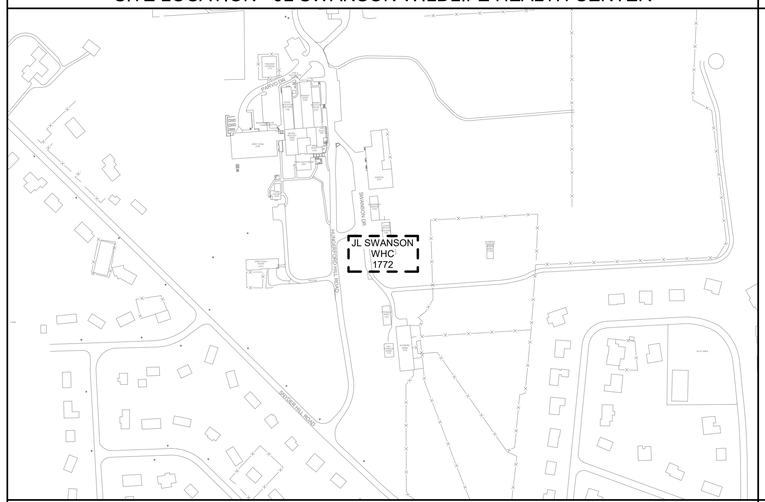
Cornell University

JL SWANSON WILDLIFE HEALTH CENTER
AHU AND ROOF REPLACEMENT

SITE LOCATION - JL SWANSON WILDLIFE HEALTH CENTER

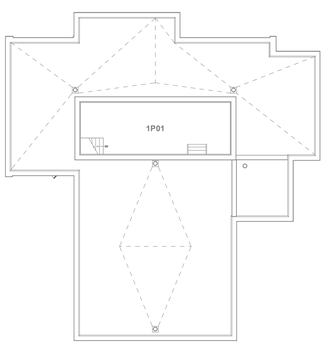


SITE PHOTO

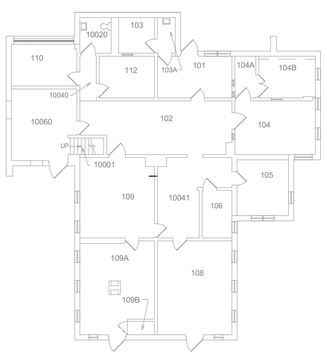
SHEET INDEX

HAZARDOUS MATERIAL REMOVAL DRAWING PROVIDED BY LABELLA ASSOCIATES, DPC FOR JL SWANSON WILDLIFE HEALTH CENTER AHU AND ROOF REPLACEMENT, IS REFERENCED HERE AND EXPRESSLY INCORPORATED INTO THE CONTRACT DRAWINGS AND SPECIFICATIONS. THE TERMS AND CONDITIONS ASSOCIATED WITH LABELLA ASSOCIATES, DPC BLANKET DESIGN AGREEMENT WITH CORNELL UNIVERSITY DATED MARCH 8TH 2021, ARE EXPRESSLY INCLUDED IN ANY REFERENCES TO JL SWANSON WILDLIFE HEALTH CENTER AHU AND ROOF REPLACEMENT CONTRACT DRAWINGS AND SPECIFICATIONS.

KEY PLANS



PENTHOUSE & ROOF



FIRST FLOOR

PROJECT SCOPE

THE PURPOSE OF THIS PROJECT IS TO PROVIDE ONE AIR HANDLING UNIT TO REPLACE THE THREE END-OF-LIFE MECHANICAL UNITS, AS WELL AS REPLACE THE ROOF WHICH IS BEYOND ITS USEFUL LIFE.

GENERAL SYMBOLS LEGEND

1 / 1 X-100 1 / 1	EXTERIOR ELEVATION
1 / 1 X-100 1 / 1	INTERIOR ELEVATION
1/ A-101	PHOTO/ VIEW REFERENCE
1 / X-100	SECTION MARKER
1 X-100	ENLARGED DETAIL
#	CONSTRUCTION KEYED NOTE
#	DEMOLITION KEYED NOTE
#	DRAWING REVISION NOTE
	LINETYPE: EXISTING TO REMAIN
	LINETYPE: DEMOLITION / TO BE RELOCATED
	LINETYPE: TO BE PROVIDED / NEW

BUILDING CODE SUMMARY

APPLICABLE CODES
2020 NYS BUILDING CODE
2020 NYS EXISTING BUILDING CODE
2020 NYS FIRE CODE
2020 NYS PLUMBING CODE
2020 NYS MECHANICAL CODE
2020 NYS ENERGY CONSERVATION CODE
2009 ICC A117.1 ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES
2010 AMERICANS WITH DISABILITIES ACT (ADA)

PROJECT SUMMARY
THIS PROJECT INCLUDES THE RENOVATION OF ±3,621 SF OF CONDITIONED SPACE AND ROOF. THE WORK IS CLASSIFIED AS ALTERATION LEVEL 2 FOR THE REPLACEMENT AND EXTENSION OF MECHANICAL SYSTEMS.

BUILDING LIMITATIONS

CONSTRUCTION CLASSIFICATION:	2B
CLASSIFICATION OF HAZARDS:	NONE
HIGH-RISE BUILDING:	NO
EXTINGUISHING REQUIREMENT:	THE EXISTING BUILDING IS NOT SPRINKLERED

OCCUPANCY

OCCUPANCY CLASSIFICATION:	BUSINESS (B)

FACILITIES ENGINEERING
WWW.FCS.CORNELL.EDU
ARCHITECTURE, AND CIVIL, ELECTRICAL, ENVIRONMENTAL, AND MECHANICAL ENGINEERING
201 HUMPHREYS SERVICE BLDG.
ITHACA, NEW YORK 14853-3701

ARCH/ CIVIL:
ELECTRICAL:
MECHANICAL:

STATE OF NEW YORK · ERIK PAUL ESHELMAN · LICENSED PROFESSIONAL ENGINEER · 084093

REVISIONS

1	11/21/25	ISSUE FOR SD REVIEW
2	12/17/25	ISSUE FOR PERMIT
3	02/16/26	ISSUE FOR COORDINATED REVIEW
4	02/27/26	ISSUE FOR CONSTRUCTION

N

131 SWANSON DRIVE
ITHACA, NEW YORK 14850

JL SWANSON WILDLIFE HEALTH CENTER AHU AND ROOF REPLACEMENT

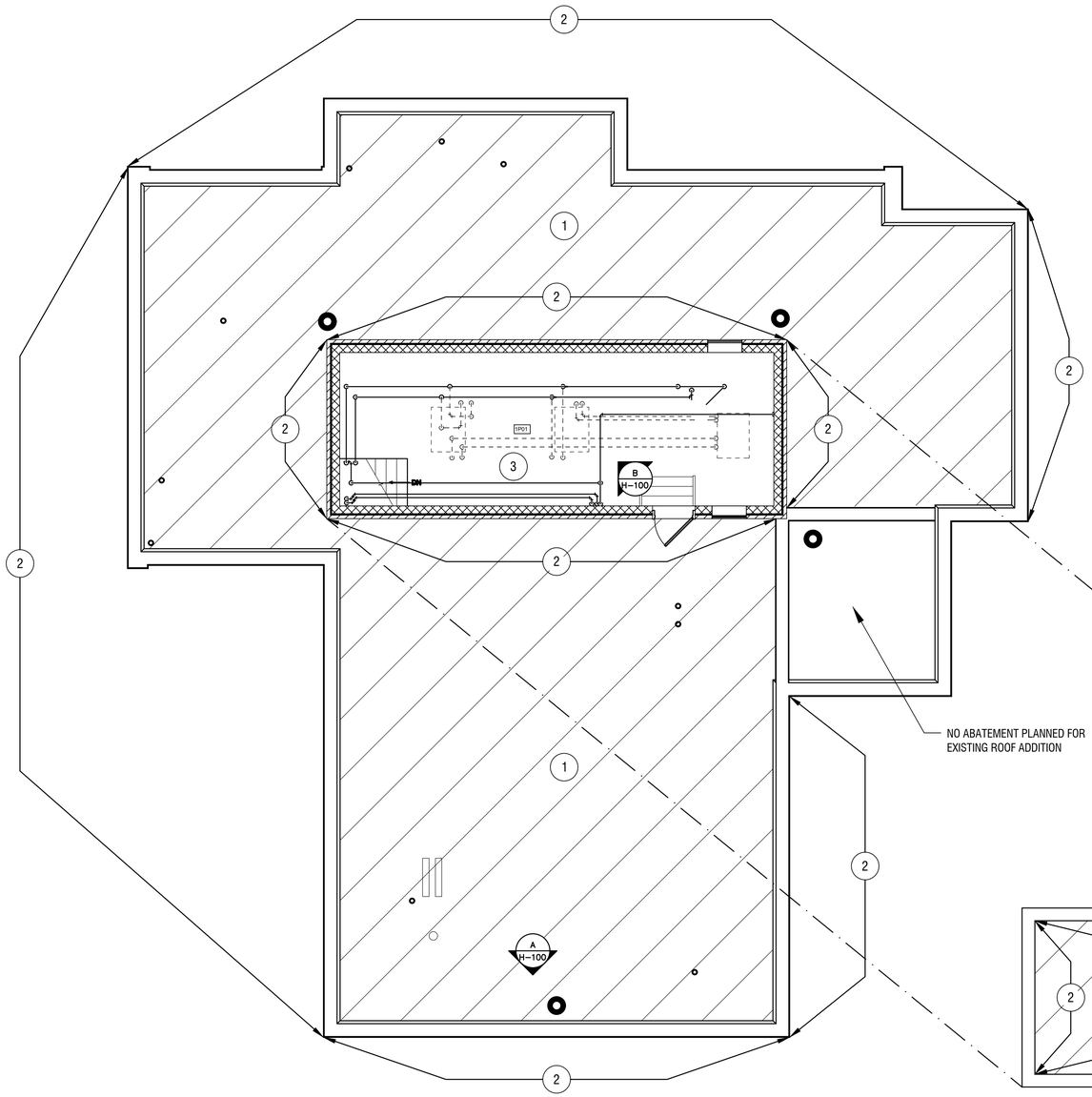
DATE:	FEBRUARY 27, 2026
FACILITY:	1772
DESIGN:	FE DESIGN
DRAWN:	EWK

TITLE SHEET

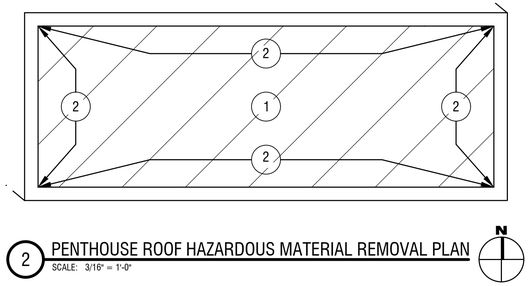
ARCHIVE BAR CODE

T-001
17759919

TABLE HM-01: ACM ABATEMENT SCHEDULE			
KEY NOTE ID	ACM	LOCATION	SPECIAL CONDITIONS
1	BLACK ROOFING TAR	UNDER FOAM LAYER OF MAIN ROOF	ABATEMENT CONTRACTOR CAN REMOVE UNDER ICR 56-11.1 - IN-PLANT OPERATIONS.
2	BLACK FLASHING (TRACE ASBESTOS)	ALONG MAIN ROOF EDGE AND PENTHOUSE PERIMETER	ABATEMENT CONTRACTOR CAN REMOVE UNDER ICR 56-11.1 - IN-PLANT OPERATIONS.
3	WHITE END SEALANT	PENTHOUSE INTERIOR, ON ENDS OF FIBERGLASS LINES	-



1 MAIN ROOF AND PENTHOUSE INTERIOR HAZARDOUS MATERIAL REMOVAL PLAN
SCALE: 3/16" = 1'-0"



2 PENTHOUSE ROOF HAZARDOUS MATERIAL REMOVAL PLAN
SCALE: 3/16" = 1'-0"

#	H-100 KEYED ASBESTOS ABATEMENT NOTES
1	IN AREAS INDICATED, ASBESTOS-CONTAINING BLACK ROOFING TAR AND ASSOCIATED ROOFING MATERIALS TO BE REMOVED AND DISPOSED OF BY ASBESTOS ABATEMENT CONTRACTOR. FLASHING SHALL BE REMOVED IN ITS ENTIRETY, ALL LAYERS, FULL DEPTH, AND NO RESIDUAL FLASHING SHALL REMAIN ON ROOF DECK. ABATEMENT CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OF ALL ROOF-MOUNTED FIXTURES. APPROX. 3,250 SF IN TOTAL.
2	IN AREAS INDICATED, TRACE ASBESTOS-CONTAINING BLACK ROOF FLASHING AND ASSOCIATED ROOFING MATERIALS SHALL BE REMOVED AND DISPOSED OF BY ASBESTOS ABATEMENT CONTRACTOR. FLASHING SHALL BE REMOVED IN ITS ENTIRETY, ALL LAYERS, FULL DEPTH, AND NO RESIDUAL FLASHING SHALL REMAIN ON ROOF DECK AND OR WALL MASONRY. APPROX. 290 SF IN TOTAL.
3	THROUGHOUT MECHANICAL PENTHOUSE INTERIOR, ABATEMENT CONTRACTOR SHALL REMOVE AND DISPOSE OF ASBESTOS-CONTAINING WHITE END SEALANT ON FIEBRGLASS INSULATED PIPING. FIBERGLASS INSULATION AND ASSOCIATED JACKETS HAVE BEEN DETERMINED TO BE NON-ACM. ABATEMENT CONTRACTOR SHALL REMOVE ABUTTING PIPE INSULATION APPROXIMATELY 6" BEYOND ALL SEALANT AND DISPOSE OF AS ACM. APPROX. 30 END FITTINGS (APPROX. 2 SF) IN TOTAL.

A H-100 VIEW OF BLACK TAR

B H-100 VIEW OF WHITE END SEALANT

GENERAL ABATEMENT NOTES:

1. AN INSPECTION REPORT TITLED, "ASBESTOS PRE-RENOVATION SAMPLING REPORT", PREPARED BY ARCTIC ENTERPRISES, INC., DATED APRIL 26, 2024, IS AVAILABLE IN SPECIFICATION 003126 - EXISTING HAZARDOUS MATERIALS INFORMATION.
2. A FACILITY-WIDE DECISION VARIANCE, FILE NO. 23-1556, PREPARED BY DELTA ENGINEERS, ARCHITECTS & LAND SURVEYORS, P.C., DATED DECEMBER 22, 2023, IS AVAILABLE IN SPECIFICATION 003126 - EXISTING HAZARDOUS MATERIALS INFORMATION.
3. THE MATERIAL MEASUREMENTS, QUANTITIES, LOCATIONS, AND CONDITIONS IN THE REPORT AND ON PROJECT DRAWINGS ARE BASED ON FIELD OBSERVATIONS AND ARE NOT GUARANTEED TO BE COMPLETE AND ACCURATE. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS PRIOR TO SUBMISSION OF BID. CONSEQUENCES OF FAILURE TO FIELD VERIFY CONDITIONS SHALL BE BORNE BY THE CONTRACTOR.
4. PERFORM ALL WORK IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS AND GUIDELINES, VARIANCES, AND THE CONTRACT DOCUMENTS.
5. CONTRACTOR IS REQUIRED TO COORDINATE PHASING, ACCESS, AND ABATEMENT ACTIVITIES WITH THE OWNER, OWNER'S REPRESENTATIVES, AND OTHER CONTRACTORS.
6. CONTRACTOR IS RESPONSIBLE FOR ALL TOOLS, EQUIPMENT, AND SUPPLIES. THE OWNER OR OWNER'S REPRESENTATIVE WILL NOT BE LIABLE FOR THEFT OR DAMAGE.
7. CONTRACTOR IS RESPONSIBLE FOR ALL DEMOLITION REQUIRED TO ACCESS AND ABATE MATERIALS SCHEDULED FOR REMOVAL.
8. PERFORM WORK WITHOUT DAMAGE TO OR CONTAMINATION OF ADJACENT OR NEARBY AREAS. WHERE SUCH AREAS ARE DAMAGED, RESTORATION MUST BE TO ORIGINAL CONDITION. WHERE SUCH AREAS ARE CONTAMINATED, PROVIDE FOR REQUISITE CONTAINMENT AND CLEANUP.
9. CONTRACTOR IS RESPONSIBLE FOR KEEPING THE WORK AREA IN A CLEAN AND SAFE CONDITION. CONTRACTOR SHALL ENSURE THAT UNCERTIFIED PERSONNEL OR UNAUTHORIZED VISITORS DO NOT ENTER ACTIVE WORK AREAS AT ANY TIME.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING TEMPORARY PROTECTION TO KEEP THE BUILDING IN A WATERTIGHT CONDITION AND TO PREVENT UNAUTHORIZED ACCESS AT ALL TIMES DURING THE DURATION OF THE PROJECT. REPAIR OR DAMAGE CAUSED AS A RESULT OF IMPROPER TEMPORARY PROTECTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
11. THE LOCATION OF ANY SITE STORAGE OF MATERIAL, EQUIPMENT, AND WASTE TRAILER/DUMPSTER SHALL BE COORDINATED WITH AND APPROVED BY THE OWNER OR THE OWNER'S REPRESENTATIVE.
12. MARKED AREAS DEPICTING WORK AREAS ARE APPROXIMATE ONLY. EXACT CUTOFF POINTS SHALL BE COORDINATED BY THE CONTRACTOR WITH OWNER'S REPRESENTATIVE.
13. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE CURRENT WASTE HANDLING, TRANSPORTATION AND DISPOSAL REGULATIONS FOR THE WORK. THE CONTRACTOR MUST DISPOSE OF ALL MATERIALS REMOVED, UNLESS DIRECTED OTHERWISE, AND COMPLY FULLY WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS.
14. CONTRACTOR SHOULD FIELD LOCATE WATER AND ELECTRICAL UTILITY CONNECTIONS REQUIRED OF ABATEMENT PROCEDURES. COORDINATE WITH BUILDING OWNER OR OWNER'S REPRESENTATIVE.

GENERAL ASBESTOS ABATEMENT NOTES:

1. ALL ASBESTOS ABATEMENT WORK TO BE DONE UNDER THIS CONTRACT SHALL BE IN COMPLIANCE WITH CODE RULE 56 OF NEW YORK STATE RULES AND REGULATIONS, AND ALL OTHER APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS.
2. IN LIEU OF THE ABOVE REFERENCED REQUIREMENTS, THE CONTRACTOR MAY APPLY FOR A SITE-SPECIFIC VARIANCE. TO UTILIZE A SITE-SPECIFIC VARIANCE THE CONTRACTOR SHALL MEET ALL CONDITIONS OF THE VARIANCE, AS STATED BY THE NYS DEPARTMENT OF LABOR. ALL COSTS ASSOCIATED WITH THE APPLICATION OF SITE-SPECIFIC VARIANCES SHALL BE BORNE BY THE CONTRACTOR.
3. ALL PROPOSED SITE-SPECIFIC VARIANCES SHALL BE REVIEWED AND APPROVED BY THE OWNER OR OWNER'S REPRESENTATIVE PRIOR TO SUBMITTAL TO THE NYSDOL. FAILURE TO OBTAIN OWNER APPROVAL MAY RESULT IN OWNER NOT PERMITTING THE VARIANCE TO BE USED ON THE PROJECT.
4. REFERENCE SECTION 020800 OF THE PROJECT SPECIFICATIONS FOR REQUIREMENTS PERTAINING TO THE ABATEMENT OF ACM.
5. IDENTIFIED ACM IN THE AREAS OF SCHEDULED WORK WILL REQUIRE ABATEMENT PRIOR TO PERFORMANCE OF ANY CONSTRUCTION THAT COULD DISTURB THESE MATERIALS. REFERENCE TABLE HM-01 OF THIS SHEET FOR A SUMMARY OF THE IDENTIFIED ACM IN THE AREAS OF WORK. THE ABATEMENT PLAN DRAWINGS PROVIDE ADDITIONAL DESCRIPTION OF AREAS WHERE ABATEMENT OF THESE MATERIALS IS REQUIRED.
6. THE DISTURBANCE OF ANY ASBESTOS-CONTAINING MATERIAL, OR SUSPECT MATERIAL, SHALL BE PERFORMED BY A LICENSED ASBESTOS ABATEMENT CONTRACTOR. IF ACM OR SUSPECT ACM ARE DISTURBED DURING NON-ABATEMENT ACTIVITIES OR BY NON-ASBESTOS CERTIFIED PERSONNEL, CEASE ALL OPERATIONS AND IMMEDIATELY NOTIFY THE OWNER OR THE OWNER'S REPRESENTATIVE.
7. CONTRACTOR IS RESPONSIBLE FOR KEEPING THE WORK AREA IN A CLEAN AND SAFE CONDITION. CONTRACTOR SHALL ENSURE THAT UNCERTIFIED PERSONNEL OR UNAUTHORIZED VISITORS DO NOT ENTER ACTIVE WORK AREAS AT ANY TIME.
8. THE LOCATION OF ANY SITE STORAGE OF MATERIAL, EQUIPMENT, AND WASTE TRAILER/DUMPSTER SHALL BE COORDINATED WITH AND APPROVED BY THE OWNER OR THE OWNER'S REPRESENTATIVE. THE UNINTENTIONAL DISTURBANCE OF ACM OR SUSPECT ACM SHALL BE IMMEDIATELY REPORTED TO THE OWNER OR OWNER'S REPRESENTATIVE.
9. THE OWNER SHALL BE RESPONSIBLE FOR HIRING AND PAYING AN INDEPENDENT THIRD PARTY FIRM TO PERFORM ALL OF THE REQUIREMENTS OF MONITORING AS CALLED FOR IN CODE RULE 56.
10. ASBESTOS ABATEMENT CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEMOLITION REQUIRED TO ACCESS AND ABATE ACM SCHEDULED FOR REMOVAL.
11. IF ADDITIONAL SUSPECT ACM IS DISCOVERED DURING THE COURSE OF THE WORK, THE CONTRACTOR SHALL STOP WORK IMMEDIATELY AND AVOID DISTURBING THESE MATERIALS. NOTIFY THE OWNER AND OWNER'S REPRESENTATIVE IMMEDIATELY SUCH THAT SAMPLING AND ANALYSIS CAN BE ARRANGED.
12. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE CURRENT WASTE HANDLING, TRANSPORTATION AND DISPOSAL REGULATIONS FOR THE WORK. THE CONTRACTOR MUST DISPOSE OF ALL ASBESTOS MATERIALS REMOVED AND COMPLY FULLY WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS.

GENERAL LEAD AWARENESS NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING 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. SEE SPECIFICATION SECTION 020810 - PROTECTION OF WORKERS - LEAD-CONTAINING MATERIALS FOR ADDITIONAL INFORMATION.
2. THE CONTRACTOR IS RESPONSIBLE FOR PROPER HANDLING AND DISPOSAL OF LEAD-CONTAINING WASTE.
3. THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THEIR EMPLOYEES AND SUBCONTRACTORS OF THE PRESENCE AND LOCATIONS OF LEAD-CONTAINING MATERIALS, AND TO WARN THEIR EMPLOYEES AND SUBCONTRACTORS OF THE POTENTIAL DANGERS OF THE DISTURBANCE OF LEAD-CONTAINING MATERIALS.
4. CONTRACTORS ARE HEREBY NOTIFIED THAT SOME LEAD-CONTAINING BUILDING MATERIALS ARE ASSUMED TO EXIST ON EXISTING SURFACES AND MAY BE DISTURBED DURING COMPLETION OF THE WORK ON THIS PROJECT.

LaBella
Powered by partnership.

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585-454-6110

labellapc.com

REGISTERED ARCHITECT DAVID N. MISENHEIMER 032477-1 STATE OF NEW YORK

EXP: 1/31/2027

CERTIFICATE OF AUTHORIZATION NUMBER:
PROFESSIONAL ENGINEERING: 0021272
LAND SURVEYING: 0021271
GEOLOGICAL: 0021659

Cornell University
201 Humphreys Service Building
Ithaca, New York 14853-3701

CORNELL UNIVERSITY FOUNDED A.D. 1865

JL Swanson Wildlife Heatlh Center
AHU and Roof Replacement
131 Swanson Drive
Ithaca, NY 14850

NO:	DATE:	DESCRIPTION:
Revisions		

FACILITY: 1772
DRAWN BY: CS
REVIEWED BY: DM
ISSUED FOR: CONSTRUCTION
DATE: 2/27/2026
DRAWING NAME:

ROOF AND PENTHOUSE HAZARDOUS MATERIAL REMOVAL PLANS & GENERAL NOTES

DRAWING NUMBER:

H-100

2/26/2026 4:53:49 PM
\\PROJECTS\Projects\M-4\Cornell University\2211303 - Fac. Eng. Ext. of Staff\2021\2211303.72 JL Swanson Wildlife Center Abatement\Drawings\2026 Submission\JL Swanson Center Abatement - Hazardous Materials Removal.dwg

DESIGN PARAMETERS

	RISK CATEGORY	II
	SOIL DESIGN PRESSURE, ASSUMED	1500 PSF
	60 MINUTE RAINFALL INTENSITY, i	2.49 INCHES/HR
SNOW LOADS	GROUND SNOW LOAD, P_g	40 PSF
SNOW LOADS	FLAT-ROOF SNOW LOAD, P_f	34 PSF
SNOW LOADS	SNOW LOAD IMPORTANCE FACTOR, I_s	1.00
SNOW LOADS	THERMAL FACTOR, C_t	1.2
SNOW LOADS	EXPOSURE FACTOR, C_e	1.0
SNOW LOADS	SLOPED ROOF FACTOR, C_s	N/A
SNOW LOADS	DRIFT SURCHARGE LOAD, Pd	N/A
SNOW LOADS	SNOW DRIFT WIDTH, w	N/A
WIND LOADS	BASIC WIND DESIGN SPEED, V	110 MPH
WIND LOADS	ALLOWABLE WIND DESIGN SPEED, V_{asd}	85 MPH
WIND LOADS	WIND EXPOSURE CATEGORY	B (WEST), C (ALL OTHERS)
WIND LOADS	PRESSURE COEFFICIENT, GC_r	1.9 (HORIZ.), 1.5 (VERT.)
WIND LOADS	MWRFS DESIGN PRESSURE COEFFICIENT, q_z	22.7 PSF (C), 15.7 PSF (B)
WIND LOADS	C&C DESIGN PRESSURE COEFFICIENT, q_{cc}	N/A
SEISMIC LOADS	SEISMIC IMPORTANCE FACTOR, I_e	1.00
SEISMIC LOADS	S_s	0.118g
SEISMIC LOADS	S_1	0.045g
SEISMIC LOADS	ASSUMED SOIL SITE CLASS	D
SEISMIC LOADS	S_{DS}	0.126g
SEISMIC LOADS	S_{D1}	0.073g
SEISMIC LOADS	SEISMIC DESIGN CATEGORY	B
SEISMIC LOADS	SEISMIC FORCE-RESISTING SYSTEM(S)	STRUCTURAL STEEL NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE
SEISMIC LOADS	BASE SHEAR, V	0.84 KIPS
SEISMIC LOADS	SEISMIC RESPONSE COEFFICIENT, C_S	0.042
SEISMIC LOADS	RESPONSE MODIFICATION COEFFICIENT, R	3
SEISMIC LOADS	ANALYSIS PROCEDURE	EQUIVALENT LATERAL FORCE

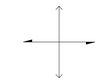
ABBREVIATIONS

A	
ALT	ALTERNATE
ALUM	ALUMINUM
AVG	AVERAGE
B	
BLDG	BUILDING
C	
CJ	CONTROL JOINT
CL	CENTER LINE
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONT	CONTINUOUS
CRS	COURSE(S)
D	
DEMO	DEMOLITION
DIA	DIAMETER
DIM	DIMENSION
DN	DOWN
DWG	DRAWING
E	
EA	EACH
EJ	EXPANSION JOINT
EL	ELEVATION
EPDM	RUBBER ROOF MEMBRANE
EOR	ENGINEER OF RECORD
EQ	EQUAL
(E), EXIST	EXISTING
EXT	EXTERIOR
F	
FDN	FOUNDATION
FFE	FINISH FLOOR ELEVATION
FRP	FIBER REINFORCED POLYMER
FT	FOOT/FEET
FTG	FOOTING
G	
GA	GAGE
GALV	GALVANIZED
H	
HT	HEIGHT
L	
LB(S)	POUND(S)
M	
MFR	MANUFACTURER
MAT	MATERIAL
MAX	MAXIMUM
MIN	MINIMUM
N	
N/A	NOT APPLICABLE
NTS	NOT TO SCALE
O	
O.C.	ON CENTER
OD	OUTSIDE DIAMETER
P	
+/-	PLUS OR MINUS
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	PRESSURE TREATED
Q	
QTY	QUANTITY
R	
REQ	REQUIRED
REV	REVISION
S	
SIM	SIMILAR
SF	SQUARE FOOT/ FEET
SS	STAINLESS STEEL
STL	STEEL
STD	STANDARD
T	
TOS	TOP OF STEEL
TYP	TYPICAL
U	
UNO	UNLESS NOTED OTHERWISE
V	
VIF	VERIFY IN FIELD
W	
W/O	WITHOUT
WD	WOOD

SYMBOLS

&	AND
@	AT
#	POUND(S)

LEGEND



NEW BAR GRATING, ONE WAY SPAN

COLUMN UP/DOWN

STEEL COLUMN

W_X__ c = __

STEEL BEAM OF SIZE W_X__ AND CAMBER c

STRUCTURAL GENERAL NOTES CONT'D

STRUCTURAL STEEL

1. ALL STRUCTURAL STEEL SHALL BE ASTM FABRICATED AND ERECTED IN ACCORDANCE WITH AISC "STEEL CONSTRUCTION MANUAL" AND ALL WORK SHALL COMPLY WITH AISC "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES."
2. CONTRACTOR SHALL SUBMIT THE FOLLOWING FOR REVIEW AND APPROVAL BY THE ENGINEER OF RECORD:
   - A. STEEL PRODUCT DATA INCLUDING STRENGTH OF MATERIAL
   - B. STEEL SHOP DRAWINGS INCLUDING ERECTION PLANS AND PIECE DETAILS
     - a. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ADHERING TO THE REQUIREMENT THAT A NEW YORK STATE-REGISTERED PROFESSIONAL ENGINEER MUST SUPERVISE THE DEVELOPMENT OF THE STRUCTURAL STEEL SHOP DRAWINGS. THE OWNER AND / OR EOR SHALL NOT BE THE PROFESSIONAL ENGINEER SUPERVISING THE DEVELOPMENT OF THE SHOP DRAWINGS. SHOP DRAWING REVIEW INCLUDES ENGINEERING CALCULATIONS TO THE EXTENT NECESSARY TO ASCERTAIN THAT THE CONTRACTOR'S CALCULATIONS HAVE BEEN COMPLETELY PREPARED. EOR MAY REQUEST THESE FOR REVIEW.
     - b. SHOP DRAWINGS SHALL INCLUDE DETAILS FOR APPLICATIONS AND ASSEMBLY OF ALL STRUCTURAL MEMBERS; INCLUDE DETAILS OF CUTS, CONNECTIONS, HOLES, AND OTHER PERTINENT DATA; AND INDICATE WELDS BY STANDARD AWS 2.1 SYMBOLS SHOWING SIZE, LENGTH, AND TYPE OF EACH WELD. SHOP DRAWINGS SHALL BE SUBMITTED TO ENGINEER FOR APPROVAL PRIOR TO FABRICATION.
     - c. NO FABRICATION SHALL PROCEED PRIOR TO SHOP DRAWING APPROVAL. SHOP DRAWINGS MARKED "REJECTED" OR "REVISE AND RESUBMIT" MAY NOT BE FABRICATED WITHOUT ADDITIONAL CHANGES BEING MADE.
     - d. SHOULD ENGINEER'S MARKS OR CORRECTIONS BE MADE IN ANY SHOP DRAWING THAT WOULD OR COULD RESULT IN INCORRECT FIT OF ANY PART OR RESULT IN INSUFFICIENT STRENGTH OR STABILITY OF THE WORK, CONTRACTOR SHALL NOTIFY IN WRITING SO AS TO EXPEDITE THE REQUIRED CORRECTION OR MODIFICATION.
   - C. PRODUCT DATA FOR PAINT, PRIMER, OR OTHER EXTERNAL COATING AS APPLICABLE
   - D. WELDERS' CERTIFICATIONS
   - E. WELDING MATERIALS PRODUCT DATA
3. GRADES OF STRUCTURAL STEEL TO BE PER TABLE THIS SHEET U.O.N.
4. ALL BOLTED CONNECTIONS TO BE MADE WITH A325 OR A490 TYPE N HIGH STRENGTH BOLTS UNLESS GALVANIZED BOLTS ARE SPECIFIED. WHERE GALVANIZED BOLTS ARE SPECIFIED ON THE DRAWINGS, GALVANIZED BOLTS SHALL CONFORM TO ASTM A153, CLASS C AND SHALL BE HOT-DIP GALVANIZED.
5. ALL NUTS SHALL MEET REQUIREMENTS OF ASTM A-563 DH OR ASTM A-194 2H.
6. ALL WASHERS SHALL MEET REQUIREMENTS OF ASTM F-436.
7. ALL BOLT HOLES IN STEEL MEMBERS SHALL BE 1/16" LARGER IN DIAMETER THAN THE NOMINAL SIZE OF THE BOLT USED, U.N.O. ON DRAWINGS.
8. WELDING SHALL MEET THE REQUIREMENTS OF THE "STRUCTURAL WELDING CODE" AWS D1.1-2006. ELECTRODES SHALL HAVE A MINIMUM TENSILE STRENGTH OF 70 KSI AND BE LOW-HYDROGEN TYPE. THE LENGTH OF WELD SPECIFIED ON THE DRAWINGS IS THE MINIMUM EFFECTIVE LENGTH OF THE WELD. ALL WELDS TO BE A MINIMUM 1/4" FILLET WELD U.N.O. ON DRAWINGS.
9. ALL EXTERIOR STEEL SHALL BE HOT-DIP GALVANIZED TO ASTM A-123 GRADE 65. TOUCH-UP ALL DAMAGED AREAS WITH ZRC GALVILITE GALVANIZING REPAIR (95% ZINC).
10. FOR NEW WORK IMPACTING EXISTING STEEL, THE EXISTING STEEL (MEMBERS AND CONNECTIONS) SHALL BE CLEANED PER THE MANUFACTURER'S SURFACE PREPARATION INSTRUCTIONS OR PREPARE SURFACE OF STEEL TO A MINIMUM OF (SSPC-SP-3) POWER TOOL CLEANING AS DESCRIBED BY THE STEEL STRUCTURES PAINTING COUNSEL AS FOLLOWS: REMOVAL OF ALL RUST SCALE, MILL SCALE, LOOSE PAINT, AND LOOSE RUST TO THE DEGREE SPECIFIED BY POWER WIRE BRUSHES, POWER IMPACT TOOLS, POWER GRINDERS, POWER SANDERS OR BY A COMBINATION OF THESE METHODS. THE SUBSTRATE SHOULD HAVE PRONOUNCED METALLIC SHEEN AND ALSO BE FREE OF OIL, GREASE, DIRT, SOIL, SALTS, AND OTHER CONTAMINANTS. SURFACE SHOULD NOT BE BUFFED OR POLISHED SMOOTH.
11. ALL STEEL SHALL BE INSTALLED WITH CAMBER UP EXCEPT WHERE NOTED OTHERWISE ON DRAWINGS AND AT CANTILEVERS WHERE STEEL SHALL BE INSTALLED WITH CAMBER DOWN.
12. SPLICING OF STRUCTURAL MEMBERS WHERE NOT DETAILED ON THE CONTRACT DOCUMENTS IS PROHIBITED WITHOUT PRIOR APPROVAL OF THE STRUCTURAL ENGINEER AS TO LOCATION, TYPE OF SPLICE, AND CONNECTION TO BE MADE.

