HVAC Renovations at

Princeton High School

151 Moore St, Princeton, NJ 08540

Princeton Public Schools

25 Valley Rd, Princeton, NJ 08540

EST 1918 FVHD architects planners
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CM Engineers, LLC
CONSULTING ENGINEERS | CHESTER - NEW JERSEY

BUILDING ANALYSIS

(FROM INTERNATIONAL BUILDING CODE 2021 NEW JERSEY EDITION)

THE FLOOR PLAN AREA AND HEIGHT OF THE SCHOOL BUILDING IS NOT CHANGED UNDER THIS PROJECT, THEREFOR NO ANALYSIS OF THE EXISTING BUILDING HAS BEEN PROVIDED.

FIRE EXTINGUISHER SCHEDULE

(FROM NATIONAL FIRE PROTECTION ASSOCIATION CODES)

THE FLOOR PLAN AREA OF THE SCHOOL IS NOT CHANGED UNDER THIS PROJECT, THEREFORE NO ANALYSIS OF FIRE EXTINGUISHERS HAS BEEN PROVIDED.

EGRESS ANALYSIS

(FROM NEW JERSEY REHABILITATION SUBCODE 5:23-6)

THE OCCUPANT LOAD OF THE SCHOOL IS NOT CHANGED UNDER THIS PROJECT, THEREFORE NO CHANGES HAVE BEEN MADE TO EGRESS.

TABULATION OF PLUMBING FIXTURES

(FROM NATIONAL STANDARD PLUMBING CODE 2018 EDITION)

THE FUNCTIONAL CAPACITY OF THE SCHOOL IS NOTE CHANGED UNDER THIS PROJECT. NO PLUMBING FIXTURES HAVE BEEN REMOVED, THEREFOR NO ANALYSIS OF PLUMBING FIXTURES HAS BEEN PROVIDED.

EXISTING FIRE ALARM SYSTEM NOTE

IF ANY PORTION OF THE EXISTING FIRE ALARM SYSTEM MUST BE TAKEN OUT OF SERVICE FOR ANY LENGTH OF TIME, THE LOCAL FIRE MARSHAL MUST BE CONTACTED AND MUST APPROVE SHUTDOWN PLANS, PROCEDURES AND FIRE WATCH PLANS THAT WILL BE IMPLEMENTED.

CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR COMPLYING WITH THE REQUIREMENTS OF THE LOCAL FIRE MARSHAL CONCERNING THE EXISTING FIRE ALARM SYSTEM SHUTDOWN PLANS, PROCEDURES AND FIRE WATCH PLANS THAT WILL BE IMPLEMENTED FOR SYSTEM INTERRUPTIONS DURING CONSTRUCTION.

NOTE THAT TEMPORARILY COVERING EXISTING DETECTION DEVICES TO PREVENT ACCIDENTAL ALARM ACTIVATIONS DUE TO DUST AND DIRT CONSTITUTES A PARTIAL SHUTDOWN OF THE EXISTING FIRE ALARM SYSTEM.

SEISMIC DESIGN CALCULATIONS (IBC NJ EDITION CHPT. 16)

TABLE 1613.2.5(1) - SEISMIC DESIGN CATEGORY BASED ON SHORT-PERIOD (0.2 SECOND) RESPONSE ACCELERATION
S/DS = 0.18
SEISMIC DESIGN CATEGORY B
TABLE 1613.2.5(2) - SEISMIC DESIGN CATEGORY BASED ON 1-SECOND PERIOD RESPONSE ACCELERATION
S/D1 = 0.086
SEISMIC DESIGN CATEGORY B

SPECIAL INSPECTION NOTES:

THE FOLLOWING "SPECIAL INSPECTIONS" SHALL APPLY TO THIS PROJECT, AS DEFINED IN IBC-2021, CHAPTER 17, SECTION 1705. SEE SPECIFICATION SECTION 01410.

1705 . 2 - STEEL CONSTRUCTION - SEE SPECIFICATION SECTIONS 05120, 05210 & 05300
1705 . 3 - CONCRETE CONSTRUCTION - SEE SPECIFICATION SECTION 03300
~~1705 . 4 - MASONRY CONSTRUCTION~~
~~1705 . 5 - Deleted~~
~~1705 . 6 - SOIL CONDITIONS, FILL PLACEMENT AND LOAD-BEARING REQUIREMENTS - SEE SPECIFICATION SECTION 02200~~
~~1705 . 7 - DRIVEN DEEP FOUNDATIONS~~
~~1705 . 8 - CAST-IN-PLACE DEEP FOUNDATIONS~~
~~1705 . 9 - HELICAL PILE FOUNDATIONS~~
1705 . 10 - FABRICATIONS - SEE SPECIFICATION SECTIONS 05120, 05210 & 05300
~~1705 . 11 - Deleted~~
~~1705 . 12 - SEISMIC RESISTANCE~~
~~1705 . 13 - TESTING FOR SEISMIC RESISTANCE~~
~~1705 . 14 - SPRAYED FIRE-RESISTANT MATERIALS - SEE SPECIFICATION SECTION 07250~~
~~1705 . 15 - MASTIC AND INTUMESCENT FIRE-RESISTANT COATINGS - SEE SPECIFICATION SECTION 07260~~
~~1705 . 16 - EXTERIOR INSULATION AND FINISH SYSTEMS (EIFS)~~
1705 . 17 - FIRE-RESISTANCE PENETRATIONS AND JOINTS - SEE SPECIFICATION SECTIONS 07840 AND 07900.
~~1705 . 18 - SMOKE CONTROL~~

THE INSPECTION FIRM(S) SHALL SUBMIT CERTIFICATIONS TO THE TOWNSHIP OF MULLICA HILL PRIOR TO PERMIT RELEASE.

ABBREVIATIONS

AB	Anchor bolt
ACB	Acoustical ceiling board
ADJ	Adjacent
AFF	Above finished floor
AL	Aluminum
ALT. BID	Alternate bid
ANOD	Anodized
APX	Approximate
ARCH	Architect
BLDG	Building
BLK	Block
BLKG	Blocking
BOT	Bottom
BRG	Bearing
BRK	Brick
BRZ	Bronze
BS	Both sides
CJ	Control joint
CL	Centerline / closet
CLG	Ceiling
CLR	Clear
CMU	Concrete masonry unit
COL	Column
CONC	Concrete
CONT	Continuous
CST	Cast stone
D	Drain (s)
DBL	Double
DIM	Dimension
DN	Down
DR	Door
DS	Downspout
E	East
EA	Each
EC	Electrical contractor
EL	Elevation
ELEC	Electrical
EPDM	Ethylene propylene diene monomers
EQ	Equal
EQP	Equipment
ETR	Existing To Remain
EXG	Existing
FB	Face brick
FF	Finish floor
FFE	Finished floor elevation
FLR	Floor
FND	Foundation
FR	Frame
FRT	Fire retardant
FT	Feet
FTG	Footing
GA	Gauge
GC	General contractor
GF	Ground face
GYP	Gypsum wall board
GV	Galvanized
HS	High School
HM	Hollow metal
HOR	Horizontal
HP	Highpoint
INS	Insulate (d), (ion)
INT	Interior
JC	Janitor's closet
JT	Joint
L	Lengtbry
LDR	Leader
LPT	Low point
MAX	Maximum
MFR	Manufacturer
MS	Middle School
MIN	Minimum
MISC	Miscellaneous
N	North
NIC	Not in contract
NO	Number
NTS	Not to scale
O/C	On center
OD	Outside diameter
OH	Overhead
OPP	Opposite
PL	Plate
PNT	Paint (ed)
PR	Pair
PSF	Pounds per square foot
PSI	Pounds per square inch
PVMT	Pavement
PWD	Plywood
QTY	Quantity
REF	Reference (s)
REM	Remove
REQ	Required
RWC	Rain water conductor
S	South
SCH	Schedule
SHTH	Sheathing
SIM	Similar
SPEC	Specification
SQ	Square
SST	Stainless steel
STD	Standard
STR	Structural
T&G	Tongue and groove
THK	Thick
TOM	Top of masonry
TOS	Top of steel
TYP	Typical
UL	Underwriter's laboratory
UNO	Unless noted otherwise
VERT	Vertical
VIF	Verify In Field
W	West
W/	With
W/O	Without
WD	Wood

DRAWING INDEX

ARCHITECTURAL

G001	COVER SHEET, DRAWING INDEX AND ABBREVIATIONS
A101	EXISTING GROUND FLOOR PLANS, GENERAL NOTES, DEMOLITION NOTES, PHOTOS AND DETAILS
A102	EXISTING PARTIAL GROUNG FLOOR PLAN AND NOTES
A103	EXISTING PARTIAL FIRST FLOOR PLAN, NOTES, PHOTOS, AND DETAILS
A104	EXISTING PARTIAL FIRST FLOOR PLAN, NOTES, PHOTOS, AND DETAILS
A105	EXISTING PARTIAL SECOND FLOOR PLAN, NOTES, PHOTOS, AND DETAILS
A201	EXISTING ROOF PLAN, ROOF WARRANTY LEGEND, AND NOTES
A202	ENLARGED DUNNAGE PLANS (ALT #4), NOTES, PHOTOS, AND DETAILS
A203	ROOFING DETAILS, STRUCTURAL DETAILS, AND NOTES

MECHANICAL

C-000	COVER SHEET
MD-302	MECHANICAL - GROUND FLOOR SECTOR 'B' PIPING DEMOLITION PLAN
MD-303	MECHANICAL - GROUND FLOOR SECTOR 'C' PIPING DEMOLITION PLAN
MD-304	MECHANICAL - GROUND FLOOR SECTOR 'D' PIPING DEMOLITION PLAN
MD-305	MECHANICAL - GROUND FLOOR SECTOR 'E' & 'G' PIPING DEMOLITION PLAN
MD-306	MECHANICAL - GROUND FLOOR SECTOR 'F' PIPING DEMOLITION PLAN
MD-311	MECHANICAL - FIRST FLOOR SECTOR 'A' PIPING DEMOLITION PLAN
MD-312	MECHANICAL - FIRST FLOOR SECTOR 'B' PIPING DEMOLITION PLAN
MD-313	MECHANICAL - FIRST FLOOR SECTOR 'C' PIPING DEMOLITION PLAN
MD-314	MECHANICAL - FIRST FLOOR SECTOR 'D' PIPING DEMOLITION PLAN
MD-321	MECHANICAL - SECOND FLOOR SECTOR 'A' PIPING DEMOLITION PLAN
MD-322	MECHANICAL - SECOND FLOOR SECTOR 'B' PIPING DEMOLITION PLAN
MD-323	MECHANICAL - SECOND FLOOR SECTOR 'C' PIPING DEMOLITION PLAN
MD-324	MECHANICAL - SECOND FLOOR SECTOR 'D' PIPING DEMOLITION PLAN
MD-326	MECHANICAL - SECOND FLOOR SECTOR 'F' PIPING DEMOLITION PLAN
MD-431	MECHANICAL - ROOF SECTOR 'A' DEMOLITION PLAN
MD-432	MECHANICAL - ROOF SECTOR 'B' DEMOLITION PLAN
MD-435	MECHANICAL - ROOF SECTOR 'E' DEMOLITION PLAN
MD-436	MECHANICAL - ROOF SECTOR 'F' DEMOLITION PLAN
MD-501	MECHANICAL - BOILER ROOM DEMOLITION PLANS
MD-503	MECHANICAL - BSMT SECTOR 'H' & GROUND FLOOR SECTOR "C" PARTIAL DEMO PLAN
MD-505	MECHANICAL - GROUND FLOOR SECTOR 'E' PARTIAL DEMOLITION PLAN (ALT #1)
M - 301	MECHANICAL - GROUND FLOOR SECTOR 'A' PIPING DEMOLITION & NEW WORK PLAN
M - 303	MECHANICAL - GROUND FLOOR SECTOR 'C' PIPING NEW WORK PLAN
M - 311	MECHANICAL - FIRST FLOOR SECTOR 'A' PIPING NEW WORK PLAN
M - 313	MECHANICAL - FIRST & SECOND FLOOR SECTOR 'C' PIPING NEW WORK PLAN
M - 326	MECHANICAL - SECOND FLOOR SECTOR 'F' PIPING NEW WORK PLAN
M - 431	MECHANICAL - ROOF SECTOR 'A' NEW WORK PLAN
M - 432	MECHANICAL - ROOF SECTOR 'B' NEW WORK PLAN
M - 435	MECHANICAL - ROOF SECTOR 'E' NEW WORK PLAN
M - 435-1	MECHANICAL - ROOF SECTOR 'E' NEW WORK PLAN (ALT #1)
M - 436	MECHANICAL - ROOF SECTOR 'F' NEW WORK PLAN
M - 437	MECHANICAL - ROOF SECTOR 'G' DEMOLITION & NEW WORK PLAN
M - 501	MECHANICAL - BOILER ROOM NEW WORK PLAN
M - 502	MECHANICAL - BOILER ROOM SECTIONS & ELEVATIONS
M - 503	MECHANICAL - GROUND FLOOR SECTOR 'C' PARTIAL NEW WORK PLANS
M - 504	MECHANICAL - GROUND FLOOR SECTOR 'E' PARTIAL DEMO & NEW WORK PLANS
M - 504-1	MECHANICAL - GROUND FLOOR SECTOR 'E' PARTIAL NEW WORK PLAN (ALT #1)
M - 505	MECHANICAL - SECOND FLOOR SECTOR 'A' & 'C' PARTIAL DEMO & NEW WORK PLANS
M - 600	MECHANICAL - NETWORK DIAGRAM
M - 601	MECHANICAL - AHU A1 CONTROL & AIRFLOW DIAGRAM
M - 602	MECHANICAL - AHU A2 CONTROL & AIRFLOW DIAGRAM
M - 603	MECHANICAL - AHU B1 & AHU E1 CONTROL & AIRFLOW DIAGRAM
M - 604	MECHANICAL - AHU C1 CONTROL & AIRFLOW DIAGRAM
M - 605	MECHANICAL - AHU C2 CONTROL & AIRFLOW DIAGRAM
M - 606	MECHANICAL - AHU F1 & AHU F2 CONTROL & AIRFLOW DIAGRAM
M - 607	MECHANICAL - AHU F3 CONTROL & AIRFLOW DIAGRAM
M - 608	MECHANICAL - AHU F4 & AHU F5 CONTROL & AIRFLOW DIAGRAM
M - 609	MECHANICAL - AHU F6 & AHU G1 CONTROL & AIRFLOW DIAGRAM
M - 610	MECHANICAL - AHU F7 CONTROL & AIRFLOW DIAGRAM
M - 611	MECHANICAL - AHU F9 CONTROL & AIRFLOW DIAGRAM
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M - 701	MECHANICAL - SCHEDULES, SHEET 1
M - 702	MECHANICAL - SCHEDULES, SHEET 2
M - 801	MECHANICAL - DETAILS
M - 802	MECHANICAL - BOILER PIPING DIAGRAM DEMOLITION PLAN
M - 803	MECHANICAL - BOILER PIPING DIAGRAM & CONTROLS NEW WORK PLAN
M - 901	MECHANICAL - SPECIFICATIONS

ELECTRICAL

ED-431	ELECTRICAL - ROOF SECTOR 'A' DEMOLITION PLAN
ED-432	ELECTRICAL - ROOF SECTOR 'B' DEMOLITION PLAN
ED-435	ELECTRICAL - ROOF SECTOR 'E' DEMOLITION PLAN
ED-436	ELECTRICAL - ROOF SECTOR 'F' DEMOLITION PLAN
ED-437	ELECTRICAL - ROOF SECTOR 'G' DEMOLITION PLAN
ED-501	ELECTRICAL - BASEMENT PARTIAL DEMOLITION PLANS
ED-502	ELECTRICAL - GROUND FLOOR PARTIAL DEMOLITION PLANS
ED-503	ELECTRICAL - FIRST FLOOR PARTIAL DEMOLITION PLANS
ED-504	ELECTRICAL - SECOND FLOOR PARTIAL DEMOLITION PLANS
ED-601	ELECTRICAL - PARTIAL SINGLE LINE DIAGRAM, DEMOLITION PLAN
E - 431	ELECTRICAL - ROOF SECTOR 'A' NEW WORK PLAN
E - 432	ELECTRICAL - ROOF SECTOR 'B' NEW WORK PLAN
E - 435	ELECTRICAL - ROOF SECTOR 'E' NEW WORK PLAN
E - 435-1	ELECTRICAL - ROOF SECTOR 'E' DEMOLITION NEW WORK PLAN (ALT #1)
E - 436	ELECTRICAL - ROOF SECTOR 'F' NEW WORK PLAN
E - 437	ELECTRICAL - ROOF SECTOR 'G' NEW WORK PLAN
E - 501	ELECTRICAL - BASEMENT PARTIAL NEW WORK PLANS
E - 502	ELECTRICAL - GROUND FLOOR PARTIAL NEW WORK PLANS, SHEET 1
E - 503	ELECTRICAL - GROUND FLOOR PARTIAL NEW WORK PLANS, SHEET 2
E - 504	ELECTRICAL - FIRST FLOOR PARTIAL NEW WORK PLANS, SHEET 1
E - 505	ELECTRICAL - FIRST FLOOR PARTIAL NEW WORK PLANS, SHEET 2
E - 506	ELECTRICAL - SECOND FLOOR PARTIAL NEW WORK PLANS, SHEET 1
E - 507	ELECTRICAL - SECOND FLOOR PARTIAL NEW WORK PLANS, SHEET 2
E - 601	ELECTRICAL - PARTIAL SINGLE LINE DIAGRAM, NEW WORK PLAN
E - 701	ELECTRICAL - SCHEDULES & DETAILS
E - 702	ELECTRICAL - PANEL SCHEDULES
E - 901	ELECTRICAL - SPECIFICATIONS

PLUMBING

P - 430	PLUMBING - OVERALL ROOF NEW WORK PLAN
P - 501	PLUMBING - GAS PIPING RISER DIAGRAMS
P - 502	PLUMBING - DOMESTIC HOTWATER PIPING DIAGRAM, PARTIAL PLAN & SCHEDULES
P - 901	PLUMBING - SPECIFICATIONS

FIRE ALARM

FA - 301	FIRE ALARM - BASEMENT & GROUND FLOOR NEW WORK PLAN
FA - 302	FIRE ALARM - FIRST & SECOND FLOOR NEW WORK PLAN
FA - 303	FIRE ALARM - ROOF NEW WORK PLAN
FA - 901	FIRE ALARM - SPECIFICATIONS

FIRE PROTECTION

FP - 301	FIRE PROTECTION - BASEMENT & GROUD FLOOR NEW WORK PLAN
FP - 302	FIRE PROTECTION - 1ST & 2ND FLOOR NEW WORK PLAN
FP - 901	FIRE PROTECTION - SPECIFICATIONS

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Project Name
HVAC Renovations at Princeton High School

Project Owner Name
Princeton Public Schools

Project Location
151 Moore Street,
Princeton, NJ
08540

Project Number
5516E

Project Date
01.29. 2026

Checked By
W.D.H.

Drawn By
BO

Scale
AS NOTED

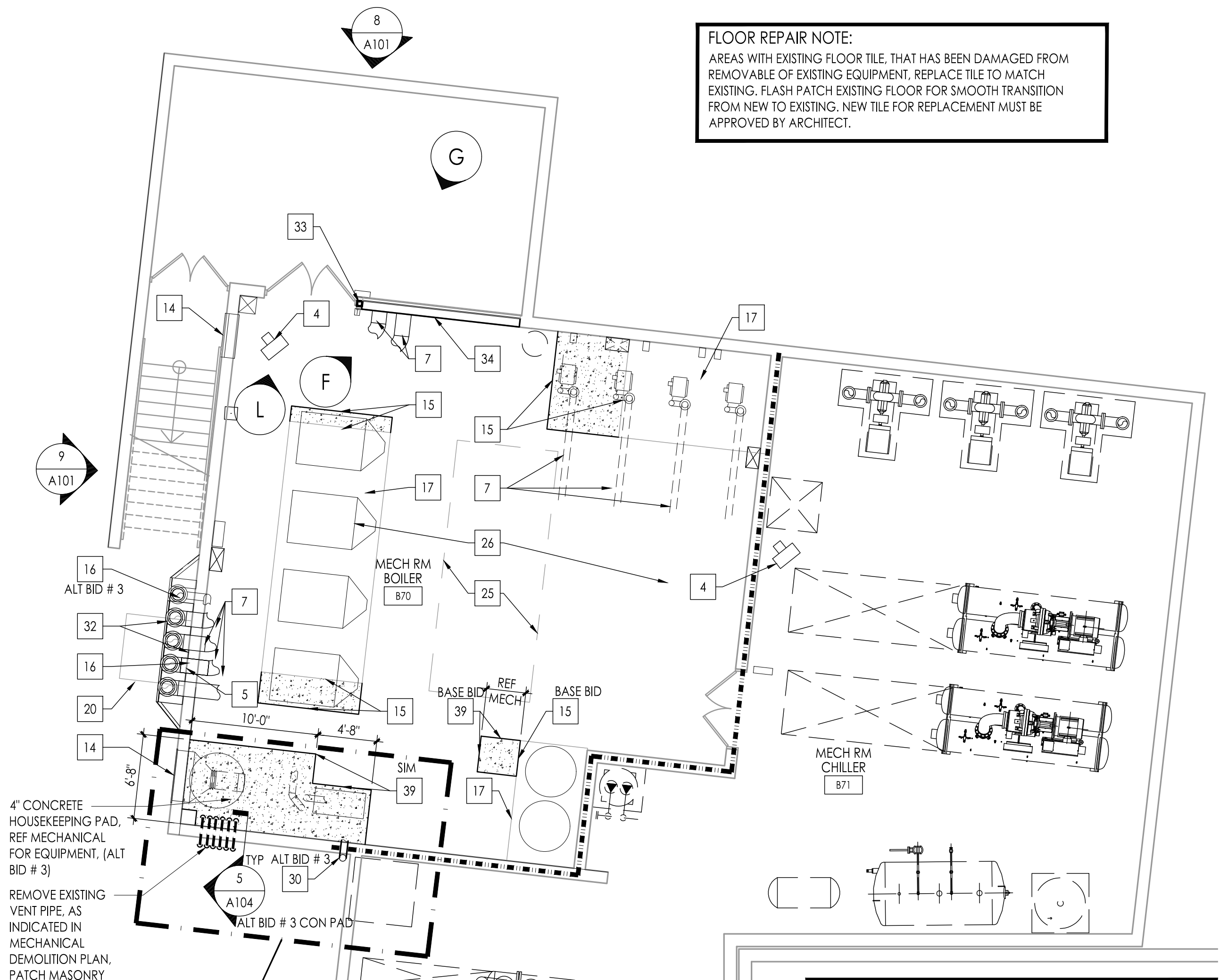
Drawing Name
COVER SHEET, DRAWING INDEX AND ABBREVIATIONS

Revisions

No.	Date	Description

Drawing Number
G001

FLOOR REPAIR NOTE:
AREAS WITH EXISTING FLOOR TILE, THAT HAS BEEN DAMAGED FROM REMOVABLE OF EXISTING EQUIPMENT, REPLACE TILE TO MATCH EXISTING. FLASH PATCH EXISTING FLOOR FOR SMOOTH TRANSITION FROM NEW TO EXISTING. NEW TILE FOR REPLACEMENT MUST BE APPROVED BY ARCHITECT.


G
L
F
E
MECH RM BOILER
MECH RM CHILLER
B71
BASE BID
REF MECH
ALT BID # 3
ALT BID # 3 CON PAD
TYP ALT BID # 3
SIM
4" CONCRETE HOUSEKEEPING PAD, REF MECHANICAL FOR EQUIPMENT, (ALT BID # 3)
REMOVE EXISTING VENT PIPE, AS INDICATED IN MECHANICAL DEMOLITION PLAN, PATCH MASONRY AND METAL SIDING, REF 10/A103
ALTERNATE BID #3 -MAIN BOILER ROOM ROOM EXISTING DOMESTIC WATER HEATER (ADD ALTERNATE - REF MECHANICAL)
4
14
15
16
17
20
25
32
33
39

1 BOILER ROOM PLAN
Scale 1/8"=1'-0"

FINISH NOTE:
PAINT ALL AREAS LEFT EXPOSED BY DEMOLITION AND NEW CONSTRUCTION. PAINT SHALL MATCH EXISTING ADJACENT SURFACES. REF GENERAL ARCHITECTURAL SHEETS NOTES FOR ADDITIONAL FINISH INFORMATION.

CEILING NOTE:
ANY, AND ALL, CEILING REMOVAL WORK DONE IN ASSOCIATION WITH THIS PROJECT, WILL BE REASSEMBLED/PATCHED WITH LIKE MATERIALS OF EXISTING CEILING, THIS INCLUDES, BUT IS NOT LIMITED TO, PLASTER, GYP BOARD AND ACOUSTIC LAY-IN TILES AND GRID, PAINT TO MATCH IF REQUIRED.

FIRE PROTECTION NOTE:
REFERENCE MECHANICAL FOR AREAS WHERE FIRE PROTECTION SYSTEM IS TO BE ALTERED AND/OR MODIFIED. TYP.

WALL PENETRATION NOTE:
REFERENCE FIRE-RATED PENETRATIONS CHART (UL DES # INFO) FOR INFILL AT RATED WALLS, THIS SHEET, MAINTAIN ASSIGNED RATING WITH LIKE MATERIALS. TYP.

CONSTRUCTION KEYNOTES

1	REMOVE AND STORE EXISTING ACOUSTICAL CEILING TILES AND SUSPENSION GRID TO ACCOMMODATE DEMOLITION AND HVAC NEW WORK. FOLLOWING COMPLETION OF WORK, REINSTALL ALL EXISTING PANELS AND GRID TO PREVIOUS LOCATIONS, UNLESS SUPERCEDED BY REFLECTED CEILING PLAN OR MECHANICAL/ELECTRICAL DRAWINGS. REPLACE ALL DAMAGED, OR DETERIORATED CEILING TILES AND SUSPENSION GRID WITH NEW TO MATCH EXISTING IN AREA DESCRIBED. REFERENCE MECHANICAL/ELECTRIC DRAWINGS.
2	PATCH AND REPAIR EXISTING WALL AT AREA OF REMOVED WALL MOUNTED THERMOSTAT, PATCH WALLS AND PAINT TO MATCH ADJACENT AT AREAS OF REMOVED WALL MOUNTED CONDUIT, TYP
3	MECHANICAL EQUIPMENT MOUNTED BELOW ROOF DECK ABOVE CEILING. REF MECHANICAL FOR ITEMS TO BE REMOVED AND REPLACED.
4	EXISTING CEILING MOUNTED EQUIPMENT TO BE REMOVED, REF MECHANICAL, TYP.
5	IN LOCATIONS WHERE NEW DUCT IS THRU EXISTING OPENINGS, FIELD VERIFY EXISTING OPENING AND MAKE REQUIRED MODIFICATIONS TO EXISTING WALL: THIS MAY REQUIRE ENLARGING OPENING AND/OR PATCHING EXISTING WALLS WITH LIKE MATERIAL WHERE DUCT IS SMALLER THEN EXISTING OPENING. TYP
6	NEW HVAC UNIT INSTALLED IN CEILING, REMOVE AND MODIFY EXISTING CEILING GRID AND TILE TO ACCEPT NEW UNIT. REPLACE CEILING TILE OR GRID DAMAGED FROM REMOVAL AND INSTALLATION OF UNIT AND ASSOCIATED EQUIPMENT, TYP
7	INDICATES NEW DUCT INSTALLED HIGH WITH HANGERS AND SUPPORTS, REF MECHANICAL . TYP.
8	NEW METAL SIDING OVER METAL STUD FURRING. MATCH EXISTING SIDING, REF 7/A101 . TYP.
9	REMOVE AND REPLACE EXISTING CEILING IN THIS AREA, TEMPORARILY REMOVE ALL CEILING EQUIPMENT AND REINSTALL INTO NEW CEILING, THIS INCLUDES EXISTING LIGHTING. REF MECHANICAL FOR FIRE PROTECTION SYSTEM RELOCATION. PATCH AND REPAIR EXISTING ADJACENT WALL AFTER CEILING IS INSTALLED, REF 2/A103 FOR CEILING EDGE AND SEISMIC BRACING WITH HANGER DETAIL, TYP.
10	DASHED LINE INDICATES EXISTING STEEL BEAM
11	CLEAN AND PATCH WALL PENETRATION FROM REMOVED PIPES AND CONDUIT. PATCH BOTH SIDES OF WALL WITH LIKE MATERIAL AND PAINT TO MATCH ADJACENT WALL.
12	EXISTING LOUVER TO REMAIN, LOUVER WILL BE CLEANED AND EXISTING BIRD SCREEN REPLACED, REF MECHANICAL. PROVIDE NEW PERIMETER SEALANT AT EXTERIOR JOINT, AS REQUIRED.
13	EXISTING SURFACE MOUNTED LIGHTING TO BE RELOCATED, REF ELECTRIC FOR ADDITIONAL INFORMATION
14	EXISTING EXTERIOR LOUVER TO REMAIN, REF MECHANICAL
15	EXTEND EXISTING CONCRETE HOUSEKEEPING PADS TO ASSOCIATED NEW MECHANICAL EQUIPMENT, REF MECHANICAL FOR EXACT SIZE, REF DETAIL 10/A101 FOR CONCRETE TIE-IN AND ADDITIONAL INFORMATION, PANT TO MACH EXISTING WITH SAFETY YELLOW EDGE BAND, TYP
16	METAL FLUE PIPE FASTENED TO EXISTING BUILDING, REF MECHANICAL AND 8/A101
17	EXISTING CONCRETE HOUSEKEEPING PAD TO REMAIN, PATCH AND REPAIR AS REQUIRED FOR NEW EQUIPMENT, TYP
18	HARD LID, GYP BOARD, CEILING, REF MECHANICAL FOR FULL EXTENT OF DEMOLITION AND NEW CONSTRUCTION. REMOVE ONLY AS NEEDED FOR NEW WORK, PATCH AND REPAIR WITH LIKE MATERIAL AND PAINT CEILING TO MATCH EXISTING.
19	EXISTING PIPES TO BE REMOVED AND NEW PIPES THRU-FLOOR TO BE INSTALLED. REPLACE EXISTING CEILING DAMAGED FROM WORK ABOVE CEILING WITH NEW CEILING TILE TO MATCH AT LOCATIONS OF EXISTING PIPES BEING REMOVED OR NEW PIPES BEING INSTALLED, REF MECHANICAL AND PLUMBING. PATCH EXISTING FLOORS, AS REQUIRE, WITH PORTLAND CEMENT AND SMOOTH FINISH.
20	INDICATES CEILING LIGHTING, REF ELECTRIC FOR RELOCATED LIGHT AND/OR NEW IN THIS AREA
21	REMOVE EXISTING EQUIPMENT, AS DESCRIBED IN MECHANICAL AND PLUMBING SHEETS, PATCH AND REPAIR ALL EXISTING MASONRY WALLS FROM EQUIPMENT REMOVAL. PATCH AND REPAIR RATED WALLS PER FIRE-RATED PENETRATIONS CHART, A101. WALLS WITH PAINT WILL RECEIVE PAINT TO MATCH EXISTING FINISHES AT PATCHED AND REPAIRED AREAS
22	INDICATES EXISTING PIPES TO BE REMOVED THROUGH WALLS AND FLOOR, REF MECHANICAL AND PLUMBING. PATCH AND REPAIR ALL EXISTING UNUSED PENETRATIONS WITH LIKE MATERIAL, CONCRETE FLOORS WILL PATCHED WITH CONCRETE AND FINISHED TO MATCH ADJACENT FLOOR. I LOCATIONS WITH TILE OR CARPET TILE, MATCH EXISTING
23	FINISH EXPOSED UNFINISHED SURFACES TO MATCH EXISTING. REPLACE DAMAGED FLOOR TILE FROM REMOVAL OR INSTALLATION WITH LIKE MATERIAL, TYP.
24	REMOVE EXISTING HVAC EQUIPMENT IN EXISTING WALL, REF MECHANICAL, REMOVE EXISTING HVAC COVER AND REPLACE WITH NEW SHEET METAL COVER WITH HEMMED EDGES, REF 4/A103 FOR SHEET METAL COVER, METAL COLOR TO MATCH ADJACENT WALL, TYP.
25	EXISTING CONCRETE HOUSE KEEPING PAD AND ASSOCIATED STEEL TIES TO BE REMOVED, GRID EXISTING FLOOR SURFACE SMOOTH AND PREP FOR PAINT. GRIND ANY EXISTING STEEL REBAR TIES TO 1" BELOW FINISHED FLOOR ELEVATION AND PATCH SMOOTH WITH FLOOR PATCH, PAINT TO MATCH ADJACENT FLOOR.
26	REMOVE EXISTING MECHANICAL/BOILER ROOM EQUIPMENT, AS DESCRIBED IN MECHANICAL AND PLUMBING SHEETS, PATCH AND REPAIR ALL EXISTING MASONRY WALLS AND CEILINGS FROM EQUIPMENT REMOVAL. PATCH AND REPAIR EXISTING CONCRETE HOUSE KEEPING PADS TO REMAIN AND PAINT, TYP REF MECHANICAL
27	INDICATES EXISTING DUCT TO BE REMOVED, REF MECHANICAL
28	REMOVE EXISTING LOUVER, PREP OPENING FOR NEW MASONRY INFILL AND METAL SIDING, REF 5/A103 AND REF MECHANICAL FOR ADDITIONAL INFORMATION
29	EXISTING DUCT TO REMAIN AND BE CAPPED, REF MECHANICAL
30	METAL VENT PIPE THRU MASONRY WALL AND METAL SIDING.REF MECHANICAL FOR SIZE AND LOCATION, REF 5/A104 FOR THRU-WALL DETAIL, (**ALT BID # 3**)
31	INFILL EXISTING OPENING WITH CMU, DOWEL AND TOOTH BACK AND PAINT. REF 6/A103
32	THROUGH WALL FLUE WITH INTERIOR AND EXTERIOR COVER PLATES, STEEL SUPPORTS AND KICKERS PAINTED, REF 3/A101
33	EXISTING REMOVABLE STEEL COLUMN TO REMAIN
34	MECHANICAL LOUVER TO BE REMOVED AND NEW REMOVABLE INSULATED WALL PANEL SYSTEM INSTALLED, REF 2/A102
35	REF MECHANICAL AND PLUMBING FOR ITEMS BEING REMOVED AND REPLACED, AT EXISTING DECK AND TROUGH EXISTING ROOF DECK, IN THIS ARES. PATCH, AS REQUIRED, AND PAINT ALL EXPOSED DUCT AND PIPING TO MATCH EXISTING COLOR OF ROOF DECK. REF 4/A104 FOR DECK PATCH AND PAINT, TYP
36	REF MECHANICAL FOR EXISTING EQUIPMENT TO BE REMOVED IN THIS AREA. REPLACE EXISTING MECHANICAL SHROUD WITH NEW SOLID 22GA. METAL SHROUD. PAINT TO MATCH ADJACENT WALLS, REF 4/A103 FOR "SIM" CONDITION
37	REMOVE EXISTING EXPANDED METAL COVER AND REPLACE WITH 22ga. METAL COVER TO FIT INTO EXISTING TRIM TO REMAIN, PAINT TO MATCH EXISTING TRIM
38	INDICATES NEW MECHANICAL EQUIPMENT INSTALLED, REF MECHANICAL, ELECTRIC ,AND PLUMBING FOR EXTENT OF NEW CONSTRUCTION
39	NEW CONCRETE HOUSEKEEPING PAD, REF MECHANICAL FOR EXACT SIZE AND LOCATION, REF DETAIL 10/A101 FOR CONCRETE TIE-IN AND ADDITIONAL INFORMATION, PANT TO MACH EXISTING WITH SAFETY YELLOW EDGE BAND, TYP

