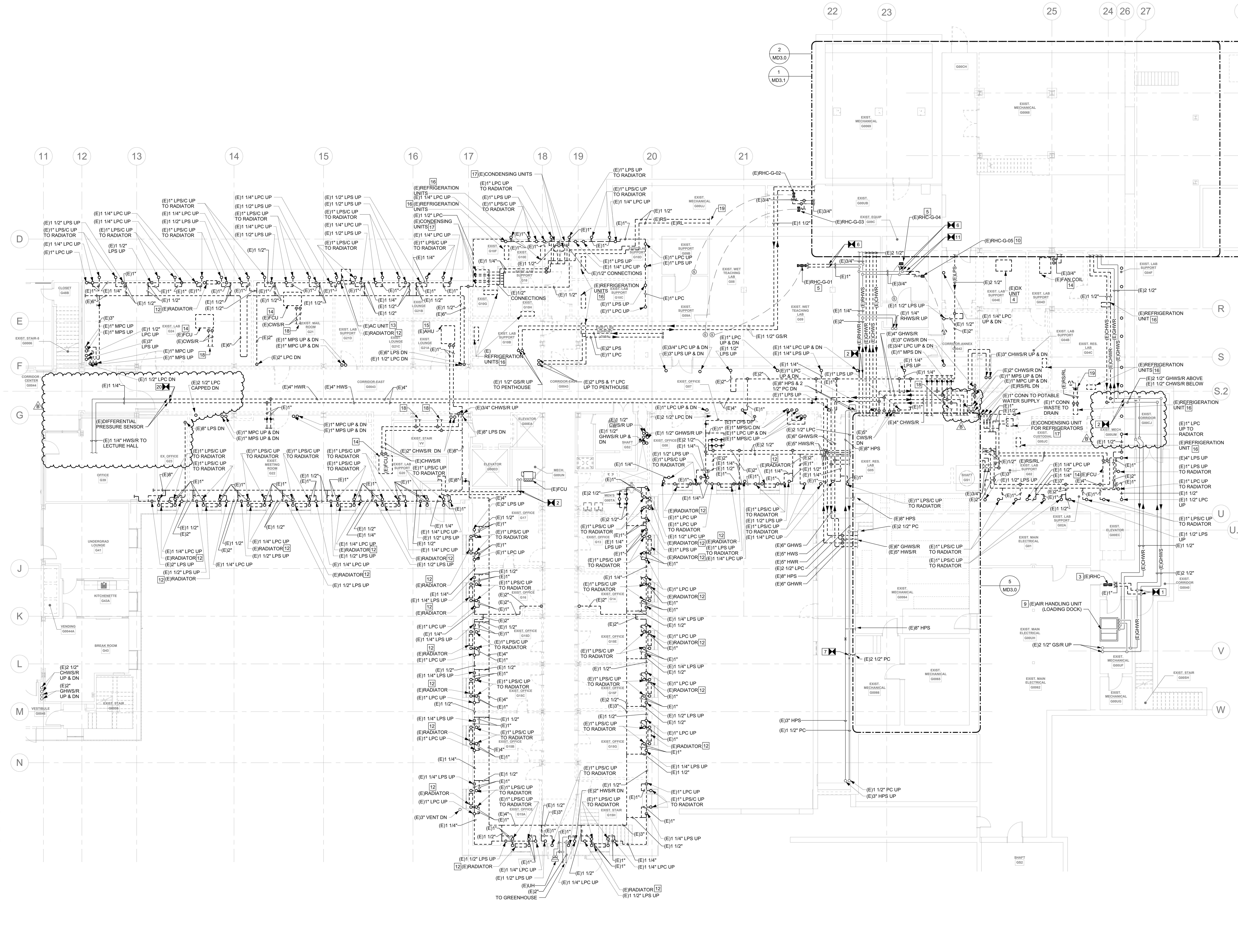
2 AT THE TIME OF THE BID DOCUMENT ISSUANCE, THE LOW PRESSURE CONDENSATE PIPING MAIN REMAINS ACTIVE WITHIN THE PHASE 1 PORTION OF THE BUILDING. THE MAIN SERVES A DRIP LEG CONNECTED TO THE DISTRICT HIGH PRESSURE STEAM MAIN AT THE WEST END OF THE TUNNEL. CORNELL UTILITIES IS PLANNING TO DISCONNECT THE EXISTING 1" LPC BRANCH PIPING FROM THE DISTRICT HPS MAIN PRIOR TO THE START OF THIS PROJECT. BEFORE DEMOLITION OCCURS, CONFIRM THE DRIP LEG AS BEEN DISCONNECTED.

3 DISCONNECT AND REMOVE EXISTING PIPING TO THE FLOOR ABOVE.

4 DISCONNECT AND REMOVE EXISTING PIPING BACK TO THE INDICATED POINT. CAP AND SEAL WATER TIGHT.

5 DISCONNECT AND REMOVE PIPING WITHIN THE TUNNEL AS NOTED.

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1 MECHANICAL GROUND FLOOR PIPING DEMOLITION PLAN - PHASE 2

1/8" = 1'-0"

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GENERAL NOTES:

A. DISCONNECT AND REMOVE ALL EXISTING MECHANICAL SYSTEMS SERVING THE PLANT SCIENCE PHASE 2 RENOVATION COMPLETE, UNLESS NOTED OTHERWISE. EXISTING CONDITIONS ARE DOCUMENTED TO THE FULLEST EXTENT POSSIBLE SYSTEMS WITHIN INACCESSIBLE AREAS COULD NOT BE FIELD VERIFIED.

B. UNLESS NOTED OTHERWISE, IT IS THE INTENT FOR THE SYSTEMS SERVING THE PLANT SCIENCE BUILDING PHASE 1 AREA, THE LOADING DOCK, AND MANN LIBRARY TO REMAIN.

C. REFER TO VOLUME 1 OF SPECIFICATIONS FOR PHASING AND SHUTDOWN LIMITATIONS.

D. REFER TO HAZARDOUS MATERIAL DRAWINGS (HM SERIES) FOR ALL MECHANICAL DUCTWORK, PIPING, EQUIPMENT AND INSULATION TO BE REMOVED AS PART OF THE HAZARDOUS MATERIAL DEMOLITION

E. LEAD-BASED PAINT (LBP) AND ELEMENTAL LEAD HAVE BEEN IDENTIFIED WITHIN THE PROJECT LIMITS. ALL TRADES ARE REQUIRED TO COMPLY WITH OSHA 29 CFR 1926.62: LEAD EXPOSURE IN CONSTRUCTION; INTERIM FINAL RULE FOR ALL ACTIVITIES DURING WHICH AN EMPLOYEE MAY BE OCCUPATIONALLY EXPOSED TO LEAD. REFER TO SECTION 028313 LEAD REMEDIATION, THE HM SERIES DRAWINGS AND THE PRE-RENOVATION SURVEY REPORT BOUND IN THE PROJECT MANUAL FOR MORE INFORMATION ON IDENTIFIED LBP.

F. ELEMENTAL LEAD AND LEAD-BASED METAL COMPONENTS THAT ARE REMOVED AS PART OF THE PROJECT ARE TO BE RECYCLED. DO NOT DISPOSE OF LEAD-BASED METALS WITH THE CONSTRUCTION AND DEMOLITION DEBRIS WASTE STREAM.

G. ALL OZONE DEPLETING SUBSTANCES (I.E. CHLOROFLUOROCARBONS, FREON ETC.) ASSOCIATED WITH DRINKING FOUNTAINS, REFRIGERATION UNITS, CONDENSERS, ROOFTOP AC UNITS, WINDOW-MOUNTED AC UNITS, ETC. SHALL BE RECOVERED BY A LICENSED REFRIGERANT PROFESSIONAL AND SENT FOR PROPER DISPOSAL AND/OR RECYCLING IN COMPLIANCE WITH SECTION 608 OF THE FEDERAL CLEAN AIR ACT.

H. DISCONNECT AND REMOVE ALL PNEUMATIC TUBING BACK TO SOURCE. TUBING SHALL BE REMOVED COMPLETELY BACK TO THE MAIN. THE MAIN SHALL BE REMOVED BACK TO THE COMPRESSOR, UNLESS IT FEEDS EXISTING TO REMAIN EQUIPMENT. COPPER TUBING SHALL BE TERMINATED WITH SOLDERED END. POLY TUBING SHALL BE TERMINATED USING BRASS PLUGS. BENDING OVER COPPER TUBING, PINCHING/BRAZING, AND THE USE OF SHEETMETAL SCREWS TO MAKE TERMINATIONS ARE NOT ACCEPTABLE.

I. WHERE MECHANICAL EQUIPMENT IS INDICATED TO BE DEMOLISHED, REMOVE AN ASSOCIATED CONDENSATE DRAIN PIPING BACK TO THE NEAREST ACTIVE CONNECTION OR POINT OF TERMINATION. REFER TO P-SERIES DRAWINGS FOR SANITARY PIPING DEMOLITION.

J. REFER TO P-SERIES DRAWINGS FOR SANITARY PIPING DEMOLITION.

X DEMOLITION NOTES:

1 DISCONNECT AND REMOVE PIPING BACK TO MAIN. CAP AND SEAL WATERTIGHT.
2 DISCONNECT AND REMOVE PIPING BACK TO INDICATED POINT. PREP FOR CONNECTION TO NEW.
3 REMOVE EXISTING REHEAT COIL, ASSOCIATED PIPING, CONTROLS, AND ACCESSORIES.
4 DISCONNECT AND REMOVE THE EXISTING REFRIGERANT PIPING BETWEEN THE COMPRESSOR AND THE EVAPORATOR.
5 DISCONNECT AND REMOVE EXISTING REHEAT COIL AND ALL ASSOCIATED COIL VALVES AND SPECIALTIES. ISOLATION VALVES CAN REMAIN FOR RE-USE. EXISTING CONTROLS TO REMAIN FOR RE-USE. DISCONNECT CONTROL WIRING AND PREP FOR CONNECTION TO NEW.
6 DISCONNECT AND REMOVE EXISTING PIPING AS REQUIRED TO ACCOMMODATE COIL AND VALVE REPLACEMENT.
7 DISCONNECT AND REMOVE PIPING BACK TO THE ISOLATION VALVE AT THE MAIN. CAP AND SEAL WATERTIGHT.
9 EXISTING TO REMAIN AIR HANDLING UNIT SERVES THE LOADING DOCK OFFICES AND ELEVATOR MACHINE ROOM IN ADDITION OT THE SPACES BEING RENOVATED AS PART OF PHASE 2.
10 DISCONNECT AND REMOVE EXISTING REHEAT COIL AND ALL ASSOCIATED PIPING AND CONTROLS.
11 DISCONNECT AND REMOVE PIPING BACK TO INDICATED POINT. CAP AND SEAL WATERTIGHT.
12 DISCONNECT AND REMOVE EXISTING STEAM RADIATOR AND ALL ASSOCIATED PIPING AND CONTROLS.
13 DISCONNECT AND REMOVE EXISTING WINDOW AC UNIT COMPLETE.
14 DISCONNECT AND REMOVE EXISTING FAN COIL UNIT AND ALL ASSOCIATED PIPING AND CONTROLS.
15 DISCONNECT AND REMOVE EXISTING AIR HANDLING UNIT AND ALL ASSOCIATED PIPING AND CONTROLS.
16 DISCONNECT AND REMOVE EXISTING REFRIGERATION UNIT AND ALL ASSOCIATED PIPING AND CONTROLS.
17 DISCONNECT AND REMOVE EXISTING CONDENSING UNIT AND ALL ASSOCIATED PIPING AND CONTROLS.
18 DISCONNECT AND REMOVE EXISTING CHILLED WATER PIPING COMPLETE.
19 DISCONNECT AND REMOVE EXISTING REFRIGERANT PIPING COMPLETE.
20 DISCONNECT AND REMOVE PIPING BACK TO EXISTING FLANGE AT INDICATED POINT. PREP FOR CONNECTION TO NEW.

B

RENOVATE PLANT SCIENCE BUILDING - PHASE 2

SUCF Project No. 161026-00

236 Tower Road
Ithaca, NY 14853

Cornell CALS College of Agriculture and Life Sciences

SUNY State University Construction Fund

Ellenzweig Architecture | Planning	230 Congress Street Boston, MA 02110 T 617 491-5575
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Notes:

PHASE 1 PHASE 2

Keyplan

Job Number	31909.00
Drawing By	ZMH
Checked By	NMT
Filename	
Date	August 31, 2026

Revisions

A	Addendum No. 2	10/29/2026
B	Addendum No. 3	11/04/2026

MECHANICAL GROUND FLOOR PIPING DEMOLITION PLAN - PHASE 2

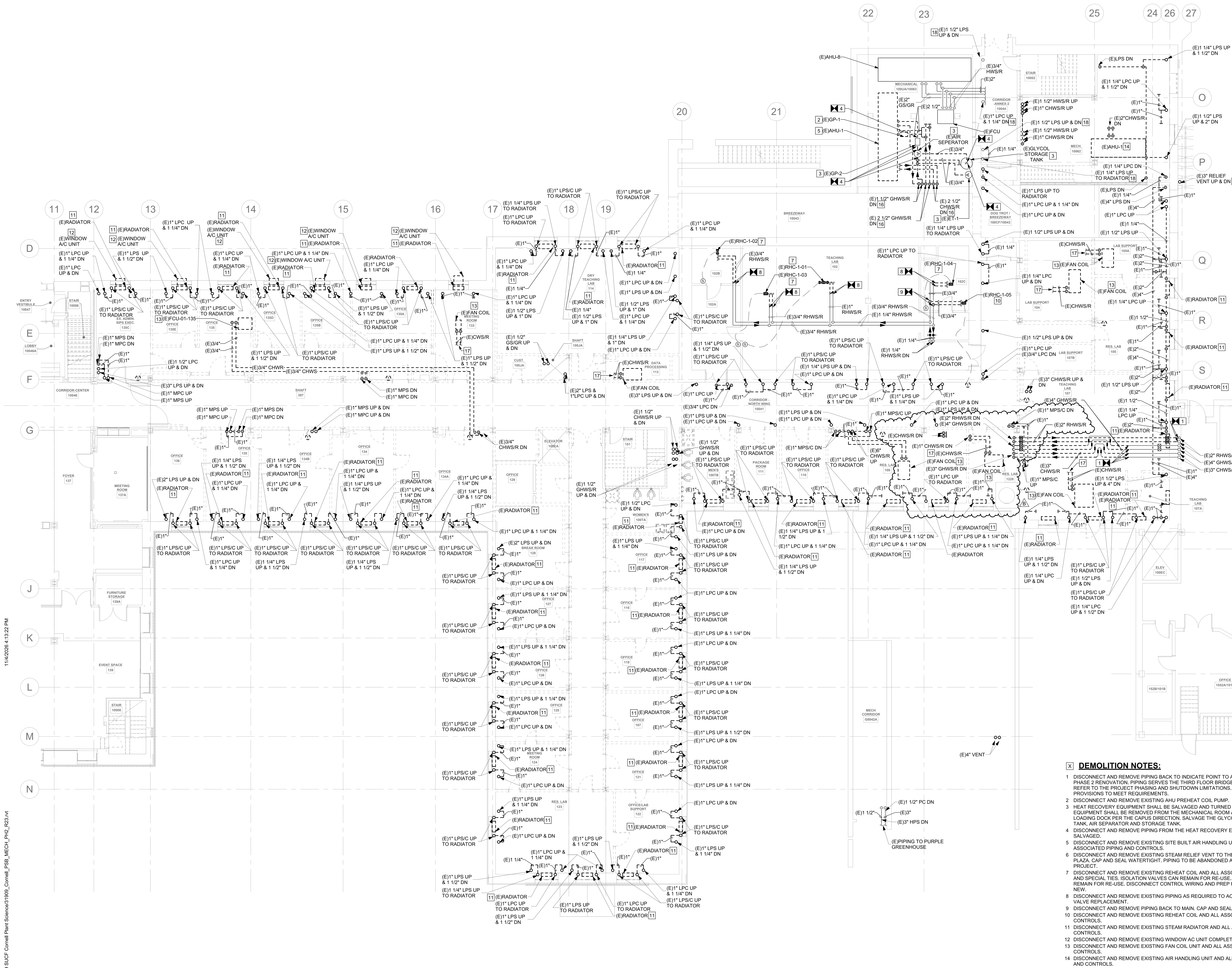
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1 MECHANICAL FIRST FLOOR PIPING DEMOLITION PLAN - PHASE 2

1/8" = 1'-0"

GENERAL NOTES:

A. DISCONNECT AND REMOVE ALL EXISTING MECHANICAL SYSTEMS SERVING THE PLANT SCIENCE PHASE 2 RENOVATION COMPLETE, UNLESS NOTED OTHERWISE. EXISTING CONDITIONS ARE DOCUMENTED TO THE FULLEST EXTENT POSSIBLE SYSTEMS WITHIN INACCESSIBLE AREAS COULD NOT BE FIELD VERIFIED.

B. UNLESS NOTED OTHERWISE, IT IS THE INTENT FOR THE SYSTEMS SERVING THE PLANT SCIENCE BUILDING PHASE 1 AREA, THE LOADING DOCK, AND MANN LIBRARY TO REMAIN.

C. REFER TO VOLUME 1 OF SPECIFICATIONS FOR PHASING AND SHUTDOWN LIMITATIONS.

D. REFER TO HAZARDOUS MATERIAL DRAWINGS (HM SERIES) FOR ALL MECHANICAL DUCTWORK, PIPING, EQUIPMENT AND INSULATION TO BE REMOVED AS PART OF THE HAZARDOUS MATERIAL DEMOLITION

E. LEAD-BASED PAINT (LBP) AND ELEMENTAL LEAD HAVE BEEN IDENTIFIED WITHIN THE PROJECT LIMITS. ALL TRADES ARE REQUIRED TO COMPLY WITH OSHA 29 CFR 1926.62: LEAD EXPOSURE IN CONSTRUCTION; INTERIM FINAL RULE FOR ALL ACTIVITIES DURING WHICH AN EMPLOYEE MAY BE OCCUPATIONALLY EXPOSED TO LEAD. REFER TO SECTION 028313 LEAD REMEDIATION, THE HM SERIES DRAWINGS AND THE PRE-RENOVATION SURVEY REPORT BOUND IN THE PROJECT MANUAL FOR MORE INFORMATION ON IDENTIFIED LBP.

F. ELEMENTAL LEAD AND LEAD-BASED METAL COMPONENTS THAT ARE REMOVED AS PART OF THE PROJECT ARE TO BE RECYCLED. DO NOT DISPOSE OF LEAD-BASED METALS WITH THE CONSTRUCTION AND DEMOLITION DEBRIS WASTE STREAM.

G. ALL OZONE DEPLETING SUBSTANCES (I.E. CHLOROFLUOROCARBONS, FREON ETC.) ASSOCIATED WITH DRINKING FOUNTAINS, REFRIGERATION UNITS, CONDENSERS, ROOFTOP AC UNITS, WINDOW-MOUNTED AC UNITS, ETC. SHALL BE RECOVERED BY A LICENSED REFRIGERANT PROFESSIONAL AND SENT FOR PROPER DISPOSAL AND/OR RECYCLING IN COMPLIANCE WITH SECTION 608 OF THE FEDERAL CLEAN AIR ACT.

H. DISCONNECT AND REMOVE ALL PNEUMATIC TUBING BACK TO SOURCE. TUBING SHALL BE REMOVED COMPLETELY BACK TO THE MAIN. THE MAIN SHALL BE REMOVED BACK TO THE COMPRESSOR, UNLESS IT FEEDS EXISTING TO REMAIN EQUIPMENT. COPPER TUBING SHALL BE TERMINATED WITH SOLDERED END. POLY TUBING SHALL BE TERMINATED USING BRASS PLUGS. BENDING OVER COPPER TUBING, PINCHING/BRAZING, AND THE USE OF SHEETMETAL SCREWS TO MAKE TERMINATIONS ARE NOT ACCEPTABLE.

I. WHERE MECHANICAL EQUIPMENT IS INDICATED TO BE DEMOLISHED, REMOVE AN ASSOCIATED CONDENSATE DRAIN PIPING BACK TO THE NEAREST ACTIVE CONNECTION OR POINT OF TERMINATION. REFER TO P-SERIES DRAWINGS FOR SANITARY PIPING DEMOLITION.

J. REFER TO P-SERIES DRAWINGS FOR SANITARY PIPING DEMOLITION.

X DEMOLITION NOTES:

1 DISCONNECT AND REMOVE PIPING BACK TO INDICATE POINT TO ACCOMMODATE THE PHASE 2 RENOVATION. PIPING SERVES THE THIRD FLOOR BRIDGE LABS AND OFFICES. REFER TO THE PROJECT PHASING AND SHUTDOWN LIMITATIONS. PROVIDE ALL REQUIRED PROVISIONS TO MEET REQUIREMENTS.
2 DISCONNECT AND REMOVE EXISTING AHU PREHEAT COIL PUMP.
3 HEAT RECOVERY EQUIPMENT SHALL BE SALVAGED AND TURNED OVER TO CAMPUS. EQUIPMENT SHALL BE REMOVED FROM THE MECHANICAL ROOM AND PLACED WITHIN THE LOADING DOCK PER THE CAPUS DIRECTION. SALVAGE THE GLYCOL PUMP, EXPANSION TANK, AIR SEPARATOR AND STORAGE TANK.
4 DISCONNECT AND REMOVE PIPING FROM THE HEAT RECOVERY EQUIPMENT TO BE SALVAGED.
5 DISCONNECT AND REMOVE EXISTING SITE BUILT AIR HANDLING UNIT COIL AND ALL ASSOCIATED PIPING AND CONTROLS.
6 DISCONNECT AND REMOVE EXISTING STEAM RELIEF VENT TO THE PENETRATION OF THE PLAZA. CAP AND SEAL WATERTIGHT. PIPING TO BE ABANDONED AS PART OF THIS PROJECT.
7 DISCONNECT AND REMOVE EXISTING REHEAT COIL AND ALL ASSOCIATED COIL VALVES AND SPECIAL TIES. ISOLATION VALVES CAN REMAIN FOR RE-USE. EXISTING CONTROLS TO REMAIN FOR RE-USE. DISCONNECT CONTROL WIRING AND PREP FOR CONNECTION TO NEW.
8 DISCONNECT AND REMOVE EXISTING PIPING AS REQUIRED TO ACCOMMODATE COIL AND VALVE REPLACEMENT.
9 DISCONNECT AND REMOVE PIPING BACK TO MAIN. CAP AND SEAL WATERTIGHT.
10 DISCONNECT AND REMOVE EXISTING REHEAT COIL AND ALL ASSOCIATED PIPING AND CONTROLS.
11 DISCONNECT AND REMOVE EXISTING STEAM RADIATOR AND ALL ASSOCIATED PIPING AND CONTROLS.
12 DISCONNECT AND REMOVE EXISTING WINDOW AC UNIT COMPLETE.
13 DISCONNECT AND REMOVE EXISTING FAN COIL UNIT AND ALL ASSOCIATED PIPING AND CONTROLS.
14 DISCONNECT AND REMOVE EXISTING AIR HANDLING UNIT AND ALL ASSOCIATED PIPING AND CONTROLS.
16 DISCONNECT AND REMOVE PIPING TO THE FLOOR BELOW.
17 DISCONNECT AND REMOVE EXISTING CHILLED WATER PIPING COMPLETE.
18 EXISTING STEAM AND CONDENSATE PIPING WITHIN CORRIDOR TO MANN LIBRARY IS CONCEALED WITHIN THE WALL AND ABOVE THE INACCESSIBLE CEILING. PIPING SHALL BE ABANDONED IN PLACE.

RENOVATE PLANT SCIENCE BUILDING - PHASE 2

SUCF Project No. 161026-00

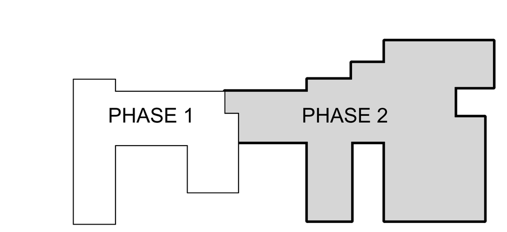
236 Tower Road
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Ellana Cost Consulting	32 Broadway, Suite 801 New York, NY 10004 T 212971-0936

Notes:



Keyplan

Job Number	31909.00
Drawing By	ZMH
Checked By	NMT
Filename	
Date	August 31, 2026

Revisions

B	Addendum No. 3	11/04/2026

MECHANICAL FIRST FLOOR PIPING DEMOLITION PLAN - PHASE 2

BID DOCUMENTS
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GENERAL NOTES:

A. BALANCE VENTILATION AIR TO EACH FAN COIL PER AIRFLOW LISTED IN FAN COIL UNIT SCHEDULE ON SCHEDULES SHEET.

B. THE DUCTWORK AT THE VAV AND AIR VALVE INLET AND OUTLET SHALL MATCH THE SIZES SHOWN ON THE EQUIPMENT SCHEDULE.

C. SMOKE DAMPER REMOTE TEST SWITCH SHALL BE COORDINATED WITH THE LOCATION OF THE DUCT SMOKE DETECTOR TEST/STATUS DEVICE AND LOCATED IN AN ACCESSIBLE LOCATION.

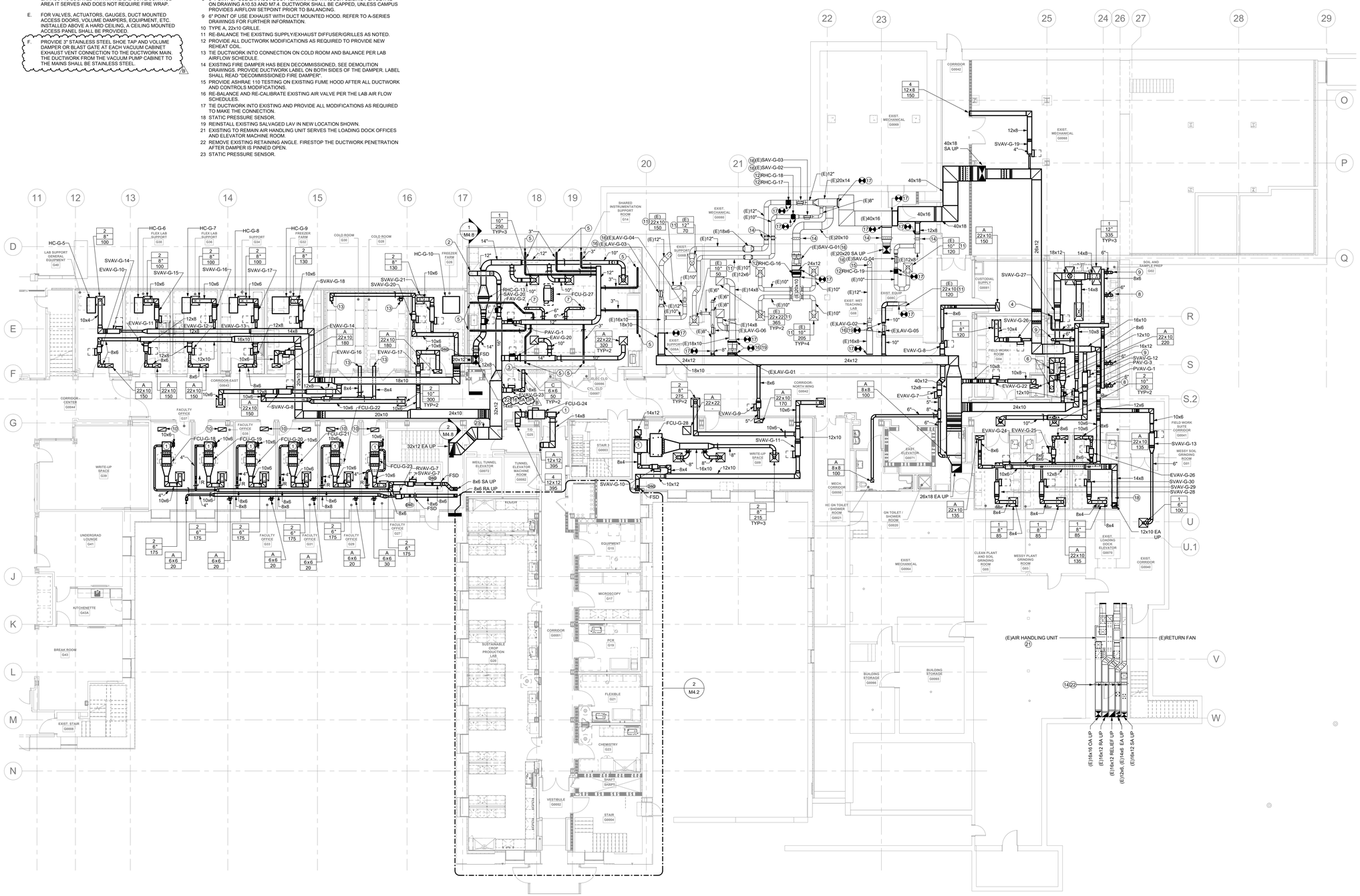
D. UNLESS OTHERWISE INDICATED, ALL LABORATORY EXHAUST IS LOCATED WITHIN THE LAB SUITE/CONTROL AREA IT SERVES AND DOES NOT REQUIRE FIRE WRAP.

E. FOR VALVES, ACTUATORS, GAUGES, DUCT MOUNTED ACCESS DOORS, VOLUME DAMPERS, EQUIPMENT, ETC. INSTALLED ABOVE A HARD CEILING, A CEILING MOUNTED ACCESS PANEL SHALL BE PROVIDED.

F. PROVIDE 3" STAINLESS STEEL SHOE TAP AND VOLUME DAMPER OR BLAST GATE AT EACH VACUUM CABINET EXHAUST VENT CONNECTION TO THE DUCTWORK MAIN. THE DUCTWORK FROM THE VACUUM PUMP CABINET TO THE MAINS SHALL BE STAINLESS STEEL. B1

ⓧ DRAWING NOTES:

1 FAN COIL UNIT RETURN PLENUM SHALL MATCH UNIT CONNECTION SIZE. PLENUM HEIGHT SHALL BE INCREASED AS REQUIRED TO ACCOMMODATE DUCTWORK CONNECTIONS.
2 PROVIDE FLEXIBLE DUCTWORK CONNECTION AT EACH ADJUSTABLE HEIGHT, ACCESSIBLE FUME HOOD. REFER TO DETAILS FOR FURTHER REQUIREMENTS.
3 PROVIDE EXHAUST DUCTWORK DOWN TO FINISHED FLOOR WITHIN CHASE. MOUNT (1) ONE EXHAUST GRILLE 6" AFF AND (1) ONE TIGHT TO CEILING.
4 3" EXHAUST DOWN TO VACUUM PUMP CABINET. VENT SHALL BE CONCEALED WITHIN WALL CAVITY OR LAB BENCH SERVICE CHASE. BALANCE TO 30 CFM. REFER TO DETAIL FOR CABINET CONNECTION REQUIREMENTS.
5 FUTURE POINT OF USE CONNECTION. TERMINATE 8'-0" AFF WITH BLAST GATE.
6 PROVIDE CONNECTION TO CANOPY HOOD.
7 CONNECTION TO SNORKEL. BALANCE TO 80 CFM.
8 6" POINT OF USE EXHAUST DUCT TERMINATED THROUGH CEILING PER DETAIL ON DRAWING A10.53 AND M7.4. DUCTWORK SHALL BE CAPPED, UNLESS CAMPUS PROVIDES AIRFLOW SETPOINT PRIOR TO BALANCING.
9 6" POINT OF USE EXHAUST WITH DUCT MOUNTED HOOD. REFER TO A-SERIES DRAWINGS FOR FURTHER INFORMATION.
10 TYPE A, 22x10 GRILLE.
11 RE-BALANCE THE EXISTING SUPPLY/EXHAUST DIFFUSER/GRILLES AS NOTED.
12 PROVIDE ALL DUCTWORK MODIFICATIONS AS REQUIRED TO PROVIDE NEW REHEAT COIL.
13 TIE DUCTWORK INTO CONNECTION ON COLD ROOM AND BALANCE PER LAB AIRFLOW SCHEDULE.
14 EXISTING FIRE DAMPER HAS BEEN DECOMMISSIONED, SEE DEMOLITION DRAWINGS. PROVIDE DUCTWORK LABEL ON BOTH SIDES OF THE DAMPER. LABEL SHALL READ "DECOMMISSIONED FIRE DAMPER".
15 PROVIDE ASHRAE 110 TESTING ON EXISTING FUME HOOD AFTER ALL DUCTWORK AND CONTROLS MODIFICATIONS.
16 RE-BALANCE AND RE-CALIBRATE EXISTING AIR VALVE PER THE LAB AIR FLOW SCHEDULES.
17 TIE DUCTWORK INTO EXISTING AND PROVIDE ALL MODIFICATIONS AS REQUIRED TO MAKE THE CONNECTION.
18 STATIC PRESSURE SENSOR.
19 REINSTALL EXISTING SALVAGED LAV IN NEW LOCATION SHOWN.
21 EXISTING TO REMAIN AIR HANDLING UNIT SERVES THE LOADING DOCK OFFICES AND ELEVATOR MACHINE ROOM.
22 REMOVE EXISTING RETAINING ANGLE. FIRESTOP THE DUCTWORK PENETRATION AFTER DAMPER IS PINNED OPEN.
23 STATIC PRESSURE SENSOR.



1 MECHANICAL GROUND FLOOR DUCTWORK PLAN - PHASE 2
1/8" = 1'-0"

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RENOVATE PLANT SCIENCE BUILDING - PHASE 2
SUCF Project No. 161026-00
236 Tower Road
Ithaca, NY 14853

Cornell CALS College of Agriculture and Life Sciences

SUNY State University Construction Fund

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Notes:



Keyplan

Job Number 31909.00
Drawing By ZMH
Checked By NMT
Filename
Date August 31, 2026

Revisions

B	Addendum No. 3	11/04/2026

MECHANICAL GROUND FLOOR DUCTWORK PLAN - PHASE 2

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GENERAL NOTES:

A. BALANCE VENTILATION AIR TO EACH FAN COIL PER AIRFLOW LISTED IN FAN COIL UNIT SCHEDULE ON SCHEDULES SHEET.

B. THE DUCTWORK AT THE VAV AND AIR VALVE INLET AND OUTLET SHALL MATCH THE SIZES SHOWN ON THE EQUIPMENT SCHEDULE.

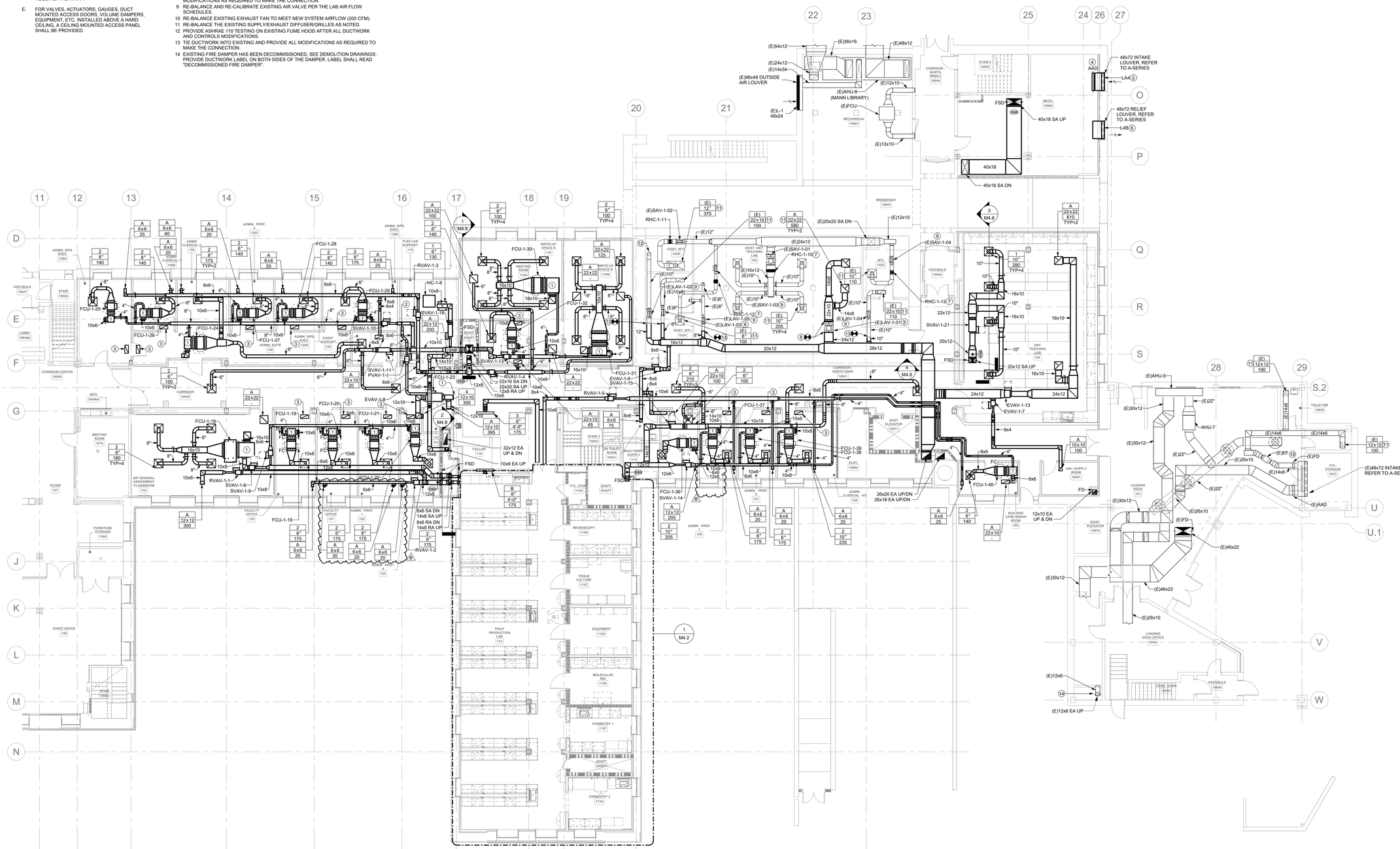
C. SMOKE DAMPER REMOTE TEST SWITCH SHALL BE COORDINATED WITH THE LOCATION OF THE DUCT SMOKE DETECTOR TEST/STATUS DEVICE AND LOCATED IN AN ACCESSIBLE LOCATION.

D. UNLESS OTHERWISE INDICATED, ALL LABORATORY EXHAUST IS LOCATED WITHIN THE LAB SUITE/CONTROL AREA IT SERVES AND DOES NOT REQUIRE FIRE WRAP.

E. FOR VALVES, ACTUATORS, GAUGES, DUCT MOUNTED ACCESS DOORS, VOLUME DAMPERS, EQUIPMENT, ETC. INSTALLED ABOVE A HARD CEILING, A CEILING MOUNTED ACCESS PANEL SHALL BE PROVIDED.

ⓧ DRAWING NOTES:

1 FAN COIL UNIT RETURN PLENUM SHALL MATCH UNIT CONNECTION SIZE. PLENUM HEIGHT SHALL BE INCREASED AS REQUIRED TO ACCOMMODATE DUCTWORK CONNECTIONS.
2 6" EXHAUST DUCTWORK SHALL BE STUBBED THROUGH THE SOFFIT / CEILING FOR FUTURE SNORKEL / POINT EXHAUST CONNECTION. REFER TO DETAIL FOR FURTHER REQUIREMENTS.
3 TYPE A, 22x10 GRILLE.
4 TERMINATE OPEN ENDED DUCT WITH WIRE MESH SCREEN.
5 PROVIDE AUTOMATIC AIR DAMPER AND PLENUM FOR THE INTAKE LOUVER. LOUVER SHALL BE CONTROLLED BY EXISTING EXHAUST FANS EF-1-1 AND EF-7.
6 BLANK OFF BOTTOM 24" OF INTAKE LOUVER. PLENUM AND AUTOMATIC AIR DAMPER SHALL BE 48x48.
7 PROVIDE ALL DUCTWORK MODIFICATIONS AS REQUIRED TO PROVIDE NEW REHEAT COIL.
8 RE-INSTALL EXISTING SALVAGED AIR VALVE IN LOCATION SHOWN. PROVIDE ALL MODIFICATIONS AS REQUIRED TO MAKE THE CONNECTION.
9 RE-BALANCE AND RE-CALIBRATE EXISTING AIR VALVE PER THE LAB AIR FLOW SCHEDULES.
10 RE-BALANCE EXISTING EXHAUST FAN TO MEET NEW SYSTEM AIRFLOW (200 CFM).
11 RE-BALANCE THE EXISTING SUPPLY/EXHAUST DIFFUSER/GRILLES AS NOTED.
12 PROVIDE ASHRAE 110 TESTING ON EXISTING FUME HOOD AFTER ALL DUCTWORK AND CONTROLS MODIFICATIONS.
13 TIE DUCTWORK INTO EXISTING AND PROVIDE ALL MODIFICATIONS AS REQUIRED TO MAKE THE CONNECTION.
14 EXISTING FIRE DAMPER HAS BEEN DECOMMISSIONED, SEE DEMOLITION DRAWINGS. PROVIDE DUCTWORK LABEL ON BOTH SIDES OF THE DAMPER. LABEL SHALL READ "DECOMMISSIONED FIRE DAMPER".



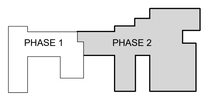
1 MECHANICAL FIRST FLOOR DUCTWORK PLAN - PHASE 2
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Notes:



Keyplan

Job Number	31909.00
Drawing By	ZMH
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Date	August 31, 2026

Revisions

B	Addendum No. 3	11/04/2026

MECHANICAL FIRST FLOOR DUCTWORK PLAN - PHASE 2

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GENERAL NOTES:

A. BALANCE VENTILATION AIR TO EACH FAN COIL PER AIRFLOW LISTED IN FAN COIL UNIT SCHEDULE ON SCHEDULES SHEET.

B. THE DUCTWORK AT THE VAV AND AIR VALVE INLET AND OUTLET SHALL MATCH THE SIZES SHOWN ON THE EQUIPMENT SCHEDULE.

C. SMOKE DAMPER REMOTE TEST SWITCH SHALL BE COORDINATED WITH THE LOCATION OF THE DUCT SMOKE DETECTOR TEST/STATUS DEVICE AND LOCATED IN AN ACCESSIBLE LOCATION.

D. UNLESS OTHERWISE INDICATED, ALL LABORATORY EXHAUST IS LOCATED WITHIN THE LAB SUITE/CONTROL AREA IT SERVES AND DOES NOT REQUIRE FIRE WRAP.

E. FOR VALVES, ACTUATORS, GAUGES, DUCT MOUNTED ACCESS DOORS, VOLUME DAMPERS, EQUIPMENT, ETC. INSTALLED ABOVE A HARD CEILING, A CEILING MOUNTED ACCESS PANEL SHALL BE PROVIDED.

F. PROVIDE 3" STAINLESS STEEL SHOE TAP AND VOLUME DAMPER OR BLAST GATE AT EACH VACUUM CABINET EXHAUST VENT CONNECTION TO THE DUCTWORK MAIN. THE DUCTWORK FROM THE VACUUM PUMP CABINET TO THE MAINS SHALL BE STAINLESS STEEL.

DRAWING NOTES:

1. FAN COIL UNIT RETURN PLENUM SHALL MATCH UNIT CONNECTION SIZE. PLENUM HEIGHT SHALL BE INCREASED AS REQUIRED TO ACCOMMODATE DUCTWORK CONNECTIONS.
2. PROVIDE FLEXIBLE DUCTWORK CONNECTION AT EACH ADJUSTABLE HEIGHT, ACCESSIBLE FUME HOOD. REFER TO DETAILS FOR FURTHER REQUIREMENTS.
3. PROVIDE EXHAUST DUCTWORK DOWN TO FINISHED FLOOR WITHIN CHASE. MOUNT (1) ONE EXHAUST REGISTER 6" AFF, (1)ONE AT 4'-0" AFF AND ONE TIGHT TO CEILING.
4. 3" EXHAUST DOWN TO VACUUM PUMP CABINET. VENT SHALL BE CONCEALED WITHIN WALL CAVITY OR LAB BENCH SERVICE CHASE. BALANCE TO 30 CFM. REFER TO DETAIL FOR CABINET CONNECTION REQUIREMENTS.
5. TYPE A, 22x10 GRILLE.
6. TYPE A, 22x22 GRILLE.
7. RE-BALANCE EXISTING AIR HANDLING UNIT AND RESHEAVE FAN AS REQUIRED TO ACCOMMODATE REDUCED AIRFLOW. MODIFY EXISTING DOWNSTREAM STATIC PRESSURE SENSOR / SETPOINT AS REQUIRED TO ACCOMMODATE REVISED DUCTWORK CONFIGURATION. EXISTING UNIT HAS STANDALONE JOHNSON CONTROLS.
8. EXISTING TO REMAIN AIR HANDLING UNIT SERVES THE THIRD FLOOR BRIDGE LABS AND OFFICES.

1 MECHANICAL SECOND FLOOR DUCTWORK PLAN - PHASE 2
1/8" = 1'-0"

RENOVATE PLANT SCIENCE BUILDING - PHASE 2
SUCF Project No. 161026-00
236 Tower Road
Ithaca, NY 14853

Cornell CALS College of Agriculture and Life Sciences
SUNY State University Construction Fund

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Ellana Cost Consulting	32 Broadway, Suite 801 New York, NY 10004 T 212971-0936

Notes:

PHASE 1 PHASE 2

Keyplan

Job Number 31909.00
Drawing By ZMH
Checked By NMT
Filename
Date August 31, 2026

Revisions

B	Addendum No. 3	11/04/2026

MECHANICAL SECOND FLOOR DUCTWORK PLAN - PHASE 2

STATE OF NEW YORK DANIEL T. GRAZE PROFESSIONAL ENGINEER 094525
Reg. Exp: 04/30/2029
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GENERAL NOTES:

A. BALANCE VENTILATION AIR TO EACH FAN COIL PER AIRFLOW LISTED IN FAN COIL UNIT SCHEDULE ON SCHEDULES SHEET.

B. THE DUCTWORK AT THE VAV AND AIR VALVE INLET AND OUTLET SHALL MATCH THE SIZES SHOWN ON THE EQUIPMENT SCHEDULE.

C. SMOKE DAMPER REMOTE TEST SWITCH SHALL BE COORDINATED WITH THE LOCATION OF THE DUCT SMOKE DETECTOR TEST/STATUS DEVICE AND LOCATED IN AN ACCESSIBLE LOCATION.

D. UNLESS OTHERWISE INDICATED, ALL LABORATORY EXHAUST IS LOCATED WITHIN THE LAB SUITE/CONTROL AREA IT SERVES AND DOES NOT REQUIRE FIRE WRAP.

E. FOR VALVES, ACTUATORS, GAUGES, DUCT MOUNTED ACCESS DOORS, VOLUME DAMPERS, EQUIPMENT, ETC. INSTALLED ABOVE HARD CEILING, A CEILING MOUNTED ACCESS PANEL SHALL BE PROVIDED.

F. ALL EXTERIOR DOUBLE WALL DUCTWORK SHALL BE PAINTABLE.

ⓧ DRAWING NOTES:

1 FAN COIL UNIT RETURN PLENUM SHALL MATCH UNIT CONNECTION SIZE. PLENUM HEIGHT SHALL BE INCREASED AS REQUIRED TO ACCOMMODATE DUCTWORK CONNECTIONS.
2 TYPE A, 22x10 GRILLE.
3 REFER TO DETAILS FOR FASTENING REQUIREMENTS AT DUCT SUPPORTS.
4 PROVIDE DUCT MOUNTED AIRFLOW STATION WITHIN THE AIR HANDLING UNIT CURB. LOCATE AIRFLOW STATION BASED ON MANUFACTURER'S REQUIREMENTS.
5 LABORATORY EXHAUST DUCTWORK SHALL MANIFOLD WITHIN THE CURB OF THE AIR HANDLING UNIT.
6 DUCTWORK SHALL BE ROUTED WITHIN THIRD FLOOR CEILING TO SHAFT AND REMAIN WITHIN THE BUILDING ENVELOPE.
7 DUCTWORK WITHIN THE CURB DOES NOT REQUIRE INSULATION.
8 DUCT WRAP TERMINATES AT THE AHU.
9 LOCATE STATIC PRESSURE SENSOR WITHIN THE SHAFT. SENSOR SHALL BE MOUNTED FOR EASE OF ACCESSIBILITY BASED ON OTHER SYSTEMS WITHIN THE SHAFT.

1 MECHANICAL FOURTH FLOOR DUCTWORK PLAN - PHASE 2
1/8" = 1'-0"

RENOVATE PLANT SCIENCE BUILDING - PHASE 2
SUCF Project No. 161026-00
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PHASE 1 | PHASE 2
Keyplan

Job Number 31909.00
Drawing By ZMH
Checked By NMT
Filename
Date August 31, 2026

Revisions
B Addendum No. 3 11/04/2026

MECHANICAL FOURTH FLOOR DUCTWORK PLAN - PHASE 2

STATE OF NEW YORK · CASEY DANIEL ROWE · 094525 · LICENSED PROFESSIONAL ENGINEER
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GENERAL NOTES:

A. UNLESS NOTED OTHERWISE, ALL BRANCH PIPING TO EQUIPMENT SHALL BE 3/4".

B. ALL BRANCH PIPING CONNECTIONS SHALL BE MADE AT THE TOP OF THE MAIN.

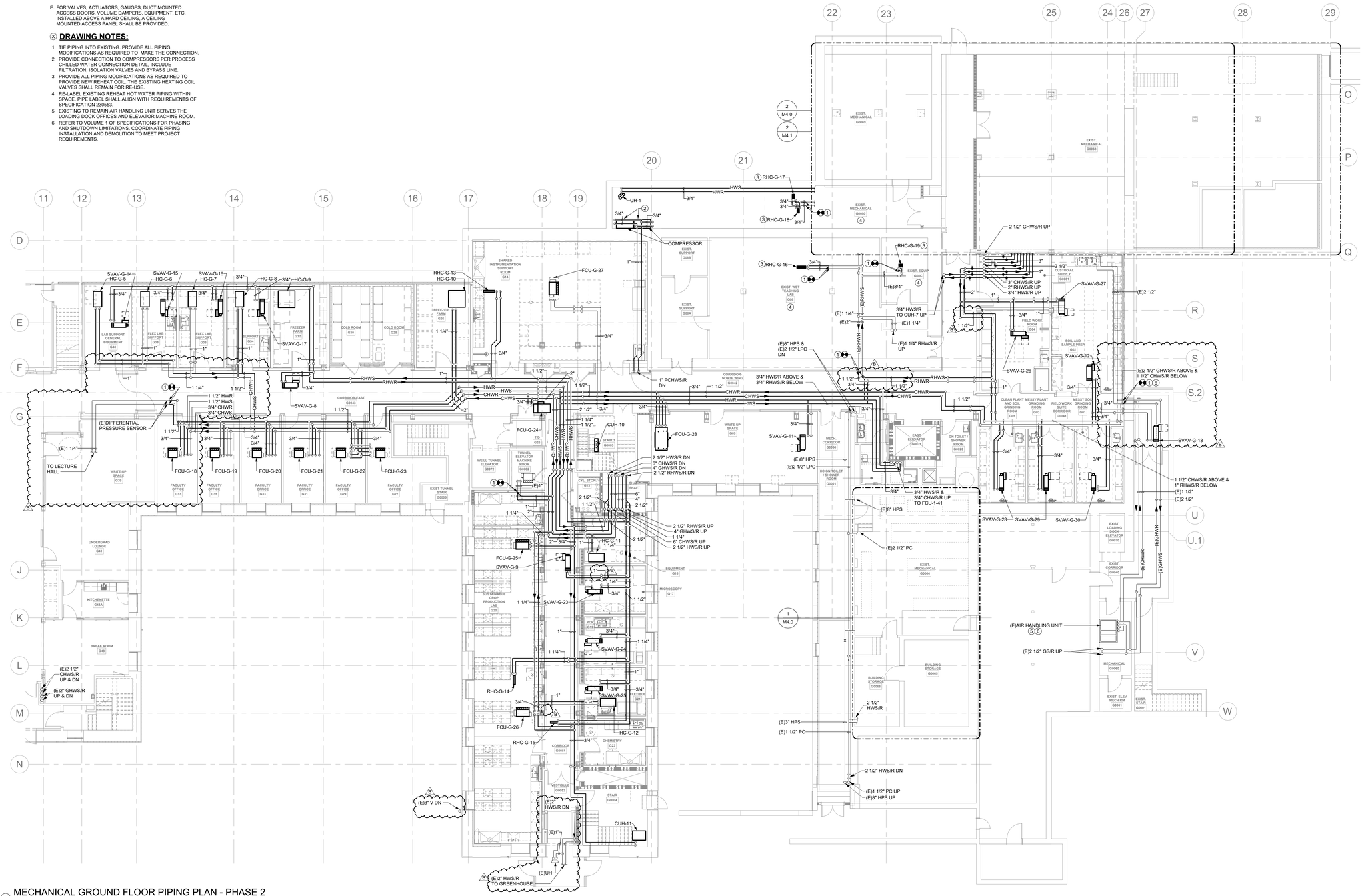
C. REFER TO DUCTWORK PLANS FOR ROUTING OF CORROSIVE CABINET VENT PIPING.

D. REFER TO DUCTWORK PLANS FOR ROUTING OF FLAMMABLE CABINET VENT PIPING.

E. FOR VALVES, ACTUATORS, GAUGES, DUCT MOUNTED ACCESS DOORS, VOLUME DAMPERS, EQUIPMENT, ETC. INSTALLED ABOVE A HARD CEILING, A CEILING MOUNTED ACCESS PANEL SHALL BE PROVIDED.

ⓧ DRAWING NOTES:

1. TIE PIPING INTO EXISTING. PROVIDE ALL PIPING MODIFICATIONS AS REQUIRED TO MAKE THE CONNECTION.
2. PROVIDE CONNECTION TO COMPRESSORS PER PROCESS CHILLED WATER CONNECTION DETAIL, INCLUDE FILTRATION, ISOLATION VALVES AND BYPASS LINE.
3. PROVIDE ALL PIPING MODIFICATIONS AS REQUIRED TO PROVIDE NEW REHEAT COIL. THE EXISTING HEATING COIL VALVES SHALL REMAIN FOR RE-USE.
4. RE-LABEL EXISTING REHEAT HOT WATER PIPING WITHIN SPACE. PIPE LABEL SHALL ALIGN WITH REQUIREMENTS OF SPECIFICATION 230553.
5. EXISTING TO REMAIN AIR HANDLING UNIT SERVES THE LOADING DOCK OFFICES AND ELEVATOR MACHINE ROOM.
6. REFER TO VOLUME 1 OF SPECIFICATIONS FOR PHASING AND SHUTDOWN LIMITATIONS. COORDINATE PIPING INSTALLATION AND DEMOLITION TO MEET PROJECT REQUIREMENTS.



1 MECHANICAL GROUND FLOOR PIPING PLAN - PHASE 2
1/8" = 1'-0"

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RENOVATE PLANT SCIENCE BUILDING - PHASE 2

SUCF Project No. 161026-00

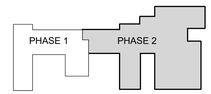
236 Tower Road
Ithaca, NY 14853

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Notes:



Keyplan

Job Number	31909.00
Drawing By	ZMH
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Date	August 31, 2026

Revisions

B	Addendum No. 3	11/04/2026

MECHANICAL GROUND FLOOR PIPING PLAN - PHASE 2

STATE OF NEW YORK · MARIBETH DANIEL YOUNGS · LICENSED PROFESSIONAL ENGINEER · 094525

Reg. Exp: 04/30/2029
Cert. of Auth: 099088

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GENERAL NOTES:

A. UNLESS NOTED OTHERWISE, ALL BRANCH PIPING TO EQUIPMENT SHALL BE 3/4".

B. ALL BRANCH PIPING CONNECTIONS SHALL BE MADE AT THE TOP OF THE MAIN.

C. REFER TO DUCTWORK PLANS FOR ROUTING OF CORROSIVE CABINET VENT PIPING.

D. REFER TO DUCTWORK PLANS FOR ROUTING OF FLAMMABLE CABINET VENT PIPING.

E. FOR VALVES, ACTUATORS, GAUGES, DUCT MOUNTED ACCESS DOORS, VOLUME DAMPERS, EQUIPMENT, ETC. INSTALLED ABOVE A HARD CEILING, A CEILING MOUNTED ACCESS PANEL SHALL BE PROVIDED.

Ⓧ DRAWING NOTES:

1 RE-BALANCE EXISTING AIR HANDLING UNIT TO FLOW RATES INDICATED ON PIPING SCHEMATIC.

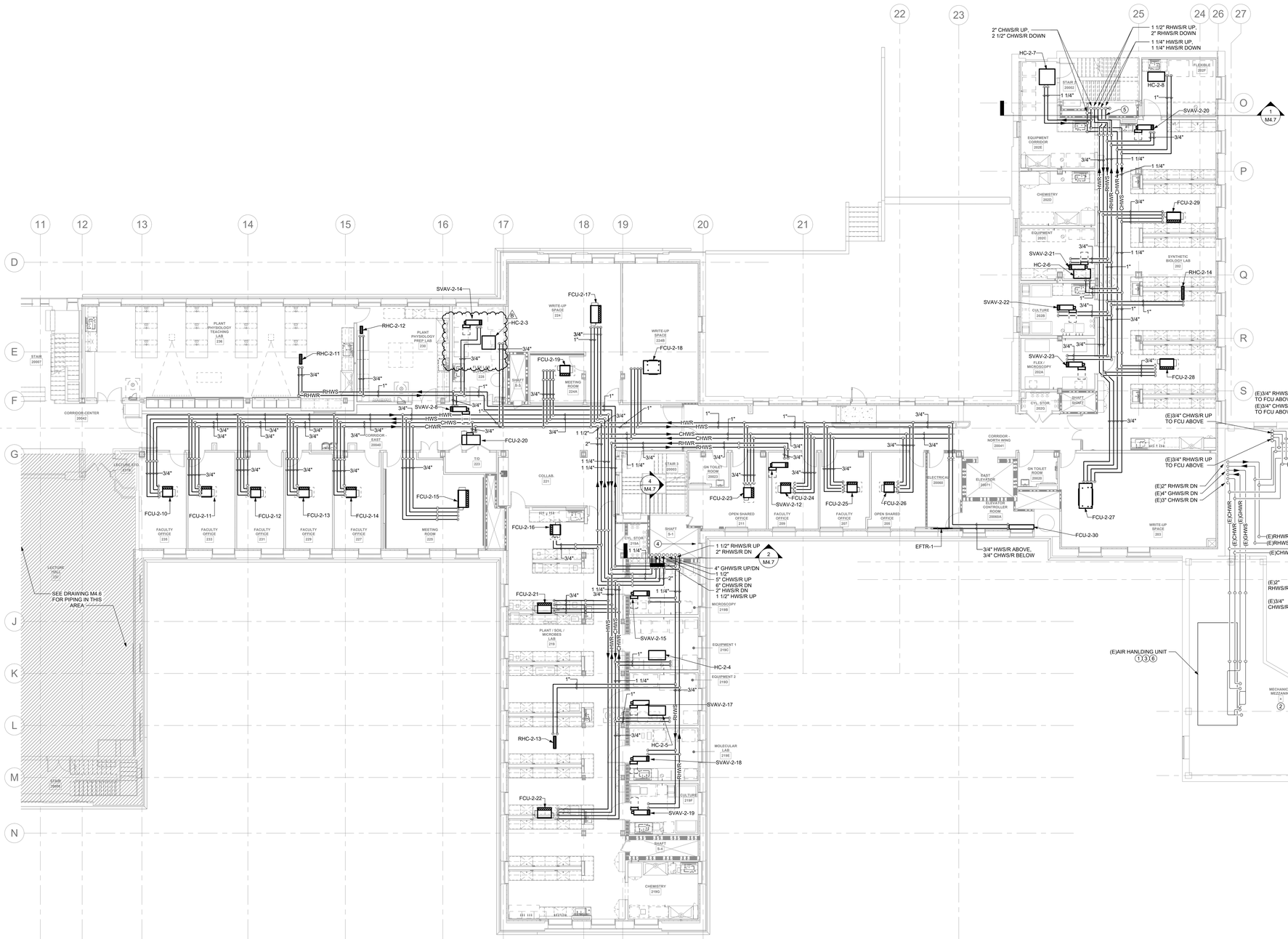
2 RE-LABEL EXISTING REHEAT HOT WATER PIPING WITHIN SPACE. PIPE LABEL SHALL ALIGN WITH REQUIREMENTS OF SPECIFICATION 230553.

3 EXISTING TO REMAIN AIR HANDLING UNIT SERVES THE THIRD FLOOR BRIDGE LABS AND OFFICES.

4 LOCATE DIFFERENTIAL PRESSURE SENSOR FOR THE PERIMETER, REHEAT, GLYCOL PREHEAT AND CHILLED WATER SYSTEMS WITHIN THE SHAFT. SENSORS SHALL BE MOUNTED FOR EASE OF ACCESSIBILITY BASED ON OTHER SYSTEMS WITHIN THE SHAFT.

5 LOCATE DIFFERENTIAL PRESSURE SENSOR FOR THE PERIMETER, REHEAT AND CHILLED WATER SYSTEMS WITHIN THE SHAFT. SENSORS SHALL BE MOUNTED FOR EASE OF ACCESSIBILITY BASED ON OTHER SYSTEMS WITHIN THE SHAFT.

6 THE EXISTING GLYCOL PIPING ASSOCIATED WITH THE AIR HANDLING UNIT SHALL BE DRAINED, CLEANED AND REFILLED WITH THE OWNER FURNISHED TREATMENT CHEMICALS. REFER TO SPECIFICATION 232010. TREATMENT CHEMICALS SHALL BE REPLACED PRIOR TO CONNECTION OF TO THE EXISTING PHASE 1 PIPING.



1 MECHANICAL SECOND FLOOR PIPING PLAN - PHASE 2
1/8" = 1'-0"

RENOVATE PLANT SCIENCE BUILDING - PHASE 2
SUCF Project No. 161026-00
236 Tower Road
Ithaca, NY 14853

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Job Number 31909.00
Drawing By ZMH
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B Addendum No. 3 11/04/2026

MECHANICAL SECOND FLOOR PIPING PLAN - PHASE 2

STATE OF NEW YORK MATTHEW DANIEL YONKER 094525 LICENSED PROFESSIONAL ENGINEER

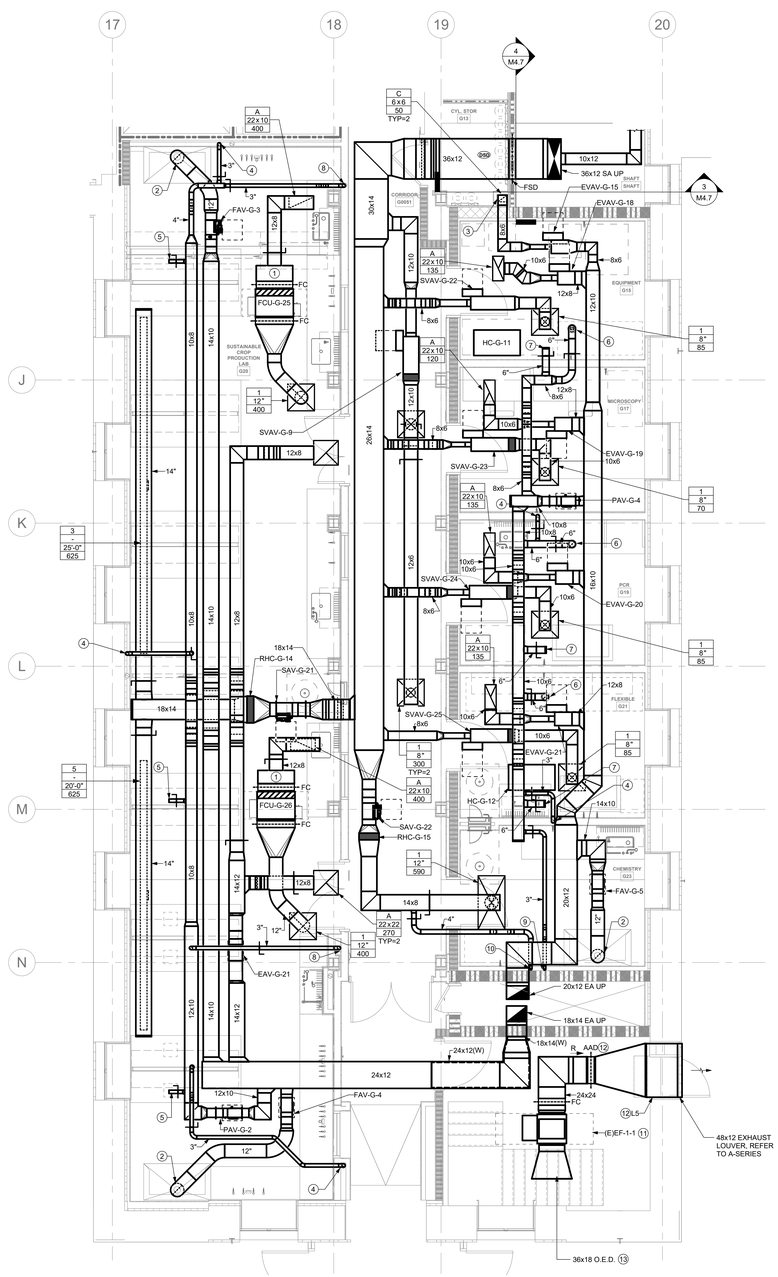
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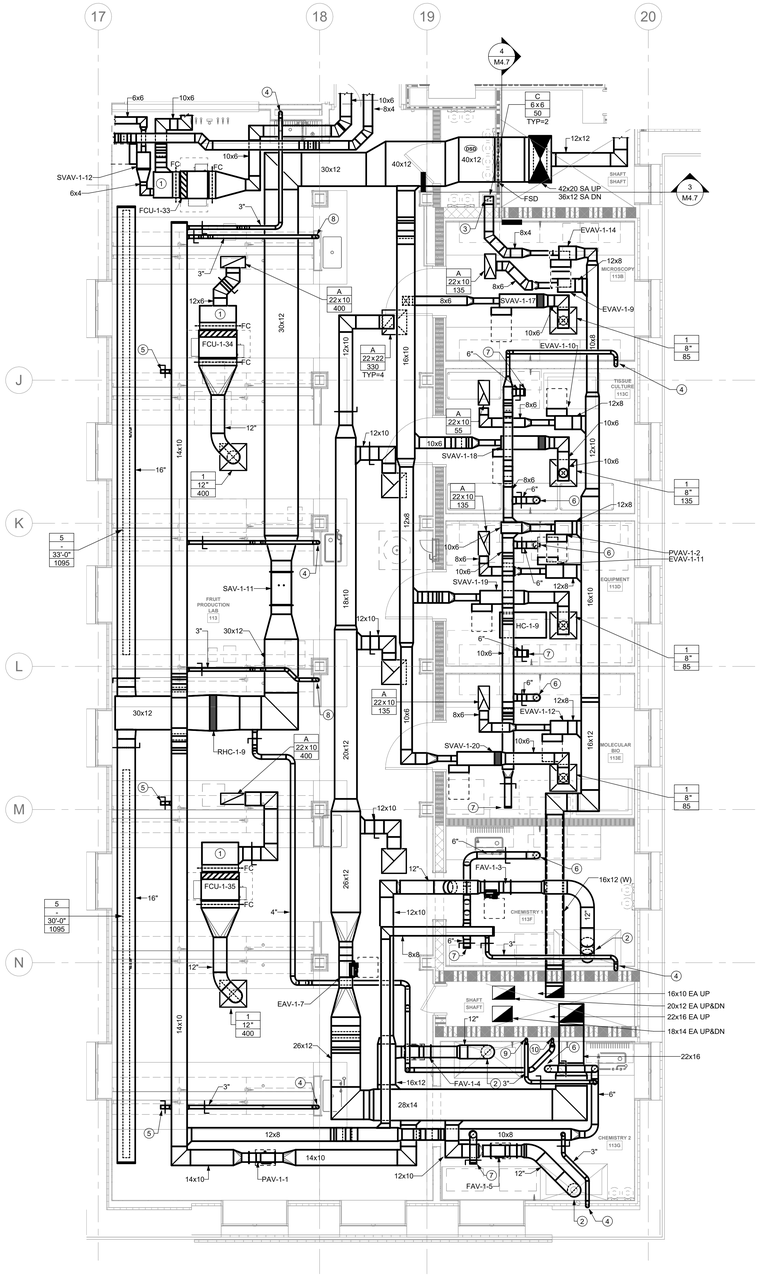
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2 ENLARGED MECHANICAL GROUND FLOOR DUCTWORK PLAN - EAST WING - PHASE 2

1/4" = 1'-0"



1 ENLARGED MECHANICAL FIRST FLOOR DUCTWORK PLAN - EAST WING - PHASE 2

1/4" = 1'-0"

GENERAL NOTES:

A. BALANCE VENTILATION AIR TO EACH FAN COIL PER AIRFLOW LISTED IN FAN COIL UNIT SCHEDULE ON SCHEDULES SHEET.

B. THE DUCTWORK AT THE VAV AND AIR VALVE INLET AND OUTLET SHALL MATCH THE SIZES SHOWN ON THE EQUIPMENT SCHEDULE.

C. SMOKE DAMPER REMOTE TEST SWITCH SHALL BE COORDINATED WITH THE LOCATION OF THE DUCT SMOKE DETECTOR TEST/STATUS DEVICE AND LOCATED IN AN ACCESSIBLE LOCATION.