STRUCTURAL STEEL GRADES

WIDE FLANGE MEMBERS	A992, Fy = 50 KSI
HSS RECTANGULAR MEMBERS	A500 GRADE B, Fy = 46 KSI
HSS ROUND MEMBERS	A500 GRADE B, Fy = 42 KSI
CHANNELS AND ANGLES	A36, Fy = 36 KSI
PLATES	A572, Fy = 50 KSI
PIPES	A53, Fy = 35 KSI
THREADED RODS	F1554 GRADE 36, Fy = 36 KSI

STRUCTURAL GENERAL NOTES

CODES & GENERAL REQUIREMENTS

1. PERFORM ALL CONSTRUCTION IN ACCORDANCE WITH THE 2020 NEW YORK STATE EXISTING BUILDING CODE AND THE 2020 NEW YORK STATE BUILDING CODE. THE FOLLOWING CODES AND STANDARDS ARE REFERENCED IN THE PROJECT DOCUMENTS:
   - A. ACI 318-14 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
   - B. ACI 530-13 BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES
   - C. ACI 530.1-13 SPECIFICATIONS FOR MASONRY STRUCTURES
   - D. AISC 360-16 SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS
   - E. ASCE7-16 MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES WITH SUPPLEMENT NO. 1
2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS IN THE FIELD PRIOR TO THE START OF WORK. CONTRACTOR SHALL BE RESPONSIBLE FOR REQUIRED COORDINATION WITH EXISTING CONDITIONS AND WITH THE WORK OF ALL OTHER TRADES. THE VERIFICATION OF THE PHYSICAL INTERRELATIONSHIPS OF ELEMENTS OF THE WORK FROM PLANS AND SPECIFICATIONS, AND IN THE FIELD IS THE CONTRACTOR'S SOLE RESPONSIBILITY. THE ARCHITECT'S AND ENGINEER'S REVIEW OF THE CONTRACTOR'S SUBMITTALS DOES NOT RELIEVE THE CONTRACTOR FROM THESE RESPONSIBILITIES.
   - A. IF THE EXISTING FIELD CONDITIONS DO NOT PERMIT THE INSTALLATION OF THE WORK IN ACCORDANCE WITH THE DETAILS SHOWN, THE CONTRACTOR SHALL NOTIFY THE DESIGN PROFESSIONALS IMMEDIATELY AND PROVIDE A SKETCH OF THE CONDITION WITH HIS PROPOSED MODIFICATION OF THE DETAILS GIVEN ON THE CONTRACT DOCUMENTS.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR THE STABILITY AND THE SAFETY OF THE WORK AT ALL TIMES, INCLUDING ALL TEMPORARY SHORING AND TEMPORARY SUPPORTS FOR CONSTRUCTION. THE CONTRACTOR'S NEW YORK STATE-REGISTERED PROFESSIONAL ENGINEER SHALL DESIGN AND SUPERVISE THE ADEQUACY, INSTALLATION, AND REMOVAL OF ALL TEMPORARY SHORING, SHORING SYSTEMS, AND THE LIKE IF THOSE ARE REQUIRED FOR THIS PROJECT'S CONSTRUCTION. CONTRACTOR SHALL SUBMIT DRAWINGS AND CALCULATIONS SIGNED AND SEALED BY CONTRACTOR'S PROFESSIONAL ENGINEER FOR TEMPORARY WORK.
4. THE CONTRACTOR SHALL NOT OVERLOAD THE EXISTING ROOF STRUCTURE BY STOCKPILING MATERIALS AND/OR USING HEAVY EQUIPMENT. ACCEPTABLE LOADING FOR LAYDOWN AND WORK AREAS ON THE ROOF SHALL BE BASED ON THE STRUCTURAL DESIGN LIVE LOAD CAPACITY OF:
   - A. A UNIFORMLY DISTRIBUTED LOAD OF 20 PSF
   - B. A CONCENTRATED LOAD OF 300 LBS

GRAVITY LOAD DEFLECTION CRITERIA

1. TOTAL LOAD: L/240
2. LIVE LOAD: L/360

TESTING & INSPECTIONS

1. OWNER SHALL RETAIN THE SERVICES OF A TESTING / INSPECTION AGENCY WHICH SHALL PROVIDE PERSONNEL WITH THE FOLLOWING MINIMUM QUALIFICATIONS:
   - A. CERTIFIED BY INSTITUTE OF CERTIFIED ENGINEERING TECHNICIANS OR OTHER RECOGNIZED COMPARABLE ORGANIZATION.
   - B. FOR INSPECTION OF STEEL, AISC-SSI CERTIFIED STRUCTURAL STEEL INSPECTOR. PER AWS D1.1, THE STEEL INSPECTOR SHALL HAVE THE FOLLOWING QUALIFICATIONS FOR NON-DESTRUCTIVE TESTING OF WELDS: NDT LEVEL II OR NDT LEVEL I WORKING UNDER THE NDT LEVEL II.
   - C. SUBMIT PERIODIC REPORTS TO ENGINEER DURING CONSTRUCTION. SUBMIT FINAL INSPECTION REPORT SUMMARY FOR EACH DIVISION OF WORK, CERTIFIED BY A LICENSED PROFESSIONAL ENGINEER, THAT SPECIAL INSPECTIONS WERE PERFORMED AND THAT WORK WAS PERFORMED IN ACCORDANCE WITH CONTRACT DOCUMENTS. IF INITIAL INSPECTIONS MADE BY THE OWNER'S TESTING AND INSPECTION AGENCY REVEAL THAT ANY PORTION OF THE WORK DOES NOT COMPLY WITH THE CONTRACT DOCUMENTS, ADDITIONAL TEST, INSPECTIONS, AND NECESSARY REPAIRS WILL BE MADE AT THE CONTRACTOR'S EXPENSE.
2. ADDITIONAL INSPECTIONS SHALL BE PROVIDED IN ACCORDANCE WITH LOCAL CODE REQUIREMENTS.
3. STRUCTURAL STEEL LAYOUT SHALL BE INSPECTED. ALL BOLTED AND WELDED CONNECTIONS SHALL BE INSPECTED. ADDITIONAL TESTING WILL BE REQUIRED IF WELDERS ARE NOT AWS CERTIFIED FOR STRUCTURAL STEEL.

POST-INSTALLED ANCHORS

1. UNLESS NOTED OTHERWISE ON DRAWINGS, THE FOLLOWING PRODUCTS ARE TO BE USED WITH THE FOLLOWING BASE MATERIALS:
   - a. CONCRETE – HILTI HIT HY200R, DEWALT AC200+, DEWALT AC100+ GOLD, OR APPROVED EQUAL
   - b. CONCRETE MASONRY UNITS AND BRICK MASONRY – HILTI HIT HY270, DEWALT AC100+ GOLD, OR APPROVED EQUAL
     - HOLLOW MASONRY REQUIRES USE OF SCREEN TUBES (PLASTIC OR STAINLESS STEEL)
     - SS OR GALV SCREW ANCHORS, WEDGE ANCHORS, OR EXPANSION ANCHORS APPROVED FOR USE WITH BRICK MASONRY ARE ACCEPTABLE FOR SECURING DUCTS TO EXTERIOR WALL. PRODUCTS MUST BE REVIEWED AND APPROVED BY ENGINEER PRIOR TO INSTALLATION AND MUST BE COORDINATED WITH BRACKET FASTENER LOCATIONS AND SIZES.
2. PRODUCTS TO BE USED WITH CONCRETE HOLLOWCORE PLANK MUST BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION.

DESIGN LOADS

1. LOWER ROOF
   - A. EXISTING DEAD LOADS: 115 PSF (PER ORIGINAL DWGS)
     - a. 8" PRECAST PLANK
     - b. SLOPED CONCRETE TOPPING
     - c. ROOFING ASSEMBLY
   - B. ORIGINAL SNOW LOAD: 30 PSF INCREASED TO 90 PSF FOR DRIFT
2. PENTHOUSE FLOOR
   - A. DEAD LOADS (APPROX. 95 PSF)
     - a. 8" PRECAST PLANK
     - b. 2" CONCRETE TOPPING
     - c. MEPFP (NO CEILING)
   - B. EXISTING LIVE LOADS: 100 PSF (PER ORIGINAL DWGS)
     - a. MECHANICAL ROOM
3. PENTHOUSE ROOF
   - A. EXISTING DEAD LOADS: 35 PSF (PER ORIGINAL DWGS)
     - a. STEEL BAR JOISTS 3 PSF
     - b. METAL ROOF DECK 3 PSF
     - c. ROOFING ASSEMBLY 3 PSF
   - B. ORIGINAL SNOW LOAD: 30 PSF
4. MECHANICAL UNIT SUPPORT / ACCESS
   - A. DEAD LOADS
     - a. STRUCTURAL STEEL SELF WEIGHT 7 PSF
     - b. 1" BAR GRATING 10 PSF
     - c. GUARDRAIL 15 PLF
   - B. LIVE LOADS
     - a. MECHANICAL UNIT 9,000 LBS
     - b. CATWALK 40 PSF (300 LBS CONCENTRATED)
     - c. GUARDRAIL 50 PLF

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ELECTRICAL:
MECHANICAL:

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131 SWANSON DRIVE
ITHACA, NEW YORK 14850

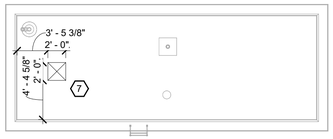
JL SWANSON WILDLIFE HEALTH CENTER AHU AND ROOF REPLACEMENT

DATE:	FEBRUARY 27, 2026
FACILITY:	1772
DESIGN:	Q. OLSEN-BIEBER
DRAWN:	QCO

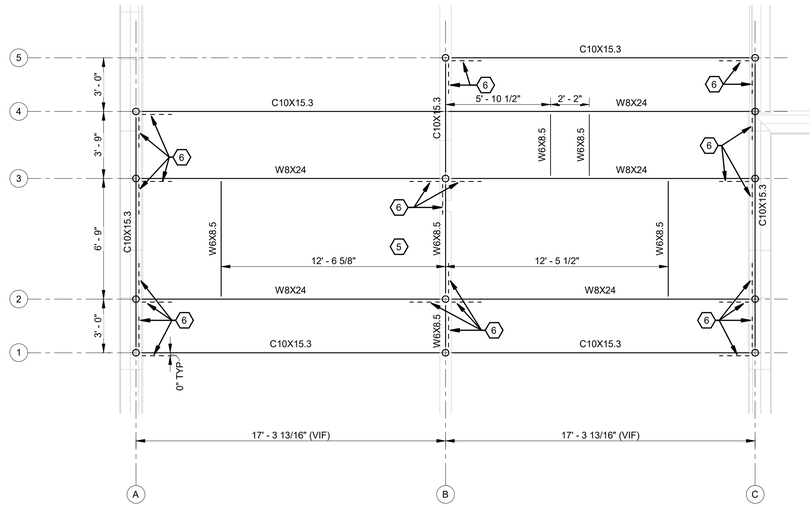
STRUCTURAL GEN. NOTES, SYMBOLOGY, & ABBREVIATIONS

ARCHIVE BAR CODE

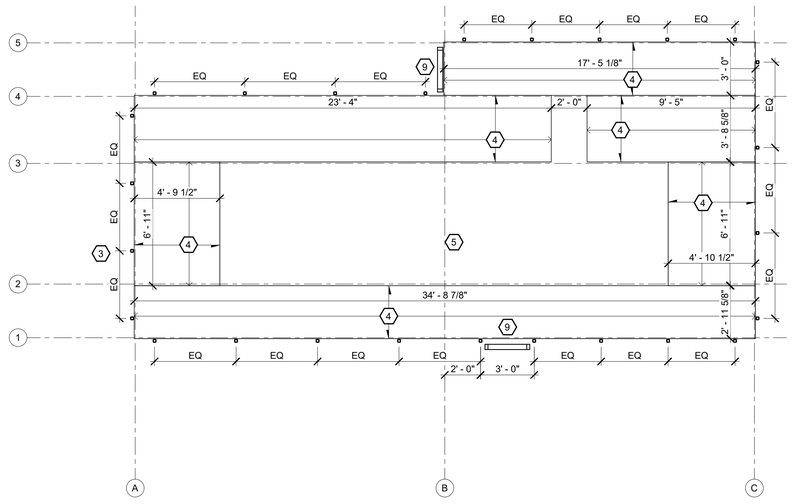
S-001
17759919



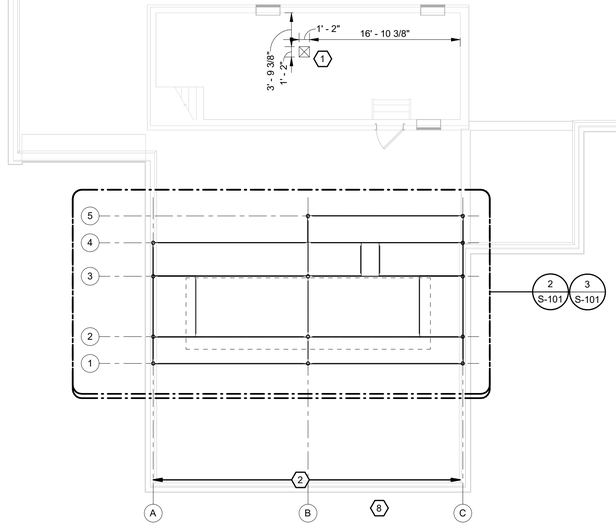
4 PENTHOUSE ROOF
SCALE: 1/8" = 1'-0"



2 DUNNAGE FRAMING PLAN
SCALE: 1/4" = 1'-0"



3 PLATFORM GRATING AND RAILING PLAN
SCALE: 1/4" = 1'-0"



1 LOW ROOF DECK
SCALE: 1/8" = 1'-0"

S-101 KEYED RENOVATION NOTES

#	
1	SEE MECH DWGS FOR LOCATION AND SIZE OF NEW OPENING IN PLANK. SEE S-301 FOR REINFORCEMENT DETAIL AND COORDINATION REQUIREMENTS.
2	PROVIDE OSHA COMPLIANT BALLASTED RAILING SYSTEM AT ROOF EDGE. APPROXIMATELY 36 LF FOR PRICING.
3	PROVIDE OSHA COMPLIANT RAILING AT PERIMETER OF DUNNAGE PLATFORM. SEE S-301 FOR DETAIL.
4	1" BAR GRATING SUPPORTING 80 PSF UNIFORM LOAD AND 300 LBS CONCENTRATED LOAD. SPAN AS SHOWN ON PLAN. MAX WEIGHT 10 PSF.
5	NEW AHU. SEE MECH DWGS FOR EXACT LOCATION. STEEL LAYOUT SHALL BE COORDINATED WITH FINAL UNIT PLACEMENT. UNIT WEIGHS 9,000 LBS AND IS 310 INCHES LONG X 81 INCHES WIDE X 85 INCHES HIGH
6	L3X3X1/4 KICKERS. SEE S-301 FOR DETAILS.
7	NEW OPENING FOR DUCT. SEE S-301 FOR DETAILS. COORDINATE SIZE AND LOCATION WITH MECH DWGS
8	SECURE NEW DUCTS TO MASONRY WITH GALVANIZED STEEL BRACKETS @ 4'-0" O.C. (MAX) AND POST INSTALLED ANCHORS PER S-001.
9	PROVIDE OSHA COMPLIANT FIXED THROUGH-LADDER. 30 INCHES WIDE. FASTEN TO PERIMETER BEAM. COORDINATE CONNECTIONS WITH STEEL FABRICATION TO PRE-DRILL HOLES PRIOR TO HD GALV.

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MECHANICAL:

STATE OF NEW YORK
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N

0' 2' 4' 8'
SCALE: 1/4" = 1'-0"
0' 4' 8' 16'
SCALE: 1/8" = 1'-0"

131 SWANSON DRIVE
ITHACA, NEW YORK 14850

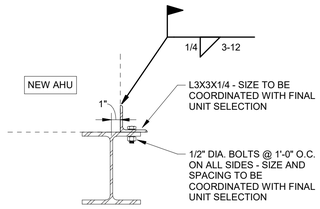
JL SWANSON WILDLIFE HEALTH CENTER AHU AND ROOF REPLACEMENT

DATE:	FEBRUARY 27, 2026
FACILITY:	1772
DESIGN:	Q. OLSEN-BIEBER
DRAWN:	QCO

STRUCTURAL FRAMING PLAN

ARCHIVE BAR CODE

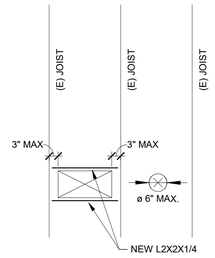
S-101
17759919



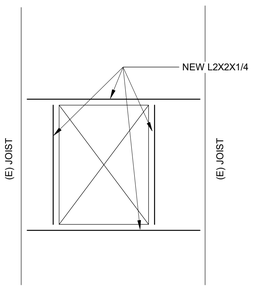
NOTES:

1. TOUCH UP GALVANIZING PER S-001 AFTER WELDING.
2. PRE-DRILL HOLES IN ANGLE AND BEAM PRIOR TO GALVANIZING.
3. FIELD WELD ANGLE TO UNIT ON GROUND BEFORE SETTING ON DUNNAGE. CONTRACTOR'S OPTION TO FIELD WELD ON ROOF WITH PROTECTION OF FLAMMABLE MATERIALS.

8 UNIT ATTACHMENT
NOT TO SCALE



TYPE 1: OPENING WITH NO REINFORCEMENT OR WITH REINFORCEMENT ON TWO SIDES

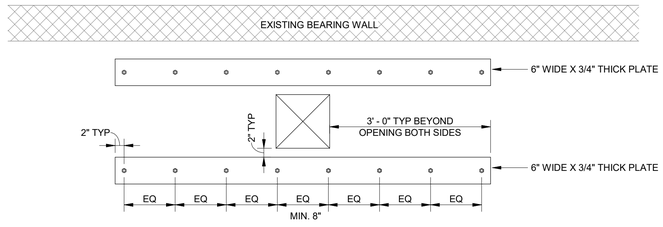


TYPE 2: OPENINGS WITH REINFORCEMENT ON FOUR SIDES

NOTES:

1. CORES SHALL BE NO LARGER THAN 6" DIA. AND SHALL BE MIN. 2" FROM EDGE OF NEAREST STRUCTURAL MEMBER.
2. RECTANGULAR OPENINGS WITH REINFORCEMENT ON TWO SIDES MUST BE CUT ACROSS THE FULL SPAN BETWEEN JOISTS UNLESS OPENING IS UNDER 6"x6".
3. COORDINATE OPENING SIZE AND LOCATION WITH EOR TO VERIFY REINFORCEMENT REQUIREMENTS PRIOR TO DEMOLITION.
4. DISTANCES SHOWN FROM EXISTING JOISTS ARE MEASURED TO THE CENTERLINE OF THE JOISTS.
5. PROVIDE L2X2X1/4 FRAMING BASED ON THE DIMENSIONS SHOWN HERE, UNLESS NOTED OTHERWISE.
6. PROVIDE MIN. 1/2" DRYPACK BETWEEN NEW STEEL AND UNDERSIDE OF DECK.
7. FASTEN NEW STEEL TO EXISTING STEEL WITH 1/4" FILLET WELDS ON BOTH SIDES FOR FULL HEIGHT OF VERTICAL ANGLE LEG.
8. FASTEN NEW STEEL TO NEW STEEL WITH 1/4" FILLET WELDS ON BOTH SIDES FOR FULL HEIGHT OF VERTICAL ANGLE LEG.
9. CENTERLINE OF NEW STEEL SHALL BE 1" FROM EDGE OF EXISTING OPENINGS UNLESS NOTED OTHERWISE.

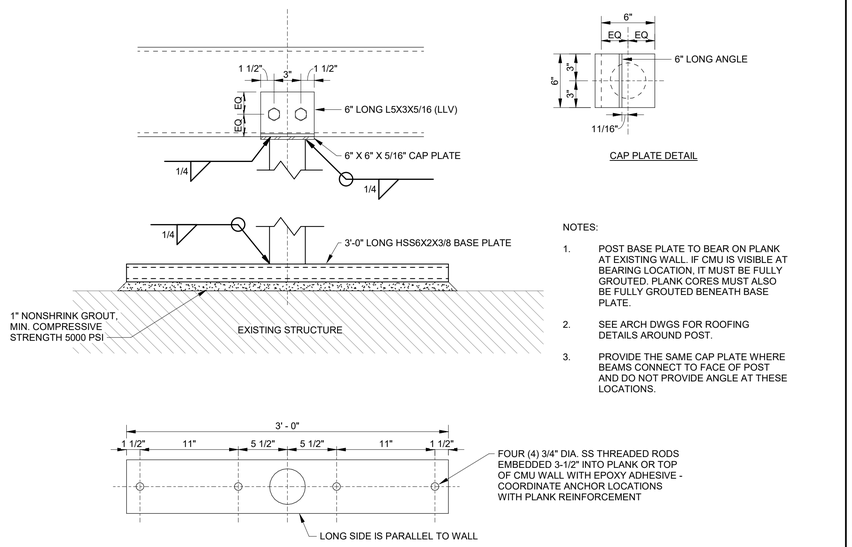
7 NEW OPENINGS IN EXISTING METAL DECK
NOT TO SCALE



NOTES:

1. FOR OPENINGS LARGER THAN 3" SQUARE OR 3" DIAMETER, PROVIDE REINFORCEMENT AS SHOWN ON OTHER SIDE OF THE OPENING IN THE DIRECTION OF THE SPAN. FINAL PLATE LENGTHS AND SIZES TO BE DETERMINED BASED ON OPENING LOCATION AND LOADING OF ABOVE LEVEL.
2. PLATES SHALL BE FASTENED TO THE PLANK WITH ONE OF THE FOLLOWING OPTIONS IN THE LAYOUT SHOWN:
   - A. FOUR (4) 3/8" DIA. HILTI KWIK HUS-EZ ANCHORS WITH 1-1/8" EMBEDMENT
   - B. FOUR (4) 3/8" DIA. HILTI HAS THREADED ROD WITH HILTI HIT-SC AND HILTI HIT-HY 270 EPOXY ADHESIVE
   - C. EIGHT (8) 3/8" DIA HILTI HDI-P TZ DROP IN ANCHORS WITH COMPATIBLE BOLTS FOR SECURING STEEL PLATE TO ANCHORS
   - D. SIX (6) 3/8" DIA. DEWALT HOLLOW-SET DROPIN ANCHORS WITH 1" EMBEDMENT AND COMPATIBLE BOLTS FOR SECURING STEEL PLATE TO ANCHORS
   - E. SIX (6) 3/8" DIA. SIMPSON STRONG TIE DROP-IN SHORT ANCHOR (DIAS) WITH COMPATIBLE BOLTS FOR SECURING STEEL PLATE TO ANCHORS
   - F. APPROVED EQUAL ACCEPTABLE FOR USE WITH HOLLOWCORE PLANK. EOR TO DETERMINE QUANTITY AND SPACING WHEN REVIEWING PRODUCT DATA SUBMITTAL.
3. PROVIDE 1" DRYPACK BETWEEN PLATE AND UNDERSIDE OF PLANK.
4. PLATES SHALL BE PAINTED WITH TWO COATS OF PAINT AND TOP COAT SHALL BE TINTED TO MATCH UNDERSIDE OF PLANK COLOR IN AREAS WITH NO CEILING.
5. ANCHOR LOCATIONS SHALL BE COORDINATED IN THE FIELD WITH PLANK STRAND LOCATIONS. CONTACT EOR TO DETERMINE STRAND LOCATIONS AND MARK ACCEPTABLE ANCHOR PLACEMENT ON UNDERSIDE OF PLANK PRIOR TO INSTALLATION.

6 PLANK OPENING REINFORCEMENT
NOT TO SCALE

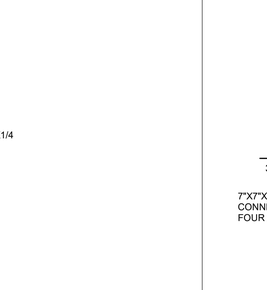


NOTES:

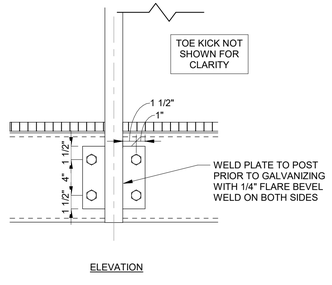
1. POST BASE PLATE TO BEAR ON PLANK AT EXISTING WALL. IF CMU IS VISIBLE AT BEARING LOCATION, IT MUST BE FULLY GROUTED. PLANK CORES MUST ALSO BE FULLY GROUTED BENEATH BASE PLATE.
2. SEE ARCH DWGS FOR ROOFING DETAILS AROUND POST.
3. PROVIDE THE SAME CAP PLATE WHERE BEAMS CONNECT TO FACE OF POST AND DO NOT PROVIDE ANGLE AT THESE LOCATIONS.

BASE PLATE DETAIL

3 POST BASE AND CAP PLATES
NOT TO SCALE

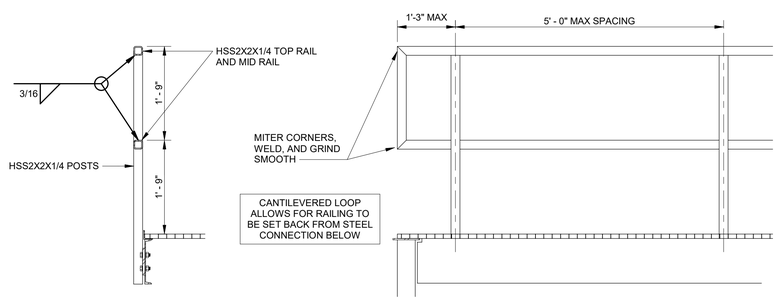


SECTION

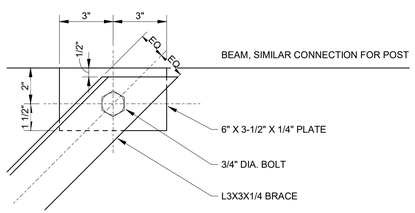


ELEVATION

5 EDGE OF GRATING AND RAILING
NOT TO SCALE



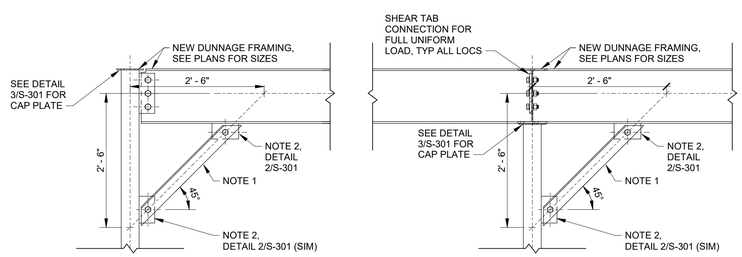
2 ACCESS PLATFORM RAILING
NOT TO SCALE



4 TYP. BRACE CONNECTIONS
NOT TO SCALE

NOTES:

1. SEE PLAN FOR KICKER LOCATIONS.
2. KICKERS BOLT TO PLATES ON THE BEAMS AND POSTS. SEE DETAIL 2/S-301 FOR CONNECTIONS
3. BEAM TO BEAM CONNECTIONS SHALL BE BOLTED SHEAR TAB TYPE CONNECTIONS DESIGNED FOR THE FULL UNIFORM DISTRIBUTED LOAD



BEAM TO POST

CONTINUOUS BEAM OVER POST

1 TYP. CONNECTIONS FOR BEAMS AND BRACES
NOT TO SCALE

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131 SWANSON DRIVE
ITHACA, NEW YORK 14850

JL SWANSON WILDLIFE HEALTH CENTER AHU AND ROOF REPLACEMENT

DATE:	FEBRUARY 27, 2026
FACILITY:	1772
DESIGN:	Q. OLSEN-BIEBER
DRAWN:	QCO

STRUCTURAL TYPICAL DETAILS

ARCHIVE BAR CODE

S-301
17759919

SYMBOLS

- DOOR/ WALL - DEMOLITION
- DOOR/ WALL - EXISTING
- DOOR/ WALL - NEW
- ITEMS FOR DEMOLITION
- WALL - BRICK
- WALL - CMU
- WALL - CONCRETE
- WALL - METAL STUD/ GWB
- WALL - EXISTING
- TAG - DOOR (101)
- TAG - WINDOW (1)
- TAG - WALL (X-X / X)
- TAG - ROOM # (100)
- CENTER LINE
- LEVEL MARKER (Name / Elevation)
- COLUMN GRID MARKER (0)
- ELEVATION MARKER (0' - 0")
- ELEVATION CHANGE ARROWS (DN / UP)
- BREAK LINE
- 1-HOUR FIRE SEPARATION
- 2-HOUR FIRE SEPARATION
- NOT IN CONTRACT
- MATCHLINE

ABBREVIATIONS

&	AND
@	AT
ACT	ACOUSTICAL CEILING TILE
ALT	ALTERNATE
ALUM	ALUMINUM
AVG	AVERAGE
AFF	ABOVE FINISH FLOOR
BD	BOARD
BLDG	BUILDING
BOD	BOTTOM OF DECK
BSMT	BASEMENT
CG	CORNER GUARDS
CJ	CONTROL JOINT
CLG	CEILING
CL	CENTER LINE
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONF	CONFERENCE
CONT	CONTINUOUS
CORR	CORRIDOR
CPT	CARPET
CRS	COURSE(S)
CT	CERAMIC TILE
DEMO	DEMOLITION
DF	DRINKING FOUNTAIN
DIA	DIAMETER
DIM	DIMENSION
DN	DOWN
DO	DOOR OPENING
DWG	DRAWING
EA	EACH
EJ	EXPANSION JOINT
ELEC	ELECTRIC
ELEV	ELEVATION/ ELEVATOR
EPDM	RUBBER ROOF MEMBRANE
EQ	EQUAL
EXG	EXISTING
EXT	EXTERIOR
FD	FLOOR DRAIN
FDN	FOUNDATION
FEC	FIRE EXTINGUISHER CABINET
FFE	FINISH FLOOR ELEVATION
FPRF	FIREPROOF(ING)
FRP	FIBER REINFORCED POLYESTER
FT	FOOT/FEET
FTG	FOOTING
GA	GAGE
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GEN	GENERAL
GL	GLASS
GWB	GYPSUM WALL BOARD
HC	HANDICAPPED
HT	HEIGHT
HM	HOLLOW METAL
HR	HOUR
HVAC	HEATING, VENTILATING & AC
JAN	JANITOR
LAV	LAVATORY
LB/#	POUND
LGMF	LIGHT GAGE METAL FRAMING
MFR	MANUFACTURER
MAT	MATERIAL
MAX	MAXIMUM
MEZZ	MEZZANINE
MIN	MINIMUM
MO	MASONRY OPENING
MTL	METAL
NA	NOT APPLICABLE
NIC	NOT IN CONTRACT
NR	NOT RATED
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
OPNG	OPENING
OSB	ORIENTER STRAND BOARD
+/-	PLUS OR MINUS
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	PRESSURE TREATED
QTY	QUANTITY
R	RISER
RCP	REFLECTED CEILING PLAN
RD	ROOF DRAIN
REF	REFRIGERATOR
REQ	REQUIRED
REV	REVISION
RO	ROUGH OPENING
RTU	ROOF TOP UNIT
SHTG	SHEATHING
SIM	SIMILAR
SF	SQUARE FOOT/ FEET
SS	STAINLESS STEEL
STL	STEEL
STD	STANDARD
T	TREAD
T&G	TONGUE & GROOVE
TEL	TELEPHONE
TEMP	TEMPERATURE
TOS	TOP OF STEEL
TV	TELEVISION
TYP	TYPICAL
UEV	UNEVEN DOORS W/ VISION PANEL
UEF	UNEVEN FLUSH DOOR
UNO	UNLESS NOTED OTHERWISE
VCT	VINYL COMPOSITION TILE
VIF	VERIFY IN FIELD
W/O	WITHOUT
WD	WOOD

SCOPE OF WORK

1.0 REMOVE EXISTING ROOF MEMBRANE SYSTEM COMPLETELY.

2.0 INSTALL NEW ROOF INSULATION AND ROOF MEMBRANE SYSTEM.

3.0 REMOVE MECH. UNIT CURBS, FRAMING & LOUVERS, REMOVE & REPLACE DOOR.

4.0 REMOVE PORTIONS OF INTERIOR CEILINGS AS REQUIIRED FOR MECHANICAL WORK.

GENERAL NOTES

1.0 DESIGN, CONSTRUCTION AND SAFETY SHALL CONFORM TO ALL LOCAL, STATE AND OWNER SPECIFIC CODES, INCLUDING (BUT NOT LIMITED TO) THE NEW YORK STATE UNIFORM FIRE PROTECTION AND BUILDING CODE, LATEST REVISION, THE NFPA 101 LIFE SAFETY CODE, LATEST REVISION, ANSI A117.1 - LATEST REVISION, OSHA, AND ANY OTHER CODES GOVERNED BY THE JURISDICTION IN WHICH THIS PROJECT IS BEING CONSTRUCTED.

2.0 THIS CONTRACT REQUIRES COMPLETE, FINISHED WORKABLE PROJECT OF THE AREAS INDICATED BY THE CONTRACT DOCUMENTS, AND SHALL INCLUDE ALL MATERIALS AND LABOR NECESSARY TO COMPLETE, REGARDLESS OF WHETHER OR NOT ALL WORK OR EACH ITEM IS SPECIFICALLY INDICATED ON ANY OTHER PORTION OF THE DRAWINGS AND / OR NOTES.

3.0 WHERE MATERIALS REFERENCED ON DRAWINGS, OR NECESSARY TO COMPLETE THE WORK OF THIS CONTRACT ARE NOT SPECIFIED HEREIN, PROVIDE BEST QUALITY MATERIALS. WHERE MATERIALS ARE INTENDED TO MATCH EXISTING, PROVIDE CLOSEST POSSIBLE MATCH, SUBJECT TO OWNER'S APPROVAL. ALL ITEMS AND WORK ON DRAWINGS ARE NEW, UNLESS INDICATED EXISTING. ALL WORK WHICH HAS BEEN DAMAGED SHALL BE REPAIRED OR REPLACED AT NO COST TO THE OWNER. WHERE ITEMS CAN NOT BE REPAIRED TO A ""NEW CONDITION"", OR WHERE THE STRUCTURAL INTEGRITY HAS BEEN AFFECTED, ITEMS SHALL BE REPLACED AT NO COST TO THE OWNER.

4.0 CONTRACTOR IS RESPONSIBLE TO VERIFY ALL SITE, FIELD AND BUILDING CONDITIONS PRIOR TO SUBMITTING BIDS AND COMMENCING WORK. IF THERE ARE ANY DISCREPANCIES BETWEEN DRAWINGS AND FIELD CONDITIONS, NOTIFY THE PROJECT MANAGER, WHO WILL REQUEST CLARIFICATION FROM THE ARCHITECT/ENGINEER AND PROVIDE CLARIFICATION IN WRITING.

5.0 WHERE EXISTING CONSTRUCTION OR ITEMS HAVE BEEN INFILLED, REMOVED AND / OR DISTURBED FOR INSTALLATION OF NEW WORK, CAUSING THE EXPOSURE OF UNFINISHED AND/OR DAMAGED SURFACES RESULTING SURFACES AND INFILLED SURFACES SHALL BE RECONSTRUCTED WITH MATERIALS TO MATCH FINISHED AREAS. ALL ABANDONED OPENINGS (i.e. DUCT/PIPE REMOVALS, ETC.) AT WALLS, ROOF OR FLOOR TO BE INFILLED SOLID.

6.0 WORK IS REQUIRED IN VARIOUS PORTIONS OF THE FACILITY TO EXECUTE WORK OF OTHER TRADES (i.e. ELECTRICAL, MECHANICAL), ALTHOUGH NOT NECESSARILY SHOWN ON DRAWINGS, WORK IS REQUIRED IN THESE AREAS CONSISTING OF REMOVAL / REPLACEMENT OF CEILINGS, WALLS, FINISHES, PAVEMENT AND OTHER CONSTRUCTION AS NECESSARY TO PERFORM WORK AND RESTORE THESE SPACES OR AREAS TO ORIGINAL CONDITION.

7.0 GENERAL CONTRACTOR IS TO COORDINATE WORK OF ALL TRADES. SCHEDULE WORK PROGRESS THROUGHOUT THE ENTIRE PROJECT TO PREVENT CONFLICTS AND INTERFERENCES. OBTAIN ALL NECESSARY INFORMATION SUCH AS SIZES, LOCATIONS, TEMPLATES, LAYOUT, DIMENSIONS AND ALL OTHER INFORMATION NECESSARY FOR A PROPER AND WELL COORDINATED INSTALLATION. PRIOR TO INSTALLATION OF ITEMS, VERIFY AND CONFIRM WITH EACH CONTRACTOR EXACT LOCATION OF ALL ITEMS.

8.0 ALL PENETRATIONS (EXISTING OR NEW) THROUGH FLOORS AND FULL HEIGHT WALLS - IN AREA OF WORK TO BE FIRE STOPPED. ALL GAPS AND JOINTS AT RATED FLOORS, ROOFS AND WALLS TO BE FIRE & SMOKE STOPPED. GAPS AND JOINTS INCLUDE (BUT ARE NOT LIMITED TO) TOP OF WALL TO FLOOR OR ROOF DECK, WALL TO BEAMS, AND CONTROL OR EXPANSION JOINTS. FIRE STOPPING INCLUDES BOTH FORM OR PACKING MATERIAL AND THE FILL, VOID OR CAVITY MATERIAL. PROVIDE AND INSTALL LABELING REQUIRED BY CODE. LABELS SHALL INCLUDE PENETRATION TYPE WITH UL LISTING USED, MATERIAL USED, DATE INSTALL AND NAME OF INSTALLER.

9.0 JOBSITE WILL BE CLEANED DAILY AND DEBRIS REMOVED TO CONTAINERS OR TO VEHICLE WHICH WILL REMOVE DEBRIS FROM CAMPUS. CONTAINERS WILL BE REMOVED AS SOON AS FULL OR WHEN THE PROJECT HAS PROGRESSED TO A POINT THAT A CONTAINER IS NO LONGER REQUIRED.

10.0 CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL AREAS USED TO BRING SUPPLIES AND EQUIPMENT INTO THE PROJECT AREA. ANY DAMAGE TO AREAS OUTSIDE THE PROJECT AREA INCLUDING BUT NOT LIMITED TO THE LOBBY AND CORRIDOR SHALL BE REPAIRED AT NO COST TO THE OWNER.