EXISTING FIRE ALARM SYSTEM NOTE

IF ANY PORTION OF THE EXISTING FIRE ALARM SYSTEM MUST BE TAKEN OUT OF SERVICE FOR ANY LENGTH OF TIME, THE LOCAL FIRE MARSHAL MUST BE CONTACTED AND MUST APPROVE SHUTDOWN PLANS, PROCEDURES AND FIRE WATCH PLANS THAT WILL BE IMPLEMENTED.

CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR COMPLYING WITH THE REQUIREMENTS OF THE LOCAL FIRE MARSHAL CONCERNING THE EXISTING FIRE ALARM SYSTEM SHUTDOWN PLANS, PROCEDURES AND FIRE WATCH PLANS THAT WILL BE IMPLEMENTED FOR SYSTEM INTERRUPTIONS DURING CONSTRUCTION.

NOTE THAT TEMPORARILY COVERING EXISTING DETECTION DEVICES TO PREVENT ACCIDENTAL ALARM ACTIVATIONS DUE TO DUST AND DIRT CONSTITUTES A PARTIAL SHUTDOWN OF THE EXISTING FIRE ALARM SYSTEM.

GENERAL ARCHITECTURAL SHEET NOTES:

THESE NOTES ARE GENERAL NOTES. ALL CONDITIONS NEED TO BE VERIFIED IN FIELD

A. SEE SPECIFICATION FOR ADDITIONAL INFORMATION ON MATERIALS / MANUFACTURER / PERFORMANCE AND WARRANTY INFORMATION .

B. WITHIN THE EXISTING BUILDING, AT ALL AREAS OF NEW CONSTRUCTION ADJACENT TO EXISTING, NEW CONSTRUCTION SHALL BE FINISHED TO MATCH EXISTING ADJACENT CONSTRUCTION INCLUDING BRICK, TILE, PLASTER, PAINT, BASE, CEILING, ETC.

C. IN ALL SPACES WHERE EXISTING UNITS ARE REPLACED WITH NEW SMALLER UNITS, WHERE UNFINISHED FLOORS AND WALLS ARE EXPOSED, WILL BE FINISHED TO MATCH EXISTING. REF DETAILS FOR ADDITIONAL INFORMATION.

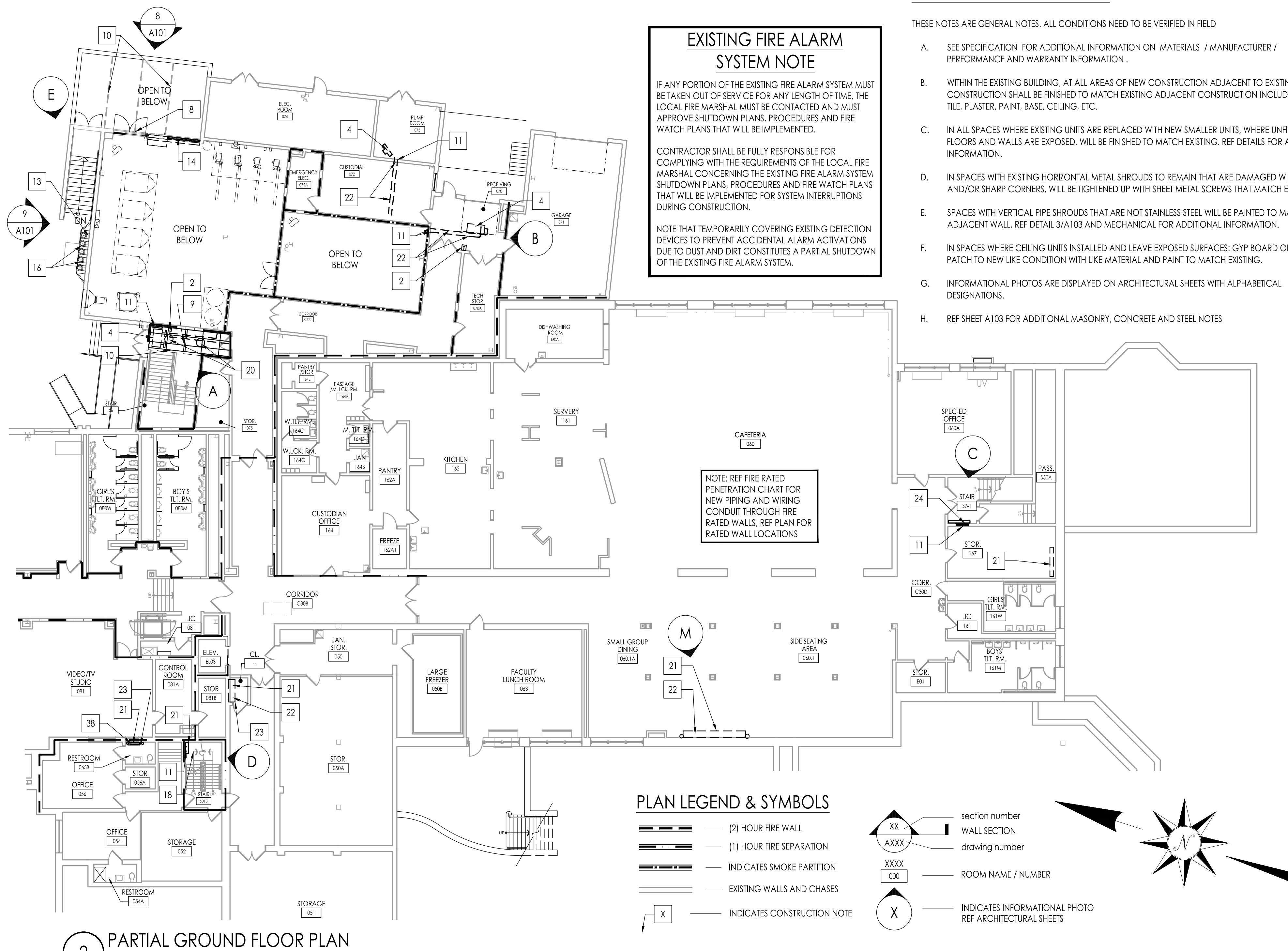
D. IN SPACES WITH EXISTING HORIZONTAL METAL SHROUDS TO REMAIN THAT ARE DAMAGED WITH LOOSE AND/OR SHARP CORNERS, WILL BE TIGHTENED UP WITH SHEET METAL SCREWS THAT MATCH EXISTING.

E. SPACES WITH VERTICAL PIPE SHROUDS THAT ARE NOT STAINLESS STEEL WILL BE PAINTED TO MATCH ADJACENT WALL, REF DETAIL 3/A103 AND MECHANICAL FOR ADDITIONAL INFORMATION.

F. IN SPACES WHERE CEILING UNITS INSTALLED AND LEAVE EXPOSED SURFACES: GYP BOARD OR PLASTER, PATCH TO NEW LIKE CONDITION WITH LIKE MATERIAL AND PAINT TO MATCH EXISTING.

G. INFORMATIONAL PHOTOS ARE DISPLAYED ON ARCHITECTURAL SHEETS WITH ALPHABETICAL DESIGNATIONS.

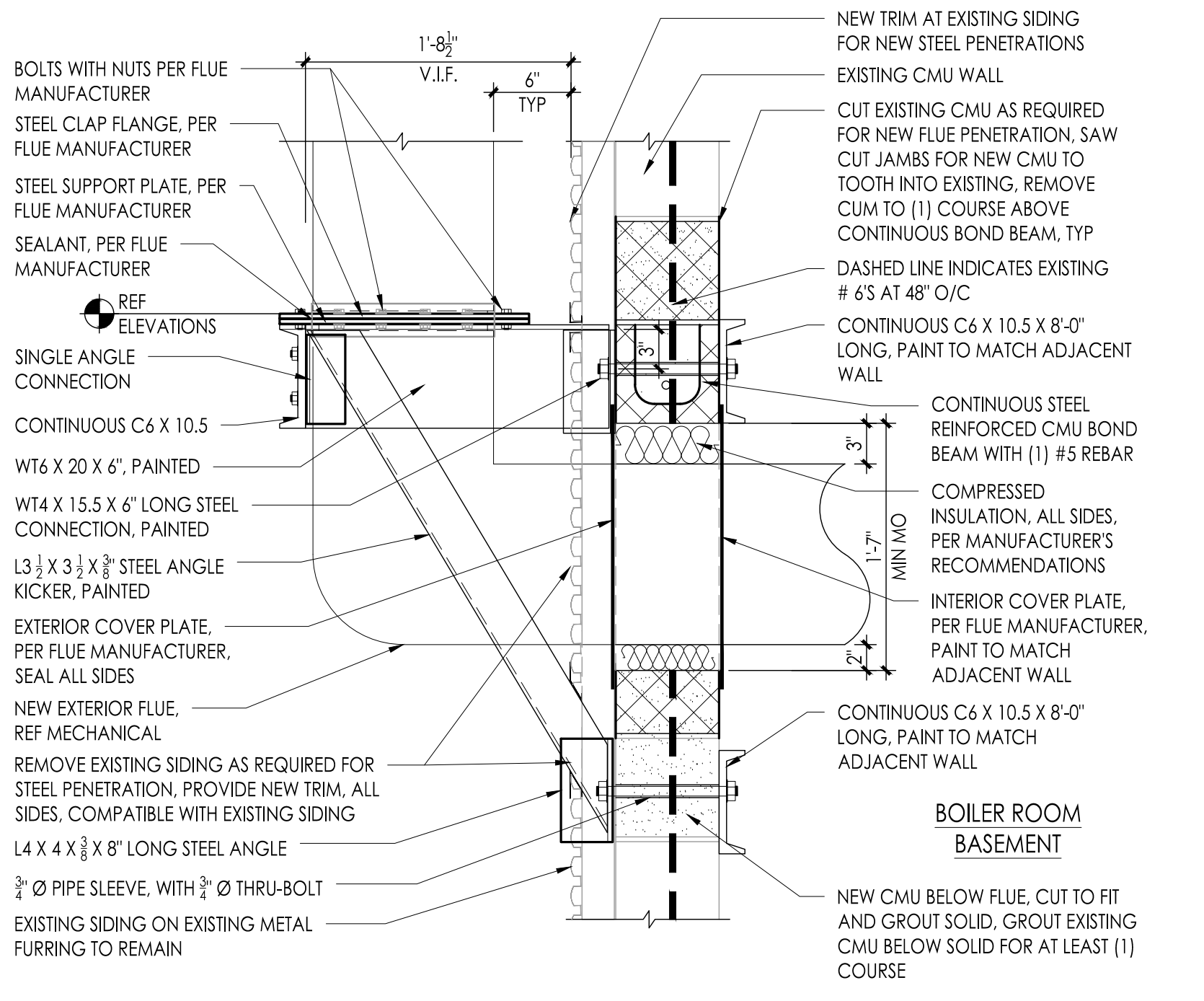
H. REF SHEET A103 FOR ADDITIONAL MASONRY, CONCRETE AND STEEL NOTES



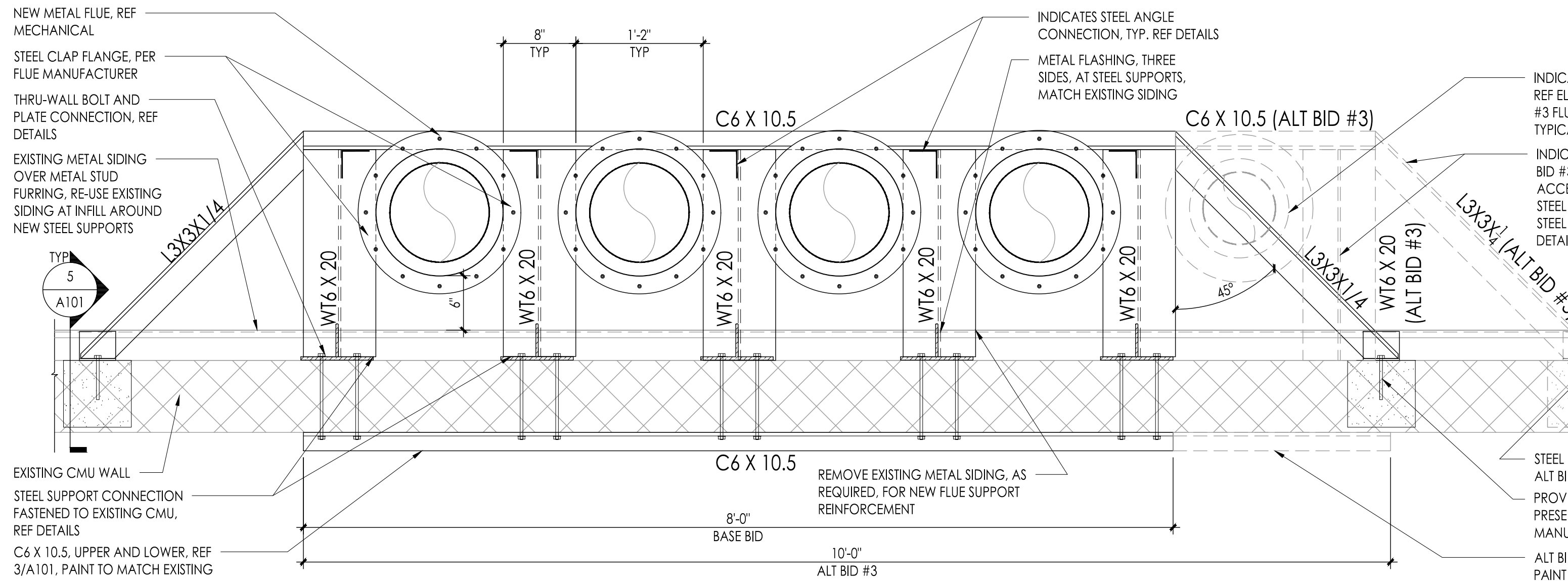
PLAN LEGEND & SYMBOLS

▬ ▬	(2) HOUR FIRE WALL
▬ ¦ ▬	(1) HOUR FIRE SEPARATION
▬ ▪ ▬	INDICATES SMOKE PARTITION
═	EXISTING WALLS AND CHASES
X	INDICATES CONSTRUCTION NOTE
XX / AXXX	section number WALL SECTION drawing number
XXXX 000	ROOM NAME / NUMBER
X	INDICATES INFORMATIONAL PHOTO REF ARCHITECTURAL SHEETS

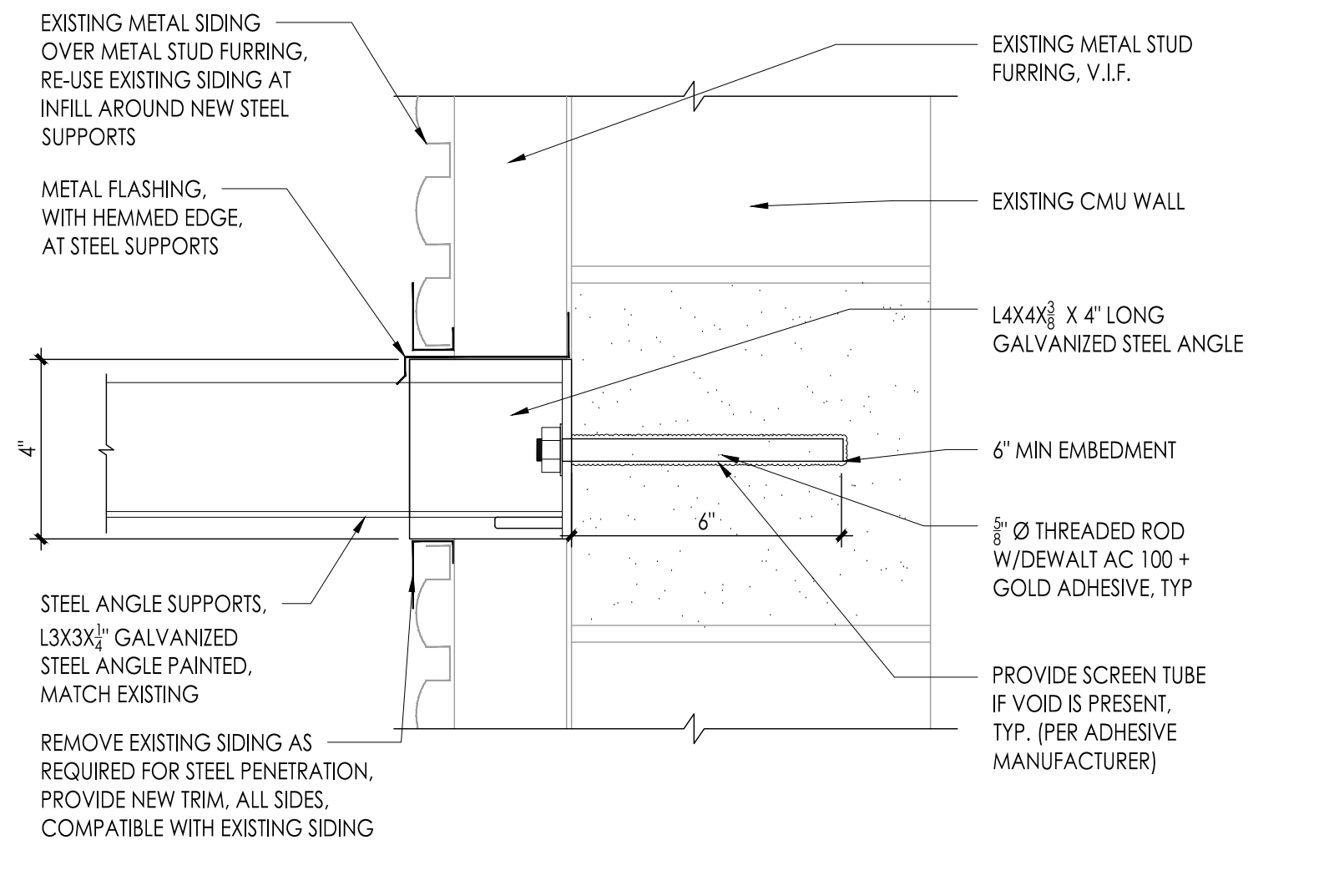
2 PARTIAL GROUND FLOOR PLAN
Scale 1/16"=1'-0"


1'-8 1/2" V.I.F.
6" TYP
BOLTS WITH NUTS PER FLUE MANUFACTURER
STEEL CLAP FLANGE, PER FLUE MANUFACTURER
STEEL SUPPORT PLATE, PER FLUE MANUFACTURER
SEALANT, PER FLUE MANUFACTURER
REF ELEVATIONS
SINGLE ANGLE CONNECTION
CONTINUOUS C6 X 10.5
WT6 X 20 X 6", PAINTED
WT4 X 15.5 X 6" LONG STEEL CONNECTION, PAINTED
L3 1/2 X 3 1/2 X 3/8" STEEL ANGLE KICKER, PAINTED
EXTERIOR COVER PLATE, PER FLUE MANUFACTURER, SEAL ALL SIDES
NEW EXTERIOR FLUE, REF MECHANICAL
REMOVE EXISTING SIDING AS REQUIRED FOR STEEL PENETRATION, PROVIDE NEW TRIM, ALL SIDES, COMPATIBLE WITH EXISTING SIDING
L4 X 4 X 3/8 X 8" LONG STEEL ANGLE
3/4" Ø PIPE SLEEVE, WITH 3/4" Ø THRU-BOLT
EXISTING SIDING ON EXISTING METAL FURRING TO REMAIN
NEW TRIM AT EXISTING SIDING FOR NEW STEEL PENETRATIONS
EXISTING CMU WALL
CUT EXISTING CMU AS REQUIRED FOR NEW FLUE PENETRATION, SAW CUT JAMBS FOR NEW CMU TO TOOTH INTO EXISTING, REMOVE CUM TO (1) COURSE ABOVE CONTINUOUS BOND BEAM, TYP
DASHED LINE INDICATES EXISTING # 6'S AT 48" O/C
CONTINUOUS C6 X 10.5 X 8'-0" LONG, PAINT TO MATCH ADJACENT WALL
CONTINUOUS STEEL REINFORCED CMU BOND BEAM WITH (1) #5 REBAR
COMPRESSED INSULATION, ALL SIDES, PER MANUFACTURER'S RECOMMENDATIONS
INTERIOR COVER PLATE, PER FLUE MANUFACTURER, PAINT TO MATCH ADJACENT WALL
3"
1'-7" MIN MO
2"
CONTINUOUS C6 X 10.5 X 8'-0" LONG, PAINT TO MATCH ADJACENT WALL
BOILER ROOM BASEMENT
NEW CMU BELOW FLUE, CUT TO FIT AND GROUT SOLID, GROUT EXISTING CMU BELOW SOLID FOR AT LEAST (1) COURSE

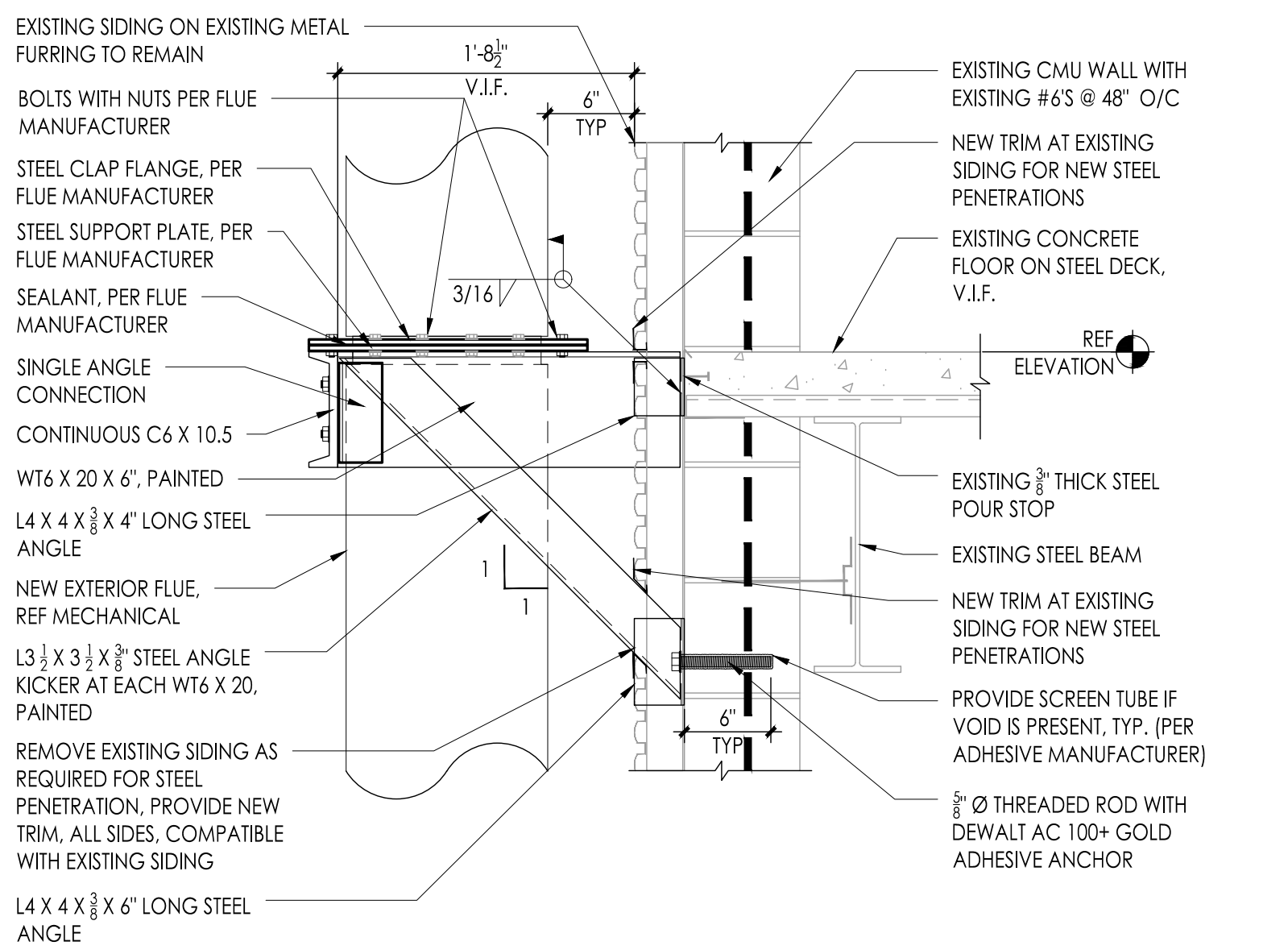
3 BOTTOM FLUE BRACKET DETAIL
1" = 1'-0"


NEW METAL FLUE, REF MECHANICAL
STEEL CLAP FLANGE, PER FLUE MANUFACTURER
THRU-WALL BOLT AND PLATE CONNECTION, REF DETAILS
EXISTING METAL SIDING OVER METAL STUD FURRING. RE-USE EXISTING SIDING AT INFILL AROUND NEW STEEL SUPPORTS
EXISTING CMU WALL
STEEL SUPPORT CONNECTION FASTENED TO EXISTING CMU, REF DETAILS
C6 X 10.5, UPPER AND LOWER, REF 3/A101, PAINT TO MATCH EXISTING ADJACENT WALL
8" TYP
1'-2" TYP
INDICATES STEEL ANGLE CONNECTION, TYP. REF DETAILS
METAL FLASHING, THREE SIDES, AT STEEL SUPPORTS, MATCH EXISTING SIDING
C6 X 10.5
C6 X 10.5 (ALT BID #3)
WT6 X 20
L3X3X1/4
L3X3X1/4 (ALT BID #3)
WT6 X 20 (ALT BID #3)
INDICATES FLU FOR ALT BID #3 REF ELEVATIONS FOR NEW ALT BID #3 FLU PENETRATION, DETAILS ARE TYPICAL
INDICATES STEEL FOR ALT BID #3, IF ALT BID #3 IS ACCEPTED, EXTEND NEW STEEL OUT AND ADD NEW STEEL FRAMING AS SHOWN, DETAILS ARE TYPICAL
REMOVE EXISTING METAL SIDING, AS REQUIRED, FOR NEW FLUE SUPPORT REINFORCEMENT
STEEL CONNECTION FOR ALT BID #3, REF DETAILS
PROVIDE SCREEN TUBE IF VOID IS PRESENT, TYP. (PER ADHESIVE MANUFACTURER)
ALT BID #3 C6 X 10.5 EXTENDED, PAINT TO MATCH EXISTING ADJACENT WALL
8'-0" BASE BID
10'-0" ALT BID #3
5
A101