D. UNLESS OTHERWISE INDICATED, ALL LABORATORY EXHAUST IS LOCATED WITHIN THE LAB SUITE/CONTROL AREA IT SERVES AND DOES NOT REQUIRE FIRE WRAP.

E. PROVIDE 3" STAINLESS STEEL SHOE TAP, VOLUME DAMPER OR BLAST GATE AND IPS FEMALE THREADED CONNECTION AT EACH CORROSIVE CABINET EXHAUST VENT CONNECTION TO THE DUCTWORK MAIN. FROM THE CORROSIVE CABINET TO THE THREADED CONNECTION SHALL BE POLYPROPYLENE PER THE PIPING SYSTEMS SPECIFICATION.

F. PROVIDE 3" GALVANIZED STEEL SHOE TAP, VOLUME DAMPER OR BLAST GATE AND IPS FEMALE THREADED CONNECTION AT EACH FLAMMABLE CABINET EXHAUST VENT CONNECTION TO THE DUCTWORK MAIN. FROM THE FLAMMABLE CABINET TO THE THREADED CONNECTION SHALL BE SCHEDULE 40 STEEL PER THE PIPING SYSTEMS SPECIFICATION.

G. PROVIDE 3" GALVANIZED STEEL IPS FEMALE THREADED CONNECTION AT EACH FLAMMABLE CABINET SUPPLY VENT 4" REDUCER. FROM THE FLAMMABLE CABINET TO THE THREADED CONNECTION SHALL BE SCHEDULE 40 STEEL PER THE PIPING SYSTEMS SPECIFICATION.

H. POINT OF EXHAUST DUCTWORK IS SIZED FOR 80 CFM. POINT OF USE EXHAUST SYSTEM IS SIZED WITH DIVERSITY. REFER TO LABORATORY AIRFLOW SCHEDULES FOR SYSTEM CAPACITY.

I. FOR VALVES, ACTUATORS, GAUGES, DUCT MOUNTED ACCESS DOORS, VOLUME DAMPERS, EQUIPMENT, ETC. INSTALLED ABOVE A HARD CEILING, A CEILING MOUNTED ACCESS PANEL SHALL BE PROVIDED.

J. PROVIDE 3" STAINLESS STEEL SHOE TAP AND VOLUME DAMPER OR BLAST GATE AT EACH VACUUM CABINET EXHAUST VENT CONNECTION TO THE DUCTWORK MAIN. THE DUCTWORK FROM THE VACUUM PUMP CABINET TO THE MAINS SHALL BE STAINLESS STEEL.

B1

ⓧ DRAWING NOTES:

1 FAN COIL UNIT RETURN PLENUM SHALL MATCH UNIT CONNECTION SIZE. PLENUM HEIGHT SHALL BE INCREASED AS REQUIRED TO ACCOMMODATE DUCTWORK CONNECTIONS.
2 PROVIDE FLEXIBLE DUCTWORK CONNECTION AT ADJUSTABLE HEIGHT, ACCESSIBLE FUME HOOD. REFER TO DETAILS FOR FURTHER REQUIREMENTS.
3 PROVIDE EXHAUST DUCTWORK DOWN TO FINISHED FLOOR WITHIN CHASE. MOUNT (1) ONE EXHAUST GRILLE 6" AFF AND (1) ONE TIGHT TO CEILING.
4 3" EXHAUST DOWN TO VACUUM PUMP CABINET. VENT SHALL BE CONCEALED WITHIN WALL CAVITY OR LAB BENCH/SERVICE CHASE. BALANCE TO 30 CFM. REFER TO DETAIL FOR CABINET CONNECTION REQUIREMENTS.
5 3" POINT OF USE EXHAUST DUCT TERMINATED THROUGH SOFFIT PER DETAIL ON DRAWING A10.54 AND M7.4. REFER TO A-SERIES DRAWINGS FOR ADDITIONAL INFORMATION. DUCTWORK SHALL BE CAPPED, UNLESS CAMPUS PROVIDES AIRFLOW SETPOINT PRIOR TO BALANCING.
6 3" POINT OF USE EXHAUST DUCT TERMINATED THROUGH CEILING PER DETAIL ON DRAWING A10.53 AND M7.4. TRANSITION FROM 6" TO 3" PRIOR TO CEILING PENETRATION. DUCTWORK SHALL BE CAPPED, UNLESS CAMPUS PROVIDES AIRFLOW SETPOINT PRIOR TO BALANCING.
7 6" POINT OF USE EXHAUST DUCT TAP FOR FUTURE. CAP AIR TIGHT.
8 3" EXHAUST DOWN TO CORROSIVE CABINET. VENT SHALL BE CONCEALED WITHIN WALL CAVITY OR LAB BENCH SERVICE CHASE. BALANCE TO 10 CFM.
9 2" EXHAUST DOWN TO FLAMMABLE CABINET. VENT SHALL BE CONCEALED WITHIN WALL CAVITY. AT THE WALL PENETRATION, DUCTWORK SHALL TRANSITION FROM 2" TO 4". BALANCE TO 25 CFM. REFER TO DRAWING A10.54 AND M7.4 FOR CABINET CONNECTION REQUIREMENTS.
10 2" SUPPLY DOWN TO FLAMMABLE CABINET. DUCT SHALL BE CONCEALED WITHIN WALL CAVITY. AT THE WALL PENETRATION, DUCTWORK SHALL TRANSITION FROM 2" TO 4". BALANCE TO 25 CFM. REFER TO DRAWING A10.54 AND M7.4 FOR CABINET CONNECTION REQUIREMENTS.
11 RELOCATE EXISTING EXHAUST FAN EF-1-1 FROM MECHANICAL ROOM G0068. PROVIDE ALL MODIFICATIONS AS REQUIRED FOR DUCTWORK AND CONTROLS.
12 PROVIDE PLENUM FOR THE EXHAUST LOUVER.
13 TERMINATE OPEN ENDED DUCT WITH WIRE MESH SCREEN.

RENOVATE PLANT SCIENCE BUILDING - PHASE 2
SUCF Project No. 161026-00

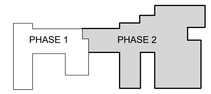
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B Addendum No. 3 11/04/2026

ENLARGED MECHANICAL GROUND AND FIRST FLOOR DUCTWORK PLANS - EAST WING - PHASE 2

STATE OF NEW YORK · ROBERT DANIEL YOUNGS · LICENSED PROFESSIONAL ENGINEER · 094525

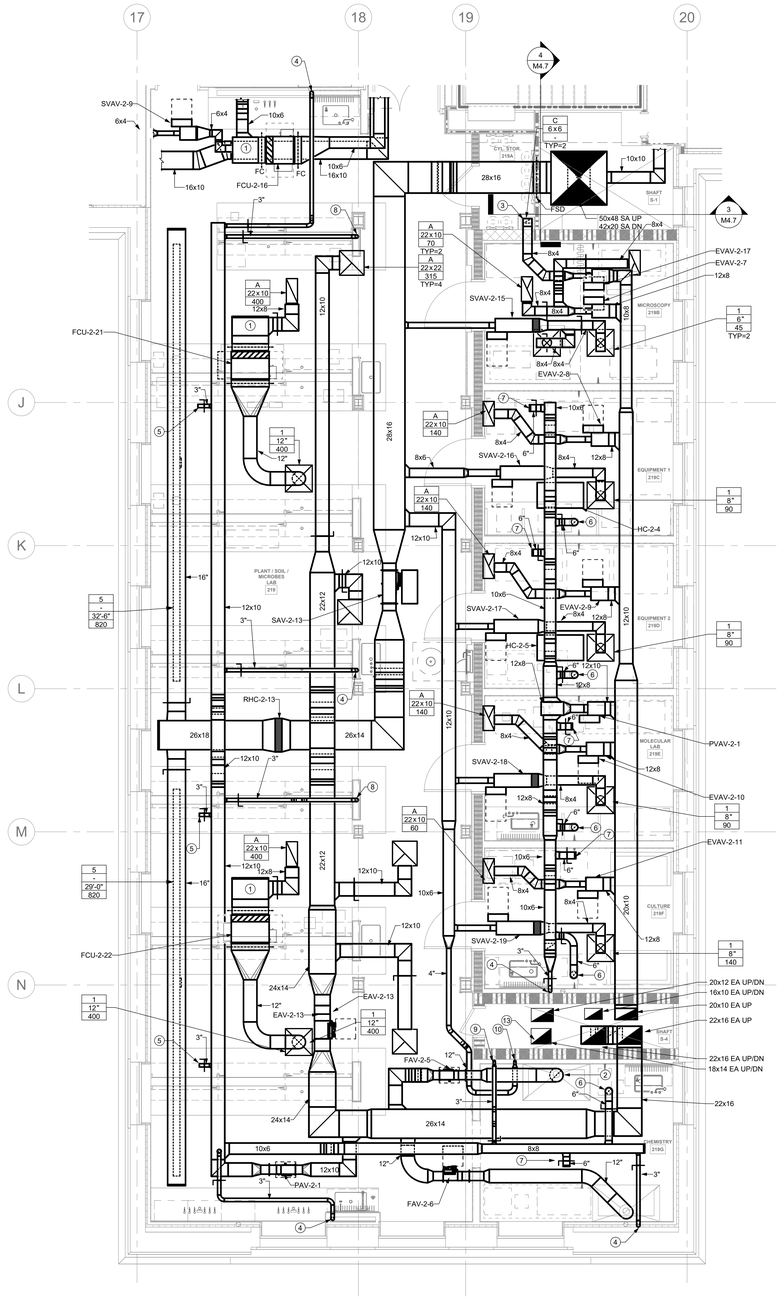
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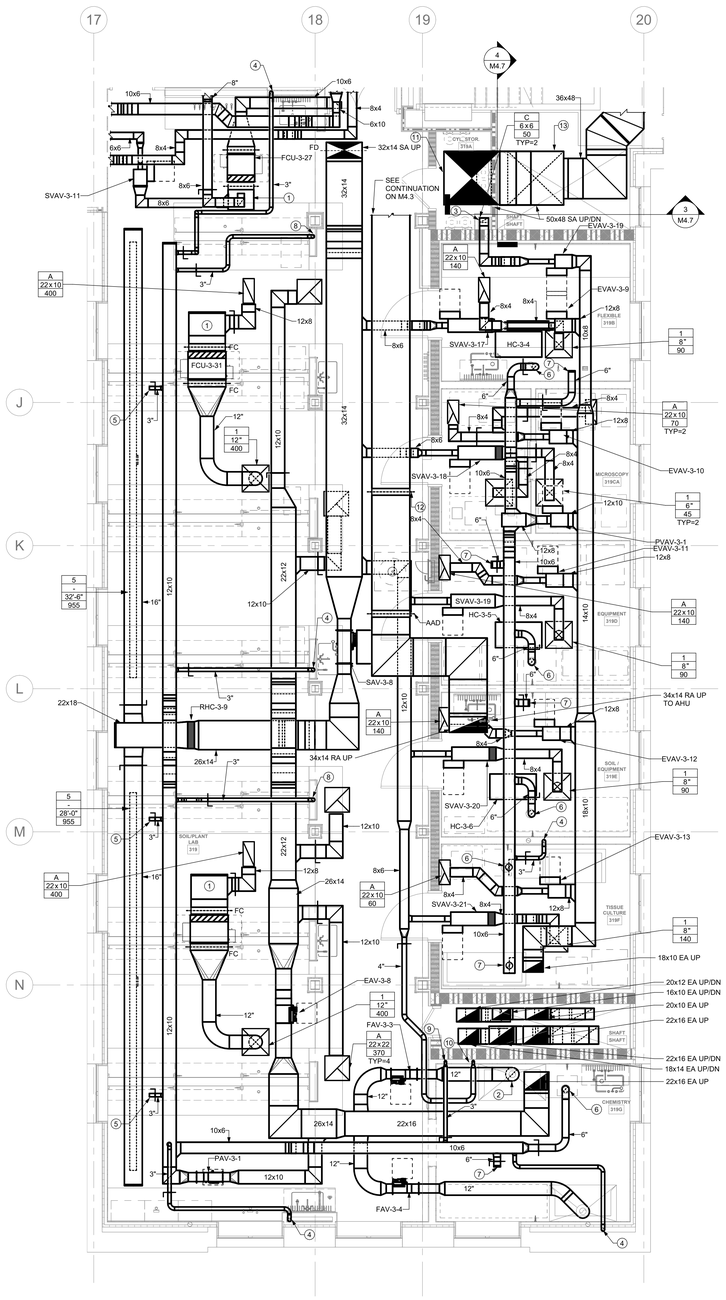
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1 ENLARGED MECHANICAL SECOND FLOOR DUCTWORK PLAN - EAST WING - PHASE 2
1/4" = 1'-0"



2 ENLARGED MECHANICAL THIRD FLOOR DUCTWORK PLAN - EAST WING - PHASE 2
1/4" = 1'-0"

GENERAL NOTES:

A. BALANCE VENTILATION AIR TO EACH FAN COIL PER AIRFLOW LISTED IN FAN COIL UNIT SCHEDULE ON SCHEDULES SHEET.

B. THE DUCTWORK AT THE VAV AND AIR VALVE INLET AND OUTLET SHALL MATCH THE SIZES SHOWN ON THE EQUIPMENT SCHEDULE.

C. SMOKE DAMPER REMOTE TEST SWITCH SHALL BE COORDINATED WITH THE LOCATION OF THE DUCT SMOKE DETECTOR TEST/STATUS DEVICE AND LOCATED IN AN ACCESSIBLE LOCATION.

D. UNLESS OTHERWISE INDICATED, ALL LABORATORY EXHAUST IS LOCATED WITHIN THE LAB SUITE/CONTROL AREA IT SERVES AND DOES NOT REQUIRE FIRE WRAP.

E. PROVIDE 3" STAINLESS STEEL SHOE TAP, VOLUME DAMPER OR BLAST GATE AND IPS FEMALE THREADED CONNECTION AT EACH CORROSIVE CABINET EXHAUST VENT CONNECTION TO THE DUCTWORK MAIN. FROM THE CORROSIVE CABINET TO THE THREADED CONNECTION SHALL BE POLYPROPYLENE PER THE PIPING SYSTEMS SPECIFICATION.

F. PROVIDE 3" GALVANIZED STEEL SHOE TAP, VOLUME DAMPER OR BLAST GATE AND IPS FEMALE THREADED CONNECTION AT EACH FLAMMABLE CABINET EXHAUST VENT CONNECTION TO THE DUCTWORK MAIN. FROM THE FLAMMABLE CABINET TO THE THREADED CONNECTION SHALL BE SCHEDULE 40 STEEL PER THE PIPING SYSTEMS SPECIFICATION.

G. PROVIDE 3" GALVANIZED STEEL IPS FEMALE THREADED CONNECTION AT EACH FLAMMABLE CABINET SUPPLY VENT 4" REDUCER. FROM THE FLAMMABLE CABINET TO THE THREADED CONNECTION SHALL BE SCHEDULE 40 STEEL PER THE PIPING SYSTEMS SPECIFICATION.

H. POINT OF EXHAUST DUCTWORK IS SIZED FOR 80 CFM. POINT OF USE EXHAUST SYSTEM IS SIZED WITH DIVERSITY. REFER TO LABORATORY AIRFLOW SCHEDULES FOR SYSTEM CAPACITY.

I. FOR VALVES, ACTUATORS, GAUGES, DUCT MOUNTED ACCESS DOORS, VOLUME DAMPERS, EQUIPMENT, ETC. INSTALLED ABOVE A HARD CEILING, A CEILING MOUNTED ACCESS PANEL SHALL BE PROVIDED.

J PROVIDE 3" STAINLESS STEEL SHOE TAP AND VOLUME DAMPER OR BLAST GATE AT EACH VACUUM CABINET EXHAUST VENT CONNECTION TO THE DUCTWORK MAIN. THE DUCTWORK FROM THE VACUUM PUMP CABINET TO THE MAINS SHALL BE STAINLESS STEEL.

DRAWING NOTES:

1 FAN COIL UNIT RETURN PLENUM SHALL MATCH UNIT CONNECTION SIZE. PLENUM HEIGHT SHALL BE INCREASED AS REQUIRED TO ACCOMMODATE DUCTWORK CONNECTIONS.
2 PROVIDE FLEXIBLE DUCTWORK CONNECTION AT ADJUSTABLE HEIGHT, ACCESSIBLE FUME HOOD. REFER TO DETAILS FOR FURTHER REQUIREMENTS.
3 PROVIDE EXHAUST DUCTWORK DOWN TO FINISHED FLOOR WITHIN CHASE. MOUNT (1) ONE EXHAUST GRILLE AT AFF AND (1) ONE TIGHT TO CEILING.
4 3" EXHAUST DOWN TO VACUUM PUMP CABINET. VENT SHALL BE CONCEALED WITHIN WALL CAVITY OR LAB BENCH SERVICE CHASE. BALANCE TO 30 CFM. REFER TO DETAIL FOR CABINET CONNECTION REQUIREMENTS.
5 3" POINT OF USE EXHAUST DUCT TERMINATED THROUGH SOFFIT PER DETAIL ON DRAWING A10.54 AND M7.4. REFER TO A-SERIES DRAWINGS FOR ADDITIONAL INFORMATION. DUCTWORK SHALL BE CAPPED, UNLESS CAMPUS PROVIDES AIRFLOW SETPOINT PRIOR TO BALANCING.
6 3" POINT OF USE EXHAUST DUCT TERMINATED THROUGH CEILING PER DETAIL ON DRAWING A10.53 AND M7.4. TRANSITION FROM 6" TO 3" PRIOR TO CEILING PENETRATION. DUCTWORK SHALL BE CAPPED, UNLESS CAMPUS PROVIDES AIRFLOW SETPOINT PRIOR TO BALANCING.
7 6" POINT OF USE EXHAUST DUCT TAP FOR FUTURE. CAP AIR TIGHT.
8 3" EXHAUST DOWN TO CORROSIVE CABINET. VENT SHALL BE CONCEALED WITHIN WALL CAVITY OR LAB BENCH SERVICE CHASE. BALANCE TO 10 CFM.
9 2" EXHAUST DOWN TO FLAMMABLE CABINET. VENT SHALL BE CONCEALED WITHIN WALL CAVITY. AT THE WALL PENETRATION, DUCTWORK SHALL TRANSITION FROM 2" TO 4". BALANCE TO 25 CFM. REFER TO DRAWING A10.54 AND M7.4 FOR CABINET CONNECTION REQUIREMENTS.
10 2" SUPPLY DOWN TO FLAMMABLE CABINET. DUCT SHALL BE CONCEALED WITHIN WALL CAVITY. AT THE WALL PENETRATION, DUCTWORK SHALL TRANSITION FROM 2" TO 4". BALANCE TO 25 CFM. REFER TO DRAWING A10.54 AND M7.4 FOR CABINET CONNECTION REQUIREMENTS.
11 SUPPLY RISER SHALL OFFSET WITHIN THE SHAFT ABOVE THE RATED CEILING OF THE CYLINDER STORAGE 319A.
12 PROVIDE DUCT MOUNTED AIRFLOW STATION. LOCATE AIRFLOW STATION BASED ON MANUFACTURER'S REQUIREMENTS.
13 LOCATE STATIC PRESSURE SENSOR WITHIN THE SHAFT. SENSOR SHALL BE MOUNTED FOR EASE OF ACCESSIBILITY BASED ON OTHER SYSTEMS WITHIN THE SHAFT.

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SUCF Project No. 161026-00

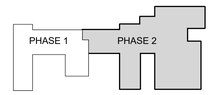
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Notes:



Keyplan

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Date August 31, 2026

Revisions
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ENLARGED MECHANICAL SECOND AND THIRD FLOOR DUCTWORK PLANS - EAST WING - PHASE 2

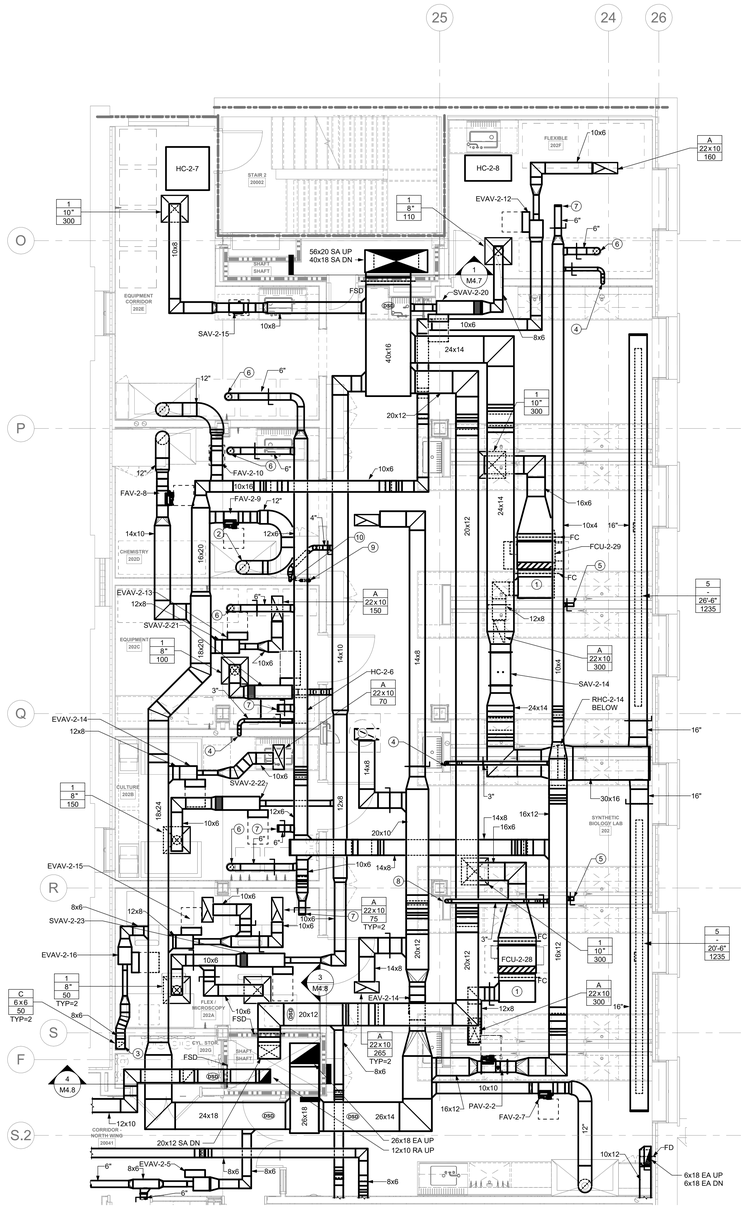
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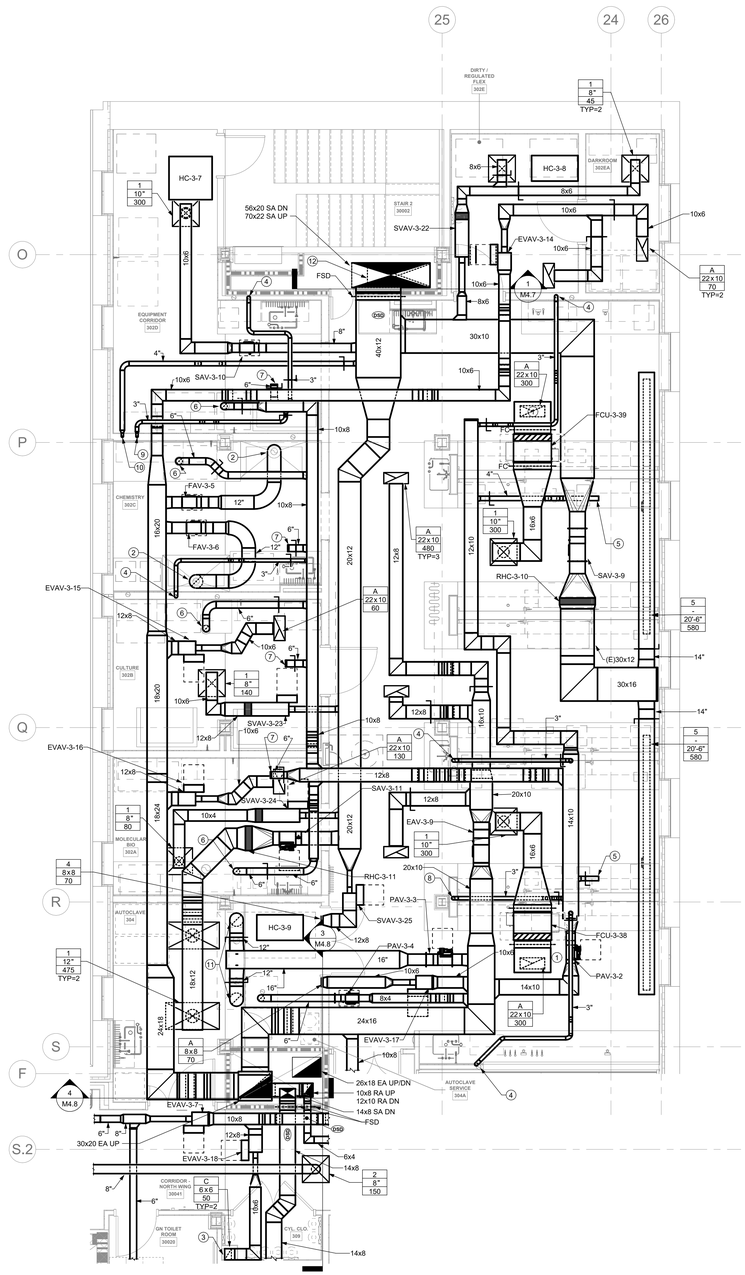
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1 ENLARGED MECHANICAL SECOND FLOOR DUCTWORK PLAN - NORTH WING - PHASE 2

1/4" = 1'-0"



2 ENLARGED MECHANICAL THIRD FLOOR DUCTWORK PLAN - NORTH WING - PHASE 2

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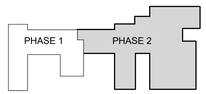
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Notes:



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Revisions

A	Addendum No. 2	10/29/2026
B	Addendum No. 3	11/04/2026

ENLARGED MECHANICAL SECOND AND THIRD FLOOR DUCTWORK PLANS - NORTH WING - PHASE 2



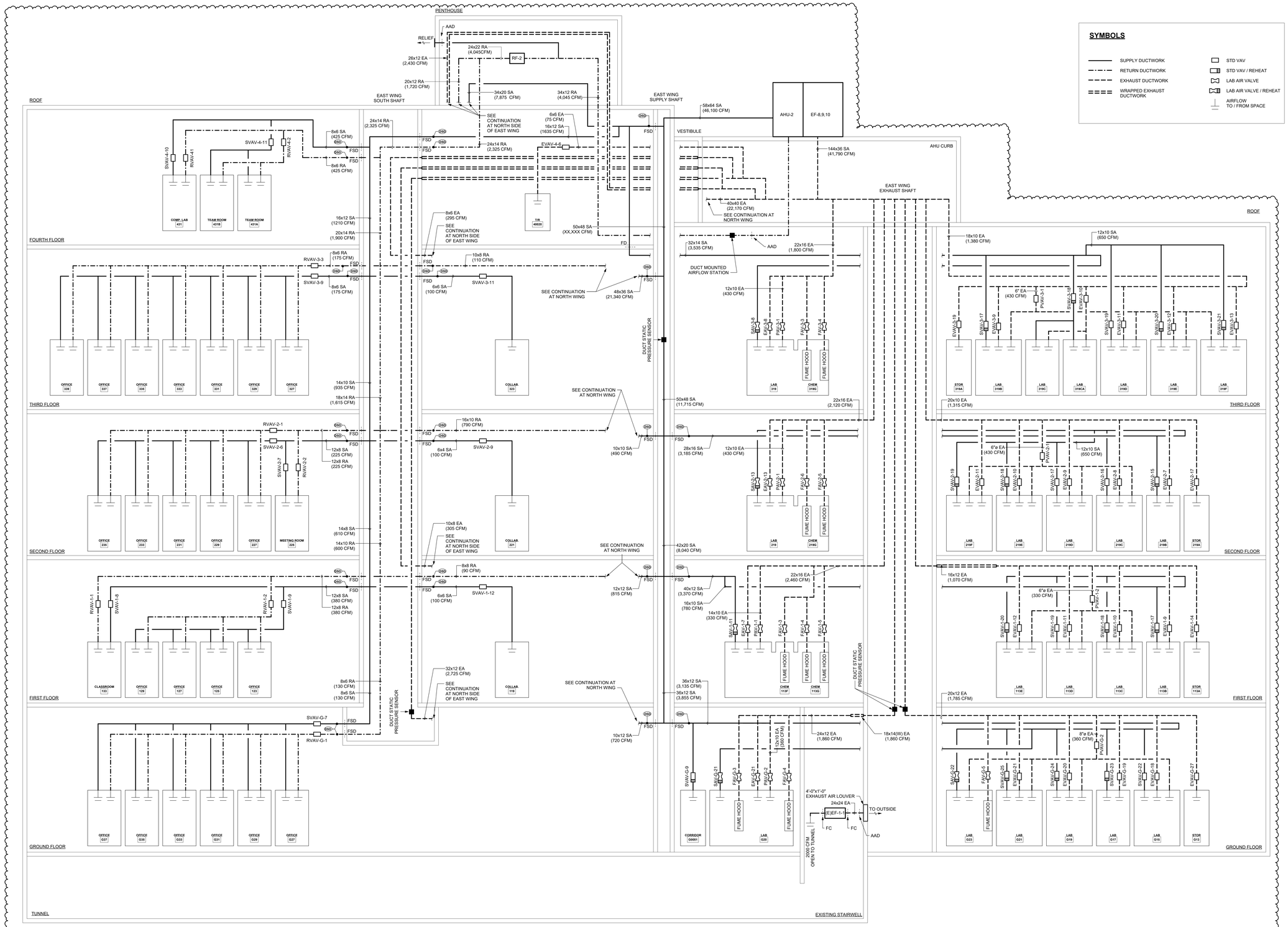
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1 MECHANICAL AIRLFOW DIAGRAM - EAST WING SOUTH
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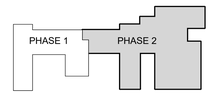
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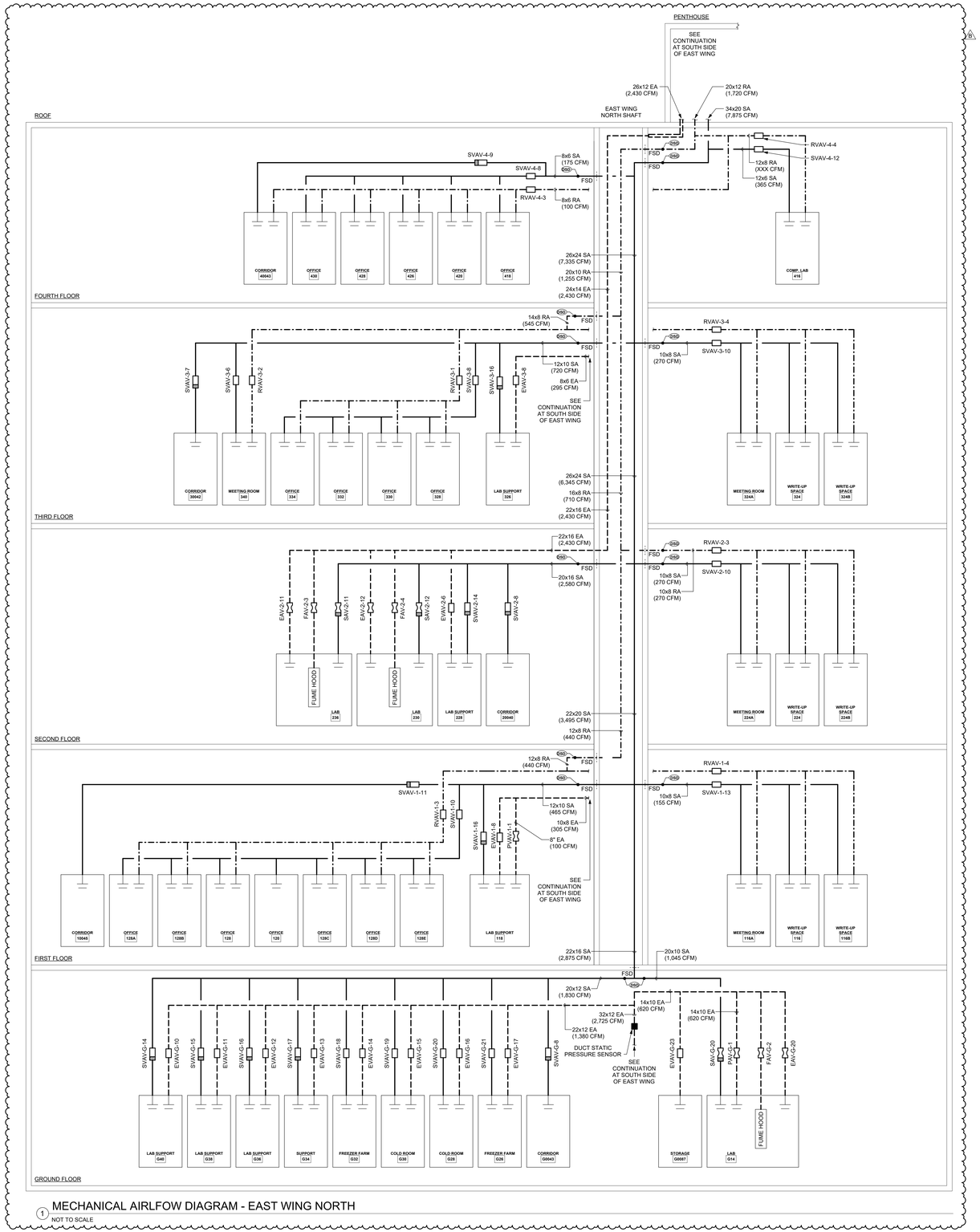
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1 MECHANICAL AIRLFOW DIAGRAM - EAST WING NORTH

NOT TO SCALE

SYMBOLS

- SUPPLY DUCTWORK
- RETURN DUCTWORK
- EXHAUST DUCTWORK
- WRAPPED EXHAUST DUCTWORK
- STD VAV
- STD VAV / REHEAT
- LAB AIR VALVE
- LAB AIR VALVE / REHEAT
- AIRFLOW TO / FROM SPACE

RENOVATE PLANT SCIENCE BUILDING - PHASE 2

SUCF Project No. 161026-00

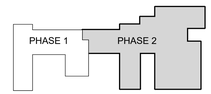
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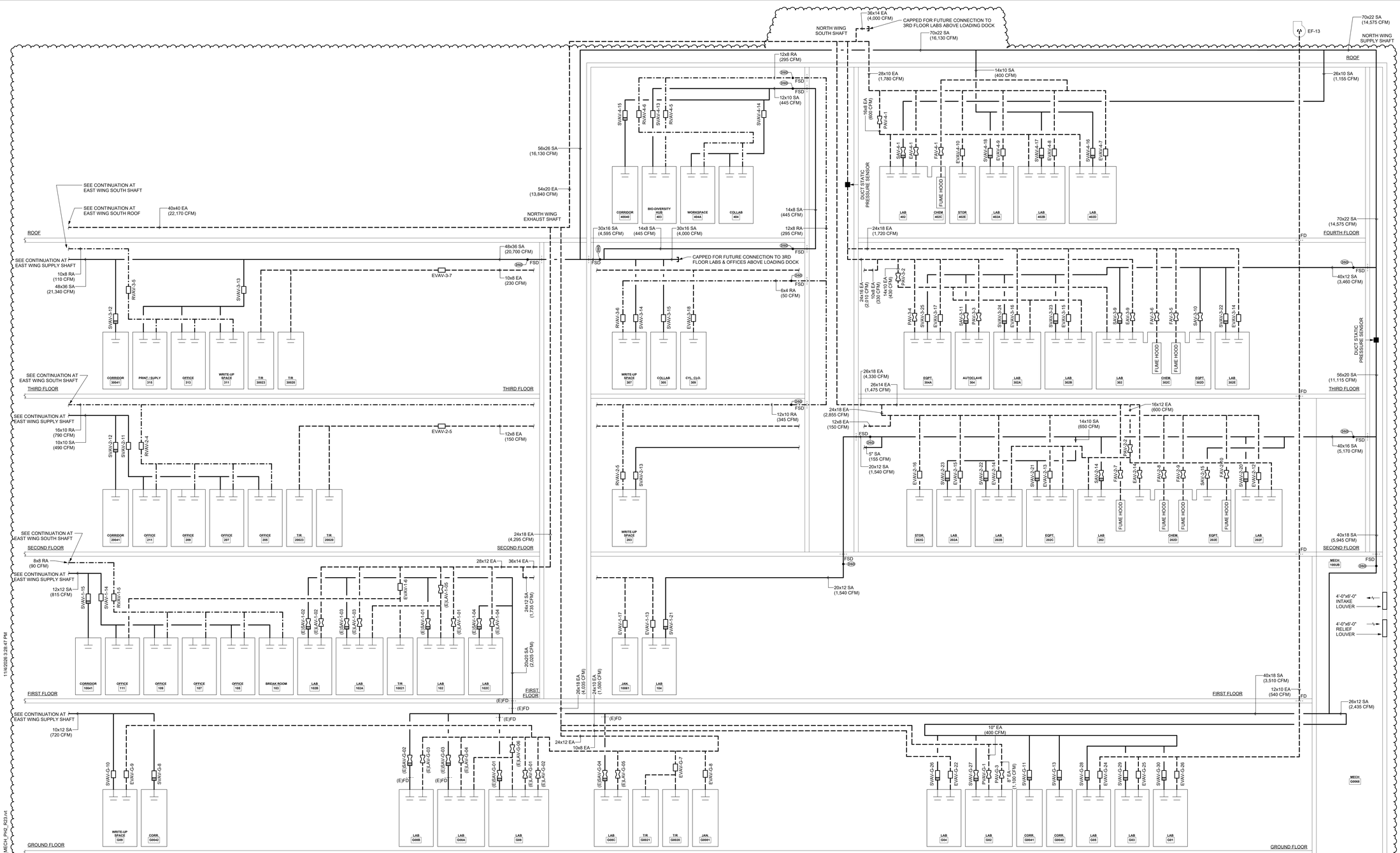
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1 MECHANICAL AIRFLOW DIAGRAM - NORTH WING
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RENOVATE PLANT SCIENCE BUILDING - PHASE 2

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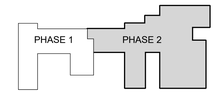
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Watts Architects & Engineers Asbestos, Haz Mat	95 Perry Street, Suite 300 Buffalo, NY 14203 T 716 206-5122
Hastings Consulting Building Code	142 Hanlon Rd Holliston, MA 01746 T 508 397-8417
Ellana Cost Consulting	32 Broadway, Suite 801 New York, NY 10004 T 212971-0936

Notes:



Keyplan

Job Number 31909.00
Drawing By ZMH
Checked By NMT
Filename
Date August 31, 2026

Revisions

B	Addendum No. 3	11/04/2026

MECHANICAL AIRFLOW DIAGRAM - NORTH WING - PHASE 2

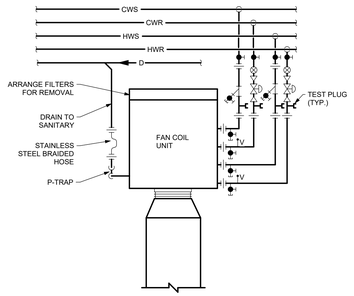


Reg. Exp: 04/30/2029
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BID DOCUMENTS
Scale: NOT TO SCALE

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DETAIL NOTES:

A. HANG UNIT FROM STRUCTURE AS HIGH AS POSSIBLE WITH STEEL ROD AND VIBRATION ISOLATORS.

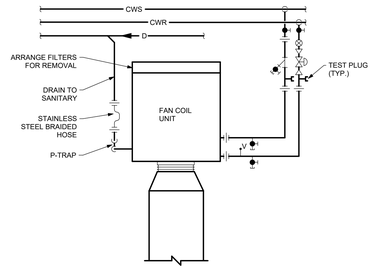
B. UNIT SHALL BE ACCESSIBLE FROM BELOW. MECHANICAL AND ELECTRICAL WORK SHALL NOT BE LOCATED BELOW UNIT. ARRANGEMENT SHALL PERMIT REMOVAL OF FAN COIL UNIT FOR MAJOR SERVICING.

C. CONTROL PANEL SHALL BE ACCESSIBLE FOR SERVICING.

D. DRAIN PIPING BY DIVISION 22. REFER TO P-SERIES DRAWINGS FOR LOCATIONS WITH CONDENSATE PUMPS.

E. THE FOLLOWING ARE NOT ALLOWED: DIELECTRIC UNIONS, AUTOMATIC FLOW CONTROL VALVES, COMBINATION DEVICES OR PRE PIPIED COIL FIT OUT KITS.

1 CEILING MOUNTED FAN COIL UNIT DETAIL - FOUR PIPE
NTS



DETAIL NOTES:

A. HANG UNIT FROM STRUCTURE AS HIGH AS POSSIBLE WITH STEEL ROD AND VIBRATION ISOLATORS.

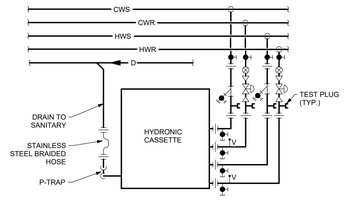
B. UNIT SHALL BE ACCESSIBLE FROM BELOW. MECHANICAL AND ELECTRICAL WORK SHALL NOT BE LOCATED BELOW UNIT. ARRANGEMENT SHALL PERMIT REMOVAL OF FAN COIL UNIT FOR MAJOR SERVICING.

C. CONTROL PANEL SHALL BE ACCESSIBLE FOR SERVICING.

D. DRAIN PIPING BY DIVISION 22. REFER TO P-SERIES DRAWINGS FOR LOCATIONS WITH CONDENSATE PUMPS.

E. THE FOLLOWING ARE NOT ALLOWED: DIELECTRIC UNIONS, AUTOMATIC CONTROL VALVES, COMBINATION DEVICES OR PRE-PIPED COIL FIT OUT KITS.

2 CEILING MOUNTED FAN COIL UNIT DETAIL - TWO PIPE
NTS



DETAIL NOTES:

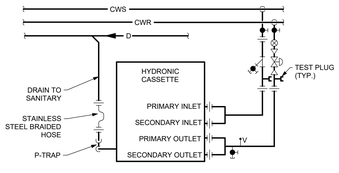
A. HANG UNIT FROM STRUCTURE WITH STEEL ROD AND VIBRATION ISOLATORS.

B. CONTROL PANEL SHALL BE ACCESSIBLE FOR SERVICING.

C. DRAIN PIPING AND CONDENSATE PUMP BY DIVISION 22.

D. THE FOLLOWING ARE NOT ALLOWED: DIELECTRIC UNIONS, AUTOMATIC FLOW CONTROL VALVES, COMBINATION DEVICES OR PRE PIPIED COIL FIT OUT KITS.

3 CEILING MOUNTED HYDRONIC CASSETTE UNIT DETAIL - FOUR PIPE
NTS



DETAIL NOTES:

A. HANG UNIT FROM STRUCTURE AS HIGH AS POSSIBLE WITH STEEL ROD AND VIBRATION ISOLATORS.

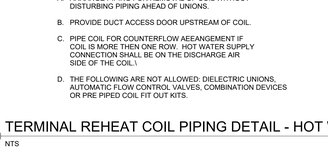
B. UNIT'S PRIMARY AND SECONDARY CHILLED WATER COILS SHALL BE PIPED TOGETHER. THE OUTLET OF EACH COIL SHALL.

C. CONTROL PANEL SHALL BE ACCESSIBLE FOR SERVICING.

D. DRAIN PIPING AND CONDENSATE PUMP BY DIVISION 22.

E. THE FOLLOWING ARE NOT ALLOWED: DIELECTRIC UNIONS, AUTOMATIC FLOW CONTROL VALVES, COMBINATION DEVICES OR PRE PIPIED COIL FIT OUT KITS.

4 CEILING MOUNTED HYDRONIC CASSETTE UNIT DETAIL - PRIMARY / SECONDARY COOLING
NTS



DETAIL NOTES:

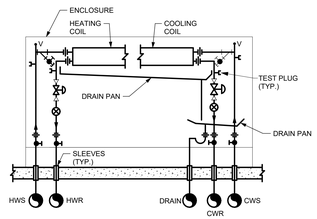
A. HANG UNIT FROM STRUCTURE WITH STEEL ROD AND VIBRATION ISOLATORS.

B. CONTROL PANEL SHALL BE ACCESSIBLE FOR SERVICING.

C. DRAIN PIPING AND CONDENSATE PUMP BY DIVISION 22.

D. THE FOLLOWING ARE NOT ALLOWED: DIELECTRIC UNIONS, AUTOMATIC CONTROL VALVES, COMBINATION DEVICES OR PRE-PIPED COIL FIT OUT KITS.

5 CEILING MOUNTED HYDRONIC CASSETTE UNIT DETAIL - TWO PIPE
NOT TO SCALE



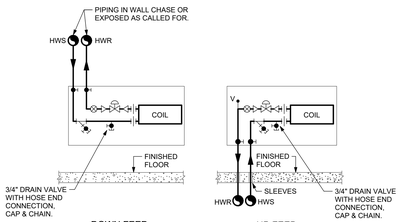
DETAIL NOTES:

A. ARRANGE PIPING TO ALLOW INSTALLATION OF PIPE INSULATION. PIPES ARE NOT TO COME IN CONTACT WITH EACH OTHER OR CABINET.

B. DRAIN PIPING BY DIVISION 22. REFER TO P-SERIES DRAWINGS FOR LOCATIONS WITH CONDENSATE PUMPS.

C. THE FOLLOWING ARE NOT ALLOWED: DIELECTRIC UNIONS, AUTOMATIC FLOW CONTROL VALVES, COMBINATION DEVICES OR PRE-PIPED FIT OUT KITS.

6 CONSOLE FAN COIL UNIT PIPING DETAIL - FOUR PIPE
NTS

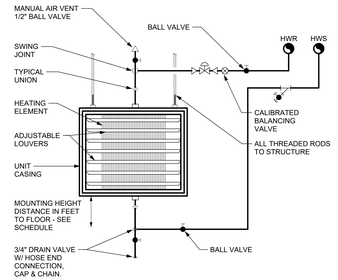


DETAIL NOTES:

A. PIPING FOR CEILING MOUNTED UNITS IS SIMILAR.

B. THE FOLLOWING ARE NOT ALLOWED: DIELECTRIC UNIONS, AUTOMATIC FLOW CONTROL VALVES, COMBINATION DEVICES OR PRE-PIPED FIT OUT KITS.

7 CABINET UNIT HEATER PIPNG DETAIL - HOT WATER
NTS

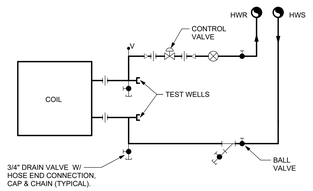


DETAIL NOTES:

A. SUPPORT HOT WATER SUPPLY AND RETURN PIPING INDEPENDENT OF UNIT HEATER.

B. THE FOLLOWING ARE NOT ALLOWED: DIELECTRIC UNIONS, AUTOMATIC CONTROL VALVES, COMBINATION DEVICES OR PRE-PIPED COIL FIT OUT KITS.

8 HORIZONTAL UNIT HEATER PIPING DETAIL - HOT WATER
NTS



DETAIL NOTES:

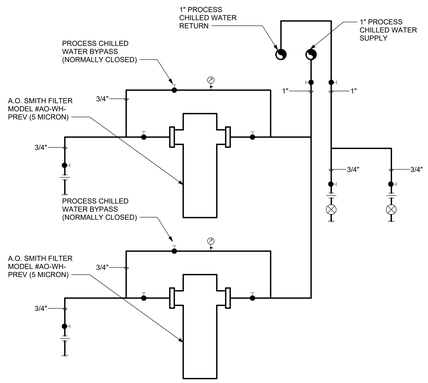
A. ARRANGE PIPING FOR REMOVAL OF COIL WITHOUT DISTURBING PIPING AHEAD OF UNIONS.

B. PROVIDE DUCT ACCESS DOOR UPSTREAM OF COIL.

C. PIPE COIL FOR COUNTERFLOW AEEANGEMENT IF COIL IS MORE THEN ONE ROW. HOT WATER SUPPLY CONNECTION SHALL BE ON THE DISCHARGE AIR SIDE OF THE COIL).

D. THE FOLLOWING ARE NOT ALLOWED: DIELECTRIC UNIONS, AUTOMATIC FLOW CONTROL VALVES, COMBINATION DEVICES OR PRE PIPED COIL FIT OUT KITS.

9 TERMINAL REHEAT COIL PIPING DETAIL - HOT WATER
NTS



DETAIL NOTES:

A. LOCATE ALL VALVES AND SPECIALTIES AT AN ACCESSIBLE HEIGHT.

B. THE FOLLOWING ARE NOT ALLOWED: DIELECTRIC UNIONS, AUTOMATIC FLOW CONTROL VALVES, COMBINATION DEVICES OR PRE-PIPED COIL FIT OUT KITS.

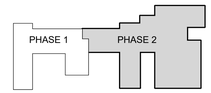
10 PROCESS CHILLED WATER MANIFOLD DETAIL
NTS

RENOVATE PLANT SCIENCE BUILDING - PHASE 2
SUCF Project No. 161026-00
236 Tower Road
Ithaca, NY 14853

Cornell CALS College of Agriculture and Life Sciences
SUNY State University Construction Fund

Ellenzweig Architecture | Planning	230 Congress Street Boston, MA 02110 T 617 491-5575
Ryan Biggs Clark Davis Structural Engineers	257 Ushers Road Clifton Park, NY 12065 T 518 406-5506
Salas O'Brien Consulting & Engineering Group of NY, Inc. Mechanical Engineers	300 Trolley Blvd. Rochester, NY 14606 T 585 288-5590
Jade Stone Engineering Electrical Engineers	444 Vanduzee St. Watertown, NY 13601 T 315 836 4062
Watson Engineering Plumbing	4500 State Route 434 Apalachin, NY 13732 T 607 223-4334
DM Engineers Fire Protection Engineers	1007 Yonkers Ave Yonkers, NY 10704 T 929 333-2339
Bell & Spina Building Envelope	215 Wyoming Street S Syracuse, NY 13204 T 315 488-0377
Environ. Design & Research Historic Preservation, Landscape, Civil Engineering	217 Montgomery St, Suite 1000 Syracuse, NY 13202 T 315 471-0688
Schuler Shook Lighting Design	240 W 40th Street, 2nd Floor New York, NY 10018 T 212 439-5650
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Notes:



Keyplan

Job Number	31909.00
Drawing By	ZMH
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Date	August 31, 2026

Revisions

B	Addendum No. 3	11/04/2026

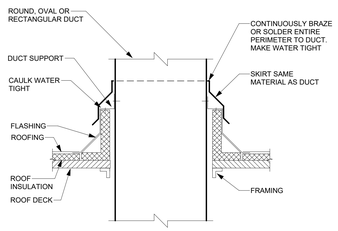
MECHANICAL DETAILS - PHASE 2

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Autodesk Docs://31909 SUCF Cornell Plant Science/31909_Cornell_PSB_MECH_PH2_R23.rvt



DETAIL NOTES:

A. REFER TO A-SERIES DRAWINGS FOR DUCTWORK CURB REQUIREMENTS

B. TO PROVIDE WEATHERTIGHT SKIRT FOR DUCTWORK.

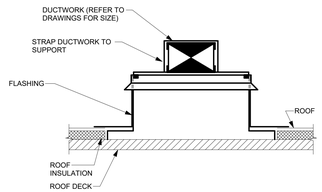
C. CURB SHALL BE LEVEL.

D. PROVIDE WIND RESTRAINT PER SPECIFICATION SECTION 230550- WIND RESTRAINT FOR HVAC SYSTEMS.

B

1 DUCT PENETRATION CURB DETAIL

NTS



DETAIL NOTES:

A. REFER TO A-SERIES DRAWINGS FOR DUCTWORK SUPPORT RAIL RQUIREMENTS.

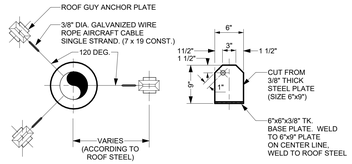
B. SUPPORT SHALL BE LEVEL.

C. PROVIDE WIND RESTRAINT PER SPECIFICATION SECTION 230550-WIND RESTRAINT FOR HVAC SYSTEMS.

B

2 DUCTWORK SUPPORT DETAIL

NTS



ALTERNATE GUY-WIRE ROOF ANCHOR

DETAIL NOTES:

A. REFER TO A-SERIES DRAWINGS FOR GUY-WIRE ANCHOR REQUIREMENTS.

B. FOR STACKS UP TO 20'-0", PROVIDE (1) SET OF GUY WIRES ATTACHED TO STACK AT A POINT 2/3 OF THE FULL HEIGHT OF STACK ABOVE ROOF.

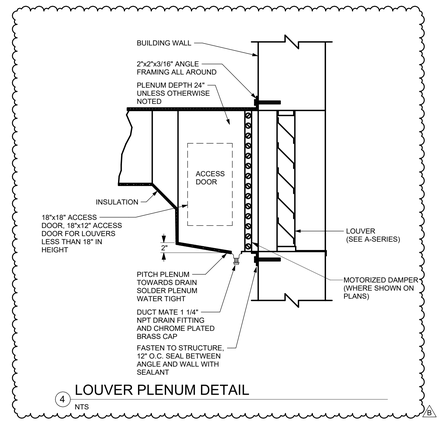
C. PROVIDE UV STABILIZED HIGH DENSITY PLASTIC GUY WIRE MARKER (8' LENGTH) FOR EACH GUY WIRE.

D. PROVIDE WIND RESTRAINT PER SPECIFICATION SECTION 230550-WIND RESTRAINT FOR HVAC SYSTEMS.

B

3 GUY-WIRE DETAIL

NTS



4 LOUVER PLENUM DETAIL

NTS

DETAIL NOTES:

A. REFER TO A-SERIES DRAWINGS FOR SUPPORT RAIL REQUIREMENTS..

B. SUPPORTS SHALL BE LEVEL.

C. LENGTH OF RAILS AS REQUIRED.

D. GUY WIRES SHALL BE AT 60 DEG MAXIMUM TO ROOF DECK AND ENCASED IN A WHITE, 2-INCH (51 mm) MINIMUM DIAMETER PLASTIC PIPE.

E. PROVIDE WIND RESTRAINT PER SPECIFICATION SECTION 230550-WIND RESTRAINT FOR HVAC SYSTEMS.

F. STACK SHALL BE CONSTRUCTED OF SAME MATERIAL AND TWO (2) GAUGE HEAVIER THAN CALLED FOR IN SPECIFICATIONS.

G. PROVIDE MINIMUM (3) THREE DUCT DIAMETERS OF STRAIGHT LENGTH AT FAN INLET.

H. REFER TO EQUIPMENT SUPPORT AND GUY WIRE DETAILS.

B

5 ROOF MOUNTED FAN SUPPORT DETAIL

NTS

DETAIL NOTES:

A. ELECTRICAL EQUIPMENT INCLUDES PANELS, TRANSFORMERS, DISCONNECTS, STARTERS, MOTOR CONTROL CENTERS, SWITCHGEAR, ADJUSTABKE SPEED DRIVES, AND FUSED SWITCHES (THIS ALSO APPLIES TO ELECTRICAL GEAR MOUNTED DIRECTLY ON MECHANICAL EQUIPMENT).

B. DEDICATED ELECTRICAL SPACE IS DEFINED BY NEC 110.

C. NO PIPING OR DUCTWORK MAY BE INSTALLED IN DEDICATED ELECTRICAL SPACE OR WORKING SPACE.

6 PIPING AND DUCTWORK OVER ELECTRICAL EQUIPMENT DETAIL

NTS

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RENOVATE PLANT SCIENCE BUILDING - PHASE 2

SUCF Project No. 161026-00

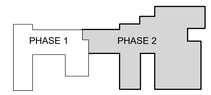
236 Tower Road
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Cornell CALS College of Agriculture and Life Sciences

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Notes:



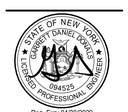
Keyplan

Job Number	31909.00
Drawing By	ZMH
Checked By	NMT
Filename	
Date	August 31, 2026

Revisions

B	Addendum No. 3	11/04/2026

MECHANICAL DETAILS - PHASE 2

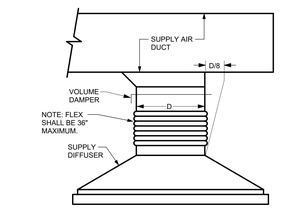


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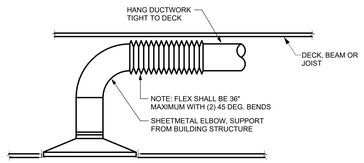
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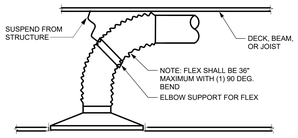
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SUPPLY AIR DIFFUSER DETAIL - VERTICAL FLEXIBLE DUCT



SUPPLY AIR DIFFUSER DETAIL - RADIUS FLEXIBLE DUCT - STRAP



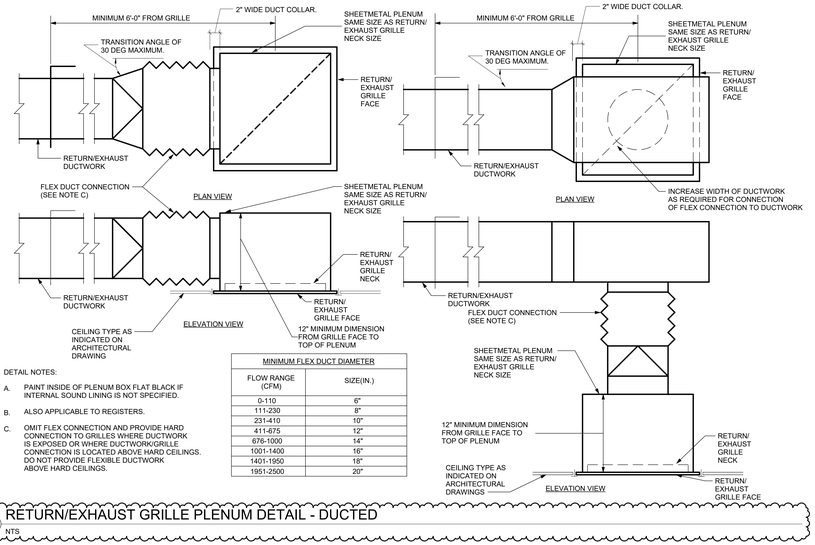
SUPPLY AIR DIFFUSER DETAIL - HORIZONTAL FLEXIBLE DUCT

DETAIL NOTES:

A. DUCT AND DIFFUSER SIZE AND TYPE AS SHOWN ON DRAWINGS.

B. VOLUME DAMPER SHALL BE MINIMUM OF 4'-0" FROM DIFFUSER.

1 SUPPLY AIR DIFFUSER DETAIL
NTS



DETAIL NOTES:

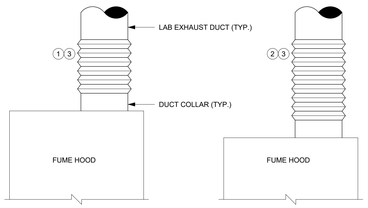
A. PAINT INSIDE OF PLENUM BOX FLAT BLACK IF INTERNAL SOUND LINING IS NOT SPECIFIED.

B. ALSO APPLICABLE TO REGISTERS.

C. OMIT FLEX CONNECTION AND PROVIDE HARD CONNECTION TO GRILLES WHERE DUCTWORK IS EXPOSED OR WHERE DUCTWORK/GRILLE CONNECTION IS LOCATED ABOVE HARD CEILINGS. DO NOT PROVIDE FLEXIBLE DUCTWORK ABOVE HARD CEILINGS.

MINIMUM FLEX DUCT DIAMETER	
FLOW RANGE (CFM)	SIZE(IN.)
0-110	6"
111-230	8"
231-410	10"
411-675	12"
676-1000	14"
1001-1400	16"
1401-1950	18"
1951-2500	20"

2 RETURN/EXHAUST GRILLE PLENUM DETAIL - DUCTED
NTS



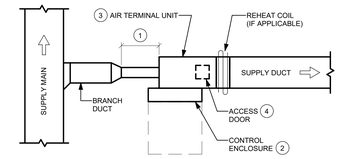
FUME HOOD WITH WORK SURFACE AT NON-ADA HEIGHT, 36" A.F.F.

FUME HOOD WITH WORK SURFACE AT ADA HEIGHT, 30" A.F.F.

DETAIL NOTES:

1. ROUND FLEXIBLE EXHAUST DUCT CONNECTION, SHOWING FULLY COMPRESSED TO ACCOMMODATE 37" WORK SURFACE HEIGHT.
2. ROUND FLEXIBLE EXHAUST DUCT CONNECTION, SHOWING FULLY EXTENDED TO ACCOMMODATE 30" WORK SURFACE HEIGHT.
3. FLEXIBLE EXHAUST DUCT SHALL BE BLO-R-VAC, 12" ROUND NOMINAL DIMENSION, HOSE IS COMPRESSIBLE TO 60% OF ITS LENGTH. COLOR IS BLUE. SUITABLE FOR CHEMICAL FUME EXTRACTION.

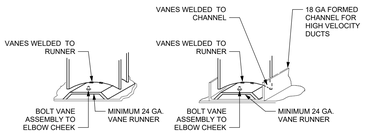
3 ADA FUME HOOD INSTALLATION DETAIL
NTS



KEYED NOTES:

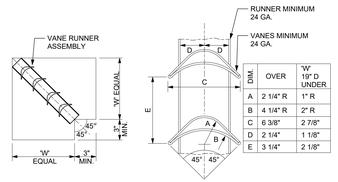
1. RIGID STRAIGHT DUCTWORK UPSTREAM OF THE TERMINAL UNIT SHALL BE A MINIMUM OF 3 TIMES THE DIAMETER OF INLET. NOT TO EXCEED 5'-0" TOTAL IN LENGTH.
2. MAINTAIN MINIMUM 1'-6" SERVICE CLEARANCE IN FRONT OF ENCLOSURE TO ALLOW FOR SERVICE/ACCESS.
3. COMPONENT ARRANGEMENT MAY VARY BY MANUFACTURER. PROVIDE INSULATION VAPOR BARRIER AS SPECIFIED.
4. ACCESS DOOR TO BE LOCATED AT THE BOTTOM OF THE UNIT. CONTRACTOR TO COORDINATE COIL AND CONTROL ENCLOSURE HANDING. ROTATING UNIT IN FIELD SUCH THAT ACCESS DOOR IS ON TOP OF UNIT IS NOT ACCEPTABLE.