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131 SWANSON DRIVE
ITHACA, NEW YORK 14850

JL SWANSON WILDLIFE HEALTH CENTER AHU AND ROOF REPLACEMENT

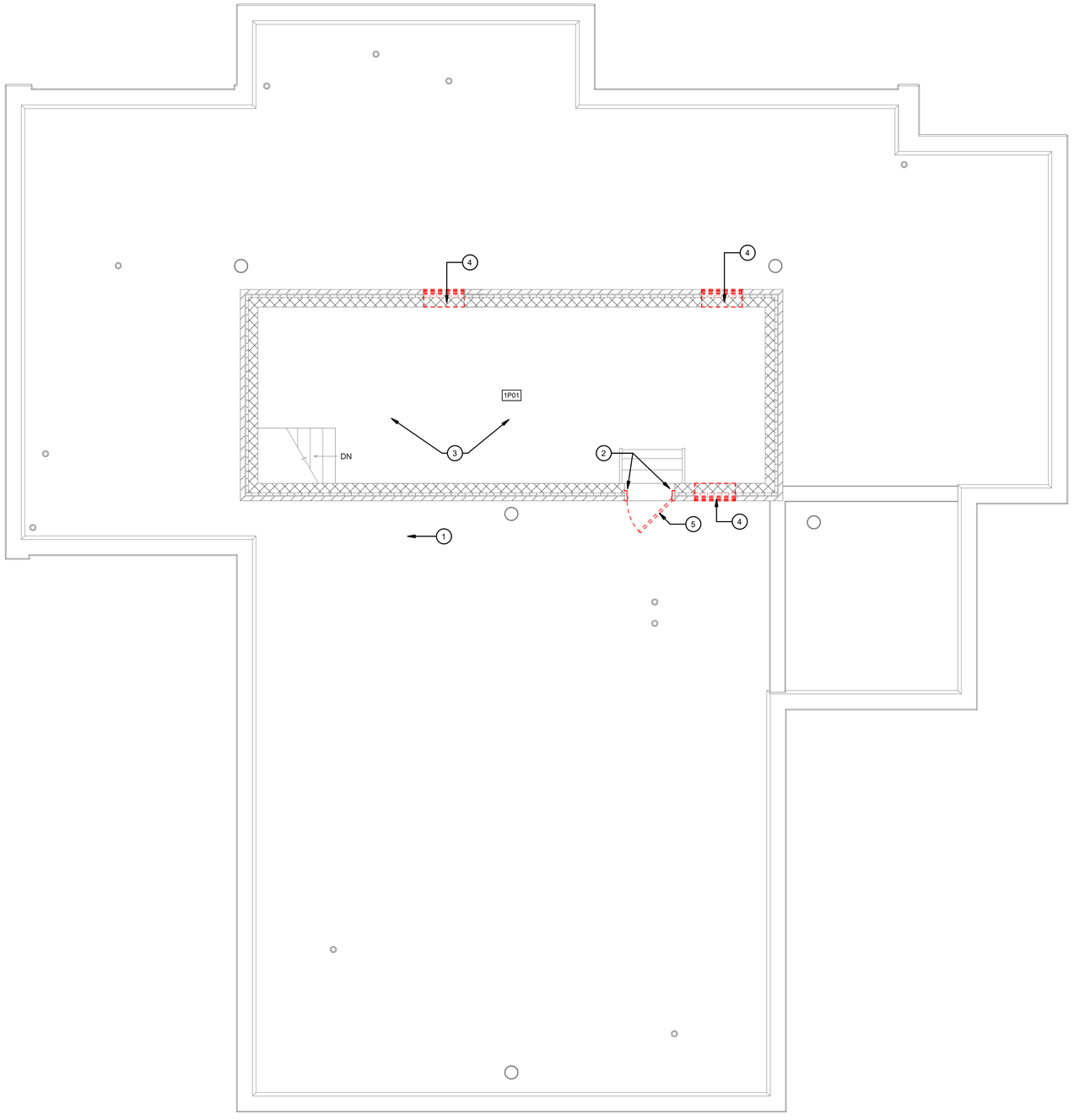
DATE:	FEBRUARY 27, 2026
FACILITY:	1772
DESIGN:	R. HERKO
DRAWN:	RLH

GEN. NOTES, SYMBOLOGY, & ABBREVIATIONS

ARCHIVE BAR CODE

A-001

17759919



1 PENTHOUSE DEMOLITION PLAN
SCALE: 1/4" = 1'-0"

A-102 KEYED DEMOLITION NOTES

#	
1	EXISTING MECHANICAL UNIT AND CURB TO BE REMOVED COMPLETELY. COORDINATE REMOVAL WITH MECHANICAL AND ELECTRICAL CONTRACTOR.
2	EXISTING HOLLOW METAL DOORWAY TO BE CUT AWAY (APPROXIMATELY 12" HIGH) TO ALLOW INSTALLATION OF NEW C.M.U. INFILL.
3	ALL EXISTING MECHANICAL UNIT STRUCTURAL STEEL FRAMING AND SUPPORTS IN PENTHOUSE TO BE REMOVED BY GENERAL CONTRACTOR. MECHANICAL UNITS AND COMPONENTS REQUIRED BY MECHANICAL UNIT TO BE REMOVED BY HVAC CONTRACTOR. ALL ELECTRICAL COMPONENTS TO BE REMOVED BY ELECTRICAL CONTRACTOR. ALL CONTRACTORS TO COORDINATE REMOVALS.
4	REMOVE EXISTING LOUVER AND PREP OPENING TO RECEIVE NEW METAL PANEL/ FRAME AND BACK-UP WALL CONSTRUCTION INFILL.
5	EXISTING H.M. DOOR TO BE REMOVED. FRAME TO BE PREPPED TO RECEIVE NEW DOOR AND HARDWARE.

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N

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PENTHOUSE DEMOLITION PLAN

ARCHIVE BAR CODE

A-102
17759919

1 FIRST FLOOR REFLECTED CEILING DEMOLITION PLAN
SCALE: 1/4" = 1'-0"

A-103 KEYED DEMOLITION NOTES

#	
1	REMOVE EXISTING CEILING SUSPENDED CEILING GRID AND CEILING TILE. PREP TO INSTALL NEW SUSPENDED GRID AND TILE SYSTEM.
2	CAREFULLY REMOVE PORTION OF EXISTING SUSPENDED CEILING GRID SYSTEM AND CEILING TILES AS REQUIRED FOR MECHANICAL CONTRACTOR TO PERFORM HVAC WORK ABOVE CEILING. G.C. TO PATCH AND REPAIR GRID AFTER MECHANICAL CONTRACTOR HAS COMPLETED WORK. G.C. TO REPLACE SALVAGED CEILING TILE AND GRID IN WORK AREA. IF TILES CAN NOT BE SALVAGED, THEN CONTRACTOR TO PROVIDE AND INSTALL NEW TILES TO MATCH EXISTING.

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FIRST FLOOR REFLECTED CEILING DEMOLITION PLAN

ARCHIVE BAR CODE

A-103
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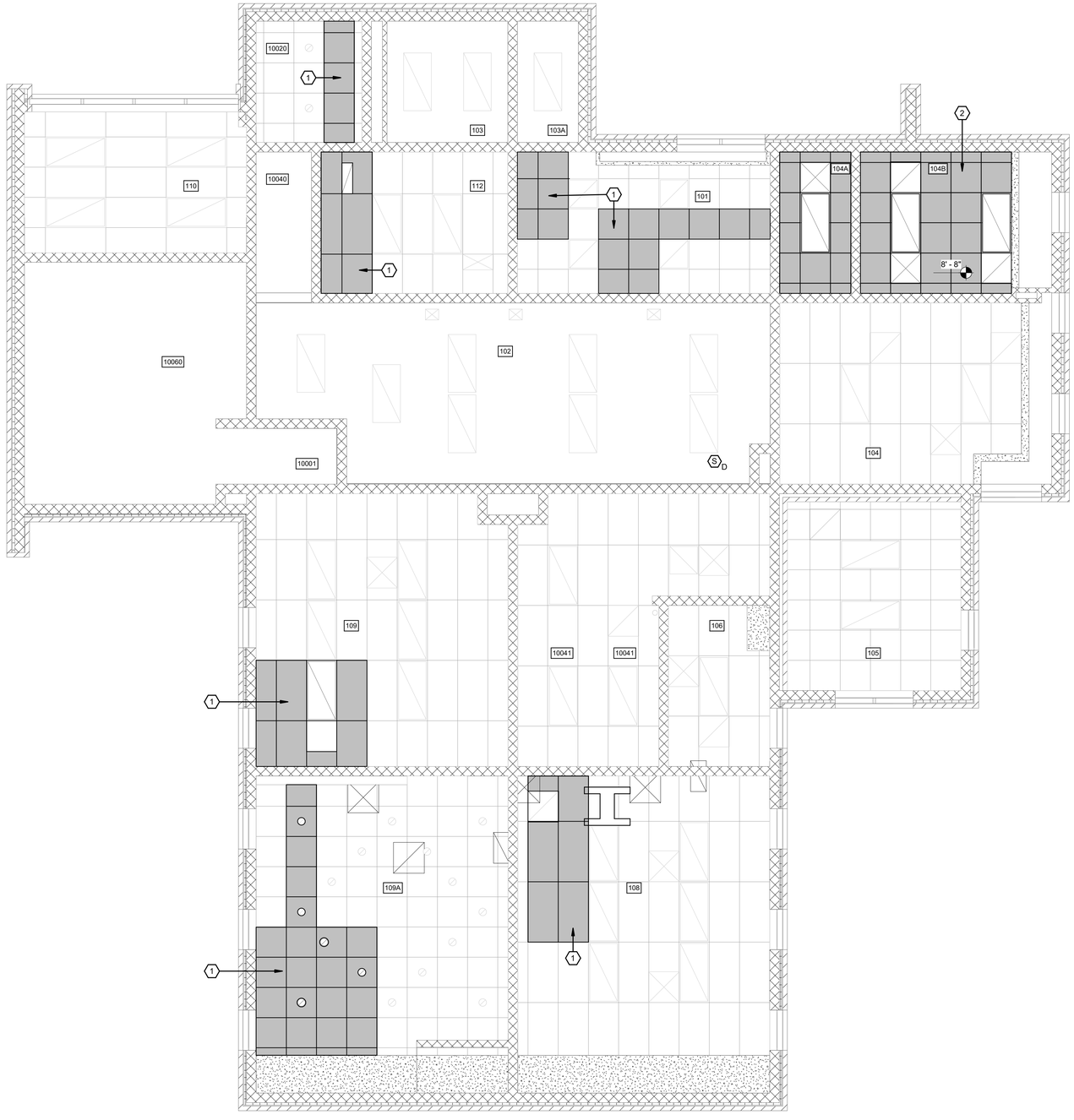

1 FIRST FLOOR REFLECTED CEILING RENOVATION PLAN
SCALE: 1/4" = 1'-0"

A-104 KEYED RENOVATION NOTES

1	AREA OF EXISTING SUSPENDED CEILING GRID TO BE REPAIRED AFTER MECHANICAL CONTRACTOR HAS COMPLETED INSTALLATION WORK ABOVE CEILING. REPLACE AREA WITH NEW TILES TO MATCH EXISTING ADJACENT CEILING TILES.
2	G.C. TO PROVIDE AND INSTALL NEW SUSPENDED CEILING GRID AND TILE SYSTEM. NEW CEILING IS BASED ON ARMSTRONG "OPTIMA HEALTH ZONE" WITH PLANT BASED BINDER, 24" X 24" FINE FISSURED, 9/16" TEGULAR EDGE CEILING TILES AND 9/16" SUPRAFINE SUSPENSION GRID SYSTEM MANUFACTURERED BY ARMSTRONG. COLOR FOR TILE & GRID: WHITE.

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FIRST FLOOR REFLECTED CEILING RENOVATION PLAN

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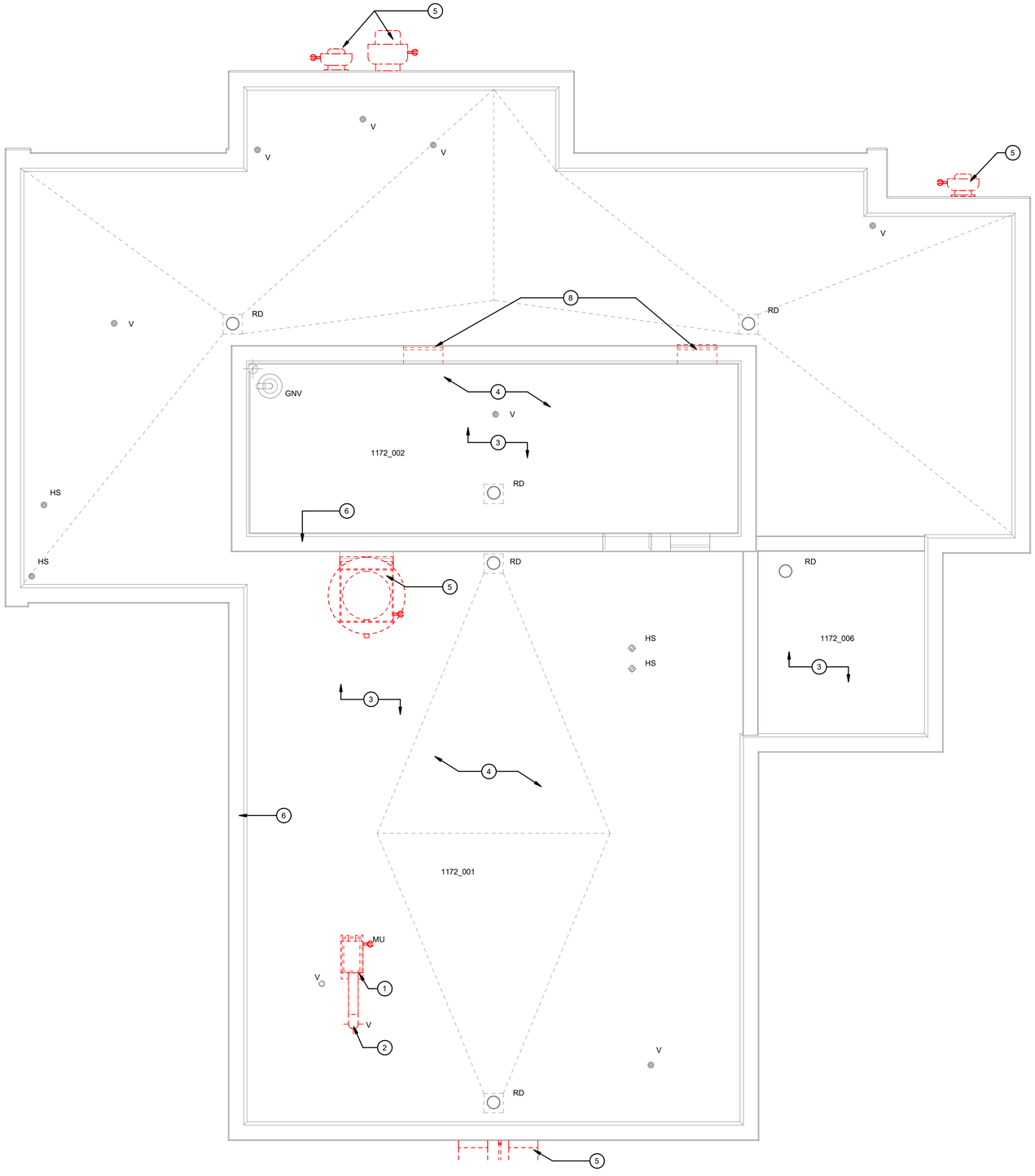

1 ROOF DEMOLITION PLAN
SCALE: 1/4" = 1'-0"

A-105 KEYED DEMOLITION NOTES

#	
1	REMOVE EXISTING MECHANICAL UNIT AND CURB COMPLETELY. COORDINATE REMOVAL WITH MECHANICAL AND ELECTRICAL DRAWINGS.
2	COORDINATE WITH MECHANICAL DRAWINGS. INFILL DECK WITH 20 GA. MIN. STEEL PLATE SPANNING OVER OPENING A MIN. OF 4" ONTO EXISTING CONCRETE DECK. COVER PLATE WITH MIN. 1/2" DENS-DECK SHEATHING BOARD.
3	ROOF LEVEL 1172_001, 1172_002 AND 1172_006: REMOVE EXISTING ROOF SYSTEM DOWN TO EXISTING ROOF DECK (INCLUDING FIBERBOARD SHEATHING, EPDM ROOF MEMBRANE, COAL TAR PITCH "CTP" ROOF MEMBRANE, ALL FLASHINGS, COPINGS, POLYSTYRENE FOAM INSULATION, STONE BALLAST AND DAMAGED WOOD BLOCKING). EXISTING ROOFING SYSTEM CONSISTS OF THE FOLLOWING COMPONENTS: •CONCRETE DECK (TO REMAIN) – ROOF LEVEL 1172_001 •METAL DECK (TO REMAIN) – ROOF LEVEL 1172_002 & 1172_006 •1/2" FIBERBOARD SHEATHING ADHERED TO ROOF DECK – ROOF LEVEL 1172_002 •"CTP" COAL TAR PITCH ROOF MEMBRANE – ROOF LEVEL 1172_001 & 1172_002 •EPDM ROOF MEMBRANE – ROOF LEVEL 1172_006 •POLYSTYRENE FOAM INSULATION – ROOF LEVEL 1172_001 & 1172_002 •STONE BALLAST (SALVAGE FOR OWNER) - ROOF LEVEL 1172_001 & 1172_002 •METAL COPING / FASCIA SYSTEM – ALL LEVELS ASBESTOS ABATEMENT WILL BE REQUIRED TO REMOVE ROOF FLASHINGS. REFER TO ABATEMENT DRAWINGS.
4	REMOVE AND SALVAGE ALL "CRUSHER RUN" STONE BALLAST FROM ROOFS FOR OWNER. DELIVER STONE TO OWNER'S SALVAGE YARD ON CAMPUS AS DIRECTED BY PROJECT MANAGER.
5	EXISTING MECHANICAL UNIT TO BE REMOVED.
6	REMOVE EXISTING METAL FASCIA COMPLETELY DOWN TO EXISTING WOOD BLOCKING. PREP TO RECEIVE NEW FASCIA. SEE DETAIL 4/ A-302.

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ROOF DEMOLITION PLAN

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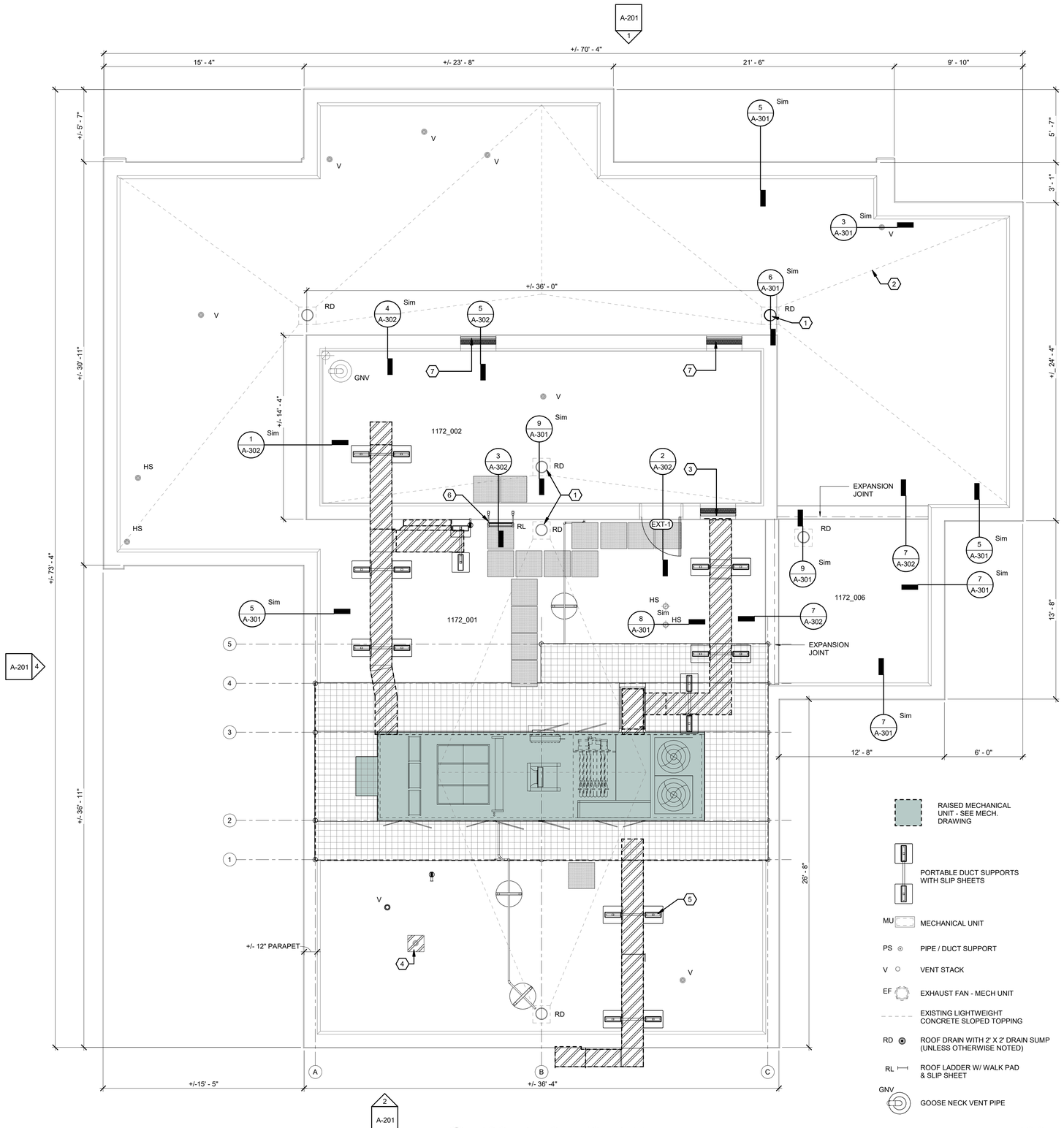

1 ROOF RENOVATION PLAN
SCALE: 1/4" = 1'-0"

ROOF LEGEND

- RAISED MECHANICAL UNIT - SEE MECH. DRAWING
- PORTABLE DUCT SUPPORTS WITH SLIP SHEETS
- MU — MECHANICAL UNIT
- PS — PIPE / DUCT SUPPORT
- V — VENT STACK
- EF — EXHAUST FAN - MECH UNIT
- EXISTING LIGHTWEIGHT CONCRETE SLOPED TOPPING
- RD — ROOF DRAIN WITH 2' X 2' DRAIN SUMP (UNLESS OTHERWISE NOTED)
- RL — ROOF LADDER W/ WALK PAD & SLIP SHEET
- GNV — GOOSE NECK VENT PIPE
- RAISED SERVICE PLATFORM - SEE STRUCTURAL DRAWING
- RAISED INSULATED DUCTWORK - SEE MECH. DRAWING
- 30"X30" WALKWAY PADS
- EP — EQUIPMENT CONDUIT PENTRATION
- DC — DUCT PENETRATION CURB
- HS — HOT STACK
- CENTER LINE
- ?/ ? — PHOTO/ VIEW REFERENCE
- 1172_### — CORNELL U. ROOF PANEL
- 0' - 0" — ELEVATION MARKER
- BREAK LINE

A-106 KEYED RENOVATION NOTES

#	
1	PROVIDE RETROFIT ROOF DRAIN ASSEMBLY. GENERAL CONTRACTOR TO PROVIDE AND INSTALL DRAINS. TYPICAL OF ALL ROOF DRAINS. REFER TO NEW ROOF DRAIN DETAILS ON DRAWING A-302.
2	LINE OF APPROXIMATE EXISTING SLOPED CONCRETE FILL ON TOP OF CONCRETE PLANK.
3	INFILL LOUVER WALL OPENING WITH 1" THICK LAMINATED KYNAR ARCHITECTURAL INSULATED ALUMINUM METAL PANEL WITH BACK-UP WALL (SEE RENOVATION NOTE 7). GENERAL CONTRACTOR AND MECHANICAL CONTRACTOR TO COORDINATE NEW DUCT PENETRATIONS THROUGH NEW PANEL INFILL. GENERAL CONTRACTOR TO MAKE FLASHING DUCT PENETRATION WATER-TIGHT. REFER TO DETAIL 5/A-302.
4	GENERAL CONTRACTOR TO COVER EXISTING PIPE PENTRATION WITH 1/4" STEEL PLATE THAT EXCEEDS OPENING ON ALL SIDES BY 2" MIN. PLATE TO BE FASTENED TO EXISTING ROOF DECK SURFACE PRIOR TO RECIEVING NEW VAPOR BARRIER MEMBRANE.
5	PORTABLE DUCT SUPPORTS WITH SLIP SHEET @ 8'-0" MAX. REFER TO DETAIL 6/ A-302, TYPICAL.
6	PROVIDE AND INSTALL METAL ROOF LADDER. REFER TO DETAIL 3/ A-302.
7	INFILL LOUVER WALL OPENING WITH 1" THICK LAMINATED KYNAR ARCHITECTURAL INSULATED ALUMINUM METAL PANEL (1" THICK MIN.) WITH BACK-UP WALL CONSISTING OF (3-5/8" (20 GA.) @ 16" O.C. METAL STUDS/ R- 25 BATT INSULATION AND EXTERIOR GYPSUM SHEATHING BOARD, WEATHER RESISTANT BARRIER, DRAINAGE MAT, BASE FLASHING MEMBRANE AT SILL MEMBER) SET INTO WALL OPENING. SET METAL PANEL INTO FRAME SYSTEM AS AVAILABLE BY MANUFACTURER. ARCHITECTURAL PANELS (MAPES-R PANELS) AND FRAME SYSTEM (TWO PIECE CAP RECEPTOR MIN-68 & MIN-67 CAP FOR SILL AND JAMBS AND ONE PIECE CAP MW-22944 FOR HEAD) IS BASED ON "MAPES ARCHITECTURAL PANELS – PHONE #800-228-2391" OR APPROVED EQUAL. COLOR SELECTION FROM FULL RANGE OF STANDARD KYNAR COLORS WILL BE BY OWNER. REFER TO INFILL DETAIL 8/ A-302.

ROOF MEMBRANE SYSTEM COMPOSITION

EXISTING ROOF SYSTEM TO BE REMOVED DOWN TO EXISTING ROOF DECK (INCLUDING VAPOR BARRIER, ALL FLASHINGS, TERMINATIONS BARS AND DAMAGED WOOD BLOCKING) EXISTING ROOFING SYSTEM CONSISTS OF THE FOLLOWING COMPONENTS FROM STRUCTURE UP:

- PRECAST CONCRETE PLANK (ROOF PANEL 1172_001)
- POURED CONCRETE SLOPED TOPPING.
- VAPOR BARRIER / COAL TAR PITCH BUR ROOFING MEMBRANE (APPROX. 1/2" THICK)
- RIGID FOAM INSULATION
- STONE BALLAST (STONE TO BE SALVAGED FOR OWNER)

- 1-1/2" METAL ROOF DECKING (ROOF PANEL 1172_002)
- 1/2" FIBER BOARD SHEATHING
- VAPOR BARRIER / COAL TAR PITCH BUR ROOFING MEMBRANE (APPROX. 1/2" THICK)
- RIGID FOAM INSULATION
- STONE BALLAST (STONE TO BE SALVAGED FOR OWNER)

- 1-1/2" METAL ROOF DECKING (1172_006)
- 2" POLYISO RIGID FOAM INSULATION
- .060 EPDM ROOF MEMBRANE

REPLACE WITH THE FOLLOWING NEW ROOFING SYSTEM FROM THE EXISTING ROOF DECK UP:

- PRIMED EXISTING CONCRETE DECK AS REQUIRED (ROOF PANEL 1172_001)
- METAL ROOF DECKING (ROOF PANELS 1172_002 & 1172_006) 1/2" HIGH DENSITY PRIMED DENS-DECK BOARD MECHANICALLY FASTENED
- PEEL-N-STICK VAPOR BARRIER MODIFIED BITUMEN ROOF MEMBRANE
- ROOF INSULATION - SET IN ADHESIVE
- TREATED WOOD BLOCKING AT PERIMETER EDGE AS REQUIRED
- 1/2" HIGH DENSITY DENS-DECK BOARD
- FULLY ADHERED .060 EPDM MEMBRANE
- METAL FASCIA SYSTEM
- WALKWAY PADS

GENERAL NOTES:

NOTE A1: ALL DIMENSIONS INDICATED SHALL BE CONSIDERED TO BE PLUS OR MINUS. IT SHALL BE THE RESPONSIBILITY OF THE ROOFING CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS.

NOTE A2: THE ROOF CONTRACTOR SHALL ENSURE THAT ALL CURBS OR ROOF PENETRATION CONFORM TO THE REQUIRED 8" MINIMUM HEIGHT FROM TOP OF ROOF SURFACE. THE ROOF CONTRACTOR SHALL RAISE EVERY CURB THAT DOES NOT CONFORM, FIELD VERIFY AND COORDINATE WITH ROOF INSULATION. CONTRACTOR IS RESPONSIBLE FOR EXTENDING ANY ELECTRICAL WIRING ON MECHANICAL UNITS THAT REQUIRE RAISING. CONTRACTOR TO FIELD VERIFY. TYPICAL FOR ALL MECHANICAL UNITS.

NOTE A3: CONTRACTOR WILL DO A GOOD CLEANING OF ALL CONSTRUCTION AREAS ON A DAILY BASIS.

NOTE A4: THE LOCATION AND SIZE OF ROOFTOP UNITS SHOWN ON THIS SHEET IS APPROXIMATE ONLY. FIELD VERIFY FOR EXACT SIZES AND LOCATIONS.

NOTE A5: ROOF CONTRACTOR SHALL PREVENT ANY MATERIAL FROM ENTERING THE BUILDING THROUGH OPENINGS IN THE EXISTING ROOF DECK.

NOTE A6: ALL MECHANICAL UNITS AND CURBS ARE TO BE CRICKETED WITH TAPERED EDGE STRIPS FOR POSITIVE DRAINAGE.

NOTE A7: MINIMUM 2" THICKNESS OF INSULATION AT THE ROOF DRAINS THROUGHOUT UNLESS OTHERWISE NOTED.

NOTE A8: ROOF CONTRACTOR TO CAREFULLY REMOVE ROOF DRAIN DOME AND FLASHING CLAMP, CLEAN AND SALVAGE FOR RECONNECTION TO EXISTING DRAIN BODIES.

NOTE A9: CONTRACTOR HAS USE OF BUILDINGS POWER FOR POWER TOOLS.

NOTE A10: WHEN APPLYING NEW TREATED LUMBER TO EXISTING BLOCKING, ROOF CONTRACTOR TO MAKE SURE EXISTING BLOCKING IS SECURELY FASTENED TO THE BUILDING IN KEEPING WITH FACTORY MUTUAL REQUIREMENTS.

NOTE A11: CONTRACTOR TO SALVAGE EXISTING STONE BALLAST AND DELIVER TO LOCATION ON CAMPUS DESIGNATED BY CORNELL UNIVERSITY

NOTE A12: ROOF CONTRACTOR SHALL BE RESPONSIBLE TO TRANSITION PERIMETER CONDITIONS AND PROVIDE TAPERED STRIPS AS REQUIRED TO EQUAL THICKNESS OF PERIMETER BLOCKING.

NOTE A13: ROOF CONTRACTOR SHALL BLOCK ROOF DRAINS DURING REMOVALS TO PREVENT DEBRIS FROM GETTING INTO THE LINES. DRAINS SHALL BE KEPT OPEN AND RUNNING WHEN NO WORK IS BEING PERFORMED.

NOTE A14: ROOF CONTRACTOR SHALL EXERCISE EXTREME CARE DURING REMOVALS AROUND EXISTING MECHANICAL UNITS SO AS TO NOT DAMAGE EXISTING ELECTRICAL CONNECTIONS AND SUPPLY AND RETURN PIPING LINES.

NOTE A15: CONTRACTOR TO VERIFY THAT ALL EXISTING ROOF DRAINS ARE CLEAN AND FUNCTIONING. REPORT TO OWNER ANY NON-FUNCTIONING ROOF DRAINS

NOTE A16: PROVIDE AND INSTALL 10 (TEN) - 30"X30" EPDM WALKWAY PADS AT THE DIRECTION OF CORNELL UNIVERSITY ROOF MANAGER.

NOTE A17: ALL DAMAGED WALKWAYS, LAWN AND LANDSCAPED AREAS DAMAGED DURING CONSTRUCTION ARE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE AND RETURN TO ORIGINAL CONDITIONS BEFORE CONSTRUCTION.

NOTE A18: FIELD WRAPPED FLASHING TO BE APPLIED AT ALL VAPOR BARRIER TO PIPE / CONDUITS - SEAL TO BE WATERTIGHT AT VAPOR BARRIER LEVEL

NOTE A19: EXTEND VAPOR BARRIERS TO TOP OF ALL ROOF CURBS.