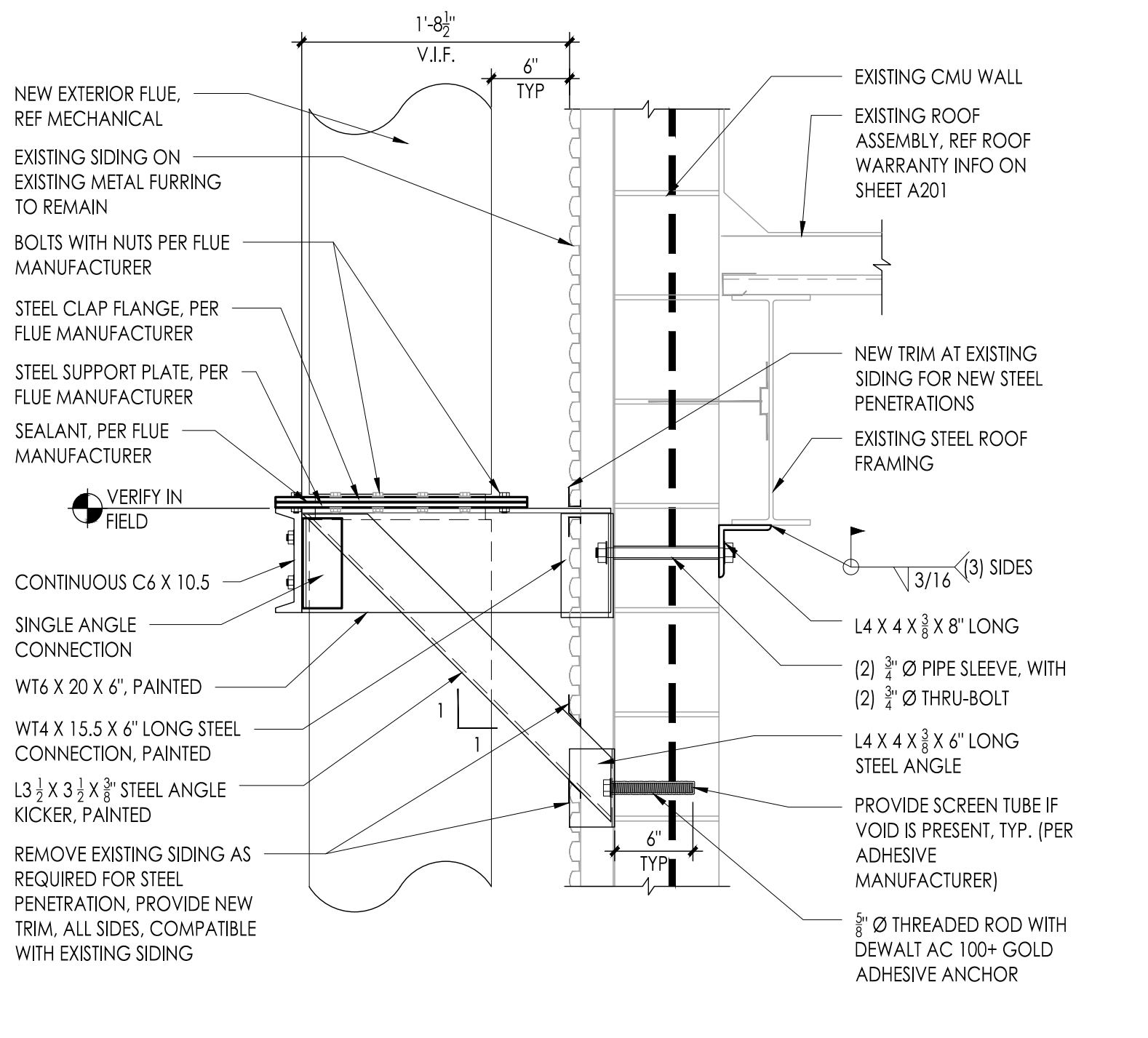
4 TYPICAL FLUE SUPPORT PLAN
Scale: 1" = 1'-0"


EXISTING METAL STUD FURRING, V.I.F.
EXISTING CMU WALL
L4X4X3/8 X 4" LONG GALVANIZED STEEL ANGLE
6" MIN EMBEDMENT
5/8" Ø THREADED ROD W/DEWALT AC 100+ GOLD ADHESIVE, TYP
PROVIDE SCREEN TUBE IF VOID IS PRESENT, TYP. (PER ADHESIVE MANUFACTURER)
EXISTING METAL SIDING OVER METAL STUD FURRING, RE-USE EXISTING SIDING AT INFILL AROUND NEW STEEL SUPPORTS
METAL FLASHING, WITH HEMMED EDGE, AT STEEL SUPPORTS
STEEL ANGLE SUPPORTS, L3X3X1/4 GALVANIZED STEEL ANGLE PAINTED, MATCH EXISTING
REMOVE EXISTING SIDING AS REQUIRED FOR STEEL PENETRATION, PROVIDE NEW TRIM, ALL SIDES, COMPATIBLE WITH EXISTING SIDING

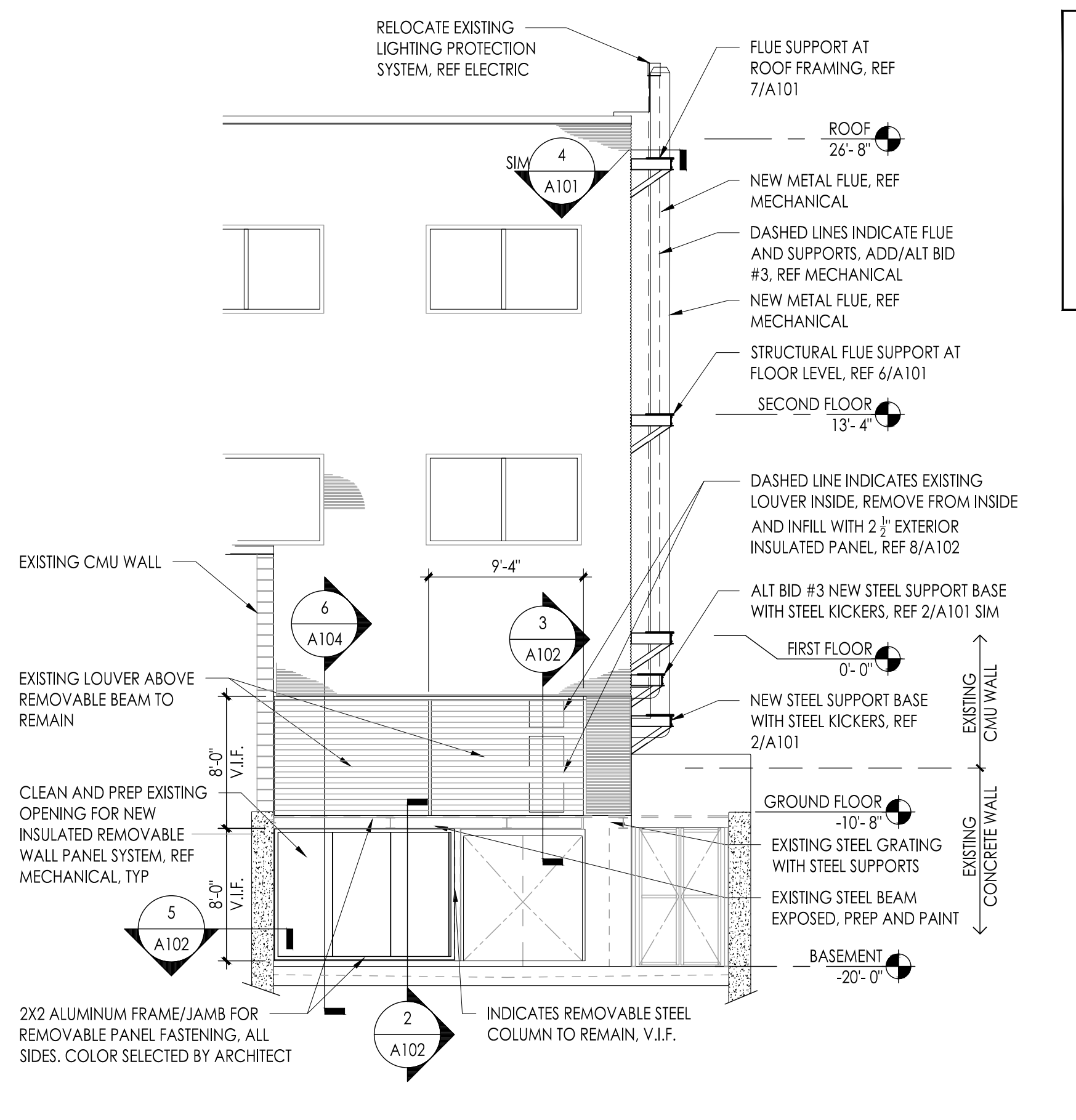
5 WALL CONNECTION DETAIL
3" = 1'-0"


EXISTING SIDING ON EXISTING METAL FURRING TO REMAIN
1'-8 1/2" V.I.F.
6" TYP
BOLTS WITH NUTS PER FLUE MANUFACTURER
STEEL CLAP FLANGE, PER FLUE MANUFACTURER
STEEL SUPPORT PLATE, PER FLUE MANUFACTURER
SEALANT, PER FLUE MANUFACTURER
SINGLE ANGLE CONNECTION
CONTINUOUS C6 X 10.5
WT6 X 20 X 6", PAINTED
L4 X 4 X 3/8 X 4" LONG STEEL ANGLE
NEW EXTERIOR FLUE, REF MECHANICAL
L3 1/2 X 3 1/2 X 3/8" STEEL ANGLE KICKER AT EACH WT6 X 20, PAINTED
REMOVE EXISTING SIDING AS REQUIRED FOR STEEL PENETRATION, PROVIDE NEW TRIM, ALL SIDES, COMPATIBLE WITH EXISTING SIDING
L4 X 4 X 3/8 X 6" LONG STEEL ANGLE
EXISTING CMU WALL WITH EXISTING #6'S @ 48" O/C
NEW TRIM AT EXISTING SIDING FOR NEW STEEL PENETRATIONS
EXISTING CONCRETE FLOOR ON STEEL DECK, V.I.F.
REF ELEVATION
EXISTING 1/2" THICK STEEL POUR STOP
EXISTING STEEL BEAM
NEW TRIM AT EXISTING SIDING FOR NEW STEEL PENETRATIONS
PROVIDE SCREEN TUBE IF VOID IS PRESENT, TYP. (PER ADHESIVE MANUFACTURER)
5/8" Ø THREADED ROD WITH DEWALT AC 100+ GOLD ADHESIVE ANCHOR

6 FLUE BRACKET @ FLOOR LEVEL DETAIL
1" = 1'-0"

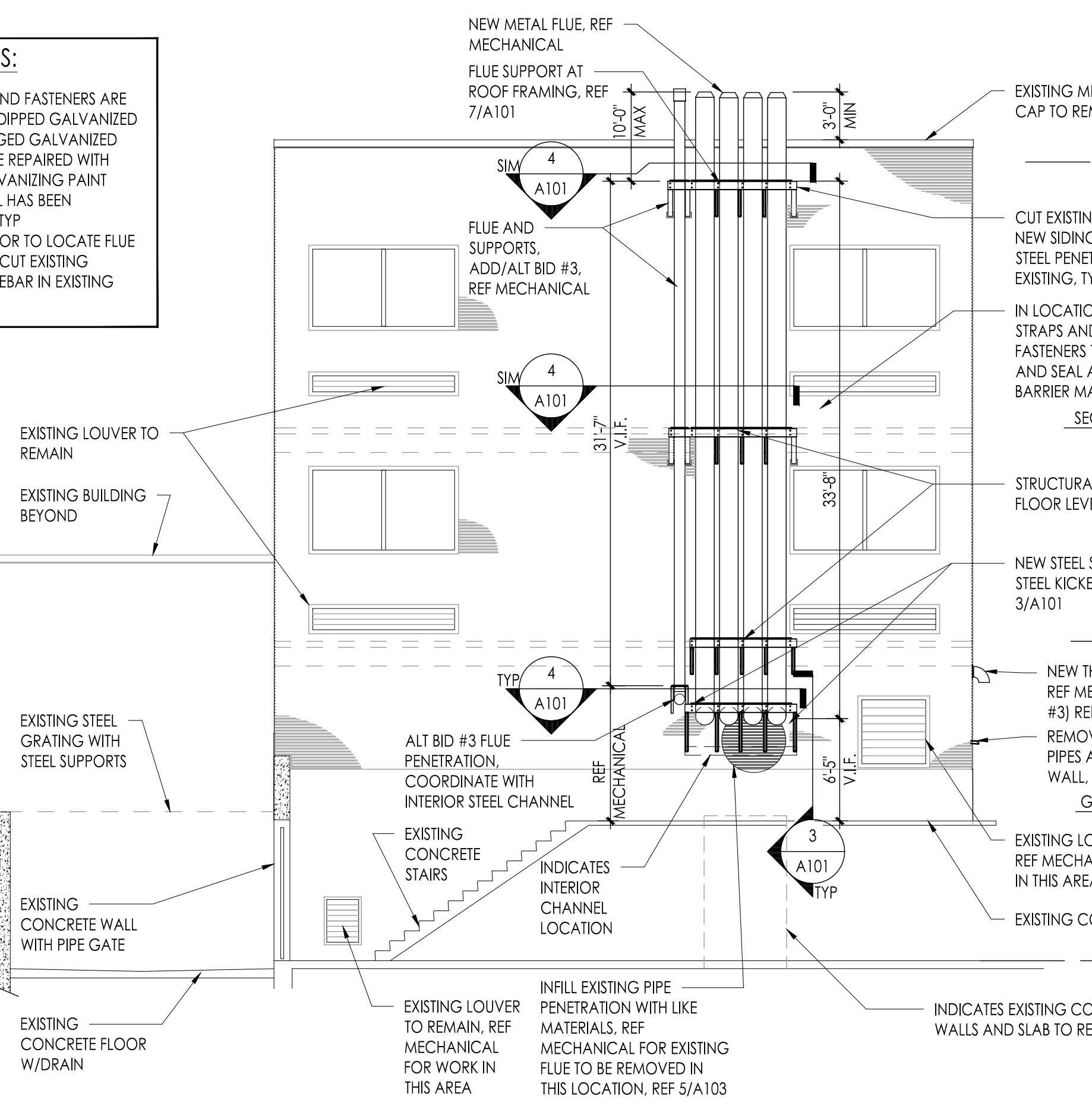

1'-8 1/2" V.I.F.
6" TYP
NEW EXTERIOR FLUE, REF MECHANICAL
EXISTING SIDING ON EXISTING METAL FURRING TO REMAIN
BOLTS WITH NUTS PER FLUE MANUFACTURER
STEEL CLAP FLANGE, PER FLUE MANUFACTURER
STEEL SUPPORT PLATE, PER FLUE MANUFACTURER
SEALANT, PER FLUE MANUFACTURER
VERIFY IN FIELD
CONTINUOUS C6 X 10.5
SINGLE ANGLE CONNECTION
WT6 X 20 X 6", PAINTED
WT4 X 15.5 X 6" LONG STEEL CONNECTION, PAINTED
L3 1/2 X 3 1/2 X 3/8" STEEL ANGLE KICKER, PAINTED
REMOVE EXISTING SIDING AS REQUIRED FOR STEEL PENETRATION, PROVIDE NEW TRIM, ALL SIDES, COMPATIBLE WITH EXISTING SIDING
EXISTING CMU WALL
EXISTING ROOF ASSEMBLY, REF ROOF WARRANTY INFO ON SHEET A201
NEW TRIM AT EXISTING SIDING FOR NEW STEEL PENETRATIONS
EXISTING STEEL ROOF FRAMING
(3) SIDES
L4 X 4 X 3/8 X 8" LONG
(2) 3/4" Ø PIPE SLEEVE, WITH (2) 3/4" Ø THRU-BOLT
L4 X 4 X 3/8 X 6" LONG STEEL ANGLE
PROVIDE SCREEN TUBE IF VOID IS PRESENT, TYP. (PER ADHESIVE MANUFACTURER)
5/8" Ø THREADED ROD WITH DEWALT AC 100+ GOLD ADHESIVE ANCHOR

7 FLUE BRACKET @ ROOF DETAIL
1" = 1'-0"


RELOCATE EXISTING LIGHTING PROTECTION SYSTEM, REF ELECTRIC
FLUE SUPPORT AT ROOF FRAMING, REF 7/A101
ROOF 26'- 8"
NEW METAL FLUE, REF MECHANICAL
DASHED LINES INDICATE FLUE AND SUPPORTS, ADD/ALT BID #3, REF MECHANICAL
NEW METAL FLUE, REF MECHANICAL
STRUCTURAL FLUE SUPPORT AT FLOOR LEVEL, REF 6/A101
SECOND FLOOR 13'- 4"
DASHED LINE INDICATES EXISTING LOUVER INSIDE, REMOVE FROM INSIDE AND INFILL WITH 2 1/2" EXTERIOR INSULATED PANEL, REF 8/A102
ALT BID #3 NEW STEEL SUPPORT BASE WITH STEEL KICKERS, REF 2/A101 SIM
FIRST FLOOR 0'- 0"
NEW STEEL SUPPORT BASE WITH STEEL KICKERS, REF 2/A101
GROUND FLOOR -10'- 8"
EXISTING STEEL GRATING WITH STEEL SUPPORTS
EXISTING STEEL BEAM EXPOSED, PREP AND PAINT
BASEMENT -20'- 0"
EXISTING CMU WALL
EXISTING CONCRETE WALL
EXISTING CMU WALL
9'-4"
8'-0" V.I.F.
EXISTING LOUVER ABOVE REMOVABLE BEAM TO REMAIN
CLEAN AND PREP EXISTING OPENING FOR NEW INSULATED REMOVABLE WALL PANEL SYSTEM, REF MECHANICAL, TYP
2X2 ALUMINUM FRAME/JAMB FOR REMOVABLE PANEL FASTENING, ALL SIDES. COLOR SELECTED BY ARCHITECT
INDICATES REMOVABLE STEEL COLUMN TO REMAIN, V.I.F.
SIM 4 A101
6 A104
3 A102
5 A102
2 A102

8 PARTIAL ELEVATION
Scale 1/8"=1'-0"

STEEL NOTES:
1) ALL STEEL AND FASTENERS ARE TO BE HOT DIPPED GALVANIZED
2) ALL DAMAGED GALVANIZED FINISH TO BE REPAIRED WITH GOLD GALVANIZING PAINT ONCE STEEL HAS BEEN INSTALLED, TYP
3) CONTRACTOR TO LOCATE FLUE AS TO NOT CUT EXISTING VERTICAL REBAR IN EXISTING WALL, V,I,F,


EXISTING LOUVER TO REMAIN
EXISTING BUILDING BEYOND
EXISTING STEEL GRATING WITH STEEL SUPPORTS
EXISTING CONCRETE WALL WITH PIPE GATE
EXISTING CONCRETE FLOOR W/DRAIN
NEW METAL FLUE, REF MECHANICAL
FLUE SUPPORT AT ROOF FRAMING, REF 7/A101
10'-0" MAX
3'-0" MIN
EXISTING METAL PARAPET CAP TO REMAIN
ROOF 26'- 8"
CUT EXISTING SIDING AND PROVIDE NEW SIDING TRIM AT LOCATIONS OF STEEL PENETRATIONS, MATCH EXISTING, TYP
FLUE AND SUPPORTS, ADD/ALT BID #3, REF MECHANICAL
IN LOCATIONS OF REMOVED FLUE SUPPORT STRAPS AND FASTENERS, REMOVE FASTENERS TO FACE OF CMU BACK-UP, AND SEAL AREA OF FASTENER WITH VAPOR BARRIER MATERIAL, TYP
SECOND FLOOR 13'- 4"
31'-7" V.I.F.
33'-8"
STRUCTURAL FLUE SUPPORT AT FLOOR LEVEL, REF 6/A101
NEW STEEL SUPPORT BASE WITH STEEL KICKERS, REF 4/A101 AND 3/A101
FIRST FLOOR 0'- 0"
NEW THRU-WALL VENT PIPE, REF MECHANICAL (ALT BID #3) REF 9/A103
REMOVE EXISTING VENT PIPES AND PATCH EXISTING WALL, REEF 10/A103
GROUND FLOOR -10'- 8"
6'-5" V.I.F.
ALT BID #3 FLUE PENETRATION, COORDINATE WITH INTERIOR STEEL CHANNEL
REF MECHANICAL
EXISTING CONCRETE STAIRS
INDICATES INTERIOR CHANNEL LOCATION
EXISTING LOUVER TO REMAIN, REF MECHANICAL FOR WORK IN THIS AREA
EXISTING CONCRETE WALK
BASEMENT -20'- 0"
EXISTING LOUVER TO REMAIN, REF MECHANICAL FOR WORK IN THIS AREA
INFILL EXISTING PIPE PENETRATION WITH LIKE MATERIALS, REF MECHANICAL FOR EXISTING FLUE TO BE REMOVED IN THIS LOCATION, REF 5/A103
INDICATES EXISTING CONCRETE SUPPORT WALLS AND SLAB TO REMAIN
SIM 4 A101
TYP 4 A101
3 A101 TYP

9 PARTIAL ELEVATION
Scale 1/8"=1'-0"

GENERAL DEMOLITION NOTES:

A. ALL CONTRACTORS ARE ADVISED TO VISIT THE SITE AND VERIFY ALL AREAS AND CONDITIONS PRIOR TO SUBMITTING THEIR BIDS. THE CONTRACTOR MUST NOTIFY THE ARCHITECT OF ANY DISCREPANCIES AND/OR OMISSIONS IN WRITING AT LEAST SEVEN DAYS PRIOR TO THE RECEIPT OF BIDS. FAILURE TO SO NOTIFY THE ARCHITECT INDICATES THAT ANY ADDITIONAL COSTS ASSOCIATED WITH THE DISCREPANCIES AND / OR OMISSIONS ARE INCLUDED IN THE CONTRACTOR'S BID AND THAT NO CHANGE TO THE CONTRACT AMOUNT WILL BE MADE AFTER THE RECEIPT OF BIDS OR THE AWARD OF CONTRACTS.

B. ALL MECHANICAL OR ELECTRICAL DISCONNECTS SHALL BE MADE BY THE RESPECTIVE TRADES. ALL EQUIPMENT, DEVICES, FIXTURES, ETC. SHALL BE REMOVED FROM THE SITE BY THE RESPECTIVE CONTRACTOR. NOTE: THE EXISTING FIRE ALARM SYSTEM SHALL NOT BE DIMINISHED NOR SHALL EXISTING FIRE ALARM DEVICES BE REMOVED UNTIL NEW DEVICES ARE READY FOR SWITCHOVER.

C. UNLESS NOTED OTHERWISE ALL DEMOLITION MATERIAL SHALL BE REMOVED OFF SITE BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.

D. THE CONTRACTOR SHALL MAKE EVERY EFFORT TO PROTECT PORTIONS OF THE EXISTING CONSTRUCTION WHICH ARE ADJACENT TO AREAS TO BE DEMOLISHED. MAKE ALL CUTS AS NEATLY AS POSSIBLE. REFER TO MECHANICAL AND PLUMBING DRAWINGS FOR ITEMS BEING REMOVED.

E. IF NOT OTHERWISE NOTED OR DETAILED, ALL SURFACES LEFT ROUGH OR UNFINISHED BY DEMOLITION AND WHICH ARE EXPOSED TO VIEW, SHALL BE PATCHED TO MATCH ADJACENT SURFACES AND FINISHED TO PROVIDE A UNIFORM APPEARANCE WITH REGARD TO SIZE, SHAPE, COLOR, TEXTURE AND MATERIAL.

F. THE CONTRACTOR SHALL PROVIDE A PHYSICAL BARRIER TO CONTAIN DUST AND DIRT AROUND THE DEMOLITION AREA AND SHALL MAKE EVERY EFFORT TO KEEP THE DEMOLITION SITE AND SURROUNDING AREAS AS CLEAN AS POSSIBLE.

G. NO DEMOLITION OF STEEL SHALL BEGIN UNTIL PROPER BRACING OF EXISTING ROOF IS IN PLACE AND ALL PROTECTION IS IN PLACE AND APPROVED BY ARCHITECT & OWNER TO ENSURE THE SAFETY OF THE PUBLIC, THE BUILDING OCCUPANTS, CONSTRUCTION WORKERS AND TO CONTAIN DUST AND DIRT WITHIN THE AREA OF DEMOLITION.

H. THE CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE AND LOCAL LAWS REGARDING THE REMOVAL AND DISPOSAL OF ALL MATERIALS & EQUIPMENT.

I. THE CONTRACTORS SHALL TAKE INTO ACCOUNT THEIR METHODS OF CONSTRUCTION FOR THE NEW WORK AND INCLUDE IN THEIR BID THE COST OF ADDITIONAL DEMOLITION WORK NECESSARY TO FACILITATE THE CONSTRUCTION. THIS INCLUDES ITEMS TO REMAIN THAT NEED TO BE RELOCATED DO TO SIZE OF, OR LOCATION OF, NEW EQUIPMENT.

J. THE DEMOLITION WORK SHOWN ON THIS PLAN IS INTENDED TO BE A GENERAL OVERVIEW OF MAJOR DEMOLITION WORK REQUIRED. IT IS NOT A COMPLETE AND EXCLUSIVE REPRESENTATION OF ALL DEMOLITION WORK NEEDED FOR EXECUTION OF THE PROJECT. WHEN PREPARING THEIR BIDS, CONTRACTORS MUST REFER TO THE FULL SET OF CONSTRUCTION DOCUMENTS FOR VARIOUS MISCELLANEOUS ITEMS WHICH MUST BE REMOVED AND/OR RELOCATED AS PART OF THE WORK. (REFERENCE MECHANICAL, ELECTRIC AND PLUMING FOR ADDITIONAL DEMOLITION PLANS AND NOTES)

GENERAL CONSTRUCTION NOTES:

THESE NOTES SHALL APPLY TO ALL WORK THROUGHOUT THE PROJECT.

A. ALL CONTRACTORS SHALL VISIT THE SITE AND VERIFY ALL EXISTING CONDITIONS BEFORE SUBMITTING A BID. DISCREPANCIES OR OMISSIONS MUST BE REPORTED TO THE ARCHITECT IN WRITING (15) DAYS PRIOR TO BID OPENING. IF HE OR SHE DOES NOT, CONTRACTOR SHALL CORRECT SAME AT NO CHANGE IN CONTRACT PRICE.

B. CONTRACTOR IS RESPONSIBLE FOR ALL MEANS AND METHODS OF CONSTRUCTION. CONTRACTOR SHALL PROVIDE ALL REQUIRED SAFETY PROTECTION DURING CONSTRUCTION.

C. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE A SUFFICIENT WORK FORCE TO MEET COMPLETION DATES AS OUTLINED IN THE SPECIFICATIONS. NO EXCEPTIONS WILL BE ALLOWED.

D. CONTRACTOR SHALL PROVIDE ALL REQUIRED SAFETY PROTECTION DURING CONSTRUCTION.

E. DO NOT SCALE THE DRAWINGS.

F. DETAILS NOTED "TYPICAL" IMPLY ALL SUCH CONDITIONS BE TREATED SIMILARLY.

G. ALL WORK PERTAINING TO THESE DRAWINGS SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE STATE AND LOCAL CODES AND IN AGREEMENT WITH ALL AGENCIES HAVING JURISDICTION.

H. THE CONTRACTOR IS RESPONSIBLE TO SECURE ALL PERMITS, TO OBTAIN APPROVALS AS REQUIRED AND COORDINATE INSPECTION WITH LOCAL BUILDING INSPECTOR. ALL PERMIT AND APPLICATION FEES, (INCLUDING REVIEW FEES, ETC) WILL BE PAID BY THE CONTRACTOR AND REIMBURSED BY THE OWNER.

I. DRAWINGS AND SPECIFICATIONS COMPLEMENT EACH OTHER. WORK NOT SHOWN ON DRAWING BUT CALLED FOR IN THE SPECIFICATIONS IS STILL REQUIRED, AND ALL WORK NOT CALLED FOR IN SPECIFICATIONS, BUT CALLED OUT OR SHOWN IN DRAWINGS IS STILL REQUIRED.

J. UNLESS OTHERWISE NOTED AND UNLESS FACTORY FINISHED, ALL EXPOSED SURFACES OF CMU, CONCRETE, PLASTER, WOOD, GYPSUM BOARD, HOLLOW METAL, HARDWOODS, MISCELLANEOUS METALS ETC., ARE TO RECEIVE PRIME AND FINISH COATS OF PAINT OR CLEAR FINISH AS SPECIFIED AND IN COLORS AS SELECTED BY ARCHITECT. EXCLUDED FROM THIS IS BRICK.

K. ALL EXISTING FINISHES NOTED IN PLAN ARE TO BE FIELD VERIFIED : CEILINGS, WALLS AND FLOORS.

L. THE OWNER WILL REMOVE AND RE-INSTALL ALL MOVEABLE EQUIPMENT. EACH CONTRACTOR IS RESPONSIBLE TO REMOVE, STORE AND RE-INSTALL EXISTING BUILT-IN EQUIPMENT REQUIRED TO PERFORM THEIR WORK UNLESS NOTED OTHERWISE.

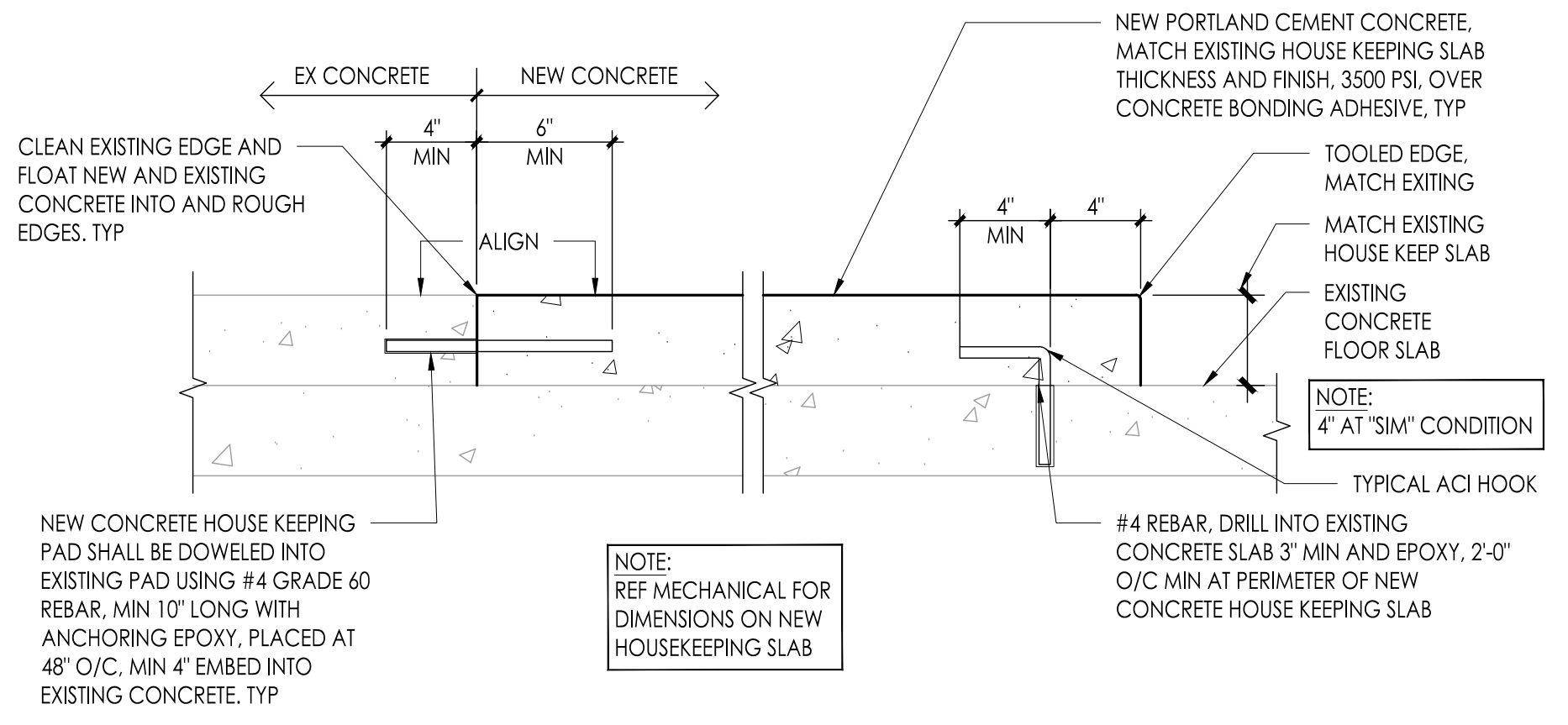
M. CALL BEFORE YOU DIG. BEFORE DIGGING CONTRACTOR SHALL CALL 1-800-242-1776 TO HAVE UTILITIES IDENTIFY UNDERGROUND LOCATION OF ALL SERVICE LINES.