4 VAV BOX DETAIL
NTS



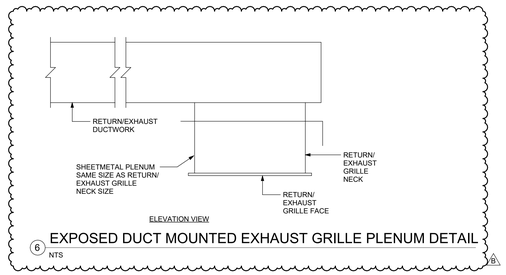
VANE RUNNER ASSEMBLY UP TO 2000 FPM

VANE RUNNER ASSEMBLY OVER 2000 FPM



DIM	OVER	"W" 19" D UNDER
A	2 1/4" R	1" R
B	4 1/4" R	2" R
C	6 3/8"	2 7/8"
D	2 1/4"	1 1/8"
E	3 1/4"	2 1/8"

5 VANED ELBOW DETAIL
NTS



6 EXPOSED DUCT MOUNTED EXHAUST GRILLE PLENUM DETAIL
NTS

RENOVATE PLANT SCIENCE BUILDING - PHASE 2

SUCF Project No. 161026-00

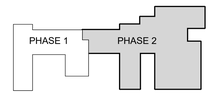
236 Tower Road
Ithaca, NY 14853

Cornell CALS College of Agriculture and Life Sciences

SUNY State University Construction Fund

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DM Engineers Fire Protection Engineers	1007 Yonkers Ave Yonkers, NY 10704 T 929 333-2339
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Hastings Consulting Building Code	142 Hanlon Rd Holliston, MA 01746 T 508 397-8417
Ellana Cost Consulting	32 Broadway, Suite 801 New York, NY 10004 T 212971-0936

Notes:



Keyplan

Job Number	31909.00
Drawing By	ZMH
Checked By	NMT
Filename	
Date	August 31, 2026

Revisions

B	Addendum No. 3	11/04/2026

MECHANICAL DETAILS - PHASE 2

STATE OF NEW YORK · DANIEL T. GRAY · ENGINEER · 094525 · PROFESSIONAL

Reg. Exp: 04/30/2029
Cert. of Auth: 099088

BID DOCUMENTS
Scale: As indicated

M7.3

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FAN COIL UNIT SCHEDULE - CHILLED WATER/HOT WATER

UNIT NO.	SERVICE	TYPE	AIR SIDE			COOLING COIL - 100% WATER												HEATING COIL - 100% WATER									SUPPLY FAN OUTLET SOUND POWER LEVELS [Db]							FAN MOTOR				MANUFACTURER & MODEL No.	REMARKS
			AIR FLOW (CFM)	MIN O.A. (CFM)	EXT. STATIC (In. WC)	CAPACITY SENSIBLE (MBH)	CAPACITY TOTAL (MBH)	EAT (DEG. F) DB	EAT (DEG. F) WB	LAT (DEG. F) DB	LAT (DEG. F) WB	WATER FLOW (GPM)	WATER P.D. (Ft. HD)	ENT. WATER TEMP. (DEG. F)	LVG. WATER TEMP. (DEG. F)	ROWS	FPI	CAPACITY (MBH)	ENT. AIR TEMP. (DEG. F)	LVG. AIR TEMP. (DEG. F)	WATER FLOW (GPM)	WATER P.D. (Ft. HD)	ENT. WATER TEMP. (DEG. F)	LVG. WATER TEMP. (DEG. F)	ROWS	FPI	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	RPM	HP	VOLTS	PHASE		
FCU-G-18	FACULTY OFFICE G37	HORZ. CONCEALED	175	20	0.25	3.75	5.18	75	65	55.6	55.4	0.7	1.25	47	62	5	12	5	70	95.5	0.4	0.45	130	103	1	12	52	51	50	48	43	34	27	1115	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D04	1,3,4,5,6
FCU-G-19	FACULTY OFFICE G35	HORZ. CONCEALED	175	20	0.25	3.75	5.18	75	65	55.6	55.4	0.7	1.25	47	62	5	12	5	70	95.5	0.4	0.45	130	103	1	12	52	51	50	48	43	34	27	1115	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D04	1,3,4,5,6
FCU-G-20	FACULTY OFFICE G33	HORZ. CONCEALED	175	20	0.25	3.75	5.18	75	65	55.6	55.4	0.7	1.25	47	62	5	12	5	70	95.5	0.4	0.45	130	103	1	12	52	51	50	48	43	34	27	1115	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D04	1,3,4,5,6
FCU-G-21	FACULTY OFFICE G31	HORZ. CONCEALED	175	20	0.25	3.75	5.18	75	65	55.6	55.4	0.7	1.25	47	62	5	12	5	70	95.5	0.4	0.45	130	103	1	12	52	51	50	48	43	34	27	1115	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D04	1,3,4,5,6
FCU-G-22	FACULTY OFFICE G29	HORZ. CONCEALED	175	20	0.25	3.75	5.18	75	65	55.6	55.4	0.7	1.25	47	62	5	12	5	70	95.5	0.4	0.45	130	103	1	12	52	51	50	48	43	34	27	1115	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D04	1,3,4,5,6
FCU-G-23	FACULTY OFFICE G27	HORZ. CONCEALED	175	30	0.25	3.75	5.18	75	65	55.6	55.4	0.7	1.25	47	62	5	12	5	70	95.5	0.4	0.45	130	103	1	12	52	51	50	48	43	34	27	1115	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D04	1,3,4,5,6
FCU-G-24	TEL/DATA G25	HORZ. CONCEALED	395	0	0.25	7.9	10.4	75	65	57	56.4	1.5	3.02	47	62.1	6	10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	63	62	61	59	55	50	41	907	(1) @ 1/3	120	1	JOHNSON CONTROLS FNP06	2,3,4,5,6
FCU-G-25	SUSTAINABLE LAB G20	HORZ. CONCEALED	400	0	0.25	9.0	12.9	75	65	54.1	54.1	2.2	4.4	47	59	5	12	10.6	70	93.8	0.9	3.2	130	107	1	12	58	56	53	53	49	42	33	1346	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D06	1,3,4,5,6
FCU-G-26	SUSTAINABLE LAB G20	HORZ. CONCEALED	400	0	0.25	9.0	12.9	75	65	54.1	54.1	2.2	4.4	47	59	5	12	10.6	70	93.8	0.9	3.2	130	107	1	12	58	56	53	53	49	42	33	1346	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D06	1,3,4,5,6
FCU-G-27	INSTRUMENTATION LAB G14	HORZ. EXPOSED	600	0	0.5	12.9	16.9	75	65	56.2	55.8	2.5	1.5	47	62	6	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	67	63	62	61	58	54	42	1003	(1) @ 1/2	120	1	JOHNSON CONTROLS FNX12	2,3,4,5,6
FCU-G-28	WRITE UP SPACE G09	HORZ. CONCEALED	635	170	0.5	14.6	20.5	75	65	54.3	54.1	2.9	2.2	47	62.1	6	10	15.4	70	90.3	1.3	0.5	130	108.2	1	10	68	63	61	61	57	53	42	964	(2) @ 1/3	120	1	JOHNSON CONTROLS FNP16	2,3,4,5,6
FCU-1-18	CLASSROOM 133	HORZ. CONCEALED	635	300	0.5	14.6	20.5	75	65	54.3	54.1	2.9	2.2	47	62.1	6	10	15.4	70	90.3	1.3	0.5	130	108.2	1	10	68	63	61	61	57	53	42	964	(2) @ 1/3	120	1	JOHNSON CONTROLS FNP16	2,3,4,5,6
FCU-1-19	FACULTY OFFICE 129	HORZ. CONCEALED	175	20	0.25	3.75	5.18	75	65	55.6	55.4	0.7	1.25	47	62	5	12	5	70	95.5	0.4	0.45	130	103	1	12	52	51	50	48	43	34	27	1115	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D04	1,3,4,5,6
FCU-1-20	FACULTY OFFICE 127	HORZ. CONCEALED	175	20	0.25	3.75	5.18	75	65	55.6	55.4	0.7	1.25	47	62	5	12	5	70	95.5	0.4	0.45	130	103	1	12	52	51	50	48	43	34	27	1115	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D04	1,3,4,5,6
FCU-1-21	ADMIN PROF 125	HORZ. CONCEALED	175	20	0.25	3.75	5.18	75	65	55.6	55.4	0.7	1.25	47	62	5	12	5	70	95.5	0.4	0.45	130	103	1	12	52	51	50	48	43	34	27	1115	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D04	1,3,4,5,6
FCU-1-22	ADMIN PROF 123	HORZ. CONCEALED	175	20	0.25	3.75	5.18	75	65	55.6	55.4	0.7	1.25	47	62	5	12	5	70	95.5	0.4	0.45	130	103	1	12	52	51	50	48	43	34	27	1115	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D04	1,3,4,5,6
FCU-1-23	TEL/DATA 121	HORZ. CONCEALED	395	0	0.25	7.9	10.4	75	65	57	56.4	1.5	3.02	47	62.1	6	10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	63	62	61	59	55	50	41	907	(1) @ 1/3	120	1	JOHNSON CONTROLS FNP06	2,3,4,5,6
FCU-1-24	ADMIN 128	HORZ. CONCEALED	350	60	0.35	7.9	10.4	75	65	57	56.4	1.5	3.02	47	62.1	5	10	7.6	70	87	0.4	0.8	130	92.9	1	10	63	62	61	59	55	50	41	907	(1) @ 1/3	120	1	JOHNSON CONTROLS FNP06	2,3,4,5,6
FCU-1-25	ADMIN 128A	HORZ. CONCEALED	140	25	0.25	3.2	4.61	75	65	54.3	54.1	0.7	1.21	47	60.5	5	12	4.6	70	99	0.4	0.45	130	105	1	12	51	49	49	47	42	32	26	1064	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D04	1,3,4,5,6
FCU-1-26	ADMIN 128B	HORZ. CONCEALED	140	20	0.25	3.2	4.61	75	65	54.3	54.1	0.7	1.21	47	60.5	5	12	4.6	70	99	0.4	0.45	130	105	1	12	51	49	49	47	42	32	26	1064	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D04	1,3,4,5,6
FCU-1-27	ADMIN 128C	HORZ. CONCEALED	140	20	0.25	3.2	4.61	75	65	54.3	54.1	0.7	1.21	47	60.5	5	12	4.6	70	99	0.4	0.45	130	105	1	12	51	49	49	47	42	32	26	1064	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D04	1,3,4,5,6
FCU-1-28	ADMIN 128D	HORZ. CONCEALED	140	20	0.25	3.2	4.61	75	65	54.3	54.1	0.7	1.21	47	60.5	5	12	4.6	70	99	0.4	0.45	130	105	1	12	51	49	49	47	42	32	26	1064	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D04	1,3,4,5,6
FCU-1-29	ADMIN 128E	HORZ. CONCEALED	175	25	0.25	3.75	5.18	75	65	55.6	55.4	0.7	1.25	47	62	5	12	5	70	95.5	0.4	0.45	130	103	1	12	52	51	50	48	43	34	27	1115	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D04	1,3,4,5,6
FCU-1-30	WRITE UP SPACE 116	HORZ. CONCEALED	400	100	0.35	8.2	11.3	75	65	56.3	55.9	1.5	2.3	47	62	5	10	7.6	70	87	0.4	0.8	130	92.9	1	10	56	55	53	54	49	41	32	1242	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D08	1,3,4,5,6
FCU-1-31	WRITE UP SPACE 116B	HORZ. CONCEALED	400	125	0.35	8.2	11.3	75	65	56.3	55.9	1.5	2.3	47	62	5	10	7.6	70	87	0.4	0.8	130	92.9	1	10	56	55	53	54	49	41	32	1242	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D08	1,3,4,5,6
FCU-1-32	MEETING ROOM 116A	HORZ. CONCEALED	140	45	0.25	3.2	4.61	75	65	54.3	54.1	0.7	1.21	47	60.5	5	12	4.6	70	99	0.4	0.45	130	105	1	12								1064	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D04	1,3,4,5,6
FCU-1-33	COLLAB 119	HORZ. CONCEALED	175	100	0.25	3.75	5.18	75	65	55.6	55.4	0.7	1.25	47	62	5	12	NA	NA	NA	NA	NA	NA	NA	NA	NA	52	51	50	48	43	34	27	1115	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D04	1,3,4,5,6
FCU-1-34	FRUIT LAB 113	HORZ. CONCEALED	400	0	0.25	9.0	12.9	75	65	54.1	54.1	2.2	4.4	47	59	5	12	10.6	70	93.8	0.9	3.22	130	106.8	1	12	58	56	53	53	49	42	33	1346	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D06	1,3,4,5,6
FCU-1-35	FRUIT LAB 113	HORZ. CONCEALED	400	0	0.25	9.0	12.9	75	65	54.1	54.1	2.2	4.4	47	59	5	12	10.6	70	93.8	0.9	3.22	130	106.8	1	12	58	56	53	53	49	42	33	1346	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D06	1,3,4,5,6
FCU-1-36	PRINT SUPPLY 111	HORZ. CONCEALED	205	0	0.25	4.3	5.8	75	65	55.9	55.5	0.9	1.7	47	60	4	12	5.3	70	93.1	0.9	1.7	130	101	4	12	53	51	51	49	44	36	28	1135	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D04	1,3,4,5,6
FCU-1-37	ADMIN PROF 109	HORZ. CONCEALED	175	20	0.25	3.75	5.18	75	65	55.6	55.4	0.7	1.25	47	62	5	12	5	70	95.5	0.4	0.45	130	103	1	12	52	51	50	48	43	34	27	1115	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D04	1,3,4,5,6
FCU-1-38	ADMIN PROF 107	HORZ. CONCEALED	175	20	0.25	3.75	5.18	75	65	55.6	55.4	0.7	1.25	47	62	5	12	5	70	95.5	0.4	0.45	130	103	1	12	52	51	50	48	43	34	27	1115	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D04	1,3,4,5,6
FCU-1-39	ADMIN/CLERICAL 105	HORZ. CONCEALED	235	25	0.25	5.0	6.8	75	65	55.7	55.4	0.9	2.2	47	62	5	12	5.6	70	91.4	0.4	0.5	130	100	1	12	55	53	53	51	47	39	30	1218	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D04	1,3,4,5,6
FCU-1-40	BREAK ROOM 103	HORZ. CONCEALED	140	25	0.25	3.2	4.61	75	65	54.3	54.1	0.7	1.21	47	60.5	5	12	4.6	70	99	0.4	0.45	130	105	1	12	51	49	49	47	42	32	26	1064	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D04	1,3,4,5,6
FCU-1-41	ELEC 10064	VERT. EXPOSED	395	0	0	7.0	9.3	75	65	58.8	57.2	1.5	4.9	47	60	3	12	10.6	70	93.6	0.8	2.7	130	104	1	12	57	61	55	53	48	42	38	1091	(1) @ 1/4	120	1	JOHNSON CONTROLS FWX-C06	2,3,4,5
FCU-2-10	FACULTY OFFICE 235	HORZ. CONCEALED	175	20	0.25	3.75	5.18	75	65	55.6	55.4	0.7	1.25	47	62	5	12	5	70	95.5	0.4	0.45	130	103	1	12	52	51	50	48	43	34	27	1115	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D04	1,3,4,5,6
FCU-2-11	FACULTY OFFICE 233	HORZ. CONCEALED	175	25	0.25	3.75	5.18	75	65	55.6	55.4	0.7	1.25	47	62	5	12	5	70	95.5	0.4	0.45	130	103	1	12	52	51	50	48	43	34	27	1115	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D04	1,3,4,5,6
FCU-2-12	FACULTY OFFICE 231	HORZ. CONCEALED	175	25	0.25	3.75	5.18	75	65	55.6	55.4	0.7	1.25	47	62	5	12	5	70	95.5	0.4	0.45	130	103	1	12	52	51	50	48	43	34	27	1115	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D04	1,3,4,5,6
FCU-2-13	FACULTY OFFICE 229	HORZ. CONCEALED	175	25	0.25	3.75	5.18	75	65	55.6	55.4	0.7	1.25	47	62	5	12	5	70	95.5	0.4	0.45	130	103	1	12	52	51	50	48	43	34	27	1115	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D04	1,3,4,5,6
FCU-2-14	FACULTY OFFICE 227	HORZ. CONCEALED	175	25	0.25	3.75	5.18	75	65	55.6	55.4	0.7	1.25	47	62	5	12	5	70	95.5	0.4	0.45	130	103	1	12	52	51	50	48	43	34	27	1115	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D04	1,3,4,5,6
FCU-2-15	MEETING 225	HORZ. CONCEALED	400	105	0.35	9.1	13.3	75	65	54.3	54.0	2.0	4.2	47	60	5	12	7.5	70	87.8	0.4	0.8	130	90.9	1	12	56	56	53	54	49	42	32	1257	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D08	1,3,4,5,6
FCU-2-16	COLLAB 221	HORZ. CONCEALED	175	100	0.25	3.75	5.18	75	65	55.6	55.4	0.7	1.25	47	62	5	12	NA	NA	NA	NA	NA	NA	NA	NA	NA	52	51	50	48	43	34	27	1242	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D04	1,3,4,5,6
FCU-2-17	WRITE UP SPACE 224	HORZ. CONCEALED	400	100	0.35	8.2	11.3	75	65	56.3	55.9	1.5	2.3	47	62	5	10	7.6	70	87	0.4	0.8	130	92.9	1	10	56	55	53	54	49	41	32	1242	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D08	1,3,4,5,6
FCU-2-18	WRITE UP SPACE 224B	HORZ. CONCEALED	565	125	0.35	11.0	14.1	75	65	57.5	56.8	2.0	1.9	47	62	6	10	14	70	91.8	0.9	0.4	130	99	2	10	68	65	64	64	60	58	47	1091	(1) @ 1/3	120	1	JOHNSON CONTROLS FNP08	2,3,4,5,6
FCU-2-19	MEETING ROOM 224A	HORZ. CONCEALED	140	45	0.25	3.2	4.61	75	65	54.3	54.1	0.7	1.21	47	60.5	5	12	4.6	70	99	0.4	0.45	130	105	1	12	51	49	49	47	42	32	26	1064	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D04	1,3,4,5,6
FCU-2-20	TEL/DATA 223	HORZ. CONCEALED	395	0	0.25	7.9	10.4	75	65	57	56.4	1.5	3.02	47	62.1	6	10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	63	62	61	59	55	50	41	907	(1) @ 1/3	120	1	JOHNSON CONTROLS FNP06	2,3,4,5,6
FCU-2-21	PLANT LAB 219	HORZ. CONCEALED	400	0	0.25	9.0	12.9	75	65	54.1	54.1	2.2	4.4	47	59	5	12	10.6	70	93.8	0.9	3.22	130	106.8	1	12	58	56	53	53	49	42	33	1346	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D06	1,3,4,5,6
FCU-2-22	PLANT LAB 219	HORZ. CONCEALED	400	0	0.25	9.0	12.9	75	65	54.1	54.1	2.2	4.4	47	59	5	12	10.6	70	93.8	0.9	3.22	130	106.8	1	12	58	56	53	53	49	42	33	1346	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D06	1,3,4,5,6
FCU-2-23	OFFICE 211	HORZ. CONCEALED	205	30	0.25	4.3	5.8	75	65	55.9	55.5	0.9	1.7	47	60	4	12	5.3	70	93.1	0.9	1.7	130	101	4	12	53	51	51	49	44	36	28	1135	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D04	1,3,4,5,6
FCU-2-24	FACULTY OFFICE 209	HORZ. CONCEALED	205	20	0.25	4.3	5.8	75	65	55.9	55.5	0.9	1.7	47	60	4	12	5.3	70	93.1	0.9	1.7	130	101	4	12	53	51	51	49	44	36	28	1135	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D04	1,3,4,5,6
FCU-2-25	FACULTY OFFICE 207	HORZ. CONCEALED	205	20	0.25	4.3	5.8	75	65	55.9	55.5	0.9	1.7	47	60	4	12	5.3	70	93.1	0.9	1.7	130	101	4	12	53	51	51	49	44	36	28	1135	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D04	1,3,4,5,6
FCU-2-26	FACULTY OFFICE 205	HORZ. CONCEALED	205	20	0.25	4.3	5.8	75	65	55.9	55.5	0.9	1.7	47	60	4	12	5.3	70	93.1	0.9	1.7	130	101	4	12	53	51	51	49	44	36	28	1135	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D04	1,3,4,5,6
FCU-2-27	WRITE UP SPACE 203	HORZ. CONCEALED	615	155	0.5	12.9	16.9	75	65	56.2	55.8	2.5	1.5	47	62	6	10	9.2	70	80.4	0.5	0.1	130	100	1	10	67	63	62	61	58	54	42	1003	(1) @ 1/2	120	1	JOHNSON CONTROLS FNP12	2,3,4,5,6
FCU-2-28	SYNTHETIC BIO LAB 202	HORZ. CONCEALED	300	0	0.25	6.9	10	75	65	54.0	53.8	1.7	2.5	47	59	5	12	8.2	70	94.3	0.8	0.3	130	109	1	12	55	52	50	49	45	36	28	1211	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D06	1,3,4,5,6
FCU-2-29	SYNTHETIC BIO LAB 202	HORZ. CONCEALED	300	0	0.25	6.9	10	75	65	54.0	53.8	1.7	2.5	47	59	5	12	8.2	70	94.3	0.8	0.3	130	109	1	12	55	52	50	49	45	36	28	1211	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D06	1,3,4,5,6
FCU-2-30	ELEVATOR CONTROL ROOM 20060A	HORZ. EXPOSED	395	0	0	7.0	9.3	75	65	58.8	57.2	1.5	4.9	47	60	3	12	10.6	70	93.6	0.8	2.7	130	104	1	12	57	61	55	53	48	42	38	1091	(1) @ 1/4	120	1	JOHNSON CONTROLS FWX-C06	2,3,4,5
FCU-3-14	LARGE MEETING ROOM 340	HORZ. CONCEALED	645	175	0.5	12.67	17.5	75	65	57.1	56.3	2.5	2.58	47	62	4	10	12.3	70	85	0.7	0.19	130	100	1	10	67	62	61	60	57	52	41	948	(2) @ 1/3	120	1	JOHNSON CONTROLS FNP16	2,3,4,5,6
FCU-3-15	FACULTY OFFICE 334	HORZ. CONCEALED	140	25	0.25	3.2	4.61	75	65	54.3	54.1	0.7	1.21	47	60.5	5	12	4.6	70	99	0.4	0.45	130	105	1	12	51	49	49	47	42	32	26	1064	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D04	1,3,4,5,6
FCU-3-16	FACULTY OFFICE 332	HORZ. CONCEALED	140	25	0.25	3.2	4.61	75	65	54.3	54.1	0.7	1.21	47	60.5	5	12	4.6	70	99	0.4	0.45	130	105	1	12	51	49	49	47	42	32	26	1064	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D04	1,3,4,5,6
FCU-3-17	FACULTY OFFICE 330	HORZ. CONCEALED	140	25	0.25	3.2	4.61	75	65	54.3	54.1	0.7	1.21	47	60.5	5	12	4.6	70	99	0.4	0.45	130	105	1	12	51	49	49	47	42	32	26	1064	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D04	1,3,4,5,6
FCU-3-18	FACULTY OFFICE 328	HORZ. CONCEALED	140	25	0.25	3.2	4.61	75	65	54.3	54.1	0.7	1.21	47	60.5	5	12	4.6	70	99	0.4	0.45	130	105	1	12	51	49	49	47	42	32	26	1064	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D04	1,3,4,5,6
FCU-3-19	FACULTY OFFICE 339	HORZ. CONCEALED	175	25	0.25	3.75	5.18	75	65	55.6	55.4	0.7	1.25	47	62	5	12	5	70	95.5	0.4	0.45	130	103	1	12	52	51	50	48	43	34	27	1115	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D04	1,3,4,5,6
FCU-3-20	FACULTY OFFICE 337	HORZ. CONCEALED	175	25	0.25	3.75	5.18	75	65	55.6	55.4	0.7	1.25	47	62	5	12	5	70	95.5	0.4	0.45	130	103	1	12	52	51	50	48	43	34	27	1115	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D04	1,3,4,5,6
FCU-3-21	FACULTY OFFICE 335	HORZ. CONCEALED	175	25	0.25	3.75	5.18	75	65	55.6	55.4	0.7	1.25	47	62	5	12	5	70	95.5	0.4	0.45	130	103	1	12	52	51	50	48	43	34	27	1115	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D04	1,3,4,5,6
FCU-3-22	FACULTY OFFICE 333	HORZ. CONCEALED	175	25	0.25	3.75	5.18	75	65	55.6	55.4	0.7	1.25	47	62	5	12	5	70	95.5	0.4	0.45	130	103	1	12	52	51	50	48	43	34	27	1115	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D04	1,3,4,5,6
FCU-3-23	FACULTY OFFICE 331	HORZ. CONCEALED	175	25	0.25	3.75	5.18	75	65	55.6	55.4	0.7	1.25	47	62	5	12	5	70	95.5	0.4	0.45	130	103	1	12	52	51	50	48	43	34	27	1115	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D04	1,3,4,5,6
FCU-3-24	FACULTY OFFICE 329	HORZ. CONCEALED	175	25	0.25	3.75	5.18	75	65	55.6	55.4	0.7	1.25	47	62	5	12	5	70	95.5	0.4	0.45	130	103	1	12	52	51	50	48	43	34	27	1115	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D04	1,3,4,5,6
FCU-3-25	TBD 327	HORZ. CONCEALED	175	25	0.25	3.75	5.18	75	65	55.6	55.4	0.7	1.25	47	62	5	12	5	70	95.5	0.4	0.45	130	103	1	12	52	51	50	48	43	34	27	1115	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D04	1,3,4,5,6
FCU-3-26	TEL/DATA 325	HORZ. CONCEALED	395	0	0.25	7.9	10.4	75	65	57	56.4	1.5	3.02	47	62.1	6	10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	63	62	61	59	55	50	41	907	(1) @ 1/3	120	1	JOHNSON CONTROLS FNP06	2,3,4,5,6
FCU-3-27	COLLAB 323	HORZ. CONCEALED	175	100	0.25	3.75	5.18	75	65	55.6	55.4	0.7	1.25	47	62	5	12	NA	NA	NA	NA	NA	NA	NA	NA	NA	52	51	50	48	43	34	27	1115	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D04	1,3,4,5,6
FCU-3-28	WRITE UP SPACE 324	HORZ. CONCEALED	400	100	0.35	8.2	11.3	75	65	56.3	55.9	1.5	2.3	47	62	5	10	7.6	70	87	0.4	0.8	130	92.9	1	10	56	55	53	54	49	41	32	1242	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D08	1,3,4,5,6
FCU-3-29	WRITE UP SPACE 324B	HORZ. CONCEALED	565	125	0.35	11.0	14.1	75	65	57.5	56.8	2.0	1.9	47	62	6	10	14	70	91.8	0.9	0.4	130	99	2	10	68	65	64	64	60	58	47	1091	(1) @ 1/3	120	1	JOHNSON CONTROLS FNP08	2,3,4,5,6
FCU-3-30	MEETING ROOM 324A	HORZ. CONCEALED	140	45	0.25	3.2	4.61	75	65	54.3	54.1	0.7	1.21	47	60.5	5	12	4.6	70	99	0.4	0.45	130	105	1	12	51	49	49	47	42	32	26	1064	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D04	1,3,4,5,6
FCU-3-31	PLANT LAB 319	HORZ. CONCEALED	400	0	0.25	9.0	12.9	75	65	54.1	54.1	2.2	4.4	47	59	5	12	10.6	70	93.8	0.9	3.22	130	106.8	1	12	58	56	53	53	49	42	33	1346	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D06	1,3,4,5,6
FCU-3-32	PLANT LAB 319	HORZ. CONCEALED	400	0	0.25	9.0	12.9	75	65	54.1	54.1	2.2	4.4	47	59	5	12	10.6	70	93.8	0.9	3.22	130	106.8	1	12	58	56	53	53	49	42	33	1346	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D06	1,3,4,5,6
FCU-3-33	PRINT SUPPLY 315	HORZ. CONCEALED	205	0	0.25	4.3	5.8	75	65	55.9	55.5	0.9	1.7	47	60	4	12	5.3	70	93.1	0.9	1.7	130	101	4	12	53	51	51	49	44	36	28	1135	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D04	1,3,4,5,6
FCU-3-34	FACULTY OFFICE 313	HORZ. CONCEALED	175	20	0.25	3.75	5.18	75	65	55.6	55.4	0.7	1.25	47	62	5	12	5	70	95.5	0.4	0.45	130	103	1	12	52	51	50	48	43	34	27	1115	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D04	1,3,4,5,6
FCU-3-35	WRITE UP SPACE 311	HORZ. CONCEALED	400	90	0.35	9.1	13.3	75	65	54.3	54.0	2.0	4.2	47	60	5	12	7.5	70	87.8	0.4	0.8	130	90.9	1	12	56	56	53	54	49	42	32	1257	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D08	1,3,4,5,6
FCU-3-36	WRITE UP SPACE 307	HORZ. CONCEALED	235	50	0.25	5.0	6.8	75	65	55.7	55.4	0.9	2.2	47	62	5	12	5.6	70	91.4	0.4	0.5	130	100	1	12	55	53	53	51	47	39	30	1218	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D04	1,3,4,5,6
FCU-3-37	COLLAB 305	HORZ. CONCEALED	400	100	0.35	9.1	13.3	75	65	54.3	54.0	2.0	4.2	47	60	5	12	7.5	70	87.8	0.4	0.8	130	90.9	1	12	56	56	53	54	49	42	32	1257	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D08	1,3,4,5,6
FCU-3-38	PLANT LAB 302	HORZ. CONCEALED	300	0	0.25	6.9	10	75	65	54.0	53.8	1.7	2.5	47	59	5	12	8.2	70	94.3	0.8	0.3	130	109	1	12	55	52	50	49	45	36	28	1211	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D06	1,3,4,5,6
FCU-3-39	PLANT LAB 302	HORZ. CONCEALED	300	0	0.25	6.9	10	75	65	54.0	53.8	1.7	2.5	47	59	5	12	8.2	70	94.3	0.8	0.3	130	109	1	12	55	52	50	49	45	36	28	1211	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D06	1,3,4,5,6
FCU-4-20	ACAD OFFICE 430	HORZ. CONCEALED	140	20	0.25	3.2	4.61	75	65	54.3	54.1	0.7	1.21	47	60.5	5	12	4.6	70	99	0.4	0.45	130	105	1	12	51	49	49	47	42	32	26	1064	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D04	1,3,4,5,6
FCU-4-21	ACAD OFFICE 428	HORZ. CONCEALED	140	20	0.25	3.2	4.61	75	65	54.3	54.1	0.7	1.21	47	60.5	5	12	4.6	70	99	0.4	0.45	130	105	1	12	51	49	49	47	42	32	26	1064	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D04	1,3,4,5,6
FCU-4-22	ACAD OFFICE 426	HORZ. CONCEALED	140	20	0.25	3.2	4.61	75	65	54.3	54.1	0.7	1.21	47	60.5	5	12	4.6	70	99	0.4	0.45	130	105	1	12	51	49	49	47	42	32	26	1064	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D04	1,3,4,5,6
FCU-4-23	ACAD OFFICE 420	HORZ. CONCEALED	140	20	0.25	3.2	4.61	75	65	54.3	54.1	0.7	1.21	47	60.5	5	12	4.6	70	99	0.4	0.45	130	105	1	12	51	49	49	47	42	32	26	1064	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D04	1,3,4,5,6
FCU-4-24	ACAD OFFICE 418	HORZ. CONCEALED	140	20	0.25	3.2	4.61	75	65	54.3	54.1	0.7	1.21	47	60.5	5	12	4.6	70	99	0.4	0.45	130	105	1	12	51	49	49	47	42	32	26	1064	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D04	1,3,4,5,6
FCU-4-25	TEAM ROOM 431B	HORZ. CONCEALED	140	40	0.25	3.2	4.61	75	65	54.3	54.1	0.7	1.21	47	60.5	5	12	4.6	70	99	0.4	0.45	130	105	1	12	51	49	49	47	42	32	26	1064	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D04	1,3,4,5,6
FCU-4-26	COMPUTATIONAL LAB 431	HORZ. CONCEALED	1450	345	0.5	33.3	47.5	75	65	54.9	54.4	7.5	6.3	47	60.1	6	12	26.9	70	86.1	1.75	0.9	130	100.1	1	12	73	69	68	70	66	64	55	1205	(2) @ 1/2	277	1	JOHNSON CONTROLS FNP20	2,3,4,5,6
FCU-4-27	TEAM ROOM 431A	HORZ. CONCEALED	140	40	0.25	3.2	4.61	75	65	54.3	54.1	0.7	1.21	47	60.5	5	12	4.6	70	99	0.4	0.45	130	105	1	12	51	49	49	47	42	32	26	1064	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D04	1,3,4,5,6
FCU-4-28	COMPUTATIONAL LAB 416	HORZ. CONCEALED	1475	365	0.5	33.85	48.25	75	65	55	54.4	7.65	6.5	47	60	6	12	27.1	70	85.9	1.75	0.9	130	99.9	1	12	73	69	68	70	66	64	55	1214	(2) @ 1/2	277	1	JOHNSON CONTROLS FNP20	2,3,4,5,6
FCU-4-29	TEL/DATA 417	HORZ. CONCEALED	395	0	0.25	7.9	10.4	75	65	57	56.4	1.5	3.02	47	62.1	6	10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	63	62	61	59	55	50	41	907	(1) @ 1/3	120	1	JOHNSON CONTROLS FNP06	2,3,4,5,6
FCU-4-30	COLLAB 404	HORZ. CONCEALED	205	60	0.25	4.3	5.8	75	65	55.9	55.5	0.9	1.7	47	60	4	12	5.3	70	93.1	0.9	1.7	130	101	4	12	53	51	51	49	44	36	28	1135	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D04	1,3,4,5,6
FCU-4-31	WORKSPACE 404A	HORZ. CONCEALED	205	45	0.25	4.3	5.8	75	65	55.9	55.5	0.9	1.7	47	60	4	12	5.3	70	93.1	0.9	1.7	130	101	4	12	53	51	51	49	44	36	28	1135	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D04	1,3,4,5,6
FCU-4-32	BIODIVERSITY 402	HORZ. CONCEALED	400	0	0.25	9.0	12.9	75	65	54.1	54.1	2.2	4.4	47	59	5	12	10.6	70	93.8	0.9	3.22	130	106.8	1	12	58	56	53	53	49	42	33	1346	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D06	1,3,4,5,6
FCU-4-33	CORRIDOR 40040	HORZ. CONCEALED	395	0	0.25	9.0	12.9	75	65	54.1	54.1	2.2	4.4	47	59	5	12	10.6	70	93.8	0.9	3.22	130	106.8	1	12	58	56	53	53	49	42	33	1346	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D06	1,3,4,5,6
FCU-4-34	CORRIDOR 40040	HORZ. CONCEALED	395	0	0.25	9.0	12.9	75	65	54.1	54.1	2.2	4.4	47	59	5	12	10.6	70	93.8	0.9	3.22	130	106.8	1	12	58	56	53	53	49	42	33	1346	(1) @ 1/4	120	1	JOHNSON CONTROLS FHP-D06	1,3,4,5,6
FCU-P-1	EAST PENTHOUSE PH001	HORZ. EXPOSED	365	0	0	6.0	7.6	75	65	60.2	58.3	1.1	5.5	47	62.4	3	12	6.2	70	54.2	0.4	0.27	130	100.1	1	12	62	61	60	58	54	49	40	879	(1) @ 1/3	120	1	JOHNSON CONTROLS FNX06	2,3,4,5

REMARKS:
1. SPECIFIED COOLING AND AIR FLOW CHARACTERISTICS ARE BASED UPON MEDIUM FAN SPEED.
2. SPECIFIED COOLING AND AIR FLOW CHARACTERISTICS ARE BASED UPON LOW FAN SPEED.
3. MERV 8 FILTER.
4. STAINLESS STEEL DRAIN PAN WITH CONDENSATE OVERFLOW SWITCH
5. VARIABLE SPEED EC MOTOR
6. FRONT DISCHARGE AND REAR RETURN DUCT CONNECTIONS.

HYDRONIC CASSETTE UNIT SCHEDULE - CHILLED WATER/HOT WATER

UNIT NO.	LOCATION	TYPE	AIR SIDE		COOLING COIL - 100% WATER											HEATING COIL - 100% WATER								ELECTRICAL							MANUFACTURER & MODEL No.	REMARKS
			AIR FLOW (CFM)	SOUND AT 3 FT. (dB)	CAPACITY SENSIBLE (MBH)	CAPACITY TOTAL (MBH)	EAT (DEG. F) DB	EAT (DEG. F) WB	LAT (DEG. F) DB	LAT (DEG. F) WB	WATER FLOW (GPM)	WATER P.D. (Ft. HD)	ENT. WATER TEMP. (DEG. F)	LVG. WATER TEMP. (DEG. F)	ROWS	CAPACITY (MBH)	ENT. AIR TEMP. (DEG. F)	LVG. AIR TEMP. (DEG. F)	WATER FLOW (GPM)	WATER P.D. (Ft. HD)	ENT. WATER TEMP. (DEG. F)	LVG. WATER TEMP. (DEG. F)	ROWS	HP	VOLTS	PHASE	FLA	MCA	MOCP	MIN SCCR (Kw)		
HC-4-1	BIO HUB 403	4-WAY CEILING, RECESSED	373	38	7.3	8.3	75	63	57.9	55.7	2.25	9.4	47	54.7	2	11.4	70	98.3	1.2	9.6	130	111.2	1	230W	208	1	0.4	0.5	1	5	MULTIAQUA MHCFC4W-04	1
HC-4-2	BIO HUB 403	4-WAY CEILING, RECESSED	373	38	7.3	8.3	75	63	57.9	55.7	2.25	9.4	47	54.7	2	11.4	70	98.3	1.2	9.6	130	111.2	1	230W	208	1	0.4	0.5	1	5	MULTIAQUA MHCFC4W-04	1

REMARKS:
1. SPECIFIED COOLING AND AIR FLOW CHARACTERISTICS ARE BASED UPON MEDIUM FAN SPEED.

HYDRONIC CASSETTE UNIT SCHEDULE - CHILLED WATER

UNIT NO.	SERVICE	TYPE	AIR SIDE		COOLING COIL - 100% WATER											ELECTRICAL							MANUFACTURER & MODEL No.	REMARKS
			AIR FLOW (CFM)	SOUND AT 3 FT. (dB)	CAPACITY SENSIBLE (MBH)	CAPACITY TOTAL (MBH)	EAT (DEG. F) DB	EAT (DEG. F) WB	LAT (DEG. F) DB	LAT (DEG. F) WB	WATER FLOW (GPM)	WATER P.D. (Ft. HD)	ENT. WATER TEMP. (DEG. F)	LVG. WATER TEMP. (DEG. F)	ROWS	HP	VOLTS	PHASE	FLA	MCA	MOCP	MIN SCCR (Kw)		
HC-G-5	LAB SUPPORT / EQUIPMENT G40	1-WAY CEILING, RECESSED	530	60	12.4	15.1	75	63	54.4	53.5	4.1	9.9	47	54.5	4	115W	208	1	0.5	0.63	1	5	MULTIAQUA MH1WC4W-08	1,3
HC-G-6	FLEX LAB SUPPORT G38	1-WAY CEILING, RECESSED	530	60	12.4	15.1	75	63	54.4	53.5	4.1	9.9	47	54.5	4	115W	208	1	0.5	0.63	1	5	MULTIAQUA MH1WC4W-08	1,3
HC-G-7	FLEX LAB SUPPORT G36	1-WAY CEILING, RECESSED	530	60	12.4	15.1	75	63	54.4	53.5	4.1	9.9	47	54.5	4	115W	208	1	0.5	0.63	1	5	MULTIAQUA MH1WC4W-08	1,3
HC-G-8	SUPPORT G34	1-WAY CEILING, RECESSED	530	60	12.4	15.1	75	63	54.4	53.5	4.1	9.9	47	54.5	4	115W	208	1	0.5	0.63	1	5	MULTIAQUA MH1WC4W-08	1,3
HC-G-9	FREEZER FARM G32	4-WAY CEILING, RECESSED	860	58	22.2	29	75	63	53	51.9	10.3	9.7	47	52.9	4	430W	208	1	2.25	2.8	5	5	MULTIAQUA MHCFC4W-16	2,3
HC-G-10	FREEZER FARM G26	4-WAY CEILING, RECESSED	860	58	22.2	29	75	63	53	51.9	10.3	9.7	47	52.9	4	430W	208	1	2.25	2.8	5	5	MULTIAQUA MHCFC4W-16	2,3
HC-G-11	EQUIPMENT G15	1-WAY CEILING, RECESSED	530	60	12.4	15.1	75	63	54.4	53.5	4.1	9.9	47	54.5	4	115W	208	1	0.5	0.63	1	5	MULTIAQUA MH1WC4W-08	1,3
HC-G-12	FLEXIBLE G21	1-WAY CEILING, RECESSED	530	60	12.4	15.1	75	63	54.4	53.5	4.1	9.9	47	54.5	4	115W	208	1	0.5	0.63	1	5	MULTIAQUA MH1WC4W-08	1,3
HC-1-8	FLEX LAB SUPPORT 118	4-WAY CEILING, RECESSED	475	53	12.8	17.2	75	63	50.6	50.6	8.5	7.5	47	51.1	4	130W	208	1	0.65	0.8	1	5	MULTIAQUA MHCFC4W-08	2,3
HC-1-9	EQUIPMENT 113D	1-WAY CEILING, RECESSED	530	60	12.4	15.1	75	63	54.4	53.5	4.1	9.9	47	54.5	4	115W	208	1	0.5	0.63	1	5	MULTIAQUA MH1WC4W-08	1,3
HC-2-3	FLEX LAB SUPPORT 228	4-WAY CEILING, RECESSED	475	53	12.8	17.2	75	63	50.6	50.6	8.5	7.5	47	51.1	4	130W	208	1	0.65	0.8	1	5	MULTIAQUA MHCFC4W-08	2,3
HC-2-4	EQUIPMENT 1 219C	1-WAY CEILING, RECESSED	530	60	12.4	15.1	75	63	54.4	53.5	4.1	9.9	47	54.5	4	115W	208	1	0.5	0.63	1	5	MULTIAQUA MH1WC4W-08	1,3
HC-2-5	EQUIPMENT 2 219D	1-WAY CEILING, RECESSED	530	60	12.4	15.1	75	63	54.4	53.5	4.1	9.9	47	54.5	4	115W	208	1	0.5	0.63	1	5	MULTIAQUA MH1WC4W-08	1,3
HC-2-6	EQUIPMENT 202C	1-WAY CEILING, RECESSED	530	60	12.4	15.1	75	63	54.4	53.5	4.1	9.9	47	54.5	4	115W	208	1	0.5	0.63	1	5	MULTIAQUA MH1WC4W-08	1,3
HC-2-7	EQUIPMENT CORRIDOR 202E	4-WAY CEILING, RECESSED	800	51	20.6	25.8	75	63	52.6	52.2	9	9.6	47	52.9	4	260W	208	1	1.5	1.9	3	5	MULTIAQUA MHCFC4W-12	2,3
HC-2-8	FLEXIBLE 202F	1-WAY CEILING, RECESSED	530	60	12.4	15.1	75	63	54.4	53.5	4.1	9.9	47	54.5	4	115W	208	1	0.5	0.63	1	5	MULTIAQUA MH1WC4W-08	1,3
HC-3-3	FLEX LAB SUPPORT 326	4-WAY CEILING, RECESSED	475	53	12.8	17.2	75	63	50.6	50.6	8.5	7.5	47	51.1	4	130W	208	1	0.65	0.8	1	5	MULTIAQUA MHCFC4W-08	2,3
HC-3-4	FLEXIBLE 319B	1-WAY CEILING, RECESSED	530	60	12.4	15.1	75	63	54.4	53.5	4.1	9.9	47	54.5	4	115W	208	1	0.5	0.63	1	5	MULTIAQUA MH1WC4W-08	1,3
HC-3-5	EQUIPMENT 319D	1-WAY CEILING, RECESSED	530	60	12.4	15.1	75	63	54.4	53.5	4.1	9.9	47	54.5	4	115W	208	1	0.5	0.63	1	5	MULTIAQUA MH1WC4W-08	1,3
HC-3-6	EQUIPMENT 319E	1-WAY CEILING, RECESSED	530	60	12.4	15.1	75	63	54.4	53.5	4.1	9.9	47	54.5	4	115W	208	1	0.5	0.63	1	5	MULTIAQUA MH1WC4W-08	1,3
HC-3-7	EQUIPMENT CORRIDOR 302D	4-WAY CEILING, RECESSED	800	51	20.6	25.8	75	63	52.6	52.2	9	9.6	47	52.9	4	260W	208	1	1.5	1.9	3	5	MULTIAQUA MHCFC4W-12	2,3
HC-3-8	DIRTY/REGULATED FLEX 302E	1-WAY CEILING, RECESSED	530	60	12.4	15.1	75	63	54.4	53.5	4.1	9.9	47	54.5	4	115W	208	1	0.5	0.63	1	5	MULTIAQUA MH1WC4W-08	1,3
HC-3-9	AUTOCLAVE SERVICE 304A	1-WAY CEILING, RECESSED	530	60	12.4	15.1	75	63	54.4	53.5	4.1	9.9	47	54.5	4	115W	208	1	0.5	0.63	1	5	MULTIAQUA MH1WC4W-08	1,3

REMARKS:
1. SPECIFIED COOLING AND AIR FLOW CHARACTERISTICS ARE BASED UPON HIGH FAN SPEED.
2. SPECIFIED COOLING AND AIR FLOW CHARACTERISTICS ARE BASED UPON MEDIUM FAN SPEED.
3. SPECIFIED COOLING CHARACTERISTICS ARE BASED UPON PRIMARY AND SECONDARY COOLING COIL PIPED TOGETHER IN THE FIELD.

RENOVATE PLANT SCIENCE BUILDING - PHASE 2
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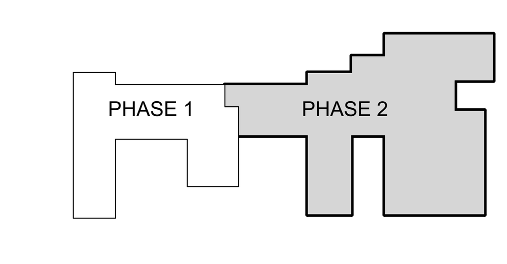
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Notes:



Keyplan

Job Number 31909.00
Drawing By ZMH
Checked By NMT
Filename
Date August 31, 2026

Revisions
B Addendum No. 3 11/04/2026

MECHANICAL SCHEDULES - PHASE 2



Reg. Exp: 04/30/2029
Cert. of Auth: 099088

BID DOCUMENTS
Scale:

M8.2

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GENERAL NOTES

SYMBOLS AND ABBREVIATIONS
1. THIS SHEET CONTAINS SYMBOLS AND ABBREVIATIONS TYPICALLY SHOWN ON ELECTRICAL DRAWINGS AND SCHEMATICS. THIS CONTRACT DRAWING SET MAY NOT CONTAIN ALL SYMBOLS AND ABBREVIATIONS SHOWN ON THIS SHEET.

PERMITS AND INSPECTIONS
1. THE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS AND ARRANGE FOR ALL REQUIRED INSPECTIONS IN ACCORDANCE WITH STATE AND LOCAL GOVERNING AUTHORITIES.
2. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE 2023 NEC, AND STATE AND LOCAL GOVERNING REGULATIONS.
3. PERFORM WORK AS REQUIRED BY CODES, REGULATIONS, LAWS OF LOCAL, STATE AND FEDERAL GOVERNMENTS, AND OTHER AUTHORITIES WITH LAWFUL JURISDICTION. ALL MATERIAL AND EQUIPMENT SHALL BE UL, NEMA, ANSI, IEEE, ADA & CBM

SCOPE
1. UNLESS OTHERWISE INDICATED, PROVIDE A COMPLETE AND OPERATIONAL ELECTRICAL SYSTEM INCLUDING ALL NECESSARY MATERIAL, LABOR, AND EQUIPMENT.
2. ALL DISCONNECTS REQUIRED BY CODE MAY NOT BE SHOWN. CONTRACTOR SHALL PROVIDE ALL NECESSARY DISCONNECTS AND OVERCURRENT PROTECTIVE DEVICES.
3. ALL EQUIPMENT AND MATERIAL SHALL BE LABELED AND LISTED, AND INSTALLED IN ACCORDANCE WITH THEIR LISTING.
4. PROVIDE ELECTRICAL CONNECTION FOR EVERY FIXTURE, OR ITEM OF EQUIPMENT REQUIRING SAME, WHICH IS SHOWN OR LISTED ON ANY CONTRACT DRAWING
5. CONTRACTOR SHALL PROVIDE NECESSARY SUPPORT FRAMING, STIFFENERS, BRACING, AND HANGERS WHETHER SHOWN OR NOT TO ENSURE A COMPLETE AND DURABLE SYSTEM. SUPPORT FRAMING CONNECTIONS SHALL BE WELDED UNLESS SPECIFICALLY SHOWN OTHERWISE. ACTUAL SUPPORTS MAY VARY FROM THOSE SHOWN IN DETAILS TO ACCOMMODATE EXISTING FIELD CONDITIONS.
6. THE WORK INCLUDED IN THIS CONTRACT ENCOMPASSES THE DRAWINGS AND SPECIFICATIONS. WORK INCLUDED ON THE DRAWINGS ONLY, OR IN THE SPECIFICATIONS ONLY, SHALL BE INCORPORATED AS IF INCLUDED IN BOTH. ALL SYSTEMS SHOWN ARE INTENDED TO BE COMPLETE AND FULLY FUNCTIONING. THE CONTRACTOR SHALL PROVIDE SUCH COMPONENTS AS NECESSARY FOR A FULLY FUNCTIONING SYSTEM.
7. ALL EQUIPMENT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER, RECTILINEAR TO BUILDING STRUCTURE.
8. CONTRACTOR SHALL FIELD VERIFY ALL SITE CONDITIONS AND DIMENSIONS PRIOR TO COMMENCEMENT OF ANY WORK OR SHOP FABRICATION. REQUIRED CHANGES TO WORK SHOWN ON CONSTRUCTION DRAWINGS SHALL BE APPROVED BY THE ENGINEER IN WRITING, OTHER TRADES, AND OWNER AS REQUIRED PRIOR TO ANY CONSTRUCTION.

COORDINATION OF WORK
1. THE CONTRACTOR SHALL COORDINATE AND VERIFY THAT WORKING AND DEDICATED EQUIPMENT SPACE REQUIREMENTS ARE MET PER NEC AND AHJ.
2. FIELD LOCATE ALL CORE DRILL LOCATIONS.
3. BEFORE CUTTING OR DRILLING INTO BUILDING ELEMENTS INSPECT AND LAYOUT WORK TO AVOID DAMAGING STRUCTURAL ELEMENTS AND BUILDING UTILITIES.
4. BEFORE SELECTING MATERIAL/EQUIPMENT AND PROCEEDING WITH WORK, INSPECT AREAS WHERE MATERIAL AND EQUIPMENT ARE TO BE INSTALLED TO INSURE SUITABILITY, AND CHECK NEEDED SPACE FOR PLACEMENT, CLEARANCES AND INTERCONNECTIONS.
5. POSSIBLE SYSTEM SHUT-DOWNS AND WORK AREAS CLOSURES MUST BE COORDINATED WITH THE OWNER.
6. VERIFY RECEPTACLE, SWITCH, & COVER PLATE COLORS WITH OWNER.
7. TURN OVER TO THE OWNER ALL MANUFACTURER'S WARRANTIES FOR EQUIPMENT AND MATERIALS PROVIDED.

DEFINITIONS
1. THE DEFINITION OF ELECTRICAL TERMS USED SHALL BE AS DEFINED IN THE EDITION OF THE NATIONAL ELECTRIC CODE (NEC) AS REFERENCED IN THE BUILDING CODE OF NEW YORK STATE.
2. THE TERM "INDICATED" SHALL MEAN "AS SHOWN ON CONTRACT DOCUMENTS (SPECIFICATIONS, DRAWINGS, AND RELATED ATTACHMENTS)".
3. THE TERM "PROVIDE" SHALL MEAN "TO FURNISH, INSTALL, AND CONNECT COMPLETELY".
4. THE TERM "SIZE" SHALL MEAN ONE OR MORE OF THE FOLLOWING: "LENGTH, CURRENT AND VOLTAGE RATING, NUMBER OF POLES, NEMA SIZE, AND OTHER SIMILAR ELECTRICAL CHARACTERISTICS".

PLANS
1. ELECTRICAL PLANS, DETAILS, AND ONE LINE DIAGRAMS SHOW THE GENERAL LOCATION AND ARRANGEMENT OF THE ELECTRICAL SYSTEM. THEY ARE DIAGRAMMATIC AND DO NOT SHOW ALL CONDUIT BODIES, CONNECTORS, BENDS, FITTINGS, HANGERS, AND ADDITIONAL PULL BOXES WHICH THE CONTRACTOR MUST PROVIDE TO COMPLETE THE ELECTRICAL SYSTEM.
2. ELECTRICAL PLANS AND DETAILS DO NOT SHOW ALL INTERFERENCES AND CONDITIONS, VISIBLE AND/OR HIDDEN, THAT MAY EXIST. CONTRACTOR MUST INSPECT AND SURVEY THE SPACE BEFORE PERFORMING THE WORK.
3. THESE DRAWINGS ARE SCHEMATIC IN NATURE AND REPRESENT A COMPLETED PROJECT. MINOR MODIFICATIONS OF WORK SHALL BE PROVIDED BY THE CONTRACTOR TO COMPLY WITH PROJECT REQUIREMENTS, LOCATIONS OF DEVICES AND EQUIPMENT SHOW A GENERAL ARRANGEMENT AND INTENDED FUNCTION. ALL COMPONENTS SHOWN ON THE RISER DIAGRAMS, BUT NOT ON THE PLAN OR VICE VERSA, SHALL BE INCLUDED AS IF SHOWN ON BOTH. EXACT LOCATION OF MECHANICAL EQUIPMENT THAT REQUIRE ELECTRICAL CONNECTIONS ARE SHOWN ON THE MECHANICAL DRAWINGS. BEFORE INSTALLATION OF WORK, CONSULT SHOP DRAWINGS AND ALL REQUIRED CLEARANCES, TO AVOID INTERFERENCE WITH OTHER TRADES. COORDINATE WITH ALL CONTRACT DOCUMENTS, SHOP DRAWINGS AND EQUIPMENT DRAWINGS. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED CONTRACT DRAWINGS.

METHODS
1. ALL EXTERIOR CONDUITS TO HAVE DUCT SEAL INSTALLED AT ALL ENDS, BOXES, WEATHERHEADS, PENETRATIONS TO INTERIOR SPACES, ETC.
2. DUCT BANKS SHALL NOT BE ROUTED DIRECTLY ABOVE OR BELOW EXISTING/PROPOSED UTILITIES EXCEPT WHEN CROSSING. WHERE CROSSING EXISTING OR PROPOSED UTILITIES, DUCT BANKS SHALL CROSS AT 90 DEGREE ANGLES.
3. ALL CONDUIT SYSTEMS EXPOSED TO TEMPERATURE DIFFERENTIALS, IN POTENTIAL CONDENSING ATMOSPHERES, EXTERIOR INSTALLED, OR INSTALLED UNDERGROUND SHALL HAVE PROVISIONS FOR DRAINING WATER OUT OF CONDUIT SYSTEMS.
4. WHERE WIRE SIZE IS NOT NOTED ON DRAWINGS, CONTRACTOR SHALL SIZE ACCORDING TO THE NEC AND SHALL ADHERE TO THE FOLLOWING CRITERIA:
   - EQUIPMENT CIRCUITS AND FEEDERS LESS THAN OR EQUAL TO 100A SHALL BE SIZED USING THE 60°C COPPER AMPACITY COLUMN (NEC T310.16).
   - EQUIPMENT CIRCUITS AND FEEDERS GREATER THAN 100A SHALL BE SIZED USING THE 75°C COPPER AMPACITY COLUMN (NEC T310.16). MINIMUM WIRE SIZE SHALL BE #12 THHN/THWN.
   - ALUMINUM SHALL NOT BE USED.
   - ALL CONDUCTORS TO BE STRANDED.

UNDERGROUND UTILITIES
1. UNDERGROUND UTILITY LOCATIONS ARE NOT GUARANTEED, NOR IS THERE ANY GUARANTEE THAT ALL EXISTING UTILITIES WHETHER FUNCTIONAL OR ABANDONED WITHIN THE PROJECT AREA ARE SHOWN ON THESE DRAWINGS.
2. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL UNDERGROUND UTILITIES BEFORE BEGINNING WORK & SHALL BE RESPONSIBLE FOR ALL DAMAGE RESULTING FROM HIS/HER WORK.
3. THE CONTRACTOR SHALL NOTIFY "DIG SAFELY NEW YORK" 1-800-962-7962 PRIOR TO ANY EXCAVATION.
4. NO ATTEMPT WAS MADE TO LOCATE SUBSURFACE STRUCTURES, ABOVEGROUND STRUCTURES AND/OR UTILITIES BELIEVED TO EXIST IN THE WORKING AREA. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE EXISTING UTILITIES NEEDED TO COMPLETE THE WORK AND IT SHALL BE HIS RESPONSIBILITY TO PROCEED WITH GREAT CARE IN EXECUTING ANY WORK. CONTRACTOR SHALL COMPLY WITH THE STATE OF NEW YORK DEPARTMENT OF PUBLIC SERVICE, 16NYCRR PART 753.
5. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY CONDITIONS THAT VARY FROM THOSE SHOWN ON THE PLANS. THE CONTRACTOR'S WORK SHALL NOT VARY FROM THE PLANS WITHOUT THE EXPRESSED APPROVAL OF THE ENGINEER AND OWNER.
6. CONTRACTOR SHALL PROTECT ALL EXISTING STORM WATER DRAINAGE FACILITIES, INCLUDING PIPES, DRAINAGE STRUCTURES, SWALES, DITCHES, ETC. CONTRACTOR SHALL REPLACE AND RESTORE ANY AND ALL OF THESE FACILITIES, AFFECTED BY CONSTRUCTION ACTIVITIES, AT NO ADDITIONAL COST TO THE OWNER.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING EXISTING UTILITIES DURING OPERATIONS.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING ANY SURVEY OR RIGHT-OF-WAY MONUMENTS DISTURBED DURING CONSTRUCTION. THE CONTRACTOR SHALL EMPLOY A LICENSED LAND SURVEYOR TO RESTORE ALL DISTURBED MONUMENTS TO THEIR ORIGINAL LOCATION.
9. RESTORE ALL SURFACES TO AS GOOD OR BETTER CONDITION THAN BEFORE CONSTRUCTION AS SOON AS POSSIBLE FOLLOWING COMPLETION OF WORK IN ANY AREA.
10. THE CONTRACTOR SHALL BECOME FAMILIAR WITH SITE CONDITIONS AND SHALL INCLUDE PROVISIONS TO AVOID CONFLICTS WITH AND/OR RESTORE SITE FEATURES IN THE BID.
11. ALL SUITABLE EXCAVATED MATERIAL SHALL BE REUSED ON SITE AND BE SUITABLY STABILIZED SO THAT IT CANNOT REASONABLY RE-ENTER ANY BODY OF WATER.
12. ALL EXCAVATION SHALL BE CONDUCTED IN ACCORDANCE WITH OSHA STANDARDS, LOCAL REGULATIONS, STATE REGULATIONS, AND FEDERAL REGULATIONS.

MICRO-PHASING
1. PROVIDE 30, 208Y/120V, 60A, 30-POLE TEMPORARY PANELS IN/NEAR THE WORK AREA BOUNDARY AS INDICATED ON NEW WORK POWER DRAWINGS.
2. TEMPORARY PANELS AT EACH FLOOR SHALL BE CONNECTED TO AVAILABLE SPARE CIRCUIT BREAKERS IN THE 1600A AND 800A PANELBOARD LOCATED IN ROOM B00UD AT BASEMENT LEVEL, REQUIRING A ONE-TIME TEMPORARY SHUTDOWN OF THE 1600A AND 800A PANELS.
3. ACCOUNT FOR 125 HOURS FOR CIRCUIT TRACING THAT MAY NEED TO BE REQUIRED
4. CONTRACTOR SHALL FIELD VERIFY CIRCUITS FROM WITHIN THE WORK AREA WHICH FEED OCCUPIED AREAS OF THE BUILDING. ONCE CONTRACTORS TRACE THE CIRCUITS, MIGRATE THOSE CIRCUITS TO TEMPORARY PANELS, ADHERING TO THE 2-WEEK MINIMUM, 4-WEEK PREFERRED ADVANCE NOTICE REQUIREMENT FOR DOWNTIME.

GENERAL SCHEDULES

DRAWING NOTATION

HEAVY & DASHED AND/OR HATCHED INDICATES EXISTING EQUIPMENT TO BE DEMOLISHED/REMOVED BY CONTRACTOR

LIGHT & SOLID INDICATES EXISTING EQUIPMENT TO REMAIN.

HEAVY & SOLID INDICATES EQUIPMENT TO BE PROVIDED BY CONTRACTOR.

TEXT ADJACENT TO EQUIPMENT IS SOMETIMES ADDED FOR EXTRA CLARIFICATION ON DEMO/EXISTING TO REMAIN ITEMS. REFER TO LIST BELOW FOR DEFINITIONS.

TBR	EXISTING EQUIPMENT TO BE REMOVED BY CONTRACTOR
ETR	EXISTING EQUIPMENT TO REMAIN. CONTRACTOR SHALL MAINTAIN IN OPERATION.
ERE	EXISTING EQUIPMENT TO BE REMOVED AND RELOCATED AS SHOWN BY CONTRACTOR.
ETN	EXISTING EQUIPMENT TO BE REMOVED AND REPLACED WITH NEW BY CONTRACTOR
D/R	EXISTING EQUIPMENT TO BE DISCONNECTED AND RECONNECTED

SYMBOL INDICATING GENERAL LOCATION FROM WHICH REFERENCE PHOTOGRAPH WAS TAKEN.

POWER EQUIPMENT

SINGLE LINE DIAGRAM

POWER TRANSFORMER

PT POTENTIAL TRANSFORMER

CT CURRENT TRANSFORMER

FUSE

**AF / **AT MOLDED CASE CIRCUIT BREAKER "AF" INDICATES AMPERE FRAME SIZE "AT" INDICATES AMPERE TRIP SETTINGS

400AF / 300AT FUSED DISCONNECT "400AF" INDICATES AMPERE SWITCH SIZE "300AT" INDICATES AMPERE FUSE SIZE

200A DISCONNECT SWITCH (NON-FUSED) "200A" INDICATES AMPERE SWITCH SIZE

SYSTEM GROUND OR EQUIPMENT GROUND

PANELBOARD WITH MAIN CIRCUIT BREAKER # = 3-PHASE VOLTAGE

PANELBOARD WITH MAIN LUGS ONLY # = 3-PHASE VOLTAGE

EMERGENCY GENERATOR

METER

AUTOMATIC TRANSFER SWITCH

FLOOR PLAN

SURFACE MTD BRANCH CIRCUIT PANELBOARD.

RECESSED MTD BRANCH CIRCUIT PANELBOARD.

LAB EQUIPMENT ELECTRICAL ROUGH-IN. REFER TO DRAWING E6.8. # DENOTES EQUIPMENT TAG

240 VAC HEAVY DUTY NON-FUSED DISCONNECT SWITCH. "AF" - INDICATES FRAME SIZE "P" - INDICATES # OF POLES

240 VAC HEAVY DUTY FUSED DISCONNECT SWITCH. "AF" - INDICATES FRAME SIZE "AT" - INDICATES FUSE TRIP SIZE "P" - INDICATES # OF POLES

SPD SURGE SUPPRESSION DEVICE

ELECTRICAL CONNECTION AS DEFINED IN MECHANICAL EQUIPMENT CONNECTION SCHEDULE.

UTILITY POLE

DB-XX DESIGNATION FOR UNDERGROUND ELECTRICAL DUCT BANK

FH FUME HOOD ROUGH-IN

DH DOOR HARDWARE ROUGH-IN

A ANTENNA ROUGH-IN

REFER TO JUNCTION BOX SCHEDULE SHEET E6.6, FOR ADDITIONAL INFORMATION.

WIRING DEVICES

RECEPTACLES
1. FACEPLATE COLOR - STAINLESS STEEL, UON.
2. DEVICE COLOR - GRAY, UON.

#1 125 VOLT, 2 POLE, 3 WIRE, 20 AMP., HEAVY DUTY DUPLEX RECEPTACLE, MOUNTING HEIGHT 18" AFF UON.

#2 125 VOLT, 2 POLE, 3 WIRE, 20 AMP., HEAVY DUTY DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER.

#3 125 VOLT, 2 POLE, 3 WIRE, 20 AMP., DOUBLE DUPLEX "QUAD" RECEPTACLE. MOUNTING HEIGHT 18"AFF UON.

#4 125 VOLT, 2 POLE, 3 WIRE, 20 AMP., DOUBLE DUPLEX "QUAD" RECEPTACLE MOUNTED ABOVE COUNTER.

125 VOLT, 2 POLE, 3 WIRE, 20 AMP. HEAVY DUTY DUPLEX RECEPTACLE MOUNTED IN A FLOOR BOX. FLOOR BOX SHALL BE DUAL CHANNEL. PROVIDE WITH TRIM APPLICABLE TO INSTALLATION.

208 VOLT, 2 POLE, 3 WIRE, 20 AMP., HEAVY DUTY SIMPLEX RECEPTACLE.

TEXT ADJACENT TO RECEPTACLES INDICATES CONFIGURATION OR ACCESSORIES. REFER TO LIST BELOW FOR DEFINITIONS.

#	INDICATES PANELBOARD CIRCUIT TO WHICH RECEPTACLE SHALL BE CIRCUITED. REFER TO HOMERUN FOR PANELBOARD DESIGNATION.
W	EXTERIOR RECEPTACLES SUBJECT TO DAMP ENVIRONMENTS SHALL HAVE WEATHER-PROOF-IN-USE BUBBLE COVER WITH PADLOCK CAPABILITY.
G	RECEPTACLE EQUIPPED WITH INTEGRAL GROUND FAULT CIRCUIT INTERRUPTER
U	COMBINATION RECEPTACLE AND USB CHARGER.
TV	TELEVISION RECEPTACLE MOUNTED 60"AFF, UON.
C	OCCUPANCY SENSOR CONTROLLED RECEPTACLE - REFER TO DETAIL SHEET E8.1, FOR ADDITIONAL INFORMATION.
SB	INDICATES RECEPTACLE IS TO BE ON OPTIONAL STANDBY POWER.
CR	INDICATES RECEPTACLE IS TO BE ON LIFE SAFETY/CRITICAL BRANCH, COLOR RED FACEPLATE.

SURFACE RACEWAY USAGE

#1 DUAL CHANNEL METAL SURFACE RACEWAY V700 OR SIMILAR. MOUNTING HEIGHT 18" AFF, UON. AS INDICATED ON A-SERIES.

IN SOME AREAS SURFACE RACEWAY MAY BE REQUIRED, BUT NOT SHOWN. COORDINATE IN FIELD AND PROVIDE ACCORDINGLY. IN GENERAL - OBTAIN APPROVAL PRIOR TO USING SURFACE RACEWAY, WHERE NOT SPECIFICALLY SHOWN.

LIGHTING

LIGHT FIXTURES

'A' UPPER CASE LETTER INDICATES FIXTURE TYPE.

'a' LOWER CASE LETTER INDICATES SWITCH CONTROL. WHERE NO SWITCH CONTROL DESIGNATION IS PROVIDED, CONTROL SHALL BE VIA MASTER ROOM SWITCH OR MASTER ROOM OCCUPANCY SENSOR (WHERE PROVIDED).

'#' INDICATES PANELBOARD CIRCUIT TO WHICH FIXTURE SHALL BE CIRCUITED.

HALF HATCH INDICATES EMERGENCY LIGHT. REFER TO EMERGENCY LIGHTING DETAIL, SHEET E8.1, FOR ADDITIONAL INFORMATION.

EXIT & EGRESS

CEILING-MOUNTED ILLUMINATED "EXIT" SIGN LIGHTING FIXTURE.

WALL-MOUNTED ILLUMINATED "EXIT" SIGN LIGHTING FIXTURE.

NOTE: ARROWS INDICATE DIRECTION OF EGRESS.

EXIT SIGNS SHALL BE INSTALLED 7'-6" AFF. PROVIDE PENDANTS AS REQUIRED BY ROOM CEILING/STRUCTURE HEIGHT.

LIGHTING CONTROL

$ LIGHT SWITCH. REFER TO LIGHTING CONTROL SYSTEM SCHEDULE, SHEET E6.5 FOR ADDITIONAL INFORMATION.

TC TIME CLOCK

C CONTACTOR

PC PHOTOCELL

EPC EXTERIOR MOUNTED PHOTOCELL

EPC EMERGENCY POWER CONTROL

(S) (V) REFER TO LIGHTING CONTROL SYSTEM SCHEDULE, SHEET E6.5 FOR ADDITIONAL INFORMATION.

CIRCUITING LEGEND

CIRCUITING

LP2A-1,3,5 HOMERUN TO PANEL "LP2A", CIRCUITS #1,3,5 (VIA 20A-1P C/B'S). PROVIDE INSULATED GROUND CONDUCTOR IN ACCORDANCE WITH SPECIFICATIONS. NUMBER OF CIRCUITS INDICATED BY QUANTITY OF ARROW HEADS

LP2A-2 HOMERUN TO PANEL "LP2A" VIA 20A/1P CKT BKR. SEE BELOW PARAGRAPH 'HASH MARKS' FOR CONDUCTOR SIZING.

HASH MARKS INDICATE QUANTITY OF #12 AWG COPPER CONDUCTORS IN CONDUIT. WHEN NO HASH MARKS ARE INDICATED, CONDUIT SHALL CONTAIN (2) #12 WIRES AND #12 GROUND WIRE. ASSUME 3/4" DIAMETER CONDUIT, UNLESS NOTED OTHERWISE NOTED
EXAMPLE SHOWN AT LEFT INDICATES 2 HOT (SHORT LINES), 2 NEUTRAL (LONG LINES), AND 1 GROUND WIRE (LONG LINE WITH TAIL).