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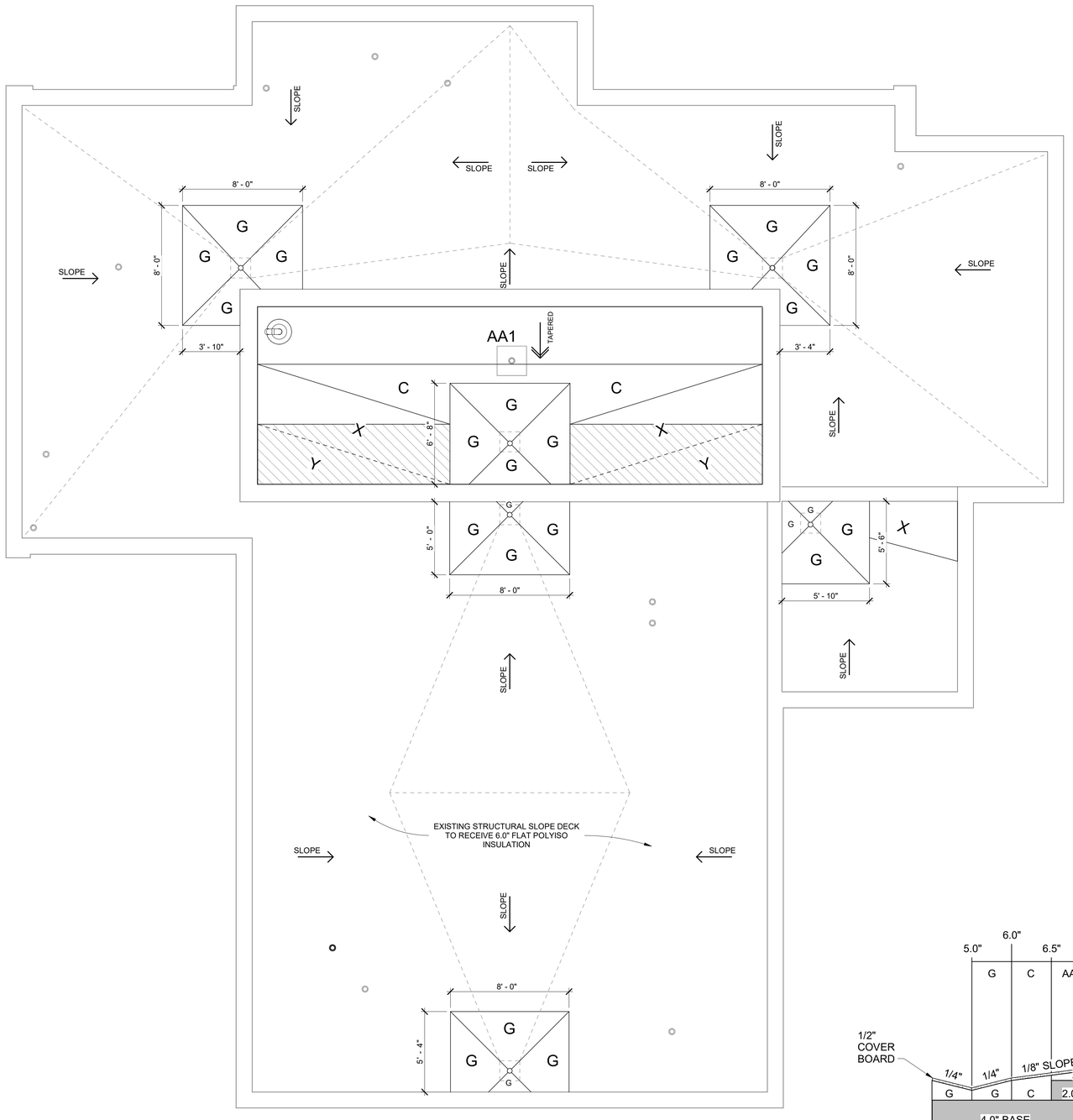
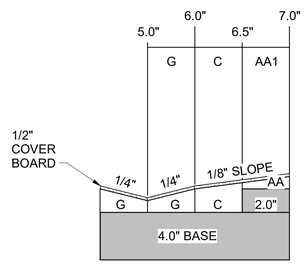
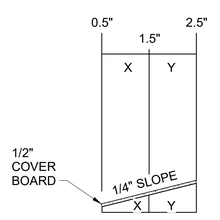
A-106
17759919



1 TAPERED INSULATION PLAN
SCALE: 1/4" = 1'-0"



1/8" SLOPE - PROFILE VIEW OF TAPERED INSULATION



1/4" SLOPE - PROFILE VIEW OF CRICKETS

TAPERED SYSTEM PROPERTIES	
TAPERED PANELS:	20 PSI INSULABASE POLYISO
FILL PANELS:	20 PSI INSULABASE POLYISO
MIN. THICKNESS:	6".O" (NOT INCLUDING COVER BOARD)
MAX. THICKNESS:	7.0" (NOT INCLUDING COVER BOARD)
SLOPE (IN./FT.):	1/4", 1/8"
CRICKET PANELS:	20 PSI INSULBASE POLYISO
FILL PANELS:	20 PSI INSULBASE POLYISO
MIN. THICKNESS:	0.5"
MAX. THICKNESS:	2.4"
SLOPE (IN./FT.):	1/4"
R-VALUE PER INCH:	5.7
MINIMUM R-VALUE:	34.2
AVERAGE R-VALUE:	34.60

ALL MATERIAL IS 4' X 4' UNLESS OTHERWISE NOTED

TAPERED INSULATION LEGEND

INDICATES DRAIN SUMP - SEE DRAIN SUMP DETAIL

SLOPE → INDICATES DRAINAGE DIRECTION USING TAPERED INSULATION

TAPERED → INDICATES STRUCTURAL DECK SLOPE - FLAT POLYISO INCLUDED

INDICATES EXPANDED LOW AREA - 2.O" FLAT POLYISO INCLUDED

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REVISIONS

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4	02/27/26	ISSUE FOR CONSTRUCTION

N

0' 2' 4' 8'
SCALE: 1/4" = 1'-0"

131 SWANSON DRIVE
ITHACA, NEW YORK 14850

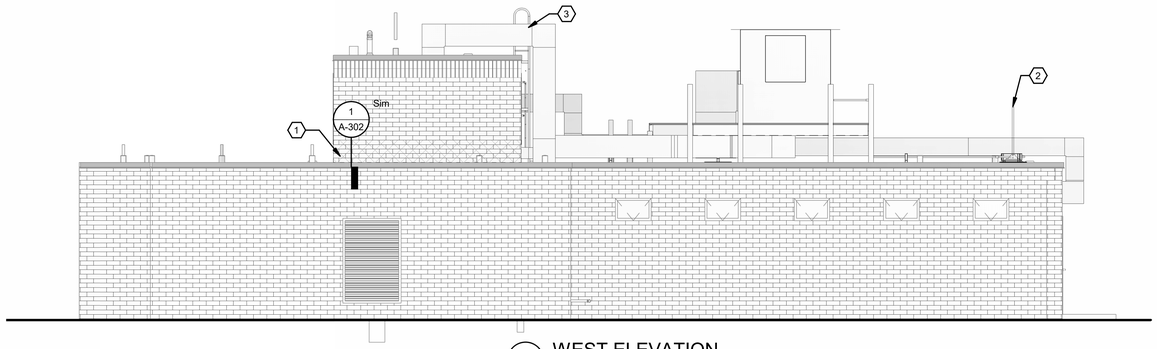
JL SWANSON WILDLIFE HEALTH CENTER AHU AND ROOF REPLACEMENT

DATE:	FEBRUARY 27, 2026
FACILITY:	1772
DESIGN:	R. HERKO
DRAWN:	RLH

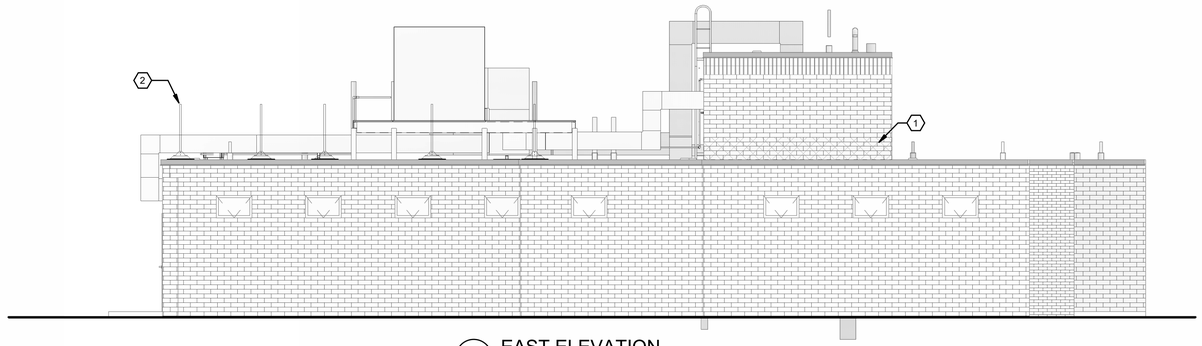
TAPERED ROOF INSULATION PLAN AND DETAILS

ARCHIVE BAR CODE

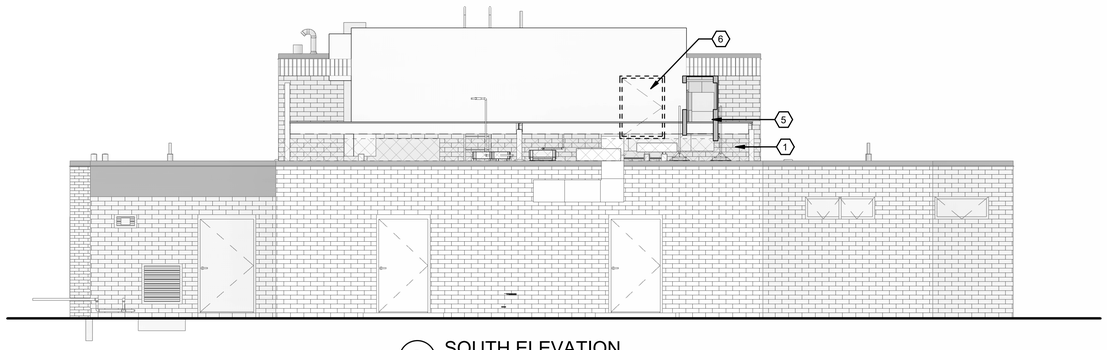
A-107
17759919



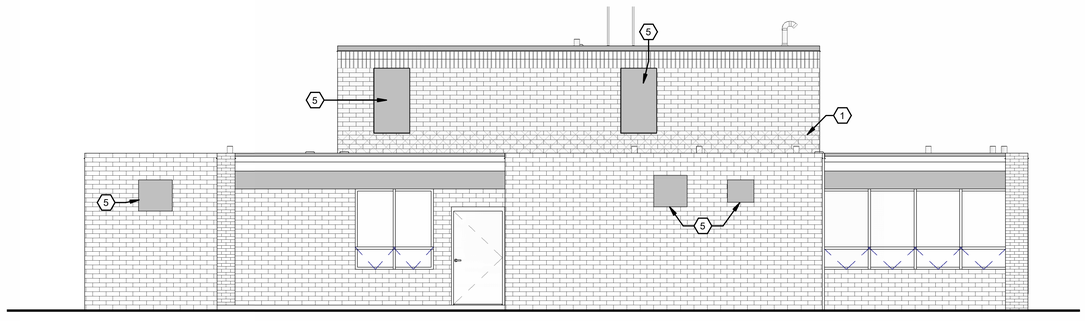
4 WEST ELEVATION
SCALE: 3/16" = 1'-0"



3 EAST ELEVATION
SCALE: 3/16" = 1'-0"



2 SOUTH ELEVATION
SCALE: 3/16" = 1'-0"



1 NORTH ELEVATION
SCALE: 3/16" = 1'-0"

A-201 KEYED RENOVATION NOTES

#	
1	REMOVE EXISTING BRICK MASONRY AS REQUIRED (APPROX. 3 COURSES) TO REMOVE EXISTING COUNTERFLASHING AND INSTALL NEW. REINSTALL NEW BRICK TO MATCH EXISTING AND NEW CELL VENT WEEPS EVERY 24" O.C.. REFER TO DETAIL 1/ A-302.
2	PORTABLE DUCT SUPPORTS WITH SLIP SHEET @ 8'-0" MAX.. REFER TO DETAIL 6/ A-302. COORDINATE LOCATIONS WITH MECHANICAL CONTRACTOR, TYPICAL.
3	PROVIDE AND INSTALL METAL ROOF LADDER. REFER TO DETAIL 3/ A-302.
5	INFILL LOUVER & DUCT PENETRATION WALL OPENINGS WITH LAMINATED KYNAR ARCHITECTURAL INSULATED ALUMINUM METAL PANEL (1" THICK MIN.) WITH METAL STUD/ INSULATION AND WALL SHEATHING BACK UP INTO WALL OPENING. SET METAL PANEL INTO FRAME SYSTEM AS AVAILABLE BY MANUFACTURER. ARCHITECTURAL PANELS (MAPES-R PANELS) AND FRAME SYSTEM (TWO PIECE CAP RECEPTOR MIN-68 & MIN-67 CAP FOR SILL AND JAMBS AND ONE PIECE CAP MW-22944 FOR HEAD) IS BASED ON "MAPES ARCHITECTURAL PANELS – PHONE #800-228-2391" OR APPROVED EQUAL. COLOR SELECTION FROM FULL RANGE OF STANDARD KYNAR COLORS WILL BE BY OWNER. REFER TO DETAIL 5/ A-302.
6	REMOVE AND REPLACE EXISTING H.M. DOOR WITH NEW INSULATED F.R.P. ACCESS PANEL. APPROX. 36"W X 68"H X 1-3/4"TH. PROVIDE CONTINUOUS HINGE, WEATHERSTRIPPING, AND LOCKING LATCH HARDWARE. REFER TO DETAIL 2/ A-302.

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4	02/27/26	ISSUE FOR CONSTRUCTION

0' 2' 4' 6' 12'
SCALE: 3/16" = 1'-0"

131 SWANSON DRIVE
ITHACA, NEW YORK 14850

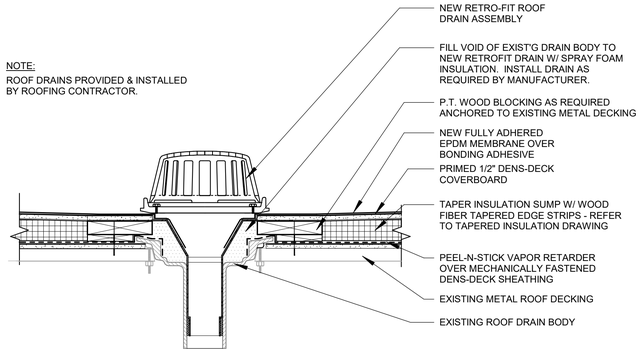
JL SWANSON WILDLIFE HEALTH CENTER AHU AND ROOF REPLACEMENT

DATE:	FEBRUARY 27, 2026
FACILITY:	1772
DESIGN:	R. HERKO
DRAWN:	RLH

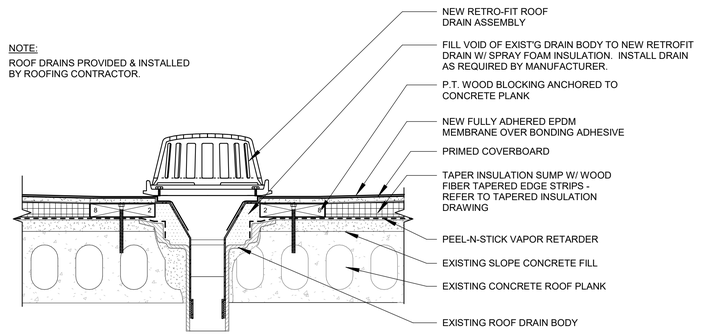
EXTERIOR ELEVATIONS

ARCHIVE BAR CODE

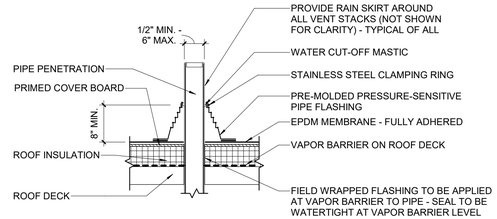
A-201
17759919



9 RETROFIT ROOF DRAIN @ METAL ROOF DECK
SCALE: 1 1/2" = 1'-0"



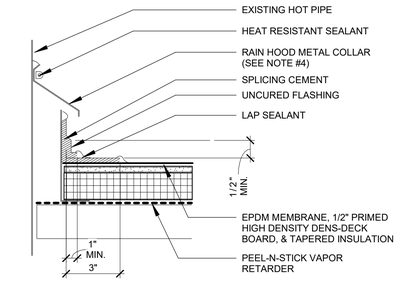
6 RETROFIT ROOF DRAIN @ CONC. ROOF DECK
SCALE: 1 1/2" = 1'-0"



NOTES:

1. REMOVE ALL LEAD AND OTHER FLASHING BEFORE INSTALLING PRESSURE-SENSITIVE PIPE SEAL.
2. PRE-MOLDED PIPE FLASHING MUST HAVE INTACT RIB AT TOP EDGE REGARDLESS OF PIPE DIAMETER.
3. WHEN A FIELD SPLICE INTERSECTS A PIPE SEAL, APPLY LAP SEALANT ALONG THE EDGE OF THE MEMBRANE SPLICE COVERING THE EXPOSED SPLICE TAPE 2" IN EACH DIRECTION FROM THE SPLICE INTERSECTION & OVERLAY WITH A 6" x 6" T-JOINT COVER.
4. DECK FLANGES OF THE PRESSURE-SENSITIVE PIPE SEAL SHALL NOT BE OVERLAPPED, CUT OR APPLIED OVER ANY ANGLE CHANGE.
5. CONTRACTOR TO PROVIDE RAIN SKIRTS AT ALL PIPE PENETRATIONS (NOT SHOWN FOR CLARITY)

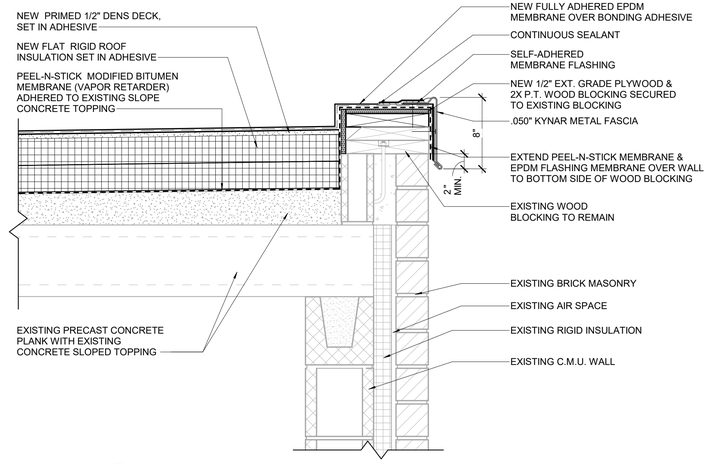
3 VENT STACK DETAIL
SCALE: 1 1/2" = 1'-0"



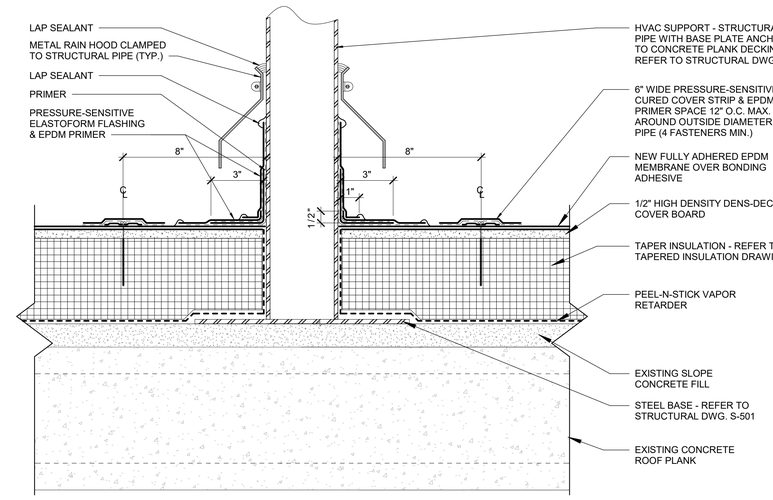
NOTES:

1. REMOVE ALL LEAD AND OTHER FLASHING BEFORE INSTALLING FIELD FABRICATED PIPE SEAL.
2. NAILER REQUIRED AROUND ALL PIPES GREATER THAN 18" IN DIAMETER.
3. UNCURED ELASTOFORM FLASHING WRAPPED AROUND PIPE SHALL HAVE 3" MIN. MEMBRANE SPLICE.
4. TEMPERATURE OF METAL COLLAR SHALL NOT EXCEED 180 DEGREES.

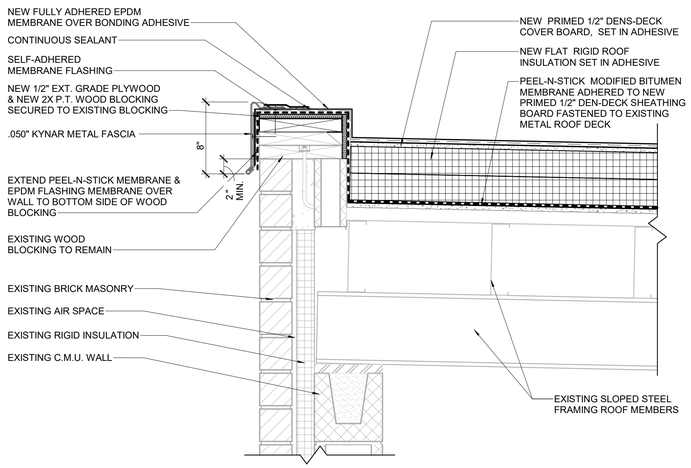
8 HOT STACK DETAIL
SCALE: 3" = 1'-0"



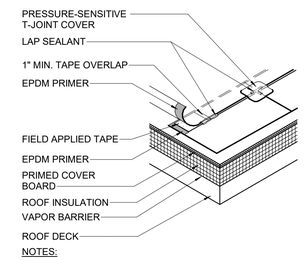
5 LOW ROOF FASCIA DETAIL @ ROOF LEVEL 1172_001
SCALE: 1 1/2" = 1'-0"

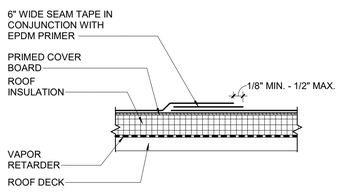


2 FIELD FABRICATED PIPE WRAP DETAIL
SCALE: 3" = 1'-0"



7 LOW ROOF FASCIA DETAIL -@ ROOF 1172_006
SCALE: 1 1/2" = 1'-0"

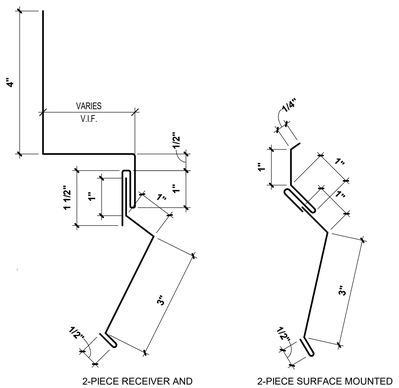




NOTES:

1. FIELD APPLIED TAPE IS TO BE OVERLAPPED A MINIMUM OF 1" AT THE ENDS OF EACH CUT PIECE. APPLY LAP SEALANT AT TAPE OVERLAPS 2" IN ALL DIRECTIONS AS SHOWN.
2. APPLY LAP SEALANT ALONG THE LEADING EDGE OF THE MEMBRANE SPLICE UNDER THE 6"x6" T-JOINT COVER. COVERING THE EXPOSED SPLICE TAPE 2" IN ALL DIRECTIONS FROM THE SPLICE INTERSECTION.
3. 6" WIDE PRESSURE-SENSITIVE ELASTOFORM FLASHING, IN CONJUNCTION WITH EPDM PRIMER, MAY ALSO BE CENTERED OVER THE INTERSECTION POINT OF THE LEADING EDGES OF THE FIELD SPLICE INTERSECTION.
4. LAP SEALANT IS REQUIRED ON CUT EDGES OF REINFORCED EPDM MEMBRANE.

4 FIELD SEAM DETAIL
SCALE: 1 1/2" = 1'-0"



1 COUNTERFLASHING DETAIL
SCALE: 6" = 1'-0"

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0' 3" 6" 1' 1.5"
SCALE: 1 1/2" = 1'-0"
0' 1.5" 3" 6" 9"
SCALE: 3" = 1'-0"
0' .75" 1.5" 3" 4.5"
SCALE: 6" = 1'-0"

131 SWANSON DRIVE
ITHACA, NEW YORK 14850

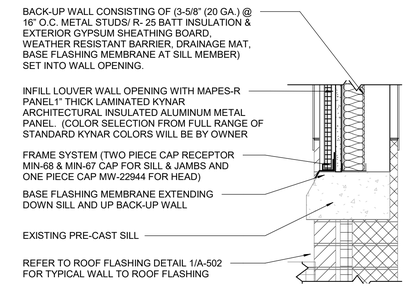
JL SWANSON WILDLIFE HEALTH CENTER AHU AND ROOF REPLACEMENT

DATE:	FEBRUARY 27, 2026
FACILITY:	1772
DESIGN:	R. HERKO
DRAWN:	RLH

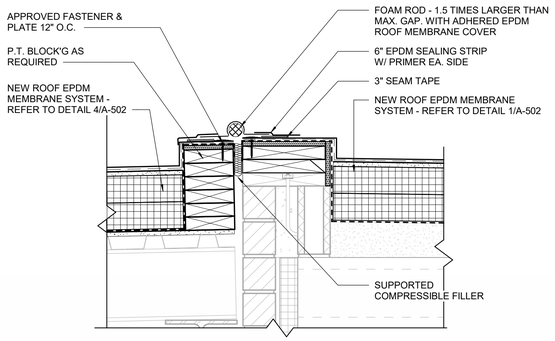
ROOF DETAILS

ARCHIVE BAR CODE

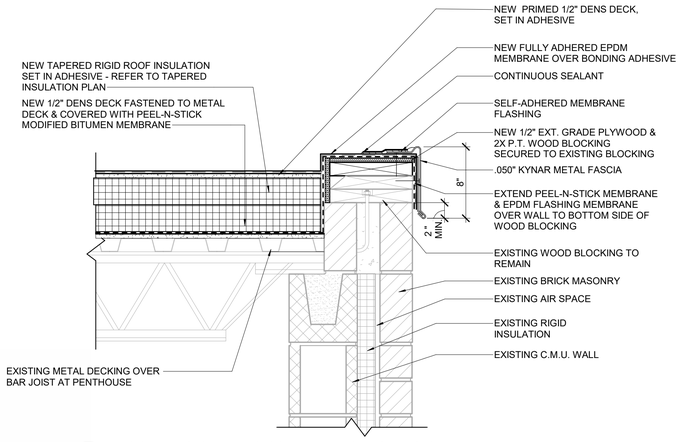
A-301
17759919



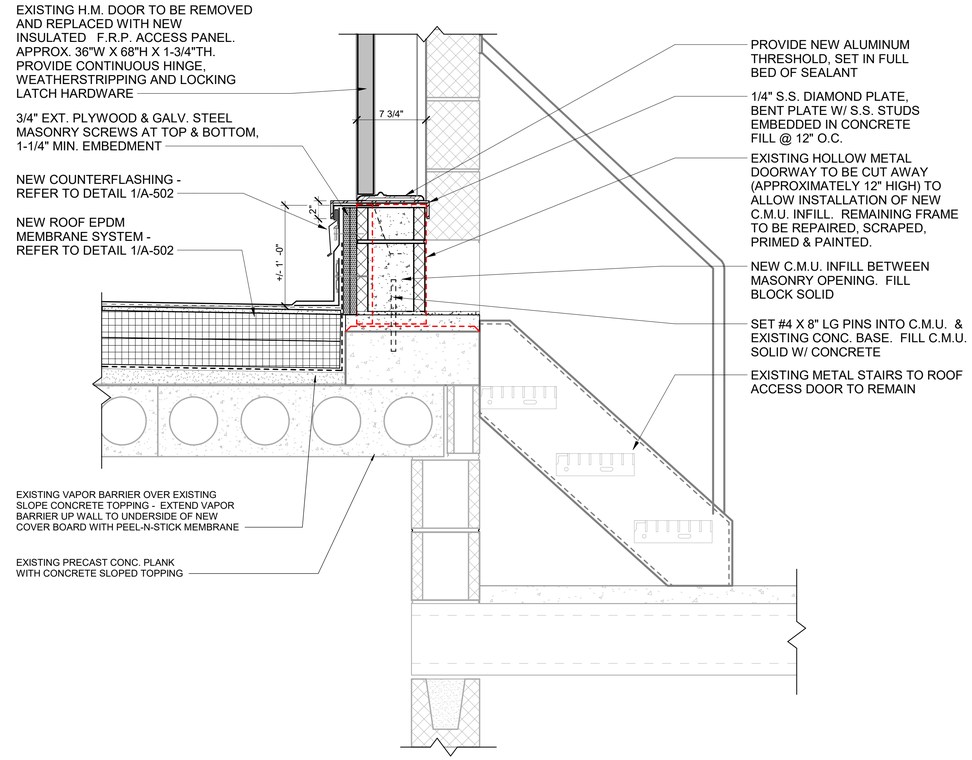
5 LOUVER IN-FILL DETAIL
SCALE: 1" = 1'-0"



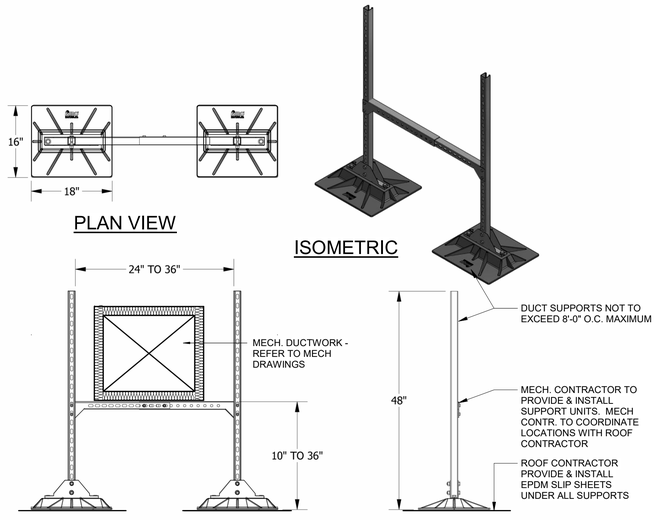
7 EXPANSION JOINT
SCALE: 1 1/2" = 1'-0"



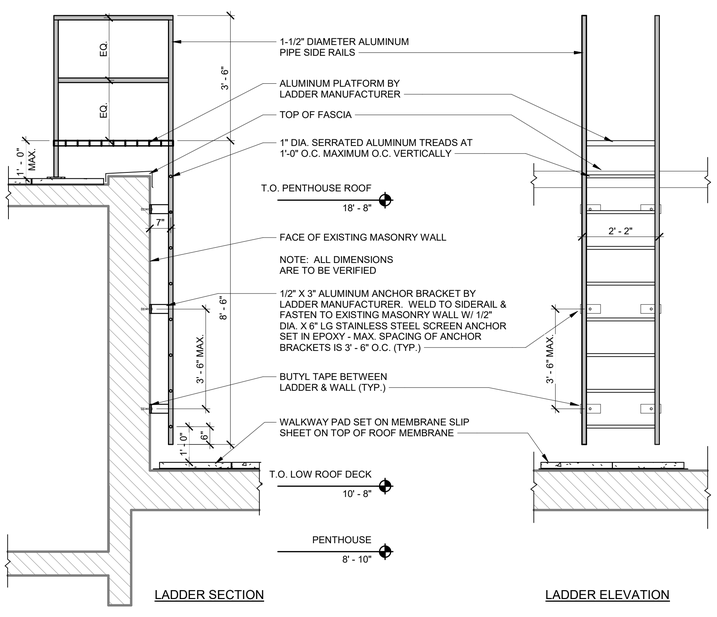
4 HIGH ROOF FASCIA DETAIL @ ROOF LEVEL 1172_002
SCALE: 1 1/2" = 1'-0"



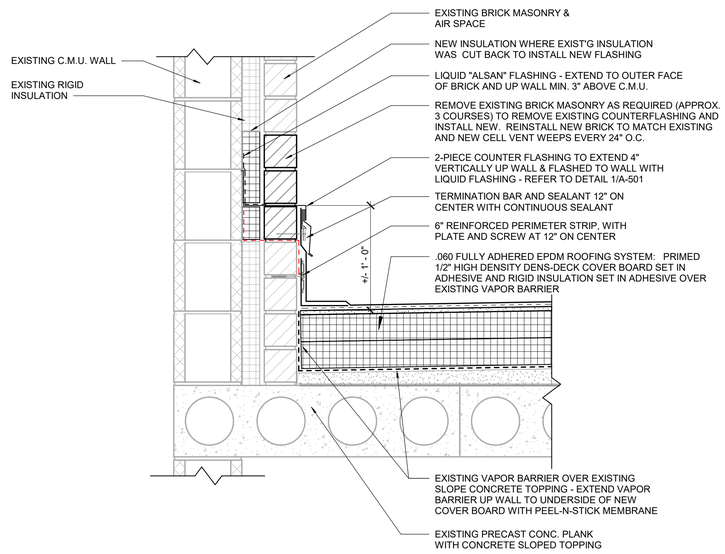
2 DOOR SILL DETAIL
SCALE: 1 1/2" = 1'-0"



6 DUCT SUPPORT DETAIL
SCALE: 3/4" = 1'-0"



3 LADDER SECTION AND ELEVATION DETAIL
SCALE: 1/2" = 1'-0"



1 PENTHOUSE WALL COUNTERFLASHING DETAIL
SCALE: 1 1/2" = 1'-0"

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0' 1' 2' 4'
SCALE: 1/2" = 1'-0"
0' 3" 6" 1' 1.5'
SCALE: 1 1/2" = 1'-0"

131 SWANSON DRIVE
ITHACA, NEW YORK 14850

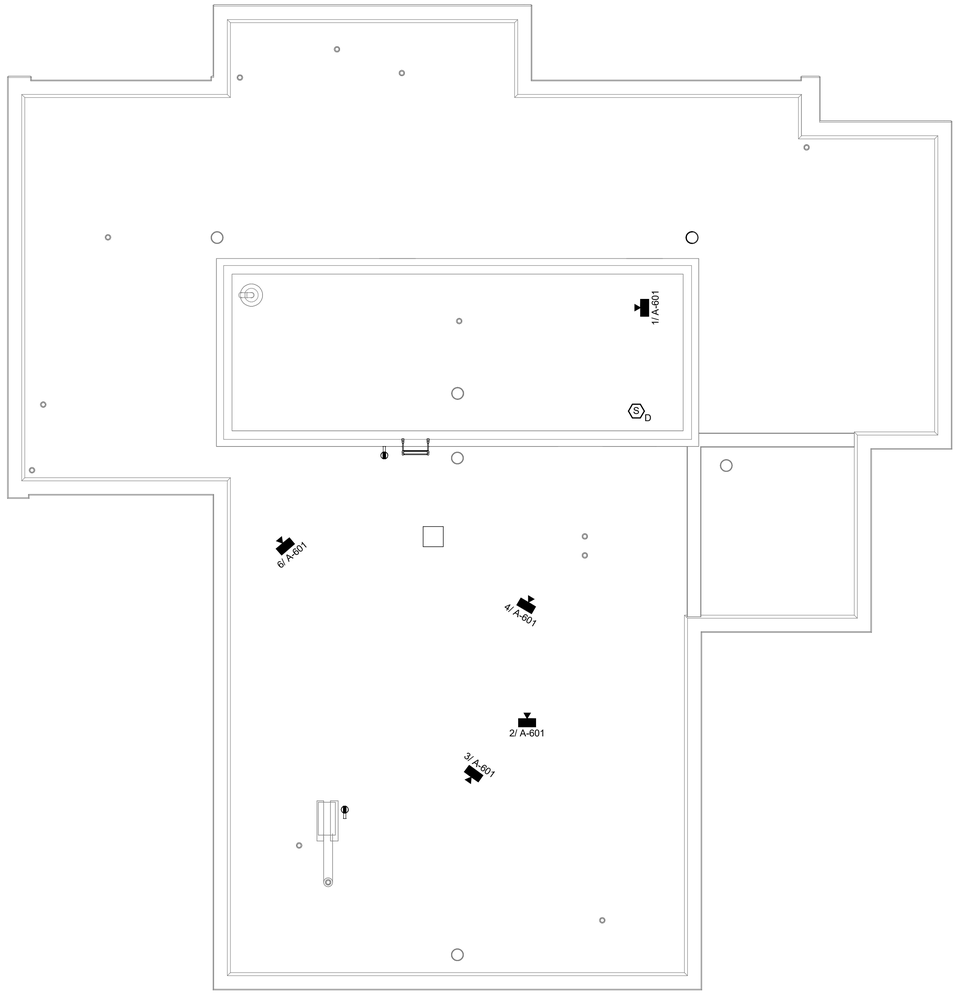
JL SWANSON WILDLIFE HEALTH CENTER AHU AND ROOF REPLACEMENT

DATE:	FEBRUARY 27, 2026
FACILITY:	1772
DESIGN:	R. HERKO
DRAWN:	RLH

ROOF DETAILS

ARCHIVE BAR CODE

A-302
17759919



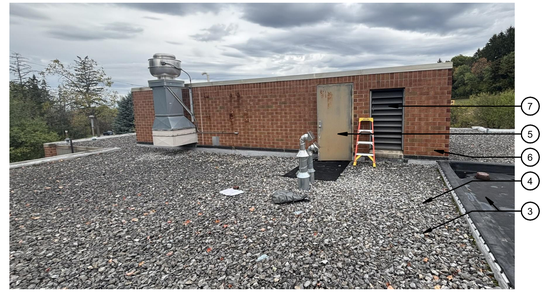
7 PHOTO REFERENCE PLAN
SCALE: 3/16" = 1'-0"

6 PHOTO REFERENCE - 6
PHOTO REFERENCE

5 PHOTO REFERENCE - 5
PHOTO REFERENCE

4 PHOTO REFERENCE - 4
PHOTO REFERENCE

3 PHOTO REFERENCE -3
PHOTO REFERENCE



2 PHOTO REFERENCE - 2
PHOTO REFERENCE

1 PHOTO REFERENCE - 1
PHOTO REFERENCE

A-601 KEYED DEMOLITION NOTES

#	
1	REMOVE EXISTING MECHANICAL UNIT AND CURB COMPLETELY. COORDINATE REMOVAL WITH MECHANICAL AND ELECTRICAL DRAWINGS.
2	REMOVE EXISTING VENT DUCTWORK PENETRATING THROUGH ROOF DECK SYSTEM COMPLETELY. COORDINATE WITH MECHANICAL DRAWINGS. INFILL DECK WITH 20 GA. MIN. STEEL PLATE SPANNING OVER OPENING A MIN. OF 4" ONTO EXISTING CONCRETE DECK. COVER PLATE WITH MIN. 1/2" DENS-DECK SHEATHING BOARD.
3	ROOF LEVEL 1172_001, 1172_002 AND 1172_006: EXISTING ROOF SYSTEM TO BE REMOVED DOWN TO EXISTING ROOF DECK (INCLUDING FIBERBOARD SHEATHING, EPDM ROOF MEMBRANE, COAL TAR PITCH "CTP" ROOF MEMBRANE, ALL FLASHINGS, COPINGS, POLYSTYRENE FOAM INSULATION, STONE BALLAST, AND DAMAGED WOOD BLOCKING). EXISTING ROOFING SYSTEM CONSISTS OF THE FOLLOWING COMPONENTS: •CONCRETE DECK (TO REMAIN) – ROOF LEVEL 1172_001 •METAL DECK (TO REMAIN) – ROOF LEVEL 1172_002 & 1172_006 • 1/2" FIBERBOARD SHEATHING ADHERED TO ROOF DECK – ROOF LEVEL 1172_002 •"CTP" COAL TAR PITCH ROOF MEMBRANE – ROOF LEVEL 1172_001 & 1172_002 •EPDM ROOF MEMBRANE – ROOF LEVEL 1172_006 •POLYSTYRENE FOAM INSULATION – ROOF LEVEL 1172_001 & 1172_002 •STONE BALLAST (SALVAGE FOR OWNER) - ROOF LEVEL 1172_001 & 1172_002 •METAL COPING / FASCIA SYSTEM – ALL LEVELS ASBESTOS ABATEMENT WILL BE REQUIRED TO REMOVE ROOF FLASHINGS. REFER TO ABATEMENT DRAWINGS.
4	REMOVE AND SALVAGE ALL "CRUSHER RUN" STONE BALLAST FROM ROOFS FOR OWNER. DELIVER STONE TO OWNER'S SALVAGE YARD ON CAMPUS AS DIRECTED BY PROJECT MANAGER.
5	REMOVE EXISTING H.M. DOOR. PREP FRAME TO RECEIVE NEW DOOR AND HARDWARE.
6	REMOVE EXISTING BRICK MASONRY AS REQUIRED (APPROX. 3 COURSES) TO REMOVE EXISTING COUNTERFLASHING AND INSTALL NEW. REINSTALL NEW BRICK TO MATCH EXISTING AND PROVIDE NEW CELL VENT WEEPS EVERY 24" O.C.. REFER TO DETAIL 1/ A-302.
7	REMOVE EXISTING MECHANICAL LOUVER (TYPICAL OF 3) AND INFILL WITH ARCHITECTURAL METAL PANEL AND METAL STUD BACKUP WALL. PREP OPENINGD AS REQUIRED BY G.C. FOR INFILL. REFER TO INFILL DETAIL 8/ A-302.