N. ALL OUTSIDE CORNERS OF INTERIOR CONCRETE MASONRY UNITS (CMU) ARE TO BE BULL NOSED UNLESS NOTED OTHERWISE.

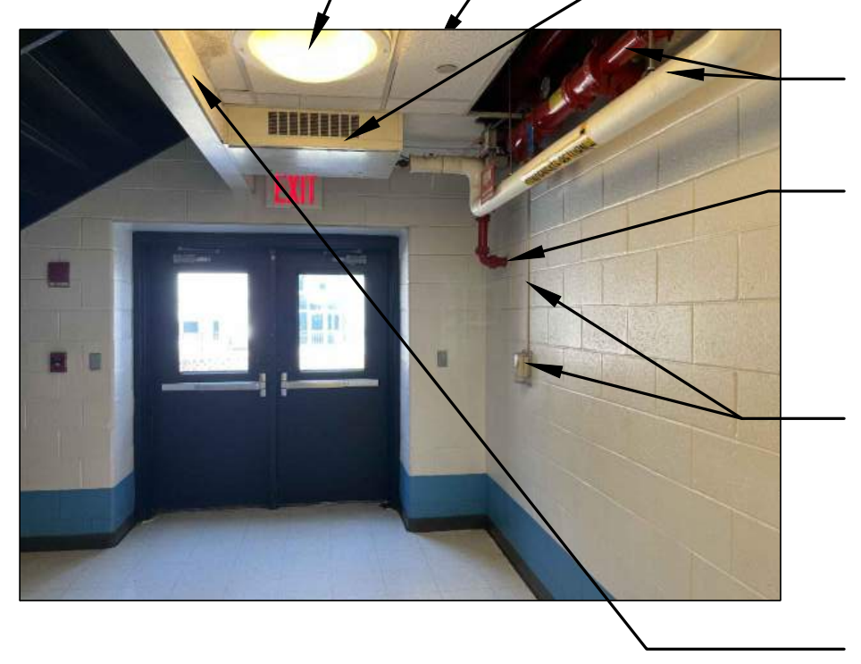
O. ALL BLOCKING FOR THE PROJECT SHALL BE FIRE RETARDANT TREATED WOOD BLOCKING, UNLESS OTHERWISE NOTED.

FIRE-RATED PENETRATION CHART
UL CLASSIFIED SYSTEM

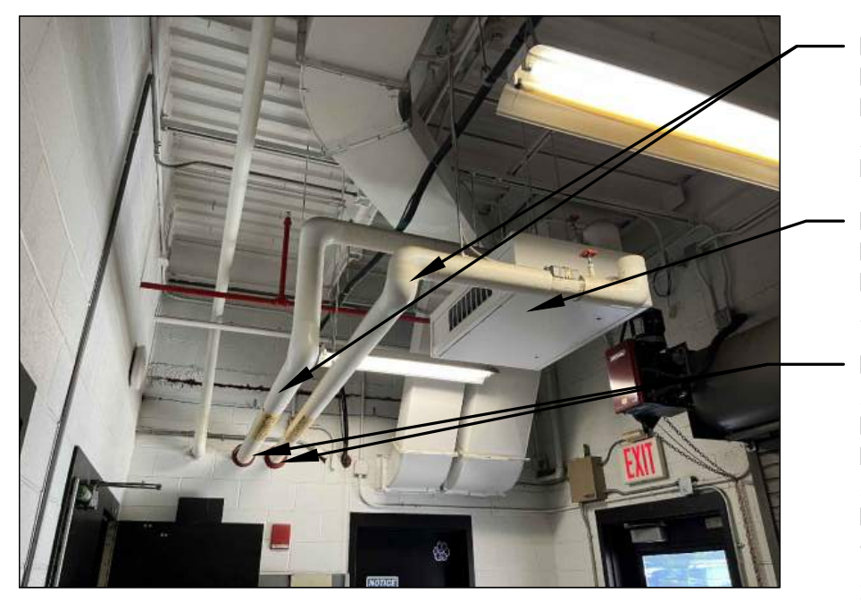
CONCRETE OR BLOCK WALLS			GYPSUM WALLBOARD ASSEMBLIES		
TYPE OF PENETRATE	FIRE RATING		TYPE OF PENETRANT	FIRE RATING	UL CLASSIFIED SYSTEM
CIRCULAR BLANK OPENINGS	1	CAJ 0055, CAJ 0070	METAL PIPES OR CONDUIT	1	WL 1054, WL 1058, WL 1164
	2	CAJ 0055, CAJ 0070		2	WL 1054, WL 1058, WL 1164
SINGLE METAL PIPES OR CONDUIT	1	CAJ 1226, WJ 1021	NON-METALLIC PIPES OR CONDUIT	1	WL 2078, WL 2075, WL 2128
	2	CAJ 1226, WJ 1021		2	WL 2078, WL 2075, WL 2128
SINGLE NON-METALLIC PIPE OR CONDUIT (I.E. PVC, CPVC, ABS, FRP, ENT)	1	CAJ 2109, CAJ 2098, CAJ 2167	SINGLE OR BUNDLED CABLES	1	WL 3065, WL 3111, WL 3112
	2	CAJ 2109, CAJ 2098, CAJ 2167		2	WL 3065, WL 3111, WL 3112
			CABLE TRAY	1	WL 4011, WL 4019
SINGLE INSULATED PIPES	1	CAJ 5090, CAJ 5091, CAJ 5061		2	WL 4011, WL 4019
	2	CAJ 5090, CAJ 5091, CAJ 5061	INSULATED PIPES	1	WL 5028, WL 5029, WL 5047
ELECTRICAL BUSWAY	1	CAJ 6006, CAJ 6017		2	WL 5028, WL 5029, WL 5047
	2	CAJ 6006, CAJ 6017	NON-INSULATED MECHANICAL DUCTWORK WITHOUT DAMPERS	1	WL 7017, WL 7040, WL 7042
NON-INSULATED MECHANICAL DUCTWORK WITHOUT DAMPERS	1	CAJ 7046, CAJ 7051, WJ 7021, WJ 7022		2	WL 7040, WL 7042
	2	CAJ 7046, CAJ 7051, WJ 7021, WJ 7022			
			MIXED PENETRANTS	1	WL 1095, WL 8013
MIXED PENETRANTS	1	CAJ 8041, CAJ 8056, WJ 8007		2	WL 1095, WL 8013
	2	CAJ 8041, CAJ 8056, WJ 8007			


EX CONCRETE
NEW CONCRETE
4" MIN
6" MIN
CLEAN EXISTING EDGE AND FLOAT NEW AND EXISTING CONCRETE INTO AND ROUGH EDGES. TYP
ALIGN
NEW PORTLAND CEMENT CONCRETE, MATCH EXISTING HOUSE KEEPING SLAB THICKNESS AND FINISH, 3500 PSI, OVER CONCRETE BONDING ADHESIVE, TYP
4" MIN
4"
TOOLED EDGE, MATCH EXITING
MATCH EXISTING HOUSE KEEP SLAB
EXISTING CONCRETE FLOOR SLAB
NOTE: 4" AT "SIM" CONDITION
TYPICAL ACI HOOK
NEW CONCRETE HOUSE KEEPING PAD SHALL BE DOWELED INTO EXISTING PAD USING #4 GRADE 60 REBAR, MIN 10" LONG WITH ANCHORING EPOXY, PLACED AT 48" O/C, MIN 4" EMBED INTO EXISTING CONCRETE. TYP
NOTE: REF MECHANICAL FOR DIMENSIONS ON NEW HOUSEKEEPING SLAB
#4 REBAR, DRILL INTO EXISTING CONCRETE SLAB 3" MIN AND EPOXY, 2'-0" O/C MIN AT PERIMETER OF NEW CONCRETE HOUSE KEEPING SLAB

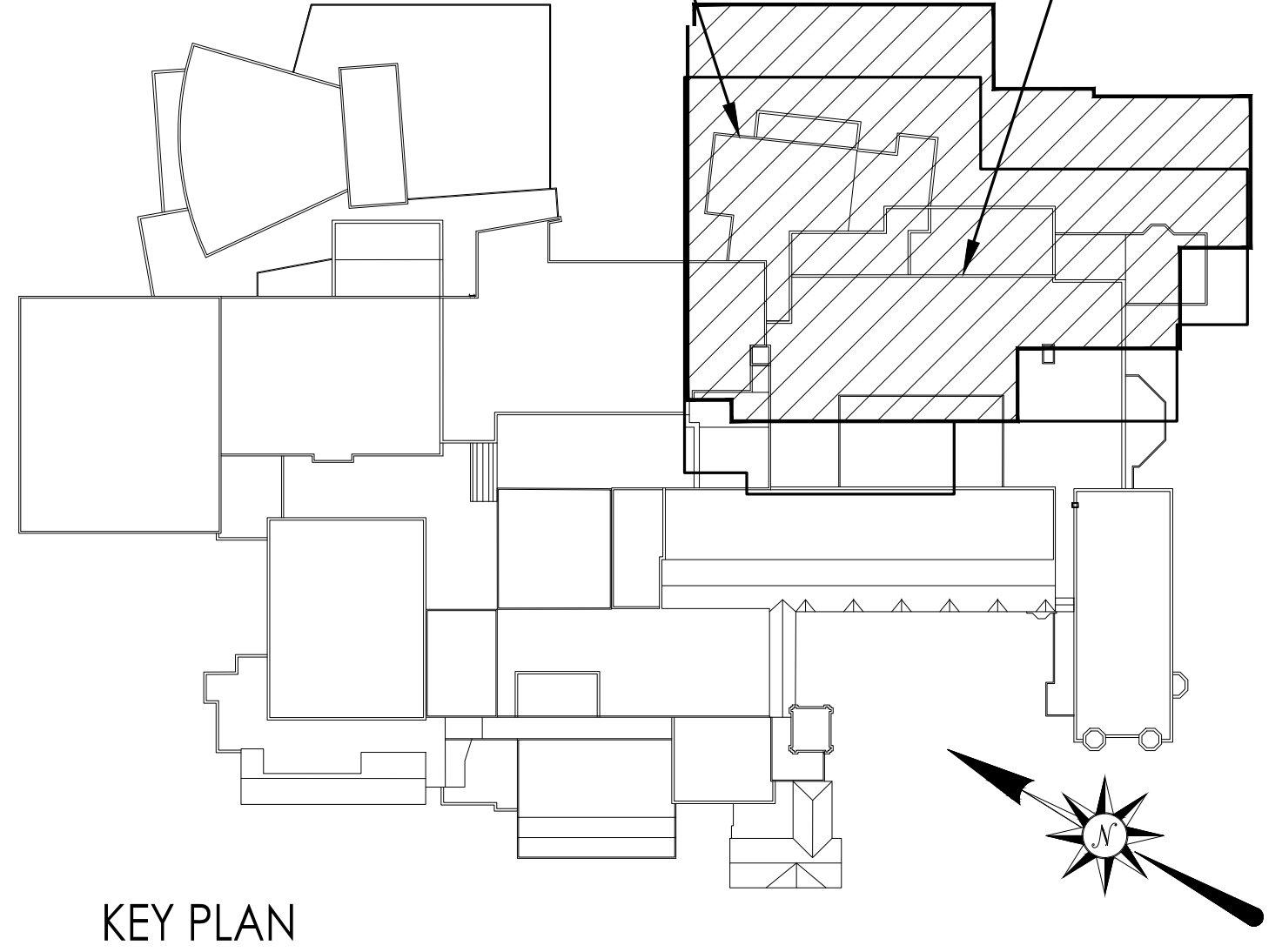
10 CONCRETE HOUSEKEEPING PAD EXTENSION
1 1/2" = 1'-0"


EXISTING SURFACE MOUNTED LIGHTS TO BE REMOVED AND RE-INSTALL ON NEW CEILING, REF MECHANICAL FOR OTHER EQUIPMENT IN CEILING TO BE RELOCATED
REMOVE EXISTING CEILING TILE AND GRID AND REPLACE WITH NEW CEILING IN THIS AREA
EXISTING HVAC EQUIPMENT TO BE REMOVED, REF MECHANICAL
EXISTING HVAC PIPING TO BE REMOVED, REF MECHANICAL AND PLUMBING
REF MECHANICAL AND PLUMBING FOR EXISTING PIPE TO BE REMOVED, PATCH AND REPAIR ALL PENETRATIONS THRU CMU WITH MORTAR AND PAINT TO MATCH WALL
EXISTING SURFACE MOUNTED THERMOSTAT WITH SURFACE MOUNTED CONDUIT BEING REMOVED, REF MECHANICAL. PATCH, REPAIR AND PAINT WALL TO MATCH EXISTING
REMOVE EXISTING INFILL AT EXISTING STEEL BEAM AND PREP OPENING FOR NEW INFILL, REF X/A10X
EXIT

A PHOTOGRAPH
STAIR S6 (GROUND FLOOR)


EXISTING HVAC PIPING TO BE REMOVED, REF MECHANICAL AND PLUMBING
EXISTING HVAC EQUIPMENT TO BE REMOVED, REF MECHANICAL
REF MECHANICAL AND PLUMBING FOR EXISTING PIPE TO BE REMOVED, PATCH AND REPAIR ALL PENETRATIONS THRU CMU WITH MORTAR AND PAINT TO MATCH WALL
EXIT

B PHOTOGRAPH
RECEIVING 70


AREA OF NEW WORK (BASEMENT) (1/A101)
AREA OF NEW WORK (2/A101)

KEY PLAN
NTS

WILLIAM D. HOPKINS III, AIA, LEED AP
NJ - 21AI01706000 | PA - RA012520X
JASON J. DUBOWITCH, AIA
NJ - 21AI01979800 | PA - RA406009
STEPHEN W. SCHREYER JR., AIA, LEED AP BD+C
NJ - 21AI02003100 | PA - RA410435

William D. Hopkins
Architect
01/29/26
Date

FVHD architects planners
EST 1918
Fraytak Veisz Hopkins Duthie PC
Corporate: 1515 Lower Ferry Road - Trenton - New Jersey 08618
Pennsylvania: 820 Adams Ave., Suite 210 - Audubon - Pennsylvania 19403
F V H D P C . C O M

Project Name
HVAC Renovations at Princeton High School

Project Owner Name
Princeton Public Schools

Project Location
151 Moore Street,
Princeton, NJ
08540

Project Number
5516E

Project Date
01.29. 2026

Checked By
W.D.H.

Drawn By
BO

Scale
AS NOTED

Drawing Name
EXISTING GROUND FLOOR PLANS, GENERAL NOTES, DEMOLITION NOTES, PHOTOS AND DETAILS

Revisions		
No.	Date	Description

Drawing Number
A101

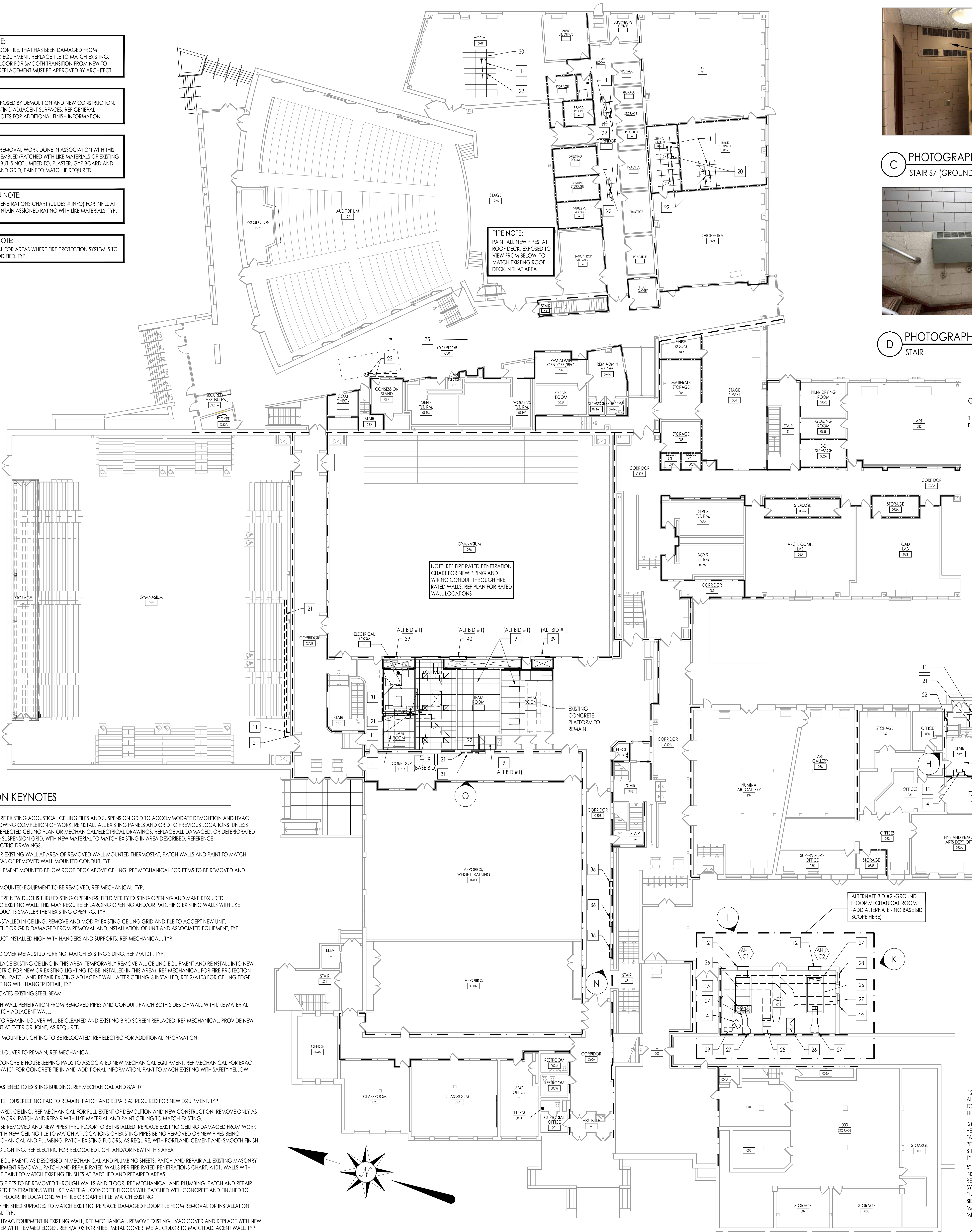
FLOOR REPAIR NOTE:
AREAS WITH EXISTING FLOOR TILE, THAT HAS BEEN DAMAGED FROM REMOVABLE OF EXISTING EQUIPMENT, REPLACE TILE TO MATCH EXISTING. FLASH PATCH EXISTING FLOOR FOR SMOOTH TRANSITION FROM NEW TO EXISTING. NEW TILE FOR REPLACEMENT MUST BE APPROVED BY ARCHITECT.

FINISH NOTE:
PAINT ALL AREAS LEFT EXPOSED BY DEMOLITION AND NEW CONSTRUCTION. PAINT SHALL MATCH EXISTING ADJACENT SURFACES. REF GENERAL ARCHITECTURAL SHEET NOTES FOR ADDITIONAL FINISH INFORMATION.

CEILING NOTE:
ANY, AND ALL, CEILING REMOVAL WORK DONE IN ASSOCIATION WITH THIS PROJECT, WILL BE REASSEMBLED/PATCHED WITH LIKE MATERIALS OF EXISTING CEILING, THIS INCLUDES, BUT IS NOT LIMITED TO, PLASTER, GYP BOARD AND ACOUSTIC LAY-IN TILES AND GRID, PAINT TO MATCH IF REQUIRED.

WALL PENETRATION NOTE:
REFERENCE FIRE-RATED PENETRATIONS CHART (UL DES # INFO) FOR INFILL AT RATED WALLS, A101, MAINTAIN ASSIGNED RATING WITH LIKE MATERIALS. TYP.

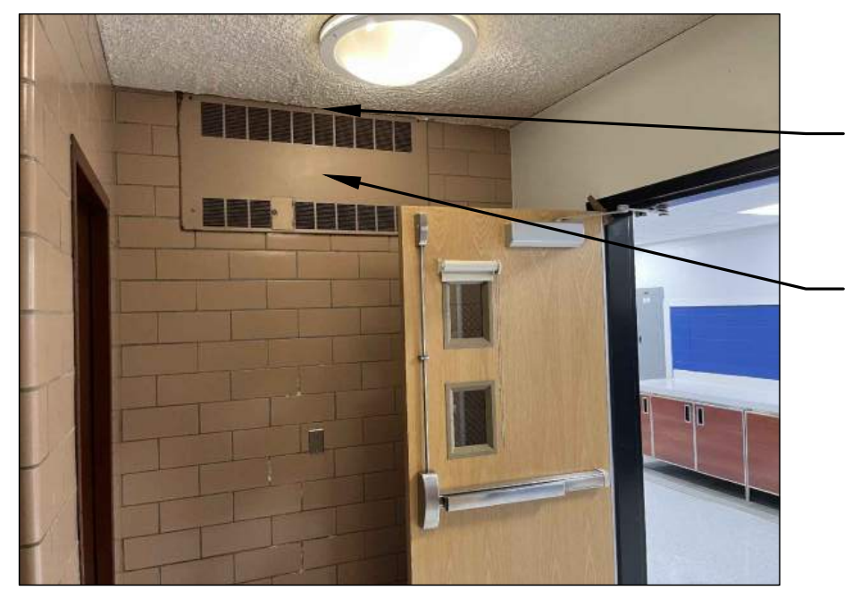
FIRE PROTECTION NOTE:
REFERENCE MECHANICAL FOR AREAS WHERE FIRE PROTECTION SYSTEM IS TO BE ALTERED AND/OR MODIFIED. TYP.


PIPE NOTE:
PAINT ALL NEW PIPES, AT ROOF DECK. EXPOSED TO VIEW FROM BELOW, TO MATCH EXISTING ROOF DECK IN THAT AREA
NOTE: REF FIRE RATED PENETRATION CHART FOR NEW PIPING AND WIRING CONDUIT THROUGH FIRE RATED WALLS, REF PLAN FOR RATED WALL LOCATIONS
ALTERNATE BID #2 -GROUND FLOOR MECHANICAL ROOM (ADD ALTERNATE - NO BASE BID SCOPE HERE)
[ALT BID #1]
AUDITORIUM
STAGE
ORCHESTRA
GYMNASIUM
AEROBICS
AEROBIC/ WEIGHT TRAINING
CORRIDOR
CLASSROOM
STORAGE
FINE AND PRACT. ARTS DEPT. OFF. 033A
EXISTING CONCRETE PLATFORM TO REMAIN

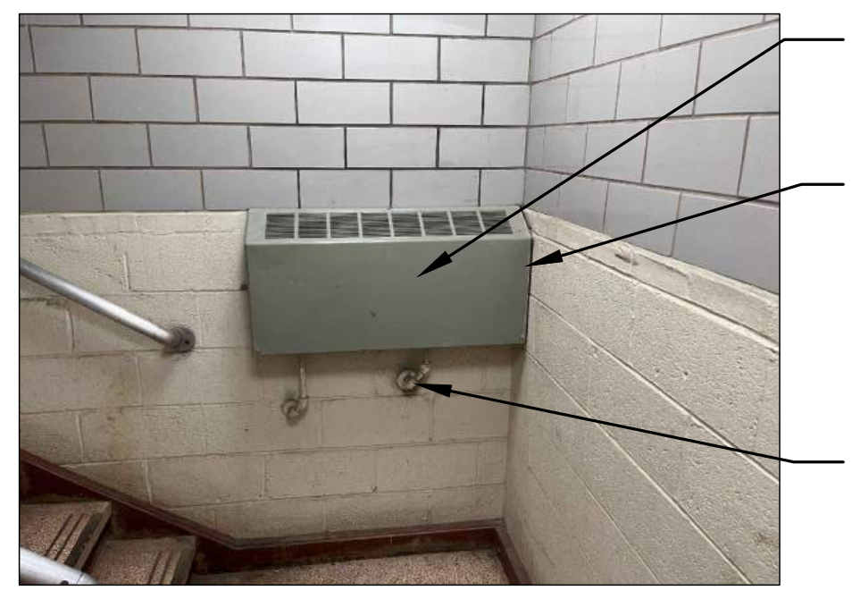
1 PARTIAL GROUND FLOOR PLAN
Scale 1/16"=1'-0"

CONSTRUCTION KEYNOTES

1	REMOVE AND STORE EXISTING ACOUSTICAL CEILING TILES AND SUSPENSION GRID TO ACCOMMODATE DEMOLITION AND HVAC NEW WORK. FOLLOWING COMPLETION OF WORK, REINSTALL ALL EXISTING PANELS AND GRID TO PREVIOUS LOCATIONS, UNLESS SUPERCEDED BY REFLECTED CEILING PLAN OR MECHANICAL/ELECTRICAL DRAWINGS. REPLACE ALL DAMAGED, OR DETERIORATED CEILING TILES AND SUSPENSION GRID, WITH NEW MATERIAL TO MATCH EXISTING IN AREA DESCRIBED. REFERENCE MECHANICAL/ELECTRIC DRAWINGS.
2	PATCH AND REPAIR EXISTING WALL AT AREA OF REMOVED WALL MOUNTED THERMOSTAT, PATCH WALLS AND PAINT TO MATCH ADJACENT AT AREAS OF REMOVED WALL MOUNTED CONDUIT, TYP
3	MECHANICAL EQUIPMENT MOUNTED BELOW ROOF DECK ABOVE CEILING. REF MECHANICAL FOR ITEMS TO BE REMOVED AND REPLACED.
4	EXISTING CEILING MOUNTED EQUIPMENT TO BE REMOVED, REF MECHANICAL, TYP.
5	IN LOCATIONS WHERE NEW DUCT IS THRU EXISTING OPENINGS, FIELD VERIFY EXISTING OPENING AND MAKE REQUIRED MODIFICATIONS TO EXISTING WALL: THIS MAY REQUIRE ENLARGING OPENING AND/OR PATCHING EXISTING WALLS WITH LIKE MATERIAL WHERE DUCT IS SMALLER THEN EXISTING OPENING. TYP
6	NEW HVAC UNIT INSTALLED IN CEILING, REMOVE AND MODIFY EXISTING CEILING GRID AND TILE TO ACCEPT NEW UNIT. REPLACE CEILING TILE OR GRID DAMAGED FROM REMOVAL AND INSTALLATION OF UNIT AND ASSOCIATED EQUIPMENT, TYP
7	INDICATES NEW DUCT INSTALLED HIGH WITH HANGERS AND SUPPORTS, REF MECHANICAL . TYP.
8	NEW METAL SIDING OVER METAL STUD FURRING. MATCH EXISTING SIDING, REF 7/A101 . TYP.
9	REMOVE AND REPLACE EXISTING CEILING IN THIS AREA, TEMPORARILY REMOVE ALL CEILING EQUIPMENT AND REINSTALL INTO NEW CEILING, (REF ELECTRIC FOR NEW OR EXISTING LIGHTING TO BE INSTALLED IN THIS AREA). REF MECHANICAL FOR FIRE PROTECTION SYSTEM RELOCATION. PATCH AND REPAIR EXISTING ADJACENT WALL AFTER CEILING IS INSTALLED, REF 2/A103 FOR CEILING EDGE AND SEISMIC BRACING WITH HANGER DETAIL, TYP.
10	DASHED LINE INDICATES EXISTING STEEL BEAM
11	CLEAN AND PATCH WALL PENETRATION FROM REMOVED PIPES AND CONDUIT. PATCH BOTH SIDES OF WALL WITH LIKE MATERIAL AND PAINT TO MATCH ADJACENT WALL.
12	EXISTING LOUVER TO REMAIN, LOUVER WILL BE CLEANED AND EXISTING BIRD SCREEN REPLACED, REF MECHANICAL. PROVIDE NEW PERIMETER SEALANT AT EXTERIOR JOINT, AS REQUIRED.
13	EXISTING SURFACE MOUNTED LIGHTING TO BE RELOCATED, REF ELECTRIC FOR ADDITIONAL INFORMATION
14	EXISTING EXTERIOR LOUVER TO REMAIN, REF MECHANICAL
15	EXTEND EXISTING CONCRETE HOUSEKEEPING PADS TO ASSOCIATED NEW MECHANICAL EQUIPMENT, REF MECHANICAL FOR EXACT SIZE, REF DETAIL 10/A101 FOR CONCRETE TIE-IN AND ADDITIONAL INFORMATION, PANT TO MACH EXISTING WITH SAFETY YELLOW EDGE BAND, TYP
16	METAL FLUE PIPE FASTENED TO EXISTING BUILDING, REF MECHANICAL AND 8/A101
17	EXISTING CONCRETE HOUSEKEEPING PAD TO REMAIN, PATCH AND REPAIR AS REQUIRED FOR NEW EQUIPMENT, TYP
18	HARD LID, GYP BOARD, CEILING, REF MECHANICAL FOR FULL EXTENT OF DEMOLITION AND NEW CONSTRUCTION. REMOVE ONLY AS NEEDED FOR NEW WORK, PATCH AND REPAIR WITH LIKE MATERIAL AND PAINT CEILING TO MATCH EXISTING.
19	EXISTING PIPES TO BE REMOVED AND NEW PIPES THRU-FLOOR TO BE INSTALLED. REPLACE EXISTING CEILING DAMAGED FROM WORK ABOVE CEILING WITH NEW CEILING TILE TO MATCH AT LOCATIONS OF EXISTING PIPES BEING REMOVED OR NEW PIPES BEING INSTALLED, REF MECHANICAL AND PLUMBING. PATCH EXISTING FLOORS, AS REQUIRE, WITH PORTLAND CEMENT AND SMOOTH FINISH.
20	INDICATES CEILING LIGHTING, REF ELECTRIC FOR RELOCATED LIGHT AND/OR NEW IN THIS AREA
21	REMOVE EXISTING EQUIPMENT, AS DESCRIBED IN MECHANICAL AND PLUMBING SHEETS, PATCH AND REPAIR ALL EXISTING MASONRY WALLS FROM EQUIPMENT REMOVAL. PATCH AND REPAIR RATED WALLS PER FIRE-RATED PENETRATIONS CHART, A101. WALLS WITH PAINT WILL RECEIVE PAINT TO MATCH EXISTING FINISHES AT PATCHED AND REPAIRED AREAS
22	INDICATES EXISTING PIPES TO BE REMOVED THROUGH WALLS AND FLOOR, REF MECHANICAL AND PLUMBING. PATCH AND REPAIR ALL EXISTING UNUSED PENETRATIONS WITH LIKE MATERIAL, CONCRETE FLOORS WILL PATCHED WITH CONCRETE AND FINISHED TO MATCH ADJACENT FLOOR. IN LOCATIONS WITH TILE OR CARPET TILE, MATCH EXISTING
23	FINISH EXPOSED UNFINISHED SURFACES TO MATCH EXISTING. REPLACE DAMAGED FLOOR TILE FROM REMOVAL OR INSTALLATION WITH LIKE MATERIAL, TYP.
24	REMOVE EXISTING HVAC EQUIPMENT IN EXISTING WALL, REF MECHANICAL, REMOVE EXISTING HVAC COVER AND REPLACE WITH NEW SHEET METAL COVER WITH HEMMED EDGES, REF 4/A103 FOR SHEET METAL COVER, METAL COLOR TO MATCH ADJACENT WALL, TYP.
25	EXISTING CONCRETE HOUSE KEEPING PAD AND ASSOCIATED STEEL TIES TO BE REMOVED, GRID EXISTING FLOOR SURFACE SMOOTH AND PREP FOR PAINT. GRIND ANY EXISTING STEEL REBAR TIES TO 1" BELOW FINISHED FLOOR ELEVATION AND PATCH SMOOTH WITH FLOOR PATCH, PAINT TO MATCH ADJACENT FLOOR.
26	REMOVE EXISTING MECHANICAL/BOILER ROOM EQUIPMENT, AS DESCRIBED IN MECHANICAL AND PLUMBING SHEETS, PATCH AND REPAIR ALL EXISTING MASONRY WALLS AND CEILINGS FROM EQUIPMENT REMOVAL. PATCH AND REPAIR EXISTING CONCRETE HOUSE KEEPING PADS TO REMAIN AND PAINT, TYP. REF MECHANICAL
27	INDICATES EXISTING DUCT TO BE REMOVED, REF MECHANICAL
28	REMOVE EXISTING LOUVER, PREP OPENING FOR NEW MASONRY INFILL AND METAL SIDING, REF 5/A103 AND REF MECHANICAL FOR ADDITIONAL INFORMATION
29	EXISTING DUCT TO REMAIN AND BE CAPPED, REF MECHANICAL
30	METAL VENT PIPE THRU MASONRY WALL AND METAL SIDING.REF MECHANICAL FOR SIZE AND LOCATION, REF 5/A104 FOR THRU-WALL DETAIL, (**ALT BID # 3**)
31	INFILL EXISTING OPENING WITH CMU, DOWEL AND TOOTH BACK AND PAINT. REF 6/A103
32	THROUGH WALL FLUE WITH INTERIOR AND EXTERIOR COVER PLATES, STEEL SUPPORTS AND KICKERS PAINTED, REF 3/A101
33	EXISTING REMOVABLE STEEL COLUMN TO REMAIN
34	MECHANICAL LOUVER TO BE REMOVED AND NEW REMOVABLE INSULATED WALL PANEL SYSTEM INSTALLED, REF 2/A102
35	REF MECHANICAL AND PLUMBING FOR ITEMS BEING REMOVED AND REPLACED, AT EXISTING DECK AND TROUGH EXISTING ROOF DECK, IN THIS ARES. PATCH, AS REQUIRED, AND PAINT ALL EXPOSED DUCT AND PIPING TO MATCH EXISTING COLOR OF ROOF DECK. REF 4/A104 FOR DECK PATCH AND PAINT, TYP
36	REF MECHANICAL FOR EXISTING EQUIPMENT TO BE REMOVED IN THIS AREA. REPLACE EXISTING MECHANICAL SHROUD WITH NEW SOLID 22GA. METAL SHROUD. PAINT TO MATCH ADJACENT WALLS, REF 4/A103 FOR "SIM" CONDITION
37	REMOVE EXISTING EXPANDED METAL COVER AND REPLACE WITH 22ga. METAL COVER TO FIT INTO EXISTING TRIM TO REMAIN, PAINT TO MATCH EXISTING TRIM
38	INDICATES NEW MECHANICAL EQUIPMENT INSTALLED, REF MECHANICAL, ELECTRIC ,AND PLUMBING FOR EXTENT OF NEW CONSTRUCTION
39	REMOVE EXISTING LOUVER IN GYM, REF MECHANICAL, AND INFILL WITH LIKE MATERIAL, PAINT TO MATCH ADJACENT WALL, REF 6/A103 FOR "SIM" CONDITION (ALT BID #1)
40	REMOVE EXISTING THROUGH WALL DUCT INTO GYM AND INFILL WITH LIKE MATERIAL, PAINT TO MATCH ADJACENT WALL, REF 6/A103 FOR "SIM" CONDITION (ALT BID #1)