NOTE
CONDUCTORS REQUIRED FOR LUMINAIRE SWITCHING ARE NOT ACCOUNTED FOR ON THE PLANS USING HASH MARKS. CONTRACTOR SHALL INCLUDE ANY NECESSARY CONDUCTORS REQUIRED FOR SWITCHING IN BID. SWITCHING DESIGNATIONS (LOWER CASE LETTERS) ARE SHOWN TO ILLUSTRATE SWITCHING INTENT.

CIRCUIT ROUTING SHOWN ON DRAWINGS SHALL BE CONSIDERED DIAGRAMMATIC ONLY. CONTRACTOR SHALL PROVIDE NECESSARY OFFSETS AND ROUTE FEEDERS AFTER HAVING CONSIDERED ALL FIELD OBSTACLES

GENERAL ABBREVIATIONS

A	AMPERES	LTG	LIGHTING
ADA	AMERICANS WITH DISABILITIES ACT	LFMC	LIQUID-TIGHT FMC
AFF	ABOVE FINISH FLOOR		
AFG	ABOVE FINISH GRADE	MC	METAL CLAD CABLE
AHJ	AUTHORITY HAVING JURISDICTION	MCB	MAIN CIRCUIT BREAKER
AIC	AMPERE INTERRUPTING CAPACITY	MCP	MOTOR CIRCUIT PROTECTOR
AL	ALUMINUM	MFR	MANUFACTURER
ATS	AUTOMATIC TRANSFER SWITCH	MLO	MAIN LUGS ONLY
AWG	AMERICAN WIRE GAUGE		
AXL	ACROSS-THE-LINE MOTOR STARTER	NC	NORMALLY CLOSED
		NEC	NATIONAL ELECTRIC CODE
BFG	BELOW FINISH GRADE	NEMA	NAT'L ELECTRICAL MFR'S ASSOC.
BLDG	BUILDING	NF	NON FUSED
		NTS	NOT TO SCALE
C	CONDUIT		
CB	CIRCUIT BREAKER	P	POLE
CKT	CIRCUIT	PET	PROTECTIVE ENTRANCE TERMINAL
CL	CENTERLINE	PH	PHASE
CLF	CURRENT LIMITING FUSE	PVC	POLYVINYL CHLORIDE
CT	CURRENT TRANSFORMER		
CU	COPPER	QTY	QUANTITY
DWG	DRAWING	REQ'D	REQUIRED
		RMC	RIGID METAL CONDUIT
EC	ELECTRICAL CONTRACTOR	RTU	ROOF TOP UNIT
ECB	ENCLOSED CIRCUIT BREAKER		
EF	EXHAUST FAN	SP	SPARE
EM	EMERGENCY	TYP	TYPICAL
EMT	ELECTRICAL METALLIC TUBING		
F	FUSE	UG	UNDERGROUND OR UNDERGRADE
FLA	FULL LOAD AMPERES	UON,UNO	UNLESS OTHERWISE NOTED
FMC	FLEXIBLE METAL CONDUIT		
FT	FEET	V	VOLT
GFCI,GFI	GROUND-FAULT CIRCUIT INTERRUPTER	W	WIRE
GND,G	GROUND OR GROUNDING	WAP	WIRELESS ACCESS POINT
		WP	WEATHER PROOF RATED DEVICE
HOA	HAND, OFF, AUTOMATIC SWITCH		
		XFMR	TRANSFORMER
KCMIL	THOUSAND CIRCULAR MILS	Δ	DELTA
KVA	KILOVOLT AMPERES	Y	WYE
KW	KILOWATTS	ϕ	PHASE

RENOVATE PLANT SCIENCE BUILDING - PHASE 2
SUCF Project No. 161026-00
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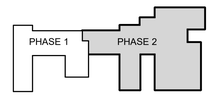
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Notes:



Keyplan

Job Number	31909.00
Drawing By	CCH
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Filename	
Date	August 31, 2026

Revisions

B	Addendum 3	11/04/26

ELECTRICAL LEGENDS, NOTES, AND ABBREVIATIONS

STATE OF NEW YORK — JOHN GARRABRANT — 126698 — LICENSED PROFESSIONAL ENGINEER

BID DOCUMENTS
Scale:

E0.1

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GENERAL SHEET NOTES:

1. REFER TO E0.1 FOR ELECTRICAL LEGENDS, ABBREVIATIONS AND GENERAL PROJECT NOTES.
2. REFER TO E6.5 FOR RACEWAY SCHEDULE FOR APPROVED RACEWAY USAGE.
3. REFER TO E6 SERIES FOR PANEL SCHEDULES FOR CIRCUIT CHARACTERISTICS.
4. REFER TO E6.5 FOR BRANCH CIRCUIT SCHEDULE (BCS) FOR CIRCUIT REQUIREMENTS.
5. ALL CONDUCTORS SHALL BE THHN/THWN-2.
6. INSTALLATION SHALL BE PER NECA7 GUIDELINES.
7. PROVIDE HANGERS & SUPPORTS AS REQUIRED.
8. PROVIDE GROUNDING PER NEC FOR ALL ELECTRICAL EQUIPMENT AND ASSOCIATED EQUIPMENT.
9. PROVIDE SUBMITTAL DATA FOR ALL PROPOSED HARDWARE, DEVICES, CONDUIT, HANGERS, ETC. FOR ENGINEER REVIEW & APPROVAL PRIOR TO ORDERING.
10. ALL CONDUCTORS AND EQUIPMENT NOT SHOWN FOR CLARITY. COORDINATE WITH ALL TRADES AND PROVIDE COMPLETE ELECTRICAL CIRCUITING FOR ALL INSTALLED EQUIPMENT. ALL REQUIREMENTS TO BE PER NEC.

SHEET KEY NOTES:

1. CONNECT REPLACEMENT EXTERIOR LIGHTING FIXTURE INTO CIRCUIT/SWITCHING MEANS RETAINED DURING REMOVALS.
2. COORDINATE PHOTOCELL LOCATION IN FIELD WITH CAMPUS PRIOR TO ROUGH-IN. REFER TO EXTERIOR LIGHTING CONTROL RISER DIAGARM, SHEET E8.2, FOR ADDITIONAL INFORMATION.



1 ELECTRICAL SITE LIGHTING NEW WORK PLAN
SCALE: 1" = 10'

RENOVATE PLANT SCIENCE BUILDING - PHASE 2

SUCF Project No. 161026-00

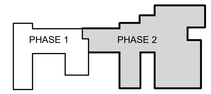
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Notes:



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Drawing By	COH
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Date	August 31, 2026

Revisions

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ELECTRICAL SITE LIGHTING NEW WORK PLAN

STATE OF NEW YORK
SHANE A. GARNEPUDI
LICENSED PROFESSIONAL ENGINEER
106095

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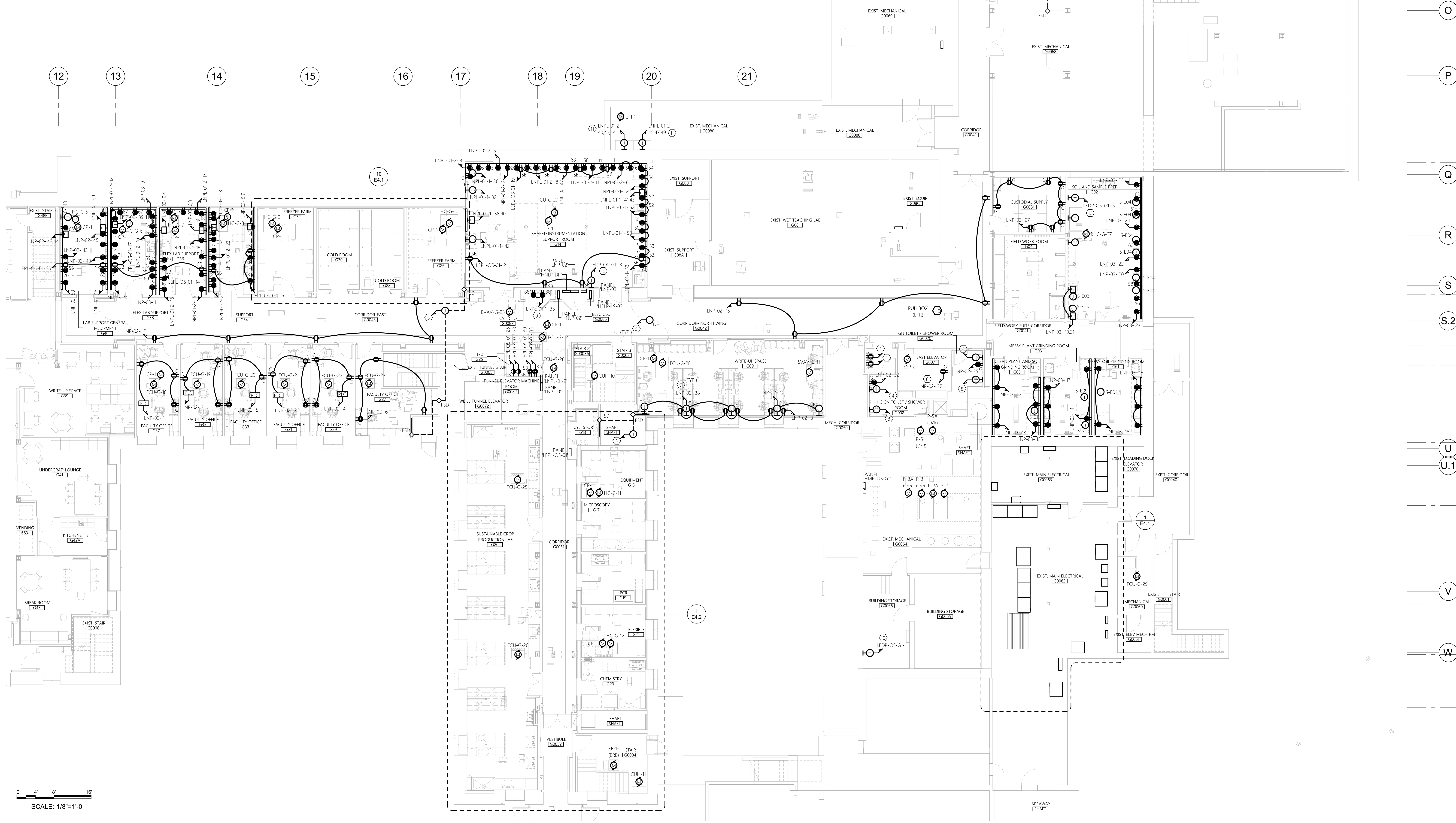
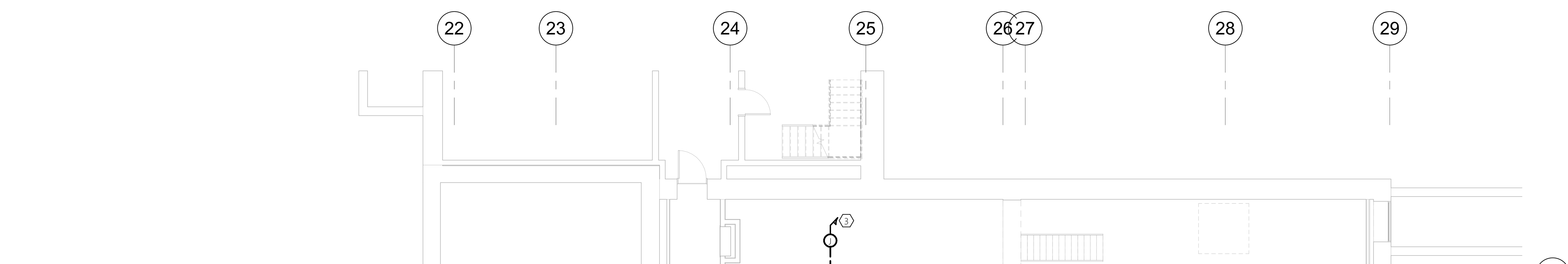
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SHEET KEY NOTES:

1. PROVIDE 20A, 120V CIRCUIT AND GFCI RECEPTACLE FOR WATER FOUNTAIN. COORDINATE INSTALLATION REQUIREMENTS WITH MANUFACTURER'S RECOMMENDATIONS.
2. PRIOR TO START OF PHASE 2 REMOVE EXISTING PANEL 'PPS1' FEED AND REPLACE IN KIND. COORDINATE ALL WORK REQUIREMENTS AND REPLACEMENT FEEDER ROUTING IN FIELD WITH OTHER TRADES AND CAMPUS PRIOR TO ROUGH-IN. ENSURE REPLACEMENT FEEDER IS NOT DISTURBED DURING PHASE 2 CONSTRUCTION ACTIVITIES.
3. PROVIDE DEDICATED 120V, 20A CIRCUIT FOR AREA FIRE RELAYS. COORDINATE INSTALLATION LOCATION AND REQUIREMENTS WITH CORNELL FIRE ALARM VENDOR, AND FA SHEETS.
4. PROVIDE GFCI RATED 20A, 120V CIRCUIT FOR SENSOR FAUCET. COORDINATE INSTALLATION REQUIREMENTS WITH MANUFACTURER'S RECOMMENDATIONS.
5. PROVIDE 120V, 20A CIRCUIT FOR DOOR HARDWARE, CIRCUIT ALL DOORS ON FLOOR TO SAME CIRCUIT.
6. PROVIDE 120V, 20A GFCI RATED RECEPTACLE FOR ELEVATOR PIT. COORDINATE INSTALLATION IN FIELD WITH ELEVATOR INSTALLER PRIOR TO ROUGH-IN.
7. PROVIDE CIRCUITING AND INSTALLATION OF FURNITURE POWER IN ACCORDANCE WITH FURNITURE MANUFACTURER'S RECOMMENDATIONS. COORDINATE ALL INSTALLATION WITH A-SHEETS.
8. PROVIDE GFCI RATED 20A, 120V CIRCUIT FOR SENSOR OPERATED FLUSH VALVE. COORDINATE INSTALLATION REQUIREMENTS WITH MANUFACTURER'S RECOMMENDATIONS.
9. PROVIDE RECEPTACLES AND CIRCUIT FOR CYLINDER EQUIPMENT. RECEPTACLES TO BE MOUNTED 88"AFF. COORDINATE ALL REQUIREMENTS WITH EQUIPMENT MANUFACTURER'S RECOMMENDATIONS.
10. PROVIDE 120V, 20A CIRCUIT FOR BMS PANEL CONNECTION. COORDINATE ALL INSTALLATION REQUIREMENTS WITH MANUFACTURER'S RECOMMENDATIONS & LOCATION WITH BMS INSTALLER.
11. PROVIDE DEDICATED 208V, 3PH, 4-WIRE, 20A CIRCUIT FROM PANEL LNPL-01 FOR CER CONDENSER. PROVIDE NON-FUSED DISCONNECT IN NEMA 1 ENCLOSURE UPSTREAM OF CONDENSER. COORDINATE DISCONNECT LOCATION IN FIELD WITH OWNER AND CER PROVIDER PRIOR TO ROUGH-IN. COORDINATE INSTALLATION/ROUGH-IN REQUIREMENTS WITH APPROVED CER SHOP DRAWINGS.

GENERAL SHEET NOTES:

1. REFER TO E0.1 FOR ELECTRICAL LEGENDS, ABBREVIATIONS AND GENERAL PROJECT NOTES.
2. REFER TO E6.5 FOR RACEWAY SCHEDULE FOR APPROVED RACEWAY USAGE.
3. REFER TO E6 SERIES FOR PANEL SCHEDULES FOR CIRCUIT CHARACTERISTICS.
4. REFER TO E6.5 FOR BRANCH CIRCUIT SCHEDULE (BCS) FOR CIRCUIT REQUIREMENTS.
5. ALL CONDUCTORS SHALL BE THHN/THWN-2.
6. INSTALLATION SHALL BE PER NECA1 GUIDELINES.
7. PROVIDE HANGERS & SUPPORTS AS REQUIRED.
8. PROVIDE GROUNDING PER NEC FOR ALL ELECTRICAL EQUIPMENT AND ASSOCIATED EQUIPMENT.
9. PROVIDE SUBMITTAL DATA FOR ALL PROPOSED HARDWARE, DEVICES, CONDUIT, HANGERS, ETC. FOR ENGINEER REVIEW & APPROVAL PRIOR TO ORDERING.
10. ALL CONDUCTORS AND EQUIPMENT NOT SHOWN FOR CLARITY. COORDINATE WITH ALL TRADES AND PROVIDE COMPLETE ELECTRICAL CIRCUITING FOR ALL INSTALLED EQUIPMENT. ALL REQUIREMENTS TO BE PER NEC.
11. COORDINATE PHASING PER CONTRACT DOCUMENTS.
12. COORDINATE DIMENSIONED LOCATIONS WITH A-SHEETS.
13. IN ALL LOCATIONS WHERE PLENUM RETURN IS UTILIZED, ALL CABLING IS TO BE PLENUM RATED. COORDINATE PLENUM LOCATIONS WITH G-SHEETS.

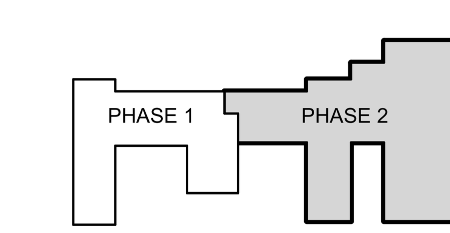
1 ELECTRICAL 0-GROUND FLOOR POWER PLAN
SCALE: 1/8" = 1'-0"

RENOVATE PLANT SCIENCE BUILDING - PHASE 2
SUCF Project No. 161026-00
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Notes:



Keyplan

Job Number	31909.00
Drawing By	CCH
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Date	August 31, 2026

Revisions

B	Addendum 3	11/04/26

ELECTRICAL GROUND FLOOR POWER PLAN

BID DOCUMENTS
Scale: As indicated

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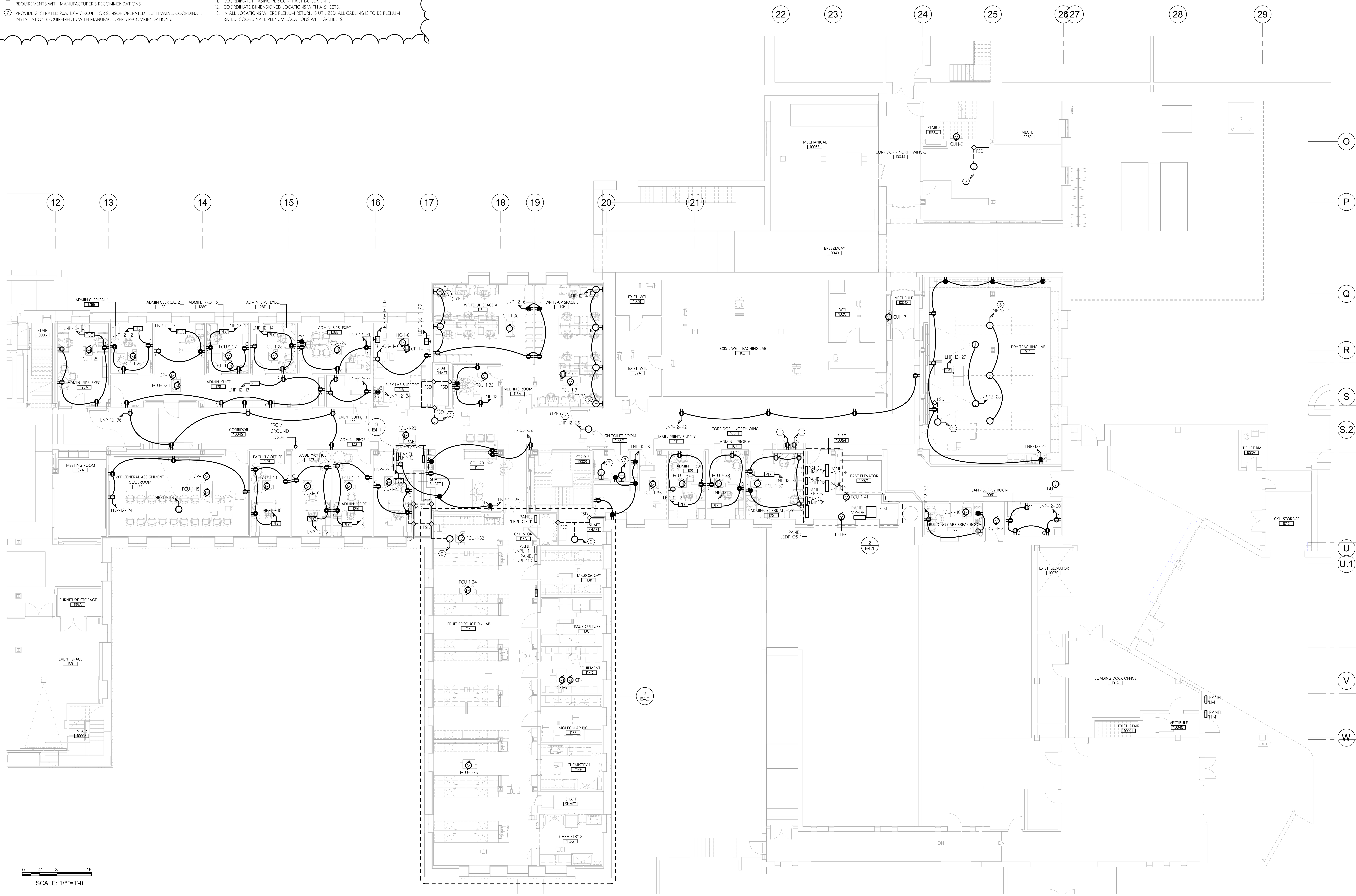
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SHEET KEY NOTES:

1. PROVIDE GFCI RATED 20A, 120V CIRCUIT FOR WATER FOUNTAIN. COORDINATE INSTALLATION REQUIREMENTS WITH MANUFACTURER'S RECOMMENDATIONS.
2. PROVIDE DEDICATED 120V, 20A CIRCUIT FOR AREA FIRE RELAYS. COORDINATE INSTALLATION LOCATION AND REQUIREMENTS WITH CORNELL FIRE ALARM VENDOR, AND FA SHEETS.
3. PROVIDE GFCI RATED 20A, 120V CIRCUIT FOR SENSOR FAUCET. COORDINATE INSTALLATION REQUIREMENTS WITH MANUFACTURER'S RECOMMENDATIONS.
4. PROVIDE 120V, 20A CIRCUIT FOR DOOR HARDWARE, CIRCUIT ALL DOORS ON FLOOR TO SAME CIRCUIT.
5. PROVIDE CIRCUITING AND INSTALLATION OF FURNITURE POWER IN ACCORDANCE WITH FURNITURE MANUFACTURER'S RECOMMENDATIONS. COORDINATE ALL INSTALLATION WITH A-SHEETS.
6. PROVIDE 120V, 20A CIRCUIT FOR CEILING CORD REEL. COORDINATE INSTALLATION REQUIREMENTS WITH MANUFACTURER'S RECOMMENDATIONS.
7. PROVIDE GFCI RATED 20A, 120V CIRCUIT FOR SENSOR OPERATED FLUSH VALVE. COORDINATE INSTALLATION REQUIREMENTS WITH MANUFACTURER'S RECOMMENDATIONS.

GENERAL SHEET NOTES:

1. REFER TO E0.1 FOR ELECTRICAL LEGENDS, ABBREVIATIONS AND GENERAL PROJECT NOTES.
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12. COORDINATE DIMENSIONED LOCATIONS WITH A-SHEETS.
13. IN ALL LOCATIONS WHERE PLENUM RETURN IS UTILIZED, ALL CABLING IS TO BE PLENUM RATED. COORDINATE PLENUM LOCATIONS WITH G-SHEETS.



1 ELECTRICAL 1ST FLOOR POWER PLAN
SCALE: 1/8" = 1'-0"

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RENOVATE PLANT SCIENCE BUILDING - PHASE 2
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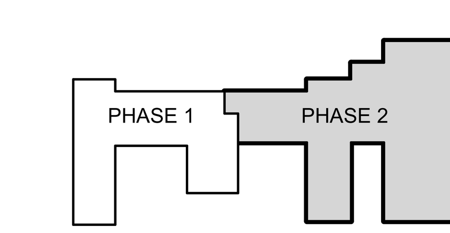
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Notes:



Keyplan

Job Number 31909.00
Drawing By KJM
Checked By SAG
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Date August 31, 2026

Revisions

B	Addendum 3	11/04/26

ELECTRICAL FIRST FLOOR POWER PLAN

BID DOCUMENTS
Scale: As indicated

STATE OF NEW YORK · SHANE GARRABRANT · 106086 · LICENSED PROFESSIONAL ENGINEER

E1.1

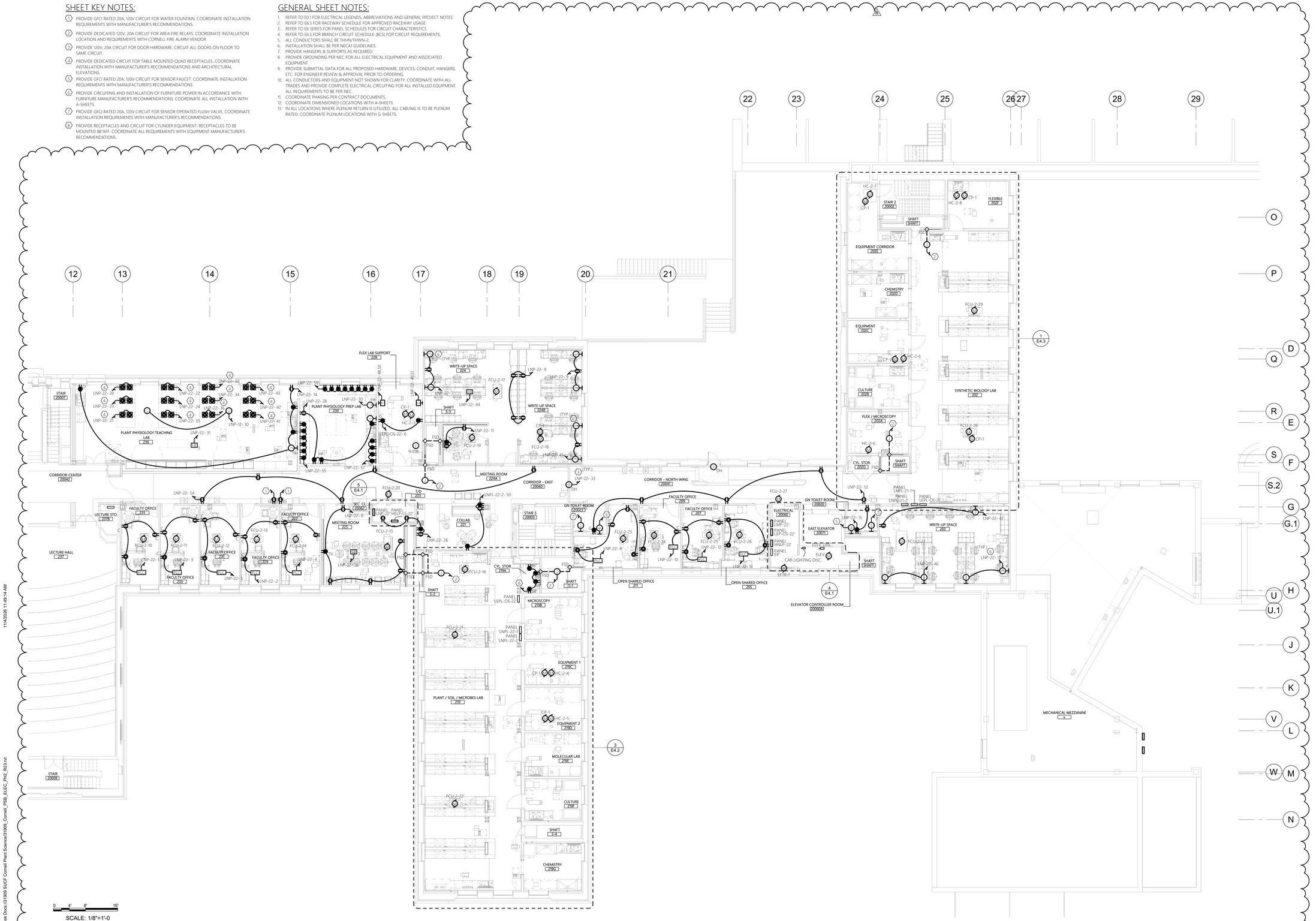
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SHEET KEY NOTES:

1. PROVIDE GFCI RATED 20A, 120V CIRCUIT FOR WATER FOUNTAIN. COORDINATE INSTALLATION REQUIREMENTS WITH MANUFACTURER'S RECOMMENDATIONS.
2. PROVIDE DEDICATED 120V, 20A CIRCUIT FOR AREA FIRE RELAYS. COORDINATE INSTALLATION LOCATION AND REQUIREMENTS WITH CORNELL FIRE ALARM VENDOR.
3. PROVIDE 120V, 20A CIRCUIT FOR DOOR HARDWARE, CIRCUIT ALL DOORS ON FLOOR TO SAME CIRCUIT.
4. PROVIDE DEDICATED CIRCUIT FOR TABLE MOUNTED QUAD RECEPTACLES. COORDINATE INSTALLATION WITH MANUFACTURER'S RECOMMENDATIONS AND ARCHITECTURAL ELEVATIONS.
5. PROVIDE GFCI RATED 20A, 120V CIRCUIT FOR SENSOR FAUCET. COORDINATE INSTALLATION REQUIREMENTS WITH MANUFACTURER'S RECOMMENDATIONS.
6. PROVIDE CIRCUITING AND INSTALLATION OF FURNITURE POWER IN ACCORDANCE WITH FURNITURE MANUFACTURER'S RECOMMENDATIONS. COORDINATE ALL INSTALLATION WITH A-SHEETS.
7. PROVIDE GFCI RATED 20A, 120V CIRCUIT FOR SENSOR OPERATED FLUSH VALVE. COORDINATE INSTALLATION REQUIREMENTS WITH MANUFACTURER'S RECOMMENDATIONS.
8. PROVIDE RECEPTACLES AND CIRCUIT FOR CYLINDER EQUIPMENT. RECEPTACLES TO BE MOUNTED 88"AFF. COORDINATE ALL REQUIREMENTS WITH EQUIPMENT MANUFACTURER'S RECOMMENDATIONS.

GENERAL SHEET NOTES:

1. REFER TO E0.1 FOR ELECTRICAL LEGENDS, ABBREVIATIONS AND GENERAL PROJECT NOTES.
2. REFER TO E6.5 FOR RACEWAY SCHEDULE FOR APPROVED RACEWAY USAGE.
3. REFER TO E6 SERIES FOR PANEL SCHEDULES FOR CIRCUIT CHARACTERISTICS.
4. REFER TO E6.5 FOR BRANCH CIRCUIT SCHEDULE (BCS) FOR CIRCUIT REQUIREMENTS.
5. ALL CONDUCTORS SHALL BE THHN/THWN-2.
6. INSTALLATION SHALL BE PER NEC41 GUIDELINES.
7. PROVIDE HANGERS & SUPPORTS AS REQUIRED.
8. PROVIDE GROUNDING PER NEC FOR ALL ELECTRICAL EQUIPMENT AND ASSOCIATED EQUIPMENT.
9. PROVIDE SUBMITTAL DATA FOR ALL PROPOSED HARDWARE, DEVICES, CONDUIT, HANGERS, ETC. FOR ENGINEER REVIEW & APPROVAL PRIOR TO ORDERING.
10. ALL CONDUCTORS AND EQUIPMENT NOT SHOWN FOR CLARITY. COORDINATE WITH ALL TRADES AND PROVIDE COMPLETE ELECTRICAL CIRCUITING FOR ALL INSTALLED EQUIPMENT. ALL REQUIRMENTS TO BE PER NEC.
11. COORDINATE PHASING PER CONTRACT DOCUMENTS.
12. COORDINATE DIMENSIONED LOCATIONS WITH A-SHEETS.
13. IN ALL LOCATIONS WHERE PLENUM RETURN IS UTILIZED, ALL CABLING IS TO BE PLENUM RATED. COORDINATE PLENUM LOCATIONS WITH G-SHEETS.



1 ELECTRICAL 2ND FLOOR POWER PLAN
SCALE: 1/8" = 1'-0"

RENOVATE PLANT SCIENCE BUILDING - PHASE 2
SUCF Project No. 161026-00
236 Tower Road
Ithaca, NY 14853

CornellCALS College of Agriculture and Life Sciences
SUNY State University Construction Fund

Ellenzweig Architecture | Planning	230 Congress Street Boston, MA 02110 T 617 491-5575
Ryan Biggs Clark Davis Structural Engineers	257 Ushers Road Clifton Park, NY 12065 T 518 406-5506
Salas O'Brien Consulting & Engineering Group of NY, Inc. Mechanical Engineers	300 Trolley Blvd. Rochester, NY 14606 T 585 288-5590
Jade Stone Engineering Electrical Engineers	444 Vanduzee St. Watertown, NY 13601 T 315 836 4062
Watson Engineering Plumbing	4500 State Route 434 Apalachin, NY 13732 T 607 223-4334
DM Engineers Fire Protection Engineers	1007 Yonkers Ave Yonkers, NY 10704 T 929 333-2339
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Environ. Design & Research Historic Preservation, Landscape, Civil Engineering	217 Montgomery St, Suite 1000 Syracuse, NY 13202 T 315 471-0688
Schuler Shook Lighting Design	240 W 40th Street, 2nd Floor New York, NY 10018 T 212 439-5650
D2D Green Design Sustainability PH2	10 Hallenbeck Hill East Greenbush, NY 12061 T 518 729-2967
Shen Milsom & Wilke Acoustics, IT, AV, Security	417 Fifth Avenue New York, NY 10016 T 212 725-6800
Watts Architects & Engineers Asbestos, Haz Mat	95 Perry Street, Suite 300 Buffalo, NY 14203 T 716 206-5122
Hastings Consulting Building Code	142 Hanlon Rd Holliston, MA 01746 T 508 397-8417
Ellana Cost Consulting	32 Broadway, Suite 801 New York, NY 10004 T 212971-0936

Notes:

Keyplan

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Filename	
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ELECTRICAL SECOND FLOOR POWER PLAN

BID DOCUMENTS
Scale: As indicated

E1.2

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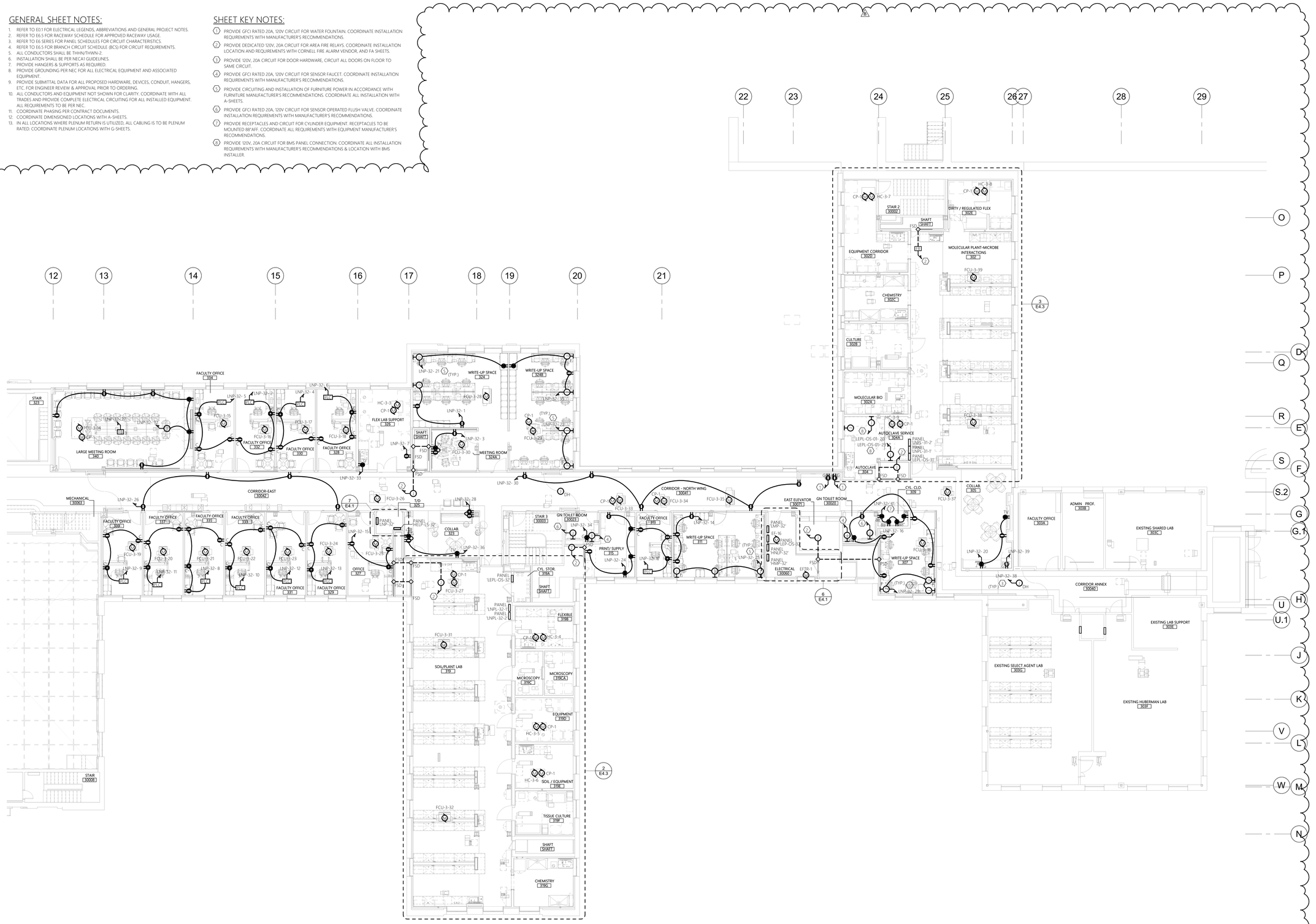
Autodesk Docs://31909 SUCF Cornell Plant Science/31909_Cornell_PSB_ELEC_PH2_R23.rvt

GENERAL SHEET NOTES:

1. REFER TO E0.1 FOR ELECTRICAL LEGENDS, ABBREVIATIONS AND GENERAL PROJECT NOTES.
2. REFER TO E6.5 FOR RACEWAY SCHEDULE FOR APPROVED RACEWAY USAGE.
3. REFER TO E6 SERIES FOR PANEL SCHEDULES FOR CIRCUIT CHARACTERISTICS.
4. REFER TO E6.5 FOR BRANCH CIRCUIT SCHEDULE (BCS) FOR CIRCUIT REQUIREMENTS.
5. ALL CONDUCTORS SHALL BE THHN/THWN-2.
6. INSTALLATION SHALL BE PER NEC41 GUIDELINES.
7. PROVIDE HANGERS & SUPPORTS AS REQUIRED.
8. PROVIDE GROUNDING PER NEC FOR ALL ELECTRICAL EQUIPMENT AND ASSOCIATED EQUIPMENT.
9. PROVIDE SUBMITTAL DATA FOR ALL PROPOSED HARDWARE, DEVICES, CONDUIT, HANGERS, ETC. FOR ENGINEER REVIEW & APPROVAL PRIOR TO ORDERING.
10. ALL CONDUCTORS AND EQUIPMENT NOT SHOWN FOR CLARITY. COORDINATE WITH ALL TRADES AND PROVIDE COMPLETE ELECTRICAL CIRCUITING FOR ALL INSTALLED EQUIPMENT. ALL REQUIREMENTS TO BE PER NEC.
11. COORDINATE PHASING PER CONTRACT DOCUMENTS.
12. COORDINATE DIMENSIONED LOCATIONS WITH A-SHEETS.
13. IN ALL LOCATIONS WHERE PLENUM RETURN IS UTILIZED, ALL CABLING IS TO BE PLENUM RATED. COORDINATE PLENUM LOCATIONS WITH G-SHEETS.

SHEET KEY NOTES:

1. PROVIDE GFCI RATED 20A, 120V CIRCUIT FOR WATER FOUNTAIN. COORDINATE INSTALLATION REQUIREMENTS WITH MANUFACTURER'S RECOMMENDATIONS.
2. PROVIDE DEDICATED 120V, 20A CIRCUIT FOR AREA FIRE RELAYS. COORDINATE INSTALLATION LOCATION AND REQUIREMENTS WITH CORNELL FIRE ALARM VENDOR, AND FA SHEETS.
3. PROVIDE 120V, 20A CIRCUIT FOR DOOR HARDWARE, CIRCUIT ALL DOORS ON FLOOR TO SAME CIRCUIT.
4. PROVIDE GFCI RATED 20A, 120V CIRCUIT FOR SENSOR FAUCET. COORDINATE INSTALLATION REQUIREMENTS WITH MANUFACTURER'S RECOMMENDATIONS.
5. PROVIDE CIRCUITING AND INSTALLATION OF FURNITURE POWER IN ACCORDANCE WITH FURNITURE MANUFACTURER'S RECOMMENDATIONS. COORDINATE ALL INSTALLATION WITH A-SHEETS.
6. PROVIDE GFCI RATED 20A, 120V CIRCUIT FOR SENSOR OPERATED FLUSH VALVE. COORDINATE INSTALLATION REQUIREMENTS WITH MANUFACTURER'S RECOMMENDATIONS.
7. PROVIDE RECEPTACLES AND CIRCUIT FOR CYLINDER EQUIPMENT. RECEPTACLES TO BE MOUNTED 88"AFF. COORDINATE ALL REQUIREMENTS WITH EQUIPMENT MANUFACTURER'S RECOMMENDATIONS.
8. PROVIDE 120V, 20A CIRCUIT FOR BMS PANEL CONNECTION. COORDINATE ALL INSTALLATION REQUIREMENTS WITH MANUFACTURER'S RECOMMENDATIONS & LOCATION WITH BMS INSTALLER.



0 4' 8' 16'

SCALE: 1/8"=1'-0

1 ELECTRICAL 3RD FLOOR POWER PLAN

SCALE: 1/8" = 1'-0"

RENOVATE PLANT SCIENCE BUILDING - PHASE 2

SUCF Project No. 161026-00

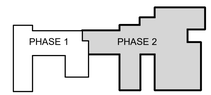
236 Tower Road
Ithaca, NY 14853

Cornell CALS College of Agriculture and Life Sciences

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Hastings Consulting Building Code	142 Hanlon Rd Holliston, MA 01746 T 508 397-8417
Ellana Cost Consulting	32 Broadway, Suite 801 New York, NY 10004 T 212971-0936

Notes:



Keyplan

Job Number	31909.00
Drawing By	KJM
Checked By	SAG
Filename	
Date	August 31, 2026

Revisions

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ELECTRICAL THIRD FLOOR POWER PLAN

STATE OF NEW YORK · SHANE GARGARAN · LICENSED PROFESSIONAL ENGINEER

BID DOCUMENTS
Scale: As indicated

E1.3

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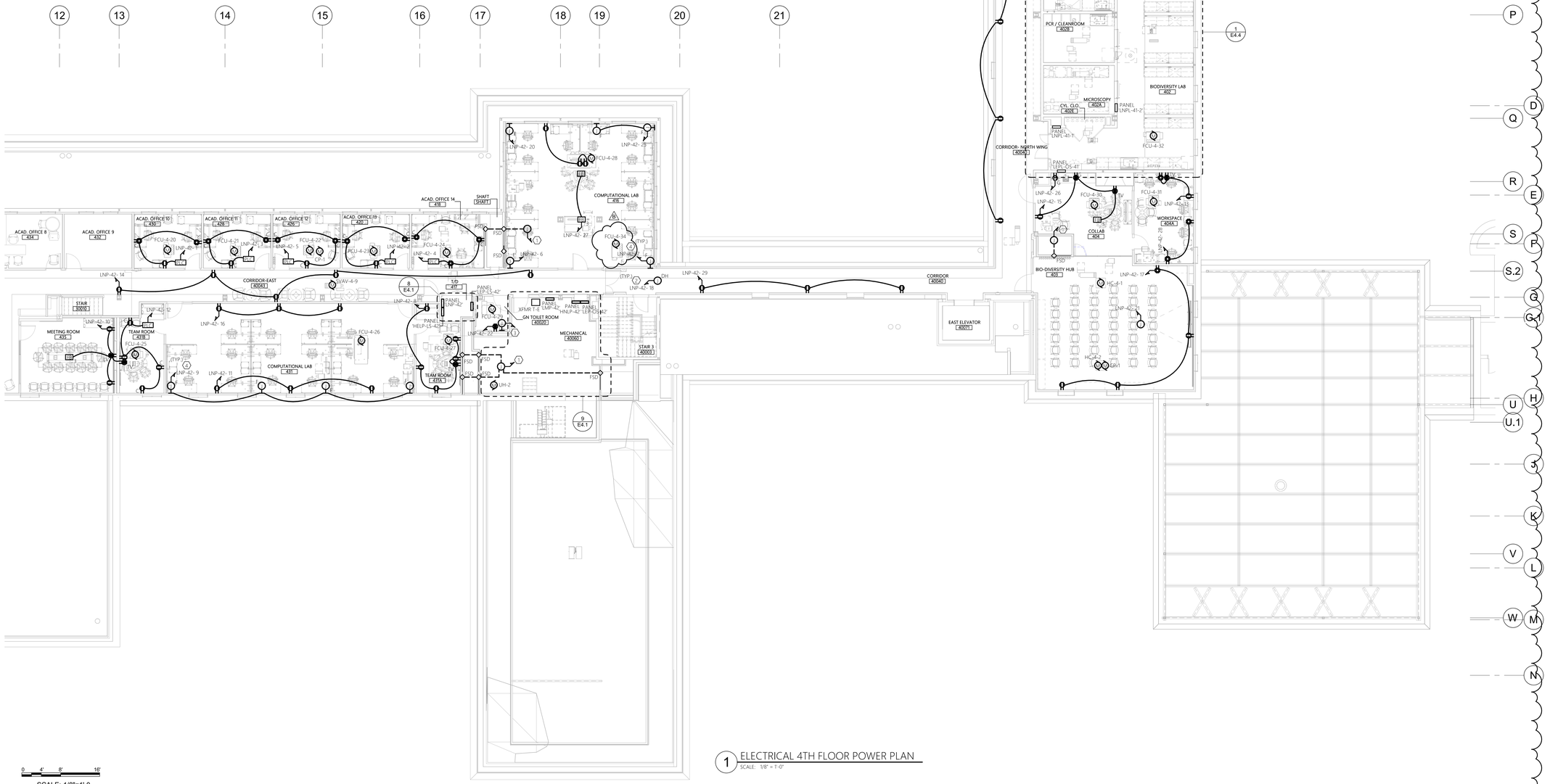
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SHEET KEY NOTES:

1. PROVIDE DEDICATED 120V, 20A CIRCUIT FOR AREA FIRE RELAYS. COORDINATE INSTALLATION LOCATION AND REQUIREMENTS WITH CORNELL FIRE ALARM VENDOR, AND FA SHEETS.
2. PROVIDE 120V, 20A CIRCUIT FOR DOOR HARDWARE, CIRCUIT ALL DOORS ON FLOOR TO SAME CIRCUIT.
3. PROVIDE GFCI RATED 20A, 120V CIRCUIT FOR SENSOR FAUCET. COORDINATE INSTALLATION REQUIREMENTS WITH MANUFACTURER'S RECOMMENDATIONS.
4. PROVIDE CIRCUITING AND INSTALLATION OF FURNITURE POWER IN ACCORDANCE WITH FURNITURE MANUFACTURER'S RECOMMENDATIONS. COORDINATE ALL INSTALLATION WITH A-SHEETS.

GENERAL SHEET NOTES:

1. REFER TO E0.1 FOR ELECTRICAL LEGENDS, ABBREVIATIONS AND GENERAL PROJECT NOTES.
2. REFER TO E6.5 FOR RACEWAY SCHEDULE FOR APPROVED RACEWAY USAGE.
3. REFER TO E6 SERIES FOR PANEL SCHEDULES FOR CIRCUIT CHARACTERISTICS.
4. REFER TO E6.5 FOR BRANCH CIRCUIT SCHEDULE (BCS) FOR CIRCUIT REQUIREMENTS.
5. ALL CONDUCTORS SHALL BE THHN/THWN-2.
6. INSTALLATION SHALL BE PER NECA1 GUIDELINES.
7. PROVIDE HANGERS & SUPPORTS AS REQUIRED.
8. PROVIDE GROUNDING PER NEC FOR ALL ELECTRICAL EQUIPMENT AND ASSOCIATED EQUIPMENT.
9. PROVIDE SUBMITTAL DATA FOR ALL PROPOSED HARDWARE, DEVICES, CONDUIT, HANGERS, ETC. FOR ENGINEER REVIEW & APPROVAL PRIOR TO ORDERING.
10. ALL CONDUCTORS AND EQUIPMENT NOT SHOWN FOR CLARITY. COORDINATE WITH ALL TRADES AND PROVIDE COMPLETE ELECTRICAL CIRCUITING FOR ALL INSTALLED EQUIPMENT. ALL REQUIREMENTS TO BE PER NEC.
11. COORDINATE PHASING PER CONTRACT DOCUMENTS.
12. COORDINATE DIMENSIONED LOCATIONS WITH A-SHEETS.
13. IN ALL LOCATIONS WHERE PLENUM RETURN IS UTILIZED, ALL CABLING IS TO BE PLENUM RATED. COORDINATE PLENUM LOCATIONS WITH G-SHEETS.



1 ELECTRICAL 4TH FLOOR POWER PLAN
SCALE: 1/8" = 1'-0"

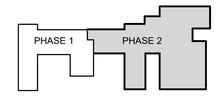
RENOVATE PLANT SCIENCE BUILDING - PHASE 2
SUCF Project No. 161026-00
236 Tower Road
Ithaca, NY 14853

CornellCALS College of Agriculture and Life Sciences

SUNY State University Construction Fund

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Ellana Cost Consulting	32 Broadway, Suite 801 New York, NY 10004 T 212971-0936

Notes:



Keyplan

Job Number	31909.00
Drawing By	KJM
Checked By	SAG
Filename	
Date	August 31, 2026

Revisions

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ELECTRICAL FOURTH FLOOR POWER PLAN

BID DOCUMENTS
Scale: As indicated

STATE OF NEW YORK · JEANNE GARRAMONE · 109039 · LICENSED PROFESSIONAL ENGINEER

E1.4

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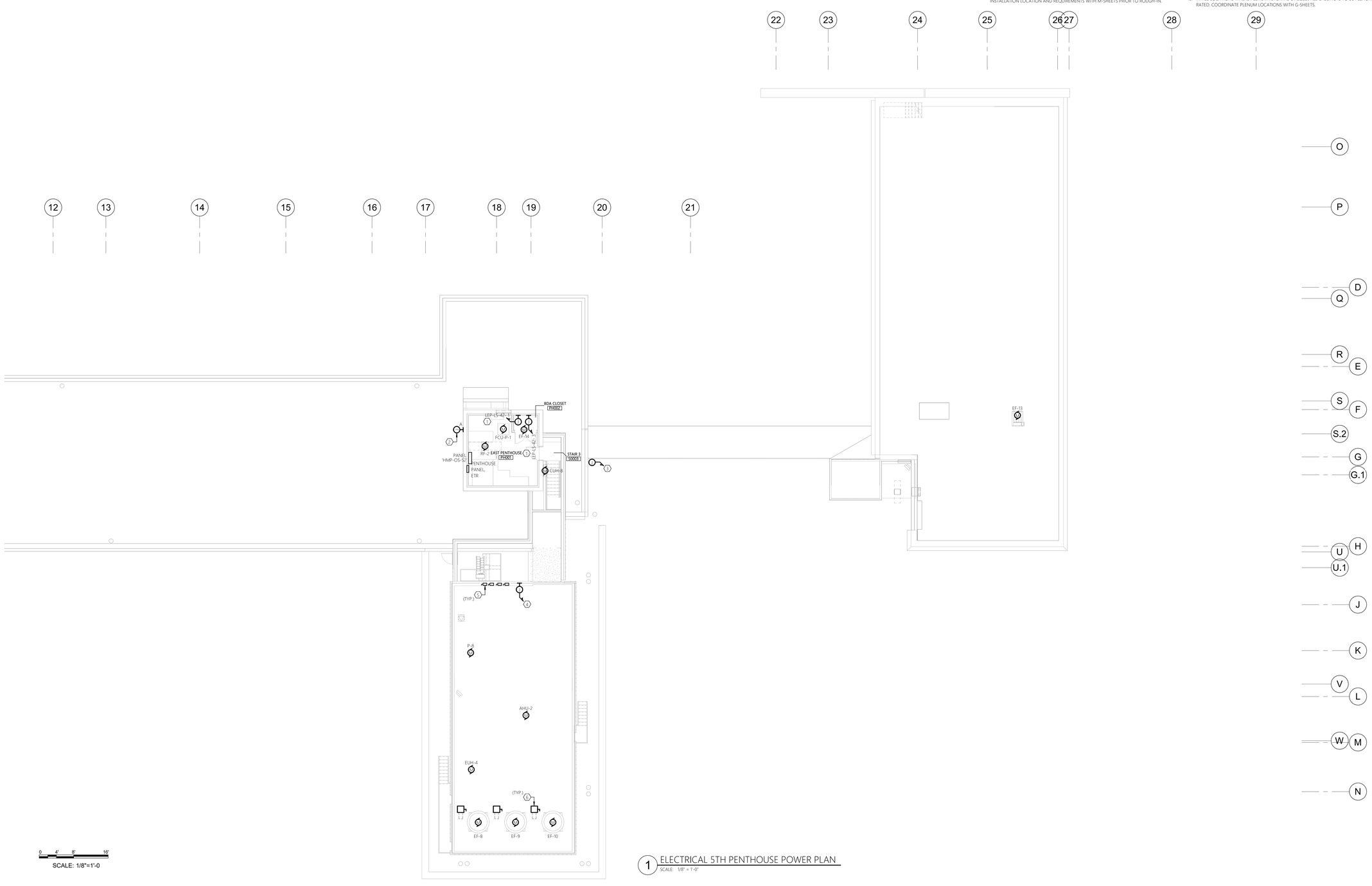
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SHEET KEY NOTES:

1. PROVIDE DEDICATED 120V, 20A CIRCUIT FOR BDSA ANTENNA. COORDINATE ROUGH-IN WITH FA DRAWINGS. INSTALL PER MANUFACTURER'S RECOMMENDATIONS FOR A COMPLETE AND OPERABLE SYSTEM WITH TURN-KEY INSTALLATION.
2. PROVIDE BONDING/GROUNDING OF ANTENNA PER NEC. REFER TO GROUNDING DETAIL, SHEET E8.2 FOR ADDITIONAL INFORMATION.
3. PROVIDE 120V, 20A CIRCUIT FOR HEAT TRACE. COORDINATE INSTALLATION REQUIREMENTS WITH MANUFACTURER'S RECOMMENDATIONS. UTILIZE SPACE WITHIN EXISTING PENTHOUSE PANEL.
4. PROVIDE 120V, 20A CIRCUIT FOR MECHANICAL SPACE LIGHTING AND POWER. COORDINATE INSTALLATION REQUIREMENTS WITH M-SHEETS PRIOR TO ROUGH-IN. UTILIZE SPACE WITHIN EXISTING PENTHOUSE PANEL.
5. INDICATIVE OF SUPPLY FAN VFD INSTALLATION LOCATION. COORDINATE EXACT INSTALLATION LOCATION AND REQUIREMENTS WITH M-SHEETS PRIOR TO ROUGH-IN.
6. INDICATIVE OF EXHAUST FAN DISCONNECT INSTALLATION LOCATION. COORDINATE EXACT INSTALLATION LOCATION AND REQUIREMENTS WITH M-SHEETS PRIOR TO ROUGH-IN.

GENERAL SHEET NOTES:

1. REFER TO E0.1 FOR ELECTRICAL LEGENDS, ABBREVIATIONS AND GENERAL PROJECT NOTES.
2. REFER TO E6.5 FOR RACEWAY SCHEDULE FOR APPROVED RACEWAY USAGE.
3. REFER TO E6 SERIES FOR PANEL SCHEDULES FOR CIRCUIT CHARACTERISTICS.
4. REFER TO E6.5 FOR BRANCH CIRCUIT SCHEDULE (BCS) FOR CIRCUIT REQUIREMENTS.
5. ALL CONDUCTORS SHALL BE THHN/THWN-2.
6. INSTALLATION SHALL BE PER NEC41 GUIDELINES.
7. PROVIDE HANGERS & SUPPORTS AS REQUIRED.
8. PROVIDE GROUNDING PER NEC FOR ALL ELECTRICAL EQUIPMENT AND ASSOCIATED EQUIPMENT.
9. PROVIDE SUBMITTAL DATA FOR ALL PROPOSED HARDWARE, DEVICES, CONDUIT, HANGERS, ETC. FOR ENGINEER REVIEW & APPROVAL PRIOR TO ORDERING.
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13. IN ALL LOCATIONS WHERE PLENUM RETURN IS UTILIZED, ALL CABLING IS TO BE PLENUM RATED. COORDINATE PLENUM LOCATIONS WITH G-SHEETS.



1 ELECTRICAL 5TH PENTHOUSE POWER PLAN
SCALE: 1/8" = 1'-0"

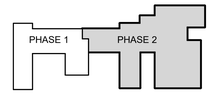
RENOVATE PLANT SCIENCE BUILDING - PHASE 2	
SUCF Project No. 161026-00	236 Tower Road Ithaca, NY 14853

Cornell CALS College of Agriculture and Life Sciences

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Ellenzweig Architecture | Planning	230 Congress Street Boston, MA 02110 T 617 491-5575
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Notes:



Keyplan

Job Number	31909.00
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Revisions

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ELECTRICAL PENTHOUSE POWER PLAN

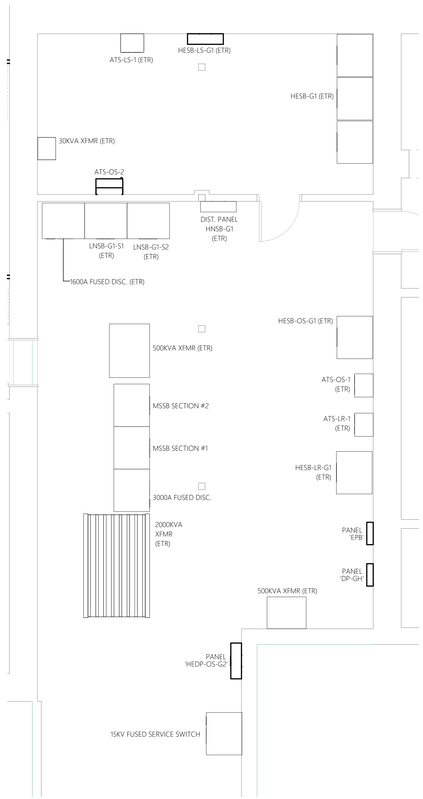
STATE OF NEW YORK · JOHN GARRABRANT · 116698 · LICENSED PROFESSIONAL ENGINEER

BID DOCUMENTS
Scale: As indicated

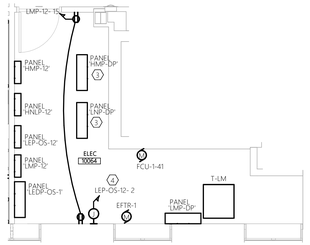
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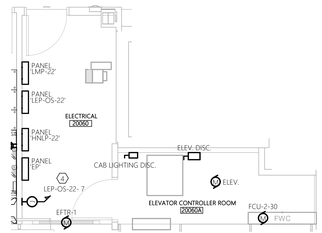
1 ELECTRICAL ENLARGED POWER PLAN - MAIN ELECTRICAL ROOM
SCALE: 1/4" = 1'-0"



2 ELECTRICAL ENLARGED POWER PLAN - ELEC 10064
SCALE: 1/4" = 1'-0"



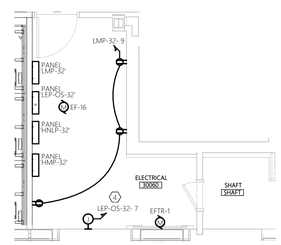
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SCALE: 1/4" = 1'-0"



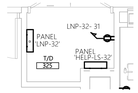
4 ELECTRICAL ENLARGED POWER PLAN - ELEC 20060
SCALE: 1/4" = 1'-0"



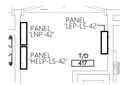
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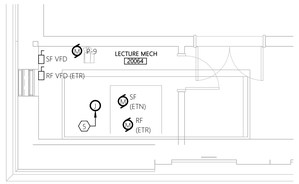
6 ELECTRICAL ENLARGED POWER PLAN - ELEC 30060
SCALE: 1/4" = 1'-0"



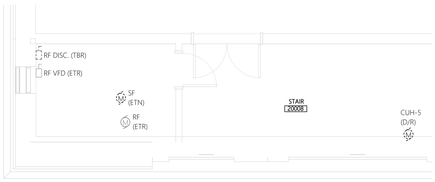
7 ELECTRICAL ENLARGED POWER PLAN - T/D 325
SCALE: 1/4" = 1'-0"



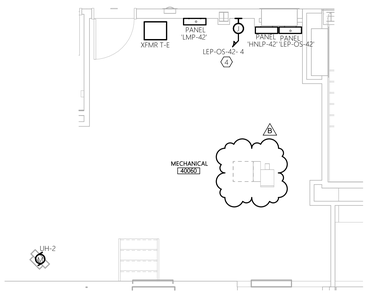
8 ELECTRICAL ENLARGED POWER PLAN - T/D 417
SCALE: 1/4" = 1'-0"



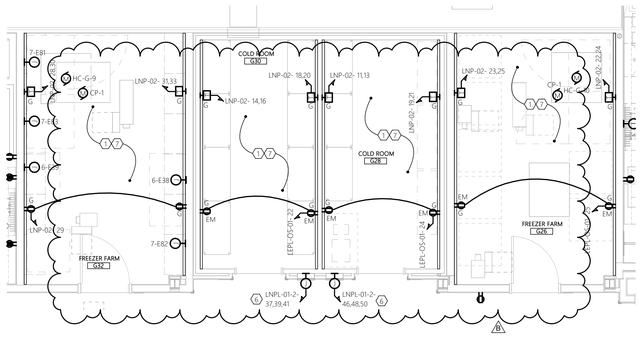
11 ELECTRICAL ENLARGED PLAN - LECTURE HALL MECH. ROOM
SCALE: 1/4" = 1'-0"



12 ELECTRICAL ENLARGED REMOVAL PLAN - LECTURE HALL MECH. ROOM
SCALE: 1/4" = 1'-0"



9 ELECTRICAL 4TH FLOOR POWER PLAN - MECH. 40060
SCALE: 1/4" = 1'-0"



10 ELECTRICAL ENLARGED PLAN - FREEZER FARMS & COLD ROOMS
SCALE: 1/4" = 1'-0"

0 2' 4' 8'
SCALE: 1/4"=1'-0

GENERAL SHEET NOTES:

1. REFER TO E0.1 FOR ELECTRICAL LEGENDS, ABBREVIATIONS AND GENERAL PROJECT NOTES.
2. REFER TO E6.5 FOR RACEWAY SCHEDULE FOR APPROVED RACEWAY USAGE.
3. REFER TO E6 SERIES FOR PANEL SCHEDULES FOR CIRCUIT CHARACTERISTICS.
4. REFER TO E6.5 FOR BRANCH CIRCUIT SCHEDULE (BCS) FOR CIRCUIT REQUIREMENTS.
5. ALL CONDUCTORS SHALL BE THHN/THWN-2.
6. INSTALLATION SHALL BE PER NEC® GUIDELINES.
7. PROVIDE HANGERS & SUPPORTS AS REQUIRED.
8. PROVIDE GROUNDING PER NEC FOR ALL ELECTRICAL EQUIPMENT AND ASSOCIATED EQUIPMENT.
9. PROVIDE SUBMITTAL DATA FOR ALL PROPOSED HARDWARE, DEVICES, CONDUIT, HANGERS, ETC. FOR ENGINEER REVIEW & APPROVAL PRIOR TO ORDERING.
10. ALL CONDUCTORS AND EQUIPMENT NOT SHOWN FOR CLARITY. COORDINATE WITH ALL TRADES AND PROVIDE COMPLETE ELECTRICAL CIRCUITING FOR ALL INSTALLED EQUIPMENT. ALL REQUIREMENTS TO BE PER NEC.
11. COORDINATE PHASING PER CONTRACT DOCUMENTS.
12. COORDINATE DIMENSIONED LOCATIONS WITH A-SHEETS.
13. IN ALL LOCATIONS WHERE PLENUM RETURN IS UTILIZED, ALL CABLING IS TO BE PLENUM RATED. COORDINATE PLENUM LOCATIONS WITH G-SHEETS.

SHEET KEY NOTES:

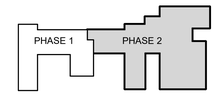
1. RECEPTACLE AND POWER LAYOUT WITHIN FREEZER FARMS AND COLD ROOMS ARE NOT FINAL. COORDINATE FINAL COLD/FREEZER EQUIPMENT ELECTRICAL REQUIREMENTS WITH A-SHEETS PRIOR TO ROUGH-IN.
2. RECEPTACLE AND POWER LAYOUT WITHIN DATA ROOMS ARE NOT FINAL. COORDINATE FINAL DATA EQUIPMENT ELECTRICAL REQUIREMENTS WITH T-SHEETS PRIOR TO ROUGH-IN.
3. PROVIDE UNISTRUT MOUNTING FOR DISTRIBUTION PANELBOARDS IN ORDER TO AVOID STRUCTURAL BEAM.
4. PROVIDE 120V, 20A CIRCUIT FOR BMS PANEL CONNECTION. COORDINATE ALL INSTALLATION REQUIREMENTS WITH MANUFACTURER'S RECOMMENDATIONS & LOCATION WITH BMS INSTALLER.
5. PROVIDE DEDICATED 120V, 20A CIRCUITS FOR AV/IT, LIGHTING AND CONFERENCE RECEPTACLES. COORDINATE REQUIREMENTS WITH M-SHEETS PRIOR TO ROUGH-IN.
6. PROVIDE DEDICATED 208V, 3PH, 4-WIRE, 20A CIRCUIT FROM PANEL LNPL-01 FOR CER CONTROL PANEL. PROVIDE NON-FUSED DISCONNECT IN NEMA 1 ENCLOSURE UPSTREAM OF CONTROL PANEL. COORDINATE DISCONNECT LOCATION IN FIELD WITH OWNER AND CER PROVIDER PRIOR TO ROUGH-IN. COORDINATE INSTALLATION/ROUGH-IN REQUIREMENTS WITH APPROVED CER SHOP DRAWINGS.
7. ALL ASSOCIATED RACEWAYS, RECEPTACLES, AND WIRING WITHIN COLD ROOMS TO BE INSTALLED AND PROVIDED BY THE CER PROVIDER. COORDINATE ALL REQUIREMENTS WITH CER PROVIDER.