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SCALE: 3/16" = 1'-0"

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ITHACA, NEW YORK 14850

JL SWANSON WILDLIFE HEALTH CENTER AHU AND ROOF REPLACEMENT

DATE:	FEBRUARY 27, 2026
FACILITY:	1772
DESIGN:	R. HERKO
DRAWN:	RLH

EXISTING CONDITIONS PHOTOGRAPHS

ARCHIVE BAR CODE

A-601
17759919

CONTROL SYMBOLOGY

	2-WAY CONTROL VALVE, DIGITAL
	2-WAY CONTROL VALVE, PNEUMATIC
	3-WAY CONTROL VALVE, DIGITAL
	3-WAY CONTROL VALVE, PNEUMATIC
AF	ADDRESSABLE OUTPUT MODULE (FIRE ALARM INTERFACE)
	AIRFLOW CONTROL VALVE (VENTURI OR VORTEX SHEDDING)
	AVERAGING SENSOR
	BINARY POINT
	BUTTERFLY CONTROL DAMPER
	CARBON DIOXIDE SENSOR
	CONDENSATE SENSOR
CS	CURRENT SENSOR
DP	DEW-POINT SENSOR
DS	DIFFERENTIAL PRESSURE SENSOR
	DIFFERENTIAL PRESSURE SENSOR
	ELECTRIC TO PNEUMATIC SWITCH
	ELECTRIC TO PNEUMATIC TRANSDUCER
	END SWITCH
FE	FLOW ELEMENT (METER)
	FLOW SENSOR
HL	HIGH LEVEL SWITCH
HS	HUMIDSTAT SENSOR
	LIQUID IMERSION TEMPERATURE SENSOR
LWM	LOW LEVEL SWITCH
MOD	MODULATING
M	MOTOR
MS	MOTOR STARTER
COM	NETWORK COMMUNICATION POINT, BACnet MSTP
OS	OCCUPANCY SENSOR
	OPEN/CLOSE
	OPPOSED BLADE CONTROL DAMPER
	PARALLEL BLADE CONTROL DAMPER
	PNEUMATIC THERMOSTAT
	PRESSURE SENSOR
	PRESSURE SWITCH
	RELATIVE HUMIDITY SENSOR
	RELAY
	ROOM TEMPERATURE SENSOR WITH ADJUSTABLE THERMOSTAT
	ROOM TEMPERATURE SENSOR WITH OCCUPANCY OVERRIDE
	ROOM TEMPERATURE SENSOR WITH ON/OFF SWITCH
	ROOM TEMPERATURE SENSOR WITH VISUAL DISPLAY
	ROTATION DETECTOR
	SINGLE POINT SENSOR
	SMOKE DETECTOR
	SPEED COMMAND
	START/STOP
	STATIC PRESSURE SENSOR
S	SWITCH
TS	TEMPERATURE SENSOR
	TEMPERATURE SENSOR
	TEMPERATURE SENSOR WITH ADJUSTABLE SETPOINT

MECHANICAL SYMBOLOGY

	AIR VENT, AUTOMATIC
	AIR VENT, MANUAL
AD	ACCESS DOOR
BD	BACKDRAFT DAMPER
	BACKFLOW PREVENTOR, DOUBLE-CHECK VALVE (DCV)
	BACKFLOW PREVENTOR, REDUCED PRESSURE ZONE (RPZ)
	BALANCE VALVE
	BALL VALVE
	BOTTOM OF PIPE CONNECTION
	BUTTERFLY VALVE
	CAP OR PLUG
	CHECK VALVE
	CONTROL VALVE, THREE-WAY, MOTORIZED, DIGITAL
	CONTROL VALVE, THREE-WAY, SOLENOID, DIGITAL
	CONTROL VALVE, THREE-WAY, MOTORIZED, PNEUMATIC
	CONTROL VALVE, TWO-WAY, MOTORIZED, DIGITAL
	CONTROL VALVE, TWO-WAY, SOLENOID, DIGITAL
	CONTROL VALVE, TWO-WAY, MOTORIZED, PNEUMATIC
	DIRECTION OF AIRFLOW, DUCTWORK
	DIRECTION OF FLOW, PIPING
	DUCT TRANSITION
	DUCT UP / DOWN (SUPPLY)
	DUCT UP / DOWN (RETURN)
	DUCT UP / DOWN (EXHAUST)
	DUCT UP / DOWN THROUGH ROOF / FLOOR (SUPPLY)
	DUCT UP / DOWN THROUGH ROOF / FLOOR (RETURN)
	DUCT UP / DOWN THROUGH ROOF / FLOOR (EXHAUST)
FSD	FIRE AND SMOKE DAMPER IN DUCT
FD	FIRE DAMPER IN DUCT
	FLANGE CONNECTION
	FLEXIBLE CONNECTION (PIPE)
	FLEXIBLE CONNECTION (DUCT)
	FLEXIBLE DUCT
	FLEXIBLE PIPE
	FLOW METER
FS	FLOW SWITCH
	GATE VALVE
	GATE VALVE, ANGLE
	GLOBE VALVE
	GLOBE VALVE, ANGLE
	PIPE DOWN
	PIPE UP
	PUMP
PS	PRESSURE SWITCH
	DUCT ELBOW, 90°
	DUCT ELBOW, RADIUS
SD	STANDARD BRANCH DUCT
	STEAM TRAP
	STRAINER
BD	STRAINER WITH BLOWDOWN VALVE & CAP
	STRAINER, DUPLEX
	TEMPERATURE WELL
	THERMOMETER
T	THERMOSTAT
	TOP PIPE CONNECTION
	UNION
	VACUUM BREAKER
VD	VOLUME DAMPER

MECHANICAL ABBREVIATIONS

BCU	BLOWER COIL UNIT
CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
CC	CLEAN CONDENSATE
CO	CLEAN OUT
CS	CLEAN STEAM
CD	CONDENSATE DRAIN
EA	EXHAUST AIR
EA(G)	EXHAUST AIR (GREASE DUCT)
EAG	EXHAUST AIR GRILLE
FD	FIRE DAMPER
GWR	GLYCOL HEATING RETURN
GWS	GLYCOL HEATING SUPPLY
HPR	HIGH PRESSURE STEAM RETURN
HPS	HIGH PRESSURE STEAM SUPPLY
HWR	HOT WATER HEATING RETURN
HWS	HOT WATER HEATING SUPPLY
LPC	LOW PRESSURE CONDENSATE
LPS	LOW PRESSURE STEAM
MU	MAKE UP WATER
MPC	MEDIUM PRESSURE CONDENSATE
MPS	MEDIUM PRESSURE STEAM
NG	NATURAL GAS
PCWR	PROCESS CHILLED WATER RETURN
PCWS	PROCESS CHILLED WATER SUPPLY
HG	REFRIGERANT HOT GAS
RL	REFRIGERANT LIQUID
RS	REFRIGERANT SUCTION
RAG	RETURN AIR GRILLE
SA	SUPPLY AIR
SAD	SUPPLY AIR DIFFUSER
TA	TRANSFER AIR
VD	VOLUME DAMPER

GENERAL DRAWING SYMBOLOGY

	DEMOLISHED WORK
	EXISTING TO REMAIN
	NEW WORK
(E)	EXISTING TO REMAIN
	POINT OF CONNECTION
	POINT OF DISCONNECTION
#	CONSTRUCTION KEYED NOTE
#	DEMOLITION KEYED NOTE

CONTROL ABBREVIATIONS

AI	ANALOG INPUT
AO	ANALOG OUTPUT
AV	ANALOG VALUE
BI	BINARY INPUT
BO	BINARY OUTPUT
BV	BINARY VALUE
F.L.	FAIL LAST
N.C.	NORMALLY CLOSED
N.O.	NORMALLY OPEN
VFD	VARIABLE FREQUENCY DRIVE

MECHANICAL SUBMITTAL REGISTRY

SECTION	DESCRIPTION	MATERIAL	SHOP DRAWINGS	COORD. DRAWINGS	AS-BUILT DRAWINGS	PRODUCT DATA	SCHEDULES	WIRING DIAGRAMS	CALCULATIONS	SAMPLES	STANDARDS	QUALIFICATIONS	CERTIFICATIONS	MFR INSTRUCTIONS	INSP. & TEST REPORTS	OPS & MAINT. DATA	WARRANTIES & BONDS
230500	COMMON WORK RESULTS FOR HVAC	WELDING CERTIFICATES											X				
230513	MOTOR REQUIREMENTS FOR HVAC	MOTORS				X		X						X	X	X	
230519	METERS AND GAUGES FOR HVAC	THERMOMETERS				X											
230523	GENERAL DUTY VALVES FOR HVAC	BALL VALVES				X											
230529	HANGERS & SUPPORTS FOR HVAC	STEEL PIPE HANGERS				X											
230529	--	METAL FRAMING SYSTEMS	X			X											
230529	--	EQUIPMENT SUPPORTS	X			X											
230593	TESTING, ADJUSTING, & BALANCING FOR HVAC	CERTIFIED TEST REPORT										X			X	X	
230700	HVAC INSULATION	PIPING INSULATION				X								X			
230700	--	DUCTWORK INSULATION				X								X			
230900	INSTRUMENTATION & CONTROL FOR HVAC	CONTROLLERS & ENCLOSURES	X		X	X		X						X			
230900	--	POINTS/ ALARM LIST	X		X												
230900	--	SCHEMATIC CONTROL DIAGRAMS	X		X												
230900	--	ARCHITECTURE DIAGRAM	X		X												
230900	--	SEQUENCES OF OPERATION	X		X												
230900	--	BILL OF MATERIALS	X		X												
230900	--	TEMPERATURE SENSORS				X								X			
230900	--	HUMIDITY SENSORS				X								X			
230900	--	AIRFLOW SENSORS				X								X			
230900	--	STATUS INPUTS				X								X			
230900	--	LOW/ HIGH LIMIT SENSORS				X								X			
230900	--	CONTROL VALVES				X	X							X			
231123	NATURAL GAS PIPING SYSTEMS	PIPES, TUBES, FITTINGS		X	X	X											
232113	HYDRONIC PIPING SYSTEMS	PIPES, TUBES, FITTINGS		X	X	X											
233133	METAL DUCTS	RECTANGULAR DUCTWORK	X	X	X	X											
233133	--	ROUND DUCTWORK	X	X	X	X											
233300	AIR DUCT ACCESSORIES	VOLUME DAMPERS	X	X	X	X											
237313	CENTRAL STATION AHUS	UNIT DIMENSIONS & WEIGHT	X														
237313	--	CABINET MATERIALS & GAUGES	X	X	X	X								X	X	X	
237313	--	FANS	X	X	X	X		X	X				X	X			
237313	--	COILS	X	X	X	X			X				X	X			
237313	--	DAMPERS	X	X	X	X	X		X				X	X	X	X	
237313	--	FILTERS	X	X	X	X	X		X				X	X	X	X	
238216	AIR COILS	WATER COILS	X	X	X	X								X	X	X	

MECHANICAL SCOPE OF WORK

1.0 DEMOLISH EXISTING AIR HANDLING AND CONDENSING UNITS. DEMOLISH EXISTING DUCTWORK AND PIPING TO POINTS INDICATED.

2.0 DEMOLISH EXHAUST FANS AND ASSOCIATED DUCTWORK AS INDICATED.

3.0 INSTALL OWNER FURNISHED ROOF TOP AIR HANDLING UNIT. PROVIDE NEW CONTROLS. ROUTE DUCTWORK AND GAS PIPING TO NEW UNIT. PROVIDE CONDENSATE DRAIN FROM COOLING COIL TO ROOF DRAIN.

4.0 PROVIDE NEW REHEAT COILS WITH DDC CONTROL VALVES AND NEW THERMOSTATS. PROVIDE DDC CONTROL VALVES AND NEW THERMOSTATS FOR EXISTING REHEAT COILS.

5.0 REMOVE AIR COMPRESSOR AND ASSOCIATED TUBING.

MECHANICAL GENERAL NOTES

1.0 DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS AND WORK INCLUDED IN THE CONTRACT. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS. IF DIMENSIONS OR CONDITIONS ARE FOUND TO BE IN CONFLICT WITH THE DRAWINGS, THE CONTRACTOR SHALL IMMEDIATELY REFER THE CONFLICT TO THE ENGINEER.

2.0 INSTALL EQUIPMENT TO ENSURE PROPER ACCESS TO CONTROL DEVICES AND WITH SUFFICIENT SPACE TO PERFORM ROUTINE MAINTENANCE AND REPAIR. EQUIPMENT THAT IS NOT INSTALLED WITH THIS REQUIREMENT IN MIND SHALL BE RELOCATED AT NO EXPENSE TO THE UNIVERSITY UNTIL DEFICIENCIES ARE CORRECTED.

3.0 ALL SYSTEM TESTING SHALL BE CONDUCTED PRIOR TO INSULATION, FIREPROOFING, AND ENCLOSURE IN SHAFTS. ANY RESTORATION WORK REQUIRED AS A RESULT OF DISTURBING FINISHES OR STRUCTURE IN ORDER TO ACCESS SYSTEMS REQUIRING REPAIR SHALL BE AT NO COST TO THE UNIVERSITY.

4.0 CUTTING AND PATCHING: THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING, FITTING, AND PATCHING TO COMPLETE THE WORK. WHERE EXISTING CONSTRUCTION IS REMOVED, CAUSING AN EXPOSURE OF UNFINISHED AND/OR DAMAGED SURFACES, RESULTING SURFACES SHALL BE RECONSTRUCTED WITH MATERIALS TO MATCH FINISHED AREAS.

5.0 TESTING AND BALANCING: THE CONTRACTOR SHALL BALANCE ALL AIR SYSTEMS AS INDICATED. SUBMIT RESULTS OF TESTING AND BALANCING ON STANDARD TAB CONTRACTOR'S FORMS TO THE ENGINEER FOR REVIEW. SYSTEMS SHALL BE BALANCED TO WITHIN +/- 5% OF DESIGN VALUES. FINAL BALANCING SHALL OCCUR AFTER ALL LEAKS IN THE BUILDING ENVELOPE HAVE BEEN IDENTIFIED AND SEALED.

6.0 ANY FIRESTOPPING DISTURBED DURING THE COURSE OF WORK SHALL BE REPAIRED TO MAINTAIN A 2-HOUR FIRE RATING.

7.0 REFRIGERATION SYSTEMS:

CONTRACTOR MUST SUBMIT A COPY OF THE EPA CERTIFICATION CARDS FOR EACH REFRIGERANT TECHNICIAN.

CONTRACTOR SHALL REMOVAL ALL REFRIGERANTS AND OIL FROM SYSTEM PRIOR TO REMOVAL OF AC EQUIPMENT.

INCLUDE DISPOSAL OF RECLAIMED REFRIGERANT AND OIL IN CONTRACTOR WASTE MATERIAL DISPOSAL PLAN.

REPORT ANY LEAKS TO THE OWNER.

REFER TO SECTION 01 35 45 REFRIGERANT COMPLIANCE FOR REQUIRED RECORDS INCLUDING REPORT OF EQUIPMENT ID, DATE, TECHNICIAN NAME, REFRIGERANT TYPE AND QUANTITY REMOVED/ADDED.

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131 SWANSON DRIVE
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JL SWANSON WILDLIFE HEALTH CENTER AHU AND ROOF REPLACEMENT

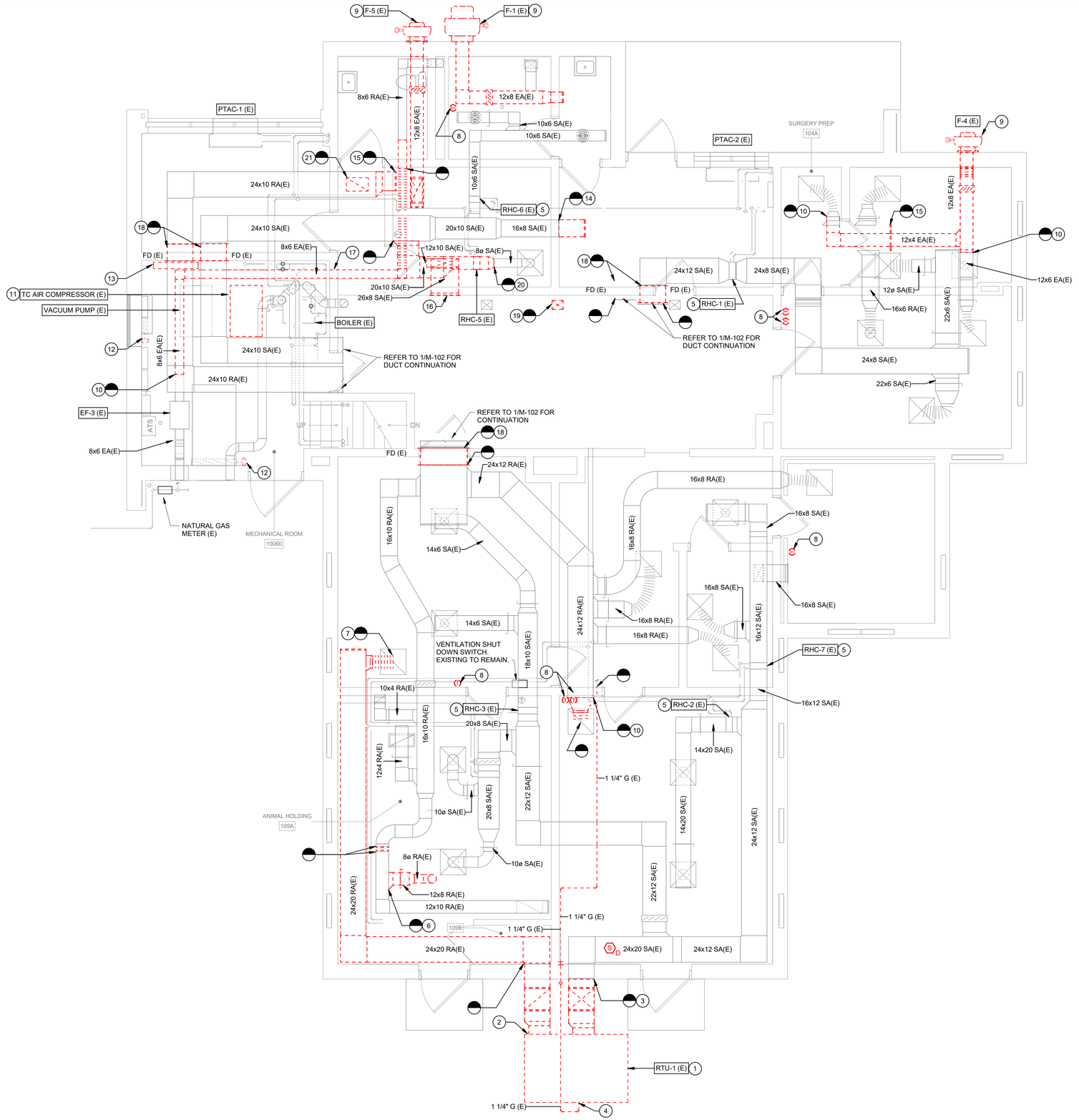
DATE:	FEBRUARY 27, 2026
FACILITY:	1772
DESIGN:	V. SOZANSKI
DRAWN:	FHS

MECHANICAL GENERAL NOTES, SYMBOLOGY, & ABBREVIATIONS

ARCHIVE BAR CODE

M-001

17759919



1 MECHANICAL FIRST FLOOR DEMOLITION PLAN
SCALE: 1/4" = 1'-0"

M-101 KEYED DEMOLITION NOTES

#	
1	DEMOLISH EXISTING PACKAGED UNIT, RTU-1. REFER TO M-001 AND DIV 01 GENERAL REQUIREMENTS FOR RECLAMATION AND DISPOSAL OF REFRIGERANT. REMOVE AND DISPOSE OF REFRIGERANT AND OIL FROM SYSTEM PRIOR TO EQUIPMENT REMOVAL. PROVIDE DOCUMENTATION PER SECTION 01 35 45 REFRIGERANT COMPLIANCE INCLUDING REPORT OF EQUIPMENT ID, DATE, TECHNICIAN NAME, REFRIGERANT TYPE AND QUANTITY REMOVED.
2	DISCONNECT DUCTWORK FROM RTU-1. DEMOLISH TO POINT INDICATED.
3	DISCONNECT DUCTWORK FROM RTU-1. DEMOLISH TO POINT INDICATED AND PREPARE FOR RECONNECTION.
4	DISCONNECT GAS SERVICE FROM RTU-1. DEMOLISH BACK TO POINT INDICATED AND CAP.
5	DEMOLISH EXISTING PNEUMATIC CONTROLS FOR REHEAT COIL. PREPARE FOR UPGRADE TO DDC.
6	DISCONNECT TAP FROM 12X10 DUCT. DEMOLISH DUCTWORK UP THROUGH ROOF. SEAL DUCT AIR-TIGHT.
7	DEMOLISH FLEX DUCT. RETURN GRILLE TO REMAIN.
8	DEMOLISH THERMOSTAT AND ASSOCIATED WIRING, PNEUMATIC TUBING, AND WIREMOLD. REFER TO ARCHITECTURAL DRAWINGS FOR PATCHING AND PAINTING.
9	DEMOLISH SIDEWALL EXHAUST FAN AND CONTROL DAMPER. DEMOLISH DUCTWORK TO POINT INDICATED WITHIN BUILDING ENVELOPE. PATCH WAL REFER DETAIL 5/A-302.
10	DEMOLISH EXHAUST DUCTWORK. PREPARE FOR RECONNECTION.
11	DISCONNECT AND REMOVE TEMPERATURE CONTROL AIR COMPRESSOR. TURN OVER TO OWNER. DISCONNECT AND REMOVE EXPOSED PNEUMATIC TUBING WITHIN MECHANICAL ROOM.
12	DEMOLISH PNEUMATIC TUBING AND ACTUATOR SERVING LOUVER.
13	DEMOLISH WALL MOUNTED CONTROL AIR FILTER, DRYER ASSEMBLY, PIPING, GAUGES, AND ACCESSORIES.
14	DEMOLISH SUPPLY DUCTWORK TO POINT INDICATED. PREPARE FOR RECONNECTION.
15	DEMOLISH DUCT CAP. PREPARE FOR RECONNECTION.
16	DEMOLISH SUPPLY DIFFUSER AND DUCTWORK BACK TO MAIN. SEAL MAIN AIR-TIGHT. COVER OPENING WITH 20 GA SHEET METAL, FASTEN TO WALL, PRIME AND PAINT TO MATCH ADJACENT WALL SURFACE. CRIMPED SHEET METAL EDGE SHOULD EXTEND PAST OPENING MINIMUM 1/2".
17	ORK. COVER OPENING WITH 20 GA SHEET METAL, FASTEN TO WALL, AND PRIME AND PAINT TO MATCH ADJACENT WALL SURFACE. CRIMPED SHEET METAL EDGE SHOULD EXTEND PAST OPENING MINIMUM 1/2".
18	DEMOLISH FIRE DAMPER AND SLEEVE. PREPARE DUCTWORK FOR RECONNECTION.
19	DEMOLISH GRILLE AND DUCTWORK UP THROUGH PENTHOUSE. COVER OPENING WITH 20 GA SHEET METAL, FASTEN TO WALL, PRIME AND PAINT TO MATCH ADJACENT WALL SURFACE. CRIMPED SHEET METAL EDGE SHOULD EXTEND PAST OPENING MINIMUM 1/2".
20	DEMOLISH DUCTWORK BACK TO POINT INDICATED. PREPARE FOR RECONNECTION.
21	DEMOLISH GRILLE. CAP AND SEAL DUCTWORK AIRTIGHT.

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131 SWANSON DRIVE
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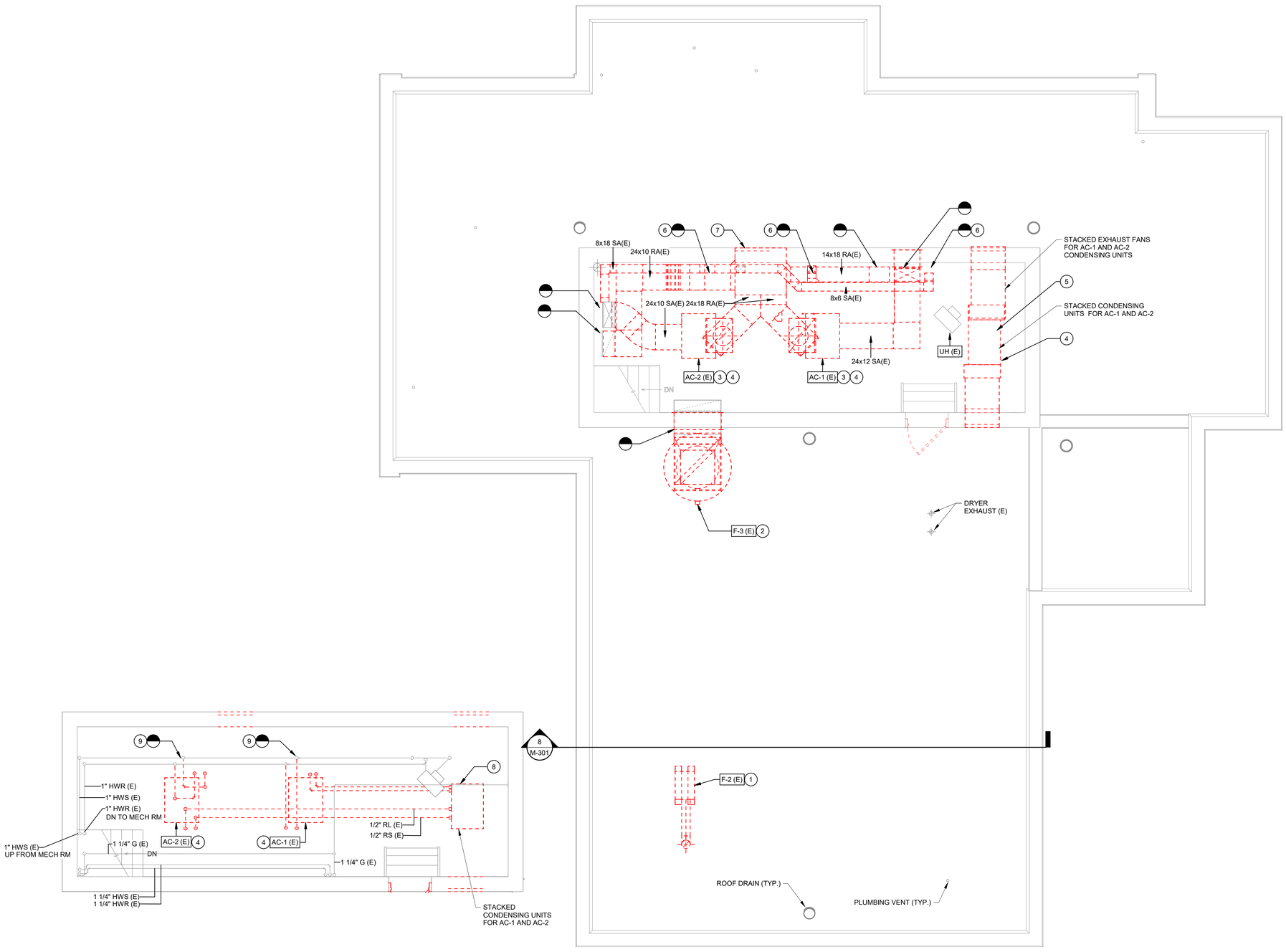
JL SWANSON WILDLIFE HEALTH CENTER AHU AND ROOF REPLACEMENT

DATE:	FEBRUARY 27, 2026
FACILITY:	1772
DESIGN:	V. SOZANSKI
DRAWN:	FHS

MECHANICAL FIRST FLOOR DEMOLITION PLAN

ARCHIVE BAR CODE

M-101
17759919



3 MECHANICAL PIPING PENTHOUSE DEMOLITION PLAN
SCALE: 1/4" = 1'-0"

1 MECHANICAL ROOF DEMOLITION PLAN
SCALE: 1/4" = 1'-0"

M-102 KEYED DEMOLITION NOTES

#	
1	DEMOLISH EXHAUST FAN AND ASSOCIATED DUCTWORK DOWN THROUGH ROOF. REFER TO DETAIL 5/A-302 FOR INFILL.
2	DEMOLISH EXHAUST FAN AND DEMOLISH DUCTWORK TO POINT INDICATED.
3	DEMOLISH EXISTING SPLIT-DX AIR CONDITIOING AND HEATING UNITS, AC-1 AND AC-2. DEMOLITION OF STEEL FRAMING AND SUPPORTS BY GENERAL CONTRACTOR.
4	REFER TO M-001 AND DIV 01 GENERAL REQUIREMENTS FOR RECLAIMATION AND DISPOSAL OF REFIGERANT. REMOVE AND DISPOSE OF REFRIGERANT AND OIL FROM SYSTEM PRIOR TO EQUIPMENT REMOVAL. CONTRACTOR TO SUPPLY TO THE OWNER DOCUMENTATION STATING WHERE USED REFRIGERANT REMOVED FROM THE PROJECT WAS SENT. DEMOLITION OF STEEL FRAMING AND SUPPORTS BY GENERAL CONTRACTOR.
5	DEMOLISH CONDENSING UNITS FOR AC-1 AND AC-2, EXHAUST FANS, ASSOCIATED DUCTWORK AND LOUVERS. REFER TO 2/M-103 FOR ASSOCIATED PIPING WORK. REFER TO 5/A-302 FOR INFILL.
6	DEMOLISH SUPPLY DUCTWORK. VERTICAL DUCT DOWN TO FLOOR BELOW TO REMAIN.
7	DEMOLISH LOUVER AND DUCTWORK. REFER TO 5/A-302 FOR INFILL.
8	DEMOLISH CONDENSING UNITS FOR AC-1 AND AC-2 AND ASSOCIATED REFRIGERANT PIPING.
9	DISCONNECT HOT WATER SUPPLY AND RETURN LINES FROM AC HEATING COIL. DEMOLISH BACK TO MAIN AND CAP.

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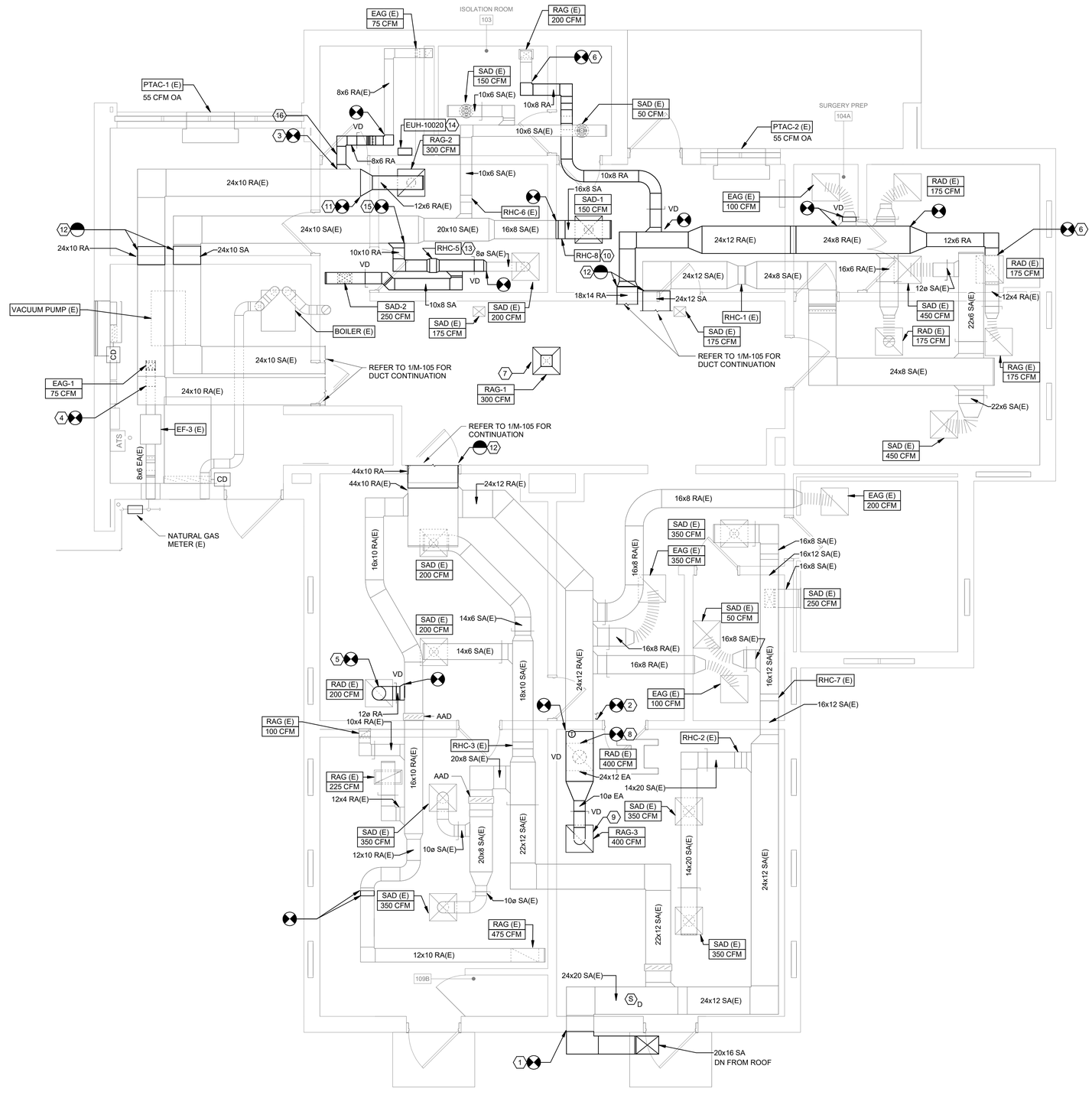
MECHANICAL ROOF AND PENTHOUSE DEMOLITION PLANS

ARCHIVE BAR CODE

M-102
17759919



1 MECHANICAL DUCTWORK FIRST FLOOR RENOVATION PLAN
SCALE: 1/4" = 1'-0"

MECHANICAL GENERAL NOTES

1	ALL SUPPLY AND RETURN DIFFUSERS TO BE REBALANCED.

M-103 KEYED RENOVATION NOTES

#	
1	CONNECT TO EXISTING DUCTWORK, REUSING EXISTING PENETRATION. CONTRACTOR TO VERIFY SIZE AND LOCATION IN FIELD. SECURE DUCTWORK TO MASONRY WALL PER X/S-301. REFER TO M-105 FOR DUCT CONTINUATION ON ROOF.
2	CAP GAS LINE AND ABANDON IN PLACE.
3	CONNECT BATHROOM EXHAUST DUCTWORK INTO MAIN RETURN DUCT.
4	PROVIDE EXHAUST GRILLE. PROVIDE DUCTWORK TO CONNECT INTO EF-3.
5	PROVIDE 10" DUCTWORK AND CONNECT INTO EXISTING GRILLE.
6	PROVIDE DUCTWORK TO CONNECT OLD EXHAUST FAN SYSTEM INTO RETURN MAIN.
7	PROVIDE DUCT MOUNTED RETURN GRILLE. ROUTE DUCT UP THROUGH PENTHOUSE FLOOR. REFER TO DETAIL 6/S-301 FOR PLANK OPENING REINFORCEMENT.
8	PROVIDE DUCTWORK TO CONNECT EXISTING GRILLE INTO EXHAUST SYSTEM.
9	PROVIDE NEW EXHAUST GRILLE AND DUCTWORK TO CONNECT INTO EXISTING EXHAUST SYSTEM.
10	PROVIDE A REHEAT COIL, RHC-8, AND SUPPLY GRILLE TO SERVE ROOM 101. REFER TO M-104 FOR PIPING INFORMATION.
11	PROVIDE RETURN DUCTWORK AND GRILLE TO CONNECT INTO EXISTING.
12	PROVIDE DUCTWORK THROUGH PREVIOUS FIRE DAMPER PENETRATION, CONNECT TO EXISTING DUCTWORK, AND SEAL OPENING AIR-TIGHT.
13	PROVIDE REHEAT COIL, RHC-5. REFER TO M-104 FOR PIPING INFORMATION.
14	PROVIDE ELECTRIC UNIT HEATER. INSTALL ON WALL AT 2'-0" AFF.
15	PROVIDE RETURN DUCTWORK AND GRILLE TO CONNECT INTO EXISTING.
16	DUCT THROUGH MASONRY WALL.