CLEAN AND PREP EXISTING CEILING FOR NEW COVER AND SEALANT
REMOVE EXISTING HVAC EQUIPMENT COVER AND REPLACE WITH 22GA SHEET METAL PANEL WITH HEMMED EDGES, REF 4/A103 FOR "SIM" CONDITION. REF MECHANICAL AND PLUMBING FOR EQUIPMENT ABANDONED IN PLACE IN THIS AREA

C PHOTOGRAPH
STAIR S7 (GROUND FLOOR)


EXISTING EQUIPMENT TO BE REMOVED, REF MECHANICAL AND PLUMBING
CLEAN PATCH AND REPAIR EXISTING WALLS BEHIND EQUIPMENT BEING REMOVED, PAINT ALL PATCHED AREAS TO MATCH ADJACENT WALLS
REMOVE EXISTING PIPES AND ESCUTCHEON PLATES, INFILL, PATCH AND PAINT EXISTING WALLS AT AREAS OF REMOVED PIPES. PAINT TO MATCH EXISTING

D PHOTOGRAPH
STAIR

GENERAL ARCHITECTURAL SHEET NOTES:

THESE NOTES ARE GENERAL NOTES. ALL CONDITIONS NEED TO BE VERIFIED IN FIELD

A. SEE SPECIFICATION FOR ADDITIONAL INFORMATION ON MATERIALS / MANUFACTURER / PERFORMANCE AND WARRANTY INFORMATION .

B. WITHIN THE EXISTING BUILDING, AT ALL AREAS OF NEW CONSTRUCTION ADJACENT TO EXISTING, NEW CONSTRUCTION SHALL BE FINISHED TO MATCH EXISTING ADJACENT CONSTRUCTION INCLUDING BRICK, TILE, PLASTER, PAINT, BASE, CEILING, ETC.

C. IN ALL SPACES WHERE EXISTING UNITS ARE REPLACED WITH NEW SMALLER UNITS, WHERE UNFINISHED FLOORS AND WALLS ARE EXPOSED, WILL BE FINISHED TO MATCH EXISTING. REF DETAILS FOR ADDITIONAL INFORMATION.

D. IN SPACES WITH EXISTING HORIZONTAL METAL SHROUDS TO REMAIN THAT ARE DAMAGED WITH LOOSE AND/OR SHARP CORNERS, WILL BE TIGHTENED UP WITH SHEET METAL SCREWS THAT MATCH EXISTING.

E. SPACES WITH VERTICAL PIPE SHROUDS THAT ARE NOT STAINLESS STEEL WILL BE PAINTED TO MATCH ADJACENT WALL, REF DETAIL 3/A103 AND MECHANICAL FOR ADDITIONAL INFORMATION.

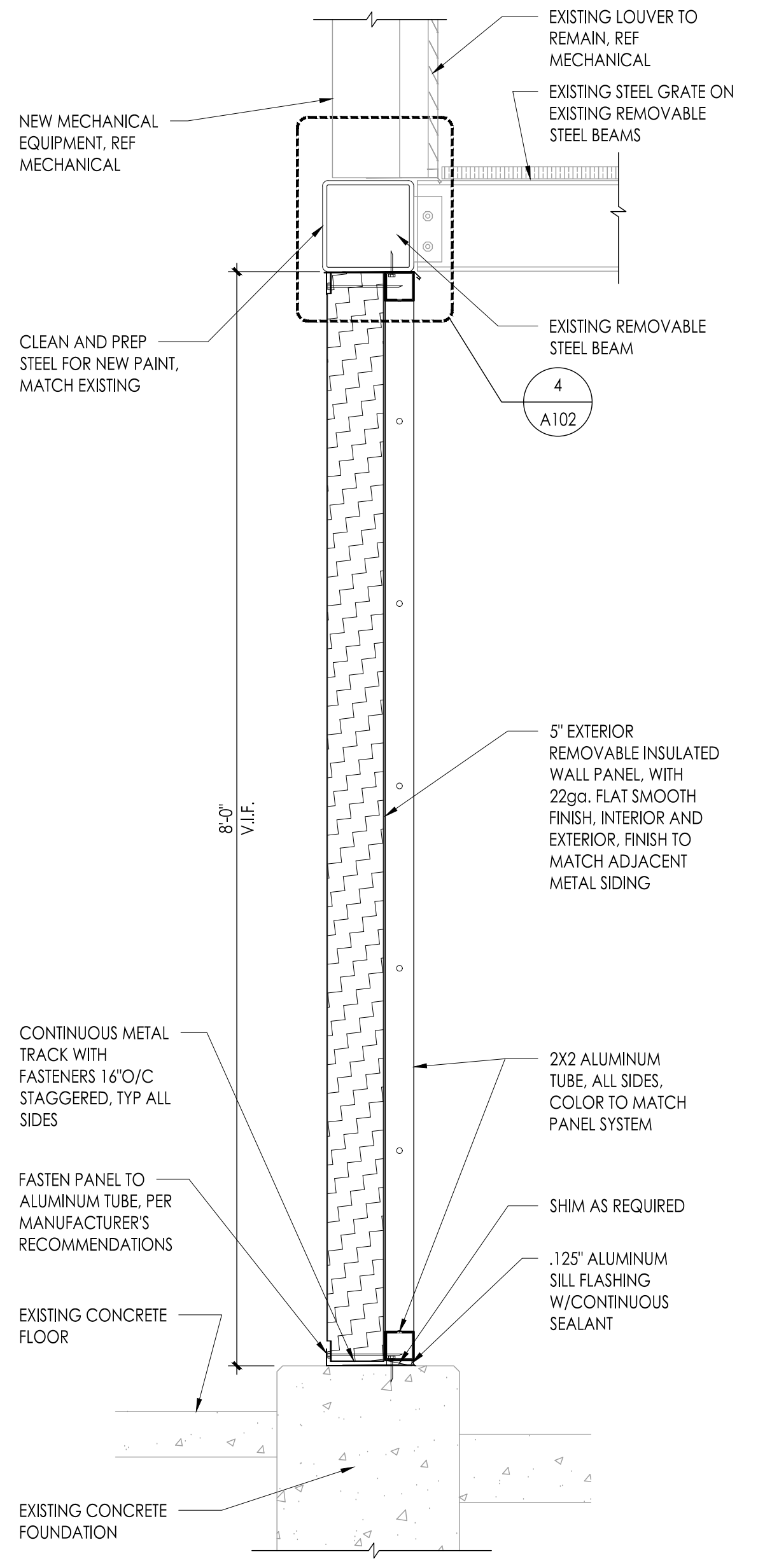
F. IN SPACES WHERE CEILING UNITS INSTALLED AND LEAVE EXPOSED SURFACES: GYP BOARD OR PLASTER, PATCH TO NEW LIKE CONDITION WITH LIKE MATERIAL AND PAINT TO MATCH EXISTING.

G. INFORMATIONAL PHOTOS ARE DISPLAYED ON ARCHITECTURAL SHEETS WITH ALPHABETICAL DESIGNATIONS.

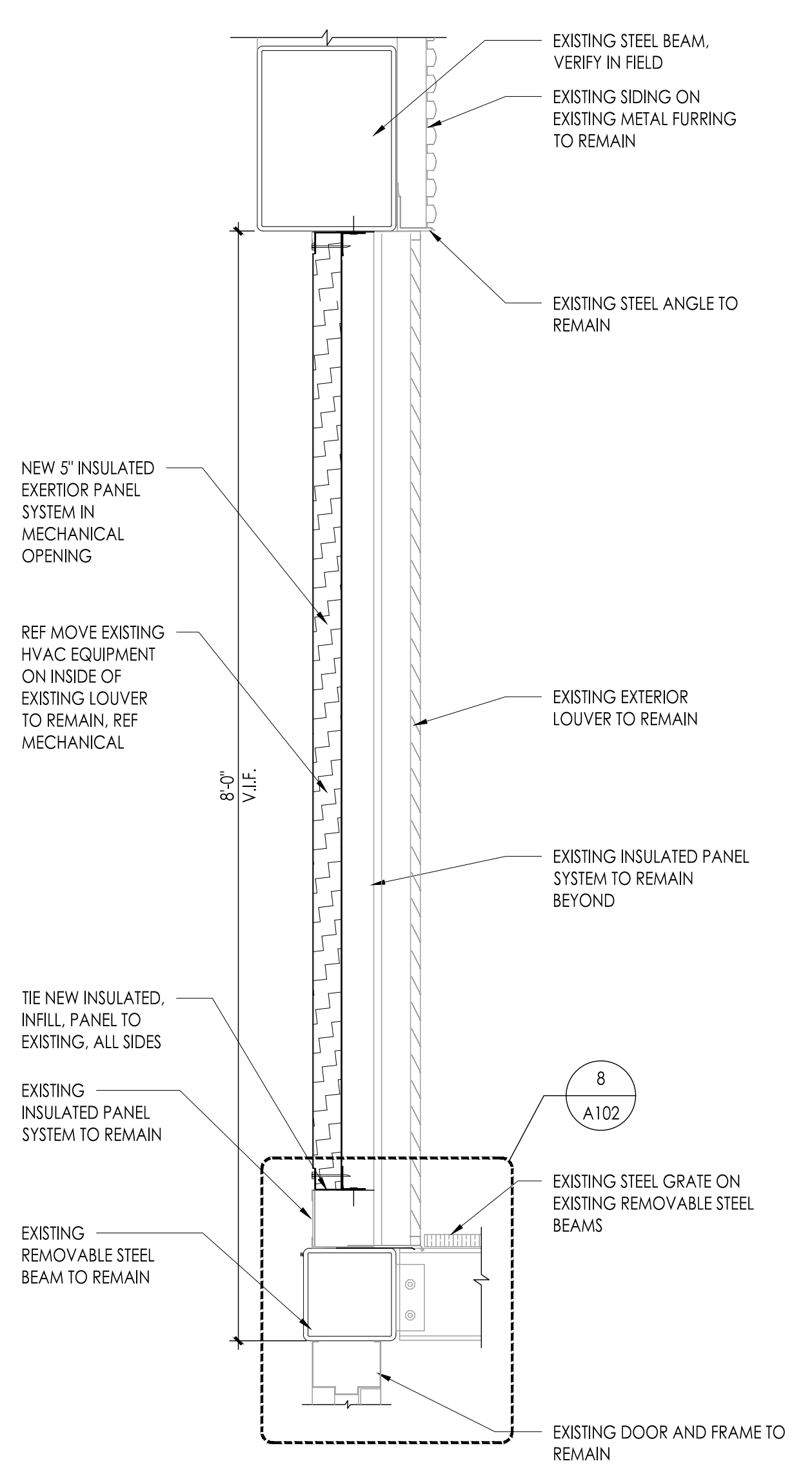
H. REF SHEET A103 FOR ADDITIONAL MASONRY, CONCRETE AND STEEL NOTES

PLAN LEGEND & SYMBOLS

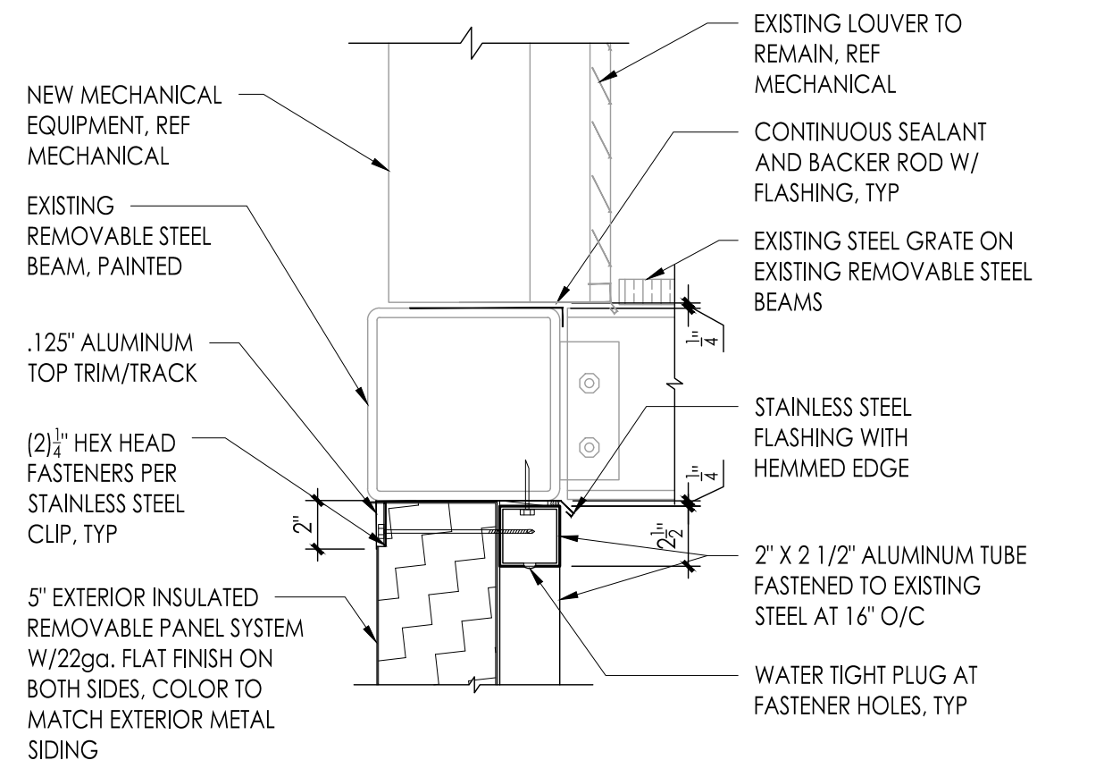
═ ━ ━ ═	(2) HOUR FIRE WALL
═ ╎ ═	(1) HOUR FIRE SEPARATION
═ ▪ ═ ▪ ═	INDICATES SMOKE PARTITION
═	EXISTING WALLS AND CHASES
X	INDICATES CONSTRUCTION NOTE
XX / AXXX	section number WALL SECTION drawing number
XXXX / 000	ROOM NAME / NUMBER
X	INDICATES INFORMATIONAL PHOTO REF ARCHITECTURAL SHEETS


EXISTING LOUVER TO REMAIN, REF MECHANICAL
EXISTING STEEL GRATE ON EXISTING REMOVABLE STEEL BEAMS
NEW MECHANICAL EQUIPMENT, REF MECHANICAL
CLEAN AND PREP STEEL FOR NEW PAINT, MATCH EXISTING
EXISTING REMOVABLE STEEL BEAM
4
A102
8'-0" V.I.F.
5" EXTERIOR REMOVABLE INSULATED WALL PANEL, WITH 22ga. FLAT SMOOTH FINISH, INTERIOR AND EXTERIOR, FINISH TO MATCH ADJACENT METAL SIDING
CONTINUOUS METAL TRACK WITH FASTENERS 16"O/C STAGGERED, TYP ALL SIDES
2X2 ALUMINUM TUBE, ALL SIDES, COLOR TO MATCH PANEL SYSTEM
FASTEN PANEL TO ALUMINUM TUBE, PER MANUFACTURER'S RECOMMENDATIONS
SHIM AS REQUIRED
.125" ALUMINUM SILL FLASHING W/CONTINUOUS SEALANT
EXISTING CONCRETE FLOOR
EXISTING CONCRETE FOUNDATION

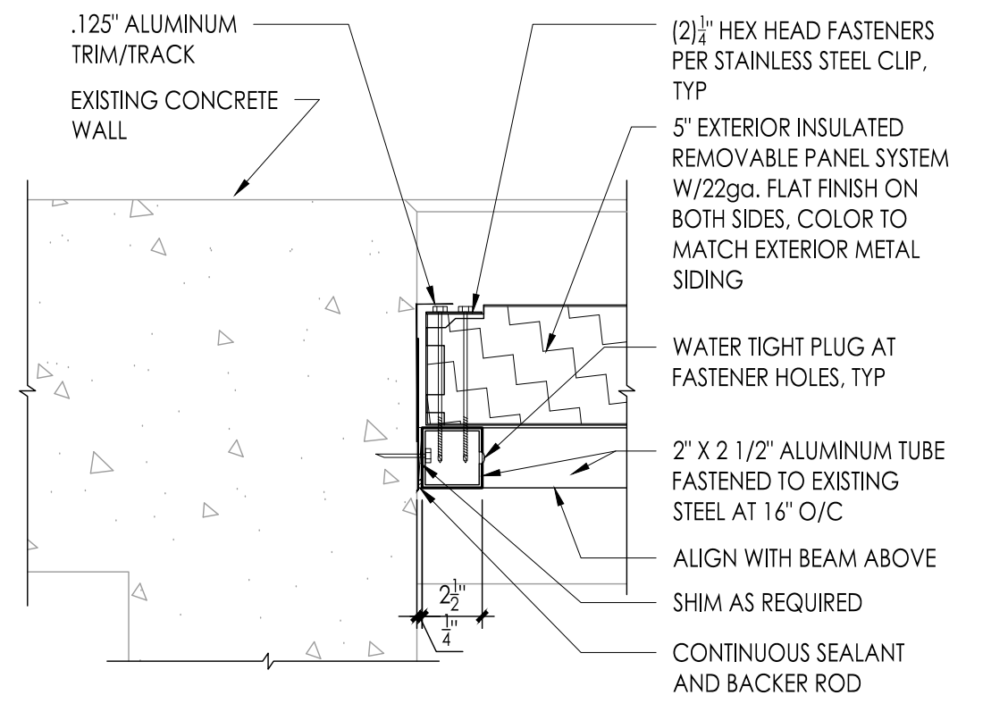
2 REMOVABLE WALL SECTION
1" = 1'-0"


EXISTING STEEL BEAM, VERIFY IN FIELD
EXISTING SIDING ON EXISTING METAL FURRING TO REMAIN
EXISTING STEEL ANGLE TO REMAIN
NEW 5" INSULATED EXERTIOR PANEL SYSTEM IN MECHANICAL OPENING
REF MOVE EXISTING HVAC EQUIPMENT ON INSIDE OF EXISTING LOUVER TO REMAIN, REF MECHANICAL
EXISTING EXTERIOR LOUVER TO REMAIN
8'-0" V.I.F.
EXISTING INSULATED PANEL SYSTEM TO REMAIN BEYOND
TIE NEW INSULATED, INFILL, PANEL TO EXISTING, ALL SIDES
EXISTING INSULATED PANEL SYSTEM TO REMAIN
8
A102
EXISTING STEEL GRATE ON EXISTING REMOVABLE STEEL BEAMS
EXISTING REMOVABLE STEEL BEAM TO REMAIN
EXISTING DOOR AND FRAME TO REMAIN

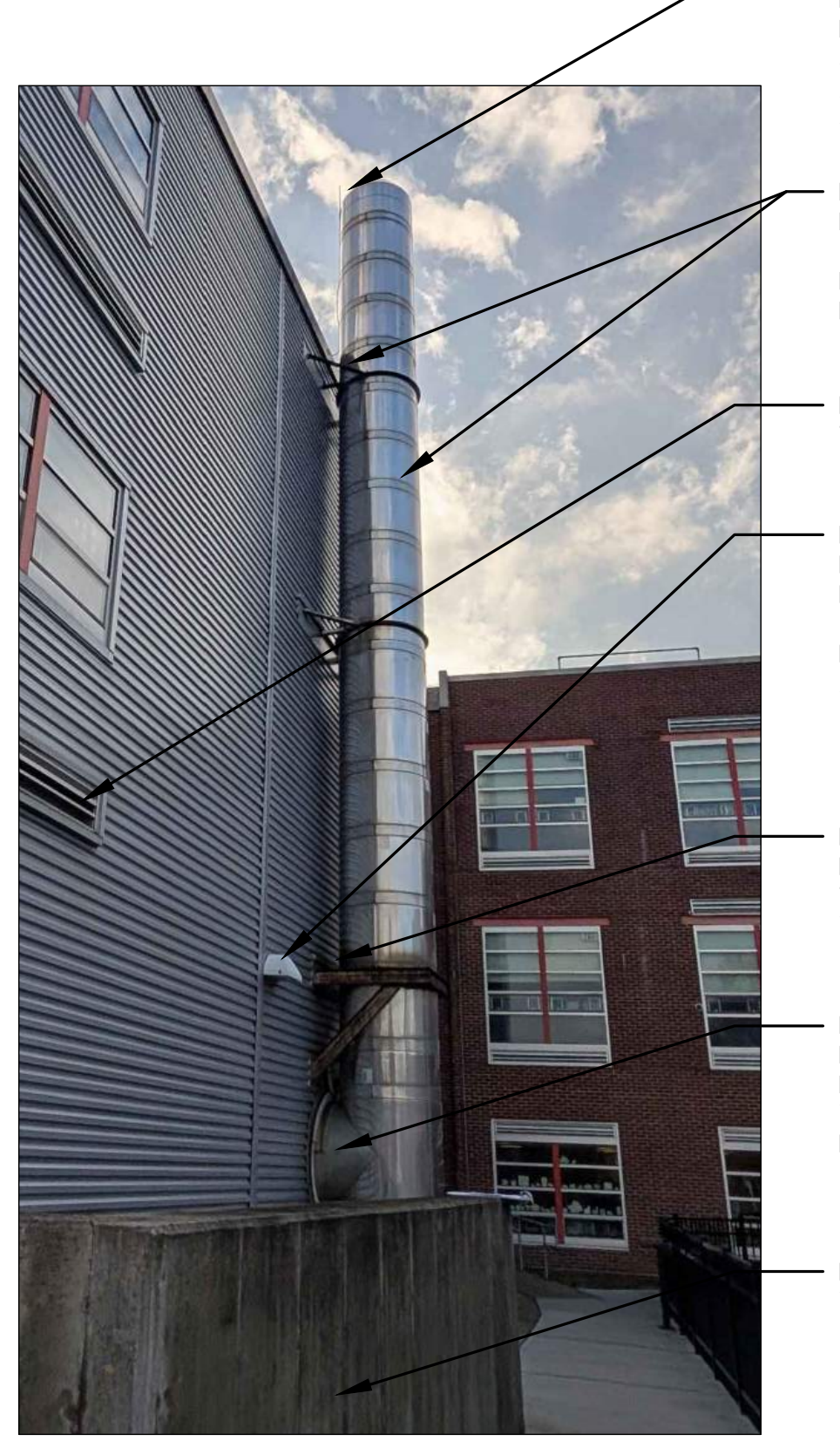
3 PANEL INFILL SECTION
1" = 1'-0"


EXISTING LOUVER TO REMAIN, REF MECHANICAL
NEW MECHANICAL EQUIPMENT, REF MECHANICAL
CONTINUOUS SEALANT AND BACKER ROD W/ FLASHING, TYP
EXISTING REMOVABLE STEEL BEAM, PAINTED
EXISTING STEEL GRATE ON EXISTING REMOVABLE STEEL BEAMS
.125" ALUMINUM TOP TRIM/TRACK
STAINLESS STEEL FLASHING WITH HEMMED EDGE
(2)1/4" HEX HEAD FASTENERS PER STAINLESS STEEL CLIP, TYP
2"
1/4"
2 1/2"
2" X 2 1/2" ALUMINUM TUBE FASTENED TO EXISTING STEEL AT 16" O/C
5" EXTERIOR INSULATED REMOVABLE PANEL SYSTEM W/22ga. FLAT FINISH ON BOTH SIDES, COLOR TO MATCH EXTERIOR METAL SIDING
WATER TIGHT PLUG AT FASTENER HOLES, TYP

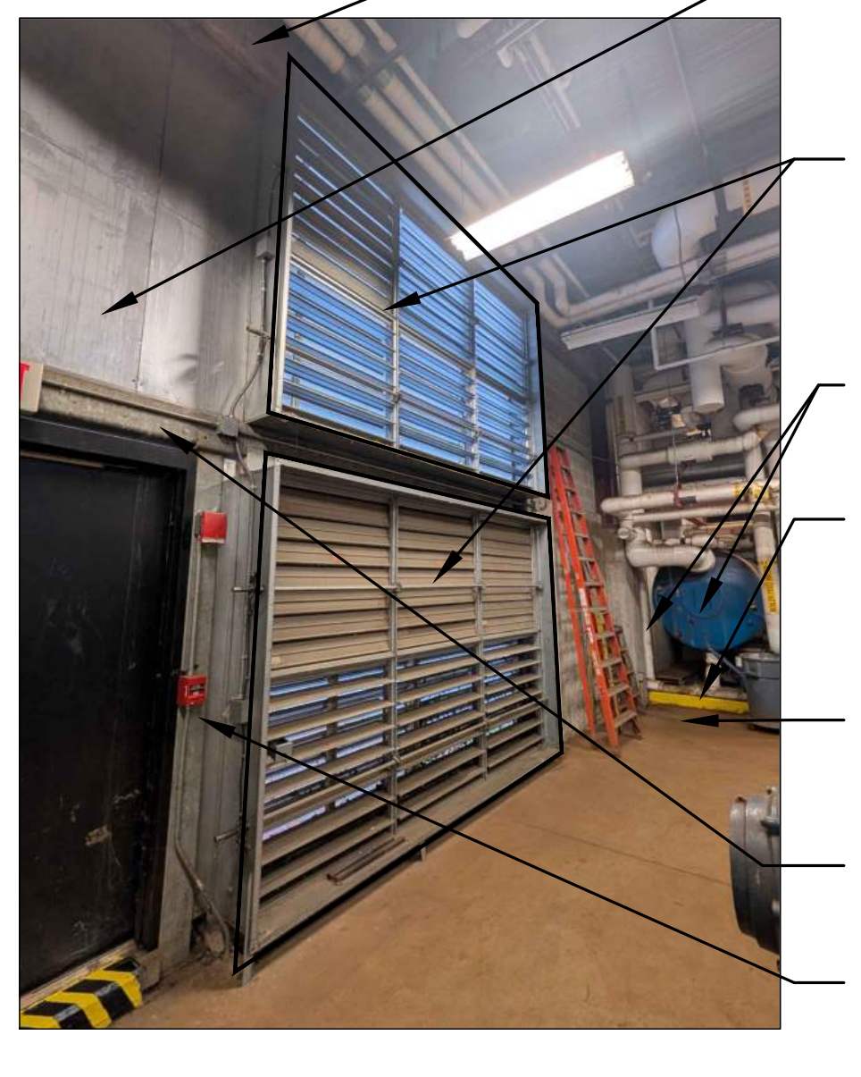
4 HEAD AND SILL WALL PANEL DETAIL
1 1/2" = 1'-0"


.125" ALUMINUM TRIM/TRACK
EXISTING CONCRETE WALL
(2)1/4" HEX HEAD FASTENERS PER STAINLESS STEEL CLIP, TYP
5" EXTERIOR INSULATED REMOVABLE PANEL SYSTEM W/22ga. FLAT FINISH ON BOTH SIDES, COLOR TO MATCH EXTERIOR METAL SIDING
WATER TIGHT PLUG AT FASTENER HOLES, TYP
2" X 2 1/2" ALUMINUM TUBE FASTENED TO EXISTING STEEL AT 16" O/C
ALIGN WITH BEAM ABOVE
SHIM AS REQUIRED
2 1/2"
1/4"
CONTINUOUS SEALANT AND BACKER ROD