RENOVATE PLANT SCIENCE BUILDING - PHASE 2
SUCF Project No. 161026-00
236 Tower Road
Ithaca, NY 14853

Cornell CALS College of Agriculture and Life Sciences
SUNY State University Construction Fund

Ellenzweig Architecture | Planning	230 Congress Street Boston, MA 02110 T 617 491-5575
Ryan Biggs Clark Davis Structural Engineers	257 Ushers Road Clifton Park, NY 12065 T 518 406-5506
Salas O'Brien Consulting & Engineering Group of NY, Inc. Mechanical Engineers	300 Trolley Blvd. Rochester, NY 14606 T 585 288-5590
Jade Stone Engineering Electrical Engineers	444 Vanduzee St. Watertown, NY 13601 T 315 836 4062
Watson Engineering Plumbing	4500 State Route 434 Apalachin, NY 13732 T 607 223-4334
DM Engineers Fire Protection Engineers	1007 Yonkers Ave Yonkers, NY 10704 T 929 333-2339
Bell & Spina Building Envelope	215 Wyoming Street S Syracuse, NY 13204 T 315 488-0377
Environ. Design & Research Historic Preservation, Landscape, Civil Engineering	217 Montgomery St, Suite 1000 Syracuse, NY 13202 T 315 471-0688
Schuler Shook Lighting Design	240 W 40th Street, 2nd Floor New York, NY 10018 T 212 439-5650
D2D Green Design Sustainability PH2	10 Hallenbeck Hill East Greenbush, NY 12061 T 518 729-2967
Shen Milsom & Wilke Acoustics, IT, AV, Security	417 Fifth Avenue New York, NY 10016 T 212 725-6800
Watts Architects & Engineers Asbestos, Haz Mat	95 Perry Street, Suite 300 Buffalo, NY 14203 T 716 206-5122
Hastings Consulting Building Code	142 Hanlon Rd Holliston, MA 01746 T 508 397-8417
Ellana Cost Consulting	32 Broadway, Suite 801 New York, NY 10004 T 212971-0936

Notes:



Keyplan

Job Number	31909.00
Drawing By	COH
Checked By	SAG
Filename	
Date	August 31, 2026

Revisions

B	Addendum 3	11/04/26

ELECTRICAL ENLARGED PLANS



BID DOCUMENTS
Scale: As indicated

E4.1

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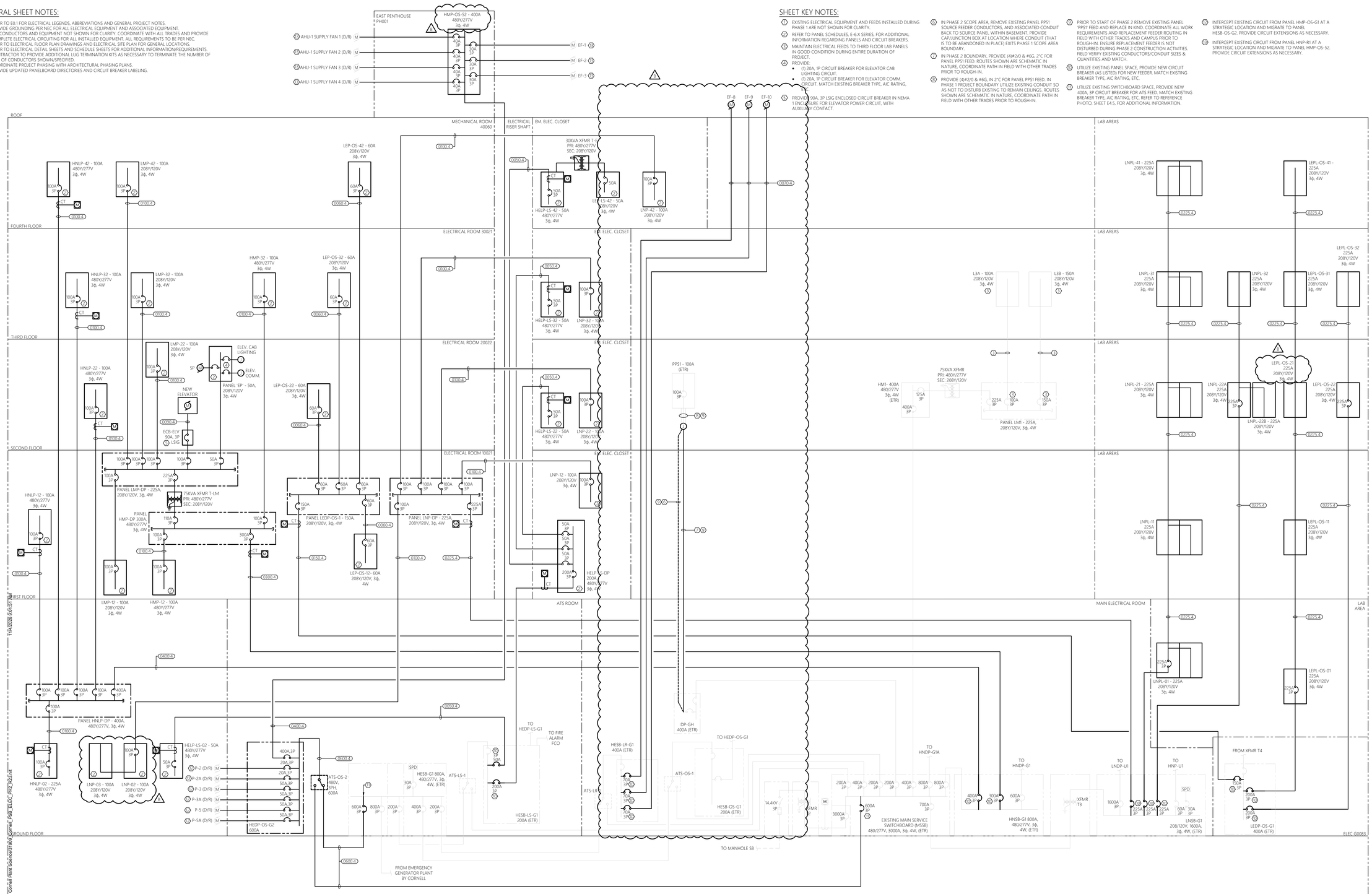
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GENERAL SHEET NOTES:

1. REFER TO E0.1 FOR ELECTRICAL LEGENDS, ABBREVIATIONS AND GENERAL PROJECT NOTES.
2. PROVIDE GROUNDING PER NEC FOR ALL ELECTRICAL EQUIPMENT AND ASSOCIATED EQUIPMENT.
3. ALL CONDUCTORS AND EQUIPMENT NOT SHOWN FOR CLARITY. COORDINATE WITH ALL TRADES AND PROVIDE COMPLETE ELECTRICAL CIRCUITING FOR ALL INSTALLED EQUIPMENT. ALL REQUIREMENTS TO BE PER NEC.
4. REFER TO ELECTRICAL FLOOR PLAN DRAWINGS AND ELECTRICAL SITE PLAN FOR GENERAL LOCATIONS.
5. REFER TO ELECTRICAL DETAIL SHEETS AND SCHEDULE SHEETS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
6. CONTRACTOR TO PROVIDE ADDITIONAL LUG TERMINATION KITS AS NECESSARY TO TERMINATE THE NUMBER OF SETS OF CONDUCTORS SHOWN/SPECIFIED.
7. COORDINATE PROJECT PHASING WITH ARCHITECTURAL PHASING PLANS.
8. PROVIDE UPDATED PANELBOARD DIRECTORIES AND CIRCUIT BREAKER LABELING.

SHEET KEY NOTES:

1. EXISTING ELECTRICAL EQUIPMENT AND FEEDS INSTALLED DURING PHASE 1 ARE NOT SHOWN FOR CLARITY.
2. REFER TO PANEL SCHEDULES, E-6.X SERIES, FOR ADDITIONAL INFORMATION REGARDING PANELS AND CIRCUIT BREAKERS.
3. MAINTAIN ELECTRICAL FEEDS TO THIRD FLOOR LAB PANELS IN GOOD CONDITION DURING ENTIRE DURATION OF PROJECT.
4. PROVIDE:
   - (1) 20A, 1P CIRCUIT BREAKER FOR ELEVATOR CAB LIGHTING CIRCUIT.
   - (1) 20A, 1P CIRCUIT BREAKER FOR ELEVATOR COMM. CIRCUIT. MATCH EXISTING BREAKER TYPE, AIC RATING, ETC.
5. PROVIDE 100A, 3P LSIG ENCLOSED CIRCUIT BREAKER IN NEMA 1 ENCLOSURE FOR ELEVATOR POWER CIRCUIT, WITH AUXILIARY CONTACT.
6. IN PHASE 2 SCOPE AREA, REMOVE EXISTING PANEL PPS1 SOURCE FEEDER CONDUCTORS, AND ASSOCIATED CONDUIT BACK TO SOURCE PANEL WITHIN BASEMENT. PROVIDE CAP/JUNCTION BOX AT LOCATION WHERE CONDUIT (THAT IS TO BE ABANDONED IN PLACE) EXITS PHASE 1 SCOPE AREA BOUNDARY.
7. IN PHASE 2 BOUNDARY, PROVIDE (4)#2/0 & #6G, 2"C FOR PANEL PPS1 FEED. ROUTES SHOWN ARE SCHEMATIC IN NATURE, COORDINATE PATH IN FIELD WITH OTHER TRADES PRIOR TO ROUGH-IN.
8. PROVIDE (4)#2/0 & #6G, IN 2"C FOR PANEL PPS1 FEED. IN PHASE 1 PROJECT BOUNDARY UTILIZE EXISTING CONDUIT SO AS NOT TO DISTURB EXISTING TO REMAIN CEILINGS. ROUTES SHOWN ARE SCHEMATIC IN NATURE, COORDINATE PATH IN FIELD WITH OTHER TRADES PRIOR TO ROUGH-IN.
9. PRIOR TO START OF PHASE 2 REMOVE EXISTING PANEL 'PPS1' FEED AND REPLACE IN KIND. COORDINATE ALL WORK REQUIREMENTS AND REPLACEMENT FEEDER ROUTING IN FIELD WITH OTHER TRADES AND CAMPUS PRIOR TO ROUGH-IN. ENSURE REPLACEMENT FEEDER IS NOT DISTURBED DURING PHASE 2 CONSTRUCTION ACTIVITIES. FIELD VERIFY EXISTING CONDUCTORS/CONDUIT SIZES & QUANTITIES AND MATCH.
10. UTILIZE EXISTING PANEL SPACE. PROVIDE NEW CIRCUIT BREAKER (AS LISTED) FOR NEW FEEDER. MATCH EXISTING BREAKER TYPE, AIC RATING, ETC.
11. UTILIZE EXISTING SWITCHBOARD SPACE. PROVIDE NEW 400A, 3P CIRCUIT BREAKER FOR ATS FEED. MATCH EXISTING BREAKER TYPE, AIC RATING, ETC. REFER TO REFERENCE PHOTO, SHEET E4.5, FOR ADDITIONAL INFORMATION.
12. INTERCEPT EXISTING CIRCUIT FROM PANEL HMP-OS-G1 AT A STRATEGIC LOCATION AND MIGRATE TO PANEL HESB-OS-G2. PROVIDE CIRCUIT EXTENSIONS AS NECESSARY.
13. INTERCEPT EXISTING CIRCUIT FROM PANEL HNP-R1 AT A STRATEGIC LOCATION AND MIGRATE TO PANEL HMP-OS-52. PROVIDE CIRCUIT EXTENSIONS AS NECESSARY.



1 PARTIAL ELECTRICAL SINGLE LINE DIAGRAM
SCALE: NTS NEW WORK

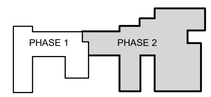
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236 Tower Road
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Ellana Cost Consulting	32 Broadway, Suite 801 New York, NY 10004 T 212971-0936

Notes:



Keyplan

Job Number	31909.00
Drawing By	CCH
Checked By	SAG
Filename	
Date	August 31, 2026

Revisions

B	Addendum 3	11/04/26

ELECTRICAL SINGLE LINE DIAGRAM

BID DOCUMENTS
Scale:

E5.1

STATE OF NEW YORK JOHNIE GARRABRANT 122698 LICENSED PROFESSIONAL ENGINEER

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Branch Panel: LMP-DP

Location: ELEC 10064 | **Supply From:** | **Mounting:** Surface | **Enclosure:** 1
Volts: 120/208 Wye | **Phases:** 3 | **Wires:** 4
A.I.C. Rating: 10kA | **Mains Type:** MCB | **Mains Rating:** 225 A | **MCB Rating:** N/A

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	2
3	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	4
5	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	6
7	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	8
9	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	10
11	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	12
13	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	14
15	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	16
17	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	18
19	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	20
21	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	22
23	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	24
25	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	26
27	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	28
29	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	30
			Total Load:	0 VA		0 VA		0 VA					
			Total Amps:	0 A		0 A		0 A					

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
				Total Conn. Load:	0 VA
				Total Est. Demand:	0 VA
				Total Conn. Current:	0 A
				Total Est. Demand Current:	0 A

Notes:

Branch Panel: HELP-LS-22

Location: T/D 223 | **Supply From:** HELP-LS-DP | **Mounting:** Surface | **Enclosure:** 1
Volts: 480/277 Wye | **Phases:** 3 | **Wires:** 4
A.I.C. Rating: 10kA | **Mains Type:** MCB | **Mains Rating:** 50 A | **MCB Rating:** 50 A

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	EM. LIGHTING - 219B, 219C, 219D, 219E, 219F,...	20 A	1	0 VA	0 VA					1	20 A	EM. LIGHTING - 202A, 202B, 202C, 202D, 202E	2
3	EM. LIGHTING - PLANT/SOIL/MICROBES LAB	20 A	1			0 VA	0 VA			1	20 A	EM. LIGHTING - CORRIDOR - EAST 20040	4
5	EM. LIGHTING - SYNTHETIC BIOLOGY LAB 202	20 A	1					0 VA	0 VA	1	20 A	EM. LIGHTING - CORRIDOR NORTH WING...	6
7	EM. LIGHTING PLANT PHYSIO. TEACHING LA...	20 A	1	0 VA	0 VA					1	20 A	Spare	8
9		20 A	1			0 VA	0 VA			1	20 A	Spare	10
11	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	12
13	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	14
15	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	16
17	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	18
19	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	20
21	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	22
23	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	24
25	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	26
27	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	28
29	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	30
31	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	32
33	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	34
35	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	36
37	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	38
39	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	40
41	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	42
			Total Load:	0 VA		0 VA		0 VA					
			Total Amps:	0 A		0 A		0 A					

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other	0 VA	0.00%	0 VA	Total Conn. Load:	0 VA
				Total Est. Demand:	0 VA
				Total Conn. Current:	0 A
				Total Est. Demand Current:	0 A

Notes:
- PROVIDE PANEL WITH INTEGRAL TYPE 2 SPD.

Branch Panel: HELP-LS-32

Location: T/D 325 | **Supply From:** HELP-LS-DP | **Mounting:** Surface | **Enclosure:** 1
Volts: 480/277 Wye | **Phases:** 3 | **Wires:** 4
A.I.C. Rating: 10kA | **Mains Type:** MCB | **Mains Rating:** 50 A | **MCB Rating:** 50 A

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	EM. LIGHTING - LAB 302	20 A	1	0 VA	0 VA					1	20 A	EM. LIGHTING - CORRIDOR-EAST 30042	2
3	EM. LIGHTING SOIL/PLANT LAB 319	20 A	1			0 VA	0 VA			1	20 A	EM. LIGHTING - CORRIDOR - NORTH WING...	4
5	EM. LIGHTING - 319B, 319C, 319CA, 319D, 319...	20 A	1					0 VA	0 VA	1	20 A	EM. LIGHTING - 302A, 302B, 302C, 302D	6
7	EM. LIGHTING - CORRIDOR ANNEX 30040	20 A	1	0 VA	0 VA					1	20 A	Spare	8
9	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	10
11	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	12
13	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	14
15	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	16
17	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	18
19	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	20
21	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	22
23	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	24
25	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	26
27	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	28
29	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	30
31	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	32
33	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	34
35	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	36
37	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	38
39	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	40
41	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	42
			Total Load:	0 VA		0 VA		0 VA					
			Total Amps:	0 A		0 A		0 A					

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other	0 VA	0.00%	0 VA	Total Conn. Load:	0 VA
				Total Est. Demand:	0 VA
				Total Conn. Current:	0 A
				Total Est. Demand Current:	0 A

Notes:
- PROVIDE PANEL WITH INTEGRAL TYPE 2 SPD.

Branch Panel: HELP-LS-42

Location: T/D 417 | **Supply From:** HELP-LS-DP | **Mounting:** Surface | **Enclosure:** 1
Volts: 480/277 Wye | **Phases:** 3 | **Wires:** 4
A.I.C. Rating: 10kA | **Mains Type:** MCB | **Mains Rating:** 50 A | **MCB Rating:** 50 A

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	EM. LIGHTING - BIODIVERSITY LAB 402	20 A	1	0 VA	0 VA					1	20 A	EM. LIGHTING - CORRIDOR EAST 40043	2
3	EM. LIGHTING - 402A, 402B, 402C, 402D	20 A	1			0 VA	0 VA			1	20 A	Other	4
5	EM. LIGHTING - CORRIDOR 40040	20 A	1					0 VA	0 VA	1	20 A	EM. LIGHTING - CORRIDOR - NORTH WING...	6
7	EM. LIGHTING - CORRIDOR-EAST 40043	20 A	1	0 VA	0 VA					3	20 A	XFMR T-E	8
9							0 VA			--	--	--	10
11	Spare	20 A	1					0 VA	0 VA	--	--	--	12
13	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	14
15	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	16
17	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	18
19	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	20
21	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	22
23	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	24
25	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	26
27	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	28
29	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	30
31	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	32
33	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	34
35	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	36
37	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	38
39	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	40
41	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	42
			Total Load:	0 VA		0 VA		0 VA					
			Total Amps:	0 A		0 A		0 A					

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other	0 VA	0.00%	0 VA	Total Conn. Load:	0 VA
				Total Est. Demand:	0 VA
				Total Conn. Current:	0 A
				Total Est. Demand Current:	0 A

Notes:
- PROVIDE PANEL WITH INTEGRAL TYPE 2 SPD.

Branch Panel: HNLP-12

Location: ELEC 10064 | **Supply From:** | **Mounting:** Surface | **Enclosure:** 1
Volts: 480/277 Wye | **Phases:** 3 | **Wires:** 4
A.I.C. Rating: 10kA | **Mains Type:** MCB | **Mains Rating:** 100 A | **MCB Rating:** 100 A

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	LIGHTING - TOILET RM, 111, 109, 107, 105,...	20 A	1	0 VA	0 VA					1	20 A	LIGHTING - 116, 116B, 116A, 118	2
3	LIGHTING - DRY TEACHING LAB 104	20 A	1			0 VA	0 VA			1	20 A	LIGHTING - 113B, 113C, 113D, 113E, 113F, 113G	4
5	LIGHTING - 123, 125, 127, 129, 133	20 A	1					0 VA	0 VA	1	20 A	LIGHTING - BREAK ROOM 103 & SUPPLY...	6
7	LIGHTING - 120, 128, 128A, 128B, 128C, 128D,...	20 A	1	0 VA	0 VA					1	20 A	113 LIGHTING	8
9	LIGHTING - CORRIDOR - NORTH WING 10041	20 A	1			0 VA	0 VA			1	20 A	Spare	10
11	LIGHTING - CORRIDOR 10045	20 A	1					0 VA	0 VA	1	20 A	Spare	12
13	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	14
15	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	16
17	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	18
19	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	20
21	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	22
23	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	24
25	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	26
27	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	28
29	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	30
31	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	32
33	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	34
35	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	36
37	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	38
39	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	40
41	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	42
			Total Load:	0 VA		0 VA		0 VA					
			Total Amps:	0 A		0 A		0 A					

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other	0 VA	0.00%	0 VA	Total Conn. Load:	0 VA
				Total Est. Demand:	0 VA
				Total Conn. Current:	0 A
				Total Est. Demand Current:	0 A

Notes:

Branch Panel: HNLP-22

Location: ELECTRICAL 20060 | **Supply From:** | **Mounting:** Surface | **Enclosure:** 1
Volts: 480/277 Wye | **Phases:** 3 | **Wires:** 4
A.I.C. Rating: 10kA | **Mains Type:** MCB | **Mains Rating:** 100 A | **MCB Rating:** 100 A

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	LIGHTING - WRITE-UP SPACE 224 & 224B	20 A	1	0 VA	0 VA					1	20 A	LIGHTING - 219B, 219C, 219D, 219E, 219F, 219G	2
3	LIGHTING - 225, 227, 229, 231, 233, 235	20 A	1			0 VA	0 VA			1	20 A	LIGHTING - TOILET RM, OFFICES, ELECTRIC...	4
5	LIGHTING -LABS 230, 236 & FLEX LAB...	20 A	1					0 VA	0 VA	1	20 A	LIGHTING - TOILET RM, WRITE-UP 203, SYNT...	6
7	LIGHTING - 202A, 202B, 202C, 202D	20 A	1	0 VA	0 VA					1	20 A	LIGHTING - CORRIDOR - EAST 20040	8
9	LIGHTING - PLANT/SOIL/MICROBES LAB	20 A	1			0 VA	0 VA			1	20 A	LIGHTING - CORRIDOR - NORTH WING 20041	10
11	LIGHTING - 202A, 202B, 202C, 202D, 202E, 202F	20 A	1					0 VA	0 VA	1	20 A	Spare	12
13	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	14
15	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	16
17	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	18
19	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	20
21	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	22
23	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	24
25	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	26
27	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	28
29	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	30
31	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	32
33	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	34
35	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	36
37	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	38
39	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	40
41	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	42
			Total Load:	0 VA		0 VA		0 VA					
			Total Amps:	0 A		0 A		0 A					

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other	0 VA	0.00%	0 VA	Total Conn. Load:	0 VA
				Total Est. Demand:	0 VA
				Total Conn. Current:	0 A
				Total Est. Demand Current:	0 A

Notes:

Branch Panel: HNLP-32

Location: ELECTRICAL 30060 | **Supply From:** | **Mounting:** Surface | **Enclosure:** 1
Volts: 480/277 Wye | **Phases:** 3 | **Wires:** 4
A.I.C. Rating: 10kA | **Mains Type:** MCB | **Mains Rating:** 100 A | **MCB Rating:** 100 A

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	LIGHTING - 326, 328, 330, 332, 334, 340	20 A	1	0 VA	0 VA					1	20 A	LIGHTING - 324A, 324B, 324	2
3	LIGHTING - 327, 329, 331, 333, 335, 337, 339	20 A	1			0 VA	0 VA			1	20 A	LIGHTING - 30060, 311, 313, 315	4
5	LIGHTING - 319B, 319C, 319CA, 319D, 319E,...	20 A	1					0 VA	0 VA	1	20 A	LIGHTING - LABS 302C, 302B, 302A, 304	6
7	LIGHTING - WRITE-UP SPACE 307 & COLLAB....	20 A	1	0 VA	0 VA					1	20 A	LIGHTING - CORRIDOR - NORTH WING 30041	8
9	LIGHTING - EQUIPMENT CORRIDOR 302D,...	20 A	1			0 VA	0 VA			1	20 A	LIGHTING - LAB 302	10
11	LIGHTING - CORRIDOR-EAST 30042	20 A	1					0 VA	0 VA	1	20 A	LIGHTING - CORRIDOR ANNEX 30040	12
13	319 LIGHTING	20 A	1	0 VA	0 VA					1	20 A	Spare	14
15	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	16
17	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	18
19	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	20
21	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	22
23	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	24
25	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	26
27	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	28
29	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	30
31	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	32
33	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	34
35	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	36
37	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	38
39	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	40
41	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	42
			Total Load:	0 VA		0 VA		0 VA					
			Total Amps:	0 A		0 A		0 A					

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other	0 VA	0.00%	0 VA	Total Conn. Load:	0 VA
				Total Est. Demand:	0 VA
				Total Conn. Current:	0 A
				Total Est. Demand Current:	0 A

Notes:

Branch Panel: HNLP-42

Location: MECHANICAL 40060 | **Supply From:** | **Mounting:** Surface | **Enclosure:** 1
Volts: 480/277 Wye | **Phases:** 3 | **Wires:** 4
A.I.C. Rating: 10kA | **Mains Type:** MCB | **Mains Rating:** 100 A | **MCB Rating:** 100 A

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	LIGHTING - 418, 420, 426, 428, 430	20 A	1	0 VA	0 VA					1	20 A	LIGHTING - 403, 404, 404A	2
3	LIGHTING - 431A, 431, 431B, 435	20 A	1			0 VA	0 VA			1	20 A	LIGHTING - 402A, 402B, 402C, 402D	4
5	LIGHTING - COMP. LAB 416, GN TOILET ROO...	20 A	1					0 VA	0 VA	1	20 A	LIGHTING - BIODIVERSITY LAB 402	6
7	LIGHTING - CORRIDOR 40040	20 A	1	0 VA	0 VA					1	20 A	Spare	8
9	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	10
11	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	12
13	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	14
15	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	16
17	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	18
19	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	20
21	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	22
23	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	24
25	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	26
27	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	28
29	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	30
31	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	32
33	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	34
35	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	36
37	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	38
39	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	40
41	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	42
			Total Load:	0 VA		0 VA		0 VA					
			Total Amps:	0 A		0 A		0 A					

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other	0 VA	0.00%	0 VA	Total Conn. Load:	0 VA
				Total Est. Demand:	0 VA
				Total Conn. Current:	0 A
				Total Est. Demand Current:	0 A

Notes:

Branch Panel: LEP-OS-32

Location: ELECTRICAL 30060 | **Supply From:** LEDP-OS-1 | **Mounting:** Surface | **Enclosure:** 1
Volts: 120/208 Wye | **Phases:** 3 | **Wires:** 4
A.I.C. Rating: 10kA | **Mains Type:** MCB | **Mains Rating:** 60 A | **MCB Rating:** 60 A

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	FCU-3-19, 20, 21, 22, 23, 24, 25	20 A	1	4200...	1800...					1	20 A	FCU-3-26, 33, 34	2
3	FCU-3-14, 15, 16, 17, 18	20 A	1			3000...	1800...			1	20 A	FCU-3-35, 36, 37, 38	4
5	FCU-3-27, 31, 32	20 A	1					1800...	1200...	1	20 A	FCU-3-39, 40	6
7	BMS CONNECTION	20 A	1	0 VA	0 VA					1	20 A	Spare	8
9	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	10
11	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	12
13	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	14
15	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	16
17	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	18
19	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	20
21	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	22
23	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	24
25	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	26
27	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	28
29	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	30
31	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	32
33	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	34
35	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	36
37	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	38
39	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	40
41	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	42
			Total Load:	6000 VA		4800 VA		3000 VA					
			Total Amps:	52 A		42 A		25 A					

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other	0 VA	0.00%	0 VA	Total Conn. Load:	13800 VA
Power	13800 VA	100.00%	13800 VA	Total Est. Demand:	13800 VA
				Total Conn. Current:	38 A
				Total Est. Demand Current:	38 A

Notes:

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RENOVATE PLANT SCIENCE BUILDING - PHASE 2
SUCF Project No. 161026-00

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Cornell CALS College of Agriculture and Life Sciences

SUNY State University Construction Fund

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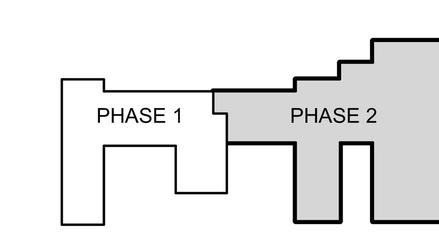
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Notes:



Keyplan

Job Number 31909.00
Drawing By CCH
Checked By SAG
Filename
Date August 31, 2026

Revisions

B	Addendum 3	11/04/26

ELECTRICAL SCHEDULES



BID DOCUMENTS
Scale:

E6.1

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Branch Panel: LEDP-OS-1

Location: ELEC 10064 | **Supply From:** | **Mounting:** Surface | **Enclosure:** 1
Volts: 120/208 Wye | **Phases:** 3 | **Wires:** 4
A.I.C. Rating: 10kA | **Mains Type:** MCB | **Mains Rating:** 150 A | **MCB Rating:** 150 A

CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT
1	LEP-OS-12	60 A	3	3000 4200			3	60 A	LEP-OS-22	2
3	--	--	--		3000 1200		--	--	--	4
5	--	--	--			3600 4200	--	--	--	6
7	LE-OS-32	60 A	3	6000 6000			3	60 A	LEP-OS-42	8
9	--	--	--		4800 1800		--	--	--	10
11	--	--	--			3000 1200	--	--	--	12
13	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	14
15	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	16
17	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	18
19	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	20
21	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	22
23	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	24
25	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	26
27	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	28
29	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	30
			Total Load:	19200 VA	10800 VA	12000 VA				
			Total Amps:	162 A	90 A	102 A				

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Other	0 VA	0.00%	0 VA	**Total Conn. Load:** 42000 VA
Power	42000 VA	100.00%	42000 VA	**Total Est. Demand:** 42000 VA
				Total Conn. Current: 117 A
				Total Est. Demand Current: 117 A

Notes:

Branch Panel: LEP-OS-12

Location: ELEC 10064 | **Supply From:** LEDP-OS-1 | **Mounting:** Surface | **Enclosure:** 1
Volts: 120/208 Wye | **Phases:** 3 | **Wires:** 4
A.I.C. Rating: 10kA | **Mains Type:** MCB | **Mains Rating:** 60 A | **MCB Rating:** 60 A

CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT
1	FCU-1-33, 34, 35, 36, 38	20 A	1	3000 0 VA			1	20 A	Other	2
3	FCU-1-18, 19, 20, 21, 22	20 A	1		3000 0 VA		1	20 A	CUH-10	4
5	FCU-1-23, 24, 25, 26, 27, 28	20 A	1			3600 0 VA	1	20 A	CUH-11	6
7	CUH-7	20 A	1	0 VA 0 VA			1	20 A	Spare	8
9	CUH-9	20 A	1		0 VA 0 VA		1	20 A	Spare	10
11	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	12
13	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	14
15	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	16
17	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	18
19	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	20
21	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	22
23	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	24
25	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	26
27	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	28
29	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	30
31	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	32
33	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	34
35	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	36
37	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	38
39	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	40
41	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	42
			Total Load:	3000 VA	3000 VA	3600 VA				
			Total Amps:	25 A	25 A	30 A				

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Other	0 VA	0.00%	0 VA	**Total Conn. Load:** 9600 VA
Power	9600 VA	100.00%	9600 VA	**Total Est. Demand:** 9600 VA
				Total Conn. Current: 27 A
				Total Est. Demand Current: 27 A

Notes:

Branch Panel: LEP-OS-22

Location: ELECTRICAL 20060 | **Supply From:** LEDP-OS-1 | **Mounting:** Surface | **Enclosure:** 1
Volts: 120/208 Wye | **Phases:** 3 | **Wires:** 4
A.I.C. Rating: 10kA | **Mains Type:** MCB | **Mains Rating:** 60 A | **MCB Rating:** 60 A

CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT
1	FCU-2-10, 11, 12, 13, 14, 15	20 A	1	3600 600 VA			1	20 A	FCU-2-27, 28	2
3	FCU-2-17, 18, 19, 20	20 A	1		0 VA 1200		1	20 A	FCU-2-29, 30	4
5	FCU-2-23, 24, 25, 26	20 A	1			2400 1800	1	20 A	FCU-2-18, 21, 22	6
7	Other	20 A	1	0 VA 0 VA			1	20 A	Spare	8
9	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	10
11	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	12
13	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	14
15	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	16
17	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	18
19	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	20
21	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	22
23	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	24
25	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	26
27	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	28
29	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	30
31	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	32
33	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	34
35	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	36
37	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	38
39	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	40
41	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	42
			Total Load:	4200 VA	1200 VA	4200 VA				
			Total Amps:	39 A	10 A	39 A				

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Other	0 VA	0.00%	0 VA	**Total Conn. Load:** 9600 VA
Power	9600 VA	100.00%	9600 VA	**Total Est. Demand:** 9600 VA
				Total Conn. Current: 27 A
				Total Est. Demand Current: 27 A

Notes:

Branch Panel: LEP-LS-42

Location: T/D 417 | **Supply From:** | **Mounting:** Surface | **Enclosure:** 1
Volts: 120/208 Wye | **Phases:** 3 | **Wires:** 4
A.I.C. Rating: 10kA | **Mains Type:** MCB | **Mains Rating:** 50 A | **MCB Rating:** 50 A

CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT
1	BAS ANTENNA	20 A	1	0 VA 0 VA			1	20 A	Spare	2
3	BAS ANTENNA	20 A	1		0 VA 0 VA		1	20 A	Spare	4
5	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	6
7	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	8
9	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	10
11	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	12
13	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	14
15	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	16
17	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	18
19	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	20
21	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	22
23	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	24
25	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	26
27	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	28
29	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	30
31	Spare	20 A	1							32
33	Spare	20 A	1							34
35	Spare	20 A	1							36
37	Spare	20 A	1							38
39	Spare	20 A	1							40
41	Spare	20 A	1							42
			Total Load:	0 VA	0 VA	0 VA				
			Total Amps:	0 A	0 A	0 A				

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Other	0 VA	0.00%	0 VA	**Total Conn. Load:** 0 VA
				Total Est. Demand: 0 VA
				Total Conn. Current: 0 A
				Total Est. Demand Current: 0 A

Notes:

Branch Panel: LEP-OS-42

Location: MECHANICAL 40060 | **Supply From:** LEDP-OS-1 | **Mounting:** Surface | **Enclosure:** 1
Volts: 120/208 Wye | **Phases:** 3 | **Wires:** 4
A.I.C. Rating: 10kA | **Mains Type:** MCB | **Mains Rating:** 60 A | **MCB Rating:** 60 A

CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT
1	FCU-4-30, 31, 32, 33	20 A	1	3000 3000			1	20 A	FCU-20, 21, 22, 23, 24	2
3	FCU-4-25, 26, 27	20 A	1		1800 0 VA		1	20 A	BMS CONNECTION	4
5	FCU-4-25, 30	20 A	1			1200 0 VA	1	20 A	CUH-8	6
7	EUH-3	20 A	1	0 VA 0 VA			1	20 A	UH-2	8
9	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	10
11	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	12
13	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	14
15	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	16
17	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	18
19	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	20
21	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	22
23	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	24
25	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	26
27	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	28
29	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	30
31	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	32
33	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	34
35	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	36
37	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	38
39	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	40
41	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	42
			Total Load:	6000 VA	1800 VA	1200 VA				
			Total Amps:	51 A	16 A	10 A				

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Other	0 VA	0.00%	0 VA	**Total Conn. Load:** 9000 VA
Power	9000 VA	100.00%	9000 VA	**Total Est. Demand:** 9000 VA
				Total Conn. Current: 25 A
				Total Est. Demand Current: 25 A

Notes:

Branch Panel: LEPL-OS-21

Location: SYNTHETIC BIOLOGY LAB 202 | **Supply From:** | **Mounting:** Flush | **Enclosure:** Indoor
Volts: 120/208 Wye | **Phases:** 3 | **Wires:** 4
A.I.C. Rating: 22kA | **Mains Type:** MLO | **Mains Rating:** 225 A | **MCB Rating:** N/A

CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT
1	202F RECEPTACLE	20 A	1	180 VA 600 VA			1	20 A	9-E12	2
3	9-E12	20 A	1		600 VA 180 VA		1	20 A	202D RECEPTACLE	4
5	9-E12	20 A	1			600 VA 180 VA	1	20 A	202C RECEPTACLE	6
7		20 A	1	180 VA 0 VA			1	20 A	Spare	8
9	202A RECEPTACLES	20 A	1		360 VA 0 VA		1	20 A	Spare	10
11	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	12
13	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	14
15	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	16
17	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	18
19	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	20
21	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	22
23	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	24
25	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	26
27	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	28
29	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	30
31	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	32
33	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	34
35	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	36
37	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	38
39	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	40
41	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	42
			Total Load:	960 VA	1140 VA	780 VA				
			Total Amps:	8 A	10 A	7 A				

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Other	0 VA	0.00%	0 VA	**Total Conn. Load:** 2880 VA
Power	1800 VA	100.00%	1800 VA	**Total Est. Demand:** 2880 VA
Receptacle	1080 VA	100.00%	1080 VA	**Total Conn. Current:** 8 A
				Total Est. Demand Current: 8 A

Notes:

Branch Panel: LEPL-OS-31

Location: MOLECULAR PLANT-MICROB... | **Supply From:** | **Mounting:** Flush | **Enclosure:** Indoor
Volts: 120/208 Wye | **Phases:** 3 | **Wires:** 4
A.I.C. Rating: 22kA | **Mains Type:** MLO | **Mains Rating:** 225 A | **MCB Rating:** N/A

CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT
1	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	2
3	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	4
5	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	6
7	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	8
9	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	10
11	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	12
13	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	14
15	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	16
17	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	18
19	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	20
21	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	22
23	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	24
25	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	26
27	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	28
29	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	30
31	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	32
33	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	34
35	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	36
37	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	38
39	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	40
41	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	42
			Total Load:	0 VA	0 VA	0 VA				
			Total Amps:	0 A	0 A	0 A				

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
				Total Conn. Load: 0 VA
				Total Est. Demand: 0 VA
				Total Conn. Current: 0 A
				Total Est. Demand Current: 0 A

Notes:

Branch Panel: LEPL-OS-32

Location: SOIL/PLANT LAB 319 | **Supply From:** | **Mounting:** Flush | **Enclosure:** Indoor
Volts: 120/208 Wye | **Phases:** 3 | **Wires:** 4
A.I.C. Rating: 22kA | **Mains Type:** MLO | **Mains Rating:** 225 A | **MCB Rating:** N/A

CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT
1	8-E22	20 A	1	600 VA 1800			1	20 A	FCU-3-28, 29, 30	2
3	319B RECEPTACLE	20 A	1		360 VA 180 VA		1	20 A	319G RECEPTACLE	4
5	319C RECEPTACLES	20 A	1			360 VA 0 VA	1	20 A	Spare	6
7	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	8
9	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	10
11	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	12
13	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	14
15	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	16
17	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	18
19	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	20
21	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	22
23	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	24
25	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	26
27	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	28
29	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	30
31	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	32
33	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	34
35	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	36
37	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	38
39	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	40
41	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	42
			Total Load:	2400 VA	540 VA	360 VA				
			Total Amps:	20 A	5 A	3 A				

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Other	0 VA	0.00%	0 VA	**Total Conn. Load:** 3300 VA
Power	2400 VA	100.00%	2400 VA	**Total Est. Demand:** 3300 VA
Receptacle	900 VA	100.00%	900 VA	**Total Conn. Current:** 9 A
				Total Est. Demand Current: 9 A

Notes:

Branch Panel: LEPL-OS-41

Location: BIODIVERSITY LAB 402 | **Supply From:** | **Mounting:** Flush | **Enclosure:** Indoor
Volts: 120/208 Wye | **Phases:** 3 | **Wires:** 4
A.I.C. Rating: 22kA | **Mains Type:** MLO | **Mains Rating:** 225 A | **MCB Rating:** N/A

CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT
1				0 VA			1	20 A	Spare	2
3	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	4
5	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	6
7	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	8
9	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	10
11	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	12
13	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	14
15	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	16
17	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	18
19	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	20
21	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	22
23	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	24
25	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	26
27	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	28
29	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	30
31	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	32
33	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	34
35	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	36
37	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	38
39	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	40
41	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	42
			Total Load:	0 VA	0 VA	0 VA				
			Total Amps:	0 A	0 A	0 A				

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
				Total Conn. Load: 0 VA
				Total Est. Demand: 0 VA
				Total Conn. Current: 0 A
				Total Est. Demand Current: 0 A

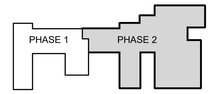
Notes:

RENOVATE PLANT SCIENCE BUILDING - PHASE 2
SUCF Project No. 161026-00
236 Tower Road
Ithaca, NY 14853

Cornell CALS College of Agriculture and Life Sciences
SUNY State University Construction Fund

Ellenzweig Architecture | Planning — 230 Congress Street, Boston, MA 02110, T 617 491-5575
Ryan Biggs Clark Davis Structural Engineers — 257 Ushers Road, Clifton Park, NY 12065, T 518 406-5506
Salas O'Brien Consulting & Engineering Group of NY, Inc. Mechanical Engineers — 300 Trolley Blvd. Rochester, NY 14606, T 585 288-5590
Jade Stone Engineering Electrical Engineers — 444 Vanduzee St. Watertown, NY 13601, T 315 836 4062
Watson Engineering Plumbing — 4500 State Route 434, Apalachin, NY 13732, T 607 223-4334
DM Engineers Fire Protection Engineers — 1007 Yonkers Ave, Yonkers, NY 10704, T 929 333-2339
Bell & Spina Building Envelope — 215 Wyoming Street S, Syracuse, NY 13204, T 315 488-0377
Environ. Design & Research Historic Preservation, Landscape, Civil Engineering — 217 Montgomery St, Suite 1000, Syracuse, NY 13202, T 315 471-0688
Schuler Shook Lighting Design — 240 W 40th Street, 2nd Floor, New York, NY 10018, T 212 439-5650
D2D Green Design Sustainability PH2 — 10 Hallenbeck Hill, East Greenbush, NY 12061, T 518 729-2967
Shen Milsom & Wilke Acoustics, IT, AV, Security — 417 Fifth Avenue, New York, NY 10016, T 212 725-6800
Watts Architects & Engineers Asbestos, Haz Mat — 95 Perry Street, Suite 300, Buffalo, NY 14203, T 716 206-5122
Hastings Consulting Building Code — 142 Hanlon Rd, Holliston, MA 01746, T 508 397-8417
Ellana Cost Consulting — 32 Broadway, Suite 801, New York, NY 10004, T 212971-0936

Notes:



Keyplan

Job Number 31909.00
Drawing By CCH
Checked By SAG
Filename
Date August 31, 2026

Revisions

B	Addendum 3	11/04/26

ELECTRICAL SCHEDULES

BID DOCUMENTS
Scale:

E6.2

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Branch Panel: LNP-DP

Location: ELEC 10064 **Supply From:** **Mounting:** Surface **Enclosure:** 1
Volts: 120/208 Wye **Phases:** 3 **Wires:** 4
A.I.C. Rating: 22kA **Mains Type:** MCB **Mains Rating:** 225 A **MCB Rating:** 225 A

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	LNP-12	100 A	3	8460...	6660...					3	100 A	LNP-22	2
3	--	--	--			7380...	9540...			--	--	--	4
5	--	--	--					9000...	1062...	--	--	--	6
7	LNP-32	100 A	3	5940...	3780...					3	100 A	LNP-42	8
9	--	--	--			5400...	6480...			--	--	--	10
11	--	--	--					7200...	3600...	--	--	--	12
13	LNP-02	100 A	3	3600...	0 VA					1	20 A	Spare	14
15	--	--	--			3060...	0 VA			1	20 A	Spare	16
17	--	--	--					3780...	0 VA	1	20 A	Spare	18
19	PANEL EP	50 A	3	3000...	0 VA					1	20 A	Spare	20
21	--	--	--			3000...	0 VA			1	20 A	Spare	22
23	--	--	--					3000...	0 VA	1	20 A	Spare	24
25	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	26
27	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	28
29	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	30
31													32
33													34
35													36
37													38
39													40
41													42
			Total Load:	31440 VA		34860 VA		37200 VA					
			Total Amps:	262 A		295 A		314 A					

B

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other	0 VA	0.00%	0 VA	**Total Conn. Load:**	103500 VA
Power	10800 VA	100.00%	10800 VA	**Total Est. Demand:**	62150 VA
Receptacle	92700 VA	55.39%	51350 VA	**Total Conn. Current:**	287 A
				Total Est. Demand Current:	173 A

Notes:

Branch Panel: LNP-12

Location: T/D 121 **Supply From:** LNP-DP **Mounting:** Surface **Enclosure:** 1
Volts: 120/208 Wye **Phases:** 3 **Wires:** 4
A.I.C. Rating: 10kA **Mains Type:** MCB **Mains Rating:** 100 A **MCB Rating:** 100 A

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	WATER FOUNTAIN	20 A	1	180 VA	720 VA					1	20 A	RECEPTS. - ADMIN. PROF. 1	2
3	RECEPTS. - ADMIN. CLERICAL 4/5	20 A	1			1440...	0 VA			1	20 A	RECEPTS. - WRITE-UP SPACE 116B	4
5	RECEPTS. - ADMIN. PROF. 6	20 A	1					720 VA	900 VA	1	20 A	RECEPTS. - WRITE-UP SPACE 116	6
7	RECEPTS. - MEETING ROOM 116A	20 A	1	720 VA	720 VA					1	20 A	RECEPTS. - MAIL/PRINT/SUPPLY 111	8
9	RECEPTS. - COLLAB 119	20 A	1			1080...	900 VA			1	20 A	RECEPTS. - ADMIN. SIPS. EXEC. 128A	10
11	RECEPTS. - ADMIN. PROF. 4	20 A	1					720 VA	720 VA	1	20 A	RECEPTS. - ADMIN. CLERICAL 1	12
13	RECEPTS. - ADMIN. SUITE 128	20 A	1	900 VA	720 VA					1	20 A	RECEPTS. - ADMIN. SIPS. EXEC. 128D	14
15	RECEPTS. - ADMIN CLERICAL 2	20 A	1			540 VA	720 VA			1	20 A	RECEPTS. - FACULTY OFFICE 129	16
17	RECEPTS. - ADMIN. PROF. 5	20 A	1					720 VA	720 VA	1	20 A	RECEPTS. - FACULTY OFFICE 127	18
19	RECEPTS. - ADMIN. PROF. 1	20 A	1	720 VA	900 VA					1	20 A	RECEPTS. - JAN. RM 10061	20
21	WATER FOUNTAIN	20 A	1			180 VA	1260...			1	20 A	RECEPTS. - DRY TEACHING LAB 104	22
23	WATER FOUNTAIN	20 A	1					180 VA	900 VA	1	20 A	RECEPTS. - GENERAL ASSIGNMENT...	24
25	RECEPTS. - COLLAB. 119	20 A	1	720 VA	0 VA					1	20 A	DOOR HARDWARE - CORRIDOR 10041	26
27	LECTERN POKE-THRU - DRY TEACHING LAB...	20 A	1			0 VA	0 VA			1	20 A	PROJECTORS - DRY TEACHING LAB 104	28
29	PROJECTOR - CLASSROOM 133	20 A	1					0 VA	0 VA	1	20 A	PROJECTORS - PLANT PHYS. TEACHING LAB...	30
31	RECEPTS. - ADMIN. SIPS. EXEC. 128E	20 A	1	720 VA	540 VA					1	20 A	RECEPTS. - BREAK ROOM 103	32
33	RECEPTS. - EVENT SUPPORT 120	20 A	1			360 VA	180 VA			1	20 A	RECEPT. - FLEX LAB SUPPORT 118	34
35	FCU-1-29, 30, 31	20 A	1					1800...	900 VA	1	20 A	RECEPTS. - CORRIDOR 10045	36
37	HC-1-8, 9	20 A	2	0 VA	900 VA					1	20 A	RECEPTS. - CYL. STOR. 113A	38
39	--	--	--			0 VA	720 VA			1	20 A	RECEPTS. - CYL. STOR. 319A	40
41	OVERHEAD POWER REELS - DRY TEACHING...	20 A	1					0 VA	720 VA	1	20 A	RECEPTS. - CORRIDOR-NORTH 10041	42
			Total Load:	8460 VA		7380 VA		9000 VA					
			Total Amps:	72 A		62 A		76 A					

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other	0 VA	0.00%	0 VA	**Total Conn. Load:**	24840 VA
Power	1800 VA	100.00%	1800 VA	**Total Est. Demand:**	18320 VA
Receptacle	23040 VA	71.70%	16520 VA	**Total Conn. Current:**	69 A
				Total Est. Demand Current:	51 A

Notes:

Branch Panel: LNP-42

Location: T/D 417 **Supply From:** LNP-DP **Mounting:** Surface **Enclosure:** 1
Volts: 120/208 Wye **Phases:** 3 **Wires:** 4
A.I.C. Rating: 10kA **Mains Type:** MCB **Mains Rating:** 100 A **MCB Rating:** 100 A

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	RECEPTS. - ACAD. OFFICE 10 430	20 A	1	900 VA	900 VA					1	20 A	RECEPTS. - ACAD. OFFICE 13 420	2
3	RECEPTS. - ACAD. OFFICE 11 428	20 A	1			900 VA	1080...			1	20 A	RECEPTS. - ACAD. OFFICE 14 418	4
5	RECEPTS. - ACAD. OFFICE 12 426	20 A	1					900 VA	0 VA	1	20 A	FURNITURE POWER - COMPUTATIONAL LAB...	6
7	FURNITURE POWER - COMPUTATIONAL LAB...	20 A	1	0 VA	900 VA					1	20 A	RECEPTS. - TEAM ROOM 431A	8
9	FURNITURE POWER - COMPUTATIONAL LAB...	20 A	1			0 VA	1440...			1	20 A	RECEPTS. - MEETING ROOM 435	10
11	RECEPTS. - COMPUTATIONAL LAB 431	20 A	1					540 VA	0 VA	1	20 A	RECEPTS. - TEAM ROOM 431B	12
13	RECEPTS. - WORKSPACE 404A	20 A	1	0 VA	900 VA					1	20 A	RECEPTS. - CORRIDOR-EAST 40043	14
15	RECEPTS. - COLLAB 404	20 A	1			540 VA	360 VA			1	20 A	RECEPTS. - COMPUTATIONAL LAB 431	16
17	RECEPTS. - BIO-DIVERSITY HUB 403	20 A	1					900 VA	0 VA	1	20 A	DOOR HARDWARE - CORRIDOR 40040	18
19	DOOR HARDWARE - CORRIDOR G0042	20 A	1	0 VA	0 VA					1	20 A	FURNITURE POWER - COMPUTATIONAL LAB...	20
21	PROJECTOR - BIO-DIVERSITY 403	20 A	1			0 VA	180 VA			1	20 A	RECEPT. - GN TOILET ROOM 40020	22
23	LIGHTING - AHU VESTIBULE 40060A	20 A	1					0 VA	720 VA	1	20 A	RECEPTS. - CORRIDOR-NORTH 40040	24
25	FURNITURE POWER - COMPUTATIONAL LAB...	20 A	1	0 VA	180 VA					1	20 A	UNDERCOUNTER REFRIG. - COLLAB 404	26
27	RECEPTS. - COMPUTATIONAL LAB 416	20 A	1			540 VA	1440...			1	20 A	RECEPTS. - WORKSPACE 404A	28
29	RECEPTS. - CORRIDOR 40040	20 A	1					540 VA	0 VA	1	20 A	Spare	30
31	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	32
33	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	34
35	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	36
37	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	38
39	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	40
41	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	42
			Total Load:	3780 VA		6480 VA		3600 VA					
			Total Amps:	32 A		54 A		30 A					

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other	0 VA	0.00%	0 VA	**Total Conn. Load:**	13860 VA
Power	0 VA	0.00%	0 VA	**Total Est. Demand:**	11930 VA
Receptacle	13860 VA	86.08%	11930 VA	**Total Conn. Current:**	38 A
				Total Est. Demand Current:	33 A

Notes:

Branch Panel: LNP-22

Location: T/D 223 **Supply From:** LNP-DP **Mounting:** Surface **Enclosure:** 1
Volts: 120/208 Wye **Phases:** 3 **Wires:** 4
A.I.C. Rating: 10kA **Mains Type:** MCB **Mains Rating:** 100 A **MCB Rating:** 100 A

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	RECEPTS. - FACULTY OFFICE 235	20 A	1	540 VA	720 VA					1	20 A	RECEPTS. - FACULTY OFFICE 229	2
3	RECEPTS. - FACULTY OFFICE 233	20 A	1			720 VA	720 VA			1	20 A	RECEPTS. - FACULTY OFFICE 227	4
5	RECEPTS. - FACULTY OFFICE 231	20 A	1					720 VA	1080...	1	20 A	RECEPTS. - MEETING ROOM 223	6
7	RECEPTS. - WRITE-UP SPACE 224	20 A	1	0 VA	0 VA					1	20 A	RECEPTS. - GN TOILET RM & OPEN SHARED...	8
9	RECEPTS. - WRITE-UP SPACE 224B	20 A	1			1260...	720 VA			1	20 A	RECEPTS. - FACULTY OFFICE 209	10
11	RECEPTS. - MEETING ROOM 224A	20 A	1					540 VA	720 VA	1	20 A	RECEPTS. - FACULTY OFFICE 207	12
13	RECEPTS. - FACULTY OFFICE 205	20 A	1	1080...	180 VA					1	20 A	RECEPTS. - PLANT PHYSIOLOGY TEACHING...	14
15	RECEPTS. - GN TOILET RM 20020	20 A	1			360 VA	0 VA			1	20 A	SENSOR SINK - GN TOILET ROOM 20023	16
17	FURNITURE POWER - WRITE-UP SPACE 203	20 A	1					0 VA	0 VA	1	20 A	Spare	18
19	SENSOR SINK - GN TOILET ROOM 20023	20 A	1	0 VA	720 VA					1	20 A	TABLE RECEPTS. - PLANT PHYSIOLOGY...	20
21	TABLE RECEPTS. - PLANT PHYSIOLOGY...	20 A	1			720 VA	720 VA			1	20 A	TABLE RECEPTS. - PLANT PHYSIOLOGY...	22
23	TABLE RECEPTS. - PLANT PHYSIOLOGY...	20 A	1					720 VA	720 VA	1	20 A	TABLE RECEPTS. - PLANT PHYSIOLOGY...	24
25	WATER FOUNTAIN	20 A	1	180 VA	1440...					1	20 A	RECEPTS. - COLLAB. 221 & T/D 223	26
27	WATER FOUNTAIN	20 A	1			180 VA	720 VA			1	20 A	RECEPTS. - PLANT PHYSIOLOGY PREP LAB...	28
29	9-E06	20 A	1					0 VA	0 VA	1	20 A	230 FUME HOOD	30
31	LECTERN POKE-THRU - PLANT PHYS....	20 A	1	0 VA	720 VA					1	20 A	TABLE RECEPTS. - PLANT PHYSIOLOGY...	32
33	DOOR HARDWARE - CORRIDOR 20041	20 A	1			0 VA	720 VA			1	20 A	TABLE RECEPTS. - PLANT PHYSIOLOGY...	34
35	TABLE RECEPTS. - PLANT PHYSIOLOGY...	20 A	1					720 VA	720 VA	1	20 A	TABLE RECEPTS. - PLANT PHYSIOLOGY...	36
37	HC-2-3	20 A	2	0 VA	0 VA					2	20 A	HC-3-6, 7	38
39	--	--	--			0 VA	0 VA			--	--	--	40
41	TABLE RECEPTS. - PLANT PHYSIOLOGY...	20 A	1					720 VA	720 VA	1	20 A	TABLE RECEPTS. - PLANT PHYSIOLOGY...	42
43	TABLE RECEPTS. - PLANT PHYSIOLOGY...	20 A	1	0 VA	0 VA					1	20 A	FLOOR BOX - WRITE-UP SPACE 224	44
45	RECEPTS. - WRITE-UP SPACE 224B	20 A	1			0 VA	0 VA			1	20 A	FURNITURE POWER - WRITE-UP SPACE 203	46
47	RECEPTS. - WRITE-UP SPACE 203	20 A	1					180 VA	0 VA	2	20 A	228 208V RECEPTACLE	48
49	228 208V RECEPTACLE	20 A	2	0 VA	0 VA					--	--	--	50
51	--	--	--			0 VA	1980...			1	20 A	RECEPTS. - CORRIDOR-NORTH 20041	52
53	RECEPTS. - CYL. STOR. 219A	20 A	1					720 VA	900 VA	1	20 A	RECEPTS. - CORRIDOR EAST 20043	54
55	RECEPTS. - PLANT PHYSIOLOGY PREP LAB...	20 A	1	1080...	0 VA					1	20 A	FLOOR BOX - MEETING ROOM 225	56
57	RECEPTS. - PLANT PHYSIOLOGY PREP LAB...	20 A	1			720 VA							58
59	RECEPTS. - PLANT PHYSIOLOGY PREP LAB...	20 A	1					1440...					60
61													62
63													64
65													66
67													68
69													70
71													72
			Total Load:	6660 VA		9540 VA		10620 VA					
			Total Amps:	56 A		83 A		92 A					

B

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other	0 VA	0.00%	0 VA	**Total Conn. Load:**	26820 VA
Power	0 VA	0.00%	0 VA	**Total Est. Demand:**	18410 VA
Receptacle	26820 VA	68.64%	18410 VA	**Total Conn. Current:**	74 A
				Total Est. Demand Current:	51 A

Notes:

Branch Panel: LNPL-01-1

Location: CORRIDOR G0051 **Supply From:** **Mounting:** Flush **Enclosure:** Indoor
Volts: 120/208 Wye **Phases:** 3 **Wires:** 4
A.I.C. Rating: 22kA **Mains Type:** MLO **Mains Rating:** 225 A **MCB Rating:** N/A

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	5-E08	20 A	2	2600...	900 VA					1	20 A	LAB G20 RECEPTACLES	2
3	--	--	--			2600...	900 VA			1	20 A	LAB G20 RECEPTACLES	4
5	LAB G20 RECEPTACLES	20 A	1					1620...	720 VA	1	20 A	LAB G20 RECEPTACLES	6
7	LAB G20 RECEPTACLES	20 A	1	1620...	1620...					1	20 A	LAB G20 RECEPTACLES	8
9	LAB G20 RECEPTACLES	20 A	1			720 VA	720 VA			1	20 A	LAB G20 RECEPTACLES	10
11	LAB G20 RECEPTACLES	20 A	1					1620...	720 VA	1	20 A	LAB G20 RECEPTACLES	12
13	LAB G20 RECEPTACLES	20 A	1	1620...	720 VA					1	20 A	LAB G20 RECEPTACLES	14
15	LAB G20 RECEPTACLES	20 A	1			720 VA	0 VA			1	20 A	LAB G20 RECEPTACLES	16
17	LAB G20 RECEPTACLES	20 A	1					1620...	720 VA	1	20 A	LAB G20 RECEPTACLES	18
19	LAB G20 RECEPTACLES	20 A	1	180 VA	6240...					2	30 A	G17 208V RECEPTACLE	20
21	G17 208V RECEPTACLE	30 A	2			6240...	0 VA			--	--	--	22
23	--	--	--					0 VA	6240...	2	20 A	G19 208V RECEPTACLE	24
25	G21 208V RECEPTACLE	30 A	2	6240...	0 VA					--	--	--	26
27	--	--	--			0 VA	6240...			2	20 A	G23 208V RECEPTACLE	28
29	G21 208V RECEPTACLE	30 A	2					6240...	0 VA	--	--	--	30
31	--	--	--	0 VA	0 VA					1	20 A	G14 FUME HOOD	32
33	RECEPTS. - CYL. STOR G13	20 A	1			720 VA	600 VA			1	20 A	G20 FUME HOOD	34
35	RECEPTS. - CYL. CLO G0087	20 A	1					360 VA	0 VA	1	20 A	Power	36
37	G23 FUME HOOD	20 A	1	600 VA	0 VA					2	20 A	G14 208V RECEPTACLE	38
39	G20 FUME HOOD	20 A	1			600 VA	0 VA			--	--	--	40
41	G14 208V RECEPTACLE	20 A	2					0 VA	0 VA	1	20 A	Other	42
43	--	--	--	0 VA	600 VA					1	20 A	VAC PUMP CABINET - LAB G20	44
45	RECEPT. - FLEXIBLE G21 & PCR G19	20 A	1			180 VA	600 VA			1	20 A	VAC PUMP CABINET - LAB G20	46
47	VAC PUMP CABINET - LAB G20	20 A	1					600 VA	600 VA	1	20 A	VAC PUMP CABINET - CHEMISTRY G23	48
49	VAC PUMP CABINET - PCR G19	20 A	1	600 VA	540 VA					1	20 A	RECEPTS. - SHARED INST. SUPPORT ROOM...	50
51	VAC PUMP CABINET - LAB G20	20 A	1			600 VA	540 VA			1	20 A	RECEPTS. - SHARED INST. SUPPORT ROOM...	52
53	RECEPTS. - SHARED INST. SUPPORT ROOM...	20 A	1					540 VA	540 VA	1	20 A	RECEPTS. - SHARED INST. SUPPORT ROOM...	54
			Total Load:	24080 VA		21980 VA		22140 VA					
			Total Amps:	201 A		183 A		185 A					

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other	0 VA	0.00%	0 VA	**Total Conn. Load:**	68200 VA
Power	10600 VA	100.00%	10600 VA	**Total Est. Demand:**	44400 VA
Receptacle	57600 VA	58.68%	33800 VA	**Total Conn. Current:**	189 A
				Total Est. Demand Current:	123 A

Notes:

Branch Panel: LNPL-31-1

Location: MOLECULAR PLANT-MICROB... **Supply From:** **Mounting:** Flush **Enclosure:** Indoor
Volts: 120/208 Wye **Phases:** 3 **Wires:** 4
A.I.C. Rating: 22kA **Mains Type:** MLO **Mains Rating:** 225 A **MCB Rating:** N/A

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	10-E33	20 A	1	600 VA	720 VA					1	20 A	RECEPTS. - MOLECULAR PLANT 302	2
3	10-E30	20 A	1			600 VA	1440...			1	20 A	RECEPTS. - MOLECULAR PLANT 302	4
5	10-E36	20 A	1					600 VA	360 VA	1	20 A	RECEPTS. - MOLECULAR PLANT 302	6
7	RECEPTS. - MOLECULAR PLANT 302	20 A	1	1800...	1800...					1	20 A	RECEPTS. - MOLECULAR PLANT 302	8
9	RECEPTS. - CHEMISTRY 302C	20 A	1			540 VA							10
11	RECEPT. - AUTOCLAVE 304	20 A	1					180 VA					12
13	RECEPTS. - MOLECULAR PLANT 302	20 A	1	1440...									14
15	RECEPTS. - MOLECULAR PLANT 302	20 A	1			1800...	1440...			1	20 A	RECEPTS. - MOLECULAR PLANT 302	16
17									1800...	1	20 A	RECEPTS. - MOLECULAR PLANT 302	18
19													20
21													22
23	RECEPTS. - MOLECULAR PLANT 302	20 A	1					1440...	1440...	1	20 A	RECEPTS. - MOLECULAR PLANT 302	24
25					600 VA					1	20 A	302C FUME HOOD	26
27	304 FUME HOOD	20 A	1			600 VA	0 VA			1	20 A	Spare	28
29	302C FUME HOOD	20 A	1					600 VA	0 VA	1	20 A	Spare	30
31	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	32
33	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	34
35	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	36
37	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	38
39	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	40
41	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	42
			Total Load:	6960 VA		6420 VA		6420 VA					
			Total Amps:	58 A		54 A		54 A					

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other	0 VA	0.00%	0 VA	**Total Conn. Load:**	19800 VA
Power	3600 VA	100.00%	3600 VA	**Total Est. Demand:**	16700 VA
Receptacle	16200 VA	80.86%	13100 VA	**Total Conn. Current:**	55 A
				Total Est. Demand Current:	46 A

Notes:

Branch Panel: LNP-32

Location: T/D 325 **Supply From:** LNP-DP **Mounting:** Surface **Enclosure:** 1
Volts: 120/208 Wye **Phases:** 3 **Wires:** 4
A.I.C. Rating: 10kA **Mains Type:** MCB **Mains Rating:** 100 A **MCB Rating:** 100 A

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	RECEPTS. - WRITE-UP SPACE 324	20 A	1	360 VA	720 VA					1	20 A	RECEPTS. - FACULTY OFFICE 332	2
3	RECEPTS. - MEETING ROOM 324A	20 A	1			540 VA	720 VA			1	20 A	RECEPTS. - FACULTY OFFICE 330	4
5	RECEPTS. - FACULTY OFFICE 334	20 A	1					720 VA	720 VA	1	20 A	RECEPTS. - FACULTY OFFICE 328	6
7	RECEPT. - FLEX LAB SUPPORT 326	20 A	1	360 VA	720 VA					1	20 A	RECEPTS. - FACULTY OFFICE 335	8
9	RECEPTS. - FACULTY OFFICE 339	20 A	1			720 VA	720 VA			1	20 A	RECEPTS. - FACULTY OFFICE 333	10
11	RECEPTS. - FACULTY OFFICE 337	20 A	1					720 VA	720 VA	1	20 A	RECEPTS. - FACULTY OFFICE 331	12
13	RECEPTS. - FACULTY OFFICE 329	20 A	1	540 VA	540 VA					1	20 A	RECEPTS. - WRITE-UP SPACE 311	14
15	RECEPTS. - TBD 327	20 A	1			540 VA	1080...			1	20 A	RECEPTS. - WRITE-UP SPACE 307 & TOILET...	16
17	RECEPTS. - FACULTY OFFICE 313	20 A	1					720 VA	180 VA	1	20 A	WATER FOUNTAIN	18
19	WATER FOUNTAIN	20 A	1	180 VA	540 VA					1	20 A	RECEPTS. - COLLAB 305	20
21	RECEPTS. - WRITE-UP SPACE 324	20 A	1			180 VA	0 VA			1	20 A	RECEPTS. - WRITE-UP SPACE 324B	22
23	Spare	20 A	1					0 VA	720 VA	1	20 A	RECEPTS. - PRINT/SUPPLY 315	24
25	RECEPTS. - WRITE-UP SPACE 311	20 A	1	0 VA	720 VA					1	20 A	RECEPTS. - CORRIDOR-EAST 30042	26
27	FLOOR BOX - LARGE MEETING ROOM 340	20 A	1			0 VA	540 VA			1	20 A	RECEPTS. - COLLAB. 323	28
29	FURNITURE POWER - WRITE-UP SPACE 307	20 A	1					0 VA	900 VA	1	20 A	RECEPTS. - CORRIDOR-NORTH 30041	30
31	RECEPT. - T/D 325	20 A	1	180 VA	1080...					1	20 A	RECEPTS. - LARGE MEETING ROOM 340	32
33	RECEPT. - FLEX LAB SUPPORT 326	20 A	1			0 VA	180 VA			1	20 A	RECEPT. - GN TOILET ROOM 30023	34
35	RECEPTS. - WRITE-UP SPACE 324B	20 A	1					360 VA	720 VA	1	20 A	RECEPTS. - COLLAB. 323	36
37	Spare	20 A	1	0 VA	0 VA					1	20 A	DOOR HARDWARE - CORRIDOR 30041	38
39	REFRIG. - COLLAB 305	20 A	1			180 VA							40
41	RECEPTS. - CYL. CLO. 309	20 A	1					720 VA					42
			Total Load:	5940 VA		5400 VA		7200 VA					
			Total Amps:	50 A		45 A		61 A					

B B

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other	0 VA	0.00%	0 VA	**Total Conn. Load:**	18540 VA
Power	0 VA	0.00%	0 VA	**Total Est. Demand:**	14270 VA
Receptacle	18540 VA	76.97%	14270 VA	**Total Conn. Current:**	51 A
				Total Est. Demand Current:	40 A

Notes:

Branch Panel: LNPL-01-2

B

Location: CORRIDOR G0051 **Supply From:** **Mounting:** Flush **Enclosure:** Indoor
Volts: 120/208 Wye **Phases:** 3 **Wires:** 4
A.I.C. Rating: 22kA **Mains Type:** MLO **Mains Rating:** 225 A **MCB Rating:** N/A