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MECHANICAL DUCTWORK FIRST FLOOR RENOVATION PLAN

ARCHIVE BAR CODE

M-103
17759919

1 MECHANICAL PIPING FIRST FLOOR RENOVATION PLAN
SCALE: 1/4" = 1'-0"

M-104 KEYED RENOVATION NOTES

#	
1	PROVIDE DDC CONTROL VALVE AND STRAINER FOR REHEAT COIL. CONNECT HWS PIPING WHERE PNEUMATIC CONTROL WAS DEMOLISHED.
2	REBALANCE EXISTING REHEAT COIL TO FLOW RATE LISTED IN CONTROL VALVE SCHEDULE ON M-502.
3	PROVIDE PIPING TO REHEAT COIL PER DETAIL 4/M-301. PROVIDE CONTROL VALVE PER SCHEDULE ON M-502.

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131 SWANSON DRIVE
ITHACA, NEW YORK 14850

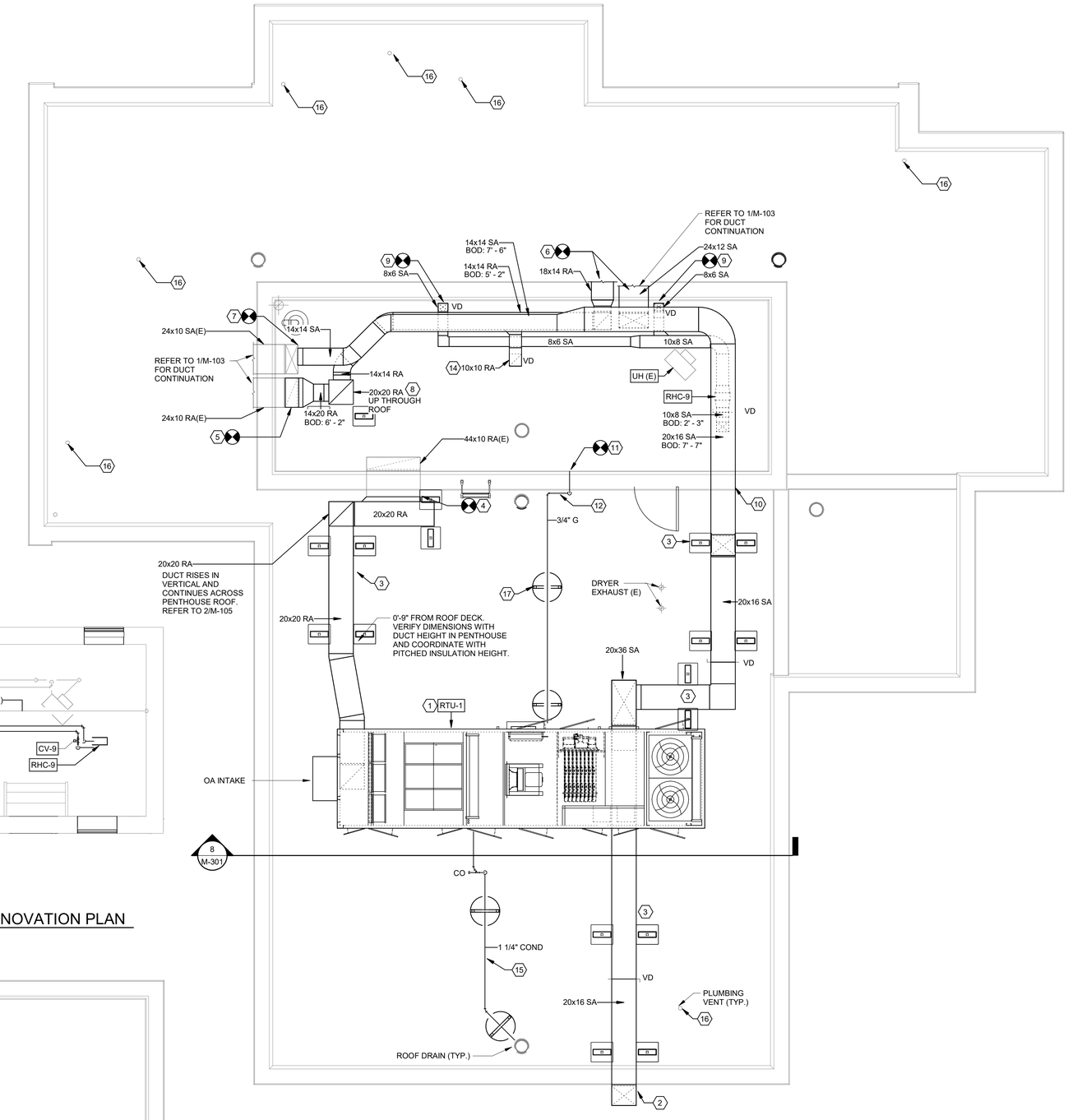
JL SWANSON WILDLIFE HEALTH CENTER AHU AND ROOF REPLACEMENT

DATE:	FEBRUARY 27, 2026
FACILITY:	1772
DESIGN:	V. SOZANSKI
DRAWN:	FHS

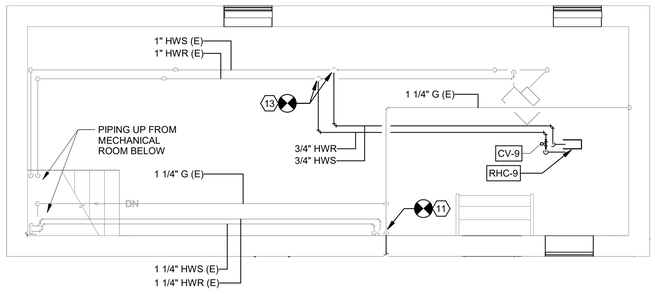
MECHANICAL PIPING FIRST FLOOR RENOVATION PLAN

ARCHIVE BAR CODE

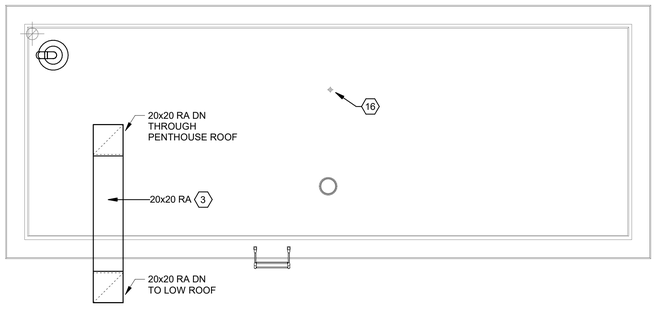
M-104
17759919



1 MECHANICAL ROOF RENOVATION PLAN
SCALE: 1/4" = 1'-0"



3 MECHANICAL PIPING PENTHOUSE RENOVATION PLAN
SCALE: 1/4" = 1'-0"



2 MECHANICAL PENTHOUSE ROOF RENOVATION PLAN
SCALE: 1/4" = 1'-0"

M-105 KEYED RENOVATION NOTES

#	
1	PROVIDE ROOF TOP UNIT, RTU-1, PER SCHEDULE ON M-601 AND SPECIFICATION. INSTALL PER MANUFACTURER'S REQUIREMENTS. REFER TO DETAIL 8/S-301 FOR ATTACHMENT TO DUNNAGE.
2	RUN DUCTWORK OVER PARAPET WALL ONTO THE ROOF AND DOWN TO FIRST FLOOR LEVEL. SECURE DUCTWORK TO EXISTING MASONRY WALL PER STRUCTURAL DETAILS.
3	PROVIDE ELEVATED NON-PENETRATING BALLASTED DUCT SUPPORTS. RTSH BY ROOFTOP SUPPORT SYSTEMS, OR APPROVED EQUAL. INSTALL WITH SLIP SHEET BELOW BASE. SECURE PIPE TO BASE USING GALVANIZED DUCT STRAP. SPACING PER MANUFACTURER'S REQUIREMENTS, NOT TO EXCEED 8 FT.
4	EXTEND EXISTING DUCTWORK THROUGH MASONRY WALL. CONNECT TO NEW DUCTWORK ON ROOF. INSTALL IN ACCORDANCE WITH SMACNA STANDARDS.
5	CONNECT NEW DUCTWORK TO EXISTING 24X10 RA RISER.
6	PROVIDE DUCTWORK THROUGH PREVIOUS FIRE DAMPER PENETRATION, CONNECT TO EXISTING DUCTWORK, AND SEAL OPENING AIR-TIGHT.
7	PROVIDE NEW SUPPLY DUCTWORK. ROUTE TO EXISTING OPENING.
8	EXTEND 20X20 RA DUCT UP THROUGH PENTHOUSE ROOF. REFER TO STRUCTURAL DRAWINGS FOR OPENING DETAIL.
9	CONNECT NEW 8X6 SA DUCT INTO EXISTING VERTICAL 8X6 SA DUCT TO DIFFUSER IN CONCRETE PLANK. PROVIDE VOLUME DAMPER.
10	ROUTE DUCTWORK THROUGH EXISTING OPENING. REFER TO S/A-302 FOR INFILL DETAIL.
11	PROVIDE 3/4" GAS SERVICE TO RTU. TIE INTO EXISTING 1-1/4" GAS PIPING IN PENTHOUSE. CORE OPENING THROUGH MASONRY WALL. SEAL WATER-TIGHT.
12	SECURE GAS PIPING TO MASONRY WALL WITH PRE-GALVANIZED PIPE BRACKET SADDLE AND CLAMP.
13	PROVIDE 3/4" HWS&R PIPING TO RHC-9. TIE INTO EXISTING TAPS CAPPED DURING DEMOLITION PHASE.
14	PROVIDE 10"X10" RA DUCT THROUGH STRUCTURAL PLANK TO GRILLE BELOW. REFER TO STRUCTURAL DRAWINGS FOR OPENING DETAIL.
15	PROVIDE CONDENSATE PIPING. ROUTE ALONG STEEL TO ROOF DRAIN.
16	EXTEND PLUMBING VENTS TO 18" ABOVE NEW ROOF ELEVATION.
17	PROVIDE ELEVATED, NON-PENETRATING PIPE SUPPORTS. RTSPUCES BY ROOFTOP SUPPORT SYSTEMS, OR APPROVED EQUAL. INSTALL WITH SLIP SHEET BELOW BASE. SECURE PIPE TO BASE USING GALVANIZED PIPE CLAMP. SPACING PER MANUFACTURER'S REQUIREMENTS, NOT TO EXCEED 8 FT.

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REVISIONS

1	11/21/25	ISSUE FOR SD REVIEW
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N

0' 2' 4' 8'
SCALE: 1/4" = 1'-0"

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MECHANICAL ROOF AND PENTHOUSE RENOVATION PLANS

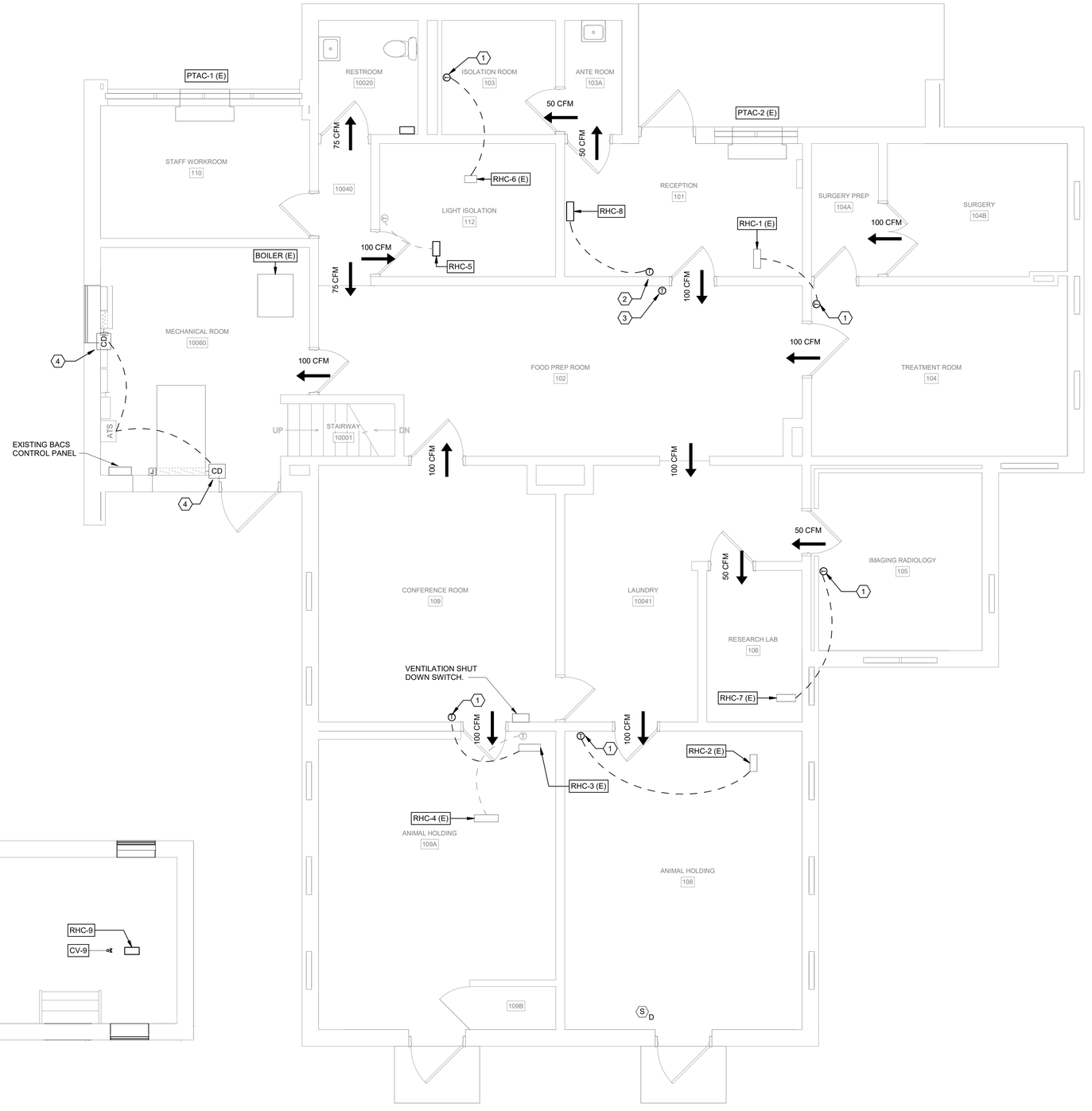
ARCHIVE BAR CODE

M-105
17759919

M-106 KEYED RENOVATION NOTES

#	
1	PROVIDE SURFACE MOUNTED THERMOSTAT FOR REHEAT COIL IN SAME LOCATION AS PREVIOUS.
2	PROVIDE SURFACE MOUNTED THERMOSTAT FOR REHEAT COIL.
3	PROVIDE SURFACE MOUNTED THERMOSTAT FOR REHEAT COIL RHC-9 IN PENTHOUSE.
4	PROVIDE NEW ACTUATOR SERVING GENERATOR CONTROL DAMPER: BELIMO NFXUP, 120V. CONNECT TO ATS SUCH THAT DAMPERS OPEN WHEN GENERATOR IS ENABLED AND CLOSE WHEN DISABLED. TYP 2.

2 MECHANICAL PRESSURIZATION AND CONTROLS PENTHOUSE PLAN
SCALE: 1/4" = 1'-0"



1 MECHANICAL PRESSURIZATION AND CONTROLS FIRST FLOOR PLAN
SCALE: 1/4" = 1'-0"

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DRAWN:	VAS

MECHANICAL PRESSURIZATION AND CONTROLS PLANS

ARCHIVE BAR CODE

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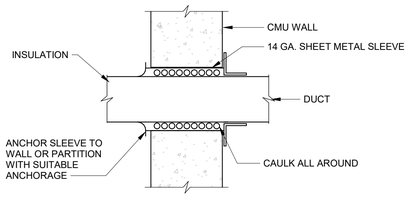
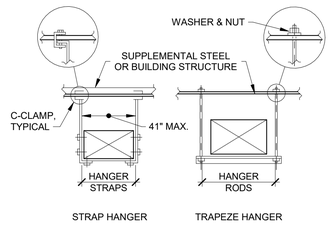
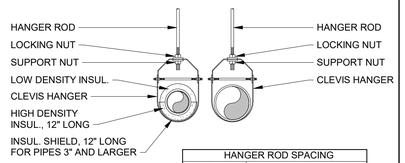


9 DUCT THROUGH EXISTING WALL
NOT TO SCALE



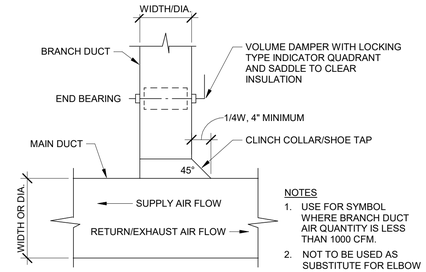
6 DUCT HANGER INSTALLATION DETAIL
NOT TO SCALE



HANGER ROD SCHEDULE	
PIPE SIZE	ROD SIZE
UP TO 2"	3/8" DIA.
2 1/2" THRU 3"	1/2" DIA.
4" AND 5"	5/8"
6" THRU 8"	3/4"
12"	7/8"

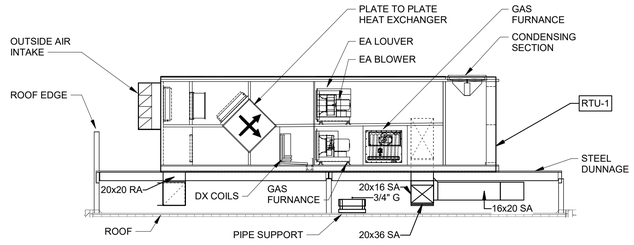
HANGER ROD SPACING	
PIPE SIZE	MAX. ALLOWED SPACING
1"	7'
1 1/4"	8'
1 1/2"	9'
2"	10'
2 1/2"	11'
3" THRU 8"	12'
10" & 12"	15'

5 PIPE HANGER INSTALLATION DETAIL
NOT TO SCALE



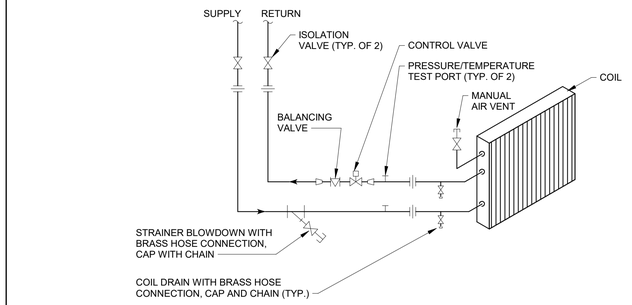
NOTES
1. USE FOR SYMBOL WHERE BRANCH DUCT AIR QUANTITY IS LESS THAN 1000 CFM.
2. NOT TO BE USED AS SUBSTITUTE FOR ELBOW

2 DUCT BRANCH CONNECTION DETAIL
NOT TO SCALE



NOTES:
1. REFER TO DETAIL 8/S-301 FOR UNIT ATTACHMENT

8 RTU ON DUNNAGE
NOT TO SCALE

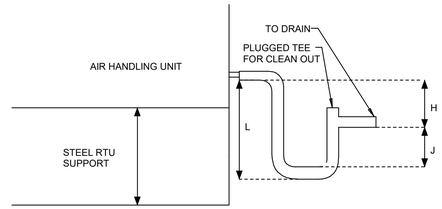


NOTE:

1. PROVIDE DRAIN PAN AND TRAP ON CHILLED WATER COILS ONLY.

4 REHEAT COIL PIPING DETAIL
NOT TO SCALE

DRAIN PAN TRAPPING FOR MODULE UNDER NEGATIVE PRESSURE

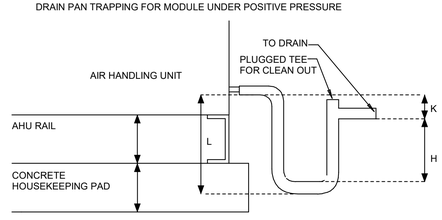


L = H + J + PIPE DIAMETER

WHERE:
H = 1 INCH FOR EACH INCH OF NEGATIVE PRESSURE* PLUS 1 INCH
J = 1/2 H

*NEGATIVE PRESSURE = TOTAL UNIT STATIC PRESSURE AT WORST CASE (LOADED FILTERS) MINUS EXTERNAL PRESSURE

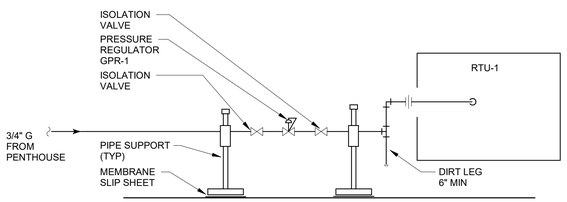
DRAIN PAN TRAPPING FOR MODULE UNDER POSITIVE PRESSURE



L = H + K + PIPE DIAMETER

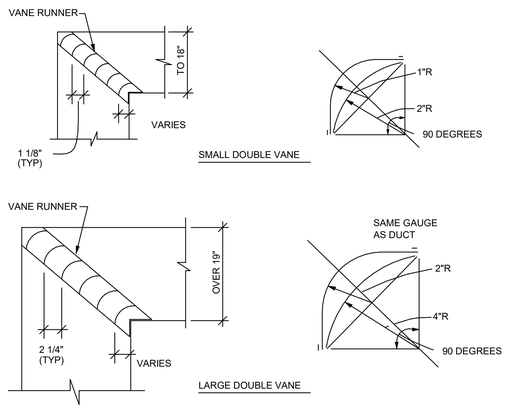
WHERE:
K = 1/2 INCH (MIN)
H = 1/2 INCH PLUS THE TOTAL UNIT STATIC PRESSURE AT WORST CASE (LOADED FILTERS)

1 CONDENSATE DRAIN PAN PIPING DETAIL
NOT TO SCALE



NOTES:
1. INSTALL PER MANUFACTURER'S REQUIREMENTS.

7 GAS PIPING DETAIL
NOT TO SCALE



FOR USE AT ALL MITERED ELBOW LOCATIONS

3 DUCT TURNING VANE INSTALLATION DETAIL
NOT TO SCALE

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MECHANICAL DETAILS

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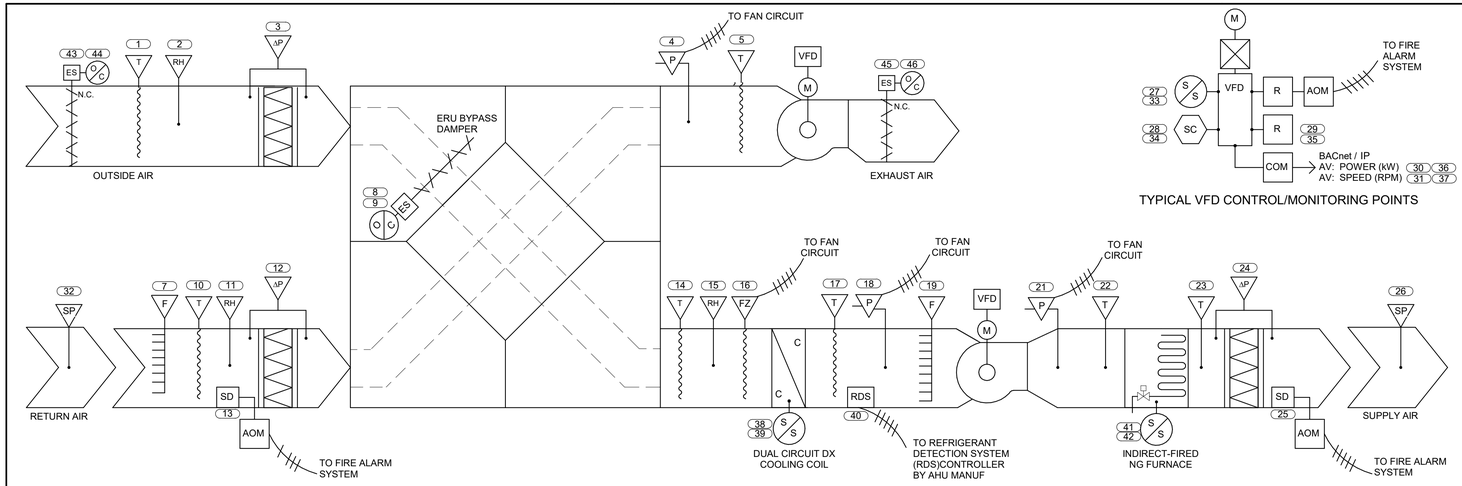


TYPICAL VFD CONTROL/MONITORING POINTS

RTU CONTROL POINT SCHEDULE

#	CONTROL POINT NAME	HARDWARE POINTS BI	BO	AI	AO	SOFTWARE POINTS AV	BV	SCH	TREND	ALARM BACS	ALARM EMCS	ALARM DESCRIPTION	SHOW ON GRAPHIC	NOTES
1	OUTSIDE AIR TEMPERATURE (°F)			X					X	X			X	
2	OUTSIDE AIR RELATIVE HUMIDITY (%)			X					X	X			X	
3	OUTSIDE AIR PRE-FILTER RACK DIFFERENTIAL PRESSURE			X						X	X	HIGH LIMIT	X	MAGNEHELIC INDICATING TRANSMITTER
4	EXHAUST FAN SUCTION PRESSURE SWITCH STATUS	X								X	X	HIGH LIMIT	X	
5	EXHAUST AIR TEMPERATURE / SETPOINT (°F)			X		X			X	X		TEMPERATURE ALARM / SENSOR FAILURE	X	
7	RETURN AIR FLOW			X					X				X	
8	ERU BYPASS DAMPER POSITION COMMAND		X										X	
9	ERU BYPASS DAMPER POSITION STATUS	X							X				X	
10	RETURN AIR TEMPERATURE (°F)			X					X	X			X	
11	RETURN AIR RELATIVE HUMIDITY (%)			X					X	X			X	
12	RETURN AIR PRE-FILTER RACK DIFFERENTIAL PRESSURE			X						X	X	HIGH LIMIT	X	MAGNEHELIC INDICATING TRANSMITTER
13	RETURN DUCT SMOKE DETECTOR STATUS	X											X	
14	ERU LEAVING AIR TEMPERATURE (°F)			X					X	X			X	
15	ERU LEAVING AIR RELATIVE HUMIDITY (%)			X					X	X			X	
16	LOW LIMIT TEMPERATURE STATUS	X								X	X	LOW LIMIT	X	
17	COOLING COIL DISCHARGE AIR TEMPERATURE / SETPOINT (°F)			X		X			X	X		TEMPERATURE ALARM / SENSOR FAILURE	X	
18	SUPPLY FAN SUCTION PRESSURE SWITCH STATUS	X								X	X	LOW LIMIT	X	
19	SUPPLY AIR FLOW			X					X				X	
21	SUPPLY FAN DISCHARGE PRESSURE SWITCH STATUS	X								X	X	HIGH LIMIT	X	
22	DISCHARGE AIR TEMPERATURE / SETPOINT (°F)			X		X			X	X		TEMPERATURE ALARM / SENSOR FAILURE	X	
23	DISCHARGE AIR TEMPERATURE / SETPOINT (°F)			X		X			X	X		TEMPERATURE ALARM / SENSOR FAILURE	X	
24	FINAL FILTER RACK DIFFERENTIAL PRESSURE			X						X	X	HIGH LIMIT	X	MAGNEHELIC INDICATING TRANSMITTER
25	SUPPLY DUCT SMOKE DETECTOR STATUS	X											X	
26	SUPPLY DOWNSTREAM STATIC PRESSURE / SETPOINT (IN-WC)			X					X			DEVIATION FROM SETPOINT	X	
27	SUPPLY FAN MOTOR START/STOP		X					X					X	INTERLOCK WITH FA SYSTEM
28	SUPPLY FAN SPEED COMMAND				X								X	
29	SUPPLY FAN STATUS	X							X				X	VIA CONTACT ON DRIVE
30	SUPPLY FAN POWER (KW)					X			X				X	BACnet / IP NETWORK POINT
31	SUPPLY FAN SPEED (RPM)					X			X				X	BACnet / IP NETWORK POINT
32	RETURN DOWNSTREAM STATIC PRESSURE / SETPOINT (IN-WC)			X					X			DEVIATION FROM SETPOINT	X	
33	EXHAUST FAN MOTOR START/STOP		X					X					X	INTERLOCK WITH FA SYSTEM
34	EXHAUST FAN SPEED COMMAND				X								X	
35	EXHAUST FAN STATUS	X							X				X	VIA CONTACT ON DRIVE
36	EXHAUST FAN POWER (KW)					X			X				X	BACnet / IP NETWORK POINT
37	EXHAUST FAN SPEED (RPM)					X			X				X	BACnet / IP NETWORK POINT
38	CONDENSER START/STOP		X					X	X	X	X	FAILURE	X	VIA CONTACT ON DX CONTROLLER
39	CONDENSER STATUS		X					X	X	X	X	FAILURE	X	VIA CONTACT ON DX CONTROLLER
40	REFRIGERATION DETECTOR STATUS		X							X	X	ALARM	X	VIA CONTACT ON RDS CONTROLLER
41	FURNACE START/STOP		X					X	X	X	X	FAILURE	X	VIA CONTACT ON FURNACE CONTROLLER
42	FURNACE STATUS		X					X	X	X	X	FAILURE	X	VIA CONTACT ON FURNACE CONTROLLER
43	OUTSIDE AIR DAMPER STATUS (OPEN/CLOSE)			X					X				X	
44	OUTSIDE AIR DAMPER POSITION COMMAND (%)				X				X				X	
45	EXHAUST AIR DAMPER STATUS (OPEN/CLOSE)			X					X				X	
46	EXHAUST AIR DAMPER POSITION COMMAND (%)				X				X				X	

SEQUENCE OF OPERATION

SYSTEM DESCRIPTION

100% OUTSIDE AIR HANDLING UNIT (RTU-1)
SUPPLY AIR FANS
EXHAUST AIR FANS
DX WATER COOLING COIL
INDIRECT FIRED GAS FURNACE

GENERAL

SYSTEM SHALL BE CONTROLLED THROUGH THE BUILDING AUTOMATION AND CONTROL SYSTEM (BACS).

ALL SETPOINTS SHALL BE ADJUSTABLE.

THE BACS SHALL BE CAPABLE OF STARTING AND STOPPING THE SYSTEM FOR SEVEN DIFFERENT DAILY SCHEDULES PER WEEK.

THE BACS SHALL BE CAPABLE OF RETAINING ITS PROGRAMMING AND TIME SETTING DURING A LOSS OF POWER FOR AT LEAST TEN HOURS.

ALL SAFETIES SHALL BE HARD WIRED INTO THE FAN MOTOR POWER CIRCUIT, AND SHALL REQUIRE MANUAL RESET.

ACCEPTABLE MANUFACTURERS: LOGICAL CONTROL SYSTEMS
THE FACILITY IS EQUIPPED WITH A LOGICAL CONTROL SYSTEMS BACS.

HVAC SYSTEM COMMISSIONING: THE CONTRACTOR SHALL DEMONSTRATE TO THE OWNER'S REPRESENTATIVE THAT THE HVAC CONTROL SYSTEMS ARE CALIBRATED, ADJUSTED, AND ARE WORKING PER THE PRESCRIBED SEQUENCE OF OPERATION.

DESIGN INTENT
UNIT IS DESIGNED TO OPERATE IN A CONSTANT VOLUME MANNER AND PROVIDE VENTILATION, HEATING, AND COOLING TO ZONES. ZONE REHEAT COILS OR PTAC UNITS WILL ENGAGE TO ACHIEVE SPECIFIC ZONE SETPOINTS.

UNIT IS INTENDED TO OPERATE CONTINUOUSLY. THIS IS AN ANIMAL FACILITY AND IS OCCUPIED 24/7.

SAFETIES

FREEZE PROTECTION: THE SUPPLY AIR FAN SHALL SHUT DOWN, THE OUTSIDE AIR DAMPER SHALL CLOSE, AND THE FURNACE SHALL ENGAGE UPON ACTIVATION OF THE LOW LIMIT TEMPERATURE SWITCH.

HIGH FAN STATIC: THE FAN SHALL SHUT DOWN AND THE OUTSIDE AIR DAMPER SHALL CLOSE UPON ACTIVATION OF THE HIGH FAN DISCHARGE STATIC PRESSURE SWITCH.

LOW FAN STATIC: THE FAN SHALL SHUT DOWN UPON AND THE OUTSIDE AIR DAMPER SHALL CLOSE UPON ACTIVATION OF THE LOW FAN SUCTION STATIC PRESSURE SWITCH.

SMOKE DETECTION: THE FAN SHALL SHUT DOWN AND THE OUTSIDE AIR/EXHAUST AIR DAMPERS SHALL CLOSE UPON ACTIVATION OF THE DUCT SMOKE DETECTOR.

SETPOINTS

AHU DISCHARGE AIR TEMPERATURE (DAT): SEE RESET SCHEDULE

FREEZESTAT LOW LIMIT TEMPERATURE: 38 °F

FILTER DIFFERENTIAL PRESSURE HIGH LIMIT: 1" w.c.

SUPPLY DOWNSTREAM STATIC PRESSURE: 1.25" w.c.

RETURN DOWNSTREAM STATIC PRESSURE: 0.75" w.c.

SUPPLY FAN DISCHARGE HIGH STATIC PRESSURE LIMIT: 2" w.c.

SUPPLY FAN SUCTION LOW STATIC PRESSURE LIMIT: -2" w.c.

EXHAUST FAN SUCTION LOW STATIC PRESSURE LIMIT: -2" w.c.

SYSTEM OCCUPANCY SCHEDULE: CONTINUOUS

START/STOP

AIR HANDLING UNIT SUPPLY FAN SHALL BE INTERLOCKED WITH THE ASSOCIATED HEAT RECOVERY EXHAUST FAN.

OCCUPIED: SUPPLY AIR FAN AND ASSOCIATED EXHAUST FAN SHALL START AND OPERATE CONTINUOUSLY.

SHUT OFF DAMPER CONTROL

WHEN THE SYSTEM FANS ARE OFF, THE OUTSIDE AIR AND ASSOCIATED EXHAUST DAMPERS SHALL BE CLOSED.

WHEN THE SYSTEM FANS ARE INDEXED TO START, THE OUTSIDE AIR AND ASSOCIATED EXHAUST DAMPERS SHALL PROVE OPEN VIA AN END SWITCH PRIOR TO STARTING THE EXHAUST FANS

FILTER STATUS

THE DDC CONTROL SYSTEM SHALL MONITOR THE DIFFERENTIAL PRESSURE ACROSS THE SYSTEM FILTER BANKS.

AIRFLOW MONITORING

THE DDC CONTROL SYSTEM SHALL MONITOR THE OUTSIDE AIR, SUPPLY AND EXHAUST FLOW RATES AS MEASURED BY THEIR RESPECTIVE AIRFLOW MEASURING STATIONS.

FAN SPEED CONTROL

SUPPLY AIR FAN SHALL MODULATE VIA A VARIABLE FREQUENCY DRIVE AS REQUIRED TO MAINTAIN THE DOWNSTREAM STATIC PRESSURE SETPOINT.

EXHAUST FAN SHALL MODULATE VIA A VARIABLE FREQUENCY DRIVE AS REQUIRED TO MAINTAIN THE SYSTEM STATIC PRESSURE SETPOINT.

SUPPLY AIR TEMPERATURE CONTROL

DISCHARGE AIR TEMPERATURE RESET: THE AHU DISCHARGE AIR TEMPERATURE SHALL BE ALLOWED TO RESET BASED ON THE FOLLOWING SCHEDULE:

OAT = 75 °F & ABOVE	=>	DAT = 51 °F
OAT = 55 °F & BELOW	=>	DAT = 65 °F

HEATING: WHEN THE AHU DISCHARGE AIR TEMPERATURE FALLS BELOW SETPOINT, THE DX CONTROL VALVE SHALL BE CLOSED AND THE FURNANCE CONTROLLER SHALL MODULATE AS REQUIRED TO MAINTAIN THE DISCHARGE AIR TEMPERATURE SETPOINT.

COOLING: WHEN THE AHU DISCHARGE AIR TEMPERATURE RISES ABOVE SETPOINT, THE HEATER CONTROLLER SHALL CONTROL OFF , AND THE DX CONTROL VALVE SHALL MODULATE AS REQUIRED TO MAINTAIN THE DISCHARGE AIR TEMPERATURE SETPOINT.

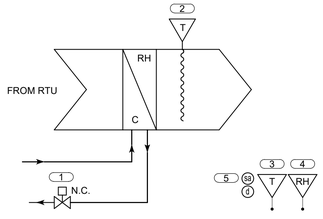
ENERGY RECOVERY CONTROL

WINTER MODE: WINTER MODE SHALL BE INITIATED WHEN THE OUTSIDE AIR TEMPERATURE IS BELOW THE EXHAUST AIR TEMPERATURE, AND THE ERU LEAVING AIR TEMPERATURE IS BELOW SETPOINT. THE ERU BYPASS DAMPERS SHALL BE CLOSED.

INTERMEDIATE MODE: INTERMEDIATE MODE SHALL BE INITIATED WHEN THE OUTSIDE AIR TEMPERATURE IS BELOW THE EXHAUST AIR TEMPERATURE, AND THE OUTSIDE AIR TEMPERATURE IS ABOVE THE ERU LEAVING AIR TEMPERATURE SETPOINT. THE ERU BYPASS DAMPERS SHALL MODULATE OPEN.