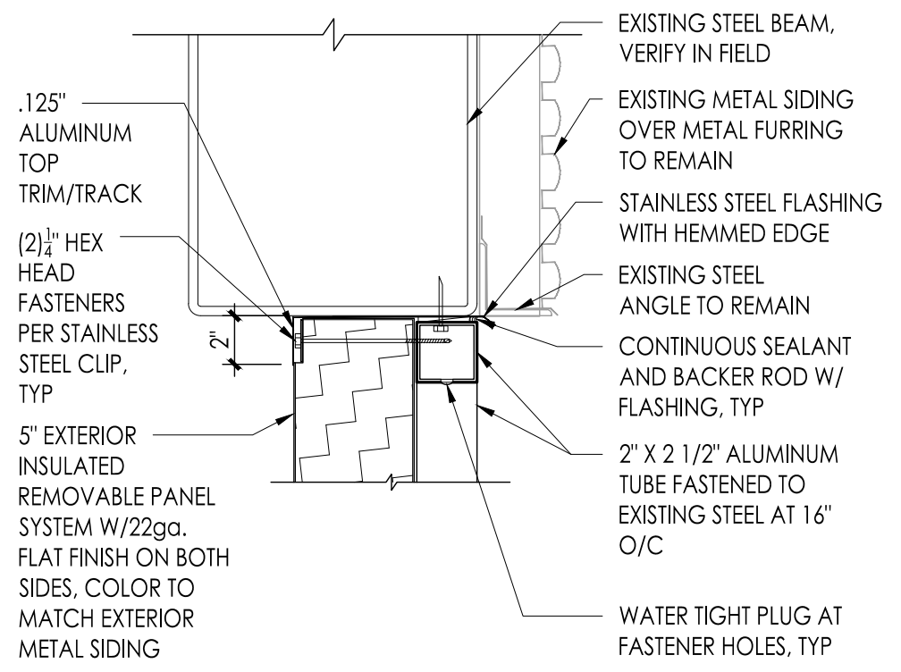
5 JAMB DETAIL AT WALL PANEL
1 1/2" = 1'-0"


TEMPORALLY DISCONNECT EXISTING LIGHTING PROTECTION SYSTEM AND REINSTALL AFTER NEW UNITS, FLUE STACKS, ARE INSTALLED
REMOVE EXISTING METAL FLUE IN ITS ENTIRETY, THIS INCLUDES, BUT IS NOT LIMITED TO, STEEL BRACKET SUPPORTS.
EXISTING WALL LOUVER TO REMAIN
EXISTING WALL PACK LIGHTING, RELOCATE FOR NEW FLUE STACK INSTALLATION, REF ELECTRIC FOR ADDITIONAL INFORMATION
REMOVE EXISTING STEEL FLUE SUPPORTS, PATCH TO NEW LIKE CONDITION WITH LIKE MATERIAL
EXISTING WALL PENETRATION FOR EXISTING FLUE, INFILL WITH LIKE MATERIAL, REF X/5/A103
EXISTING CONCRETE WALL

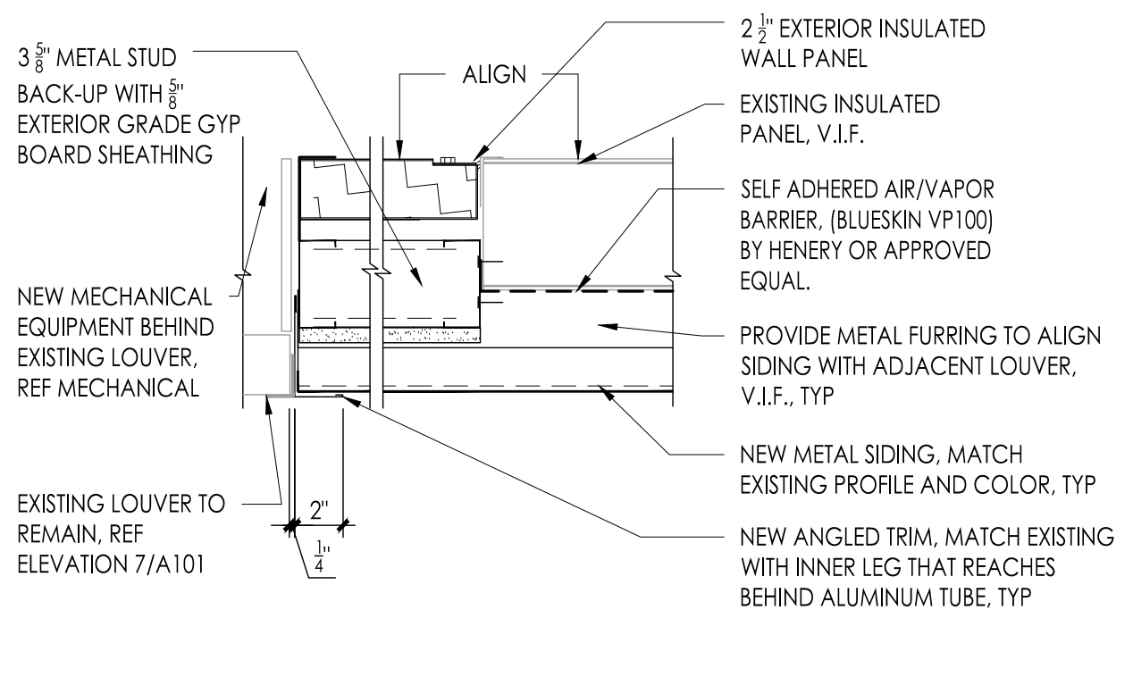
E PHOTOGRAPH
BOILER ROOM (EX FLUE STACK)


EXISTING STEEL BEAM TO REMAIN, VERIFY EXACT HEIGHT IN FIELD
EXISTING INSULATED WALL PANEL TO REMAIN, BUTT, ALIGN, AND SEAL, NEW INSULATED (REMOVABLE) WALL PANEL WITH EXISTING, REF 7/A102
REMOVE EXISTING MOTORIZED LOUVER SYSTEM INSIDE, REF MECHANICAL. PREP EXISTING LOWER OPENING FOR NEW REMOVABLE WALL PANEL SYSTEM, REF 2/A102
REF MECHANICAL AND PLUMBING FOR PIPES AND EQUIPMENT BEING REMOVED IN THIS AREA
SAW CUT AND REMOVE EXISTING CONCRETE TOOLED EDGE AT EXISTING HOUSEKEEPING PAD WHERE PAD WILL BE EXTENDED WITH NEW CONCRETE
REMOVE EXISTING FLOOR FINISH IN AREA TO RECEIVE EXTENDED HOUSEKEEPING PADS
EXISTING REMOVABLE STEEL BEAM TO REMAIN, VERIFY EXACT HEIGHT IN FIELD
EXISTING STEEL BEAM TO REMAIN, CLEAN AND PREP FOR NEW PAINT, BOTH SIDES

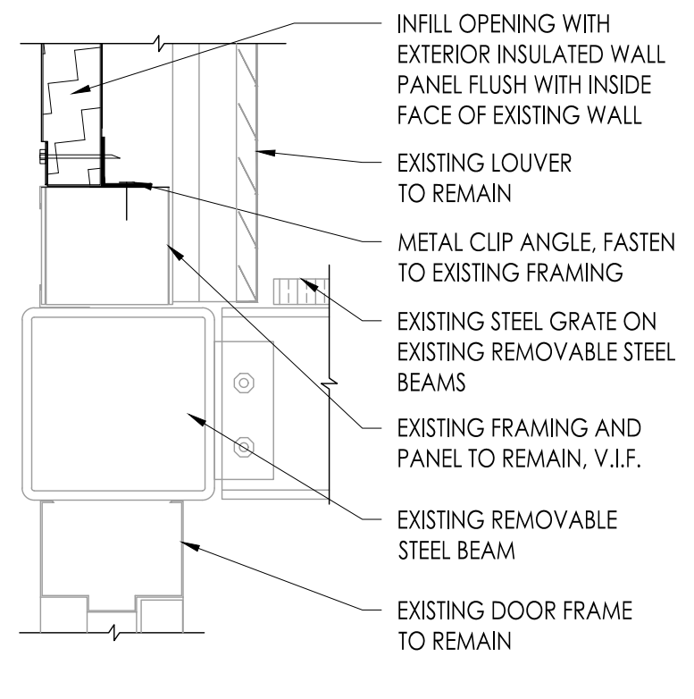
F PHOTOGRAPH
LOUVERS (BOILER ROOM)


.125" ALUMINUM TOP TRIM/TRACK
(2)1/4" HEX HEAD FASTENERS PER STAINLESS STEEL CLIP, TYP
5" EXTERIOR INSULATED REMOVABLE PANEL SYSTEM W/22ga. FLAT FINISH ON BOTH SIDES, COLOR TO MATCH EXTERIOR METAL SIDING
2"
EXISTING STEEL BEAM, VERIFY IN FIELD
EXISTING METAL SIDING OVER METAL FURRING TO REMAIN
STAINLESS STEEL FLASHING WITH HEMMED EDGE
EXISTING STEEL ANGLE TO REMAIN
CONTINUOUS SEALANT AND BACKER ROD W/ FLASHING, TYP
2" X 2 1/2" ALUMINUM TUBE FASTENED TO EXISTING STEEL AT 16" O/C
WATER TIGHT PLUG AT FASTENER HOLES, TYP

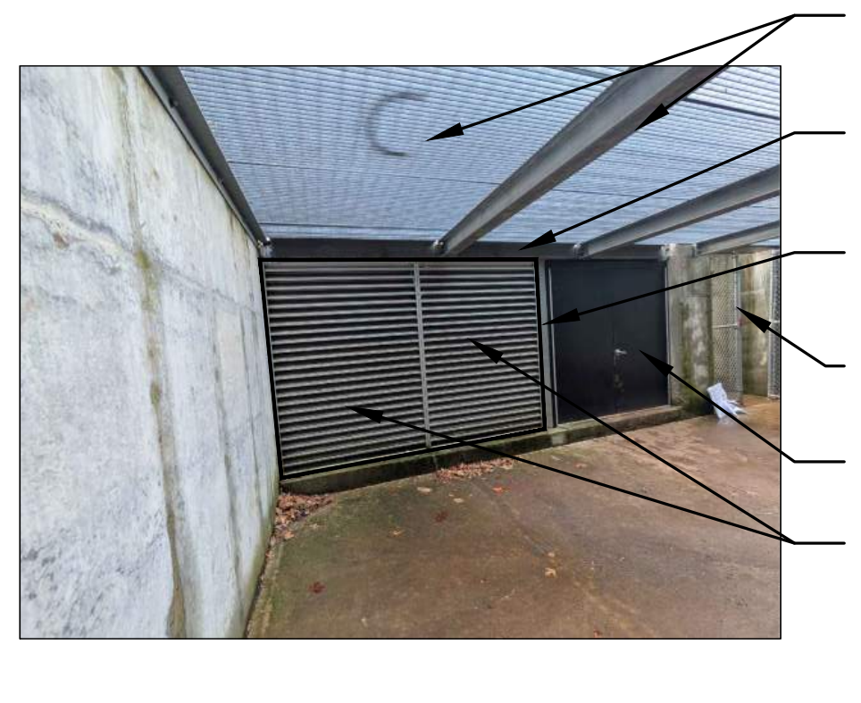
6 LOWER WALL HEAD DETAIL
1 1/2" = 1'-0"


3 5/8" METAL STUD BACK-UP WITH 5/8" EXTERIOR GRADE GYP BOARD SHEATHING
ALIGN
2 1/2" EXTERIOR INSULATED WALL PANEL
EXISTING INSULATED PANEL, V.I.F.
SELF ADHERED AIR/VAPOR BARRIER, (BLUESKIN VP100) BY HENERY OR APPROVED EQUAL.
NEW MECHANICAL EQUIPMENT BEHIND EXISTING LOUVER, REF MECHANICAL
PROVIDE METAL FURRING TO ALIGN SIDING WITH ADJACENT LOUVER, V.I.F., TYP
NEW METAL SIDING, MATCH EXISTING PROFILE AND COLOR, TYP
EXISTING LOUVER TO REMAIN, REF ELEVATION 7/A101
2"
1/4"
NEW ANGLED TRIM, MATCH EXISTING WITH INNER LEG THAT REACHES BEHIND ALUMINUM TUBE, TYP

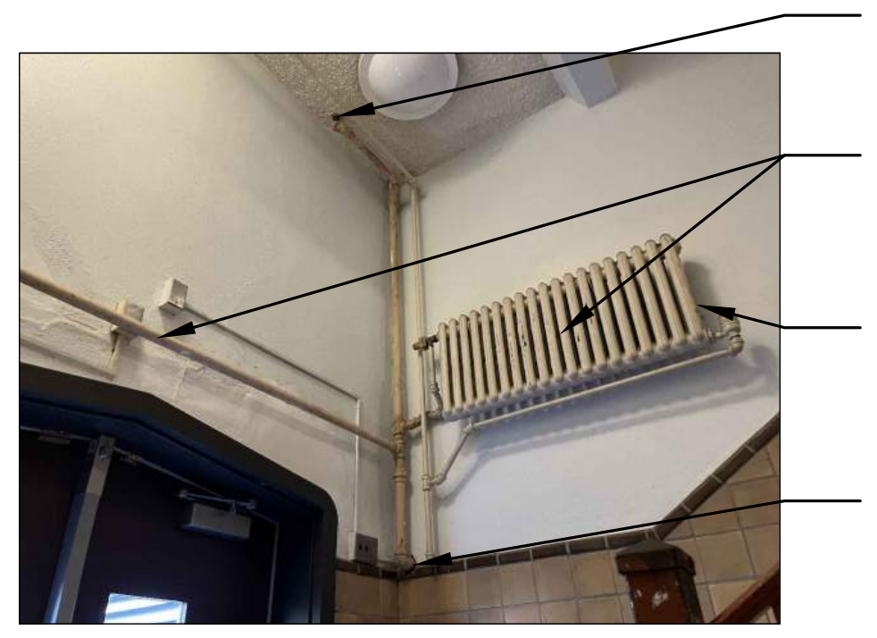
7 UPPER JAMB DETAIL AT EX LOUVER
1 1/2" = 1'-0"


INFILL OPENING WITH EXTERIOR INSULATED WALL PANEL FLUSH WITH INSIDE FACE OF EXISTING WALL
EXISTING LOUVER TO REMAIN
METAL CLIP ANGLE, FASTEN TO EXISTING FRAMING
EXISTING STEEL GRATE ON EXISTING REMOVABLE STEEL BEAMS
EXISTING FRAMING AND PANEL TO REMAIN, V.I.F.
EXISTING REMOVABLE STEEL BEAM
EXISTING DOOR FRAME TO REMAIN

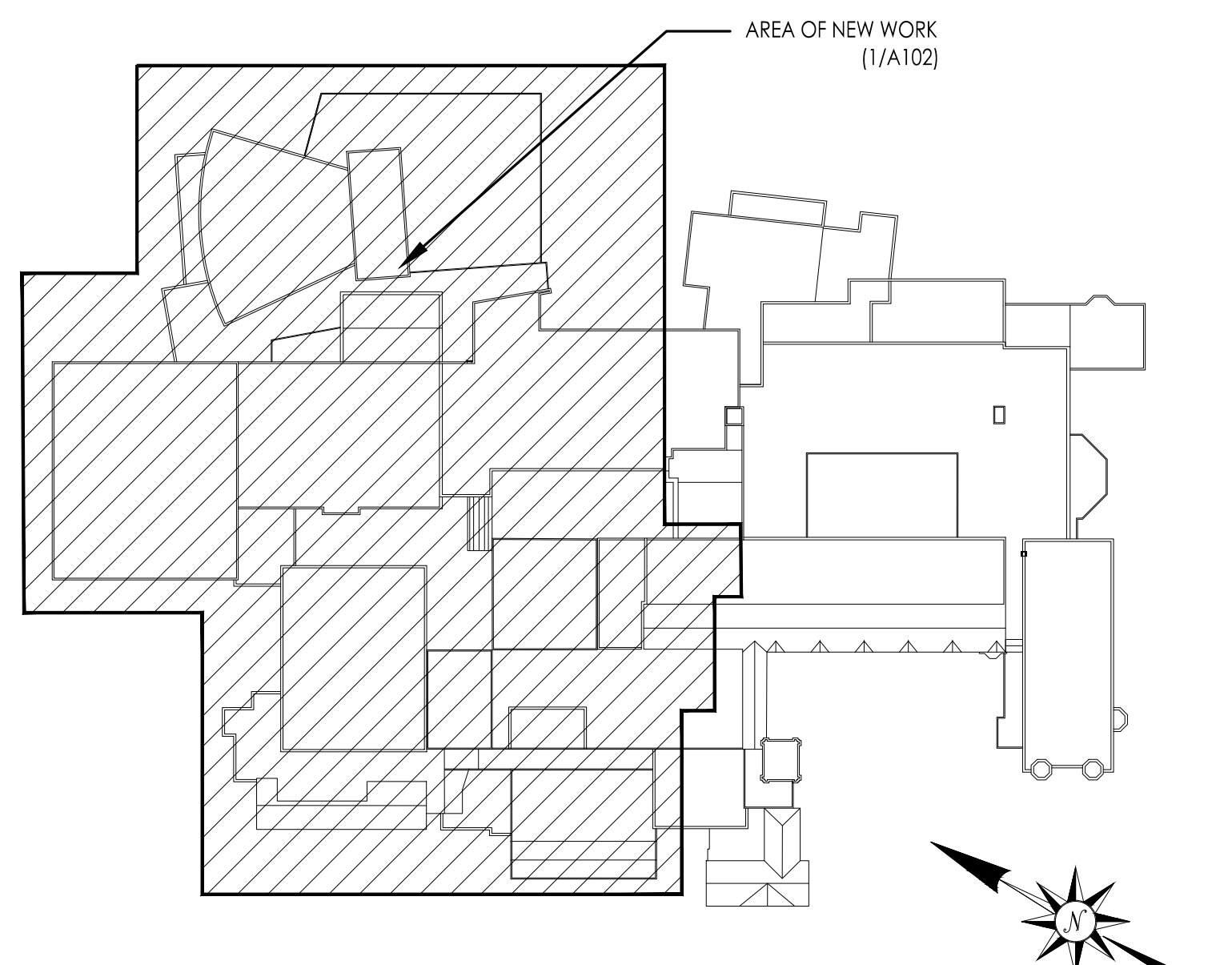
8 PANEL INFILL DETAIL
1 1/2" = 1'-0"


EXISTING STRUCTURAL STEEL AND STEEL GRATING TO REMAIN
EXISTING STEEL BEAM TO REMAIN, CLEAN AND PREP FOR NEW PAINT, BOTH SIDES
EXISTING REMOVABLE STEEL COLUMN TO REMAIN, PREP FOR NEW PAINT
EXISTING GATE TO REMAIN
EXISTING DOOR TO REMAIN
REMOVE EXISTING LOUVER SYSTEM IN ITS ENTIRETY. PREP OPENING FOR NEW REMOVABLE INSULATED PANEL SYSTEM, THIS INCLUDES LOUVER ABOVE GRATING AS WELL, REF 7/A101

G PHOTOGRAPH
EXTERIOR LOUVER (BOILER ROOM)


REMOVE EXISTING PIPE AT CEILING TO BEYOND FINISH, FILL HOLE WITH LIKE MATERIAL AND FINISH TO MATCH
EXISTING RADIATOR, MOUNTING SUPPORTS AND EXISTING PIPING TO BE REMOVED, REF MECHANICAL AND PLUMBING
CLEAN PATCH AND REPAIR EXISTING WALLS BEHIND EQUIPMENT BEING REMOVED, PAINT ALL PATCHED AREAS TO MATCH ADJACENT WALLS
INFILL, PATCH AND PAINT EXISTING WALLS AT AREAS OF REMOVED PIPES. REMOVE EXISTING TILE TRIM AT PATCHED AREA AND REPLACE WITH TILE TRIM TO MATCH

H PHOTOGRAPH
STAIR S12 (GROUND FLOOR)



KEY PLAN
NTS

WILLIAM D. HOPKINS III, AIA, LEED AP
NJ - 21AI01706000 | PA - RA012520X
JASON J. DUBOWITCH, AIA
NJ - 21AI01979800 | PA - RA406009
STEPHEN W. SCHREYER JR., AIA, LEED AP BD+C
NJ - 21AI02003100 | PA - RA410435

William D. Hopkins
Architect
01/29/26
Date

FVHD architects planners
EST 1918
Fraytak Veisz Hopkins Duthie PC
Corporate: 1515 Lower Ferry Road - Trenton - New Jersey 08618
Pennsylvania: 820 Adams Ave., Suite 210 - Audubon - Pennsylvania 19403
FVHDPC.COM

Project Name
HVAC Renovations at Princeton High School

Project Owner Name
Princeton Public Schools

Project Location
151 Moore Street,
Princeton, NJ
08540

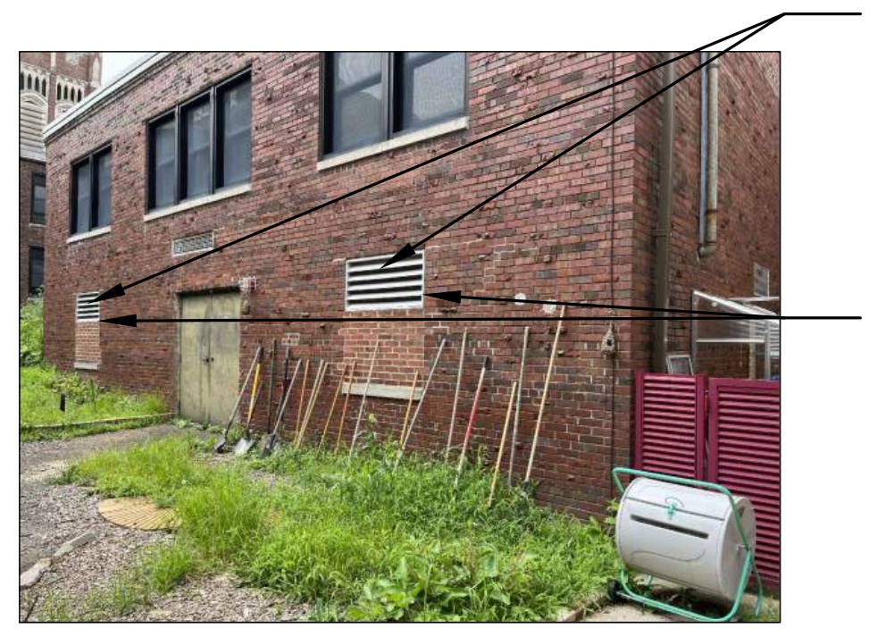
Project Number	5516E
Project Date	01.29. 2026
Checked By	W.D.H.
Drawn By	BO
Scale	AS NOTED

Drawing Name
EXISTING PARTIAL GROUND FLOOR PLAN AND NOTES

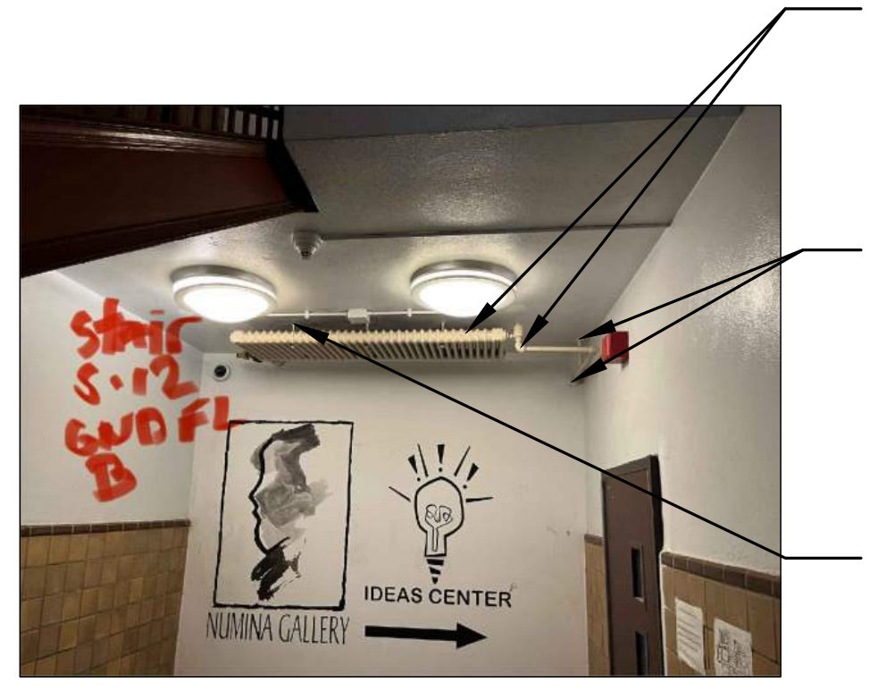
Revisions

No.	Date	Description

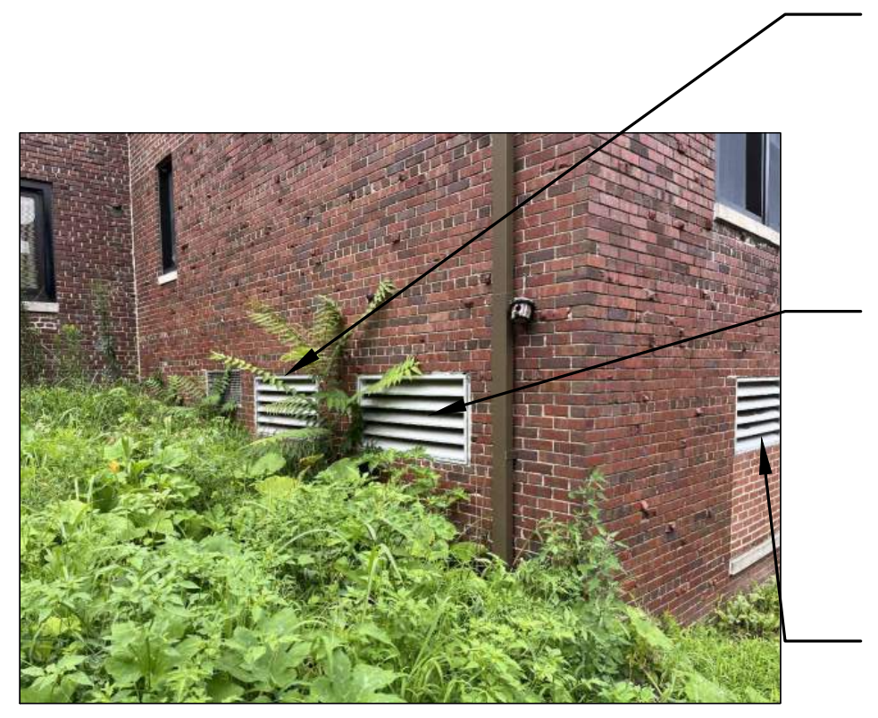
Drawing Number
A102


EXISTING LOUVER TO REMAIN, SCRAPE AND CLEAN AND PROVIDE NEW INSECT SCREENS AS DESCRIBED IN MECHANICAL DRAWINGS
CLEAN EXISTING PERIMETER SEALANT AT EXISTING LOUVERS TO REMAIN AND AND RE-SEAL WITH NEW SEALANT AND BACKER ROD, MATCH EXISTING COLOR

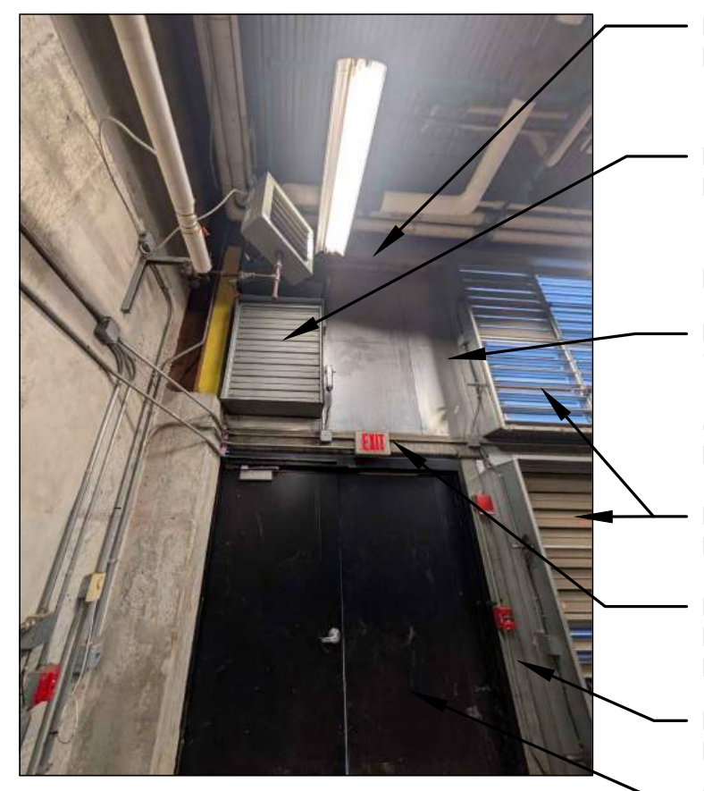
I PHOTOGRAPH
MECH 011 (EXTERIOR)


EXISTING RADIATOR, MOUNTING SUPPORTS AND EXISTING PIPING TO BE REMOVED, REF MECHANICAL AND PLUMBING
REMOVE EXISTING PIPES AND ESCUTCHEON PLATES, INFILL, PATCH AND PAINT EXISTING WALLS AND CEILINGS AT AREAS OF REMOVED PIPES. PAINT TO MATCH EXISTING
CLEAN PATCH AND REPAIR EXISTING CEILING ABOVE EQUIPMENT BEING REMOVED, REMOVE SUPPORTS AND PATCH AND PAINT TO MATCH ADJACENT CEILING

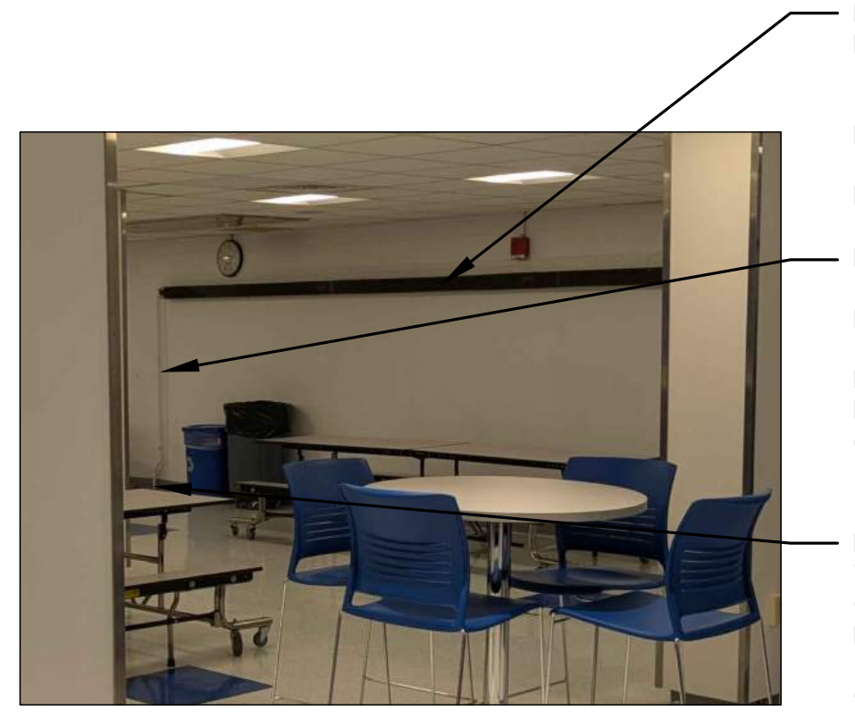
J PHOTOGRAPH
STAIR S12 (UPPER LANDING)