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	RECEPTS. - EQUIPMENT G15	20 A	1	540 VA	540 VA					1	20 A	RECEPTS. - SHARED INST. SUPPORT ROOM...	2
3	RECEPTS. - SHARED INST. SUPPORT ROOM...	20 A	1			360 VA	540 VA			1	20 A	RECEPTS. - EQUIPMENT G15	4
5	RECEPTS. - SHARED INST. SUPPORT ROOM...	20 A	1					540 VA	540 VA	1	20 A	RECEPTS. - SHARED INST. SUPPORT ROOM...	6
7	RECEPTS. - EQUIPMENT G15	20 A	1	540 VA	540 VA					1	20 A	RECEPTS. - SHARED INST. SUPPORT ROOM...	8
9	RECEPTS. - EQUIPMENT G15	20 A	1			540 VA	540 VA			1	20 A	RECEPTS. - FLEX LAB SUPPORT G38	10
11	RECEPTS. - SHARED INST. SUPPORT ROOM...	20 A	1					540 VA	540 VA	1	20 A	RECEPTS. - FLEX LAB SUPPORT G38	12
13	RECEPT. - MICROSCOPY G17	20 A	1	540 VA	540 VA					1	20 A	RECEPTS. - MICROSCOPY G17	14
15	RECEPTS. - FLEX LAB SUPPORT G36	20 A	1			540 VA	540 VA			1	20 A	RECEPTS. - FLEX LAB SUPPORT G36	16
17	RECEPTS. - FLEX LAB SUPPORT G36	20 A	1					540 VA	540 VA	1	20 A	RECEPTS. - FLEX LAB SUPPORT G36	18
19	RECEPTS. - MICROSCOPY G17	20 A	1	360 VA	360 VA					1	20 A	RECEPTS. - MICROSCOPY G17	20
21	RECEPTS. - SUPPORT G34	20 A	1			540 VA	540 VA			1	20 A	RECEPTS. - PCR G19	22
23	RECEPTS. - SUPPORT G34	20 A	1					540 VA	1440...	1	20 A	Other	24
25	Other	20 A	1	720 VA	540 VA					1	20 A	RECEPTS. - PCR G19	26
27	5-E01	20 A	1			780 VA	600 VA			1	20 A	5-E09	28
29	RECEPTS. - PCR G19	20 A	1					540 VA	360 VA	1	20 A	RECEPTS. - PCR G19	30
31	5-E10	20 A	2	1040...	540 VA					1	20 A	RECEPTS. - FLEXIBLE G21	32
33	--	--	--			1040...	360 VA			1	20 A	RECEPTS. - FLEXIBLE G21	34
35	RECEPTS. - FLEXIBLE G21	20 A	1					540 VA	360 VA	1	20 A	RECEPT. - CHEMISTRY G23	36
37	Other	20 A	3	1664...	360 VA					1	20 A	RECEPT. - CHEMISTRY G23	38
39	--	--	--			1664...	0 VA			3	20 A	CER CONDENSER	40
41	--	--	--					0 VA	0 VA	--	--	--	42
43					0 VA					--	--	--	44
45	CER CONDENSER	20 A	3			0 VA	1664...			3	20 A	Other	46
47	--	--	--					0 VA	1664...	--	--	--	48
49	--	--	--	0 VA	0 VA					--	--	--	50
51													52
53													54
			Total Load:	8824 VA		10248 VA		8684 VA					
			Total Amps:	74 A		86 A		72 A					

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other	6656 VA	100.00%	6656 VA	**Total Conn. Load:**	27756 VA
Power	3280 VA	100.00%	3280 VA	**Total Est. Demand:**	23846 VA
Receptacle	17820 VA	78.06%	13910 VA	**Total Conn. Current:**	77 A
				Total Est. Demand Current:	66 A

Notes:

Branch Panel: LNPL-31-2

Location: MOLECULAR PLANT-MICROB... **Supply From:** **Mounting:** Flush **Enclosure:** Indoor
Volts: 120/208 Wye **Phases:** 3 **Wires:** 4
A.I.C. Rating: 22kA **Mains Type:** MLO **Mains Rating:** 225 A **MCB Rating:** 225 A

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	VAC PUMP CABINET - CHEMISTRY 302C	20 A	1	600 VA	540 VA					1	20 A	RECEPTS. - EQ. CORRIDOR 302D	2
3	VAC PUMP CABINET - CHEMISTRY 302C	20 A	1			600 VA	540 VA			1	20 A	RECEPTS. - CULTURE 302B	4
5	VAC PUMP CABINET - CULTURE 302B	20 A	1					600 VA	540 VA	1	20 A	RECEPTS. - CULTURE 302B	6
7	RECEPTS. - CULTURE 302B	20 A	1	360 VA	540 VA					1	20 A	RECEPTS. - FLEX 302E	8
9	RECEPTS. - EQUIPMENT CORRIDOR 302D	20 A	1			720 VA	360 VA			1	20 A	RECEPTS. - DARKROOM 302EA	10
11	Other	20 A	1					360 VA	540 VA	1	20 A	RECEPTS. - MOLECULAR BIO 302A	12
13	RECEPTS. - MOLECULAR BIO 302A	20 A	1	360 VA	1040...					3	20 A	EQ-3A	14
15	RECEPTS. - MOLECULAR BIO 302A	20 A	1			540 VA	1040...			--	--	--	16
17	EQ-2D	20 A	3					1040...	1040...	--	--	--	18
19	--	--	--	1040...	0 VA					1	20 A	Spare	20
21	--	--	--			1040...	0 VA			1	20 A	Spare	22
23	EQ-6A	20 A	3					1040...	0 VA	1	20 A	Spare	24
25	--	--	--	1040...	0 VA					1	20 A	Spare	26
27	--	--	--			1040...	0 VA			1	20 A	Spare	28
29	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	30
31	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	32
33	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	34
35	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	36
37	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	38
39	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	40
41	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	42
43	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	44
45	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	46
47	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	48
49	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	50
51	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	52
53	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	54
			Total Load:	5520 VA		5880 VA		5160 VA					
			Total Amps:	46 A		49 A		43 A					

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other	0 VA	0.00%	0 VA	**Total Conn. Load:**	16560 VA
Power	11160 VA	100.00%	11160 VA	**Total Est. Demand:**	16560 VA
Receptacle	5400 VA	100.00%	5400 VA	**Total Conn. Current:**	46 A
				Total Est. Demand Current:	46 A

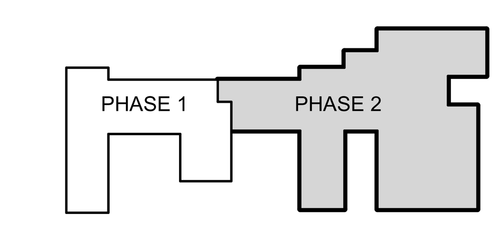
Notes:

RENOVATE PLANT SCIENCE BUILDING - PHASE 2
SUCF Project No. 161026-00
236 Tower Road
Ithaca, NY 14853

Cornell CALS College of Agriculture and Life Sciences
SUNY State University Construction Fund

Ellenzweig Architecture | Planning — 230 Congress Street, Boston, MA 02110, T 617 491-5575
Ryan Biggs Clark Davis Structural Engineers — 257 Ushers Road, Clifton Park, NY 12065, T 518 406-5506
Salas O'Brien Consulting & Engineering Group of NY, Inc. Mechanical Engineers — 300 Trolley Blvd., Rochester, NY 14606, T 585 288-5590
Jade Stone Engineering Electrical Engineers — 444 Vanduzee St., Watertown, NY 13601, T 315 836 4062
Watson Engineering Plumbing — 4500 State Route 434, Apalachin, NY 13732, T 607 223-4334
DM Engineers Fire Protection Engineers — 1007 Yonkers Ave, Yonkers, NY 10704, T 929 333-2339
Bell & Spina Building Envelope — 215 Wyoming Street S, Syracuse, NY 13204, T 315 488-0377
Environ. Design & Research Historic Preservation, Landscape, Civil Engineering — 217 Montgomery St, Suite 1000, Syracuse, NY 13202, T 315 471-0688
Schuler Shook Lighting Design — 240 W 40th Street, 2nd Floor, New York, NY 10018, T 212 439-5650
D2D Green Design Sustainability PH2 — 10 Hallenbeck Hill, East Greenbush, NY 12061, T 518 729-2967
Shen Milsom & Wilke Acoustics, IT, AV, Security — 417 Fifth Avenue, New York, NY 10016, T 212 725-6800
Watts Architects & Engineers Asbestos, Haz Mat — 95 Perry Street, Suite 300, Buffalo, NY 14203, T 716 206-5122
Hastings Consulting Building Code — 142 Hanlon Rd, Holliston, MA 01746, T 508 397-8417
Ellana Cost Consulting — 32 Broadway, Suite 801, New York, NY 10004, T 212971-0936

Notes:



Keyplan

Job Number 31909.00
Drawing By CCH
Checked By SAG
Filename
Date August 31, 2026

Revisions

B	Addendum 3	11/04/26

ELECTRICAL SCHEDULES

STATE OF NEW YORK · SHANE GARRABRANT · 106086 · LICENSED PROFESSIONAL ENGINEER

BID DOCUMENTS
Scale:

E6.3

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Branch Panel: LNPL-41-1

Location: BIODIVERSITY LAB 402
Supply From:
Mounting: Flush
Enclosure: Indoor

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 22kA
Mains Type: MLO
Mains Rating: 225 A
MCB Rating: N/A

CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT
1	RECEPTS. - BIODIVERSITY LAB 402	20 A	1	900 VA 1080...			1	20 A	RECEPTS. - BIODIVERSITY LAB 402	2
3	RECEPTS. - BIODIVERSITY LAB 402	20 A	1		1080... 1260...		1	20 A	RECEPTS. - BIODIVERSITY LAB 402	4
5	RECEPTS. - BIODIVERSITY LAB 402	20 A	1			1260... 1080...	1	20 A	RECEPTS. - BIODIVERSITY LAB 402	6
7	RECEPTS. - BIODIVERSITY LAB 402	20 A	1	1260... 600 VA			1	20 A	11-E24	8
9	RECEPTS. - BIODIVERSITY LAB 402	20 A	1		360 VA 600 VA		1	20 A	11-E25	10
11	11-E27	20 A	1			600 VA 600 VA	1	20 A	11-E23	12
13	11-E26	20 A	1	600 VA 600 VA			1	20 A	11-E10	14
15	11-E17	20 A	1		600 VA 600 VA		1	20 A	11-E11	16
17	11-E18	20 A	1			600 VA 600 VA	1	20 A	11-E13	18
19	11-E12	20 A	1	600 VA 600 VA			1	20 A	11-E15	20
21	11-E16	20 A	1		600 VA 600 VA		1	20 A	11-E22	22
23	11-E14	20 A	1			600 VA 600 VA	1	20 A	402C FUME HOOD	24
25	RECEPT. - PCR/CLEANROOM 402B	20 A	1	180 VA 360 VA			1	20 A	RECEPTS. - CHEMISTRY 402C	26
27	RECEPT. - CHEMISTRY 402C	20 A	1		360 VA 600 VA		1	20 A	VAC PUMP CABINET - CHEMISTRY 402C	28
29	RECEPTS. - CYL. CLO. 402E	20 A	1			720 VA 600 VA	1	20 A	VAC PUMP CABINET - LAB 402	30
31	VAC PUMP CABINET - LAB 402	20 A	1	600 VA 540 VA			1	20 A	RECEPTS. - CULTURE 402D	32
33	RECEPTS. - MICROSCOPY 402A	20 A	1		540 VA 540 VA		1	20 A	RECEPTS. - MICROSCOPY 402A	34
35	VAC PUMP CABINET - CULTURE 402D	20 A	1			600 VA 0 VA	2	20 A	402A 208V RECEPTACLE	36
37	RECEPT. - MICROSCOPY 402A	20 A	1	540 VA 0 VA					--	38
39	RECEPT. - MICROSCOPY 402A	20 A	1		540 VA 0 VA		2	20 A	402B 208V RECEPTACLE	40
41	RECEPTS. - CHEMISTRY 402C	20 A	1	-- --		540 VA 0 VA	--	--	--	42
43	RECEPT. - CHEMISTRY 402C	20 A	1	540 VA 540 VA			1	20 A	RECEPTS. - PCR / CLEANROOM 402B	44
45	402C 208V RECEPTACLE	20 A	2		0 VA 0 VA		--	--	--	46
47	--	--	--			0 VA 0 VA	1	20 A	Spare	48
49	RECEPTS. - PCR / CLEANROOM 402B	20 A	1	720 VA 0 VA			1	20 A	Spare	50
51	RECEPTS. - PCR / CLEANROOM 402B	20 A	1		540 VA 0 VA		1	20 A	Spare	52
53	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	54
			Total Load:	10260 VA	8820 VA	8400 VA				
			Total Amps:	86 A	74 A	70 A				

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Other	0 VA	0.00%	0 VA	**Total Conn. Load:** 27480 VA
Power	12000 VA	100.00%	12000 VA	**Total Est. Demand:** 24740 VA
Receptacle	15480 VA	82.30%	12740 VA	**Total Conn. Current:** 76 A
				Total Est. Demand Current: 69 A

Notes:

Branch Panel: HMP-DP

Location: ELEC 10064
Supply From:
Mounting: Surface
Enclosure: 1

Volts: 480/277 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 22kA
Mains Type: MCB
Mains Rating: 300 A
MCB Rating: 300 A

CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT
1	HMP-12	100 A	3	0 VA 0 VA			3	100 A	HMP-32	2
3	--	--	--		0 VA 0 VA		--	--	--	4
5	--	--	--			0 VA 0 VA	--	--	--	6
7	HMP-DP	20 A	3	0 VA 0 VA			1	20 A	Spare	8
9	--	--	--		0 VA 0 VA		1	20 A	Spare	10
11	--	--	--			0 VA 0 VA	1	20 A	Spare	12
13	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	14
15	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	16
17	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	18
19	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	20
21	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	22
23	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	24
25	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	26
27	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	28
29	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	30
			Total Load:	0 VA	0 VA	0 VA				
			Total Amps:	0 A	0 A	0 A				

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Power	0 VA	0.00%	0 VA	**Total Conn. Load:** 0 VA
				Total Est. Demand: 0 VA
				Total Conn. Current: 0 A
				Total Est. Demand Current: 0 A

Notes:

Branch Panel: HMP-12

Location: ELEC 10064
Supply From: HMP-DP
Mounting: Surface
Enclosure: 1

Volts: 480/277 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 10kA
Mains Type: MCB
Mains Rating: 100 A
MCB Rating: 100 A

CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT
1	EFTR-1	20 A	1	0 VA 0 VA			1	20 A	Spare	2
3	EFTR-1	20 A	1		0 VA 0 VA		1	20 A	Spare	4
5	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	6
7	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	8
9	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	10
11	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	12
13	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	14
15	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	16
17	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	18
19	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	20
21	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	22
23	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	24
25	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	26
27	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	28
29	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	30
31	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	32
33	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	34
35	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	36
37	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	38
39	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	40
41	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	42
			Total Load:	0 VA	0 VA	0 VA				
			Total Amps:	0 A	0 A	0 A				

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Power	0 VA	0.00%	0 VA	**Total Conn. Load:** 0 VA
				Total Est. Demand: 0 VA
				Total Conn. Current: 0 A
				Total Est. Demand Current: 0 A

Notes:

Branch Panel: HMP-32

Location: ELECTRICAL 30060
Supply From: HMP-DP
Mounting: Surface
Enclosure: 1

Volts: 480/277 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 10kA
Mains Type: MCB
Mains Rating: 100 A
MCB Rating: 100 A

CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT
1	EF-13	20 A	3	0 VA 0 VA			1	20 A	EFTR-1	2
3	--	--	--		0 VA 0 VA		3	20 A	RF-2	4
5	--	--	--			0 VA 0 VA	--	--	--	6
7	Spare	20 A	1	0 VA 0 VA			--	--	--	8
9	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	10
11	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	12
13	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	14
15	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	16
17	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	18
19	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	20
21	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	22
23	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	24
25	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	26
27	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	28
29	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	30
31	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	32
33	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	34
35	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	36
37	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	38
39	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	40
41	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	42
			Total Load:	0 VA	0 VA	0 VA				
			Total Amps:	0 A	0 A	0 A				

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Power	0 VA	0.00%	0 VA	**Total Conn. Load:** 0 VA
				Total Est. Demand: 0 VA
				Total Conn. Current: 0 A
				Total Est. Demand Current: 0 A

Notes:

Branch Panel: LMP-12

Location: ELEC 10064
Supply From:
Mounting: Surface
Enclosure: 1

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 10kA
Mains Type: MCB
Mains Rating: 100 A
MCB Rating: 100 A

CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT
1	FCU-G-18, 9, 20, 21, 22, 23	20 A	1	3600... 0 VA			1	20 A	CONDENSATE PUMP	2
3	FCU-G-25, 26	20 A	1		1200... 0 VA		1	20 A	CONDENSATE PUMP	4
5	FCU-G-24, 27, 28, 29	20 A	1			2400... 1800...	1	20 A	FCU-1-32, 39, 40	6
7	CONDENSATE PUMP	20 A	1	0 VA 0 VA			1	20 A	CONDENSATE PUMP	8
9	HC-G-9, 11	20 A	2		0 VA 0 VA		1	20 A	CONDENSATE PUMP	10
11	--	--	--			0 VA 0 VA	1	20 A	CONDENSATE PUMP	12
13	CONDENSATE PUMP	20 A	1	0 VA 0 VA			1	20 A	Spare	14
15	RECEPTS. - ELEC 10064	20 A	1		360 VA 0 VA		1	20 A	Spare	16
17	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	18
19	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	20
21	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	22
23	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	24
25	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	26
27	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	28
29	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	30
31	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	32
33	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	34
35	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	36
37	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	38
39	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	40
41	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	42
			Total Load:	3600 VA	1560 VA	4200 VA				
			Total Amps:	33 A	13 A	38 A				

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Other	0 VA	0.00%	0 VA	**Total Conn. Load:** 9360 VA
Power	9000 VA	100.00%	9000 VA	**Total Est. Demand:** 9360 VA
Receptacle	360 VA	100.00%	360 VA	**Total Conn. Current:** 26 A
				Total Est. Demand Current: 26 A

Notes:

Branch Panel: LMP-22

Location: ELECTRICAL 20060
Supply From:
Mounting: Surface
Enclosure: 1

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 10kA
Mains Type: MCB
Mains Rating: 100 A
MCB Rating: 100 A

CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT
1	CONDENSATE PUMP	20 A	1	0 VA 0 VA			1	20 A	Spare	2
3	CONDENSATE PUMP	20 A	1		0 VA 0 VA		1	20 A	Spare	4
5	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	6
7	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	8
9	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	10
11	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	12
13	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	14
15	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	16
17	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	18
19	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	20
21	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	22
23	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	24
25	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	26
27	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	28
29	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	30
31	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	32
33	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	34
35	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	36
37	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	38
39	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	40
41	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	42
			Total Load:	0 VA	0 VA	0 VA				
			Total Amps:	0 A	0 A	0 A				

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Power	0 VA	0.00%	0 VA	**Total Conn. Load:** 0 VA
				Total Est. Demand: 0 VA
				Total Conn. Current: 0 A
				Total Est. Demand Current: 0 A

Notes:

Branch Panel: LMP-32

Location: ELECTRICAL 30060
Supply From:
Mounting: Surface
Enclosure: 1

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 22kA
Mains Type: MCB
Mains Rating: 100 A
MCB Rating: 100 A

CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT
1	CONDENSATE PUMP	20 A	1	0 VA 0 VA			1	20 A	CONDENSATE PUMP	2
3	CONDENSATE PUMP	20 A	1		0 VA 0 VA		1	20 A	CONDENSATE PUMP	4
5	CONDENSATE PUMP	20 A	1			0 VA 0 VA	1	20 A	CONDENSATE PUMP	6
7	CONDENSATE PUMP	20 A	1	0 VA 0 VA			1	20 A	Spare	8
9	RECEPTS. - ELECTRICAL 30060	20 A	1		540 VA 0 VA		1	20 A	Spare	10
11	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	12
13	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	14
15	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	16
17	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	18
19	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	20
21	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	22
23	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	24
25	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	26
27	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	28
29	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	30
31	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	32
33	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	34
35	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	36
37	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	38
39	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	40
41	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	42
			Total Load:	0 VA	540 VA	0 VA				
			Total Amps:	0 A	5 A	0 A				

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Other	0 VA	0.00%	0 VA	**Total Conn. Load:** 540 VA
Power	0 VA	0.00%	0 VA	**Total Est. Demand:** 540 VA
Receptacle	540 VA	100.00%	540 VA	**Total Conn. Current:** 1 A
				Total Est. Demand Current: 1 A

Notes:

Branch Panel: LMP-42

Location: MECHANICAL 40060
Supply From:
Mounting: Surface
Enclosure: 1

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 10kA
Mains Type: MCB
Mains Rating: 100 A
MCB Rating: 100 A

CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT
1	CONDENSATE PUMP	20 A	1	0 VA 0 VA			1	20 A	FCU-P-1	2
3	EF-14	20 A	1		0 VA 0 VA		1	20 A	Spare	4
5	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	6
7	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	8
9	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	10
11	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	12
13	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	14
15	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	16
17	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	18
19	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	20
21	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	22
23	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	24
25	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	26
27	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	28
29	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	30
31	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	32
33	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	34
35	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	36
37	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	38
39	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	40
41	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	42
			Total Load:	0 VA	0 VA	0 VA				
			Total Amps:	0 A	0 A	0 A				

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Power	0 VA	0.00%	0 VA	**Total Conn. Load:** 0 VA
				Total Est. Demand: 0 VA
				Total Conn. Current: 0 A
				Total Est. Demand Current: 0 A

Notes:

Branch Panel: HELP-LS-DP

Location: T/D 121
Supply From:
Mounting: Surface
Enclosure: 1

Volts: 480/277 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 10kA
Mains Type: MCB
Mains Rating: 200 A
MCB Rating: 50 A

CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT
1	EM. LIGHTING - CORRIDOR 10045	20 A	1	0 VA 0 VA			1	20 A	EM. LIGHTING - 113B, 113C, 113D, 113E, 113F...	2
3	EM. LIGHTING - CORRIDOR - NORTH WING...	20 A	1		0 VA 0 VA		1	20 A	EM. LIGHTING - FRUIT PRODUCTION LAB 113	4
5	EM. LIGHTING - ADMIN. SUITE 128	20 A	1			0 VA 0 VA	3	20 A	HELP-LS-22	6
7	HELP-LS-32	20 A	3	0 VA 0 VA			--	--	--	8
9	--	--	--		0 VA 0 VA		--	--	--	10
11	--	--	--			0 VA 0 VA	3	20 A	HELP-LS-42	12
13	Spare	20 A	1	0 VA 0 VA			--	--	--	14
15	Spare	20 A	1		0 VA 0 VA		--	--	--	16
17	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	18
19	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	20
21	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	22
23	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	24
25	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	26
27	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	28
29	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	30
31	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	32
33	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	34
35	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	36
37	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	38
39	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	40
41	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	42
			Total Load:	0 VA	0 VA	0 VA				
			Total Amps:	0 A	0 A	0 A				

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Other	0 VA	0.00%	0 VA	**Total Conn. Load:** 0 VA
				Total Est. Demand: 0 VA
				Total Conn. Current: 0 A
				Total Est. Demand Current: 0 A

Notes:
- PROVIDE PANEL WITH INTEGRAL TYPE 2 SPD.

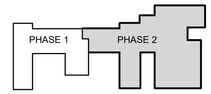
RENOVATE PLANT SCIENCE BUILDING - PHASE 2
SUCF Project No. 161026-00
236 Tower Road
Ithaca, NY 14853

Cornell CALS College of Agriculture and Life Sciences

SUNY State University Construction Fund

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Jade Stone Engineering Electrical Engineers	444 Vanduzee St. Watertown, NY 13601 T 315 836 4062
Watson Engineering Plumbing	4500 State Route 434 Apalachin, NY 13732 T 607 223-4334
DM Engineers Fire Protection Engineers	1007 Yonkers Ave Yonkers, NY 10704 T 929 333-2339
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Environ. Design & Research Historic Preservation, Landscape, Civil Engineering	217 Montgomery St, Suite 1000 Syracuse, NY 13202 T 315 471-0688
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Hastings Consulting Building Code	142 Hanlon Rd Holliston, MA 01746 T 508 397-8417
Ellana Cost Consulting	32 Broadway, Suite 801 New York, NY 10004 T 212971-0936

Notes:



Keyplan

Job Number	31909.00
Drawing By	CCH
Checked By	SAG
Filename	
Date	August 31, 2026

Revisions

B	Addendum 3	11/04/26

ELECTRICAL SCHEDULES



BID DOCUMENTS
Scale:

E6.4

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INDICATED BY ⟲ ON PLAN SHEETS

MECHANICAL EQUIPMENT CONNECTION SCHEDULE (PART 1 OF 3)

EQUIPMENT: SPECIFIC NOTES:
1. WHEN LOCATION IS NOT REFERENCED ON 'E' SHEETS, REFER TO 'M' SHEETS.
2. LOCATIONS SHOWN ARE GENERAL IN NATURE. COORDINATE WITH DIV. 23 PRIOR TO ROUGH-IN.

ELECTRICAL LOAD

POWER CONNECTION

DISCONNECT/SAFETY SWITCH — TYPES: A: NON-FUSED B: FUSED M: MOTOR RATED SWITCH R: RECEPTACLE/CORD/PLUG N: NOT REQUIRED C: CKT BREAKER WITHIN SIGHT; SIZES: AF: AMPERE FRAME AT: FUSE SIZE (RKS, UON)

STARTER — TYPES: VFD: VARIABLE FREQUENCY DRIVE W/ INTEGRAL DISC. CMS: COMBINATION MOTOR STARTER ECM: ELECTRICALLY COMMUTATED MOTOR M: MOTOR RATED SWITCH - MANUAL STARTER AQUA: LINE VOLTAGE AQUA STAT N: NOT REQUIRED P: PACKAGED CONTROLLER BY MANUFACTURER LVT: LINE VOLT T-STAT ('R' INDICATES REVERSE TYPE)

REMARKS

EQUIPMENT TAG	EQUIPMENT TYPE	LOCATION ON PLAN	FLA (MCA)	KVA (HP)	V	PH	HOMERUN TO	CKT BKR	CONDUCTORS & CONDUIT	CONNECTION BY DIVISION:	DISCONNECT TYPE/SIZE	NEMA ENCLOSURE TYPE	STARTER TYPE	NEMA ENCLOSURE TYPE	FURNISHED BY DIVISION:	FINAL CONNECTION BY DIVISION:	REMARKS
AHU-2	AIR HANDLING UNIT FAN	ROOF	-	(40)	480	3	PANEL HMP-32	60/3	(3)#4 & #10G, 1-1/4"C	26	-	-	VFD	1	26	26	1
	AIR HANDLING UNIT FAN	ROOF	-	(40)	480	3	PANEL HMP-32	60/3	(3)#4 & #10G, 1-1/4"C	26	-	-	VFD	1	26	26	1
	AIR HANDLING UNIT FAN	ROOF	-	(40)	480	3	PANEL HMP-32	60/3	(3)#6 & #10G, 1-1/4"C	26	-	-	VFD	1	26	26	1
	AIR HANDLING UNIT FAN	ROOF	-	(40)	480	3	PANEL HMP-32	60/3	(3)#6 & #10G, 1-1/4"C	26	-	-	VFD	1	26	26	1
EF-8	EXHAUST FAN	ROOF	-	(50)	480	3	PANEL HESB-LR-G1	70/3	(3)#4 & #8, 1-1/4"C	26	A	3R	VFD	1	23	26	
EF-9	EXHAUST FAN	ROOF	-	(50)	480	3	PANEL HESB-LR-G1	70/3	(3)#4 & #8, 1-1/4"C	26	A	3R	VFD	1	23	26	
EF-10	EXHAUST FAN	ROOF	-	(50)	480	3	PANEL HESB-LR-G1	70/3	(3)#4 & #8, 1-1/4"C	26	A	3R	VFD	1	23	26	
RF-2	FAN	PENTHOUSE	-	(2)	480	3	PANEL HMP-32	20/3	(3)#12 & #12G, 3/4"C	26	A	3R	VFD	1	26	26	
P-2	PUMP	MECH. G0064	-	(10)	480	3	PANEL HMP-OS-G1	20/3	(3)#12 & #12G, 3/4"C	26	A	1	VFD	1	26	26	
P-2A	PUMP	MECH. G0064	-	(10)	480	3	PANEL HMP-OS-G1	20/3	(3)#12 & #12G, 3/4"C	26	A	1	VFD	1	26	26	
P-8	PUMP	AHU VEST.	-	(3)	480	3	PANEL HMP-OS-52	20/3	(3)#12 & #12G, 3/4"C	26	A	1	VFD	1	26	26	
FCU-G-18	FAN COIL UNIT	FACULTY OFFICE G37	-	(1/4)	120	1	PANEL LEP-OS-12	20/1	(2)#12 & #12, 3/4"C	26	M	1	P	-	23	26	
FCU-G-19	FAN COIL UNIT	FACULTY OFFICE G35	-	(1/4)	120	1	PANEL LEP-OS-12	20/1	(2)#12 & #12, 3/4"C	26	M	1	P	-	23	26	
FCU-G-20	FAN COIL UNIT	FACULTY OFFICE G33	-	(1/4)	120	1	PANEL LEP-OS-12	20/1	(2)#12 & #12, 3/4"C	26	M	1	P	-	23	26	
FCU-G-21	FAN COIL UNIT	FACULTY OFFICE G31	-	(1/4)	120	1	PANEL LEP-OS-12	20/1	(2)#12 & #12, 3/4"C	26	M	1	P	-	23	26	
FCU-G-22	FAN COIL UNIT	FACULTY OFFICE G29	-	(1/4)	120	1	PANEL LEP-OS-12	20/1	(2)#12 & #12, 3/4"C	26	M	1	P	-	23	26	
FCU-G-23	FAN COIL UNIT	FACULTY OFFICE G27	-	(1/4)	120	1	PANEL LEP-OS-12	20/1	(2)#12 & #12, 3/4"C	26	M	1	P	-	23	26	
FCU-G-24	FAN COIL UNIT	TEL/DATA G25	-	(1/3)	120	1	PANEL LEP-OS-12	20/1	(2)#12 & #12, 3/4"C	26	M	1	P	-	23	26	
FCU-G-25	FAN COIL UNIT	SUSTAINABLE LAB G20	-	(1/4)	120	1	PANEL LEP-OS-12	20/1	(2)#12 & #12, 3/4"C	26	M	1	P	-	23	26	
FCU-G-26	FAN COIL UNIT	SUSTAINABLE LAB G20	-	(1/4)	120	1	PANEL LEP-OS-12	20/1	(2)#12 & #12, 3/4"C	26	M	1	P	-	23	26	
FCU-G-27	FAN COIL UNIT	INSTRUMENTATION LAB G14	-	(1/2)	120	1	PANEL LEP-OS-12	20/1	(2)#12 & #12, 3/4"C	26	M	1	P	-	23	26	
FCU-G-28	FAN COIL UNIT	WRITE UP SPACE G09	-	(1/3) QTY 2	120	1	PANEL LEP-OS-12	20/1	(2)#12 & #12, 3/4"C	26	M	1	P	-	23	26	
FCU-1-18	FAN COIL UNIT	CLASSROOM 133	-	(1/3) QTY 2	120	1	PANEL LEP-OS-12	20/1	(2)#12 & #12, 3/4"C	26	M	1	P	-	23	26	
FCU-1-19	FAN COIL UNIT	FACULTY OFFICE 129	-	(1/4)	120	1	PANEL LEP-OS-12	20/1	(2)#12 & #12, 3/4"C	26	M	1	P	-	23	26	
FCU-1-20	FAN COIL UNIT	FACULTY OFFICE 127	-	(1/4)	120	1	PANEL LEP-OS-12	20/1	(2)#12 & #12, 3/4"C	26	M	1	P	-	23	26	
FCU-1-21	FAN COIL UNIT	ADMIN PROF 125	-	(1/4)	120	1	PANEL LEP-OS-12	20/1	(2)#12 & #12, 3/4"C	26	M	1	P	-	23	26	
FCU-1-22	FAN COIL UNIT	ADMIN PROF 123	-	(1/4)	120	1	PANEL LEP-OS-12	20/1	(2)#12 & #12, 3/4"C	26	M	1	P	-	23	26	
FCU-1-23	FAN COIL UNIT	TEL/DATA 121	-	(1/3)	120	1	PANEL LEP-OS-12	20/1	(2)#12 & #12, 3/4"C	26	M	1	P	-	23	26	
FCU-1-24	FAN COIL UNIT	ADMIN 128	-	(1/3)	120	1	PANEL LEP-OS-12	20/1	(2)#12 & #12, 3/4"C	26	M	1	P	-	23	26	
FCU-1-25	FAN COIL UNIT	ADMIN 128A	-	(1/4)	120	1	PANEL LEP-OS-12	20/1	(2)#12 & #12, 3/4"C	26	M	1	P	-	23	26	
FCU-1-26	FAN COIL UNIT	ADMIN 128B	-	(1/4)	120	1	PANEL LEP-OS-12	20/1	(2)#12 & #12, 3/4"C	26	M	1	P	-	23	26	
FCU-1-27	FAN COIL UNIT	ADMIN 128C	-	(1/4)	120	1	PANEL LEP-OS-12	20/1	(2)#12 & #12, 3/4"C	26	M	1	P	-	23	26	
FCU-1-28	FAN COIL UNIT	ADMIN 128D	-	(1/4)	120	1	PANEL LEP-OS-12	20/1	(2)#12 & #12, 3/4"C	26	M	1	P	-	23	26	
FCU-1-29	FAN COIL UNIT	ADMIN 128E	-	(1/4)	120	1	PANEL LEP-OS-12	20/1	(2)#12 & #12, 3/4"C	26	M	1	P	-	23	26	
FCU-1-30	FAN COIL UNIT	WRITE UP SPACE 116	-	(1/4)	120	1	PANEL LEP-OS-12	20/1	(2)#12 & #12, 3/4"C	26	M	1	P	-	23	26	
FCU-1-31	FAN COIL UNIT	WRITE UP SPACE 116B	-	(1/4)	120	1	PANEL LEP-OS-12	20/1	(2)#12 & #12, 3/4"C	26	M	1	P	-	23	26	
FCU-1-32	FAN COIL UNIT	MEETING ROOM 116A	-	(1/4)	120	1	PANEL LEP-OS-12	20/1	(2)#12 & #12, 3/4"C	26	M	1	P	-	23	26	
FCU-1-33	FAN COIL UNIT	COLLAB 119	-	(1/4)	120	1	PANEL LEP-OS-12	20/1	(2)#12 & #12, 3/4"C	26	M	1	P	-	23	26	
FCU-1-34	FAN COIL UNIT	FRUIT LAB 113	-	(1/4)	120	1	PANEL LEP-OS-12	20/1	(2)#12 & #12, 3/4"C	26	M	1	P	-	23	26	
FCU-1-35	FAN COIL UNIT	FRUIT LAB 113	-	(1/4)	120	1	PANEL LEP-OS-12	20/1	(2)#12 & #12, 3/4"C	26	M	1	P	-	23	26	
FCU-1-36	FAN COIL UNIT	PRINT SUPPLY 111	-	(1/4)	120	1	PANEL LEP-OS-12	20/1	(2)#12 & #12, 3/4"C	26	M	1	P	-	23	26	
FCU-1-37	FAN COIL UNIT	ADMIN PROF 109	-	(1/4)	120	1	PANEL LEP-OS-12	20/1	(2)#12 & #12, 3/4"C	26	M	1	P	-	23	26	
FCU-1-38	FAN COIL UNIT	ADMIN PROF 107	-	(1/4)	120	1	PANEL LEP-OS-12	20/1	(2)#12 & #12, 3/4"C	26	M	1	P	-	23	26	
FCU-1-39	FAN COIL UNIT	ADMIN/CLERICAL 105	-	(1/4)	120	1	PANEL LEP-OS-12	20/1	(2)#12 & #12, 3/4"C	26	M	1	P	-	23	26	
FCU-1-40	FAN COIL UNIT	BREAK ROOM 103	-	(1/4)	120	1	PANEL LEP-OS-12	20/1	(2)#12 & #12, 3/4"C	26	M	1	P	-	23	26	
FCU-1-41	FAN COIL UNIT	ELEC 10064	-	(1/4)	120	1	PANEL LEP-OS-12	20/1	(2)#12 & #12, 3/4"C	26	M	1	P	-	23	26	
FCU-2-10	FAN COIL UNIT	FACULTY OFFICE 235	-	(1/4)	120	1	PANEL LEP-OS-22	20/1	(2)#12 & #12, 3/4"C	26	M	1	P	-	23	26	
FCU-2-11	FAN COIL UNIT	FACULTY OFFICE 233	-	(1/4)	120	1	PANEL LEP-OS-22	20/1	(2)#12 & #12, 3/4"C	26	M	1	P	-	23	26	
FCU-2-12	FAN COIL UNIT	FACULTY OFFICE 231	-	(1/4)	120	1	PANEL LEP-OS-22	20/1	(2)#12 & #12, 3/4"C	26	M	1	P	-	23	26	
FCU-2-13	FAN COIL UNIT	FACULTY OFFICE 229	-	(1/4)	120	1	PANEL LEP-OS-22	20/1	(2)#12 & #12, 3/4"C	26	M	1	P	-	23	26	
FCU-2-14	FAN COIL UNIT	FACULTY OFFICE 227	-	(1/4)	120	1	PANEL LEP-OS-22	20/1	(2)#12 & #12, 3/4"C	26	M	1	P	-	23	26	
FCU-2-15	FAN COIL UNIT	MEETING 225	-	(1/4)	120	1	PANEL LEP-OS-22	20/1	(2)#12 & #12, 3/4"C	26	M	1	P	-	23	26	
FCU-2-16	FAN COIL UNIT	COLLAB 221	-	(1/4)	120	1	PANEL LEP-OS-22	20/1	(2)#12 & #12, 3/4"C	26	M	1	P	-	23	26	
FCU-2-17	FAN COIL UNIT	WRITE UP SPACE 224	-	(1/4)	120	1	PANEL LEP-OS-22	20/1	(2)#12 & #12, 3/4"C	26	M	1	P	-	23	26	
FCU-2-18	FAN COIL UNIT	WRITE UP SPACE 224B	-	(1/3)	120	1	PANEL LEP-OS-22	20/1	(2)#12 & #12, 3/4"C	26	M	1	P	-	23	26	
FCU-2-19	FAN COIL UNIT	MEETING ROOM 224A	-	(1/4)	120	1	PANEL LEP-OS-22	20/1	(2)#12 & #12, 3/4"C	26	M	1	P	-	23	26	
FCU-2-20	FAN COIL UNIT	TEL/DATA 223	-	(1/3)	120	1	PANEL LEP-OS-22	20/1	(2)#12 & #12, 3/4"C	26	M	1	P	-	23	26	
FCU-2-21	FAN COIL UNIT	PLANT LAB 219	-	(1/4)	120	1	PANEL LEP-OS-22	20/1	(2)#12 & #12, 3/4"C	26	M	1	P	-	23	26	
FCU-2-22	FAN COIL UNIT	PLANT LAB 219	-	(1/4)	120	1	PANEL LEP-OS-22	20/1	(2)#12 & #12, 3/4"C	26	M	1	P	-	23	26	
FCU-2-23	FAN COIL UNIT	OFFICE 211	-	(1/4)	120	1	PANEL LEP-OS-22	20/1	(2)#12 & #12, 3/4"C	26	M	1	P	-	23	26	
FCU-2-24	FAN COIL UNIT	FACULTY OFFICE 209	-	(1/4)	120	1	PANEL LEP-OS-22	20/1	(2)#12 & #12, 3/4"C	26	M	1	P	-	23	26	
FCU-2-25	FAN COIL UNIT	FACULTY OFFICE 207	-	(1/4)	120	1	PANEL LEP-OS-22	20/1	(2)#12 & #12, 3/4"C	26	M	1	P	-	23	26	

GENERAL SCHEDULE NOTES:
1. CONTRACTOR TO INSTALL STARTER/DISCONNECT ADJACENT TO UNIT. INSTALLATION TO COMPLY WITH NEC ARTICLE 110.26.
2. EQUIPMENT FURNISHED BY OTHERS. COORDINATE WITH ASSOCIATED TRADE CONTRACTOR.
3. CONFIRM HP, VOLTAGE AND PHASE CONNECTIONS PRIOR TO ROUGH-IN OF EQUIPMENT. COORDINATION REQUIRED BETWEEN TRADES.
4. STARTERS SHALL BE NEMA STYLE AND SIZED BASED ON ELECTRICAL LOAD DATA LISTED ON SCHEDULE.
5. MOTOR RATED SWITCHES SHALL BE EQUIPPED WITH HEATERS, WHICH SHALL BE SIZED BASED ON NAMEPLATE DATA (TO BE OBTAINED IN FIELD), NOT ON ELECTRICAL LOAD DATA ON SCHEDULE
6. CIRCUIT BREAKERS INDICATED ON SCHEDULE ABOVE SHALL BE PROVIDED BY THE CONTRACTOR IN THE PROPOSED PANEL (THEY ARE NOT EXISTING BREAKERS, UNLESS INDICATED ON THE PANELBOARD SCHEDULE).
7. FOR THIS PROJECT, THE FOLLOWING HAS BEEN ASSUMED BY THE ENGINEER:
   DIVISION 26: ELECTRICAL SUB
   DIVISION 23: MECHANICAL SUB AND/OR CONTROLS SUB
   DIVISION 22: PLUMBING SUB

REMARKS:
1. PROVIDE (2) DEDICATED 20A, 120V CIRCUITS FOR AIR HANDLING UNIT LIGHTING AND CONVENIENCE RECEPTACLES. COORDINATE ALL REQUIREMENTS WITH M-SHEETS PRIOR TO ROUGH-IN.
2. PROVIDE ADDITIONAL 120V, 20A CIRCUIT FOR AIR HANDLER LIGHT CIRCUIT, COORDINATE REQUIREMENTS WITH M-SHEETS PRIOR TO ROUGH-IN.

LIGHTING CONTROL SYSTEM SCHEDULE

SYMBOL	DESCRIPTION	FACEPLATE & DEVICE COLOR	BASIS OF DESIGN FACEPLATE	BASIS OF DESIGN SWITCH	REMARKS
RCM	20A POWER PACK WITH DIMMING	-	-	SENSORWORX SWX-900-AX	
APP	20A RATED POWER PACK (NON-DIMMING)	-	-	SENSORWORX SWX-900	
PLC	PLUG LOAD CONTROLLER	WHITE	-	SENSORWORX SWX-900	2
EPC	EMERGENCY POWER CONTROL DEVICE	-	-	SENSORWORX SWX-EPC-2-D	
RD1	RAISE/LOWER DIMMING WALL SWITCH	WHITE	THERMOPLASTIC NYLON	SENSORWORX SWX-803-J10	
WS	WALL-MOUNTED TOUCH SCREEN	WHITE	THERMOPLASTIC NYLON	CRESTRON TSW-570-W-S	4
PC a	PHOTO CELL / DAYLIGHT SENSOR	WHITE	THERMOPLASTIC NYLON	SENSORWORX SWX-250-1-D	
VR a	PASSIVE INFRARED VACANCY SENSOR	WHITE	THERMOPLASTIC NYLON	SENSORWORX SWX-201-1	3
OR a	PASSIVE INFRARED OCCUPANCY SENSOR	WHITE	THERMOPLASTIC NYLON	SENSORWORX SWX-201-1-AR	3
OR a	PASSIVE INFRARED OCCUPANCY SENSOR	WHITE	THERMOPLASTIC NYLON	SENSORWORX SWX-201-1	
VS	VACANCY SENSOR PIR WALL SWITCH	WHITE	THERMOPLASTIC NYLON	SENSORWORX SWX-103	
OS	OCCUPANCY SENSOR PIR WALL SWITCH	WHITE	THERMOPLASTIC NYLON	WATTSTOPPER SWX-101-AR	
DV	VACANCY SENSOR DUAL TECH DIMMING (0-10V) WALL SWITCH	WHITE	THERMOPLASTIC NYLON	SENSORWORX SWX-103	
DO	OCCUPANCY SENSOR DUAL TECH DIMMING (0-10V) WALL SWITCH	WHITE	THERMOPLASTIC NYLON	SENSORWORX SWX-103	
LV	1-BUTTON LOW VOLTAGE MOMENTARY WALL SWITCH	WHITE	THERMOPLASTIC NYLON	SENSORWORX SWX-801	
	SINGLE POLE SWITCH	WHITE	THERMOPLASTIC NYLON	PASS & SEYMOUR PT20AC1	

GENERAL SCHEDULE NOTES:
1. NYLON FACEPLATE COLOR SHALL MATCH DEVICE COLOR
2. "a, b, c ..." LOWER CASE LETTERING IS USED TO INDICATE FIXTURE SWITCHING CONFIGURATION

REMARKS:
1. COORDINATE DURING SUBMITTALS.
2. PLUG LOAD CONTROLLER IS TO BE USED TO INTEGRATE RECEPTACLE CONTROL INTO ROOM LIGHTING OCCUPANCY/VACANCY SENSORS. REFER TO DETAIL, SHEET E8.1, FOR ADDITIONAL INFORMATION.
3. COORDINATE BMS CONNECTION OF OCCUPANCY SENSORS WITH MECHANICAL/CONTROLS DRAWINGS.
4. TOUCH SCREEN TO INTEGRATE INTO ROOM LIGHTING POWER PACK/SENSORS. LIGHTING VENDOR TO PROVIDE ALL NECESSARY ACCESSORIES, PATCH PANELS, INTERFACE MODULES, ETC. TO PROVIDE NECESSARY INTERFACING. TOUCH SCREEN TO BE PROGRAMMED IN FIELD BY FIELD REPRESENTATIVE DURING COMMISSIONING.

RACEWAY SCHEDULE

AREA	CABLING/RACEWAY METHOD	REMARKS
FINAL CONNECTIONS TO EQUIPMENT. LIMIT LENGTH TO 6'-0" OR LESS.	FMC CABLE (DRY LOCATIONS) LFTMC (WET LOCATIONS)	SEE NOTES BELOW
PERMITTED ONLY WHERE PRIOR APPROVAL HAS BEEN GRANTED. GENERALLY - AREAS WHERE EMT CONDUIT USAGE IS NOT PRACTICAL.	MC CABLE	SEE NOTES BELOW
BRANCH CIRCUITS & FEEDERS CONCEALED DRY AREAS, PANELBOARD HOMERUNS, EXPOSED (NON FINISHED AREAS)	EMT	SEE NOTES BELOW
BELOW 10' IN MECH ROOMS, WET OR DAMP AREAS, OR AREAS SUBJECT TO PHYSICAL DAMAGE	GRS	SEE NOTES BELOW
USE WHERE DIRECTED ON DRAWINGS OR WHERE DEVICES (FIXTURES, ETC. ARE PROPOSED ON EXISTING NON-FISHABLE SURFACES (BLOCK/BRICK/MASONRY).	SURFACE METAL RACEWAY (WIREMOLD OR EQUAL)	SEE NOTES BELOW

GENERAL CONDUIT SCHEDULE NOTES:
1. FITTINGS:
   - EMT: SET SCREW TYPE WITH INSULATED BUSHINGS & THROAT.
   - GRS: THREADED STEEL WITH INSULATED BUSHINGS & THROAT.
   - MC: CLAMP STYLE WITH LOCKNUTS AND INSULATED BUSHING & THROAT
   - SURFACE RACEWAY/WIREMOLD: MANUFACTURER APPROVED FITTINGS NECESSARY, AS REQUIRED FOR COMPLETEINSTALLATION.
2. ALL CIRCUITS SHALL CONTAIN DEDICATED NEUTRALS (NO MULTI-WIRE CIRCUITS PERMITTED)
3. CONDUIT SHALL NOT BE UTILIZED FOR EFFECTIVE GROUND FAULT RETURN PATH. ALL CIRCUITS SHALL CONTAIN DEDICATED GREEN INSULATED CONDUCTOR SIZED PER DRAWINGS OR IN ACCORDANCE WITH APPLICABLE NEC CRITERIA.
4. ALL RACEWAY TYPES ARE AS DESCRIBED HERE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
5. ANY EMPTY RACEWAYS SHALL BE EQUIPPED WITH A PULL ROPE.
6. ALL CONDUITS SHALL BE LABELED WITH VOLTAGE, PANEL OR ORIGIN AND LOAD SERVED.

BRANCH CIRCUIT SCHEDULE

CIRCUIT BREAKER	PHASE CONDUCTORS AND/OR NEUTRAL CONDUCTORS	GROUND CONDUCTOR	CONDUIT
3-POLE CIRCUITS			
50/3	(3)#6	#10	1"C
40/3	(3)#8	#10	1"C
30/3	(3)#10	#10	3/4"C
20/3	(3)#12	#12	3/4"C
15/3	(3)#12	#12	3/4"C
2-POLE CIRCUITS			
50/2	(2)#6	#10	1"C
40/2	(2)#8	#10	3/4"C
30/2	(2)#10	#10	3/4"C
20/2	(2)#12	#12	3/4"C
15/2	(2)#12	#12	3/4"C
1-POLE CIRCUITS			
40/1	(2)#8	#10	3/4"C
30/1	(2)#10	#10	3/4"C
20/1	(2)#12	#12	3/4"C
15/1	(2)#12	#12	3/4"C

NOTES REGARDING USE OF THIS SCHEDULE:
1. USE THIS SCHEDULE AS FOLLOWS:
   - FOR ALL RECEPTACLE AND LIGHTING CIRCUITS.
   - WHERE SPECIFIC CONDUCTOR/CONDUIT SIZING IS NOT INDICATED ELSEWHERE ON THE DRAWING SET.
   - FOR ANY BRANCH CIRCUITS THAT ARE REQUIRED TO BE RELOCATED/EXTENDED, ETC.
2. DO NOT USE THIS SCHEDULE AS FOLLOWS:
   - FOR LARGE MECHANICAL LOADS (REFER TO MECHANICAL EQUIPMENT SCHEDULE, THIS SHEET).
   - FOR SERVICE ENTRANCE CONDUCTORS.
   - WHERE SPECIFIC CONDUCTOR/CIRCUIT IS CALLED FOR ON THE DRAWINGS.
3. WHERE CIRCUIT LENGTH EXCEEDS 100', CONTRACTOR SHALL USE NEXT HIGHER PHASE/NEUTRAL CONDUCTOR SIZE TO COMPENSATE FOR VOLTAGE DROP.

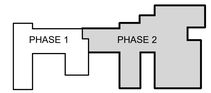
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RENOVATE PLANT SCIENCE BUILDING - PHASE 2
SUCF Project No. 161026-00
236 Tower Road
Ithaca, NY 14853

Cornell CALS College of Agriculture and Life Sciences
SUNY State University Construction Fund

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Notes:



Keyplan

Job Number 31909.00
Drawing By CCH
Checked By SAG
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Date August 31, 2026

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B Addendum 3 11/04/26

ELECTRICAL SCHEDULES

STATE OF NEW YORK — CHRISTIE GARRABRANT — 136698 — LICENSED PROFESSIONAL ENGINEER

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E6.5

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INDICATED BY ⟲ ON PLAN SHEETS

MECHANICAL EQUIPMENT CONNECTION SCHEDULE (CONTINUED PART 2 OF 3)

EQUIPMENT			ELECTRICAL LOAD				POWER CONNECTION				DISCONNECT/SAFETY SWITCH		STARTER				REMARKS
SPECIFIC NOTES: 1. WHEN LOCATION IS NOT REFERENCED ON 'E' SHEETS, REFER TO 'M' SHEETS. 2. LOCATIONS SHOWN ARE GENERAL IN NATURE. COORDINATE WITH DIV. 23 PRIOR TO ROUGH-IN.											TYPES: A: NON-FUSED B: FUSED M: MOTOR RATED SWITCH R: RECEPTACLE/CORD/PLUG N: NOT REQUIRED C: CKT BREAKER WITHIN SIGHT	SIZES: AF: AMPERE FRAME AT: FUSE SIZE (RKS, UON)	TYPES: VFD: VARIABLE FREQUENCY DRIVE W/ INTEGRAL DISC. CMS: COMBINATION MOTOR STARTER ECM: ELECTRICALLY COMMUTATED MOTOR M: MOTOR RATED SWITCH + MANUAL STARTER AQUA: LINE VOLTAGE AQUA STAT N: NOT REQUIRED P: PACKAGED CONTROLLER BY MANUFACTURER LVT: LINE VOLT T-STAT ('F' INDICATES REVERSE TYPE)				
EQUIPMENT TAG	EQUIPMENT TYPE	LOCATION ON PLAN	F.L.A. (MCA)	KVA (HP)	V	PH	HOMERUN TO	CKT BKR	CONDUCTORS & CONDUIT	CONNECTION BY DIVISION	DISCONNECT TYPE/SIZE	NEMA ENCLOSURE TYPE	STARTER TYPE	NEMA ENCLOSURE TYPE	FURNISHED BY DIVISION	FINAL CONNECTION BY DIVISION	
FCU-2-26	FAN COIL UNIT	FACULTY OFFICE 205	-	(1/4)	120	1	PANEL LEP-OS-22	20/1	(2)#12 & #12G, 3/4"C	26	M	1	ECM	1	23	26	
FCU-2-27	FAN COIL UNIT	WRITE UP SPACE 203	-	(1/2)	120	1	PANEL LEP-OS-22	20/1	(2)#12 & #12G, 3/4"C	26	M	1	ECM	1	23	26	
FCU-2-28	FAN COIL UNIT	SYNTHETIC BIO LAB 202	-	(1/4)	120	1	PANEL LEP-OS-22	20/1	(2)#12 & #12G, 3/4"C	26	M	1	ECM	1	23	26	
FCU-2-29	FAN COIL UNIT	SYNTHETIC BIO LAB 202	-	(1/4)	120	1	PANEL LEP-OS-22	20/1	(2)#12 & #12G, 3/4"C	26	M	1	ECM	1	23	26	
FCU-2-30	FAN COIL UNIT	ELEVATOR CONTROLLER ROOM 200GA	-	(1/4)	120	1	PANEL LEP-OS-22	20/1	(2)#12 & #12G, 3/4"C	26	M	1	ECM	1	23	26	
FCU-3-14	FAN COIL UNIT	LARGE MEETING ROOM 340	-	(1/3) QTY 2	120	1	PANEL LEP-OS-32	20/1	(2)#12 & #12G, 3/4"C	26	M	1	ECM	1	23	26	
FCU-3-15	FAN COIL UNIT	FACULTY OFFICE 334	-	(1/4)	120	1	PANEL LEP-OS-32	20/1	(2)#12 & #12G, 3/4"C	26	M	1	ECM	1	23	26	
FCU-3-16	FAN COIL UNIT	FACULTY OFFICE 332	-	(1/4)	120	1	PANEL LEP-OS-32	20/1	(2)#12 & #12G, 3/4"C	26	M	1	ECM	1	23	26	
FCU-3-17	FAN COIL UNIT	FACULTY OFFICE 330	-	(1/4)	120	1	PANEL LEP-OS-32	20/1	(2)#12 & #12G, 3/4"C	26	M	1	ECM	1	23	26	
FCU-3-18	FAN COIL UNIT	FACULTY OFFICE 328	-	(1/4)	120	1	PANEL LEP-OS-32	20/1	(2)#12 & #12G, 3/4"C	26	M	1	ECM	1	23	26	
FCU-3-19	FAN COIL UNIT	FACULTY OFFICE 339	-	(1/4)	120	1	PANEL LEP-OS-32	20/1	(2)#12 & #12G, 3/4"C	26	M	1	ECM	1	23	26	
FCU-3-20	FAN COIL UNIT	FACULTY OFFICE 337	-	(1/4)	120	1	PANEL LEP-OS-32	20/1	(2)#12 & #12G, 3/4"C	26	M	1	ECM	1	23	26	
FCU-3-21	FAN COIL UNIT	FACULTY OFFICE 335	-	(1/4)	120	1	PANEL LEP-OS-32	20/1	(2)#12 & #12G, 3/4"C	26	M	1	ECM	1	23	26	
FCU-3-22	FAN COIL UNIT	FACULTY OFFICE 333	-	(1/4)	120	1	PANEL LEP-OS-32	20/1	(2)#12 & #12G, 3/4"C	26	M	1	ECM	1	23	26	
FCU-3-23	FAN COIL UNIT	FACULTY OFFICE 331	-	(1/4)	120	1	PANEL LEP-OS-32	20/1	(2)#12 & #12G, 3/4"C	26	M	1	ECM	1	23	26	
FCU-3-24	FAN COIL UNIT	FACULTY OFFICE 329	-	(1/4)	120	1	PANEL LEP-OS-32	20/1	(2)#12 & #12G, 3/4"C	26	M	1	ECM	1	23	26	
FCU-3-25	FAN COIL UNIT	FACULTY OFFICE 325	-	(1/4)	120	1	PANEL LEP-OS-32	20/1	(2)#12 & #12G, 3/4"C	26	M	1	ECM	1	23	26	
FCU-3-26	FAN COIL UNIT	TEL/DATA 325	-	(1/3)	120	1	PANEL LEP-OS-32	20/1	(2)#12 & #12G, 3/4"C	26	M	1	ECM	1	23	26	
FCU-3-27	FAN COIL UNIT	COLLAB 323	-	(1/4)	120	1	PANEL LEP-OS-32	20/1	(2)#12 & #12G, 3/4"C	26	M	1	ECM	1	23	26	
FCU-3-28	FAN COIL UNIT	WRITE UP SPACE 324	-	(1/4)	120	1	PANEL LEP-OS-32	20/1	(2)#12 & #12G, 3/4"C	26	M	1	ECM	1	23	26	
FCU-3-29	FAN COIL UNIT	WRITE UP SPACE 324B	-	(1/3)	120	1	PANEL LEP-OS-32	20/1	(2)#12 & #12G, 3/4"C	26	M	1	ECM	1	23	26	
FCU-3-30	FAN COIL UNIT	MEETING ROOM 324A	-	(1/4)	120	1	PANEL LEP-OS-32	20/1	(2)#12 & #12G, 3/4"C	26	M	1	ECM	1	23	26	
FCU-3-31	FAN COIL UNIT	PLANT LAB 319	-	(1/4)	120	1	PANEL LEP-OS-32	20/1	(2)#12 & #12G, 3/4"C	26	M	1	ECM	1	23	26	
FCU-3-32	FAN COIL UNIT	PLANT LAB 319	-	(1/4)	120	1	PANEL LEP-OS-32	20/1	(2)#12 & #12G, 3/4"C	26	M	1	ECM	1	23	26	
FCU-3-33	FAN COIL UNIT	PRINT SUPPLY 315	-	(1/4)	120	1	PANEL LEP-OS-32	20/1	(2)#12 & #12G, 3/4"C	26	M	1	ECM	1	23	26	
FCU-3-34	FAN COIL UNIT	FACULTY OFFICE 313	-	(1/4)	120	1	PANEL LEP-OS-32	20/1	(2)#12 & #12G, 3/4"C	26	M	1	ECM	1	23	26	
FCU-3-35	FAN COIL UNIT	WRITE UP SPACE 311	-	(1/4)	120	1	PANEL LEP-OS-32	20/1	(2)#12 & #12G, 3/4"C	26	M	1	ECM	1	23	26	
FCU-3-36	FAN COIL UNIT	WRITE UP SPACE 307	-	(1/4)	120	1	PANEL LEP-OS-32	20/1	(2)#12 & #12G, 3/4"C	26	M	1	ECM	1	23	26	
FCU-3-37	FAN COIL UNIT	COLLAB 305	-	(1/4)	120	1	PANEL LEP-OS-32	20/1	(2)#12 & #12G, 3/4"C	26	M	1	ECM	1	23	26	
FCU-3-38	FAN COIL UNIT	PLANT LAB 302	-	(1/4)	120	1	PANEL LEP-OS-32	20/1	(2)#12 & #12G, 3/4"C	26	M	1	ECM	1	23	26	
FCU-3-39	FAN COIL UNIT	PLANT LAB 302	-	(1/4)	120	1	PANEL LEP-OS-32	20/1	(2)#12 & #12G, 3/4"C	26	M	1	ECM	1	23	26	
FCU-4-20	FAN COIL UNIT	ACAD OFFICE 430	-	(1/4)	120	1	PANEL LEP-OS-42	20/1	(2)#12 & #12G, 3/4"C	26	M	1	ECM	1	23	26	
FCU-4-21	FAN COIL UNIT	ACAD OFFICE 428	-	(1/4)	120	1	PANEL LEP-OS-42	20/1	(2)#12 & #12G, 3/4"C	26	M	1	ECM	1	23	26	
FCU-4-22	FAN COIL UNIT	ACAD OFFICE 426	-	(1/4)	120	1	PANEL LEP-OS-42	20/1	(2)#12 & #12G, 3/4"C	26	M	1	ECM	1	23	26	
FCU-4-23	FAN COIL UNIT	ACAD OFFICE 420	-	(1/4)	120	1	PANEL LEP-OS-42	20/1	(2)#12 & #12G, 3/4"C	26	M	1	ECM	1	23	26	
FCU-4-24	FAN COIL UNIT	ACAD OFFICE 418	-	(1/4)	120	1	PANEL LEP-OS-42	20/1	(2)#12 & #12G, 3/4"C	26	M	1	ECM	1	23	26	
FCU-4-25	FAN COIL UNIT	TEAM ROOM 431B	-	(1/4)	120	1	PANEL LEP-OS-42	20/1	(2)#12 & #12G, 3/4"C	26	M	1	ECM	1	23	26	
FCU-4-26	FAN COIL UNIT	COMPUTATIONAL LAB 431	-	(1/3)	120	1	PANEL LEP-OS-42	20/1	(2)#12 & #12G, 3/4"C	26	M	1	ECM	1	23	26	
FCU-4-27	FAN COIL UNIT	TEAM ROOM 431A	-	(1/4)	120	1	PANEL LEP-OS-42	20/1	(2)#12 & #12G, 3/4"C	26	M	1	ECM	1	23	26	
FCU-4-28	FAN COIL UNIT	COMPUTATIONAL LAB 416	-	(1/3) QTY 2	120	1	PANEL LEP-OS-42	20/1	(2)#12 & #12G, 3/4"C	26	M	1	ECM	1	23	26	
FCU-4-29	FAN COIL UNIT	TEL/DATA 417	-	(1/3)	120	1	PANEL LEP-OS-42	20/1	(2)#12 & #12G, 3/4"C	26	M	1	ECM	1	23	26	
FCU-4-30	FAN COIL UNIT	COLLAB 404	-	(1/3) QTY 2	120	1	PANEL LEP-OS-42	20/1	(2)#12 & #12G, 3/4"C	26	M	1	ECM	1	23	26	
FCU-4-31	FAN COIL UNIT	WORKSPACE 404A	-	(1/4)	120	1	PANEL LEP-OS-42	20/1	(2)#12 & #12G, 3/4"C	26	M	1	ECM	1	23	26	
FCU-4-32	FAN COIL UNIT	BIODIVERSITY 402	-	(1/4)	120	1	PANEL LEP-OS-42	20/1	(2)#12 & #12G, 3/4"C	26	M	1	ECM	1	23	26	
FCU-4-33	FAN COIL UNIT	CORRIDOR 40040	-	(1/4)	120	1	PANEL LEP-OS-42	20/1	(2)#12 & #12G, 3/4"C	26	M	1	ECM	1	23	26	
FCU-4-34	FAN COIL UNIT	CORRIDOR 40040	-	(1/4)	120	1	PANEL LEP-OS-42	20/1	(2)#12 & #12G, 3/4"C	26	M	1	ECM	1	23	26	
FCU-P-1	FAN COIL UNIT	EAST PENTHOUSE PH001	-	(1/3)	120	1	PANEL LMP-42	20/1	(2)#12 & #12G, 3/4"C	26	M	1	ECM	1	23	26	
HC-G-5	HYDRONIC CASSETTE UNIT	LAB SUPPORT / EQUIPMENT G40	0.5	-	120	1	PANEL LMP-12	20/2	(2)#12 & #12G, 3/4"C	26	M	1	M	1	23	26	
HC-G-6	HYDRONIC CASSETTE UNIT	FLEX LAB SUPPORT G38	0.5	-	208	1	PANEL LMP-12	20/2	(2)#12 & #12G, 3/4"C	26	M	1	M	1	23	26	
HC-G-7	HYDRONIC CASSETTE UNIT	FLEX LAB SUPPORT G36	0.5	-	208	1	PANEL LMP-12	20/2	(2)#12 & #12G, 3/4"C	26	M	1	M	1	23	26	
HC-G-8	HYDRONIC CASSETTE UNIT	SUPPORT G34	0.5	-	208	1	PANEL LMP-12	20/2	(2)#12 & #12G, 3/4"C	26	M	1	M	1	23	26	
HC-G-9	HYDRONIC CASSETTE UNIT	FREEZER FARM G32	2.25	-	208	1	PANEL LMP-12	20/2	(2)#12 & #12G, 3/4"C	26	M	1	M	1	23	26	
HC-G-10	HYDRONIC CASSETTE UNIT	FREEZER FARM G26	2.25	-	208	1	PANEL LMP-12	20/2	(2)#12 & #12G, 3/4"C	26	M	1	M	1	23	26	
HC-G-11	HYDRONIC CASSETTE UNIT	EQUIPMENT G15	0.5	-	208	1	PANEL LMP-12	20/2	(2)#12 & #12G, 3/4"C	26	M	1	M	1	23	26	
HC-G-12	HYDRONIC CASSETTE UNIT	FLEXIBLE G21	0.5	-	208	1	PANEL LMP-12	20/2	(2)#12 & #12G, 3/4"C	26	M	1	M	1	23	26	

GENERAL SCHEDULE NOTES:
1. CONTRACTOR TO INSTALL STARTER/DISCONNECT ADJACENT TO UNIT. INSTALLATION TO COMPLY WITH NEC ARTICLE 110.26.
2. EQUIPMENT FURNISHED BY OTHERS. COORDINATE WITH ASSOCIATED TRADE CONTRACTOR.
3. CONFIRM HP, VOLTAGE AND PHASE CONNECTIONS PRIOR TO ROUGH-IN OF EQUIPMENT. COORDINATION REQUIRED BETWEEN TRADES.
4. STARTERS SHALL BE NEMA STYLE AND SIZED BASED ON ELECTRICAL LOAD DATA LISTED ON SCHEDULE.
5. MOTOR RATED SWITCHES SHALL BE EQUIPPED WITH HEATERS, WHICH SHALL BE SIZED BASED ON NAMEPLATE DATA (TO BE OBTAINED IN FIELD), NOT ON ELECTRICAL LOAD DATA ON SCHEDULE
6. CIRCUIT BREAKERS INDICATED ON SCHEDULE ABOVE SHALL BE PROVIDED BY THE CONTRACTOR IN THE PROPOSED PANEL (THEY ARE NOT EXISTING BREAKERS, UNLESS INDICATED ON THE PANELBOARD SCHEDULE).
7. FOR THIS PROJECT, THE FOLLOWING HAS BEEN ASSUMED BY THE ENGINEER:
   DIVISION 26: ELECTRICAL SUB
   DIVISION 23: MECHANICAL SUB AND/OR CONTROLS SUB
   DIVISION 22: PLUMBING SUB

REMARKS:
1. PROVIDE (2) DEDICATED 20A, 120V CIRCUITS FOR AIR HANDLING UNIT LIGHTING AND CONVENIENCE RECEPTACLES. COORDINATE ALL REQUIREMENTS WITH M-SHEETS PRIOR TO ROUGH-IN.