SUMMER MODE: SUMMER MODE SHALL BE INITIATED WHEN THE OUTSIDE AIR TEMPERATURE IS 3-5SF ABOVE THE EXHAUST AIR TEMPERATURE. THE ERU BYPASS DAMPERS SHALL BE CLOSED.

ANTI-FROST MODE: ANTI-FROST MODE SHALL BE INITIATED WHEN THE LEAVING EXHAUST AIR TEMPERATURE FALLS BELOW 34 DEG F AND INLET EXHAUST AIR DEWPOINT TEMPERATURE IS GREATER THAN THE LEAVING EXHAUST AIR TEMPERATURE. THE BYPASS DAMPERS SHALL MODULATE AS REQUIRED TO MAINTAIN THE EXHAUST AIR LEAVING TEMPERATURE ABOVE THE INLET EXHAUST AIR DEWPOINT TEMPERATURE.



TYPICAL REHEAT COIL CONTROL POINT SCHEDULE

POINT #	CONTROL POINT NAME	HARDWARE POINTS BI	BO	AI	AO	SOFTWARE POINTS AV	BV	SCH	TREND	ALARM BACS	ALARM EMCS	ALARM DESCRIPTION	SHOW ON GRAPHIC	NOTES
1	REHEAT COIL CONTROL VALVE POSITION COMMAND (% OPEN)				X				X				X	NORMALLY CLOSED
2	RETURN AIR TEMPERATURE (°F)			X					X	X			X	
3	ZONE TEMPERATURE / SETPOINT (°F)			X		X			X	X		DEVIATION FROM SETPOINT	X	
4	ZONE RELATIVE HUMIDITY / SETPOINT (%RH)			X		X			X	X		DEVIATION FROM SETPOINT	X	
5	ZONE TEMPERATURE SETPOINT ADJUSTMENT (°F)			X					X				X	

SEQUENCE OF OPERATION

SYSTEM DESCRIPTION
ZONE REHEAT COIL

GENERAL
SYSTEM SHALL BE CONTROLLED THROUGH THE BUILDING AUTOMATION AND CONTROL SYSTEM (BACS).

ALL SETPOINTS SHALL BE ADJUSTABLE.

THE BACS SHALL BE CAPABLE OF STARTING AND STOPPING THE SYSTEM FOR SEVEN DIFFERENT DAILY SCHEDULES PER WEEK.

THE BACS SHALL BE CAPABLE OF RETAINING ITS PROGRAMMING AND TIME SETTING DURING A LOSS OF POWER FOR AT LEAST TEN HOURS.

ALL SAFETIES SHALL BE HARD WIRED INTO THE FAN MOTOR POWER CIRCUIT, AND SHALL REQUIRE MANUAL RESET.

SETPOINTS

SPACE COOLING TEMPERATURE SETPOINTS:

SURGERY:	68°F +/- 2°F
ANIMAL HOLDING, ISOLATION AND TREATMENT:	72°F +/- 2°F
OTHER SPACES:	75°F +/- 2°F

SPACE HEATING TEMPERATURE SETPOINTS:

SURGERY:	68°F +/- 2°F
ANIMAL HOLDING, ISOLATION AND TREATMENT:	72°F +/- 2°F
OTHER SPACES:	70°F +/- 2°F

ZONE OCCUPANCY SCHEDULE: CONTINUOUS

OCCUPIED HEATING: IF THE SPACE TEMPERATURE FALLS BELOW THE OCCUPIED HEATING TEMPERATURE SETPOINT, THE REHEAT CONTROL VALVE SHALL MODULATE TO MAINTAIN THE SPACE TEMPERATURE SETPOINT. WHEN THE SPACE TEMPERATURE IS AT SETPOINT, THE REHEAT COIL CONTROL VALVES SHALL BE CLOSED.

OCCUPIED COOLING: IF THE SPACE TEMPERATURE RISES ABOVE THE OCCUPIED COOLING TEMPERATURE SETPOINT, THE REHEAT COIL CONTROL VALVE SHALL CLOSE.

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JL SWANSON WILDLIFE HEALTH CENTER AHU AND ROOF REPLACEMENT

DATE:	FEBRUARY 27, 2026
FACILITY:	1772
DESIGN:	V. SOZANSKI
DRAWN:	FHS

MECHANICAL CONTROLS

ARCHIVE BAR CODE

M-401

17759919

PIPING ACCESSORIES SCHEDULE AND SPECIFICATIONS

NOTES:
1) FOR VALVES INSTALLED IN INSULATED PIPING SYSTEMS, PROVIDE EXTENDED HANDLE.
2) PROVIDE VALVES WITH UNIONS OR FLANGES AT EACH PIECE OF EQUIPMENT ARRANGED TO ALLOW SERVICE, MAINTENANCE AND EQUIPMENT REMOVAL WITHOUT SYSTEM SHUTDOWN.
3) PROVIDE PRESSURE/TEMPERATURE TEST PORTS AT ALL PUMPS, HEAT EXCHANGERS, COILS, AND WHERE INDICATED.
4) PROVIDE THERMOMETERS AT INLET/OUTLET OF EACH HYDRONIC ZONE, BOILER, CHILLER, COILS IN CENTRAL AHUS, HEAT EXCHANGERS, HEAT RECOVERY UNITS, AND WHERE INDICATED.
5) PROVIDE PRESSURE GAUGE IN PIPING TEE WITH BALL SHUTOFF VALVE. SNUBBERS ARE NOT ACCEPTABLE.
6) PROVIDE PRESSURE GAUGES AT DISCHARGE OF EACH PRESSURE REDUCING VALVE, BUILDING WATER SERVICE ENTRANCE, CHILLED WATER SERVICE ENTRANCE, AND PUMP SUCTION/DISCHARGE, AND WHERE INDICATED.
7) PROVIDE UNIONS ADJACENT TO VALVES AND AT FINAL EQUIPMENT CONNECTIONS.
8) BEFORE PLACING SYSTEM IN SERVICE, REMOVE MESH FROM ALL STRAINERS, CLEAN MESH AND FLUSH SYSTEM, RE-INSTALL AFTER FINAL FLUSHING.
9) PROVIDE STRAINERS AT INLET OF CONTROL VALVES, STEAM TRAPS, AIR SEPARATORS, AND WHERE INDICATED. INSTALL NIPPLE AND BALL VALVE IN BLOWDOWN CONNECTION.
10) PROVIDE MANUAL AIR VENTS AT HIGH POINTS IN PIPING SYSTEM, HEAT TRANSFER COILS, AND ELSEWHERE AS REQUIRED FOR SYSTEM AIR VENTING.
11) PROVIDE DRAIN VALVES AT MAIN SHUT-OFF VALVES, LOW POINTS OF PIPING SYSTEM, AND ELSEWHERE AS REQUIRED FOR SYSTEM DRAINING.
12) ON DEVICES WHERE THE DIFFERENTIAL PRESSURE IS THE DESIRED INFORMATION, INSTALL ONLY ONE PRESSURE GAUGE WITH VALVED CONNECTIONS TO THE UPSTREAM AND DOWNSTREAM PRESSURE TAPS.
13) PROVIDE TAGS FOR ALL NEW CONTROL AND SHUT-OFF VALVES. TAGS SHALL BE BRASS, 1-1/2-INCH ROUND, WITH STAMPED LETTERS AND NUMBERS. PROVIDE VALVE CHART.

TAG	COMPONENT	ACCEPTABLE MANUFACTURERS	BASIS OF DESIGN		PRESSURE RATING	SPECIFICATION
			MANF	MODEL		
AV-1	AIR VENTS	ARMSTRONG, BELL & GOSSETT, SARCO	BELL & GOSSETT	MODEL 87	150 PSIG	BRASS BODY, NON-FERROUS INTERNALS
BV-1	BALANCE VALVE, NPS 1/2 INCH	ARMSTRONG, BELL & GOSSETT, TOUR & ANDERSON	BELL & GOSSETT	CB SERIES, CB 1/2	200 PSIG @ 250 °F	1.5 GPM AND LESS, BRONZE, BALL OR PLUG TYPE BODY WITH CALIBRATED ORIFICE OR VENTURI; GLASS AND CARBON FILLED TFE OR EPDM SEAT RINGS, EPDM STEM O-RING, WITH INTEGRAL SEALS FOR PORTABLE DIFFERENTIAL PRESSURE METER, WITH LEVEL HANDLE AND MEMORY STOP TO RETAIN SET POSITION.
GPR-1	PRESSURE REGULATOR, NATURAL GAS	FISHER CONTROLS OR APPROVED EQUAL	FISHER CONTROLS	CS200	175 PSIG	3/4" NPT, INLET PRESSURE MAX = 14" WC, OUTLET PRESSURE SET TO 11" WC MAX.
PT-1	PRESSURE/TEMPERATURE TEST PORTS	PETERSON, SISCO, TRERICE	TRERICE	D3770	500 PSIG @ 200 °F	HOT WATER / GLYCOL SERVICE: BRASS BODY & CAP, 1/2 NPT CONNECTION, EPDM (NORDEL) SEAT, GASKETED AND THREADED CAP WITH RETENTION CHAIN
S-1	STRAINERS, WYE PATTERN, NPS 1/2 - 2 INCH, WATER AND LOW PRESSURE STEAM SERVICE	APOLLO, KECKLEY, WATTS	WATTS	SERIES LF777	200 PSIG @ 210 °F WOG; 125 PSIG @ 353 °F WSP	BRONZE BODY, #20 MESH 304 STAINLESS STEEL SCREEN, THREAD OR SWEAT CONNECTION.
V-1	SHUT-OFF BALL VALVE, NPS 1/2 - 2 INCH, WATER AND LOW PRESSURE STEAM SERVICE	APOLLO, WATTS	WATTS	B6000-SS	300 PSIG WOG, 150 PSIG WSP	MSS SP-110, 2-PIECE, STANDARD PORT, BRONZE BODY, 316 SS BALL & STEM, PTFE OR TFE SEAT
V-2	SHUT-OFF BALL VALVE, NPS 1/2 - 2 INCH, GAS SERVICE	APOLLO, WATTS	WATTS	B6000-UL	600 PSIG WOG, 150 PSIG SWP	MSS SP-110, 2-PIECE, STANDARD PORT, BRONZE BODY, CHROME PLATED BRASS BALL, ASTM B16 BRASS STEM, PTFE SEAT, UL APPROVED FOR NATURAL GAS SERVICE.

DUCT SCHEDULE AND SPECIFICATIONS

SPECS:
1) ALL DUCTWORK AND ACCESSORIES SHALL BE FABRICATED AND INSTALLED IN COMPLIANCE WITH THE LATEST ISSUE OF SMACNA'S HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE.
2) CONSTRUCT TEES, BENDS, AND ELBOWS WITH RADIUS OF NOT LESS THAN 1.0 TIMES THE WIDTH OF DUCT ON CENTER LINES.
3) WHERE RECTANGULAR ELBOWS ARE USED, PROVIDE AIR FOIL TYPE TURNING VANES.
4) INCREASE DUCT SIZES GRADUALLY, AND IN COMPLIANCE WITH FIGURE 4-7 OF SMACNA'S HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE.
   BRANCH CONNECTIONS SHALL BE MADE WITH A 45 DEGREE ENTRY. STRAIGHT TEES ARE NOT ACCEPTABLE.
5) SEALANTS AND GASKETS: SURFACE BURNING CHARACTERISTICS SHALL HAVE A MAXIMUM FLAME-SPREAD INDEX OF 25, AND MAXIMUM SMOKE-DEVELOPED INDEX OF 50 WHEN TESTED TO UL 723.
6) ALL MANUAL BALANCING DAMPERS SHALL BE PROVIDED WITH LOCKING HAND QUADRANT.
7) ACCESS DOORS (NON-GREASE DUCT) SHALL BE GALVANIZED SHEETMETAL WITH INSULATION FILL AND THICKNESS AS INDICATED FOR DUCT PRESSURE CLASS.
   ACCESS DOORS SHALL BE INSTALLED IN THE FOLLOWING LOCATIONS: BOTH SIDES OF DUCT COILS, ADJACENT TO FIRE/SMOKE DAMPERS IN ORDER TO RESET OR REINSTALL FUSIBLE LINKS, AND AS INDICATED.
8) CONNECT DIFFUSERS TO SUPPLY DUCTS WITH MAXIMUM OF 36-INCHES OF FLEXIBLE DUCT CLAMPED OR STRAPPED IN PLACE.
9) PROVIDE FLEXIBLE CONNECTORS TO CONNECT DUCTS TO EQUIPMENT.
10) INSTALL VOLUME DAMPERS AT POINTS ON SUPPLY, RETURN, AND EXHAUST SYSTEMS WHERE BRANCHES EXTEND FROM LARGER DUCTS.
11) INSTALL FIRE AND SMOKE DAMPERS ACCORDING TO UL LISTING.
12) PAINT ALL DUCTWORK EXPOSED TO VIEW IN OCCUPIED AREAS. ARCHITECT SHALL SELECT PAINT COLOR. PRIOR TO PAINTING DUCTWORK, REMOVE ALL DIRT, GREASE, AND MANUFACTURING LUBRICANT WITH A NON-HYDROCARBON CLEANER (SIMPLE GREEN OR EQUIVALENT). WIPE DUCT DRY WITH A CLEAN, DRY CLOTH BEFORE PAINTING.
13) USE BLO-R-VAC PVC HOSE (McMASTER-CARR PART NO 5666K46) MEETING UL 94VO FOR FLAME RETARDANCE TO CONNECT ADA FUME HOODS WITH ADJUSTABLE BASES TO THE EXHAUST SYSTEM.
14) LEAK TESTING OF DUCTWORK SHALL BE IN ACCORDANCE WITH SMACNA'S HVAC AIR DUCT LEAKAGE TEST MANUAL.
   ALL DUCTS DESIGNED TO OPERATE AT STATIC PRESSURES IN EXCESS OF 3-INCHES WG (POS OR NEG) SHALL BE TESTED.
   TEST SHALL BE WITNESSED BY A DESIGNATED CORNELL REPRESENTATIVE AND THE PROJECT ENGINEER OF RECORD.
   25% OF DUCTS DESIGNED TO OPERATE AT STATIC PRESSURES 3-INCHES AND BELOW SHALL BE TESTED. TEST SHALL BE WITNESSED BY A DESIGNATED CORNELL REPRESENTATIVE AND THE PROJECT ENGINEER OF RECORD.
   ACCEPTANCE CRITERIA: INTERIOR SUPPLY, RETURN AND GENERAL EXHAUST: 5% SYSTEM LEAKAGE TESTED AT 1.25 TIMES THE EXPECTED OPERATING STATIC PRESSURE.
   ACCEPTANCE CRITERIA: INTERIOR LABORATORY EXHAUST SYSTEMS: 2% SYSTEM LEAKAGE TESTED AT 1.25 TIMES THE EXPECTED OPERATING STATIC PRESSURE.
   AN AIR DUCT LEAKAGE TEST SUMMARY SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO FINAL PROJECT ACCEPTANCE.
15) DUCTWORK SERVING TYPE 1 KITCHEN EXHAUST HOODS:
   ALL DUCTWORK AND ACCESSORIES SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH NEW YORK STATE MECHANICAL CODE AND NFPA-96.
   LIGHT TEST 100% OF ALL SHOP OR FIELD WELDS, PER NEW YORK STATE MECHANICAL BUILDING CODE. UTILIZE LED LIGHT WITH 360° LIGHT EMITTANCE FOR LIGHT TESTING.
   ONCE ALL GREASE DUCT LIGHT TESTING HAS BEEN PERFORMED AND APPROVED BY THE AUTHORITIES HAVING JURISDICTION (CITY OR STATE) AND CORNELL SUBJECT MATTER EXPERT, FIRE WRAPPING MAY COMMENCE.
   ALL FIRE WRAP INSULATION INSPECTIONS SHALL BE COORDINATED WITH AUTHORITIES HAVING JURISDICTION (CITY OR STATE).
   THE FIRST LAYER OF FIRE WRAP MUST BE INSPECTED BEFORE THE SECOND LAYER IS INSTALLED.
16) ALL INSULATION AND ADHESIVE SHALL HAVE A MAXIMUM FLAME-SPREAD INDEX OF 25 AND A MAXIMUM SMOKE-DEVELOPED INDEX OF 50 WHEN TESTED IN ACCORDANCE WITH ASTM E84.
   TYPE A INSULATION: MINERAL FIBERGLASS BLANKET, ASTM C553 TYPE I, ASTM C1136 TYPE I FACTORY APPLIED FSK JACKET, K-VALUE BETWEEN 0.22 - 0.29 BTU-IN/HR-FT²-°F @ 75 °F, 0.75 PCF
   TYPE B INSULATION: MINERAL FIBERGLASS BOARD, ASTM C612 TYPE IA OR IB, ASTM C1136 TYPE I FACTORY APPLIED ASJ JACKET, K-VALUE BETWEEN 0.22 - 0.29 BTU-IN/HR-FT²- °F @ 75 °F, 3.0 PCF
   TYPE C INSULATION: MINERAL FIBERGLASS BOARD, ASTM C612 TYPE IA OR IB, ASTM C1136 TYPE I FACTORY APPLIED ASJ JACKET, K-VALUE BETWEEN 0.22 - 0.29 BTU-IN/HR-FT²- °F @ 75 °F, 6.0 PCF
   TYPE D INSULATION: MINERAL FIBERGLASS, PREFORED PIPE INSULATION, ASTM C 547, TYPE I, GRADE A, ASTM C1136 TYPE I FACTORY APPLIED ASJ JACKET, K-VALUE BETWEEN 0.22 - 0.27 BTU-IN/HR-FT²- °F @ 75 °F
   TYPE E INSULATION: ACOUSTICAL DUCT LAGGING, STC 29 E INSULATION: ACOUSTICAL DUCT LAGGING, STC 29
   TYPE F INSULATION: UL LISTED FIREPROOFING DUCT WRAP, VENTILATION AIR DUCT ENCLOSURE, 2 HOUR
   TYPE G INSULATION: TWO LAYERS OF UL LISTED, 1-1/2" FIRE WRAP, 2 HOUR RATING. WELDED PINS ARE NOT ALLOWED ON STAINLESS STEEL DUCTWORK.
17) FIELD JACKET FOR OUTDOOR DUCTWORK SHALL HAVE 0.030" DIMPLED ALUMINUM JACKET.

SYSTEM	LOCATION	SERVICE	PRESSURE CLASS	SEAL CLASS	LEAKAGE CLASS		MATERIAL	LINING	INSULATION				FINISH
					RECT	ROUND			R VALUE (MIN)	MATERIAL	FIELD JACKET	VAPOR RETARDER	
RETURN AIR	EXPOSED / CONDITIONED SPACE	GENERAL	2" NEG	A	6	3	G90 GALVANIZED	NONE	R-6	A	N/A	N/A	PAINT
EXHAUST	EXPOSED	GENERAL	3" NEG	A	6	3	GALVANNEALED	NONE	N/A	N/A	N/A	N/A	PAINT
RETURN AIR	CONCEALED	GENERAL	2" NEG	A	6	3	G90 GALVANIZED	NONE	R-6	B	NONE	YES	NONE
SUPPLY	CONCEALED	GENERAL	2" POS	A	6	3	G90 GALVANIZED	NONE	R-6	B	NONE	YES	NONE
SUPPLY	OUTDOORS	GENERAL	2" POS	A	6	3	G90 GALVANIZED	NONE	R-12	B	YES	YES	NONE
SUPPLY	EXPOSED / CONDITIONED SPACE	GENERAL	2" POS	A	6	3	G90 GALVANIZED	NONE	R-6	A	NONE	YES	NONE
RETURN	OUTDOORS	GENERAL	2" NEG	A	6	3	G90 GALVANIZED	NONE	R-12	B	YES	YES	NONE

PIPE AND FITTING SCHEDULE AND SPECIFICATIONS

SPECS:

1) SOLDER FILLER METALS: ASTM B32, LEAD-FREE ALLOYS. INCLUDE WATER FLUSHABLE FLUX ACCORDING TO ASTM B813.
2) DIELECTRIC FITTINGS: USE FLANGES OR COUPLINGS. UNIONS ARE UNACCEPTABLE
3) INSTALL ESCUTCHEONS FOR PENETRATIONS OF WALLS, CEILING, AND FLOORS
4) INSTALL SLEEVES FOR PIPES PASSING THROUGH CONCRETE AND MASONRY WALLS, GYPSUM-BOARD PARTITIONS, AND CONCRETE FLOOR AND ROOF SLABS.
5) INSTALL PIPING SYSTEMS TO FACILITATE SERVICE, MAINTENANCE AND REPAIR OR REPLACEMENT OF COMPONENTS.
6) ALL INSULATION AND ADHESIVE SHALL HAVE A MAXIMUM FLAME-SPREAD INDEX OF 25 AND A MAXIMUM SMOKE-DEVELOPED INDEX OF 50 WHEN TESTED IN ACCORDANCE WITH ASTM E84.
   TYPE A INSULATION: PRE-FORMED MINERAL FIBERGLASS, ASTM C547 TYPE I, ASTM C1136 FACTORY APPLIED SELF-SEALING ALL SERVICE JACKET.
7) ALL PIPING AND INSULATION SYSTEM EXPOSED TO VIEW SHALL BE PAINTED TO MATCH SURROUNDING SURFACES
8) PROVIDE ALUMINUM OR PVC FIELD APPLIED JACKETING IN HIGH TRAFFIC AREAS AND ALL EXPOSED PIPING BELOW 8 FEET.
9) MAINTAIN INDICATED FIRE RATING OF WALLS, PARITIONS, CEILINGS, AND FLOORS AT PIPE PENETRATIONS. SEAL PIPE PENETRATIONS WITH FM APPROVED FIRESTOP MATERIALS
10) INSTALL DRAINS, CONSISTING OF A TEE FITTING, NPS 3/4 BALL VALVE, AND SHORT NPS 3/4 THREADED NIPPLE AT LOW POINTS IN PIPING SYSTEM AS REQUIRED FOR DRAINAGE.
11) INSTALL MANUAL AIR VENT AT HIGH POINT IN PIPING SYSTEM AS REQUIRED FOR BLEEDING SYSTEM OF AIR.
12) PROVIDE PIPE LABLES AND DIRECTIONAL ARROWS ON ALL NEW PIPING SYSTEMS. LABELS SHALL BE PRINTED PLASTIC WITH CONTACT-TYPE, PERMANENT ADHESIVE BACKING.
13) TESTING:
   FILL SYSTEM WITH AMBIENT TEMPERATURE WATER. USE VENTS INSTALLED AT HIGH POINTS OF SYSTEM TO RELEASE AIR. USE DRAINS INSTALLED AT LOW POINTS FOR COMPLETE DRAINING OF TEST LIQUID.
   ISOLATE EXPANSION TANKS AND DETERMINE THAT HYDRONIC SYSTEM IS FULL OF WATER
   SUBJECT PIPING SYSTEM TO HYDROSTATIC TEST PRESSURE THAT IS NOT LESS THAN 1.5 TIMES THE SYSTEM WORKING PRESSURE. TEST PRESSURE SHALL NOT EXCEED MAXIMUM PRESSURE FOR DEVICE IN THE SYSTEM UNDER TEST.
   AFTER HYDROSTATIC TEST PRESSURE HAS BEEN APPLIED FOR AT LEAST 10 MINUTES, EXAMINE PIPING, JOINTS, AND CONNECTIONS FOR LEAKAGE.
   ELIMINATE LEAKS BY TIGHTENING, REPAIRING, OR REPLACING COMPONENTS, AND REPEAT HYDROSTATIC TEST UNTIL THERE ARE NO LEAKS.
   ARRANGE FOR INSPECTION BY FACILITIES MANAGEMENT PIPE SHOP.
14) CHEMICAL TREATMENT OF NON-GLYCOL HYDRONIC HEATING SYSTEMS:
   AFTER CLEANING AND INSPECTION, ADD A MOLYBDATE BASED CORROSION INHIBITOR. ACCEPTABLE CORROSION INHIBITORS SHALL INCLUDE A COMBINATION OF SODIUM MOLYBDATE AND TOLYTRIAZOLE.
   TEST FOR RESIDUAL CONCENTRATION AS FOLLOWS: 150 PPM MOLYBDATE; 8.3-9 PH; 10-20 PPM TOLYTRIAZOLE.
   ARRANGE FOR INSPECTION BY FACILITIES MANAGEMENT WATER TREATMENT LAB BEFORE FINAL ACCEPTANCE.
15) CHILLED WATER SYSTEMS: CHEMICALS SHALL NOT BE USED TO TREAT CHILLED WATER SYSTEMS CONNECTED TO THE CAMPUS CHILLED WATER LOOP.
   FILL SYSTEM WITH POTABLE WATER. NOTIFY THE CENTRAL ENERGY PLANT FOR PERMISSION TO BEGIN CIRCULATING WATER INTO THE CAMPUS CHILLED WATER LOOP.
16) TESTING OF GAS PIPING:
   CAP AND SUBJECT GAS PIPING TO A PRESSURE OF 1-1/2 TIMES THE PROPOSED MAXIMUM WORKING PRESSURE, BUT NOT LESS THAN 3 PSIG. TEST PRESSURE SHALL NOT EXCEEDING PRESSURE RATING OF PIPING SYSTEM MATERIALS
   TEST DURATION SHALL BE NOT LESS THAN 1/2 HOUR FOR EACH 500 CUBIC FEET. WHEN SYSTEM IS LESS THAN 10 CUBIC FEET DURATION SHALL NOT BE LESS THAN 10 MINUTES.
   LEAKS AND LOSS IN TEST PRESSURE CONSTITUTE DEFECTS THAT MUST BE REPAIRED
   REPAIR LEAKS AND DEFECTS WITH NEW MATERIALS AND RETEST PIPING UNTIL SATISFACTORY RESULTS ARE OBTAINED.

PIPE SERVICE	ABBREVIATION	PIPE SIZE	MATERIAL	FITTINGS	JOINT	INSULATION				
						THICKNESS (IN)	CONDUCTIVITY (BTU-IN/HR-FT²-°F)	MEAN TEMP (°F)	MATERIAL	VAPOR RETARDER
NATURAL GAS PIPING	G	3" & BELOW	ASME B36.0 ASTM A53 SCH 40 BLACK STEEL	ASME B16.3 MALLEABLE IRON	THREADED	N/A	N/A	N/A	N/A	N/A
CONDENSATE DRAIN	CD	ALL SIZES	ASTM B88 TYPE M HARD TEMPER COPPER	ASTM B16.22 STD WROUGHT COPPER	ASTM B32 SOLDER	1	0.22 - 0.27	75	A	YES
HEATING HOT WATER	HWS&R	2-1/2"& BELOW	ASTM B88 TYPE L HARD COPPER	ASTM B16.22 STD WROUGHT COPPER	ASTM B32 SOLDER	1.5	0.25-0.29	125	A	NO
FLUE GAS CONDENSATE	FG-CD	1-1/2" & BELOW	ASTM A312 304 STAINLESS STEEL SCH 40	ASTM A351 STD 304 STAINLESS STEEL	THREADED	N/A	N/A	N/A	N/A	N/A

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JL SWANSON WILDLIFE HEALTH CENTER AHU AND ROOF REPLACEMENT

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MECHANICAL SCHEDULES

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AIR HANDLING UNIT SCHEDULE

TAG	LOCATION	MANUF	MODEL	AIRFLOW (CFM)	COOLING CAPACITY		OUTDOOR AIR FILTER			RETURN AIR FILTER			FINAL FILTER			WEIGHT (LBS)
					COOLING (BTU/HR)	SENSIBLE (BTU/HR)	THICKENSS	TYPE	EFF	THICKNESS	TYPE	EFF	MODEL	TYPE	EFF	
RTU-1	ROOF	SEASONS4	SA015 / ME0162	4,500	232,325	141,704	2"	PLEATED	MERV 9	2"	PLEATED	MERV 9	12"	RIGID	MERV 13	9,000

SUPPLY FAN													
LOCATION	TYPE	CONTROL	AIRFLOW (CFM)	STATIC PRESSURE		DIAMETER	MOTOR EFFICIENCY	CLASS	BHP	RPM	ELECTRICAL		
				TOTAL (IN WC)	EXTERNAL (IN WC)						HP	V/PH/HZ	AMPS
RTU-1	PLENUM	VFD	4,500	5.11	1.25	18"	67%	II	5.38	2,311	7.5	208/3/60	20.6

SUPPLY FAN SOUND POWER BY OCTAVE BAND								
	1	2	3	4	5	6	7	8
INLET	81	78	85	88	82	77	73	70
OUTLET	87	83	86	91	88	82	78	71

EXHAUST FAN												
LOCATION	TYPE	CONTROL	AIRFLOW (CFM)	STATIC PRESSURE		DIAMETER	MOTOR EFFICIENCY	CLASS	BHP	RPM	ELECTRICAL		
				TOTAL (IN WC)	EXTERNAL (IN WC)						HP	V/PH/HZ	AMPS
RTU-1	PLENUM	VFD	4,125	2.83	0.75	18"	68%	I	2.71	1,799	5	208/3/60	14.2

EXHAUST FAN SOUND POWER BY OCTAVE BAND								
	1	2	3	4	5	6	7	8
INLET	77	77	83	86	75	75	68	62
OUTLET	80	80	84	86	81	80	73	68

ENERGY RECOVERY UNIT																					
TYPE	AIRFLOW			WINTER									SUMMER								
	OUTSIDE AIR	RETURN AIR	SUPPLY AIR	OUTSIDE DB °F	OUTSIDE WB °F	RETURN DB °F	RETURN WB °F	SUPPLY DB °F	SUPPLY WB °F	EXHAUST DB °F	EXHAUST WB °F	EFFECTIVENESS	OUTSIDE DB °F	OUTSIDE WB °F	RETURN DB °F	RETURN WB °F	SUPPLY DB °F	SUPPLY WB °F	EXHAUST DB °F	EXHAUST WB °F	EFFECTIVENESS
AIR-TO-AIR PLATE HEAT EXCHANGER	4,500	4,125	4,500	-5.0	-5.5	68.0	51.5	37.0	29.9	22.2	22.2	48%	88.0	73.0	75.0	62.6	75.0	62.6	83.3	67.8	59%

DX PRE-COOLING CIRCUIT								DX DEHUMIDIFICATION CIRCUIT								COMPRESSORS				CONDENSER COIL				CONDENSER FAN					
REGRIGERANT	COIL AREA (SQ FT)	ROWS	FINS PER FOOT	CAPACITY (BTU/HR)		FLOW RATE (CFM)	EAT DB/WB (°F)	LAT DB/WB (°F)	REFRIGERANT	FACE AREA	ROWS	FINS PER INCH	CAPACITY (BTU/HR)		EAT DB/WB (°F)	LAT DB/WB (°F)	QTY	TYPE	CONTROL	AMPS	COIL FACE AREA	ROWS	FPI	DESIGN AMBIENT...	QTY	TYPE	CONTROL	RPM	HP	AMPS
				TOTAL	SENSIBLE								TOTAL	SENSIBLE																
R-454B	11.5	3	12	117,671	81,382	4,500	80.4 / 68	63.7 / 60.7	R-454B	11.5	6	12	114,654	60,322	63.7 / 60.7	51.2 / 51.2	2	HERMETIC SCROLL	MODULATING	39.7	30.9	6	12	95	2	PROPELLER	VFD	1,140	1	8.5

IN-DIRECT FIRED NATURAL GAS FURNACE						
CAPACITY (BTU/H)		FLOW RATE	GAS	GAS PRESSURE (IN-WC)		
INPUT	OUTPUT	(CFM)	CONNECTION	MINIMUM	MAXIMUM	STAGING
400,000	324,000	4,500	3/4"	7	14	MODULATING

NOTES:
1. REFER TO SPECIFICATION SECTION 237413 FOR UNIT REQUIREMENTS.
2. VFDS TO BE PROVIDED PRE-WIRED FROM FACTORY AND MOUNTED INSIDE UNIT CONTROL CABINET.
3. REFRIGERANT LEAK DETECTOR SYSTEM PROVIDED BY UNIT MANUFACTURER.

REHEAT COIL SCHEDULE

SPECIFICATIONS:

1) ACCEPTABLE MANUFACTURERS: PRECISION, ANEMOSTAT, KRUEGER, NAILOR, TITUS, TRANE,
2) RATINGS: ARI 410, INDUSTRY STANDARD FOR FORCED CIRCULATION AIR COOLING AND AIR HEATING COILS
3) 1/2-IN COPPER TUBING WITH MECHANICALLY BONDED ALUMINUM FINS.
4) FINS: ALUMINUM, 12 FPI MAXIMUM.
5) HEADERS: NON-FERROUS CONSTRUCTION, NO EXCEPTIONS.
6) FRAME: STAINLESS STEEL.
7) COIL SHALL BE PIPED IN COUNTERFLOW ARRANGEMENT.
8) PIPING SHALL BE ARRANGED TO ALLOW SERVICE AND MAINTENANCE.
9) INSTALL LEVEL AND PLUMB PER MANUFACTURER'S RECOMMENDED INSTRUCTIONS AND SMACNA STANDARDS.

TAG	SERVES	BASIS OF DESIGN		SIZE		CAPACITY (BTUH)	AIR SIDE							WATER SIDE					CONTROL VALVE	NOTES
		MANF	MODEL	WIDTH (IN)	HEIGHT (IN)		ROWS	FPI	HEATING FLOW RATE (CFM)	MAX FLOW RATE (CFM)	ENT AIR TEMP (°F)	LVG AIR TEMP (°F)	AIR PRESSURE DROP (IN WC)	FLOW RATE (GPM)	ENT WATER TEMP (°F)	LVG WATER TEMP (°F)	PRESSURE DROP (FT WC)	TYPE		
RHC-5	RM 112 (LIGHT ISOLATION) & 10040 (CORRIDOR)	PRECISION	HW58S	10	11	17.7	2	7	450	450	55.0	85.0	0.20	1.5	180	160	0.2	40% GLYCOL	CV-5	
RHC-8	RM 101 (RECEPTION)	PRECISION	HW58S	16	8	17.1	3	12	150	150	55.0	85.0	0.12	0.5	180	160	0.16	40% GLYCOL	CV-8	
RHC-9	RM 102 (FOOD PREP)	PRECISION	HW85S	10	8	17.2	2	10	350	350	55.0	85.0	0.40	1.0	180	160	0.38	40% GLYCOL	CV-9	

AIRFLOW SCHEDULE - LABORATORIES WITHOUT FUME HOODS

ROOM	SERVICE	ROOM DIMENSIONS		RETURN AIR		SUPPLY AIR	XFER	NOTES
		AREA	HEIGHT				ALL MODES	
		(SF)	(FT)	(CFM)	(ACH)	(CFM)	(CFM)	
109A	ANMIAL HOLDING	340	8.7	800	16.2	700	100	VENTILATION
108	ANMIAL HOLDING	355	8.7	800	15.5	700	100	VENTILATION
103	ISOLATION	65	8.7	200	21.2	150	50	VENTILATION
112	LIGHT ISOLATION	115	8.7	300	18.0	200	100	VENTILATION
105	IMAGING/RADIOL...	144	8.7	200	9.6	250	-50	VENTILATION
102	FOOD PREP	383	8.7	300	5.4	350	175	VENTILATION
104	TREATMENT	219	8.7	350	11.0	450	-100	VENTILATION
104B	SURGERY	111	8.7	350	21.7	450	-100	VENTILATION
104A	SURGERY PREP	46	8.7	100	15.0	0	100	VENTILATION
103A	ANTE ROOM	46	8.7	0	0.0	50	0	PRESSURIZATION
10040	CORRIDOR	43	8.7	0	0.0	250	-150	PRESSURIZATION
106	RESEARCH LAB	72	8.7	100	9.6	50	50	VENTILATION
101	RECEPTION	162	8.7	0	0.0	150	-250	VENTILATION
10020	TOILET	56	8.7	75	9.2	0	75	VENTILATION
10041	LAUNDRY	225	8.7	350	10.7	350	-50	VENTILATION
10060	MER	231	8.7	0	0.0	0	100	VENTILATION
109	CONFERENCE	299	8.7	200	4.6	400	-200	VENTILATION
110	STAFF...	136	8.7	0	0.0	0	0	VENTILATION

DIFFUSER/GRILLE SCHEDULE

SPECIFICATIONS:
1) ACCEPTABLE MANUFACTURERS: ANEMOSTAT, CARNES, KRUEGER, PRICE, TITUS
2) FINISH: WHITE, UNLESS NOTED OTHERWISE

NOTES:
1) PROVIDE WITH INTEGRAL VOLUME DAMPER....