CLEAN EXISTING PERIMETER SEALANT AT EXISTING LOUVERS TO REMAIN AND AND RE-SEAL WITH NEW SEALANT AND BACKER ROD, MATCH EXISTING COLOR
REMOVE EXISTING LOUVER AND ACCESSORIES, CLEAN AND PREP OPENING FOR NEW MASONRY INFILL, REF 2/A102
CLEAN EXISTING PERIMETER SEALANT AT EXISTING LOUVERS TO REMAIN AND AND RE-SEAL WITH NEW SEALANT AND BACKER ROD, MATCH EXISTING COLOR

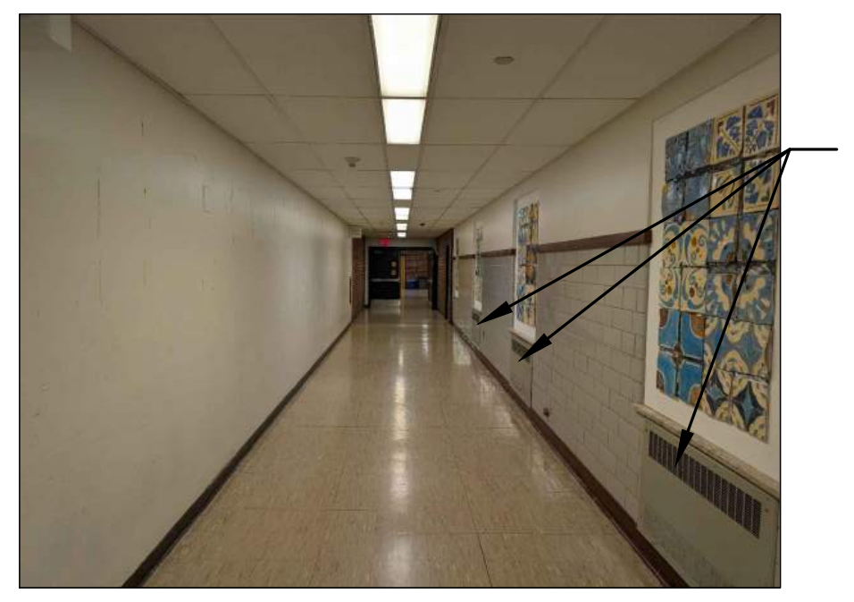
K PHOTOGRAPH
MECH 011 (EXTERIOR)


EXISTING STEEL BEAM TO REMAIN, VERIFY EXACT HEIGHT IN FIELD
REMOVE EXISTING MOTORIZED LOUVER, REF MECHANICAL AND ELECTRIC. INSTALL NEW INSULATED PANEL TO MATCH EXISTING ADJACENT PANEL
EXISTING INSULATED WALL PANEL TO REMAIN, BUTT, ALIGN, AND SEAL, NEW INSULATED (REMOVABLE) WALL PANEL WITH EXISTING, REF 7/A102
EXISTING LOUVERS TO BE REMOVED, REF MECHANICAL
EXISTING REMOVABLE STEEL BEAM TO REMAIN, VERIFY EXACT HEIGHT IN FIELD
EXISTING STEEL COLUMN TO REMAIN
EXISTING METAL DOOR TO REMAIN

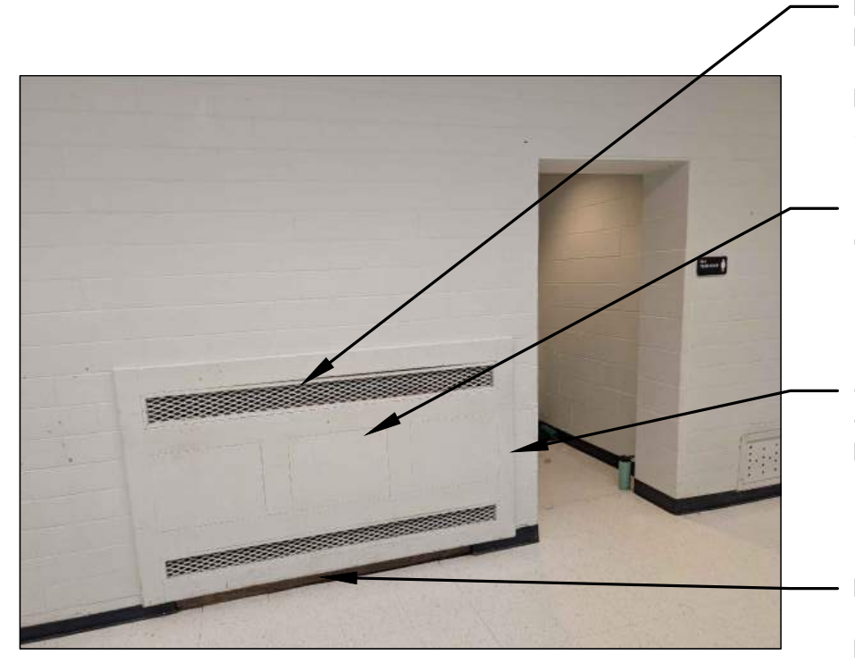
L PHOTOGRAPH
MECH /BOILER (B70)


REMOVE EXISTING FINTUBE FROM WALL, REF MECHANICAL, PATCH AND FILL ALL HOLES FROM FASTENERS, PAINT AREA TO MATCH EXISTING
REMOVE EXISTING PIPES AND FASTENERS FROM EXISTING WALL, PATCH AND REPAIR ANY DAMAGE IN CMU AND PAINT TO MATCH, (BOTH SIDES)
REMOVE EXISTING PIPE TO BELOW EXISTING CONCRETE FLOOR, AS DESCRIBED IN MECHANICAL, FILL WITH CONCRETE AND FINISH WITH FLOOR TILE TO MATCH EXISTING, PROVIDE TILE FOR ARCHITECTURAL APPROVAL

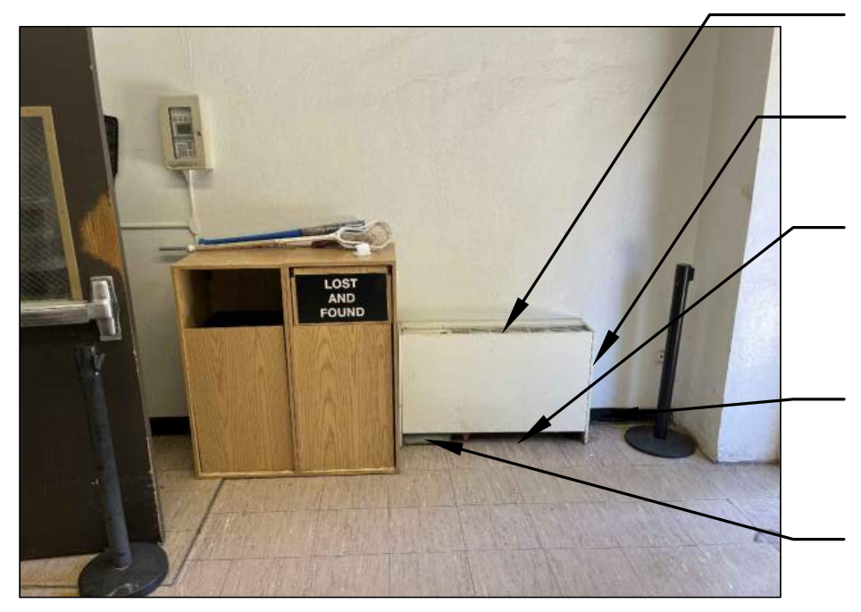
M PHOTOGRAPH
SMALL GROUP DINING (60.1A)


REMOVE EXISTING SHROUD AND MECHANICAL EQUIPMENT IN WALL, AS DESCRIBED IN MECHANICAL. PROVIDE NEW 22ga METAL COVER AND PAINT TO MATCH EXISTING TILE, REF 1/A103 FOR "SIM" CONDITION

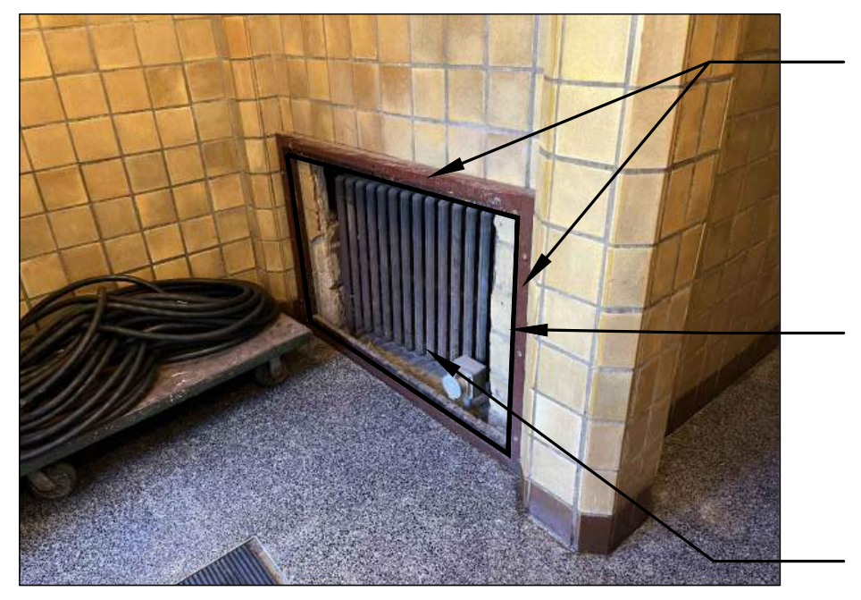
N PHOTOGRAPH
CORRIDOR (60B)


REMOVE EXISTING FINTUBE FROM WALL, REF SHROUD AND MECHANICAL EQUIPMENT, AS DESCRIBED IN MECHANICAL SHEETS
INFILL EXISTING OPENING WITH (MIN) 6" CMU, REF 6/A103, FILL AND PAINT TO MATCH ADJACENT WALL
CUT CMU AT JAMBS FOR NEW CMU INFILL TOOTHED INTO EXISTING, PINT ALL JOINTS SOLID AND FINISH TO MATCH ADJACENT.
PROVIDE NEW RUBBER BASE AT INFILLED AREA, MATCH EXISTING ADJACENT BASE IN COLOR, HEIGHT, AND PROFILE

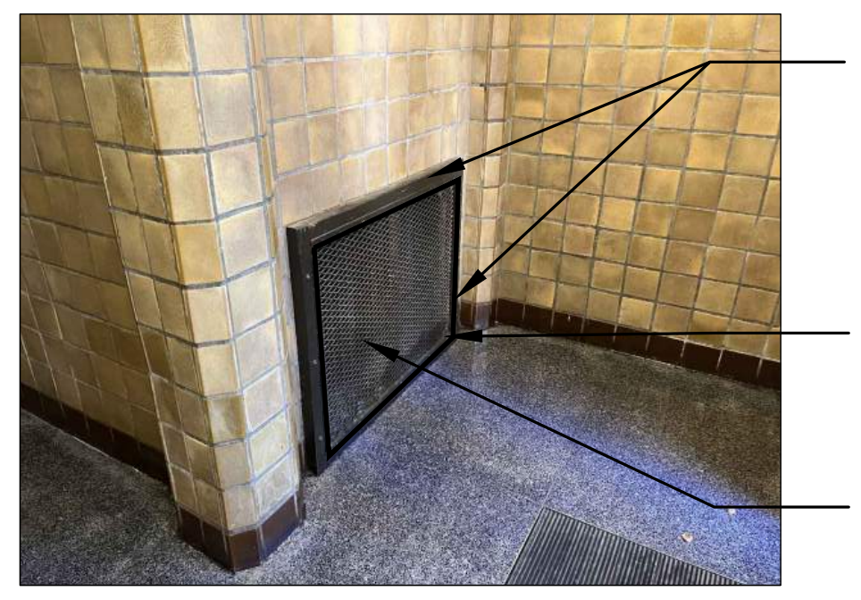
O PHOTOGRAPH
CORRIDOR (C70A)


EXISTING HVAC EQUIPMENT TO BE REMOVED, REF MECHANICAL, TYP.
PATCH AND PAINT EXISTING WALL BEHIND EQUIPMENT BEING REMOVED, TYP.
CLEAN EXISTING FLOOR TILE TO REMAIN AND REPLACE FLOOR TILE AS REQUIRED AFTER EQUIPMENT IS REMOVED, ALL FLOOR TILE MUST BE APPROVED BY ARCHITECT, TYP.
PROVIDE NEW WALL BASE WHERE EQUIPMENT WAS REMOVED, MATCH EXISTING COLOR AND PROFILE, TYP.
REMOVE EXISTING DUCT IN FLOOR, AS DESCRIBED IN MECHANICAL SHEETS, INFILL FLOOR WITH CONCRETE TO MATCH EXISTING, TYP.

P PHOTOGRAPH
STAIR 1 (1st FLOOR)


EXISTING TRIM WITH EXPOSED BOLTS TO REMAIN, SCRAP AND CLEAN EXISTING TRIM FOR PAINT, PAINT EXISTING TRIM WITH EXPOSED BOLTS TO MATCH EXISTING BASE TRIM COLOR, TYP.
SIZE EXISTING OPENING IN FIELD AND INFILL WITH 22ga. METAL PANEL, PAINT TO MATCH TRIM.
EXISTING HVAC EQUIPMENT TO BE REMOVED, REF MECHANICAL, TYP.

Q PHOTOGRAPH
STAIR 10 (1st FLOOR)


EXISTING TRIM WITH EXPOSED BOLTS TO REMAIN, SCRAP AND CLEAN EXISTING TRIM FOR PAINT, PAINT EXISTING TRIM WITH EXPOSED BOLTS TO MATCH EXISTING BASE TRIM COLOR, TYP.
SIZE EXISTING OPENING IN FIELD AND INFILL WITH 22ga. METAL PANEL, PAINT TO MATCH TRIM.
REMOVE EXISTING EXPANDED METAL PANEL AND REMOVE EXISTING HVAC EQUIPMENT AS DESCRIBED IN MECHANICAL, REF MECHANICAL, TYP.

R PHOTOGRAPH
STAIR 10 (1st FLOOR)

CONSTRUCTION KEYNOTES

1	REMOVE AND STORE EXISTING ACOUSTICAL CEILING TILES AND SUSPENSION GRID TO ACCOMMODATE DEMOLITION AND HVAC NEW WORK. FOLLOWING COMPLETION OF WORK, REINSTALL ALL EXISTING PANELS AND GRID TO PREVIOUS LOCATIONS, UNLESS SUPERCEDED BY REFLECTED CEILING PLAN OR MECHANICAL/ELECTRICAL DRAWINGS. REPLACE ALL DAMAGED, OR DETERIORATED CEILING TILES AND SUSPENSION GRID, WITH NEW MATERIAL TO MATCH EXISTING IN AREA DESCRIBED. REFERENCE MECHANICAL/ELECTRIC DRAWINGS.
2	PATCH AND REPAIR EXISTING WALL AT AREA OF REMOVED WALL MOUNTED THERMOSTAT, PATCH WALLS AND PAINT TO MATCH ADJACENT AT AREAS OF REMOVED WALL MOUNTED CONDUIT, TYP
3	MECHANICAL EQUIPMENT MOUNTED BELOW ROOF DECK ABOVE CEILING. REF MECHANICAL FOR ITEMS TO BE REMOVED AND REPLACED.
4	EXISTING CEILING MOUNTED EQUIPMENT TO BE REMOVED, REF MECHANICAL, TYP.
5	IN LOCATIONS WHERE NEW DUCT IS THRU EXISTING OPENINGS, FIELD VERIFY EXISTING OPENING AND MAKE REQUIRED MODIFICATIONS TO EXISTING WALL: THIS MAY REQUIRE ENLARGING OPENING AND/OR PATCHING EXISTING WALLS WITH LIKE MATERIAL WHERE DUCT IS SMALLER THEN EXISTING OPENING. TYP
6	NEW HVAC UNIT INSTALLED IN CEILING, REMOVE AND MODIFY EXISTING CEILING GRID AND TILE TO ACCEPT NEW UNIT. REPLACE CEILING TILE OR GRID DAMAGED FROM REMOVAL AND INSTALLATION OF UNIT AND ASSOCIATED EQUIPMENT, TYP
7	INDICATES NEW DUCT INSTALLED HIGH WITH HANGERS AND SUPPORTS, REF MECHANICAL . TYP.
8	NEW METAL SIDING OVER METAL STUD FURRING. MATCH EXISTING SIDING, REF 7/A101 . TYP.
9	REMOVE AND REPLACE EXISTING CEILING IN THIS AREA, TEMPORARILY REMOVE ALL CEILING EQUIPMENT AND REINSTALL INTO NEW CEILING, THIS INCLUDES EXISTING LIGHTING. REF MECHANICAL FOR FIRE PROTECTION SYSTEM RELOCATION. PATCH AND REPAIR EXISTING ADJACENT WALL AFTER CEILING IS INSTALLED, REF 2/A103 FOR CEILING EDGE AND SEISMIC BRACING WITH HANGER DETAIL, TYP.
10	DASHED LINE INDICATES EXISTING STEEL BEAM
11	CLEAN AND PATCH WALL PENETRATION FROM REMOVED PIPES AND CONDUIT. PATCH BOTH SIDES OF WALL WITH LIKE MATERIAL AND PAINT TO MATCH ADJACENT WALL.
12	EXISTING LOUVER TO REMAIN, LOUVER WILL BE CLEANED AND EXISTING BIRD SCREEN REPLACED, REF MECHANICAL. PROVIDE NEW PERIMETER SEALANT AT EXTERIOR JOINT, AS REQUIRED.
13	EXISTING SURFACE MOUNTED LIGHTING TO BE RELOCATED, REF ELECTRIC FOR ADDITIONAL INFORMATION
14	EXISTING EXTERIOR LOUVER TO REMAIN, REF MECHANICAL
15	EXTEND EXISTING CONCRETE HOUSEKEEPING PADS TO ASSOCIATED NEW MECHANICAL EQUIPMENT, REF MECHANICAL FOR EXACT SIZE, REF DETAIL 10/A101 FOR CONCRETE TIE-IN AND ADDITIONAL INFORMATION, PANT TO MACH EXISTING WITH SAFETY YELLOW EDGE BAND, TYP
16	METAL FLUE PIPE FASTENED TO EXISTING BUILDING, REF MECHANICAL AND 8/A101
17	EXISTING CONCRETE HOUSEKEEPING PAD TO REMAIN, PATCH AND REPAIR AS REQUIRED FOR NEW EQUIPMENT, TYP
18	HARD LID, GYP BOARD, CEILING, REF MECHANICAL FOR FULL EXTENT OF DEMOLITION AND NEW CONSTRUCTION. REMOVE ONLY AS NEEDED FOR NEW WORK, PATCH AND REPAIR WITH LIKE MATERIAL AND PAINT CEILING TO MATCH EXISTING.
19	EXISTING PIPES TO BE REMOVED AND NEW PIPES THRU-FLOOR TO BE INSTALLED. REPLACE EXISTING CEILING DAMAGED FROM WORK ABOVE CEILING WITH NEW CEILING TILE TO MATCH AT LOCATIONS OF EXISTING PIPES BEING REMOVED OR NEW PIPES BEING INSTALLED, REF MECHANICAL AND PLUMBING. PATCH EXISTING FLOORS, AS REQUIRE, WITH PORTLAND CEMENT AND SMOOTH FINISH.
20	INDICATES CEILING LIGHTING, REF ELECTRIC FOR RELOCATED LIGHT AND/OR NEW IN THIS AREA
21	REMOVE EXISTING EQUIPMENT, AS DESCRIBED IN MECHANICAL AND PLUMBING SHEETS, PATCH AND REPAIR ALL EXISTING MASONRY WALLS FROM EQUIPMENT REMOVAL. PATCH AND REPAIR RATED WALLS PER FIRE-RATED PENETRATIONS CHART, A101. WALLS WITH PAINT WILL RECEIVE PAINT TO MATCH EXISTING FINISHES AT PATCHED AND REPAIRED AREAS.
22	INDICATES EXISTING PIPES TO BE REMOVED THROUGH WALLS AND FLOOR, REF MECHANICAL AND PLUMBING. PATCH AND REPAIR ALL EXISTING UNUSED PENETRATIONS WITH LIKE MATERIAL, CONCRETE FLOORS WILL PATCHED WITH CONCRETE AND FINISHED TO MATCH ADJACENT FLOOR. I LOCATIONS WITH TILE OR CARPET TILE, MATCH EXISTING
23	FINISH EXPOSED UNFINISHED SURFACES TO MATCH EXISTING. REPLACE DAMAGED FLOOR TILE FROM REMOVAL OR INSTALLATION WITH LIKE MATERIAL, TYP.
24	REMOVE EXISTING HVAC EQUIPMENT IN EXISTING WALL, REF MECHANICAL, REMOVE EXISTING HVAC COVER AND REPLACE WITH NEW SHEET METAL COVER WITH HEMMED EDGES, REF 4/A103 FOR SHEET METAL COVER, METAL COLOR TO MATCH ADJACENT WALL, TYP.
25	EXISTING CONCRETE HOUSE KEEPING PAD AND ASSOCIATED STEEL TIES TO BE REMOVED, GRID EXISTING FLOOR SURFACE SMOOTH AND PREP FOR PAINT. GRIND ANY EXISTING STEEL REBAR TIES TO 1" BELOW FINISHED FLOOR ELEVATION AND PATCH SMOOTH WITH FLOOR PATCH, PAINT TO MATCH ADJACENT FLOOR.
26	REMOVE EXISTING MECHANICAL/BOILER ROOM EQUIPMENT, AS DESCRIBED IN MECHANICAL AND PLUMBING SHEETS, PATCH AND REPAIR ALL EXISTING MASONRY WALLS AND CEILINGS FROM EQUIPMENT REMOVAL. PATCH AND REPAIR EXISTING CONCRETE HOUSE KEEPING PADS TO REMAIN AND PAINT, TYP REF MECHANICAL
27	INDICATES EXISTING DUCT TO BE REMOVED, REF MECHANICAL
28	REMOVE EXISTING LOUVER, PREP OPENING FOR NEW MASONRY INFILL AND METAL SIDING, REF 5/A103 AND REF MECHANICAL FOR ADDITIONAL INFORMATION
29	EXISTING DUCT TO REMAIN AND BE CAPPED, REF MECHANICAL
30	METAL VENT PIPE THRU MASONRY WALL AND METAL SIDING.REF MECHANICAL FOR SIZE AND LOCATION, REF 5/A104 FOR THRU-WALL DETAIL, (**ALT BID # 3**)
31	INFILL EXISTING OPENING WITH CMU, DOWEL AND TOOTH BACK AND PAINT. REF 6/A103
32	THROUGH WALL FLUE WITH INTERIOR AND EXTERIOR COVER PLATES, STEEL SUPPORTS AND KICKERS PAINTED, REF 3/A101
33	EXISTING REMOVABLE STEEL COLUMN TO REMAIN
34	MECHANICAL LOUVER TO BE REMOVED AND NEW REMOVABLE INSULATED WALL PANEL SYSTEM INSTALLED, REF 2/A102
35	REF MECHANICAL AND PLUMBING FOR ITEMS BEING REMOVED AND REPLACED, AT EXISTING DECK AND TROUGH EXISTING ROOF DECK, IN THIS ARES. PATCH, AS REQUIRED, AND PAINT ALL EXPOSED DUCT AND PIPING TO MATCH EXISTING COLOR OF ROOF DECK. REF 4/A104 FOR DECK PATCH AND PAINT, TYP
36	REF MECHANICAL FOR EXISTING EQUIPMENT TO BE REMOVED IN THIS AREA. REPLACE EXISTING MECHANICAL SHROUD WITH NEW SOLID 22GA. METAL SHROUD. PAINT TO MATCH ADJACENT WALLS, REF 4/A103 FOR "SIM" CONDITION
37	REMOVE EXISTING EXPANDED METAL COVER AND REPLACE WITH 22ga. METAL COVER TO FIT INTO EXISTING TRIM TO REMAIN, PAINT TO MATCH EXISTING TRIM
38	INDICATES NEW MECHANICAL EQUIPMENT INSTALLED, REF MECHANICAL, ELECTRIC ,AND PLUMBING FOR EXTENT OF NEW CONSTRUCTION
39	NEW 4" CONCRETE HOUSEKEEPING PAD ON EXISTING CONCRETE, REF 10/A101 FOR "SIM" CONDITION. COORDINATE WITH MECHANICAL FOR EXACT SIZE AND LOCATION, REF SHEET A103 FOR ADDITIONAL CONCRETE AND STEEL REINFORCING NOTES

MASONRY

1) ALL BLOCK WORK SHALL BE IN ACCORDANCE WITH LATEST IBC w/NJ MODIFICATION AND OTHER APPLICABLE CODES.
2) ALL BLOCK SHALL BE NORMAL WEIGHT AGGREGATE AND CONFORM TO ASTM C 90.
3) MORTAR SHALL BE ASTM C 270. TYPE "M" FOR BELOW GRADE AND TYPE "M" OR "S" FOR ABOVE GRADE WORK.
4) HORIZONTAL REINFORCING SHALL No. 9 GAGE "DUR-O-WALL" OR EQUIVALENT.
5) WHERE BLOCK FILL IS CALLED FOR ON DRAWINGS, USE TYPE "M" MORTAR OR CONCRETE WITH A COMPRESSIVE STRENGTH OF 2500psi IN ACCORDANCE WITH ASTM C 476 AND INSTALLED IN ACCORDANCE WITH ACI-531 FOR HIGH OR LOW LIFT PROCEDURES.
6) COORDINATE MASONRY WITH ALL TRADES REQUIRING ITEMS TO BE BUILT IN.

CONCRETE FLATWORK

1) ALL CONCRETE WORK SHALL CONFORM TO THE LATEST EDITION OF THE ACI BUILDING CODE.
2) ALL CONCRETE SHALL ATTAIN 3000psi COMPRESSIVE STRENGTH AT 28 DAYS.
3) WHERE EXISTING CONTROL JOINTS MEET NEW CONCRETE, CONTINUE WITH NEW IN SAME LOCATION TO WALL.
4) FINISHES TO MATCH EXISTING ADJACENT CONCRETE FINISHES

REINFORCING

1) ALL REINFORCING BAR DETAILS SHALL CONFORM TO THE LATEST ACI CODE AND DETAILING MANUAL.
2) ALL BARS SHALL BE ASTM A-615 GRADE 60.
3) WELDED WIRE FABRIC SHALL BE ASTM A-185.
4) CLEARANCE OF MAIN REINFORCEMENT FROM ADJACENT SURFACES, UNLESS SHOWN OTHERWISE, SHALL BE:
    A) UNIFORMED SURFACES IN CONTACT WITH GROUND OR EXPOSED TO WEATHER.
    B) BOTTOM SURFACE OF SLAB ON GRADE: 3"
    C) FORMED SURFACES IN CONTACT WITH GROUND OR EXPOSED TO WEATHER : #5 BARS OR SMALLER: 1 $\frac{1}{2}$".
    D) EXTERIOR WALL SURFACES: 2"
5) ALL REINFORCEMENT SHALL BE INSPECTED AND APPROVED BY ARCHITECT BEFORE CONCRETE IS POURED.

STEEL NOTES

1) REF SHEET A202

MISCELLANEOUS

1) CONTRACTOR SHALL VERIFY ALL DIMENSIONS, SECTIONS AND ELEVATIONS ON JOB.
2) CONSULT ALL OTHER DISCIPLINES DRAWINGS FOR VERIFICATION OF LOCATIONS AND DIMENSIONS OF INSERTS, OPENINGS, SLEEVES, WASHES REVEALS, EQUIPMENT PADS AND OTHER PRODUCT REQUIREMENTS.

GENERAL ARCHITECTURAL SHEET NOTES:

THESE NOTES ARE GENERAL NOTES. ALL CONDITIONS NEED TO BE VERIFIED IN FIELD

A. SEE SPECIFICATION FOR ADDITIONAL INFORMATION ON MATERIALS / MANUFACTURER / PERFORMANCE AND WARRANTY INFORMATION .

B. WITHIN THE EXISTING BUILDING, AT ALL AREAS OF NEW CONSTRUCTION ADJACENT TO EXISTING, NEW CONSTRUCTION SHALL BE FINISHED TO MATCH EXISTING ADJACENT CONSTRUCTION INCLUDING BRICK, TILE, PLASTER, PAINT, BASE, CEILING, ETC.

C. IN ALL SPACES WHERE EXISTING UNITS ARE REPLACED WITH NEW SMALLER UNITS, WHERE UNFINISHED FLOORS AND WALLS ARE EXPOSED, WILL BE FINISHED TO MATCH EXISTING. REF DETAILS FOR ADDITIONAL INFORMATION.

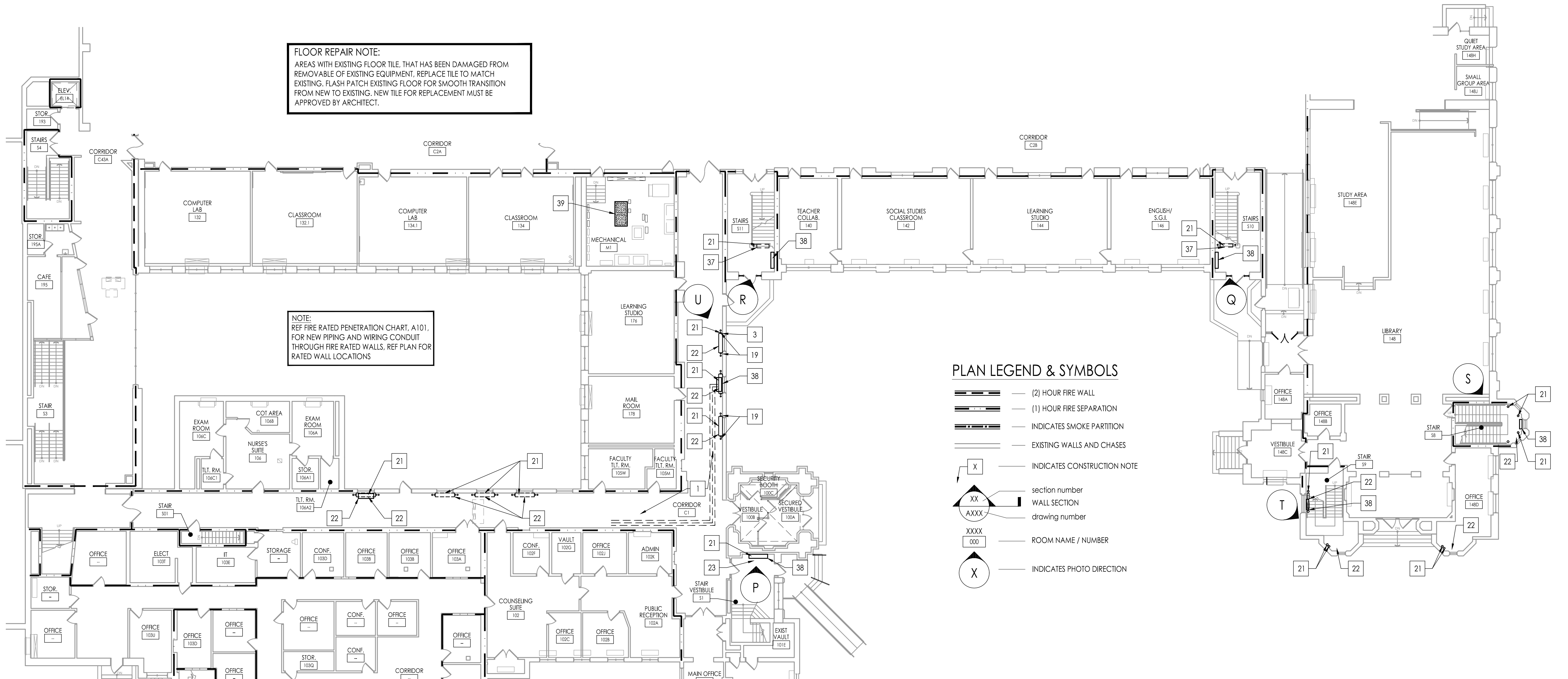
D. IN SPACES WITH EXISTING HORIZONTAL METAL SHROUDS TO REMAIN THAT ARE DAMAGED WITH LOOSE AND/OR SHARP CORNERS, WILL BE TIGHTENED UP WITH SHEET METAL SCREWS THAT MATCH EXISTING.