COPPER FEEDER SCHEDULE

FEEDER TAG DESIGNATION	NOMINAL AMPERE RATING	NUMBER OF SETS	PHASE & NEUTRAL CONDUCTOR		GROUND CONDUCTOR		CONDUIT SIZE (WHEN X=3,4,5)		
			QTY OF COND.	COPPER SIZE AWG/KCMIL	QTY OF COND.	COPPER SIZE AWG/KCMIL	3 WIRE & GND	4 WIRE & GND	5 WIRE & GND w (ISOLBLE NEUTRAL)
(020)X	20	1	X	12	1	12	3/4"	3/4"	3/4"
(030)X	30	1	X	10	1	10	3/4"	3/4"	3/4"
(040)X	40	1	X	8	1	10	3/4"	1"	1"
(045)X	45	1	X	6	1	10	1"	1"	1-1/4"
(050)X	50	1	X	6	1	10	1"	1"	1-1/4"
(060)X	60	1	X	4	1	10	1-1/4"	1-1/4"	1-1/4"
(070)X	70	1	X	4	1	8	1-1/4"	1-1/4"	1-1/4"
(080)X	80	1	X	3	1	8	1-1/4"	1-1/4"	1-1/2"
(090)X	90	1	X	2	1	8	1-1/4"	1-1/2"	1-1/2"
(100)X	100	1	X	1	1	8	1-1/2"	2"	2"
(110)X	110	1	X	2	1	6	1-1/4"	1-1/2"	1-1/2"
(125)X	125	1	X	1	1	6	1-1/2"	2"	2"
(150)X	150	1	X	1/0	1	6	2"	2"	2"
(175)X	175	1	X	2/0	1	6	2"	2"	2-1/2"
(200)X	200	1	X	3/0	1	6	2"	2-1/2"	2-1/2"
(225)X	225	1	X	4/0	1	4	2-1/2"	2-1/2"	3"
(250)X	250	1	X	250	1	4	2-1/2"	3"	3"
(300)X	300	1	X	350	1	4	3"	3"	3-1/2"
(350)X	350	1	X	500	1	3	3-1/2"	3-1/2"	3-1/2"
(400)X	400	2	X	3/0	1	3	2"	2-1/2"	2-1/2"
(450)X	450	2	X	4/0	1	2	2-1/2"	2-1/2"	3"
(500)X	500	2	X	250	1	2	2-1/2"	3"	3"
(600)X	600	2	X	350	1	1	3"	3"	3-1/2"
(700)X	700	2	X	500	1	1/0	3-1/2"	3-1/2"	4"
(800)X	800	3	X	300	1	1/0	3"	3"	3-1/2"

DUCT BANK SCHEDULE

DESIGNATION (DB-01)	TYPE	ORIGIN	DESTINATION	CIRCUIT			
				CONDUCTORS/CONDUIT	ORIGIN	DESTINATION	REMARKS
DB-01	SAND-FILLED	PLANT SCIENCE BUILDING	EXTERIOR LIGHTING	(2)#12 & #12G, 3/4"C	HNSB-G1	EXTERIOR LIGHTING	1

GENERAL SCHEDULE NOTES:
1. VERIFY CIRCUIT REQUIREMENTS WITH APPLICABLE EQUIPMENT MANUFACTURERS. PROVIDE CONDUCTORS AND CONDUIT AS REQUIRED.
2. DUCT BANK SWEEPS SHALL NOT HAVE LESS THAN 20'-0" RADIUS UNLESS OTHERWISE NOTED.
3. COORDINATE DUCT BANK LOCATIONS AND INSTALLATIONS WITH EXISTING AND PROPOSED STRUCTURES, EQUIPMENT, AND PIPING SYSTEMS.

REMARKS:
1. PROVIDE AS SAND-FILLED DUCT BANK UNLESS OTHERWISE INDICATED. PROVIDE AS REINFORCED CONCRETE DUCT BANK WHERE BENEATH PAVED AREAS, SIDEWALKS, OR AREAS SUBJECT TO VEHICLE LOADING. COORDINATE REQUIREMENTS WITH THE OVERALL SITE PLANS AND WITH THE GENERAL CONTRACTOR.

WHERE # DENOTES FLOOR BOX TAG

FLOOR BOX SCHEDULE

POWER PACK TAG	DESCRIPTION	COLOR	BASIS OF DESIGN SWITCH	REMARKS
1	4-GANG FLOOR BOX	BLACK	LEGRAND RFBA4	
2	POWER/AV FLOOR BOX	BLACK	FSR FL-500	
3	8" POKE THRU	BLACK	LEGRAND EVOLUTION 8ATC2	
4	QUADRUPLEX POKE THRU	BLACK	LEGRAND RC4	
5	UNDERCARPET FLOOR HUB	BLACK	HERMAN MILLER LOGIC REACH HUB	

GENERAL SCHEDULE NOTES:
1. FACEPLATE COLOR SHALL MATCH DEVICE COLOR.
2. COORDINATE ALL FLOOR BOX INSTALLATION/CONFIGURATION REQUIREMENTS WITH TA-SHEETS.

TEXT ADJACENT TO SYMBOL REPRESENTS THE TAG

JUNCTION BOX SCHEDULE

ITEM TAG	EQUIPMENT	LOAD DATA			SUPPLY DATA			PROVIDE CONNECTION VIA:			REMARKS
		KVA	VOLTS	PHASE	PANEL	BKR	CIRCUIT	RECEPTACLE TYPE	HEIGHT	DIRECT CONNECT	
FH	FUME HOOD	-	120	1	AS INDICATED	20/1	(2)#12 & #12G, 3/4"C	-	-	YES	1
DH	DOOR HARDWARE	-	120	1	AS INDICATED	20/1	(2)#12 & #12G, 3/4"C	-	-	YES	
A	BAS ANTENNA	-	120	1	AS INDICATED	20/1	(2)#12 & #12G, 3/4"C	-	-	YES	
F	FURNITURE	-	120	1	AS INDICATED	20/1	(2)#12 & #12G, 3/4"C			YES	2

SPECIFIC NOTES:
1. COORDINATE INSTALLATION WITH FUME HOOD MANUFACTURER'S RECOMMENDATIONS.
2. COORDINATE INSTALLATION WITH FURNITURE MANUFACTURER'S RECOMMENDATIONS AND WITH A-SHEETS.

UTILITY LIGHT FIXTURE SCHEDULE

TYPE	DESCRIPTION	FIXTURE BASIS OF DESIGN	LENS/DIFFUSER	VOLTAGE	LAMPS	BALLAST BASIS OF DESIGN	MOUNTING	DIMMING	REMARKS
K	ELEVATOR PIT LIGHT	2SNLED-LDS-265L-LC-UNV-L840-CD1-U-WG-SNX/2FT-B-K	FROSTED ACRYLIC	UNV	LED, 3500K, LUMENS	0-10V DIMMING DRIVER	SURFACE WALL	YES	
SN	SURFACE STRIPLIGHT	4SNLED-LDS-305L-LN-UNV-L835-CD1-U	FROSTED ACRYLIC	UNV	LED, 3500K, LUMENS	0-10V DIMMING DRIVER	SURFACE CEILING	YES	
	EXIT SIGN - QUANTITY & ORIENTATION OF FACES & HANDS AS INDICATED ON DRAWINGS	NICOR LIGHTING EXLZ-1GUNV-AL-CL-G-1	RED CLEAR 1 FACE MIRROR 2 FACE	277V	1W LED	N/A	CEILING OR WALL	N/A	1, 2

GENERAL SCHEDULE NOTES:
1. MODELS ARE GIVEN FOR QUALITY ONLY. SUBSTITUTE LIGHT FIXTURES SHALL BE OF APPROVED EQUAL OR GREATER QUALITY. OTHER ACCEPTABLE MANUFACTURERS: COOPER, HUBBELL, AND ACUITY.
2. PROVIDE ALL NECESSARY MOUNTING HARDWARE FOR CEILING TYPE PROPOSED.

REMARKS:
1. INTERCEPT & CONNECT TO NEAREST NON-SWITCHED PORTION OF LIGHTING CIRCUIT. TYPICAL FOR ALL EXIT SIGNS.
2. CONTRACTOR IS TO REFER TO FLOOR PLANS TO DETERMINE ORIENTATION OF FACES & ARROWS, AND TO VERIFY MOUNTING TYPE.
3. COORDINATE FIXTURE MOUNTING HEIGHT WITH ARCHITECT.

RENOVATE PLANT SCIENCE BUILDING - PHASE 2
SUCF Project No. 161026-00

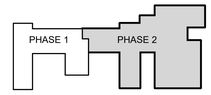
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Watts Architects & Engineers Asbestos, Haz Mat — 95 Perry Street, Suite 300 Buffalo, NY 14203, T 716 206-5122
Hastings Consulting Building Code — 142 Hanlon Rd Holliston, MA 01746, T 508 397-8417
Ellana Cost Consulting — 32 Broadway, Suite 801 New York, NY 10004, T 212971-0936

Notes:



Keyplan

Job Number 31909.00
Drawing By CCH
Checked By SAG
Filename
Date August 31, 2026

Revisions
B Addendum 3 11/04/26

ELECTRICAL SCHEDULES

STATE OF NEW YORK · JOHN GARRABRANT · 126598 · LICENSED PROFESSIONAL ENGINEER

BID DOCUMENTS
Scale:

E6.6

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INDICATED BY ⬡ ON PLAN SHEETS

MECHANICAL EQUIPMENT CONNECTION SCHEDULE (CONTINUED PART 3 OF 3)

EQUIPMENT			ELECTRICAL LOAD				POWER CONNECTION				DISCONNECT/SAFETY SWITCH		STARTER				REMARKS
SPECIFIC NOTES: 1. WHEN LOCATION IS NOT REFERENCED ON 'E' SHEETS, REFER TO 'M' SHEETS. 2. LOCATIONS SHOWN ARE GENERAL IN NATURE, COORDINATE WITH DIV. 23 PRIOR TO ROUGH-IN.											TYPES: A: NON-FUSED B: FUSED M: MOTOR RATED SWITCH R: RECEPTACLE/CORD/PLUG N: NOT REQUIRED C: CKT BREAKER WITHIN SIGHT	SIZES: AF: AMPERE FRAME AT: FUSE SIZE (RKS, UON)	TYPES: VFD: VARIABLE FREQUENCY DRIVE W/ INTEGRAL DISC. CMS: COMBINATION MOTOR STARTER ECM: ELECTRICALLY COMMUTATED MOTOR M: MOTOR RATED SWITCH - MANUAL STARTER AQUA: LINE VOLTAGE AQUA STAT N: NOT REQUIRED P: PACKAGED CONTROLLER BY MANUFACTURER LVT: LINE VOLT T-STAT ('R' INDICATES REVERSE TYPE)					
EQUIPMENT TAG	EQUIPMENT TYPE	LOCATION ON PLAN	FLA (MCA)	KVA (HP)	V	PH	HOMERUN TO	CKT. BKR	CONDUCTORS & CONDUIT	CONNECTION BY DIVISION:	DISCONNECT TYPE/SIZE	NEMA ENCLOSURE TYPE	STARTER TYPE	NEMA ENCLOSURE TYPE	FURNISHED BY DIVISION:	FINAL CONNECTION BY DIVISION:	
HC-1-8	HYDRONIC CASSETTE UNIT	FLEX LAB SUPPORT 118	0.65	-	208	1	PANEL LMP-12	20/2	(2)#12 & #12G, 3/4"C	26	M	1	M	1	23	26	
HC-1-9	HYDRONIC CASSETTE UNIT	EQUIPMENT 113D	0.5	-	208	1	PANEL LMP-12	20/2	(2)#12 & #12G, 3/4"C	26	M	1	M	1	23	26	
HC-2-3	HYDRONIC CASSETTE UNIT	FLEX LAB SUPPORT 228	0.65	-	208	1	PANEL LMP-22	20/2	(2)#12 & #12G, 3/4"C	26	M	1	M	1	23	26	
HC-2-4	HYDRONIC CASSETTE UNIT	EQUIPMENT 1 219C	0.5	-	208	1	PANEL LMP-22	20/2	(2)#12 & #12G, 3/4"C	26	M	1	M	1	23	26	
HC-2-5	HYDRONIC CASSETTE UNIT	EQUIPMENT 2 219D	0.5	-	208	1	PANEL LMP-22	20/2	(2)#12 & #12G, 3/4"C	26	M	1	M	1	23	26	
HC-2-6	HYDRONIC CASSETTE UNIT	EQUIPMENT 202C	0.5	-	208	1	PANEL LMP-22	20/2	(2)#12 & #12G, 3/4"C	26	M	1	M	1	23	26	
HC-2-7	HYDRONIC CASSETTE UNIT	EQUIPMENT CORRIDOR 202E	1.5	-	208	1	PANEL LMP-22	20/2	(2)#12 & #12G, 3/4"C	26	M	1	M	1	23	26	
HC-2-8	HYDRONIC CASSETTE UNIT	FLEXIBLE 202F	0.5	-	208	1	PANEL LMP-22	20/2	(2)#12 & #12G, 3/4"C	26	M	1	M	1	23	26	
HC-3-3	HYDRONIC CASSETTE UNIT	FLEX LAB SUPPORT 326	0.65	-	208	1	PANEL LMP-32	20/2	(2)#12 & #12G, 3/4"C	26	M	1	M	1	23	26	
HC-3-4	HYDRONIC CASSETTE UNIT	FLEXIBLE 319B	0.5	-	208	1	PANEL LMP-32	20/2	(2)#12 & #12G, 3/4"C	26	M	1	M	1	23	26	
HC-3-5	HYDRONIC CASSETTE UNIT	EQUIPMENT 319D	0.5	-	208	1	PANEL LMP-32	20/2	(2)#12 & #12G, 3/4"C	26	M	1	M	1	23	26	
HC-3-6	HYDRONIC CASSETTE UNIT	EQUIPMENT 319E	0.5	-	208	1	PANEL LMP-32	20/2	(2)#12 & #12G, 3/4"C	26	M	1	M	1	23	26	
HC-3-7	HYDRONIC CASSETTE UNIT	EQUIPMENT CORRIDOR 302D	1.5	-	208	1	PANEL LMP-32	20/2	(2)#12 & #12G, 3/4"C	26	M	1	M	1	23	26	
HC-3-8	HYDRONIC CASSETTE UNIT	DIRTY/REGULATED FLEX 302E	0.5	-	208	1	PANEL LMP-32	20/2	(2)#12 & #12G, 3/4"C	26	M	1	M	1	23	26	
HC-3-9	HYDRONIC CASSETTE UNIT	AUTOCLAVE SERVICE 304A	0.5	-	208	1	PANEL LMP-32	20/2	(2)#12 & #12G, 3/4"C	26	M	1	M	1	23	26	
HC-4-1	HYDRONIC CASSETTE UNIT	BIO HUB 403	0.5	-	208	1	PANEL LMP-42	20/2	(2)#12 & #12G, 3/4"C	26	M	1	M	1	23	26	
HC-4-2	HYDRONIC CASSETTE UNIT	BIO HUB 403	0.5	-	208	1	PANEL LMP-42	20/2	(2)#12 & #12G, 3/4"C	26	M	1	M	1	23	26	
CUH-10	CABINET UNIT HEATER	STAIR G0003	-	(1/10)	120	1	PANEL LEP-OS-12	20/1	(2)#12 & #12G, 3/4"C	26	M	1	ECM	1	23	26	
CUH-11	CABINET UNIT HEATER	STAIR G0004	-	(1/10)	120	1	PANEL LEP-OS-12	20/1	(2)#12 & #12G, 3/4"C	26	M	1	ECM	1	23	26	
(E) CUH-5	CABINET UNIT HEATER	STAIR 237C	-	(1/10)	120	1	PANEL LEP-OS-22	20/1	(2)#12 & #12G, 3/4"C	26	M	1	ECM	1	23	26	
(E) CUH-6	CABINET UNIT HEATER	STAIR 6 30008	-	(1/10)	120	1	PANEL LEP-OS-32	20/1	(2)#12 & #12G, 3/4"C	26	M	1	ECM	1	23	26	
CUH-7	CABINET UNIT HEATER	VEST. 10043	-	(1/10)	120	1	PANEL LEP-OS-12	20/1	(2)#12 & #12G, 3/4"C	26	M	1	ECM	1	23	26	
CUH-8	CABINET UNIT HEATER	STAIR 2 50003	-	(1/10)	120	1	PANEL LEP-OS-42	20/1	(2)#12 & #12G, 3/4"C	26	M	1	ECM	1	23	26	
CUH-9	CABINET UNIT HEATER	STAIR 3 1005A	-	(1/10)	120	1	PANEL LEP-OS-12	20/1	(2)#12 & #12G, 3/4"C	26	M	1	ECM	1	23	26	
UH-1	UNIT HEATER	MECH G0080	-	-	120	1	PANEL LEP-OS-12	20/1	(2)#12 & #12G, 3/4"C	26	M	1	M	1	23	26	
UH-2	UNIT HEATER	MECH 40060	-	-	120	1	PANEL LMP-42	20/1	(2)#12 & #12G, 3/4"C	26	M	1	M	1	23	26	
EUH-4	UNIT HEATER	AHU-2 VEST.	-	(1/6)	120	1	PANEL LMP-42	20/1	(2)#12 & #12G, 3/4"C	26	M	1	LVT	1	23	26	
ESP-2	ELEVATOR SUMP PUMP	ELEV. PIT	-	-	120	1	PANEL EP	20/1	(2)#12 & #12G, 3/4"C	26	R	5-20R	P	1	23	26	2
EFTR-1	FIN TUBE RADIATOR	ELEC. ROOMS	4.5	-	277	1	PANEL HMP-#2	20/2	(2)#12 & #12G, 3/4"C	26	M	1	M	1	23	26	1
EF-13	EXHAUST FAN	ROOF	-	1	480	3	PANEL HMP-32	20/3	(2)#12 & #12G, 3/4"C	26	M	1	VFD	1	26	26	
EF-12	EXHAUST FAN	BDA CLOSET PH002	-	-	120	1	PANEL LMP-42	20/1	(2)#12 & #12G, 3/4"C	26	M	1	M	1	26	26	
CP-#	CONDENSATE PUMP	REFER TO FLOOR PLANS	0.83	-	120	1	3	20/1	(2)#12 & #12G, 3/4"C	26	M	1	M	1	26	26	3
SF-1	AHU SUPPLY FAN	THIRD FLOOR	-	(10)	208	3	PANEL LEP-OS-32	40/3	(3)#8 & #10G, 3/4"C	26	N	-	VFD	1	23	26	4
P-9	COIL PUMP	SECOND FLOOR	-	(1)	208	1	PANEL LEP-OS-22	20/2	(2)#12 & #12G, 3/4"C	26	A	1	ECM	-	23	26	

GENERAL SCHEDULE NOTES:

1. CONTRACTOR TO INSTALL STARTER/DISCONNECT ADJACENT TO UNIT. INSTALLATION TO COMPLY WITH NEC ARTICLE 110.26.
2. EQUIPMENT FURNISHED BY OTHERS. COORDINATE WITH ASSOCIATED TRADE CONTRACTOR.
3. CONFIRM HP, VOLTAGE AND PHASE CONNECTIONS PRIOR TO ROUGH-IN OF EQUIPMENT. COORDINATION REQUIRED BETWEEN TRADES.
4. STARTERS SHALL BE NEMA STYLE AND SIZED BASED ON ELECTRICAL LOAD DATA LISTED ON SCHEDULE.
5. MOTOR RATED SWITCHES SHALL BE EQUIPPED WITH HEATERS, WHICH SHALL BE SIZED BASED ON NAMEPLATE DATA (TO BE OBTAINED IN FIELD), NOT ON ELECTRICAL LOAD DATA ON SCHEDULE
6. CIRCUIT BREAKERS INDICATED ON SCHEDULE ABOVE SHALL BE PROVIDED BY THE CONTRACTOR IN THE PROPOSED PANEL (THEY ARE NOT EXISTING BREAKERS, UNLESS INDICATED ON THE PANELBOARD SCHEDULE).
7. FOR THIS PROJECT, THE FOLLOWING HAS BEEN ASSUMED BY THE ENGINEER:
   - DIVISION 26: ELECTRICAL SUB
   - DIVISION 23: MECHANICAL SUB AND/OR CONTROLS SUB
   - DIVISION 22: PLUMBING SUB

REMARKS:

1. REFER TO FLOOR PLANS AND M-SHEETS FOR EXACT QUANTITY OF FIN TUBE RADIATORS, COORDINATE CIRCUITING/INSTALLATION REQUIREMENTS ACCORDINGLY.
2. PROVIDE 20A, 1P CIRCUIT BREAKER WITHIN PANEL 'EP' FOR SUMP PUMP FEED. REFER TO ELECTRICAL SINGLE LINE DIAGRAM, SHEET E5.1 FOR ADDITIONAL INFORMATION.
3. REFER TO FLOOR PLANS AND M-SHEETS FOR EXACT QUANTITY OF CONDENSATE PUMPS, COORDINATE CIRCUITING/INSTALLATION REQUIREMENTS ACCORDINGLY. CIRCUIT TO NEAREST LMP PANEL.
4. UTILIZE EXISTING SPACE MADE AVAILABLE WITHIN PANEL PPS1, FOR REPLACEMENT AHU SF-1 FEED. COORDINATE ALL INSTALLATION REQUIREMENTS WITH M-SHEETS.

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RENOVATE PLANT SCIENCE BUILDING - PHASE 2
SUCF Project No. 161026-00

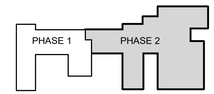
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Notes:



Keyplan

Job Number 31909.00
Drawing By CCH
Checked By SAG
Filename
Date August 31, 2026

Revisions

B	Addendum 3	11/04/26

ELECTRICAL SCHEDULES

STATE OF NEW YORK JOHN GARRABRANT 106086 LICENSED PROFESSIONAL ENGINEER

BID DOCUMENTS
Scale:

E6.7

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Branch Panel: HMP-OS-52

Location: EAST PENTHOUSE PH001 | **Supply From:** | **Mounting:** Surface | **Enclosure:** Indoor
Volts: 480/277 Wye | **Phases:** 3 | **Wires:** 4
A.I.C. Rating: 22kA | **Mains Type:** MLO | **Mains Rating:** 400 A | **MCB Rating:** N/A

CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT
1	P-8	20 A	3	0 VA 0 VA			3	40 A	AHU-1 SF 1	2
3	--	--	--		0 VA 0 VA		--	--	--	4
5	--	--	--			0 VA 0 VA	--	--	--	6
7	AHU-1 SF-2	40 A	3	2244... 2244...			3	40 A	AHU-1 SF-3	8
9	--	--	--		2244... 2244...		--	--	--	10
11	--	--	--			2244... 2244...	--	--	--	12
13	AHU-1 SF-4	40 A	3	2244... 1745...			3	30 A	Power	14
15	--	--	--		2244... 1745...		--	--	--	16
17	--	--	--			2244... 1745...	--	--	--	18
19	EF-2	30 A	3	1745... 1745...			3	30 A	EF-3	20
21	--	--	--		1745... 1745...		--	--	--	22
23	--	--	--			1745... 1745...	--	--	--	24
25	Spare	20 A	3	0 VA 0 VA			3	20 A	Spare	26
27	--	--	--		0 VA 0 VA		--	--	--	28
29	--	--	--			0 VA 0 VA	--	--	--	30
31	Spare	20 A	3	0 VA 0 VA			3	20 A	Spare	32
33	--	--	--		0 VA 0 VA		--	--	--	34
35	--	--	--			0 VA 0 VA	--	--	--	36
37	Spare	20 A	3	0 VA 0 VA			3	20 A	Spare	38
39	--	--	--		0 VA 0 VA		--	--	--	40
41	--	--	--			0 VA 0 VA	--	--	--	42
		Total Load:		119716 VA	119716 VA	119716 VA				
		Total Amps:		432 A	432 A	432 A				

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Power	359148 VA	100.00%	359148 VA	**Total Conn. Load:** 359148 VA
				Total Est. Demand: 359148 VA
				Total Conn. Current: 432 A
				Total Est. Demand Current: 432 A

Notes:

Branch Panel: LNP-02

Location: ELEC CLO G0086 | **Supply From:** LNP-DP | **Mounting:** Surface | **Enclosure:** Indoor
Volts: 120/208 Wye | **Phases:** 3 | **Wires:** 4
A.I.C. Rating: 10kA | **Mains Type:** MCB | **Mains Rating:** 225 A | **MCB Rating:** 225 A

CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT
1	RECEPTS. - FACULTY OFFICE G37	20 A	1	720 VA 720 VA			1	20 A	RECEPTS. - FACULTY OFFICE G31	2
3	RECEPTS. - FACULTY OFFICE G35	20 A	1		720 VA 720 VA		1	20 A	RECEPTS. - FACULTY OFFICE G29	4
5	RECEPTS. - FACULTY OFFICE G33	20 A	1			720 VA 720 VA	1	20 A	RECEPTS. - FACULTY OFFICE G27	6
7	G40 208V RECEPTACLE	20 A	2	0 VA 1080...			1	20 A	Receptacle	8
9	--	--	--	0 VA			--	--	--	10
11	G28 208V RECEPTACLE	20 A	2			0 VA 900 VA	1	20 A	RECEPTS. - CORRIDOR-EAST G0043	12
13	--	--	--	0 VA 0 VA			2	20 A	SPEC. RECEPT. - COLD ROOM G30	14
15	RECEPTS. - CORRIDOR-NORTH G0042	20 A	1		900 VA 0 VA		--	--	--	16
17	--	--	--			0 VA	2	20 A	SPEC. RECEPT. - COLD ROOM G30	18
19	SPEC. RECEPT. - COLD ROOM G30	20 A	2	0 VA 0 VA			--	--	--	20
21	--	--	--		0 VA 0 VA		2	20 A	SPEC. RECEPT. - FREEZER FARM G26	22
23	SPEC. RECEPT. - FREEZER FARM G26	20 A	2			0 VA 0 VA	--	--	--	24
25	--	--	--	0 VA			--	--	--	26
27	--	--	--			0 VA	2	20 A	SPEC. RECEPT. - FREEZER FARM G32	28
29	RECEPTS. - FREEZER FARM G32	20 A	1			360 VA 0 VA	--	--	--	30
31	SPEC. RECEPT. - FREEZER FARM G32	20 A	2	0 VA 180 VA			1	20 A	RECEPT. - HC RESTROOM G0021	32
33	--	--	--		0 VA 0 VA		2	20 A	HC-G-5, 6, 7, 8	34
35	RECEPTS. - RESTROOM G0020	20 A	1			180 VA 0 VA	--	--	--	36
37	ELEV. PIT RECEPTACLE	20 A	1	180 VA 0 VA			1	20 A	FURNITURE POWER - WRITE-UP SPACE G09	38
39	G38 208V RECEPTACLE	20 A	2		0 VA 0 VA		1	20 A	FURNITURE POWER - WRITE-UP SPACE G09	40
41	--	--	--			0 VA 0 VA	2	20 A	G40 208V RECEPTACLE	42
43	RECEPTS. - LAB SUPPORT EQUIP. G40	20 A	1	360 VA 0 VA			--	--	--	44
45	RECEPTS. - LAB SUPPORT EQUIP. G40	20 A	1		360 VA 360 VA		1	20 A	RECEPTS. - LAB SUPPORT EQUIP. G40	46
47	RECEPTS. - SHARED INST. SUPPORT ROOM...	20 A	1			540 VA 360 VA	1	20 A	RECEPTS. - LAB SUPPORT EQUIP. G40	48
49	Spare	20 A	1	0 VA 360 VA			1	20 A	RECEPTS. - LAB SUPPORT EQUIP. G40	50
51	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	52
53	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	54
		Total Load:		3600 VA	3060 VA	3780 VA				
		Total Amps:		31 A	26 A	32 A				

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Other	0 VA	0.00%	0 VA	**Total Conn. Load:** 10440 VA
Power	0 VA	0.00%	0 VA	**Total Est. Demand:** 10220 VA
Receptacle	10440 VA	97.89%	10220 VA	**Total Conn. Current:** 29 A
				Total Est. Demand Current: 28 A

Notes:

Branch Panel: LNP-03

Location: ELEC CLO G0086 | **Supply From:** | **Mounting:** Surface | **Enclosure:** Indoor
Volts: 120/208 Wye | **Phases:** 3 | **Wires:** 4
A.I.C. Rating: 10kA | **Mains Type:** MLO | **Mains Rating:** 225 A | **MCB Rating:** N/A

CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT
1	G34 208V RECEPTACLE	20 A	2	0 VA 0 VA			2	20 A	G36 208V RECEPTACLE	2
3	--	--	--		0 VA 0 VA		--	--	--	4
5	G34 208V RECEPTACLE	20 A	2			0 VA 0 VA	2	20 A	G36 208V RECEPTACLE	6
7	--	--	--	0 VA 0 VA			--	--	--	8
9	RECEPTS. - FLEX LAB SUPPORT G38	20 A	1		540 VA 540 VA		1	20 A	RECEPTS. - FLEX LAB SUPPORT G38	10
11	RECEPTS. - FLEX LAB SUPPORT G38	20 A	1			540 VA 360 VA	1	20 A	RECEPTS. - SOIL GRINDING ROOM G05	12
13	RECEPTS. - SOIL GRINDING ROOM G05	20 A	1	360 VA 0 VA			1	20 A	RECEPTS. - MESSY PLANT GRINDING ROOM...	14
15	RECEPTS. - SOIL GRINDING ROOM G05	20 A	1		540 VA 540 VA		1	20 A	Other	16
17	RECEPTS. - MESSY PLANT GRINDING ROOM...	20 A	1			540 VA 360 VA	1	20 A	RECEPTS. - MESSY SOIL GRINDING ROOM G01	18
19	G02 208V RECEPTS.	20 A	2	0 VA 360 VA			1	20 A	RECEPTS. - SOIL AND SAMPLE PREP G02	20
21	--	--	--		0 VA 360 VA		1	20 A	RECEPTS. - SOIL AND SAMPLE PREP G02	22
23	RECEPTS. - SOIL AND SAMPLE PREP G02	20 A	1			360 VA 360 VA	1	20 A	RECEPTS. - SOIL AND SAMPLE PREP G02	24
25	RECEPTS. - SOIL AND SAMPLE PREP G02	20 A	1	360 VA 0 VA			1	20 A	Spare	26
27	RECEPTS. - CUSTODIAL SUPPLY G0081	20 A	1		0 VA 0 VA		1	20 A	Spare	28
29	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	30
31	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	32
33	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	34
35	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	36
37	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	38
39	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	40
41	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	42
43	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	44
45	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	46
47	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	48
49	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	50
51	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	52
53	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	54
		Total Load:		1080 VA	2520 VA	2520 VA				
		Total Amps:		9 A	23 A	23 A				

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Other	0 VA	0.00%	0 VA	**Total Conn. Load:** 6120 VA
Receptacle	6120 VA	100.00%	6120 VA	**Total Est. Demand:** 6120 VA
				Total Conn. Current: 17 A
				Total Est. Demand Current: 17 A

Notes:

Branch Panel: LNPL-22-1

Location: PLANT / SOIL / MICROBES LA... | **Supply From:** | **Mounting:** Flush | **Enclosure:** Indoor
Volts: 120/208 Wye | **Phases:** 3 | **Wires:** 4
A.I.C. Rating: 10kA | **Mains Type:** MLO | **Mains Rating:** 225 A | **MCB Rating:** N/A

CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT
1	7-E20	20 A	1	600 VA 600 VA			1	20 A	7-E23	2
3	7-E20	20 A	1		600 VA 600 VA		1	20 A	7-E21	4
5	7-E24	20 A	1			600 VA 1040...	2	20 A	7-E22	6
7	7-E25A & B	20 A	1	1560... 1040...			--	--	--	8
9	7-E26	20 A	1		1488... 4992...		2	40 A	7-E30	10
11	7-E29	20 A	2			1664... 4992...	--	--	--	12
13	--	--	--	1664... 690 VA			1	20 A	7-E27	14
15	7-E32	20 A	1		384 VA 690 VA		1	20 A	7-E40	16
17	7-E31	20 A	1			384 VA 600 VA	1	20 A	7-E35	18
19	7-E36	40 A	2	4992... 600 VA			1	20 A	7-E38	20
21	--	--	--		4992... 4992...		2	20 A	7-E39	22
23	7-E37	20 A	1			600 VA 4992...	--	--	--	24
25	7-E41	20 A	1	600 VA 240 VA			1	20 A	7-E48	26
27	7-E52	20 A	1		600 VA 240 VA		1	20 A	7-E46	28
29	7-E47	20 A	1			240 VA 240 VA	1	20 A	7-E51	30
31	7-E45	20 A	1	240 VA 1040...			2	20 A	7-E62	32
33	7-E50	20 A	2		1040... 1040...		--	--	--	34
35	--	--	--			1040... 800 VA	1	20 A	7-E56	36
37	7-E55	20 A	2	1040... 600 VA			1	20 A	7-E58	38
39	--	--	--		1040... 360 VA		1	20 A	7-E61	40
41	7-E60	20 A	1			600 VA 360 VA	1	20 A	7-E63	42
43	7-E67	20 A	1	360 VA 240 VA			1	20 A	7-E69	44
45	7-E68	20 A	2		416 VA 240 VA		1	20 A	7-E65	46
47	--	--	--			416 VA 720 VA	1	20 A	RECEPTS. - PLANT/SOIL/MICROBES LAB 219	48
49	7-E08	20 A	1	600 VA 600 VA			2	20 A	7-E12	50
51	7-E02	20 A	1		600 VA 240 VA		1	20 A	7-E05	52
53	7-E04	20 A	1			600 VA 240 VA	1	20 A	7-E02	54
		Total Load:		17306 VA	24554 VA	20128 VA				
		Total Amps:		144 A	208 A	171 A				

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Other	0 VA	0.00%	0 VA	**Total Conn. Load:** 61988 VA
Power	61268 VA	100.00%	61268 VA	**Total Est. Demand:** 61988 VA
Receptacle	720 VA	100.00%	720 VA	**Total Conn. Current:** 172 A
				Total Est. Demand Current: 172 A

Notes:

Branch Panel: LEPL-OS-01

Location: CORRIDOR G0051 | **Supply From:** | **Mounting:** Flush | **Enclosure:** Indoor
Volts: 120/208 Wye | **Phases:** 3 | **Wires:** 4
A.I.C. Rating: 10kA | **Mains Type:** MLO | **Mains Rating:** 225 A | **MCB Rating:** 225 A

CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT
1	5-E04	20 A	2	2496... 2080...			2	20 A	5-E05	2
3	--	--	--		2496... 2080...		--	--	--	4
5	5-E03	20 A	2			2496... 1200...	1	20 A	5-E06	6
7	--	--	--	2496... 360 VA			1	20 A	G17 RECEPTACLES	8
9	5-E07	20 A	1		1440... 360 VA		1	20 A	G19 RECEPTACLES	10
11	G20 RECEPTACLE	20 A	1			180 VA 360 VA	1	20 A	G21 RECEPTACLES	12
13	G23 RECEPTACLE	20 A	1	180 VA 360 VA			1	20 A	RECEPTS. - FLEX LAB SUPPORT G36	14
15	RECEPTS. - FLEX LAB SUPPORT G38	20 A	1		360 VA 720 VA		1	20 A	RECEPTS. - SUPPORT G34	16
17	RECEPTS. - FLEX LAB SUPPORT G38	20 A	1			360 VA 0 VA	1	20 A	BMS CONNECTION	18
19	RECEPTS. - SHARED INST. SUPPORT ROOM...	20 A	1	720 VA 0 VA			1	20 A	BMS CONNECTION	20
21	RECEPTS. - SHARED INST. SUPPORT ROOM...	20 A	1		720 VA 360 VA		1	20 A	RECEPTS. - COLD ROOM G30	22
23	BMS CONNECTION	20 A	1			0 VA 360 VA	1	20 A	RECEPTS. - COLD ROOM G28	24
25	RECEPTS. - FREEZER FARM G26	20 A	1	360 VA 0 VA			1	20 A	TWIST LOCK RECEPT. - T/D G25	26
27	113B 208V RECEPTACLE	20 A	2		0 VA 0 VA		1	20 A	TWIST LOCK RECEPT. - T/D G25	28
29	--	--	--			0 VA 0 VA	1	20 A	QUAD RECEPT. - T/D G25	30
		Total Load:		9052 VA	8536 VA	4956 VA				
		Total Amps:		80 A	76 A	41 A				

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Other	0 VA	0.00%	0 VA	**Total Conn. Load:** 22544 VA
Power	16784 VA	100.00%	16784 VA	**Total Est. Demand:** 22544 VA
Receptacle	5760 VA	100.00%	5760 VA	**Total Conn. Current:** 63 A
				Total Est. Demand Current: 63 A

Notes:

Branch Panel: LNPL-11-1

Location: FRUIT PRODUCTION LAB 113 | **Supply From:** | **Mounting:** Surface | **Enclosure:** Indoor
Volts: 120/208 Wye | **Phases:** 3 | **Wires:** 4
A.I.C. Rating: 10kA | **Mains Type:** MLO | **Mains Rating:** 225 A | **MCB Rating:** N/A

CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT
1	RECEPTS. - CHEMISTRY 2 113G	20 A	1	360 VA 1800...			1	20 A	RECEPTS. - FRUIT PRODUCTION LAB 113	2
3	RECEPTS. - FRUIT PRODUCTION LAB 113	20 A	1		1800... 600 VA		1	20 A	6-E07	4
5	RECEPTS. - FRUIT PRODUCTION LAB 113	20 A	1			1800... 600 VA	1	20 A	6-E06	6
7	6-E09	20 A	1	960 VA 900 VA			1	20 A	6-E27	8
9	6-E08	20 A	1		600 VA 900 VA		1	20 A	6-E29	10
11	6-E30	20 A	1			600 VA 1800...	1	20 A	RECEPTS. - FRUIT PRODUCTION LAB 113	12
13	6-E25	20 A	1	600 VA 600 VA			1	20 A	6-E16	14
15	6-E24	20 A	1		600 VA 2080...		2	20 A	6-E14	16
17	6-E23	20 A	1			600 VA 2080...	--	--	--	18
19	6-E17	20 A	1	1200... 600 VA			1	20 A	6-E13	20
21	6-E20	20 A	1		600 VA 1800...		1	20 A	RECEPTS. - FRUIT PRODUCTION LAB 113	22
23	6-E19	20 A	2			2080... 600 VA	1	20 A	6-E10	24
25	--	--	--	2080... 1440...			1	20 A	RECEPTS. - FRUIT PRODUCTION LAB 113	26
27	RECEPTS. - FRUIT PRODUCTION LAB 113	20 A	1		1800... 1800...		1	20 A	RECEPTS. - FRUIT PRODUCTION LAB 113	28
29	LAB 113 RECEPTACLES	20 A	1			720 VA 720 VA	1	20 A	RECEPTS. - FRUIT PRODUCTION LAB 113	30
31	VAC PUMP CABINET - LAB 113	20 A	1	600 VA 1440...			1	20 A	RECEPTS. - FRUIT PRODUCTION LAB 113	32
33	RECEPTS. - FRUIT PRODUCTION LAB 113	20 A	1		1440...		--	--	--	34
35	VAC PUMP CABINET - CHEMISTRY 1 113F	20 A	1			900 VA 720 VA	1	20 A	RECEPTS. - FRUIT PRODUCTION LAB 113	36
37	--	--	--		1440...		1	20 A	RECEPTS. - FRUIT PRODUCTION LAB 113	38
39	RECEPTS. - FRUIT PRODUCTION LAB 113	20 A	1		1440...		--	--	--	40
41						6240...	2	30 A	113C 208V RECEPTACLE	42
43	113D 208V RECEPTACLE	30 A	2	6240... 0 VA			--	--	--	44
45	--	--	--		0 VA 6240...		2	20 A	113E 208V RECEPTACLE	46
47	113E 208V RECEPTACLE	20 A	2			6240... 0 VA	--	--	--	48
49	--	--	--	0 VA 900 VA			1	20 A	113F FUME HOOD	50
51	113F 208V RECEPTACLE	30 A	2		6240... 900 VA		1	20 A	113G FUME HOOD	52
53	--	--	--			0 VA 900 VA	1	20 A	113G FUME HOOD	54
		Total Load:		21160 VA	28840 VA	26600 VA				
		Total Amps:		176 A	247 A	229 A				

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Other	0 VA	0.00%	0 VA	**Total Conn. Load:** 76600 VA
Power	23080 VA	100.00%	23080 VA	**Total Est. Demand:** 54840 VA
Receptacle	53520 VA	59.34%	31760 VA	**Total Conn. Current:** 213 A
				Total Est. Demand Current: 152 A

Notes:

Branch Panel: LNPL-11-2

Location: | **Supply From:** | **Mounting:** Flush | **Enclosure:** Indoor
Volts: 120/208 Wye | **Phases:** 3 | **Wires:** 4
A.I.C. Rating: 10kA | **Mains Type:** MLO | **Mains Rating:** 225 A | **MCB Rating:** 225 A

CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT
1	RECEPTS. - MICROSCOPY 113B	20 A	1	540 VA 360 VA			1	20 A	RECEPTS. - MICROSCOPY 113B	2
3	VAC PUMP CABINET - CHEMISTRY 2 113G	20 A	1		0 VA 600 VA		1	20 A	VAC PUMP CABINET - LAB 113	4
5	VAC PUMP CABINET - CHEMISTRY 2 113G	20 A	1			1200... 540 VA	1	20 A	RECEPTS. - TISSUE CULTURE 113C	6
7	RECEPTS. - MICROSCOPY 113B	20 A	1	540 VA 360 VA			1	20 A	RECEPTS. - TISSUE CULTURE 113C	8
9	Power	20 A	1		600 VA 360 VA		1	20 A	RECEPTS. - EQUIPMENT 113D	10
11	RECEPTS. - TISSUE CULTURE 113C	20 A	1			360 VA 360 VA	1	20 A	RECEPTS. - EQUIPMENT 113D	12
13	RECEPTS. - EQUIPMENT 113D	20 A	1	360 VA 360 VA			1	20 A	RECEPTS. - EQUIPMENT 113D	14
15	RECEPTS. - EQUIPMENT 113D	20 A	1		360 VA 360 VA		1	20 A	RECEPTS. - MOLECULAR BIO 113E	16
17	RECEPTS. - MOLECULAR BIO 113E	20 A	1			540 VA 540 VA	1	20 A	RECEPTS. - MOLECULAR BIO 113E	18
19	RECEPTS. - FRUIT PRODUCTION LAB 113	20 A	1	1260... 360 VA			1	20 A	RECEPTS. - CHEMISTRY 1 113F	20
21	Spare	20 A	1		0 VA 540 VA		1	20 A	RECEPTS. - CHEMISTRY 1 113F	22
23	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	24
25	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	26
27	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	28
29	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	30
31	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	32
33	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	34
35	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	36
37	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	38
39	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	40
41	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	42
43	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	44
45	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	46
47	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	48
49	Spare	20 A	1	0 VA 0 VA			1	20 A	Spare	50
51	Spare	20 A	1		0 VA 0 VA		1	20 A	Spare	52
53	Spare	20 A	1			0 VA 0 VA	1	20 A	Spare	54
		Total Load:		4140 VA	2820 VA	3540 VA				
		Total Amps:		35 A	24 A	30 A				

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Other	0 VA	0.00%	0 VA	**Total Conn. Load:** 10500 VA
Power	2400 VA	100.00%	2400 VA	**Total Est. Demand:** 10500 VA
Receptacle	8100 VA	100.00%	8100 VA	**Total Conn. Current:** 29 A
				Total Est. Demand Current: 29 A

Notes:

RENOVATE PLANT SCIENCE BUILDING - PHASE 2
SUCF Project No. 161026-00
236 Tower Road
Ithaca, NY 14853

Cornell CALS College of Agriculture and Life Sciences
SUNY State University Construction Fund

Ellenzweig Architecture | Planning — 230 Congress Street, Boston, MA 02110, T 617 491-5575
Ryan Biggs Clark Davis Structural Engineers — 257 Ushers Road, Clifton Park, NY 12065, T 518 406-5506
Salas O'Brien Consulting & Engineering Group of NY, Inc. Mechanical Engineers — 300 Trolley Blvd., Rochester, NY 14606, T 585 288-5590
Jade Stone Engineering Electrical Engineers — 444 Vanduzee St., Watertown, NY 13601, T 315 836 4062
Watson Engineering Plumbing — 4500 State Route 434, Apalachin, NY 13732, T 607 223-4334
DM Engineers Fire Protection Engineers — 1007 Yonkers Ave, Yonkers, NY 10704, T 929 333-2339
Bell & Spina Building Envelope — 215 Wyoming Street S, Syracuse, NY 13204, T 315 488-0377
Environ. Design & Research Historic Preservation, Landscape, Civil Engineering — 217 Montgomery St, Suite 1000, Syracuse, NY 13202, T 315 471-0688
Schuler Shook Lighting Design — 240 W 40th Street, 2nd Floor, New York, NY 10018, T 212 439-5650
D2D Green Design Sustainability PH2 — 10 Hallenbeck Hill, East Greenbush, NY 12061, T 518 729-2967
Shen Milsom & Wilke Acoustics, IT, AV, Security — 417 Fifth Avenue, New York, NY 10016, T 212 725-6800
Watts Architects & Engineers Asbestos, Haz Mat — 95 Perry Street, Suite 300, Buffalo, NY 14203, T 716 206-5122
Hastings Consulting Building Code — 142 Hannon Rd, Holliston, MA 01746, T 508 397-8417
Ellana Cost Consulting — 32 Broadway, Suite 801, New York, NY 10004, T 212971-0936

Notes:

PHASE 1 | PHASE 2

Keyplan

Job Number 31909.00
Drawing By CCH
Checked By SAG
Filename
Date August 31, 2026

Revisions

B	Addendum 3	11/04/26

ELECTRICAL SCHEDULES

STATE OF NEW YORK — JAMES GARRISON — 109295 — LICENSED PROFESSIONAL ENGINEER

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Branch Panel: LNPL-21-1

Location: SYNTHETIC BIOLOGY LAB 202 | **Volts:** 120/208 Wye | **A.I.C. Rating:** 22kA
Supply From: | **Phases:** 3 | **Mains Type:** MLO
Mounting: Flush | **Wires:** 4 | **Mains Rating:** 225 A
Enclosure: Indoor | **MCB Rating:** 225 A

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	9-E11	20 A	1	0 VA	6240...					2	20 A	202F 208V RECEPTACLE	2
3	9-E11	20 A	1			0 VA	0 VA			--	--	--	4
5	202F RECEPTACLES & FUME HOOD	20 A	1					960 VA	1040...	2	20 A	9-E03	6
7	9-E13	20 A	1	600 VA	1040...					--	--	--	8
9	9-E13	20 A	1			600 VA	600 VA			1	20 A	9-E13	10
11	202E 208V RECEPTACLE	20 A	2					6240...	600 VA	1	20 A	9-E13	12
13	--	--	--	0 VA	960 VA					2	20 A	202D FUME HOOD	14
15	202D 208V RECEPTACLE	30 A	2			6240...	1040...			2	20 A	9-E04	16
17	--	--	--					0 VA	1040...	--	--	--	18
19	9-E10	20 A	1	600 VA	2080...					2	20 A	9-E09	20
21	202C 208V RECEPTACLE	30 A	2			6240...	2080...			--	--	--	22
23	--	--	--					0 VA	6240...	2	30 A	202C 208V RECEPTACLE	24
25	9-E07	20 A	2	2080...	0 VA					--	--	--	26
27	--	--	--			2080...	6240...			2	30 A	202A 208V RECEPTACLE	28
29	202B 208V RECEPTACLE	30 A	2					6240...	0 VA	--	--	--	30
31	--	--	--	0 VA	600 VA					1	20 A	9-E05	32
33	202A 208V RECEPTACLE	30 A	2			6240...	540 VA			1	20 A	LAB 202 RECEPTACLES	34
35	--	--	--					0 VA	720 VA	1	20 A	RECEPTS. - CYL STOR 202G	36
37	LAB 202 RECEPTACLES	20 A	1	360 VA	360 VA					1	20 A	LAB 202 RECEPTACLES	38
39	VAC PUMP CABINET - CHEMISTRY 202D	20 A	1			600 VA	360 VA			1	20 A	RECEPTS. - EQ. CORRIDOR 202E	40
41	202 FUME HOOD	20 A	1					600 VA	600 VA	1	20 A	VAC PUMP CABINET - LAB 202	42
43	LAB 202 RECEPTACLES	20 A	1	360 VA	360 VA					1	20 A	LAB 202 RECEPTACLES	44
45	VAC PUMP CABINET - CHEMISTRY 202D	20 A	1			600 VA	600 VA			1	20 A	VAC PUMP CABINET - EQ. CORRIDOR 202E	46
47	VAC PUMP CABINET - CULTURE 202B	20 A	1					600 VA	960 VA	1	20 A	202D FUME HOOD	48
49	LAB 202 RECEPTACLES	20 A	1	360 VA	960 VA					1	20 A	202E FUME HOOD	50
51	LAB 202 RECEPTACLES	20 A	1			540 VA	0 VA			1	20 A	Spare	52
53	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	54
			Total Load:	16960 VA		34600 VA		25840 VA					
			Total Amps:	141 A		300 A		227 A					

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Other	0 VA	0.00%	0 VA	**Total Conn. Load:** 77400 VA
Power	22080 VA	100.00%	22080 VA	**Total Est. Demand:** 54740 VA
Receptacle	55320 VA	59.04%	32660 VA	**Total Conn. Current:** 215 A
				Total Est. Demand Current: 152 A

Notes:

Branch Panel: LNPL-21-2

Location: SYNTHETIC BIOLOGY LAB 202 | **Volts:** 120/208 Wye | **A.I.C. Rating:** 22kA
Supply From: | **Phases:** 3 | **Mains Type:** MLO
Mounting: Flush | **Wires:** 4 | **Mains Rating:** 225 A
Enclosure: Indoor | **MCB Rating:** 225 A

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	Other	20 A	1	600 VA	540 VA					1	20 A	RECEPTS. - FLEX / MICROSCOPY 202A	2
3	VAC PUMP CABINET - LAB 202	20 A	1			600 VA	540 VA			1	20 A	RECEPTS. - FLEX / MICROSCOPY 202A	4
5	RECEPTS. - CULTURE 202B	20 A	1					540 VA	540 VA	1	20 A	RECEPTS. - FLEX / MICROSCOPY 202A	6
7	RECEPTS. - CULTURE 202B	20 A	1	720 VA	540 VA					1	20 A	RECEPTS. - EQUIPMENT 202C	8
9	RECEPTS. - EQUIPMENT 202C	20 A	1			540 VA	540 VA			1	20 A	RECEPTS. - EQUIPMENT 202C	10
11	Spare	20 A	1					0 VA	540 VA	1	20 A	RECEPTS. - CHEMISTRY 202D	12
13	Spare	20 A	1	0 VA	540 VA					1	20 A	RECEPTS. - CHEMISTRY 202D	14
15	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	16
17	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	18
19	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	20
21	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	22
23	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	24
25	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	26
27	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	28
29	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	30
31	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	32
33	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	34
35	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	36
37	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	38
39	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	40
41	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	42
43	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	44
45	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	46
47	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	48
49	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	50
51	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	52
53	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	54
			Total Load:	2940 VA		2220 VA		1620 VA					
			Total Amps:	25 A		19 A		14 A					

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Other	0 VA	0.00%	0 VA	**Total Conn. Load:** 6780 VA
Power	1200 VA	100.00%	1200 VA	**Total Est. Demand:** 6780 VA
Receptacle	5580 VA	100.00%	5580 VA	**Total Conn. Current:** 19 A
				Total Est. Demand Current: 19 A

Notes:

Branch Panel: LNPL-41-2

Location: BIODIVERSITY LAB 402 | **Volts:** 120/208 Wye | **A.I.C. Rating:** 22kA
Supply From: | **Phases:** 3 | **Mains Type:** MLO
Mounting: Flush | **Wires:** 4 | **Mains Rating:** 225 A
Enclosure: Indoor | **MCB Rating:** N/A

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	RECEPT. - CHEMISTRY 402C	20 A	1	180 VA	180 VA					1	20 A	RECEPT. - CULTURE 402D	2
3	RECEPT. - CULTURE 402D	20 A	1			180 VA	180 VA			1	20 A	RECEPT. - CULTURE 402D	4
5	RECEPT. - CULTURE 402D	20 A	1					180 VA	180 VA	1	20 A	RECEPT. - CULTURE 402D	6
7	RECEPT. - CULTURE 402D	20 A	1	180 VA	180 VA					1	20 A	RECEPT. - CULTURE 402D	8
9	RECEPT. - BIODIVERSITY LAB 402	20 A	1			0 VA	180 VA			1	20 A	RECEPT. - CULTURE 402D	10
11	RECEPT. - BIODIVERSITY LAB 402	20 A	1					180 VA	180 VA	1	20 A	RECEPT. - CULTURE 402D	12
13	RECEPT. - BIODIVERSITY LAB 402	20 A	1	180 VA	180 VA					1	20 A	RECEPT. - BIODIVERSITY LAB 402	14
15	Spare	20 A	1			0 VA	180 VA			1	20 A	RECEPT. - BIODIVERSITY LAB 402	16
17	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	18
19	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	20
21	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	22
23	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	24
25	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	26
27	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	28
29	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	30
31	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	32
33	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	34
35	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	36
37	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	38
39	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	40
41	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	42
43	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	44
45	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	46
47	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	48
49	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	50
51	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	52
53	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	54
			Total Load:	1080 VA		720 VA		720 VA					
			Total Amps:	9 A		6 A		6 A					

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Other	0 VA	0.00%	0 VA	**Total Conn. Load:** 2520 VA
Receptacle	2520 VA	100.00%	2520 VA	**Total Est. Demand:** 2520 VA
				Total Conn. Current: 7 A
				Total Est. Demand Current: 7 A

Notes:

Branch Panel: LNPL-32-1

Location: SOIL/PLANT LAB 319 | **Volts:** 120/208 Wye | **A.I.C. Rating:** 22kA
Supply From: | **Phases:** 3 | **Mains Type:** MLO
Mounting: Flush | **Wires:** 4 | **Mains Rating:** 225 A
Enclosure: Indoor | **MCB Rating:** N/A

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	8-E01	20 A	1	600 VA	1320...					1	20 A	8-E04	2
3	8-E02	20 A	1			1320...	1320...			1	20 A	8-E05	4
5	8-E03	20 A	1					600 VA	600 VA	1	20 A	8-E06F	6
7	8-E27 & 8-E28	20 A	1	972 VA	372 VA					1	20 A	8-E06B	8
9	8-E25 & 8-E26	20 A	1			1200...	372 VA			1	20 A	8-E06C	10
11	8-E06A	20 A	1					372 VA	1800...	1	20 A	8-E06D	12
13	8-E06E	20 A	1	372 VA	1500...					1	20 A	8-E09	14
15	8-E07	20 A	1			600 VA	1500...			1	20 A	8-E10	16
17	8-E08	20 A	1					600 VA	600 VA	1	20 A	8-E11	18
19	8-E14	20 A	1	600 VA	1800...					1	20 A	8-E20	20
21	8-E15	20 A	1			600 VA	1440...			1	20 A	8-E17	22
23	8-E21	20 A	1					1560...	600 VA	1	20 A	8-E23	24
25	8-E24	20 A	2	2496...	6240...					2	20 A	319B 208V RECEPTACLE	26
27	--	--	--			2496...	0 VA			--	--	--	28
29	319B 208V RECEPTACLE	20 A	2					6240...	6240...	2	20 A	319G 208V RECEPTACLE	30
31	--	--	--	0 VA	0 VA					--	--	--	32
33	319E 208V RECEPTACLE	30 A	2			6240...	1080...			1	20 A	RECEPTS. - SOIL/PLANT LAB 319	34
35	--	--	--					0 VA	1440...	1	20 A	RECEPTS. - SOIL/PLANT LAB 319	36
37	319G FUME HOOD	20 A	1	960 VA	1800...					1	20 A	RECEPTS. - SOIL/PLANT LAB 319	38
39	RECEPTS. - SOIL/PLANT LAB 319	20 A	1			1080...	1440...			1	20 A	RECEPTS. - SOIL/PLANT LAB 319	40
41	RECEPTS. - SOIL/PLANT LAB 319	20 A	1					1800...	1440...	1	20 A	RECEPTS. - SOIL/PLANT LAB 319	42
43	RECEPTS. - SOIL/PLANT LAB 319	20 A	1	1440...	1800...					1	20 A	RECEPTS. - SOIL/PLANT LAB 319	44
45	RECEPTS. - SOIL/PLANT LAB 319	20 A	1			1800...	1440...			1	20 A	RECEPTS. - SOIL/PLANT LAB 319	46
47	RECEPTS. - SOIL/PLANT LAB 319	20 A	1					1440...	1800...	1	20 A	RECEPTS. - SOIL/PLANT LAB 319	48
49	RECEPTS. - SOIL/PLANT LAB 319	20 A	1	1800...	0 VA					1	20 A	Spare	50
51	RECEPTS. - SOIL/PLANT LAB 319	20 A	1			1080...	0 VA			1	20 A	Spare	52
53	RECEPTS. - SOIL/PLANT LAB 319	20 A	1					1440...	0 VA	1	20 A	Spare	54
			Total Load:	24072 VA		25008 VA		28572 VA					
			Total Amps:	201 A		210 A		239 A					

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Other	0 VA	0.00%	0 VA	**Total Conn. Load:** 77652 VA
Power	28212 VA	100.00%	28212 VA	**Total Est. Demand:** 57932 VA
Receptacle	49440 VA	60.11%	29720 VA	**Total Conn. Current:** 216 A
				Total Est. Demand Current: 161 A

Notes:

Branch Panel: LNPL-22-2

Location: PLANT / SOIL / MICROBES LA... | **Volts:** 120/208 Wye | **A.I.C. Rating:** 10kA
Supply From: | **Phases:** 3 | **Mains Type:** MCB
Mounting: Flush | **Wires:** 4 | **Mains Rating:** 225 A
Enclosure: Indoor | **MCB Rating:** 225 A

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	7-E06	20 A	1	1200...	1200...					1	20 A	7-E15	2
3	7-E13	20 A	1			600 VA	600 VA			1	20 A	7-E14	4
5	7-E03	20 A	1					600 VA	600 VA	1	20 A	7-E16	6
7	7-E05	20 A	1	240 VA	240 VA					1	20 A	7-E09	8
9	7-E02	20 A	1			240 VA	1068...			1	20 A	7-E10 & 7-E11	10
11	7-E18	20 A	1					240 VA	228 VA	1	20 A	7-E07	12
13	RECEPTS. - PLANT/SOIL/MICROBES LAB 219	20 A	1	900 VA	360 VA					1	20 A	RECEPTS. - MICROSCOPY 219B	14
15	RECEPTS. - PLANT/SOIL/MICROBES LAB 219	20 A	1			1800...	540 VA			1	20 A	RECEPTS. - MICROSCOPY 219B	16
17	RECEPTS. - EQUIPMENT 219D	20 A	1					360 VA	540 VA	1	20 A	RECEPTS. - MICROSCOPY 219B	18
19	RECEPTS. - PLANT/SOIL/MICROBES LAB 219	20 A	1	1800...	1800...					1	20 A	RECEPTS. - PLANT/SOIL/MICROBES LAB 219	20
21	RECEPTS. - EQUIPMENT 2 219D	20 A	1			360 VA	540 VA			1	20 A	RECEPTS. - MOLECULAR LAB 219E	22
23	RECEPTS. - MOLECULAR LAB 219E	20 A	1					540 VA	540 VA	1	20 A	RECEPTS. - MOLECULAR LAB 219E	24
25	RECEPTS. - PLANT/SOIL/MICROBES LAB 219	20 A	1	1800...	1800...					1	20 A	RECEPTS. - PLANT/SOIL/MICROBES LAB 219	26
27	RECEPTS. - PLANT/SOIL/MICROBES LAB 219	20 A	1			1440...	360 VA			1	20 A	RECEPTS. - EQUIPMENT 1 219C	28
29	RECEPTS. - EQUIPMENT 1 219C	20 A	1					360 VA	360 VA	1	20 A	RECEPTS. - EQUIPMENT 1 219C	30
31	RECEPTS. - PLANT/SOIL/MICROBES LAB 219	20 A	1	1620...	540 VA					1	20 A	RECEPTS. - CULTURE 219F	32
33	RECEPTS. - PLANT/SOIL/MICROBES LAB 219	20 A	1			1080...	360 VA			1	20 A	219G FUME HOOD	34
35	RECEPTS. - PLANT/SOIL/MICROBES LAB 219	20 A	1					1260...	360 VA	1	20 A	RECEPTS. - PLANT/SOIL/MICROBES LAB 219	36
37	RECEPTS. - PLANT/SOIL/MICROBES LAB 219	20 A	1	360 VA	1440...					1	20 A	RECEPTS. - PLANT/SOIL/MICROBES LAB 219	38
39	RECEPTS. - PLANT/SOIL/MICROBES LAB 219	20 A	1			1440...	540 VA			1	20 A	RECEPTS. - CULTURE 219F	40
41	RECEPTS. - PLANT/SOIL/MICROBES LAB 219	20 A	1					1440...	540 VA	1	20 A	RECEPTS. - CULTURE 219F	42
43	RECEPT. - CHEMISTRY 219G	20 A	1	180 VA	240 VA					1	20 A	VAC PUMP CABINET - CHEMISTRY 219G	44
45	219G FUME HOOD	20 A	1			240 VA	360 VA			1	20 A	RECEPTS. - EQUIPMENT 2 219D	46
47	VAC PUMP CABINET - CHEMISTRY 219G	20 A	1					240 VA	360 VA	1	20 A	RECEPTS. - EQUIPMENT 2 219D	48
49	RECEPTS. - EQUIPMENT 2 219D	20 A	1	360 VA	0 VA					1	20 A	RECEPTS. - COLLAB 221	50
51	RECEPTS. - EQUIPMENT 1 219C	20 A	1			360 VA	0 VA			1	20 A	Spare	52
53	RECEPTS. - EQUIPMENT 1 219C	20 A	1					360 VA	0 VA	1	20 A	Spare	54
55	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	56
57	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	58
59	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	60
61	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	62
63	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	64
65	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	66
67	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	68
69	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	70
71	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	72
			Total Load:	16080 VA		11928 VA		8928 VA					
			Total Amps:	138 A		103 A		74 A					

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Other	0 VA	0.00%	0 VA	**Total Conn. Load:** 36936 VA
Power	8136 VA	100.00%	8136 VA	**Total Est. Demand:** 27536 VA
Receptacle	28800 VA	67.36%	19400 VA	**Total Conn. Current:** 103 A
				Total Est. Demand Current: 76 A

Notes:

Branch Panel: LNPL-32-2

Location: SOIL/PLANT LAB 319 | **Volts:** 120/208 Wye | **A.I.C. Rating:** 22kA
Supply From: | **Phases:** 3 | **Mains Type:** MLO
Mounting: Flush | **Wires:** 4 | **Mains Rating:** 225 A
Enclosure: Indoor | **MCB Rating:** 225 A

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	319G FUME HOOD	20 A	2	2496...	600 VA					1	20 A	VAC PUMP CABINET - LAB 319	2
3	--	--	--			2496...	600 VA			1	20 A	VAC PUMP CABINET - SOIL/PLANT LAB 319	4
5	RECEPTS. - MOLECULAR PLANT 302	20 A	1					360 VA	600 VA	1	20 A	VAC PUMP CABINET - LAB 319	6
7	RECEPTS. - FLEXIBLE 319B	20 A	1	540 VA	540 VA					1	20 A	RECEPTS. - FLEXIBLE 319B	8
9	RECEPTS. - FLEXIBLE 319B	20 A	1			720 VA	360 VA			1	20 A	RECEPTS. - MICROSCOPY 319C	10
11	RECEPTS. - MICROSCOPY 319C	20 A	1					360 VA	360 VA	1	20 A	RECEPTS. - MICROSCOPY 319CA	12
13	RECEPTS. - MICROSCOPY 319CA	20 A	1	540 VA	360 VA					1	20 A	RECEPTS. - EQUIPMENT 319D	14
15	RECEPTS. - EQUIPMENT 319D	20 A	1			360 VA	360 VA			1	20 A	RECEPTS. - EQUIPMENT 319D	16
17	RECEPTS. - EQUIPMENT 319D	20 A	1					360 VA	360 VA	1	20 A	RECEPTS. - EQUIPMENT 319D	18
19	RECEPTS. - SOIL/EQUIPMENT 319E	20 A	1	360 VA	360 VA					1	20 A	RECEPTS. - SOIL/EQUIPMENT 319E	20
21	RECEPTS. - SOIL/EQUIPMENT 319E	20 A	1			360 VA	180 VA			1	20 A	RECEPT. - SOILEQUIPMENT 319E	22
23	RECEPTS. - SOILEQUIPMENT 319E	20 A	1					360 VA	540 VA	1	20 A	RECEPTS. - TISSUE CULTURE 319F	24
25	RECEPTS. - TISSUE CULTURE 319F	20 A	1	540 VA	720 VA					1	20 A	RECEPTS. - CHEMISTRY 319G	26
27	RECEPTS. - TISSUE CULTURE 319F	20 A	1			720 VA	0 VA			1	20 A	Spare	28
29	RECEPTS. - CHEMISTRY 319G	20 A	1					540 VA	0 VA	1	20 A	Spare	30
31	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	32
33	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	34
35	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	36
37	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	38
39	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	40
41	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	42
43	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	44
45	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	46
47	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	48
49	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	50
51	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	52
53	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	54
			Total Load:	7056 VA		6156 VA		3840 VA					
			Total Amps:	62 A		54 A		32 A					

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Other	0 VA	0.00%	0 VA	**Total Conn. Load:** 17052 VA
Power	6792 VA	100.00%	6792 VA	**Total Est. Demand:** 16922 VA
Receptacle	10260 VA	98.73%	10130 VA	**Total Conn. Current:** 47 A
				Total Est. Demand Current: 47 A

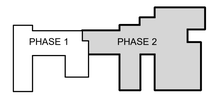
Notes:

RENOVATE PLANT SCIENCE BUILDING - PHASE 2
SUCF Project No. 161026-00
236 Tower Road
Ithaca, NY 14853

Cornell CALS College of Agriculture and Life Sciences
SUNY State University Construction Fund

Ellenzweig Architecture | Planning — 230 Congress Street, Boston, MA 02110, T 617 491-5575
Ryan Biggs Clark Davis Structural Engineers — 257 Ushers Road, Clifton Park, NY 12065, T 518 406-5506
Salas O'Brien Consulting & Engineering Group of NY, Inc. Mechanical Engineers — 300 Trolley Blvd. Rochester, NY 14606, T 585 288-5590
Jade Stone Engineering Electrical Engineers — 444 Vanduzee St. Watertown, NY 13601, T 315 836 4062
Watson Engineering Plumbing — 4500 State Route 434 Apalachin, NY 13732, T 607 223-4334
DM Engineers Fire Protection Engineers — 1007 Yonkers Ave Yonkers, NY 10704, T 929 333-2339
Bell & Spina Building Envelope — 215 Wyoming Street S Syracuse, NY 13204, T 315 488-0377
Environ. Design & Research Historic Preservation, Landscape, Civil Engineering — 217 Montgomery St, Suite 1000 Syracuse, NY 13202, T 315 471-0688
Schuler Shook Lighting Design — 240 W 40th Street, 2nd Floor New York, NY 10018, T 212 439-5650
D2D Green Design Sustainability PH2 — 10 Hallenbeck Hill East Greenbush, NY 12061, T 518 729-2967
Shen Milsom & Wilke Acoustics, IT, AV, Security — 417 Fifth Avenue New York, NY 10016, T 212 725-6800
Watts Architects & Engineers Asbestos, Haz Mat — 95 Perry Street, Suite 300 Buffalo, NY 14203, T 716 206-5122
Hastings Consulting Building Code — 142 Hanlon Rd Holliston, MA 01746, T 508 397-8417
Ellana Cost Consulting — 32 Broadway, Suite 801 New York, NY 10004, T 212971-0936

Notes:



Keyplan

Job Number 31909.00
Drawing By CCH
Checked By SAG
Filename
Date August 31, 2026

Revisions
B Addendum 3 11/04/26

ELECTRICAL SCHEDULES



BID DOCUMENTS
Scale:

E6.13

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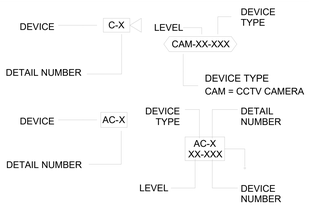
DRAWING LIST:

NUMBER	NAME
TY0.0	SECURITY COVER SHEET - PHASE 2
TY1.0	SECURITY GROUND FLOOR PLAN - PART C - PHASE 2
TY1.1	SECURITY FIRST FLOOR PLAN - PART C - PHASE 2
TY1.2	SECURITY SECOND FLOOR PLAN - PART C - PHASE 2
TY1.3	SECURITY THIRD FLOOR PLAN - PART C - PHASE 2
TY1.4	SECURITY FOURTH FLOOR PLAN - PART C - PHASE 2
TY3.0	SECURITY ENLARGED PLAN - PHASE 2
TY4.0	RISER DIAGRAM - PHASE 2
TY4.1	SECURITY DETAILS - PHASE 2
TY4.2	SECURITY DETAILS - PHASE 2
TY5.0	SECURITY DEVICE SCHEDULE - PHASE 2
TY5.1	SECURITY DEVICE SCHEDULE - PHASE 2
TY5.2	SECURITY VIDEO SURVEILLANCE CAMER SCHEDULE - PHASE 2

ABBREVIATIONS:

A - AMPERES
AC - ABOVE COUNTER
AFF - ABOVE FINISHED FLOOR
AWG - AMERICAN WIRE GAUGE
C - CONDUIT
CAT - CATALOG
CB - CIRCUIT BREAKER
CCTV - CLOSED CIRCUIT TELEVISION
CKT - CIRCUIT
CL - CENTER LINE
CLG - CEILING
COND - CONDUCTOR
CU - COPPER
DVR - DIGITAL VIDEO RECORDER
DWG - DRAWING
EC - EMPTY CONDUIT
EM - EMERGENCY
EX - EXISTING
FA - FIRE ALARM
FACP - FIRE ALARM CONTROL PANEL
G - GROUND
HC - HUNG CEILING
HZ - HERTZ
IDF - INTERMEDIATE DISTRIBUTION FRAME
JB - JUNCTION BOX
LV - LOW VOLTAGE
MAX - MAXIMUM
MDF - MAIN DISTRIBUTION FRAME
MER - MECHANICAL EQUIPMENT ROOM
MIN - MINIMUM
MTD - MOUNTED
MTG - MOUNTING
MTS - MANUAL TRANSFER SWITCH
N - NEUTRAL
NC - NORMALLY CLOSED
NIC - NOT IN CONTRACT
NO - NORMALLY OPEN
No. - NUMBER
NTS - NOT TO SCALE
PA - PUBLIC ADDRESS
PNL - PANEL
POE - POWER OVER ETHERNET
PTZ - PAN/TILT/ZOOM
RM - ROOM MTG - MOUNTING
MTS - MANUAL TRANSFER SWITCH
N - NEUTRAL
NC - NORMALLY CLOSED
NIC - NOT IN CONTRACT
NO - NORMALLY OPEN
No. - NUMBER
NTS - NOT TO SCALE
PA - PUBLIC ADDRESS
PNL - PANEL
POE - POWER OVER ETHERNET
PTZ - PAN/TILT/ZOOM
RM - ROOM
STP - SHIELDED TWISTED PAIR
XFRM - TRANSFORMER
TEL - TELECOMMUNICATIONS
TLR - TIME LAPSE RECORDER
TS - TAMPER SWITCH
TTB - TELECOM TERMINAL BOARD
TTC - TELECOM TERMINAL CABINET
TV - TELEVISION
TYP - TYPICAL
UON - UNLESS OTHERWISE NOTED
UPS - UNINTERRUPTIBLE POWER SUPPLY
UTP - UNSHIELDED TWISTED PAIR
V - VOLTS
VA - VOLT-AMPERES
VM - VOLTMETER
VP - VAPOR PROOF
W - WATTS
WP - WATERPROOF
WT - WATERTIGHT

EQUIPMENT SYMBOL & TAG DEFINITIONS:



RESPONSIBILITY MATRIX

Security Requirements	General Contractor (SUPPLIED BY:)	Owner (SUPPLIED BY:)	General Contractor (INSTALLED BY:)	Owner (INSTALLED BY:)	Specification Division Responsibility
Hardwired Locks / Integrated Locks	X		X		Division 08
Balance of Door Hardware (hinges/operators, etc)	X		X		Division 08
Security Low Voltage Cable	X		X		Division 28
Patch Cables (Fiber, Network)	X		X		Division 28
Fiber Cable for Analog Cameras	X		X		Division 28
Fiber Patch Panel	X		X		Division 28
Security Data Cable (IP)	X		X		Division 27
Security Data Outlets (IP)	X		X		Division 27
Cameras and Associated Video Surveillance Devices		X	X		Division 28
Access Control Card Readers and Associated Devices	X		X		Division 28
Conduit and Back Boxes	X		X		Division 16
Power & Power Receptacles	X		X		Division 16
Network Video Recorders		X		X	Owner
Network Switches		X		X	Owner
Security Low Voltage Power Supplies	X		X		Division 28
Door Contacts	X		X		Division 08

SECURITY ELECTRICAL NOTES:

01 RISER POWER (EMERGENCY CIRCUIT) ELECTRICAL CONTRACTOR TO PROVIDE A HARD WIRED CONNECTION TO A 120VAC 20A EMERGENCY CIRCUIT DEDICATED TO SECURITY IN EACH RISER LOCATION WITHIN A 4" X 4" BOX SURFACE MOUNTED 18" A.F.F. WITH WIRE ENDS TERMINATED AND INSULATED WITH WIRE NUTS

03 RISER POWER (NON-EMERGENCY CIRCUIT) ELECTRICAL CONTRACTOR TO PROVIDE A HARD WIRED CONNECTION TO A 120VAC 20A NON-EMERGENCY CIRCUIT DEDICATED TO SECURITY IN EACH RISER LOCATION WITHIN A 4" X 4" BOX SURFACE MOUNTED 18" A.F.F. WITH WIRE ENDS TERMINATED AND INSULATED WITH WIRE NUTS.