TAG	SERVES	BASIS OF DESIGN		NECK SIZE WXH OR DIA.	FACE SIZE	MATERIAL	MOUNTING	NOTES
		MANF	MODEL					
EAG-1	RM 10600	KRUEGER	S80	6"x6"	7"x7"	STEEL	-	1
RAG-1	RM 102	KRUEGER	56690	10"x10"	24"x24"	ALUMINUM	SURFACE	1
RAG-2	RM 112	KRUEGER	6690	8"	24"x24"	STEEL	LAY-IN	1
RAG-3	RM 108	KRUEGER	6690	10"	24"x24"	STEEL	LAY-IN	1
SAD-1	RM 101	KRUEGER	1400	8"	24"x24"	STEEL	LAY-IN	1
SAD-2	RM 10040	KRUEGER	80	10"x6"	11"x7"	STEEL	-	1

ELECTRIC UNIT HEATER

SPECS:
1. ACCEPTABLE MANUFACTURERS: QMARK, MODINE, BROAN.
2. FAN MOTOR: PERMANENTLY LUBRICATED, FULLY ENCLOSED.
3. INTERGRAL THERMOSTAT: TAMPER-PROOF BI-METALLIC TYPE.
4. GRILLE: 18 GA ROLLED STEEL.
5. FINSIH: WHITE.

NOTES:
1. PROVIDE OPTIONAL SURFACE-MOUNT FRAME.

TAG	SERVICE	BASIS OF DESIGN		CAPACITY (BTUH)	ELEC		
		MANF	MODEL		KW	AMPS	V/PH/HZ
EUH-10020	BATHROOM	QMARK	AWH3150F	5,118	1.5	12.5	120/1/60

CONTROL VALVE SCHEDULE

SPECIFICATIONS:

1) ACCEPTABLE MANUFACTURERS: BELIMO, VSI
2) ELECTRIC INPUT: 4-20mA OR 0-10VDC
3) 2-WAY VALVES: EQUAL PERCENTAGE FLOW CHARACTERISTIC
   3-WAY VALVES: LINEAR FLOW CHARACTERISTIC
4) CONSTRUCTION: CHARACTERIZING DISK, FORGED BRASS, NICKEL PLATED BODY, STAINLESS STEEL BALL AND STEM, FIBERGLASS REINFORCED PTFE SEAT
5) RATINGS: 400 PSI PRESSURE, 0-212 F MEDIA TEMPERATURE RANGE
6) ALL CONTROL WIRING SHALL BE INSTALLED IN CONDUIT.

CONTROL WIRING IN MECHANICAL EQUIPMENT ROOMS, NON-ACCESSIBLE CEILINGS, AND VERTICAL CHASES SHALL BE INSTALLED IN ELECTROMETALLIC TUBING WITH COMPRESSION FITTINGS.

CONTROL WIRING IN INTERSTITIAL SPACES SHALL EITHER BE INSTALLED IN EMT OR A CABLE TRAY RACEWAY.

CONTROL WIRING INSTALLED OUTDOORS OR ANY AREA SUBJECT TO MOISTURE SHALL BE INSTALLED IN RIGID GALVANIZED STEEL WITH COMPRESSION FITTINGS.

CONTROL WIRING INSTALLED ABOVE ACCESSIBLE CEILING SPACES WHICH ARE NOT LABORATORIES OR AHUS SHALL BE PLENUM TYPE, NOT INSTALLED IN CONDUIT, BUT NEATLY RUN WITH GENEROUS USE OF RINGS OR TIES.

CONTROL WIRING SHALL BE UNSPLICED FROM THE CONTROLLER TO THE SENSOR OR DEVICE.

CONTROL WIRING SHALL NOT BE ROUTED IN THE SAME RACEWAY AS POWER WIRING.

CONTROL WIRING SHALL BE COLOR CODED AND LABELED AT ALL POINTS OF TERMINATION.

TEST EACH POINT THROUGH IT FULL OPERATING RANGE TO VERIFY THAT SAFETY AND OPERATING CONTROL SET POINTS ARE AS REQUIRED.

TEST EACH CONTROL LOOP TO VERIFY STABLE MODE OF OPERATION AND COMPLIANCE WITH SEQUENCE OF OPERATION. ADJUST PID ACTIONS AS REQUIRED.

THE BACS CONTRACTOR SHALL ISSUE A REPORT UPON PROJECT COMPLETION STATING THAT THE SYSTEM IS COMPLETE, HAS BEEN ADJUSTED, AND HAS HAD ALL HARDWARE AND SOFTWARE FUNCTIONS VERIFIED, THAT ALL ANALOG CONTROL LOOPS ARE TUNED, AND IS OPERATING IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
ANY DEVIATIONS FROM SPECIFIED SETTINGS OR OPERATIONS, NECESSITATED DURING SYSTEM ADJUSTMENT, SHALL BE SPECIFICALLY NOTED.

TAG #	BASIS OF DESIGN		SERVICE	VALVE				ACTUATOR			NOTES
	MANF	MODEL		TYPE	GPM	CV	PD (GPM)	MODEL	CONTROL	FAIL POS	
CV-1	BELIMO	CCV-B210	RHC-1	2-WAY	3.0	1.2	3.1	TR24-SR-T-US	MOD	F.L.	
CV-2	BELIMO	CCV-B210	RHC-2	2-WAY	3.0	1.2	1.8	TR24-SR-T-US	MOD	F.L.	
CV-3	BELIMO	CCV-B210	RHC-3	2-WAY	1.5	1.2	0.6	TR24-SR-T-US	MOD	F.L.	
CV-6	BELIMO	CCV-B210	RHC-6	2-WAY	3.0	1.2	0.1	TR24-SR-T-US	MOD	F.L.	
CV-7	BELIMO	CCV-B210	RHC-7	2-WAY	3.0	1.2	1.1	TR24-SR-T-US	MOD	F.L.	
CV-8	BELIMO	CCV-B210	RHC-8	2-WAY	0.5	1.2	0.3	TR24-SR-T-US	MOD	F.L.	
CV-9	BELIMO	CCV-B210	RHC-9	2-WAY	1.0	1.2	1.0	TR24-SR-T-US	MOD	F.L.	

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ARCH/ CIVIL:
ELECTRICAL:
MECHANICAL:

STATE OF NEW YORK · ERIK PAUL ESHELMAN · LICENSED · 084093 · PROFESSIONAL ENGINEER

REVISIONS

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131 SWANSON DRIVE
ITHACA, NEW YORK 14850

JL SWANSON WILDLIFE HEALTH CENTER AHU AND ROOF REPLACEMENT

DATE:	FEBRUARY 27, 2026
FACILITY:	1772
DESIGN:	V. SOZANSKI
DRAWN:	FHS

MECHANICAL SCHEDULES

ARCHIVE BAR CODE

M-502
17759919

ELECTRICAL ABBREVIATIONS

AC	AIR CONDITIONER
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AFI	ARC FAULT INTERRUPTER
AMM	ADDRESSABLE MONITOR MODULE
AOM	ADDRESSABLE OUTPUT MODULE
ARB	AUXILIARY RELAY BOARD
ATS	AUTOMATIC TRANSFER SWITCH
B	BASEBOARD
BKR	BREAKER
C	CONDUIT
CD	CANDELA
CKT	CIRCUIT
CR	CONTROL RELAY
EC	ELECTRICAL CONTRACTOR
EMT	ELECTRICAL METALLIC TUBING
EPO	EMERGENCY POWER OFF STATION

ELECTRICAL ABBREVIATIONS

FAA	FIRE ALARM ANNUNCIATOR PANEL
FACP	FIRE ALARM CONTROL PANEL
FSD	FIRE SMOKE DAMPER
GAA	GENERATOR ALARM ANNUNCIATOR
GFI	GROUND FAULT INTERRUPTER
GND	GROUND
HP	HORSEPOWER
KW	KILOWATT
LC	LIGHTING CONTACTOR
LFMC	LIQUID TIGHT FLEXIBLE METALLIC CONDUIT
LTG	LIGHTING
MCB	MAIN CIRCUIT BREAKER
MLO	MAIN LUG ONLY
MTS	MANUAL TRANSFER SWITCH
NAC	NOTIFICATION APPLIANCE CIRCUIT
NIC	NOT IN CONTRACT
OE	OVERHEAD ELECTRIC

ELECTRICAL ABBREVIATIONS

PC	PHOTOCELL
PM	PLUGMOLD
PP	POWER PANEL
PVC	POLYVINYL CHLORIDE CONDUIT
RGS	RIGID GALVANIZED STEEL CONDUIT
SR	SURFACE RACEWAY
ST	SHUNT TRIP
TM	THERMAL MAGNETIC
TR	TRIM/CASEWORK/WAINSCOTT
TSP	TWISTED SHIELDED PAIR
TYP	TYPICAL
UE	UNDERGROUND ELECTRIC
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SUPPLY
V	VOLTS
VA	VOLT AMPS
WP	WATERPROOF

ELECTRICAL SUBMITTAL SCHEDULE

MATERIAL	SCHEDULE/SHOP DWGS.	PRODUCT DATA	SAMPLES	INSPECTIONS & TESTS	O&M DATA	WARRANTIES
CIRCUIT BREAKERS		X				X
RACEWAYS AND BOXES		X				
CONDUCTORS		X				
FIRE ALARM DEVICES		X			X	X

EQUIPMENT CONNECTION SCHEDULE

								STARTER					DISCONNECT					
LABEL	DESCRIPTION	ROOM NO.	PANEL	RATING (kW, W, VA, A, HP)	VOLTAGE	PHASE	WIRE & CONDUIT	TYPE	LOC	BY	ENC	AUX	BY	RATING	LOC	ENC	NOTES	ADDITIONAL REQUIREMENTS
EUH-10020	UNIT HEATER	10020	P1-17	1.5 kW	120	1	2#12. #12G - 3/4" EMT	N/A					MECH				5	
RTU-1	ROOFTOP UNIT	ROOF	MDP	125 A	208	3	4#1/0, #6G - 2" (NOTE 7)	VFD		MECH							1,2,3,4,6,7	

NOTES:
1. MAKE CONNECTION TO EQUIPMENT.
2. VFD PROVIDED BY MANUFACTURER WITH UNIT. VFD IS LOCATED IN WIRING COMPARTMENT OF UNIT.
3. MAKE CONNECTIONS TO CONTROLS.
4. FIELD CONTROL WIRING BY OTHERS.
5. INTEGRAL DISCONNECT SWITCH LOCATED BEHIND GRILL.
6. PROVIDE DUCT SMOKE DETECTOR.
7 CONDUIT INSTALLED INSIDE BUILDING SHALL BE EMT. CONDUIT INSTALLED OUTSIDE BUILDING SHALL BE RGS.

A. START-STOP IN COVER.
B. HAND-OFF-AUTO IN COVER.
C. PILOT LIGHT IN COVER.
D. AUXILIARY CONTACTS.
E. CONTROL CIRCUIT TRANSFORMER.
F. TWO-SPEED MOTOR CONTROLLER.
G. KEY OPERATED - UP/DOWN OR OPEN/CLOSE.

LIGHTING LEGEND

	LIGHT POLE WITH LED LUMINAIRES. REFER TO PLANS FOR NUMBER AND CONFIGURATION OF HEADS
	1'x2' LUMINAIRE
	1'x4' LUMINAIRE
	2'x4' LUMINAIRE
	CEILING MOUNTED LUMINAIRE
	EM LIGHTING BATTERY UNIT
	COMBO EXIT SIGN/EM LIGHTING BATTERY UNIT
	SINGLE FACE, WALL MOUNT EXIT SIGN
	DOUBLE FACE, WALL MOUNT EXIT SIGN
	SINGLE FACE, CEILING MOUNT EXIT SIGN
	DOUBLE FACE, CEILING MOUNT EXIT SIGN
OS	WIRELESS OCCUPANCY SENSOR
DS	WIRELESS DAYLIGHT SENSOR
$	LIGHT SWITCH: 3 = 3-WAY SWITCH 4 = 4-WAY SWITCH D = DIMMER SWITCH O = WALL SWITCH OCCUPANCY SENSOR V = WALL SWITCH VACANCY SENSOR W = WIRELESS SWITCH S = WIRELESS SCENE SWITCH
EM	EMERGENCY LIGHT FIXTURE

LINETYPES LEGEND

	EXISTING TO REMAIN
	DEMOLITION / TO BE RELOCATED
	TO BE PROVIDED
—UE—	UNDERGROUND ELECTRIC
—UL—	UNDERGROUND LIGHTING
—UC—	UNDERGROUND TELCO
—OE—	OVERHEAD ELECTRIC

ELECTRICAL LEGEND

	PANELBOARD
J	JUNCTION BOX
	DUPLEX RECEPTACLE: B = INSTALLED IN BASEBOARD TR = INSTALLED IN WOOD TRIM/ CASEWORK/ WAINSCOTT SR = SURFACE RACEWAY WP = WEATHERPROOF AC = AIR CONDITIONER EM = EMERGENCY
	DUPLEX RECEPTACLE WITH GFCI PROTECTION
	DUPLEX RECEPTACLE WITH AFCI PROTECTION
	DOUBLE DUPLEX RECEPTACLE
	QUAD RECEPTACLE
5-30R	SPECIAL RECEPTACLE
	MOTOR
	MOTOR STARTER
P-1A 12	HOMERUN TO PANEL P-1A, CIRCUIT #12. FED FROM 20A - 1P BREAKER IS INTENDED UNLESS NOTED OTHERWISE. RUN GREEN WIRE GROUND FOR ALL CIRCUITS. PROVIDE ONE GROUND PER CIRCUIT.
	HARDWIRED EQUIPMENT CONNECTION
	EMERGENCY POWER OFF (EPO)
	GROUND ROD ELECTRODE
J	SAFETY SWITCH (NON-FUSED)
J	SAFETY SWITCH (FUSED)
CR	CARD READER

IT/ COMMUNICATIONS LEGEND

x	DATA RECEPTACLE X = NUMBER OF CABLES TO BE PROVIDED
	WIRELESS ACCESS POINT OUTLET- CEILING MTD.
WLS	WIRELESS ACCESS POINT OUTLET- WALL MTD.

MOUNTING HEIGHTS

CARD READER	48"	TOP OF BOX
LIGHT SWITCH	48"	TOP OF BOX
RECEPTACLE	18"	TOP OF BOX
DATA OUTLET	18"	TOP OF BOX
TV OUTLET	84"	TOP OF BOX
PHONE OUTLET	48"	TOP OF BOX
SAFETY SWITCH	60"	CENTERLINE OF HANDLE
MOTOR STARTER	60"	CENTERLINE OF HANDLE
PANELBOARD	72"	TOP OF PANELBOARD
MANUAL PULL STATION	48"	OPERABLE HANDLE
NOTIFICATION APPLIANCE	80"	BOTTOM OF LENS
DOOR HOLD OPEN		COORDINATE IN FIELD
EM BATTERY UNIT	96"	BOTTOM OF UNIT
EM REMOTE UNIT	102"	BOTTOM OF UNIT
EXIT SIGN	96"	BOTTOM OF UNIT

FIRE ALARM LEGEND

FACP	FIRE ALARM CONTROL PANEL
BATT	BATTERY CABINET
MUX	MUXPAD
FAA	REMOTE ANNUNCIATOR
NAC	NAC PANEL
F	MANUAL PULL STATION
S^X	SMOKE DETECTOR: D = DUCT SMOKE DETECTOR R = RELAY BASE BR = BEAM RECEIVER BT = BEAM TRANSMITTER SB = SOUNDER BASE
H^X	HEAT DETECTOR: F = FIXED TEMPERATURE R = RATE OF RISE R/F = COMBINATION RISE/FIXED TEMPERATURE
CO	CARBON MONOXIDE DETECTOR
FS	WATER FLOW SWITCH
TS	TAMPER SWITCH
AM	ADDRESSABLE MODULE
	SUPPRESSION SYSTEM
XXcd F C	COMBO A/V NOTIFICATION APPLIANCE: XXcd = CANDELA C = CEILING
XXcd S C	VISUAL NOTIFICATION APPLIANCE: XXcd = CANDELA C = CEILING
F	AUDIBLE NOTIFICATION APPLIANCE
DH	MAGNETIC DOOR HOLDER

ELECTRICAL SCOPE OF WORK

1.0 THE CONTRACTOR SHALL REMOVE ELECTRICAL CONNECTION TO HVAC EQUIPMENT SHOWN AND PROVIDE NEW CONNECTIONS TO NEW HVAC EQUIPMENT.

2.0 PROVIDE FIRE ALARM AND CONTROL CONNECTIONS AS REQUIRED FOR CONNECTION TO THE NEW EQUIPMENT.

GENERAL ELECTRICAL NOTES

1.0 ELECTRICAL SCHEMATICS INDICATED ON CONTRACT DOCUMENTS ARE DIAGRAMMATIC. IT IS NOT THE INTENT TO SHOW EXACT OR MOST EFFICIENT ROUTING. VERIFY ALL DIMENSIONS AND FIELD CONDITIONS ON SITE. ANY CONFLICTS BETWEEN CONSTRUCTION DOCUMENTS AND FIELD CONDITIONS SHALL BE BROUGHT TO CORNELL'S PROJECT MANAGER FOR RESOLUTION BEFORE WORK PROCEEDS.

2.0 ASSURE PUBLIC AND WORKER SAFETY AT ALL TIMES. PROTECT ADJOINING AREAS FROM DAMAGE AND DUST. REMOVE ALL DEBRIS FROM SITE AND DISPOSE OF WASTE MATERIAL IN A SAFE MANNER. KEEP THE PREMISES FREE OF DEBRIS FROM THE EXECUTION OF WORK. DELIVER A FINAL PRODUCT THAT IS CLEAN AND OPERABLE.

3.0 FIRE STOP ELECTRICAL PENETRATIONS THROUGH FIRE RATED WALLS AND/OR FLOORS WITH MATERIAL EQUAL IN RATING TO THE CONSTRUCTION OF THE MATERIAL PENETRATED.

4.0 WORK SHALL BE COMPLETED AS SPECIFIED AND INDICATED ON CONTRACT DOCUMENTS. ANY SUGGESTED ALTERNATE MANUFACTURER OR METHOD OF INSTALLATION SHALL BE SUBMITTED TO PROJECT ENGINEER FOR APPROVAL PRIOR TO ORDERING ANY MATERIALS OR COMMENCING EXECUTION OF WORK.

5.0 GROUNDING SHALL BE IN STRICT ACCORDANCE WITH NEC ARTICLE 250. PROVIDE EQUIPMENT GROUND CONDUCTOR WITH EACH BRANCH CIRCUIT INDICATED ON CONTRACT DOCUMENTS. EQUIPMENT GROUND CONDUCTOR SHALL BE ROUTED WITH ASSOCIATED PHASE CONDUCTORS.

6.0 PROVIDE A NEW TYPED PANELBOARD DIRECTORY FOR EACH PANELBOARD. LABEL ALL NEW DEVICE FACEPLATES WITH SOURCE AND CIRCUIT NUMBER. PROVIDE PERMANENT LABEL ON SWITCHING DEVICES INDICATING EQUIPMENT SERVICE AND INVENTORY NUMBERS. COORDINATE EQUIPMENT INVENTORY NUMBERS WITH CORNELL UNIVERSITY'S MECHANICAL SHOP, 607-255-8667.

7.0 CIRCUITS RATED 20-AMP, 120 VOLT SHALL CONTAIN SEPARATE NEUTRAL CONDUCTORS.

8.0 CONDUCTORS SHALL BE A MINIMUM OF 12AWG, STRANDED COPPER, 600VAC, 90 DEGREE C, TYPE THHN/THWN-2 FOR DRY AREAS AND XHHW-2 FOR WET AREAS.

9.0 CONDUITS SHALL BE A MINIMUM OF 3/4 INCHES DIAMETER. CONDUITS SHALL BE ELECTRICAL METALLIC TUBING (EMT) AND SURFACE MOUNTED UNLESS NOTED OTHERWISE.

10.0 AIC RATING OF NEW CIRCUIT BREAKERS SHALL MATCH RATING OF RESPECTIVE PANELBOARD. SIZE AS INDICATED.

11.0 PROVIDE PULL STRING THROUGH NEW CONDUIT AND BOXES. PROVIDE SUPPORT HANGERS FOR CONDUIT AS NEEDED.

12.0 INSTALL RACEWAY SYSTEMS ENSURING PROPER ACCESS TO EQUIPMENT AND DEVICES AND WITH SUFFICIENT SPACE TO PERFORM ROUTINE MAINTENANCE AND REPAIR. RACEWAYS THAT ARE NOT INSTALLED WITH THIS REQUIREMENT IN MIND SHALL BE RELOCATED AT NO EXPENSE TO THE UNIVERSITY UNTIL DEFICIENCIES ARE CORRECTED.

GENERAL ELECTRICAL DEMOLITION NOTES

1.0 ELECTRICAL EQUIPMENT SHOWN DASHED ON DEMOLITION DRAWINGS, INCLUDING ASSOCIATED ANCHORS, SUPPORTS, STRAPS, BOXES, FITTINGS, AND OTHER APPURTENANCES NOT SHOWN, SHALL BE DISCONNECTED AND REMOVED. REMOVE ASSOCIATED BRANCH CIRCUITRY TO SOURCE, UNLESS NOTED OTHERWISE.

2.0 REUSE EXISTING RACEWAYS AND DEVICE BACKBOXES WHEN INSTALLATION OF NEW SYSTEM COMPONENTS DOES NOT INTERFERE.

3.0 PROVIDE JUNCTION BOXES, RACEWAYS, AND WIRING TO MODIFY/EXTEND EXISTING SYSTEMS AND CIRCUITS FED DOWNSTREAM OF ELECTRICAL EQUIPMENT SHOWN TO BE DEMOLISHED.

4.0 CUT DEMOLISHED CONDUITS INSTALLED THRU WALLS AND FLOORS FLUSH WITH THE SURFACE AND PATCH PENETRATIONS (FIRESTOP IF LOCATED ON A FIRE RATED SURFACE). PATCH AND PAINT SURFACES IN EXPOSED AREAS TO MATCH SURROUNDING MATERIALS, FINISHES, AND COLORS.

5.0 PROVIDE BLANK COVERPLATES ON UNUSED BACKBOXES REMAINING FROM DEMOLITION NOT SPECIFIED TO BE INFILLED.

6.0 EXISTING EQUIPMENT SHOWN TO REMAIN SHALL BE PROTECTED DURING CONSTRUCTION.

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113 SWANSON DR
ITHACA, NEW YORK 14850

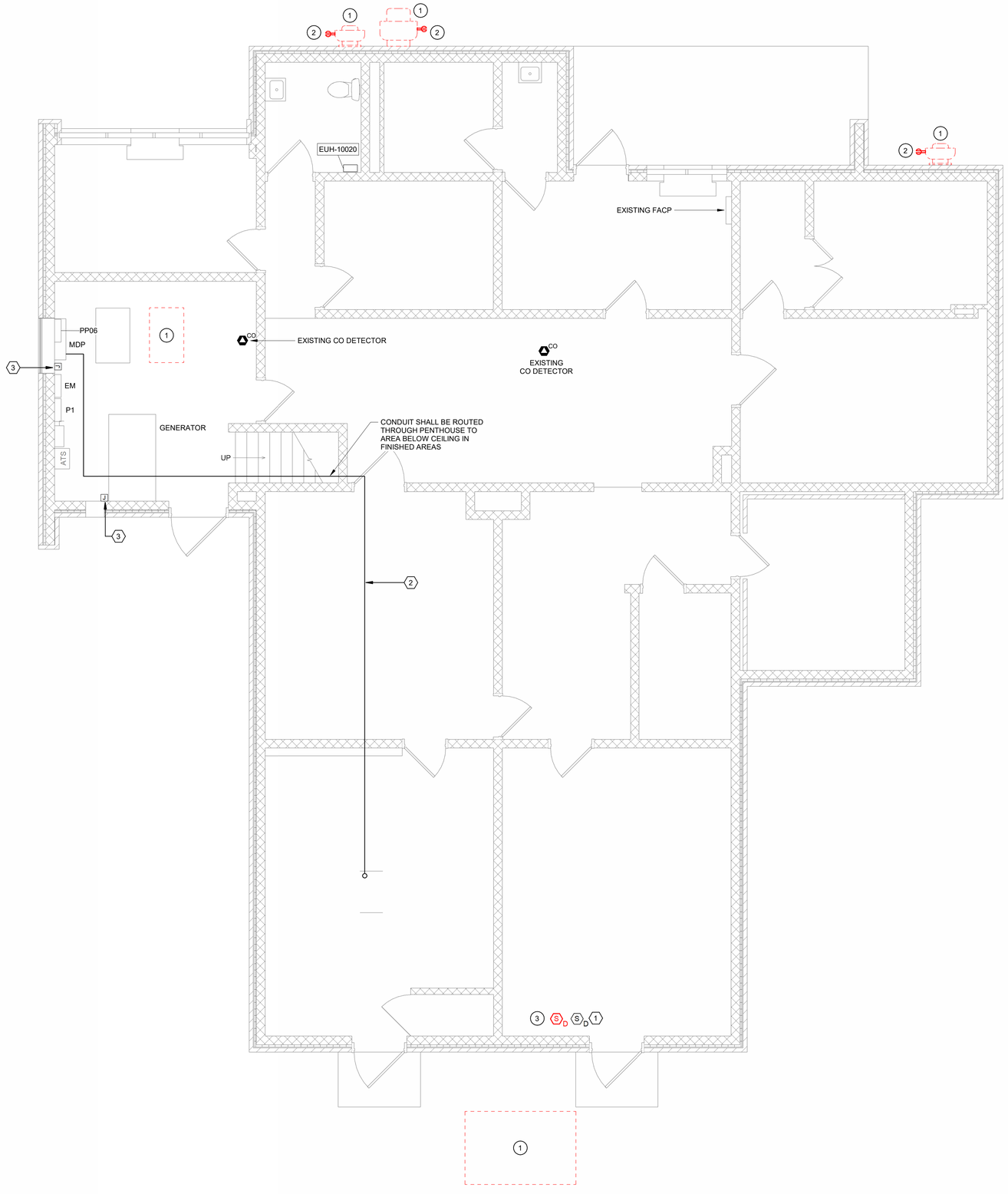
JL SWANSON WILDLIFE HEALTH CENTER AHU AND ROOF REPLACEMENT

DATE:	FEBRUARY 27, 2026
FACILITY:	1772
DESIGN:	P. TAYLOR
DRAWN:	PBT

ELECTRICAL GEN. NOTES, SYMBOLOGY, & ABBREVIATIONS

ARCHIVE BAR CODE

E-001
17759919



1 ELECTRICAL FIRST FLOOR DEMOLITION & RENOVATION PLAN
SCALE: 1/4" = 1'-0"

E-101 KEYED DEMOLITION NOTES

#	
1	EXISTING EQUIPMENT TO BE REMOVED. ELECTRICAL CONTRACTOR SHALL REMOVE POWER CONNECTIONS. DEMOLISH CONDUIT AND CIRCUIT BACK TO PANEL FEEDING EQUIPMENT. LABEL CIRCUIT BREAKER AS SPARE AND UPDATE PANEL DIRECTORY.
2	EXISTING RECEPTACLE MOUNTED TO FAN. REMOVE DEVICE AND CIRCUIT BACK TO NEAREST UPSTREAM DEVICE. IF THERE ARE NO ADDITIONAL DEVICES ON CIRCUIT FEEDING THIS RECEPTACLE, UPDATE THE PANEL DIRECTORY TO MARK THE CIRCUIT AS SPARE.
3	DISCONNECT AND REMOVE EXISTING DUCT SMOKE DETECTOR. TAG FIRE ALARM NOTIFICATION CIRCUIT FOR REUSE DURING CONSTRUCTION PHASE.

E-101 KEYED RENOVATION NOTES

#	
1	PROVIDE NEW DUCT SMOKE DETECTORS IN BOTH SUPPLY AND RETURN DUCTS. COORDINATE LOCATION AND INSTALLATION OF DEVICES WITH MECHANICAL CONTRACTOR. RECONNECT TO FIRE ALARM INITIATION CIRCUIT TAGGED DURING DEMOLITION.
2	PROPOSED CONDUIT ROUTING FOR ROOFTOP UNIT CIRCUITY. VERIFY EXACT ROUTING IN FIELD.
3	JUNCTION BOX FOR CONNECTION TO GENERATOR LOUVER ACTUATOR. ROUTE 2#12, 1#12 GROUND IN 3/4" EMT TO 20A, 1-POLE CIRCUIT IN PANEL EM MADE AVAILABLE DURING DEMOLITION. BOTH LOUVERS SHALL BE CONNECTED TO SAME CIRCUIT.

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REVISIONS

1	12/17/25	ISSUE FOR PERMIT
2	02/16/26	ISSUE FOR COORDINATED REVIEW
3	02/27/26	ISSUE FOR CONSTRUCTION

N

0' 2' 4' 8'
SCALE: 1/4" = 1'-0"

113 SWANSON DR
ITHACA, NEW YORK 14850

JL SWANSON WILDLIFE HEALTH CENTER AHU AND ROOF REPLACEMENT

DATE:	FEBRUARY 27, 2026
FACILITY:	1772
DESIGN:	P. TAYLOR
DRAWN:	PBT

ELECTRICAL FIRST FLOOR DEMOLITION & RENOVATION PLAN

ARCHIVE BAR CODE

E-101
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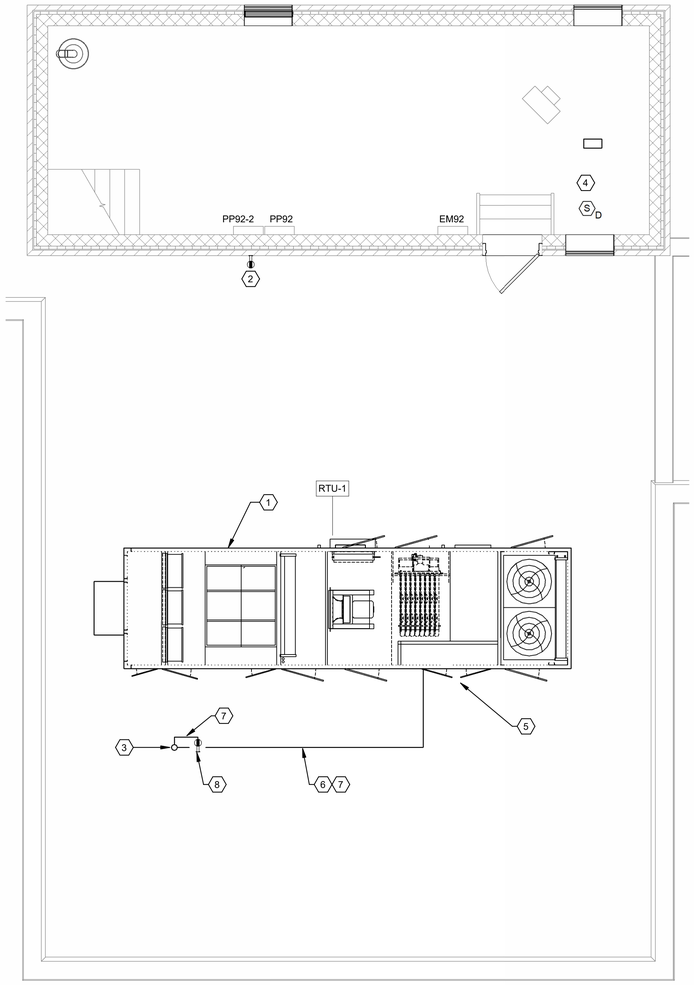
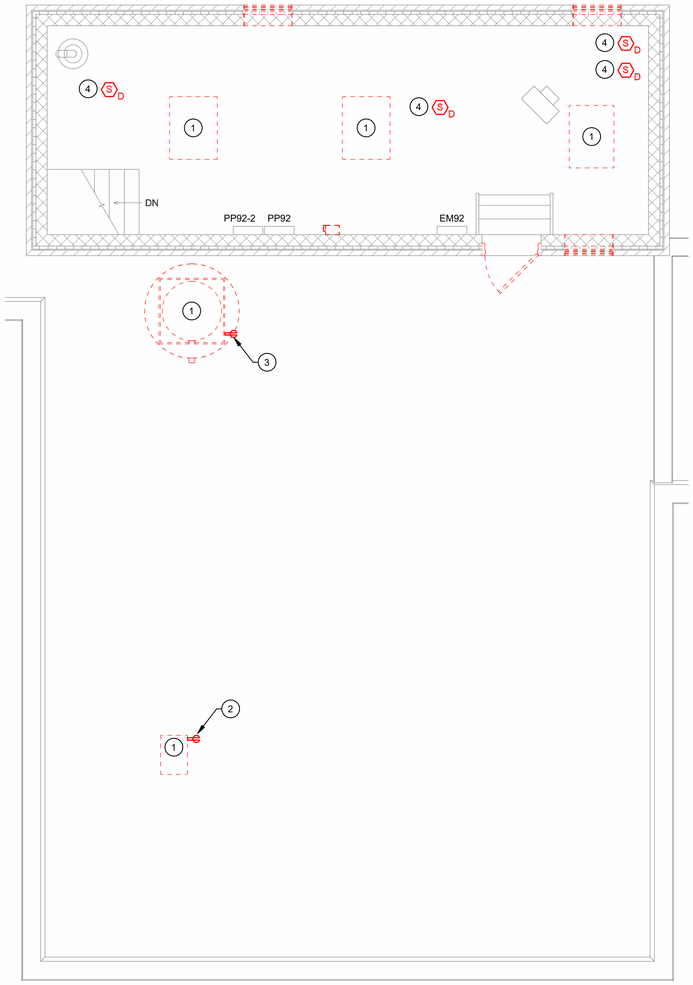


2 ELECTRICAL PENTHOUSE AND ROOF RENOVATION PLAN
SCALE: 1/4" = 1'-0"



1 ELECTRICAL PENTHOUSE AND ROOF DEMOLITION PLAN
SCALE: 1/4" = 1'-0"

E-102 KEYED DEMOLITION NOTES

#	
1	EXISTING EQUIPMENT TO BE REMOVED. ELECTRICAL CONTRACTOR SHALL REMOVE POWER CONNECTIONS. DEMOLISH CONDUIT AND CIRCUIT BACK TO PANEL FEEDING EQUIPMENT. LABEL CIRCUIT BREAKER AS SPARE AND UPDATE PANEL DIRECTORY.
2	EXISTING RECEPTACLE MOUNTED TO FAN. REMOVE DEVICE AND CIRCUIT BACK TO NEAREST UPSTREAM DEVICE. IF THERE ARE NO ADDITIONAL DEVICES ON CIRCUIT FEEDING THIS RECEPTACLE, UPDATE THE PANEL DIRECTORY TO MARK THE CIRCUIT AS SPARE.
3	EXISTING RECEPTACLE MOUNTED TO FAN. REMOVE DEVICE AND CIRCUIT BACK TO LOCATION SHOWN ON NEW WORK PLAN FOR INSTALLATION OF NEW DEVICE.
4	DISCONNECT AND REMOVE EXISTING DUCT SMOKE DETECTOR. TAG FIRE ALARM NOTIFICATION CIRCUIT FOR REUSE DURING CONSTRUCTION PHASE.

E-102 KEYED RENOVATION NOTES

#	
1	PROVIDE 150A, 3-POLE CIRCUIT BREAKER IN PANEL 'MDP'. CIRCUIT BREAKER SHALL BE SQUARE D, 10K AIC AND MATCH ELECTRICAL CHARACTERISTICS OF PANEL 'MDP'. SEE EQUIPMENT CONNECTION SCHEDULE ON SHEET E-001 FOR ADDITIONAL INFORMATION.
2	PROVIDE NEW NEMA 5-20R DUPLEX GFI OUTLET WITH WP 'WHILE-IN-USE' COVER. INTERCEPT CIRCUIT SERVING RECEPTACLE REMOVED FROM EXHAUST FAN AND EXTEND THAT CIRCUIT TO SERVE THIS RECEPTACLE.
3	APPROXIMATE LOCATION OF EXHAUST FAN BEING DEMOLISHED. REUSE ROOF OPENING TO ROUTE NEW ELECTRIC CIRCUITS.
4	PROVIDE NEW DUCT SMOKE DETECTORS IN BOTH SUPPLY AND RETURN DUCTS. COORDINATE LOCATION AND INSTALLATION OF DEVICES WITH MECHANICAL CONTRACTOR. RECONNECT TO FIRE ALARM INITIATION CIRCUIT TAGGED DURING DEMOLITION.
5	WIRING COMPARTMENT IS THE LOCATION OF THE MANUFACTURER-SUPPLIED VFDS.
6	PROPOSED CONDUIT ROUTING FOR ROOFTOP UNIT CIRCUITY. VERIFY EXACT ROUTING IN FIELD. SECURE CONDUIT TO UNDERSIDE OF DUNNAGE.
7	CONDUIT INSTALLED ABOVE ROOF SHALL BE RIGID GALVANIZED STEEL. ALL COUPLINGS AND CONNECTORS SHALL BE THREADED. REAM ALL CUT ENDS. PROVIDE BUSHINGS AT ALL CONDUIT BODIES, JUNCTION BOXES AND OTHER ENCLOSURE ENTRANCES.
8	PROVIDE NEW NEMA 5-20R DUPLEX GFI OUTLET WITH WP 'WHILE-IN-USE' COVER MOUNTED TO DUNNAGE. ROUTE CIRCUIT THROUGH SAME OPENING AS RTU CIRCUIT. CONNECT TO NEAREST UNSWITCHED 120V RECEPTACLE CIRCUIT.

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