04 SECURITY CONTROL/EQUIPMENT ROOM POWER (EMERGENCY CIRCUIT) ELECTRICAL CONTRACTOR TO PROVIDE A HARD WIRED CONNECTION TO A 120VAC 20A UNINTERRUPTIBLE POWER CIRCUIT DEDICATED TO SECURITY WITHIN A 4" X 4" BOX SURFACE MOUNTED BEHIND THE CONSOLE/RACK AT 18" AFF WITH WIRE ENDS TERMINATED AND INSULATED WITH WIRE NUTS.

08 ELEVATOR SECURITY EQUIPMENT POWER (NON-EMERGENCY CIRCUIT) ELECTRICAL CONTRACTOR SHALL PROVIDE A HARD WIRED CONNECTIONS TO A 120VAC 20A NON-EMERGENCY CIRCUIT DEDICATED TO SECURITY IN THE ELEVATOR MACHINE ROOM(S) AS INDICATED ON THE DRAWINGS. TYPICAL LOAD FOR EACH CIRCUIT SHALL BE 10A. PROVIDE CONNECTION IN A SURFACE MOUNTED BOX MOUNTED AT 8' A.F.F. WITH WIRE ENDS TERMINATED AND INSULATED WITH WIRE NUTS

09 ELECTRIC EXIT DEVICE POWER (EMERGENCY CIRCUIT) ELECTRICAL CONTRACTOR SHALL PROVIDE A HARD WIRED CONNECTION TO A 120VAC 20A EMERGENCY CIRCUIT DEDICATED TO SECURITY AT DOORS UTILIZING ELECTRIC EXIT DEVICES PROVIDED WITHIN A 4" X 4" BOX MOUNTED ABOVE ACCESSIBLE CEILING ADJACENT TO THE DOOR OR AS SHOWN ON DRAWINGS WITH WIRE ENDS TERMINATED AND INSULATED WITH WIRE NUTS. MULTIPLE CONNECTIONS CAN BE BRANCHED OFF THIS CIRCUIT FOR ADDITIONAL ELECTRIC EXIT DEVICES BUT SHALL NOT EXCEED 10 CONNECTIONS TOTAL. EACH DEVICE'S ACTUAL LOAD SHALL BE 1.5A AT 120VAC.

11 SITE POWER (NON-EMERGENCY CIRCUIT) ELECTRICAL CONTRACTOR SHALL PROVIDE AN UN-SWITCHED DUPLEX OUTLET TO A 120VAC 20A NON-EMERGENCY CIRCUIT DEDICATED TO SECURITY. THE OUTLET SHALL BE WALL MOUNTED 12" AAF.

12 UPS POWER (EMERGENCY CIRCUIT) ELECTRICAL CONTRACTOR SHALL PROVIDE A HARD WIRED CONNECTION TO A 240VAC 65A EMERGENCY CIRCUIT DEDICATED TO SECURITY AS INDICATED ON THE DRAWINGS. THE CONNECTION SHALL BE PROVIDED WITHIN A 4" X 4" BOX SURFACE MOUNTED IN THE BACK OF THE SECURITY EQUIPMENT RACK, 18" A.F.F. AND SHALL HAVE WIRE ENDS TERMINATED AND INSULATED WITH WIRE NUTS.

13 SECURITY EMERGENCY CALL STATION POWER (EMERGENCY CIRCUIT) HARD WIRE TO 120VAC 20A CIRCUIT EMERGENCY CIRCUIT DEDICATED FOR EMERGENCY CALL STATIONS MOUNTING HT OF CALL BOX TO BE 36" AFF TO BOTTOM OF UNIT. POWER TO BE BROUGHT DOWN IN COLUMN TO 4" X 4" BOX TO ALIGN WITH 3/4" KO ON BACK OF UNIT. 5 UNITS CAN BE POWERED FROM SAME CIRCUIT.

15 ELECTRIC EXIT DEVICE POWER (NON-EMERGENCY CIRCUIT) ELECTRICAL CONTRACTOR SHALL PROVIDE A HARD WIRED CONNECTION TO A 120VAC 20A UN-SWITCHED CIRCUIT DEDICATED TO SECURITY AT DOORS UTILIZING ELECTRIC EXIT DEVICES PROVIDED WITHIN A 4" X 4" BOX MOUNTED ABOVE ACCESSIBLE CEILING ADJACENT TO THE DOOR OR AS SHOWN ON DRAWINGS WITH WIRE ENDS TERMINATED AND INSULATED WITH WIRE NUTS. MULTIPLE CONNECTIONS CAN BE BRANCHED OFF THIS CIRCUIT FOR ADDITIONAL ELECTRIC EXIT DEVICES BUT SHALL NOT EXCEED 10 CONNECTIONS TOTAL. EACH DEVICE'S ACTUAL LOAD SHALL BE 1.5A AT 120VAC.

J PROVIDE 4" X 4" X 2-1/4" DEEP BOX SURFACE MOUNTED ABOVE ACCESSIBLE CEILING UNLESS OTHERWISE NOTED.

J1 PROVIDE 6" X 6" X 4" DEEP BOX SURFACE MOUNTED ABOVE ACCESSIBLE CEILING UNLESS OTHERWISE NOTED.

J2 PROVIDE 10" X 10" X 4" DEEP BOX SURFACE MOUNTED ABOVE ACCESSIBLE CEILING UNLESS OTHERWISE NOTED.

J3 PROVIDE 12" X 12" X 6" DEEP BOX SURFACE MOUNTED ABOVE ACCESSIBLE CEILING UNLESS OTHERWISE NOTED.

J4 PROVIDE 16" X 16" X 8" DEEP BOX SURFACE MOUNTED ABOVE ACCESSIBLE CEILING UNLESS OTHERWISE NOTED.

J5 PROVIDE 20" X 20" X 8" DEEP BOX SURFACE MOUNTED ABOVE ACCESSIBLE CEILING UNLESS OTHERWISE NOTED.

SYMBOLS:

AC- X ACCESS CONTROL READER
ACP ACCESS CONTROL PANEL
ACS ACCESS CONTROL SERVER
AP ALARM PANEL
DVR DIGITAL VIDEO RECORDER
ECS EMERGENCY CALL STATION
GB- X GLASS BREAK SENSOR
IC- X INTERCOM
K FIRE RELAY (FOR LOCK RELEASE)
LA LOCAL ALARM
MC- X MAGNETIC CONTACT
MD- X MOTION DETECTOR
MON VIDEO SURVEILLANCE
NVR NETWORK VIDEO RECORDER
PB- X PUSH BUTTON
RE- X REQUEST TO EXIT
SR SECURITY RISER LOCATION
SI SIREN/SOUNDER
WS WORKSTATION
AC-EX ACCESS CONTROL READER - EXISTING
C-X CCTV CAMERA - FIXED
C-X CCTV CAMERA - PTZ
CCTV CAMERA - CEILING MOUNT
CCTV CAMERA - WALL MOUNT
CCTV CAMERA - CORNER MOUNT
CCTV CAMERA - CORNER MOUNT

GENERAL NOTES:

1. DRAWINGS ARE NOT TO BE USED FOR ARCHITECTURAL OR ENGINEERING PURPOSES. THE SECURITY DRAWINGS SHOULD ONLY BE USED FOR SECURITY SYSTEMS INSTALLATION AND COORDINATION.

2. ALL MOUNTING SPECIFICS SHALL BE AS INDICATED IN THE LEGEND UNLESS OTHERWISE NOTED IN THE SECURITY DRAWINGS. MOUNTING CONDITIONS IDENTIFIED ON THE SECURITY DRAWINGS SHALL TAKE PRECEDENCE OVER THE LEGEND DESACIPTIONS.

3. VERIFY AND COORDINATE THE EXACT MOUNTING LOCATION OF ALL DEVICES PRIOR TO INSTALLATION. COORDINATE WITH G-SERIES AND A-SERIES DRAWINGS, AND WITH OWNER AND ARCHITECT.

4. THE MOUNTING HEIGHTS ARE TO THE CENTERLINE OF THE DEVICE UNLESS OTHERWISE NOTED.

5. THE SECURITY CONTRACTOR SHALL RESTORE CEILINGS AND WALLS AND ANY OTHER SURFACES AFFECTED BY HIS WORK WITH LIKE MATERIALS TO MATCH EXISTING CONSTRUCTION UPON COMPLETION OF HIS WORK.

6. FIRE STOPPING OF ALL PENETRATIONS SHALL BE PROVIDED BY THE SECURITY CONTRACTOR AS REQUIRED BY CODE. ALL SLABS ARE 2-HR RATED. COORDINATE WITH G-SERIES.

7. ALL DEVICES, WIRING, TERMINATIONS, AND OTHER REQUIRED ROUGH-INS ARE TO BE PROVIDED BY THE SECURITY CONTRACTOR.

8. COORDINATE ALL EXTERIOR CAMERA LOCATIONS WITH THE LANDSCAPE TO ENSURE THAT CAMERA VIEW ARE NOT OBSTRUCTED.

SECURITY CONDUIT AND WIRING NOTES:

1. ALL CONDUIT AND BACKBOXES SHALL CONFORM TO BUILDING STANDARD ELECTRICAL SPECIFICATIONS. ALL CABLES SHALL BE PLENUM RATED WHERE REQUIRED.

2. ALL CONDUIT SHALL BE 3/4" UNLESS OTHERWISE NOTED.

3. ALL CONDUIT USED IN POTENTIALLY DAMP OR WET LOCATIONS, EXPOSED OUTDOORS, OR IN HAZARDOUS AREAS SHALL BE INTERMEDIATE STEEL CONDUIT (IMC). ALL EXTERIOR CONDUIT IN SLAB SHALL BE PVC. ALL CONDUIT OTHER THAN SPECIFIED TO BE IMC OR PVC SHALL BE ELECTRICAL METALLIC TUBING (EMT).

4. ALL CONDUIT SHALL BE ROUTED ABOVE CEILINGS, BELOW FLOORS, OR WITHIN WALLS. NO CONDUIT SHALL BE EXPOSED UNLESS APPROVED BY THE ARCHITECT.

5. PROVIDE PULL STRINGS IN ALL CONDUIT AND PULLBOXES AS REQUIRED. ALL CONDUITS SHALL HAVE PLASTIC BUSHINGS INSTALLED AT OPEN ENDS PRIOR TO PULLING WIRE.

6. ALL BACKBOXES SHALL BE FLUSH MOUNTED UNLESS OTHERWISE NOTED.

7. ALL BACKBOXES MOUNTED WITHIN FIRE RATED PARTITIONS SHALL MEET THE FIRE RATING OF THE PARTITION AS REQUIRED BY CODE.

8. COORDINATE THE EXACT LOCATION OF ALL PULL AND BACKBOXES WITH ARCHITECTURAL, ELECTRICAL, AND MECHANICAL DRAWINGS.

9. ALL JUNCTION AND PULLBOXES SHALL BE PROVIDED WITH ACCOMPANYING BLANK COVER PLATE.

10. JUNCTION BOXES LOCATED ABOVE DOORS WITH NO ACCESSIBLE CEILING SHALL BE SECURED WITH TAMPER PROOF SCREWS.

11. PROVIDE WATERTIGHT SEALING ASSEMBLIES WITH PRESSURE BUSHING AS REQUIRED FOR EXTERIOR PENETRATIONS.

12. JUNCTION AND PULLBOXES IN EXTERIOR LOCATIONS SHALL BE WATERPROOF.

13. ALL CABLE RUNS IN CEILING AREAS WHERE CONDUIT OR CABLE TRAY IS NOT SPECIFIED SHALL BE SUPPORTED WITH SIMILAR SUPPORT OR WITH THE USE OF J-HOOKS AT 5' INTERVALS ABOVE CEILING TILES.

14. COORDINATE WITH ELECTRICAL CONTRACTOR FOR SECURITY DEVICE AND CONTROL PANEL POWER REQUIREMENTS.

15. WIRE SHEATH SHALL BE MAINTAINED TO FINAL TERMINATION. ALL TERMINATIONS SHALL MAINTAIN TWIST OF INDIVIDUAL PAIRS TO WITHIN 0.5" OR LESS OF FINAL TERMINATION. ALL WIRES SHALL BE LABELED WITHIN 6.5" OF FINAL TERMINATION. ALL LABELS SHALL BE MACHINE PRINTED OR STENCILED. NO HAND LETTERED LABELS SHALL BE USED.

16. ANY CONDUIT ROUTING SHOWN IS SCHEMATIC AND IS NOT INTENDED TO REPRESENT INSTALLED PATHS OR DISTANCES. ACTUAL ROUTING AND BOX LOCATIONS SHALL BE FIELD VERIFIED AND COORDINATED WITH OTHER DISCIPLINES BY THE INSTALLING CONTRACTOR.

SECURITY DEVICE NOTES:

1. ALL DEVICES, WIRING, TERMINATION AND OTHER REQUIRED ROUGH-IN, ARE TO BE PROVIDED BY THE SECURITY CONTRACTOR.

2. ALL SECURITY DEVICES ARE TO BE PROVIDED BY THE SECURITY CONTRACTORS UNLESS OTHERWISE NOTED ON RESPONSIBILITY MATRIX.

3. PROVIDE 4" X 4" X 2-1/4" DEEP BOX WITH SINGLE GANG DEVICE RING JB FLUSH MOUNTED 48" A.F.F WITH 3 /4" CONDUIT STUBUP TO J1 BY ELECTRICAL CONTRACTOR.

4. STUB 3/4" CONDUIT OR GREENFIELD DOWN DOOR FRAME ON THE HINGE SIDE OF THE DOOR BACK BOX EL TO JUNCTION BOX J1 LOCATED ABOVE ACCESSIBLE CEILING, BY ELECTRICAL CONTRACTOR.

5. STUB 3/4" CONDUIT OR GREENFIELD DOWN DOOR FRAME ON THE STRIKE SIDE OF THE DOOR ES TO JUNCTION BOX J1 LOCATED ABOVE ACCESSIBLE CEILING, BY ELECTRICAL CONTRACTOR.

6.GC TO COORDINATE WORK FOR ALL TRADES.

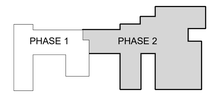
RENOVATE PLANT SCIENCE BUILDING - PHASE 2
SUCF Project No. 161026-00
236 Tower Road
Ithaca, NY 14853

Cornell CALS College of Agriculture and Life Sciences

SUNY State University Construction Fund

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Salas O'Brien Consulting & Engineering Group of NY, Inc. Mechanical Engineers	300 Trolley Blvd. Rochester, NY 14606 T 585 288-5590
Jade Stone Engineering Electrical Engineers	444 Vanduzee St. Watertown, NY 13601 T 315 836 4062
Watson Engineering Plumbing	4500 State Route 434 Apalachin, NY 13732 T 607 223-4334
DM Engineers Fire Protection Engineers	1007 Yonkers Ave Yonkers, NY 10704 T 929 333-2339
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Notes:



Keyplan

Job Number 161026-00 / 31909
Drawing By Author
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Date August 31, 2026

Revisions
B ADDENDUM NO. 3 11/02/2026

SECURITY COVER SHEET - PHASE 2

BID DOCUMENTS
Scale: 12" = 1'-0"

TY0.0

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DRAWING LIST:

NUMBER	NAME
TA0.1	AUDIOVISUAL COVER SHEET - PHASE 2
TA1.0	AUDIOVISUAL GROUND FLOOR PLAN - PART C - PHASE 2
TA1.1	AUDIOVISUAL FIRST FLOOR PLAN - PART C - PHASE 2
TA1.2	AUDIOVISUAL SECOND FLOOR PLAN - PART C - PHASE 2
TA1.3	AUDIOVISUAL THIRD FLOOR PLAN - PART C - PHASE 2
TA1.4	AUDIOVISUAL FOURTH FLOOR PLAN - PART C - PHASE 2
TA3.0	AUDIOVISUAL ENLARGED PLANS - PHASE 2
TA3.1	AUDIOVISUAL ENLARGED PLANS - PHASE 2
TA3.2	AUDIOVISUAL ENLARGED PLANS - PHASE 2
TA3.3	AUDIOVISUAL ENLARGED PLANS - PHASE 2
TA4.0	AUDIOVISUAL ELEVATIONS - PHASE 2
TA5.0	AUDIOVISUAL RISER DIAGRAMS - PHASE 2
TA5.1	AUDIOVISUAL RISER DIAGRAMS - PHASE 2
TA6.0	AUDIOVISUAL SYSTEMS LINE DIAGRAM - PHASE 2
TA6.1	AUDIOVISUAL SYSTEMS LINE DIAGRAM - PHASE 2
TA6.2	AUDIOVISUAL SYSTEMS LINE DIAGRAM - PHASE 2
TA6.3	AUDIOVISUAL SYSTEMS LINE DIAGRAM - PHASE 2
TA6.4	AUDIOVISUAL SYSTEMS LINE DIAGRAM - PHASE 2
TA7.0	AUDIOVISUAL DETAILS - PHASE 2
TA7.1	AUDIOVISUAL DETAILS - PHASE 2

ABBREVIATIONS:

A AMPERES
AC ABOVE COUNTER
AFC AT FINISHED CEILING
AFF ABOVE FINISHED FLOOR
AFP ABOVE FINISHED PLATFORM OR RAISED FLOOR
AS ABOVE SLAB
ATS ABOVE TABLE SURFACE
AV AUDIOVISUAL
AWG AMERICAN WIRE GAGE

C CONDUIT
CAT-3 TIA/EIA CATEGORY 3 RATED
CAT-5E TIA/EIA CATEGORY 5E RATED
CAT-6A TIA/EIA CATEGORY 6A RATED
CAT-6E TIA/EIA CATEGORY 6E RATED
CB CEILING BOX
CCTV CLOSED CIRCUIT TELEVISION
CKT CIRCUIT
COAX COAXIAL CABLE
CL CENTER LINE
COND CONDUCTOR
CLG CEILING
CP CONSOLIDATION POINT
CU COPPER

DVR DIGITAL VIDEO RECORDER
DWG DRAWING

EC CONDUCTOR
EM EMERGENCY
EMT ELECTRICAL METALLIC TUBING (W/ PULL STRING
EC EMPTY CONDUIT
EX EXISTING

F/UTP FOILED/UNSHIELDED TWISTED PAIR
FA FIRE ALARM
FACP FIRE ALARM CONTROL PANEL
FB FLOOR BOX
FO FIBER OPTIC
FP FLAT PANEL

GND GROUND

HC HUNG CEILING
HZ HERTZ

ID INSIDE DIAMETER
IDF INTERMEDIATE DISTRIBUTION FRAME

LAN LOCAL AREA NETWORK
LV LOW VOLTAGE

MAX MAXIMUM
MER MECHANICAL EQUIPMENT ROOM
MC MAIN CROSS CONNECT
MIC MICROPHONE
MDF MAIN DISTRIBUTION FRAME
MH MANHOLE
MIN MINIMUM
MM MULTIMODE
MTD MOUNTED
MTER MAIN TELECOMMUNICATIONS EQUIPMENT ROOM

N NEUTRAL
NC NORMALLY CLOSED
NIC NOT IN CONTRACT
NID NETWORK INTERFACE DEVICE
NTS NOT TO SCALE
NO NORMALLY OPEN
NO. NUMBER

OD OUTSIDE DIAMETER
OFE OWNER FURNISHED EQUIPMENT
OSP OUTSIDE PLANT

PA PUBLIC ADDRESS
PP PATCH PANEL
PB PULLBOX
PR PAIR
PBX PRIVATE BRANCH EXCHANGE
PNL PANEL
POE POWER OVER ETHERNET
PRJ PROJECTOR
PTZ PAN/TILT/ZOOM

RM ROOM
RW RACEWAY

SC SCREW COVER BOX
SB SPEAKER BACK BOX
SM SINGLE MODE
SP SPEAKER
ST STRAND
STP SHIELDED TWISTED PAIR

TBD TO BE DETERMINED
TEMP TEMPORARY
TGB TELECOMMUNICATIONS GROUND BAR
TR TELECOMMUNICATIONS ROOM
TS TAMPER SWITCH
TSER TELECOMMUNICATIONS SERVICE ENTRANCE ROOM
TV TELEVISION
TYP TYPICAL

UON UNLESS OTHERWISE NOTED
UPS UNINTERRUPTIBLE POWER SUPPLY
UTP UNSHIELDED TWISTED PAIR

VA VOLT/AMPERES
VIF VERIFY IN FIELD
VM VOLTMETER
VOIP VOICE OVER INTERNET PROTOCOL
VP VAPOR PROOF

W WATTS
WAN WIDE AREA NETWORK
WAP WIRELESS ACCESS POINT
WM WIRE MANAGEMENT
WP WATERPROOF
WS WORKSTATION
WT WATER TIGHT
WW WIREWAY

XFRM TRANSFORMER

GENERAL NOTES:

1. DRAWINGS AND ASSOCIATED SPECIFICATIONS ARE INTENDED TO REPRESENT OVERALL DESIGN INTENT.

2. POWER AND DATA REQUIREMENTS SHOWN FOR REFERENCE ONLY AND ARE NOT FOR CONSTRUCTION. COORDINATE WITH ELECTRICAL ENGINEER, ARCHITECT AND TELECOM DESIGNER DRAWINGS FOR LOCATION OF ALL OUTLETS IN THIS DRAWING SET.

3. WHERE POWER CIRCUITS ARE SHOWN TERMINATING IN JUNCTION BOXES WITHOUT RECEPTACLES, THE WIRES SHALL BE TAPED AND THE BOXES COVERED. THESE CIRCUITS WILL BE CONNECTED BY OTHERS DURING INSTALLATION OF THE AV SYSTEMS EQUIPMENT.

4. EMPTY CONDUIT RUNS ON THESE DRAWINGS SHOW ONLY INTERCONNECTION BETWEEN TERMINATION POINTS. THE EXACT PATH OF CONDUIT IS TO BE DETERMINED BY THE COORDINATE PATHWAYS FOR ALL AV RELATED DEVICES WITH ARCHITECTURAL AND ELECTRICAL PLANS.

5. HIGH LEVEL/HIGH CURRENT FEEDS (SUCH AS FOR POWER DISTRIBUTION PANELS, LIGHTING, AND BRANCH CIRCUITS,) ARE NOT TO BE RUN PARALLEL WITH AUDIO/VIDEO CONDUITS OR CABLING. IF HIGH LEVEL/HIGH CURRENT FEEDS MUST RUN PARALLEL TO AUDIO/VIDEO CONDUITS OR CABLING, MINIMUM SEPARATION MUST BE MAINTAINED ACCORDING TO THE FOLLOWING TABLE. "NA" INDICATES THAT THE USE SHOULD BE AVOIDED. SPACINGS ASSUME THAT POWER CONDUCTORS WILL NOT BE TWISTED PAIRS. CLOSER SPACINGS CAN BE USED IF POWER CONDUCTORS ARE TWISTED PAIRS.

MINIMUM ACCEPTABLE DISTANCE BETWEEN PARALLEL AV AND POWER CONDUITS

AV CONDUIT	POWER CONDUIT	COMBINED AMPACITY OF ALL PHASE CONDUCTORS IN POWER CONDUIT				
		UNDER 60A	60A	120A	240A	400A
EMT	EMT	2 FT.	3 FT.	4 FT.	NA	NA
EMT	RIGID STEEL	4 IN.	8 IN.	1 FT.	2 FT.	4 FT.
RIGID STEEL	RIGID STEEL	1 IN.	2 IN.	4 IN.	8 IN.	16 IN.

6. NO LARGE POWER TRANSFORMERS OR MOTORS SHOULD BE LOCATED WITHIN 50 FEET OF AV EQUIPMENT SPACES.

7. ALL AV CABLING THAT IS RUN OPEN-WIRE SHALL BE SUPPORTED FROM J-HOOKS NO GREATER THAN 3 FEET APART. NO CABLE IS TO BE UNSUPPORTED OR LAID OVER CEILING TILES, BLACK IRON, OR OTHER CEILING MEMBERS.

8. THE METHOD OF INSTALLATION OF BOXES IN WALLS, AND THE METHOD OF PASSAGE OF CONDUITS AND WIREWAYS THROUGH ACOUSTICALLY SENSITIVE WALLS SHALL BE COORDINATED WITH THE ACOUSTICAL CONSULTANT.

9. INSTALL FIRESTOP TO ALL SLAB AND WALL PENETRATIONS PROVIDED FOR THE INSTALLATION OF CABLE AND CONDUIT AS REQUIRED TO MAINTAIN FIRE RATING OF SLAB OR WALL. REVIEW ARCHITECT'S PLANS FOR PARTITION TYPES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE FIRE RATING OF ALL WALLS AND FLOORS HAVING CABLING PENETRATIONS, COORDINATE SEALANT INSTALLATION WITH WORK OF OTHER TRADES. REFER TO ELECTRICAL SPECIFICATIONS FOR MATERIAL AND INSTALLATION PARAMETERS.

10. ALL POWER, WIREWAYS, AND JUNCTION BOXES ARE TO BE REVIEWED BY ELECTRICAL ENGINEER FOR CODE AND SAFETY COMPLIANCE.

11. ALL OVERHEAD RIGGING REQUIREMENTS ARE TO BE REVIEWED AND STAMPED FOR APPROVAL BY LICENSED STRUCTURAL ENGINEER FOR CODE AND SAFETY COMPLIANCE.

12. POWER BREAKER AND DISTRIBUTION PANELS ARE SIZED AND SPECIFIED BY THE ELECTRICAL ENGINEER.

13. ALL CABLE TRAY THAT IS SURFACE-MOUNTED ON SLAB BELOW RAISED FLOOR OR ABOVE EQUIPMENT RACKS SHALL BE SECURELY FASTENED AND LEFT OPEN FOR CABLE ACCESS.

14. POWER FOR AV AND RELATED SYSTEMS SHALL USE AN EIA/TIA 607 COMPLIANT GROUNDING SYSTEM, DESIGNED BY THE ELECTRICAL ENGINEER. REFER TO AV DETAIL SHEETS FOR ADDITIONAL GROUNDING REQUIREMENTS IF APPLICABLE.

15. ALL AV-RELATED EMPTY CONDUIT SHALL BE REAMED, CLEANED, CAPPED (WHERE APPROPRIATE), TAGGED, AND FURNISHED WITH PULL WIRES.

16. WHERE EXACT DIMENSIONS ARE NOT INDICATED, THE SCALE OF THIS DRAWING IS NOT SUFFICIENTLY ACCURATE FOR DETERMINING THE LOCATION OF EQUIPMENT, JUNCTION BOXES, OUTLET BOXES, WIREWAYS, PANELS, ETC. WHERE EXACT DIMENSIONS ARE INDICATED, THE REFERENCE SURFACE SHALL BE THE FINAL FINISHED SURFACE INCLUDING ANY ACOUSTICAL TREATMENT. ROOM DIMENSIONS ON THE DRAWINGS HAVE BEEN TAKEN FROM PRELIMINARY ARCHITECTURAL DRAWINGS. ALL DIMENSIONS MUST BE VERIFIED AND ANY DEVIATIONS CAUSING CHANGES MUST BE COORDINATED WITH SHEN MILSOM & WILKE, LLC.

17. NOTIFY OWNER'S REPRESENTATIVES OF ANY DISCREPANCIES BETWEEN THE EXISTING CONDITIONS AND THE AV DRAWINGS. OBTAIN CLARIFICATION BEFORE PROCEEDING WITH WORK.

18. ALL AV DEVICES SHALL BE SECURELY MOUNTED PLUMB AND STRAIGHT TO WALLS, FLOORS, OR RACKS PER THE MANUFACTURER'S RECOMMENDED MOUNTING PRACTICE.

19. THERE SHALL BE A MINIMUM OF ONE PULL BOX FOR EVERY 100' OF STRAIGHT EMPTY AV-RELATED CONDUIT AND ONE PULL BOX WHERE THERE ARE MORE THAN TWO 90° BENDS OR LESSER BENDS TOTALING 180° IN A CONDUIT RUN.

20. MAINTAIN MINIMUM BEND RADIUS OF 10X OD FOR ALL AV-RELATED CONDUITS.

21. LIGHTING DESIGNER TO PROVIDE LIGHTING ON A SEPARATE DIMMING ZONE AT THE SCREEN/DISPLAY DEVICE TO ENSURE GOOD CONTRAST AND IMAGE SHARPNESS.

22. AV CONTRACTOR SHALL RESTORE CEILINGS, WALLS AND ANY OTHER SURFACES AFFECTED BY THEIR WORK PRIOR TO COMPLETION OF WORK WITH LIKE MATERIALS TO MATCH EXISTING CONSTRUCTION.

23. REFER TO AV ELECTRICAL PLANS AND/OR RISER DIAGRAMS FOR EMPTY CONDUIT SIZING.

24. ALL POWER CIRCUITS INDICATED IN THIS DRAWING SET TO BE PROVIDED BY DEDICATED BREAKER PANEL(S). NO NON-AV CIRCUITS TO BE FED FROM DEDICATED AV BREAKER PANEL(S).

25. POWER FOR ALL AV SERVICES IN EACH DESIGNATED SPACE SHALL BE ON THE SAME ELECTRICAL PHASE, AND THIS PHASE SHALL NOT INCLUDE MOTORS, APPLIANCES, OR ANY OTHER SOURCE THAT CAN CAUSE SIGNAL INTERFERENCE.

26. GROUNDING: GROUND COMMUNICATIONS SYSTEMS AND EQUIPMENT IN ACCORDANCE WITH ANSI/TIA/EIA-807 GROUNDING STANDARDS AND APPLICABLE NEC REQUIREMENTS EXCEPT WHERE DRAWINGS OR SPECIFICATIONS EXCEED NEC REQUIREMENTS. ALL RACKS, METALLIC BACKBOARDS, CABLE SHEATHS, CABLE TRAYS, ETC. ENTERING OR RESIDING IN TECHNICAL EQUIPMENT SPACES SHALL BE GROUNDED TO THEIR RESPECTIVE GROUND SYSTEM USING A MINIMUM OF #6 AWG STRANDED COPPER BONDING CONDUCTOR AND COMPRESSOR CONNECTORS. ALL WIRES USED FOR TECHNICAL POWER SYSTEMS GROUNDING PURPOSES SHALL BE IDENTIFIED WITH GREEN INSULATION OR IDENTIFIED AT EACH TERMINATION POINT WITH A WRAP OF GREEN TAPE. ALL CABLES AND BUS BARS SHALL BE IDENTIFIED AND LABELED "TECHNICAL POWER SYSTEM GROUND". CONDUIT STUBS: PROVIDE NYLON BUSHING ON ALL CONDUIT STUBS AND NON-TERMINATING CONDUIT ENDS TO PROTECT WIRE PULLS.

27. JUNCTION BOX COVERS: UNLESS OTHERWISE NOTED, ALL JUNCTION BOXES MUST BE PROVIDED WITH A COVER WHERE RAISED DEVICE COVERS ARE SPECIFIED, MATCH COVER DEPTH TO WALL THICKNESS. WHERE JUNCTION BOXES ARE MOUNTED AT OR ABOVE FINISHED CEILING HEIGHT, INSTALL JUNCTION BOXES WITH OPEN SIDE FACING DOWN.

28. POWER RECEPTACLES: TECHNICAL POWER RECEPTACLES, INCLUDING THOSE WITHIN FLOOR BOXES, WALL BOXES, OR CEILING BOXES, SHALL BE PROVIDED BY THE BUILDING CONTRACTOR AND APPEAR ON THE ELECTRICAL DRAWINGS. TECHNICAL POWER RECEPTACLES IN RELATION TO TECHNOLOGY INFRASTRUCTURE IS CRITICAL. REFER TO THE ELECTRICAL DRAWINGS FOR COMPLETE POWER LAYOUTS AND CIRCUITING DETAILS.

29. NETWORK OUTLETS FOR AUDIOVISUAL SYSTEMS: ALL NETWORK OUTLETS SHALL APPEAR ON THE NETWORK DRAWINGS. NETWORK SERVICES APPEARING ON THE AUDIOVISUAL DRAWINGS ARE REPRESENTATIVE OF NETWORK CONNECTIVITY REQUIREMENTS IN SUPPORT OF AUDIOVISUAL SYSTEMS, AS THE LOCATION OF NETWORK SERVICES IN RELATION TO TECHNOLOGY INFRASTRUCTURE IS CRITICAL. REFER TO THE STRUCTURED CABLING SYSTEM SPECIFICATIONS AND DRAWINGS FOR ADDITIONAL INFORMATION.

ROOM READY:

PLEASE FIND THE BELOW GUIDE TO REVIEW THE CONDITION OF THE AV CONFERENCE ROOMS PRIOR TO DELIVERY AND INSTALLATION OF THE MULTIMEDIA SYSTEMS. THE MULTIMEDIA SYSTEMS ARE DELIVERED AFTER THE ROOMS ARE 'READY' TO ENSURE A PROPER AND SECURE INSTALLATION OF THE MULTIMEDIA EQUIPMENT.

1. ALL CONSTRUCTION IN THE CONFERENCE ROOM IS COMPLETE, INCLUDING:
   A. ALL ASSOCIATED ROOMS ARE FREE OF DEBRIS AND IS CLEAN
   B. ALL WALLS ARE COMPLETE WITH ANY BLOCKING, FABRIC WALL COVERINGS OR PAINT AS REQUIRED
   C. CEILINGS ARE COMPLETE AND CLOSED
   D. FLOOR FINISHES/CARPET IS INSTALLED
   E. ALL DOORS ARE INSTALLED AND KEYS/LOCKS PROVIDED
   F. ALL LIGHTING IS INSTALLED AND PROGRAMMED, IF CONTROLLABLE

2 ALL ELECTRICAL WORK RELATED TO THE AV SYSTEM IS COMPLETE, INCLUDING:
   A. INSTALLATION OF ALL CONDUIT, FLOOR BOXES, PULL BOXES, WIRE WAYS, ETC.
   B. INSTALLATION OF ALL 120V CIRCUITS IS COMPLETE
   C. INSTALLATION OF ALL TABLE AND FURNITURE RELATED POWER AND PULL BOXES ARE COMPLETE

3 ALL WINDOW TREATMENTS ARE INSTALLED AND PROGRAMMED, IF CONTROLLABLE

4 ALL PHONE, BRI, LAN CONNECTIONS ARE LIVE AND CHANNEL TESTED
   A. ALL CABLES AND BOXES MUST BE LABELED AND MATCH MULTIMEDIA TELECOM SHEET
   B. ALL LAN CONNECTIONS MUST BE TESTED AND CONFIGURED PER THE MULTIMEDIA TELECOM SHEET

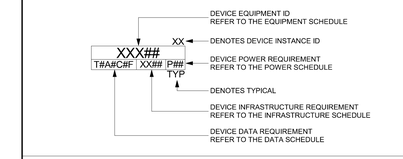
5. THE CONFERENCE ROOM TABLE AND CREDENZA ARE INSTALLED AND CUTOUTS FOR VENTILATION CONFIRMED

Responsibility Legend	General Contractor	Owner	General Contractor	Owner	Specification Division Responsibility
AV SCOPE OF WORK	SUPPLIED BY:		INSTALLED BY:		
IN-WALL BLOCKING SUPPORT FOR AV MOUNTS	X		X		Division 27
WALL AND CEILING SPEAKER CUTOUTS	X		X		Division 27
FURNITURE CUTOUTS FOR AV EQUIPMENT (UNLESS PROVIDED BY FURNITURE PROVIDER)	X		X		Division 12 / 27
KINDORF AND/OR BLACK IRON AS REQUIRED FOR CEILING MOUNTED AV DEVICES	X		X		Division 27
CABLE CONTAINMENT INCLUDING:					
- CONDUIT WITH MEASURED PULLSTRINGS	X		X		Division 27
- CABLETRAY, LADDERTRAY, AND WIREWAYS	X		X		Division 27
- FLOORBOXES	X		X		Division 27
- JUNCTION BOXES, PULL BOXES, AND BACKBOXES	X		X		Division 27
POWER OUTLETS	X		X		Division 26
DEDICATED DISTRIBUTION PANELS, LOAD CENTERS, AND POWER ISOLATION TRANSFORMERS	X		X		Division 26
AV CABLING (LOW VOLTAGE)		X		X	Division 27
AV TERMINATIONS		X		X	Division 27
CUSTOM ENGRAVED AV COVER PLATES		X		X	Division 27
J-HOOKS AND OTHER SUPPORTS REQUIRED FOR OPEN-RUN AV CABLING	X		X		Division 27
AV DEVICE WALL MOUNTS		X		X	Division 27
AV DEVICES (AS DESCRIBED IN THE AV BID DOCS)		X		X	Division 27
VOICE/DATA NETWORK CABLING (FIBER AND TWISTED PAIR)	X		X		Division 27
VOICE/DATA COVER PLATES		X	X		Division 27
CATV CABLING	X		X		Division 27
LIGHTING & SHADE CONTROL INTERFACE	X		X		Division 26

ADDITIONAL RESPONSIBILITY NOTES:

- THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING ADEQUATE QUANTITIES OF OWNER-FURNISHED MATERIALS ("OFCI") THAT THE CONTRACTOR WILL INSTALL TO COMPLETE THE SCOPE INCLUDED IN THE DRAWINGS AND SPECIFICATIONS AND PROVIDE THIS QUANTITY INFORMATION TO THE OWNER. THE CONTRACTOR WILL RETURN ANY UN-USED MATERIALS TO THE OWNER.

SYMBOL LEGEND:



NETWORK SYMBOL KEY:

LETTER	DESCRIPTION	DESTINATION	CABLE TYPE
T	CLIENT NETWORK DATA	REFER TO TT DRAWINGS	REFER TO TT DRAWINGS
A	AV NETWORK DATA	NEAREST AV RACK ROOM	REFER TO NETWORK SCHEDULE
C	CABLE TV DROP	REFER TO TT DRAWINGS	CATV, REFER TO TT DRAWINGS
F	CLIENT NETWORK FIBER	REFER TO TT DRAWINGS	REFER TO TT DRAWINGS

AUDIOVISUAL EQUIPMENT SCHEDULE - PHASE 2

DEVICE ID	TYPE
AST01	ASSISTIVE LISTENING IR EMITTER
AVP02	AV WALL PLATE
CAM01	PTZ VIDEO CAMERA
FBR-BOX	FIBER SPOOL BOX
FD01	AV FLOOR DEVICE
FD02	AV FLOOR DEVICE
FPD03	<varies>
FPD03-DS	FLAT PANEL DISPLAY - 55", MOUNTED ON FREE STANDING DISPLAY STAND
FPD03-P	FLAT PANEL DISPLAY - 55"
FPD04	FLAT PANEL DISPLAY - 65"
LEC-RL	ADA RAISE/LOWER LECTERN
MIC03	CEILING MICROPHONE ARRAY - SQUARE
PRJ-01	POLE MOUNTED PROJECTOR
PS01	MOTORIZED PROJECTION SCREEN
RCK02	SMALL AUDIOVISUAL EQUIPMENT RACK
RCK03	SMALL EQUIPMENT RACK
SCRSW	PROJECTION SCREEN SWITCH(BY OTHERS)
SPK01	RECESSED CEILING SPEAKER
SPK03	INTEGRATED VIDEO CAMERA BAR
TAVP01	AV TABLE HATCH

INFRASTRUCTURE SCHEDULE - PHASE 2

TAG #	TYPE
FURN	FURNITURE PROVIDED/MOUNTED RACEWAYS/JUNCTION BOXES
J01	1-GANG
J01	2-GANG
J02	2-GANG
PK01	8" POKETHRU DEVICE FOR LOW VOLTAGE
PK04	POKETHRU DEVICE FOR POWER
PRJCB	PROJECTOR CEILING BOX
SC01	SCREW COVER BOX
SFD1	SURFACE MOUNTED SYSTEM DEVICE TAP
SFD2	SURFACE MOUNTED SYSTEM DEVICE HUB
SFTK	SURFACE MOUNTED SYSTEM UNDER-CARPET TRACK
WB2	IN-WALL BACKBOX

NETWORK SCHEDULE - PHASE 2

TAG #	# OF DROPS	TYPE
F1	1	6-STRAND SINGLE MODE FIBER
T2	<varies>	<varies>
T6	6	CATEGORY 6

POWER SCHEDULE - PHASE 2

TAG #	TYPE
P1	<varies>
P4	120V/20A QUAD RECEPTACLE, 5-20R
P5	HARDWIRED
P84	120V/20A DUPLEX RECEPTACLE, 5-20R

RENOVATE PLANT SCIENCE BUILDING - PHASE 2

SUCF Project No. 161026-00

236 Tower Road
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SUNY State University Construction Fund

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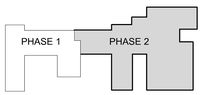
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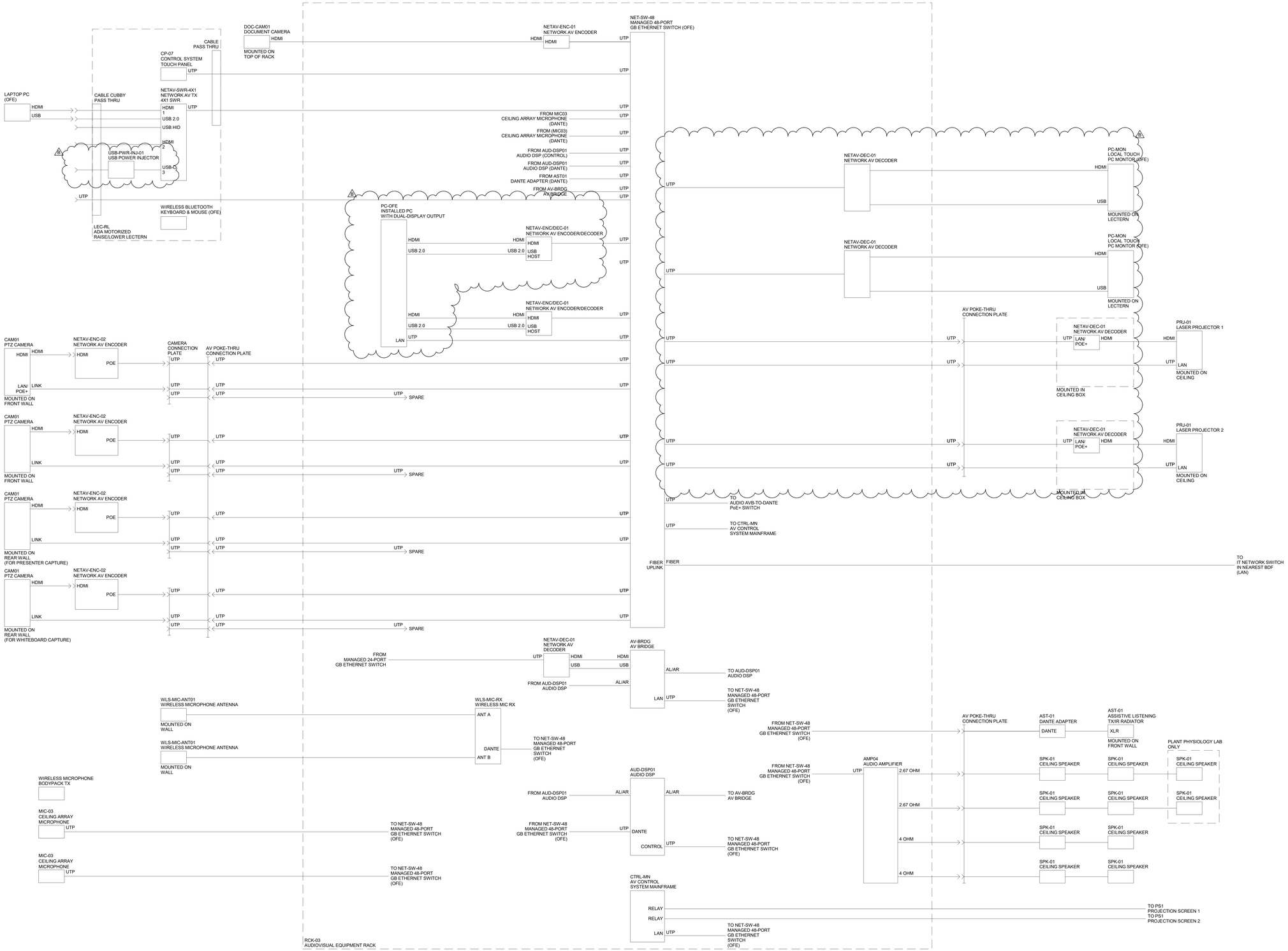
AUDIOVISUAL COVER SHEET - PHASE 2

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1 AUDIOVISUAL SYSTEMS LINE DIAGRAM - DRY LAB/PLANT PHYSIOLOGY LAB
12" = 1'-0"

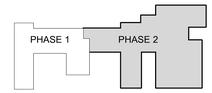
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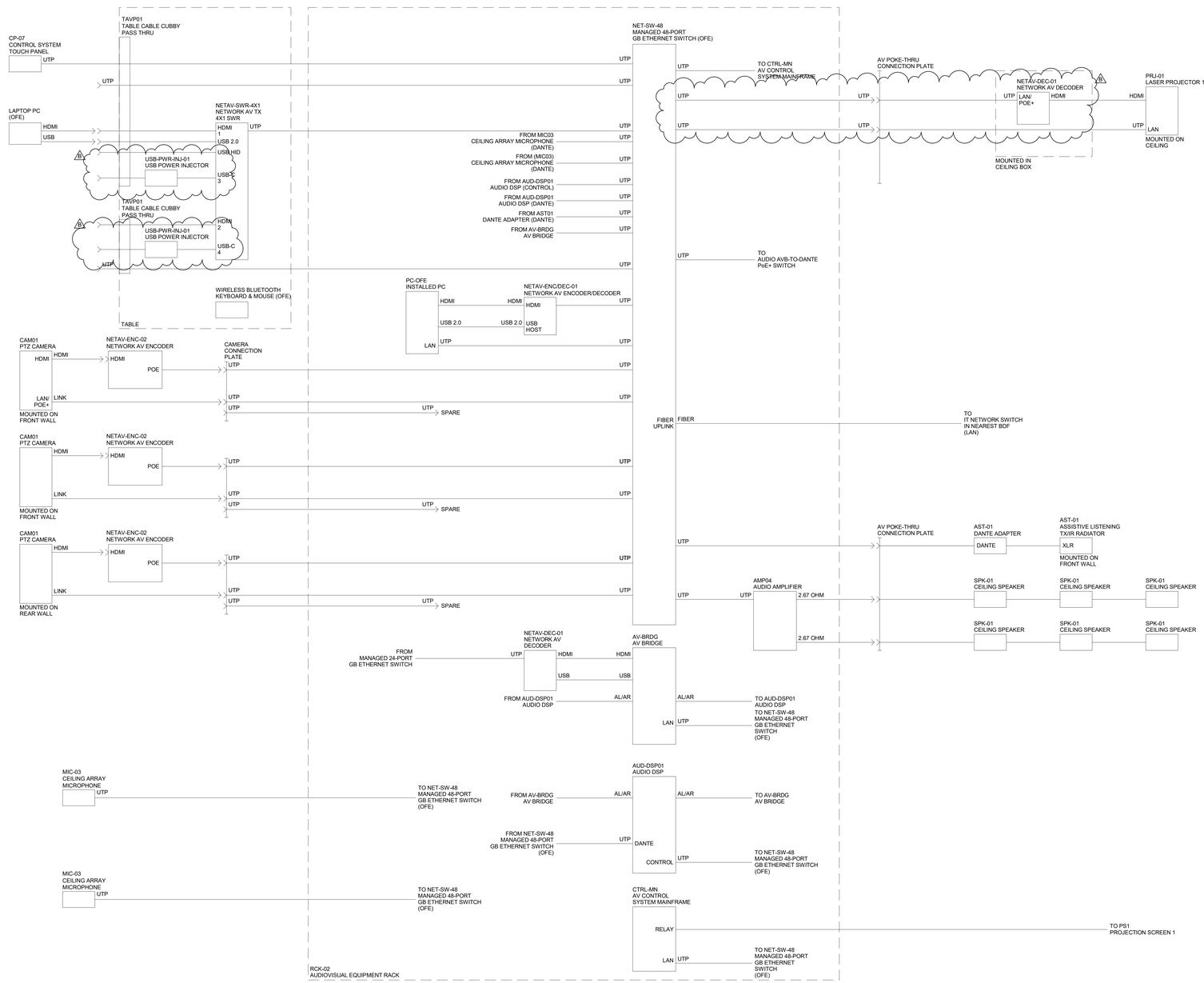
AUDIOVISUAL SYSTEMS LINE DIAGRAM - PHASE 2

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1 AUDIOVISUAL SYSTEMS LINE DIAGRAM - LARGE MEETING
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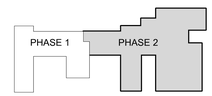
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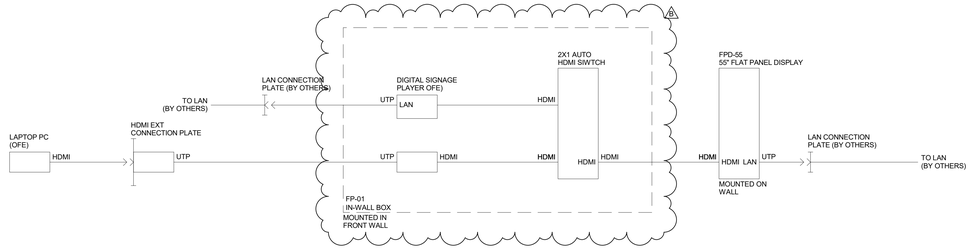
AUDIOVISUAL SYSTEMS LINE DIAGRAM - PHASE 2

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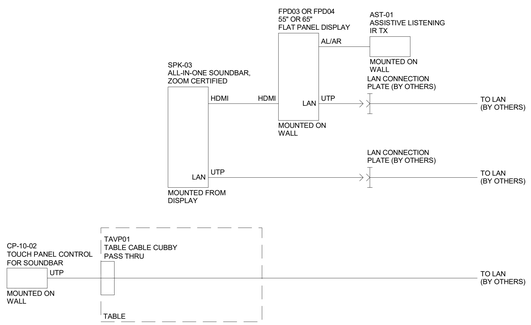
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2 AUDIOVISUAL SYSTEMS LINE DIAGRAM - COLLABORATION
12" = 1'-0"



3 AUDIOVISUAL SYSTEMS LINE DIAGRAM - MEETING & TEAM ROOMS, LOUNGE
12" = 1'-0"

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RENOVATE PLANT SCIENCE
BUILDING - PHASE 2

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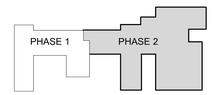
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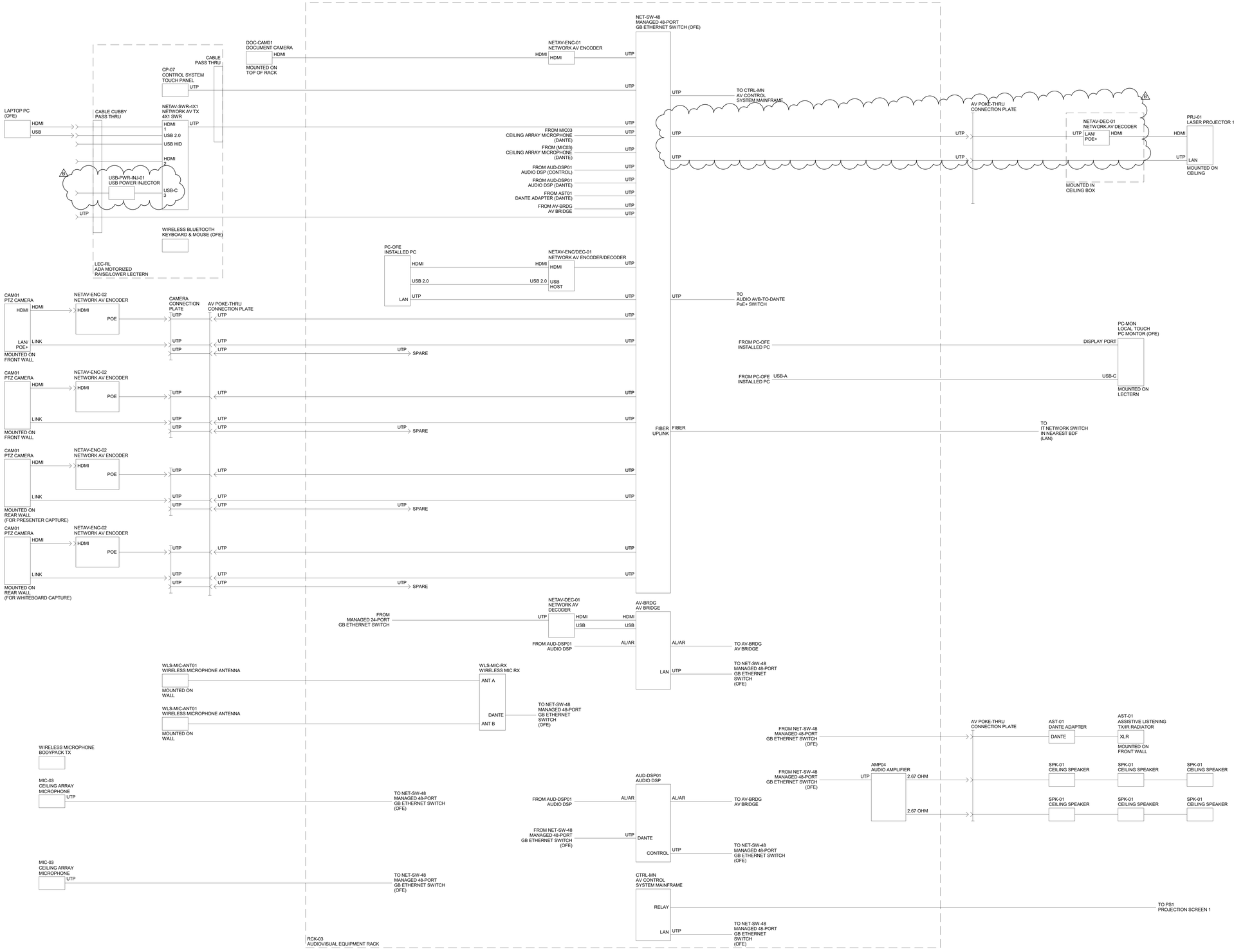
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	DRAFT PRE-BID PRICING SET	07/09/2025
	PRE-BID PRICING SET	08/14/2025

AUDIOVISUAL SYSTEMS LINE DIAGRAM - PHASE 2

BID DOCUMENTS
Scale: 12" = 1'-0"

TA6.2

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1 AUDIOVISUAL SYSTEMS LINE DIAGRAM - BIO-DIV HUB
12" = 1'-0"

RENOVATE PLANT SCIENCE BUILDING - PHASE 2

SUCF Project No. 161026-00

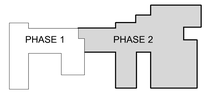
236 Tower Road
Ithaca, NY 14853

Cornell CALS College of Agriculture and Life Sciences

SUNY State University Construction Fund

Ellenzweig Architecture | Planning	230 Congress Street Boston, MA 02110 T 617 491-5575
Ryan Biggs Clark Davis Structural Engineers	257 Ushers Road Clifton Park, NY 12065 T 518 406-5506
Salas O'Brien Consulting & Engineering Group of NY, Inc. Mechanical Engineers	300 Trolley Blvd. Rochester, NY 14606 T 585 288-5590
Jade Stone Engineering Electrical Engineers	444 Vanduzee St. Watertown, NY 13601 T 315 836 4062
Watson Engineering Plumbing	4500 State Route 434 Apalachin, NY 13732 T 607 223-4334
DM Engineers Fire Protection Engineers	1007 Yonkers Ave Yonkers, NY 10704 T 929 333-2339
Bell & Spina Building Envelope	215 Wyoming Street S Syracuse, NY 13204 T 315 488-0377
Environ. Design & Research Historic Preservation, Landscape, Civil Engineering	217 Montgomery St, Suite 1000 Syracuse, NY 13202 T 315 471-0688
Schuler Shook Lighting Design	240 W 40th Street, 2nd Floor New York, NY 10018 T 212 439-5650
D2D Green Design Sustainability PH2	10 Hallenbeck Hill East Greenbush, NY 12061 T 518 729-2967
Shen Milsom & Wilke Acoustics, IT, AV, Security	417 Fifth Avenue New York, NY 10016 T 212 725-6800
Watts Architects & Engineers Asbestos, Haz Mat	95 Perry Street, Suite 300 Buffalo, NY 14203 T 716 206-5122
Hastings Consulting Building Code	142 Hanlon Rd Hollliston, MA 01746 T 508 397-8417
Ellana Cost Consulting	32 Broadway, Suite 801 New York, NY 10004 T 212971-0936

Notes:



Keyplan

Job Number	161026-00 / 31909
Drawing By	Author
Checked By	Checker
Filename	
Date	August 31, 2026

Revisions

B	ADDENDUM NO. 3	11/02/2026
	DRAFT PRE-BID PRICING SET	07/09/2025
	PRE-BID PRICING SET	08/14/2025

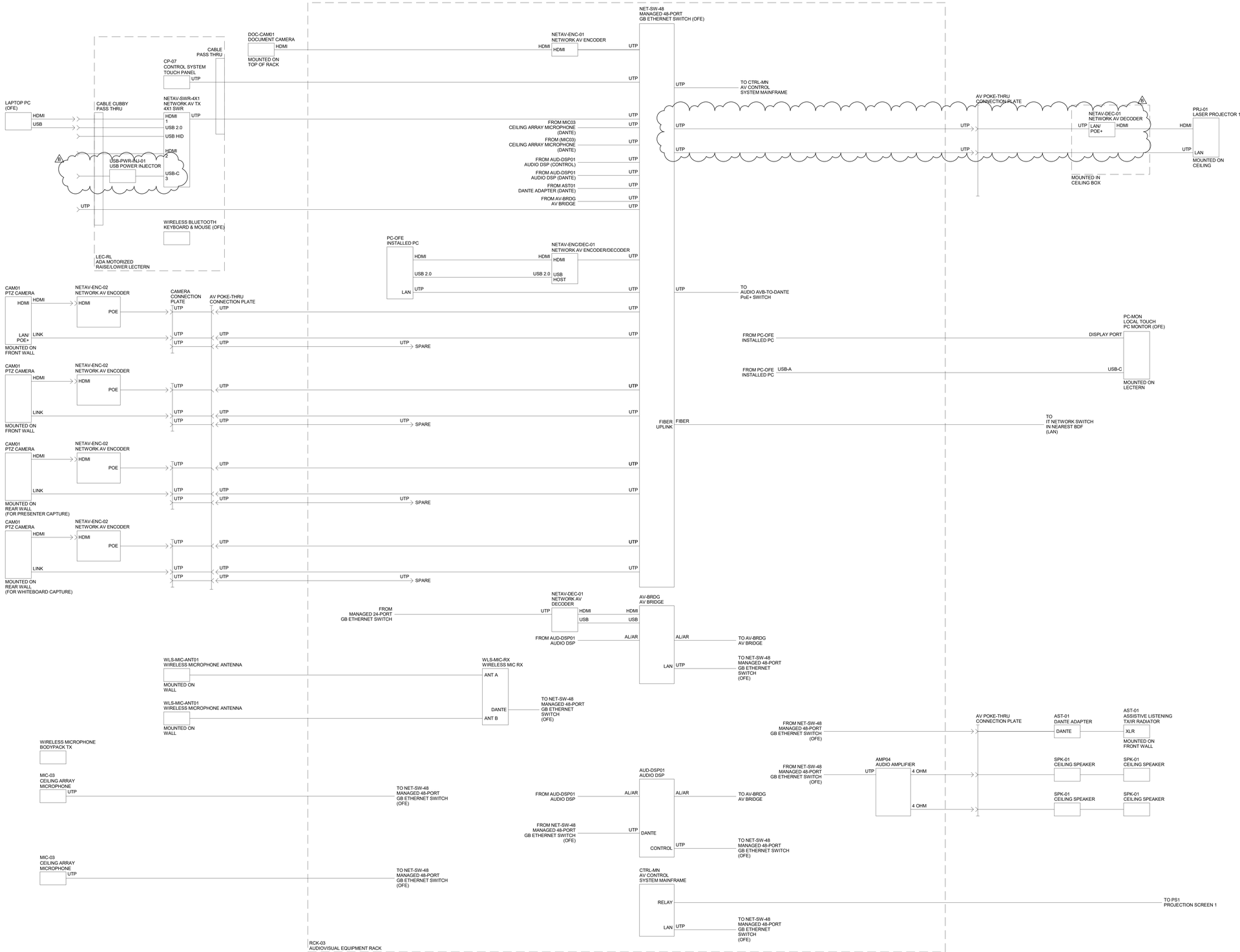
AUDIOVISUAL SYSTEMS LINE DIAGRAM - PHASE 2

BID DOCUMENTS
Scale: 12" = 1'-0"

TA6.3

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Autodesk Docs://31909 SUCF Cornell Plant Science/31909_Cornell PSB_SMW_R23.rvt



1 AUDIOVISUAL SYSTEMS LINE DIAGRAM - 20P CLASSRM
12" = 1'-0"

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Autodesk Docs://31909 SUCF Cornell Plant Science/31909_Cornell PSB_SMW_R23.rvt

RENOVATE PLANT SCIENCE
BUILDING - PHASE 2
SUCF Project No. 161026-00

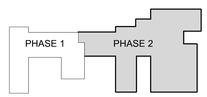
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Keyplan

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AUDIOVISUAL SYSTEMS LINE DIAGRAM - PHASE 2

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