E. SPACES WITH VERTICAL PIPE SHROUDS THAT ARE NOT STAINLESS STEEL WILL BE PAINTED TO MATCH ADJACENT WALL, REF DETAIL 3/A103 AND MECHANICAL FOR ADDITIONAL INFORMATION.

F. IN SPACES WHERE CEILING UNITS INSTALLED AND LEAVE EXPOSED SURFACES: GYP BOARD OR PLASTER, PATCH TO NEW LIKE CONDITION WITH LIKE MATERIAL AND PAINT TO MATCH EXISTING.

G. INFORMATIONAL PHOTOS ARE DISPLAYED ON ARCHITECTURAL SHEETS WITH ALPHABETICAL DESIGNATIONS.

H. REF SHEET A103 FOR ADDITIONAL MASONRY, CONCRETE AND STEEL NOTES



FLOOR REPAIR NOTE:
AREAS WITH EXISTING FLOOR TILE, THAT HAS BEEN DAMAGED FROM REMOVABLE OF EXISTING EQUIPMENT, REPLACE TILE TO MATCH EXISTING. FLASH PATCH EXISTING FLOOR FOR SMOOTH TRANSITION FROM NEW TO EXISTING. NEW TILE FOR REPLACEMENT MUST BE APPROVED BY ARCHITECT.

NOTE:
REF FIRE RATED PENETRATION CHART, A101, FOR NEW PIPING AND WIRING CONDUIT THROUGH FIRE RATED WALLS. REF PLAN FOR RATED WALL LOCATIONS

1 PARTIAL FIRST FLOOR PLAN
Scale 1/8"=1'-0"

PLAN LEGEND & SYMBOLS

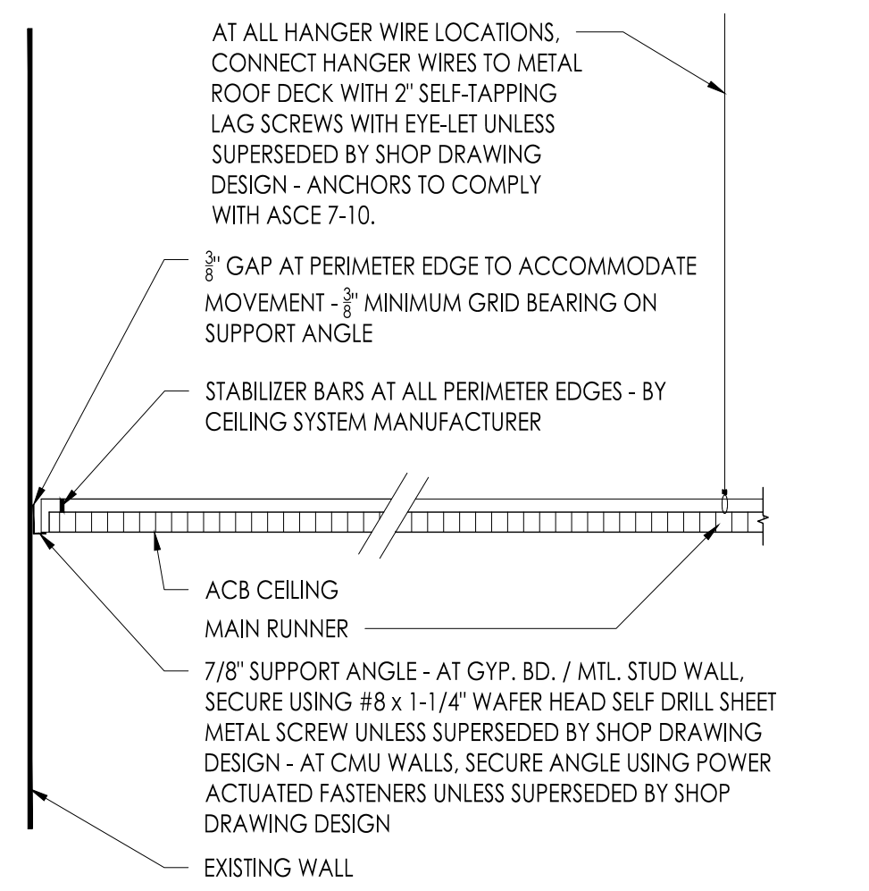
- (2) HOUR FIRE WALL
- (1) HOUR FIRE SEPARATION
- INDICATES SMOKE PARTITION
- EXISTING WALLS AND CHASES
- X — INDICATES CONSTRUCTION NOTE
- XX / AXXX — section number, WALL SECTION, drawing number
- XXXX / 000 — ROOM NAME / NUMBER
- X — INDICATES PHOTO DIRECTION

FINISH NOTE:
PAINT ALL AREAS LEFT EXPOSED BY DEMOLITION AND NEW CONSTRUCTION. PAINT SHALL MATCH EXISTING ADJACENT SURFACES. REF GENERAL ARCHITECTURAL SHEET NOTES FOR ADDITIONAL FINISH INFORMATION.

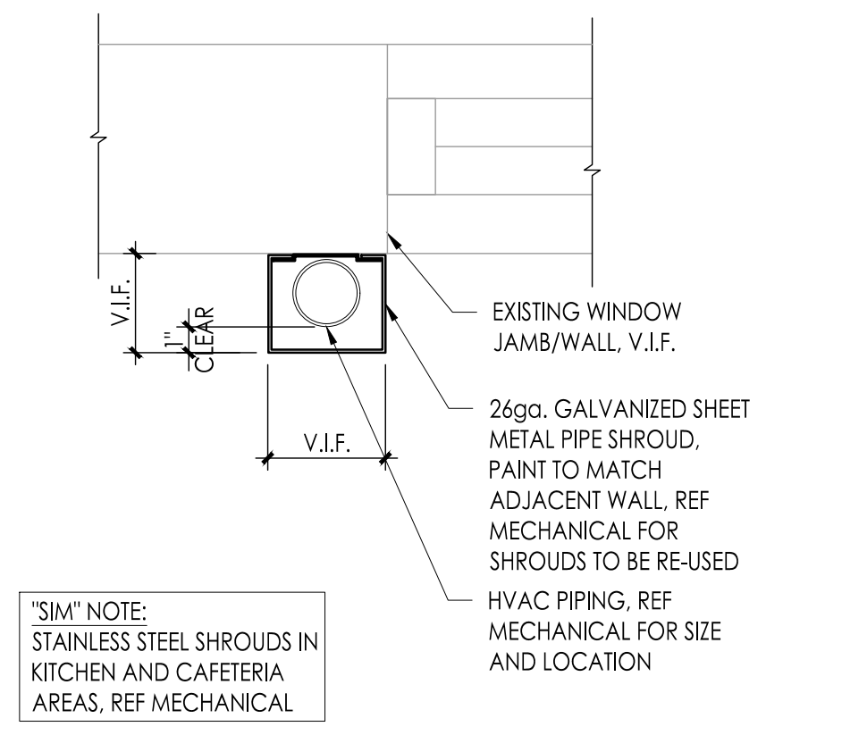
CEILING NOTE:
ANY, AND ALL, CEILING REMOVAL WORK DONE IN ASSOCIATION WITH THIS PROJECT, WILL BE REASSEMBLED/PATCHED WITH LIKE MATERIALS OF EXISTING CEILING, THIS INCLUDES, BUT IS NOT LIMITED TO, PLASTER, GYP BOARD AND ACOUSTIC LAY-IN TILES AND GRID, PAINT TO MATCH IF REQUIRED.

WALL PENETRATION NOTE:
REFERENCE FIRE-RATED PENETRATIONS CHART (UL DES # INFO) FOR INFILL AT RATED WALLS, A101, MAINTAIN ASSIGNED RATING WITH LIKE MATERIALS. TYP.

FIRE PROTECTION NOTE:
REFERENCE MECHANICAL FOR AREAS WHERE FIRE PROTECTION SYSTEM IS TO BE ALTERED AND/OR MODIFIED. TYP.

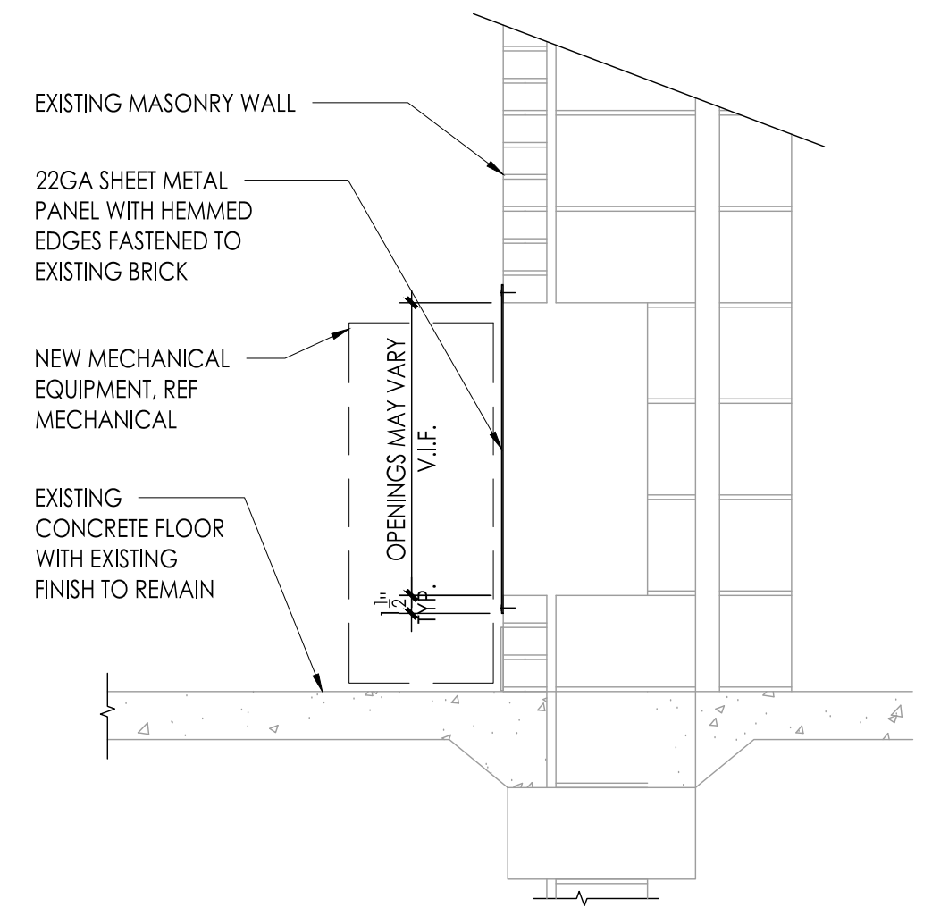

AT ALL HANGER WIRE LOCATIONS, CONNECT HANGER WIRES TO METAL ROOF DECK WITH 2" SELF-TAPPING LAG SCREWS WITH EYE-LET UNLESS SUPERSEDED BY SHOP DRAWING DESIGN - ANCHORS TO COMPLY WITH ASCE 7-10.
3/8" GAP AT PERIMETER EDGE TO ACCOMMODATE MOVEMENT - 3/8" MINIMUM GRID BEARING ON SUPPORT ANGLE
STABILIZER BARS AT ALL PERIMETER EDGES - BY CEILING SYSTEM MANUFACTURER
ACB CEILING
MAIN RUNNER
7/8" SUPPORT ANGLE - AT GYP. BD. / MTL. STUD WALL, SECURE USING #8 x 1-1/4" WAFER HEAD SELF DRILL SHEET METAL SCREW UNLESS SUPERSEDED BY SHOP DRAWING DESIGN - AT CMU WALLS, SECURE ANGLE USING POWER ACTUATED FASTENERS UNLESS SUPERSEDED BY SHOP DRAWING DESIGN
EXISTING WALL

2 ACB SEISMIC BRACING DETAIL
Scale: 1"=1'-0"

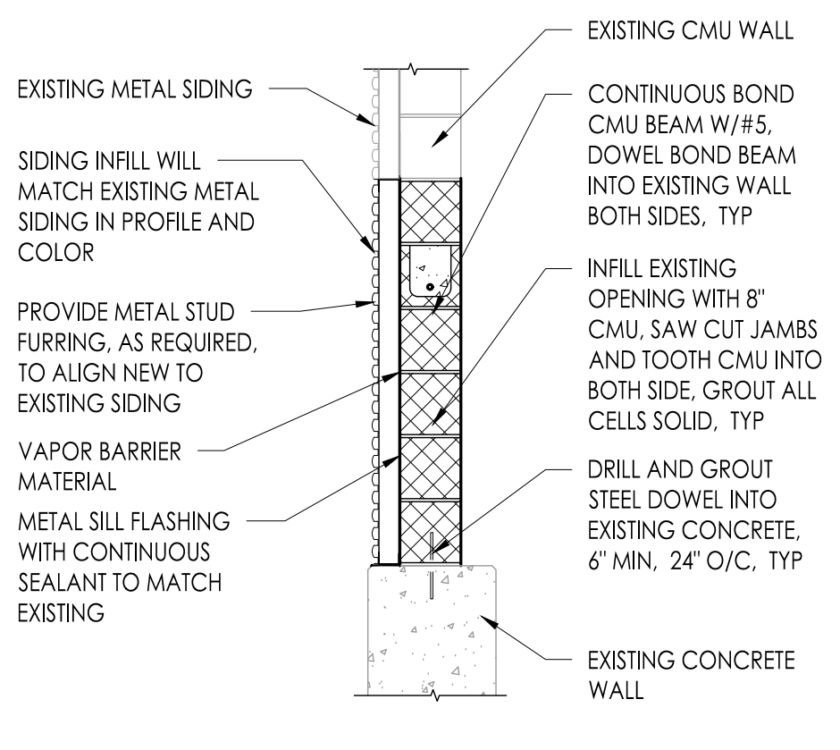

V.I.F.
1" CLEAR
V.I.F.
EXISTING WINDOW JAMB/WALL, V.I.F.
26ga. GALVANIZED SHEET METAL PIPE SHROUD, PAINT TO MATCH ADJACENT WALL, REF MECHANICAL FOR SHROUDS TO BE RE-USED
HVAC PIPING, REF MECHANICAL FOR SIZE AND LOCATION

"SIM" NOTE:
STAINLESS STEEL SHROUDS IN KITCHEN AND CAFETERIA AREAS, REF MECHANICAL

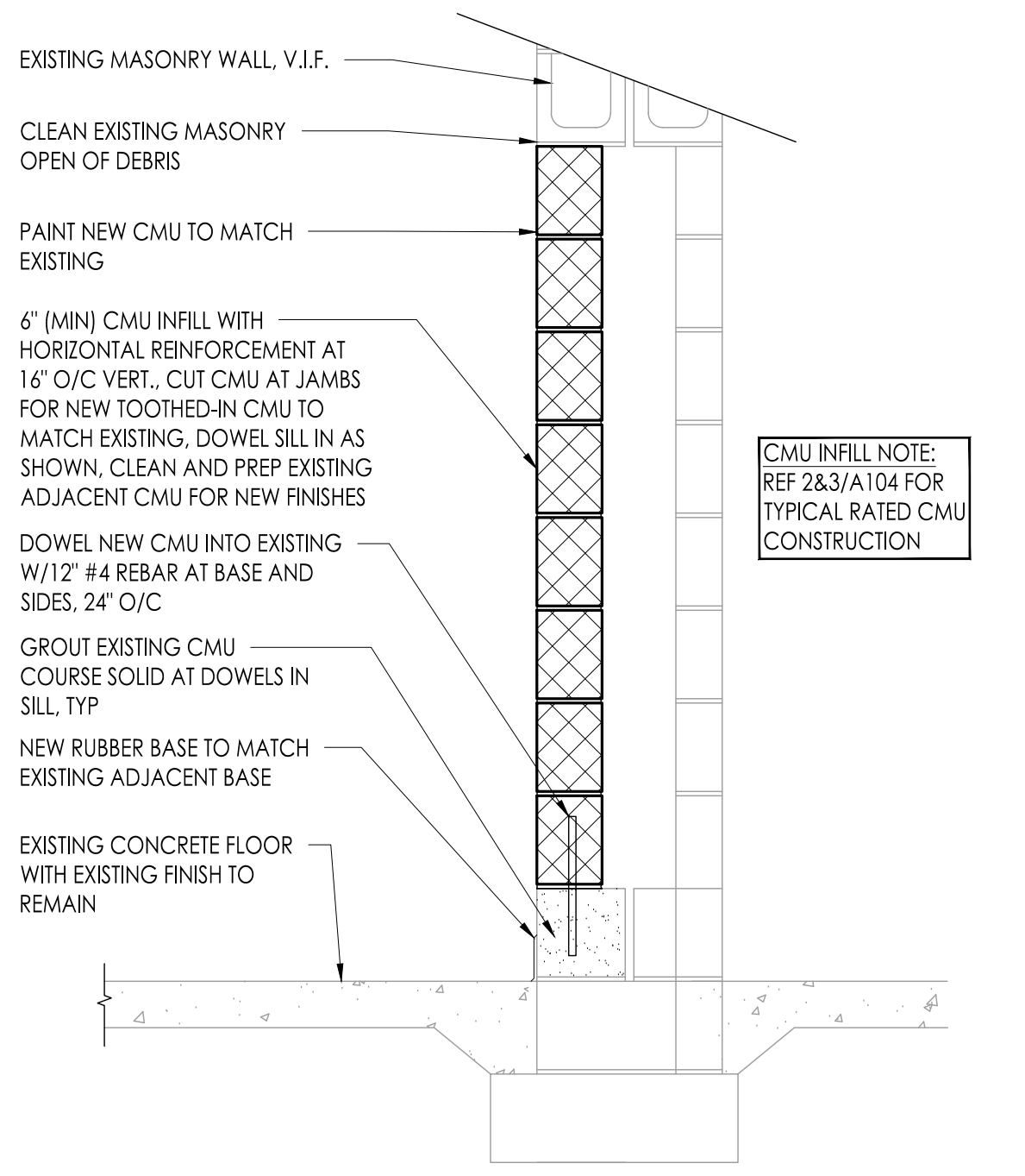
3 VERTICAL METAL PIPE SHROUD
Scale: 1 1/2" = 1'-0"


EXISTING MASONRY WALL
22GA SHEET METAL PANEL WITH HEMMED EDGES FASTENED TO EXISTING BRICK
NEW MECHANICAL EQUIPMENT, REF MECHANICAL
EXISTING CONCRETE FLOOR WITH EXISTING FINISH TO REMAIN
OPENINGS MAY VARY V.I.F.
1 1/2" TYP.

4 CHASE INFILL AT BRICK
3/4" = 1'-0"

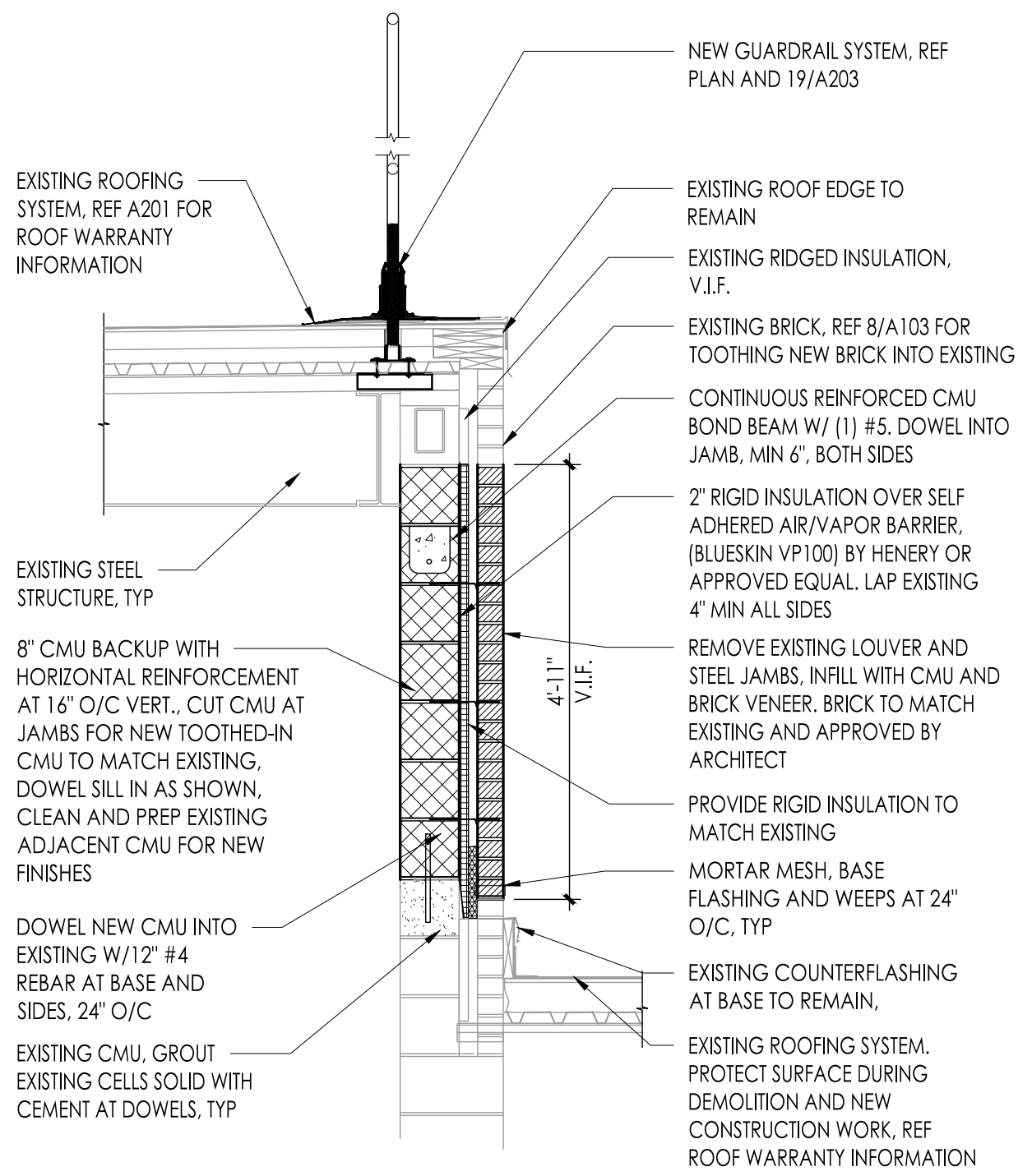

EXISTING METAL SIDING
SIDING INFILL WILL MATCH EXISTING METAL SIDING IN PROFILE AND COLOR
PROVIDE METAL STUD FURRING, AS REQUIRED, TO ALIGN NEW TO EXISTING SIDING
VAPOR BARRIER MATERIAL
METAL SILL FLASHING WITH CONTINUOUS SEALANT TO MATCH EXISTING
EXISTING CMU WALL
CONTINUOUS BOND CMU BEAM W/#5, DOWEL BOND BEAM INTO EXISTING WALL BOTH SIDES, TYP
INFILL EXISTING OPENING WITH 8" CMU, SAW CUT JAMBS AND TOOTH CMU INTO BOTH SIDE, GROUT ALL CELLS SOLID, TYP
DRILL AND GROUT STEEL DOWEL INTO EXISTING CONCRETE, 6" MIN, 24" O/C, TYP
EXISTING CONCRETE WALL

5 LOUVER INFILL W/CMU WALL
1/2" = 1'-0"

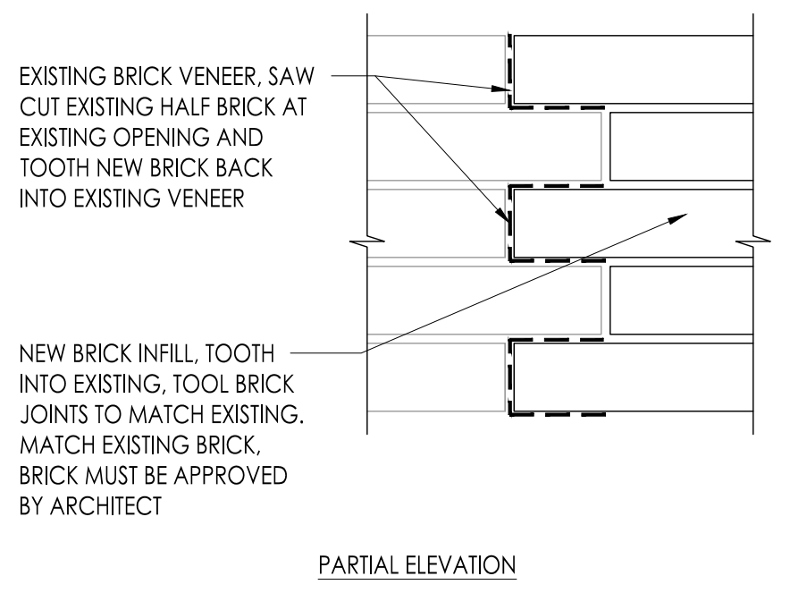

EXISTING MASONRY WALL, V.I.F.
CLEAN EXISTING MASONRY OPEN OF DEBRIS
PAINT NEW CMU TO MATCH EXISTING
6" (MIN) CMU INFILL WITH HORIZONTAL REINFORCEMENT AT 16" O/C VERT., CUT CMU AT JAMBS FOR NEW TOOTHED-IN CMU TO MATCH EXISTING, DOWEL SILL IN AS SHOWN, CLEAN AND PREP EXISTING ADJACENT CMU FOR NEW FINISHES
DOWEL NEW CMU INTO EXISTING W/12" #4 REBAR AT BASE AND SIDES, 24" O/C
GROUT EXISTING CMU COURSE SOLID AT DOWELS IN SILL, TYP
NEW RUBBER BASE TO MATCH EXISTING ADJACENT BASE
EXISTING CONCRETE FLOOR WITH EXISTING FINISH TO REMAIN

CMU INFILL NOTE:
REF 2&3/A104 FOR TYPICAL RATED CMU CONSTRUCTION

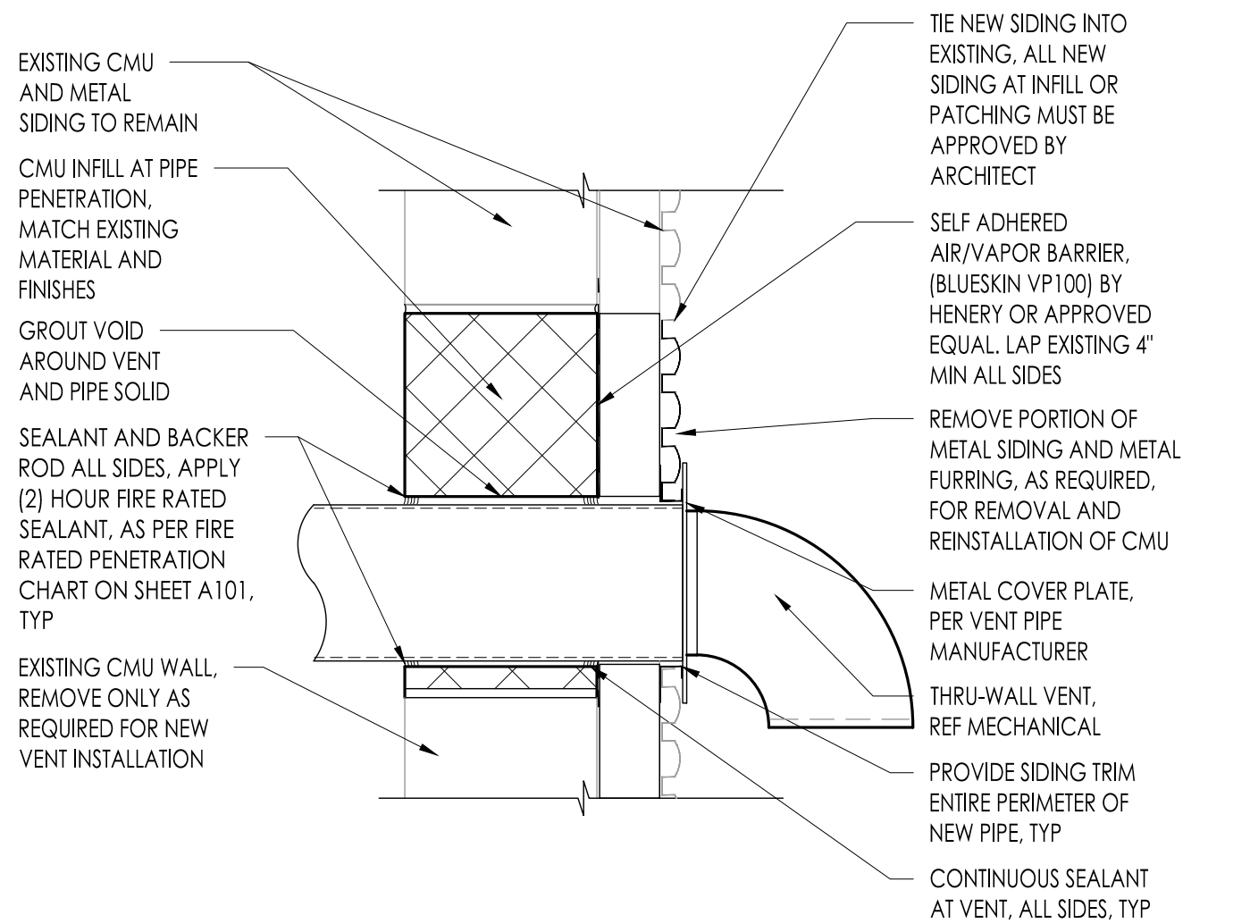
6 CMU INFILL AT REMOVED EQUIPMENT
3/4" = 1'-0"


NEW GUARDRAIL SYSTEM, REF PLAN AND 19/A203
EXISTING ROOFING SYSTEM, REF A201 FOR ROOF WARRANTY INFORMATION
EXISTING ROOF EDGE TO REMAIN
EXISTING RIDGED INSULATION, V.I.F.
EXISTING BRICK, REF 8/A103 FOR TOOTHING NEW BRICK INTO EXISTING
CONTINUOUS REINFORCED CMU BOND BEAM W/ (1) #5. DOWEL INTO JAMB, MIN 6", BOTH SIDES
2" RIGID INSULATION OVER SELF ADHERED AIR/VAPOR BARRIER, (BLUESKIN VP100) BY HENERY OR APPROVED EQUAL. LAP EXISTING 4" MIN ALL SIDES
EXISTING STEEL STRUCTURE, TYP
REMOVE EXISTING LOUVER AND STEEL JAMBS, INFILL WITH CMU AND BRICK VENEER. BRICK TO MATCH EXISTING AND APPROVED BY ARCHITECT
8" CMU BACKUP WITH HORIZONTAL REINFORCEMENT AT 16" O/C VERT., CUT CMU AT JAMBS FOR NEW TOOTHED-IN CMU TO MATCH EXISTING, DOWEL SILL IN AS SHOWN, CLEAN AND PREP EXISTING ADJACENT CMU FOR NEW FINISHES
4'-11" V.I.F.
PROVIDE RIGID INSULATION TO MATCH EXISTING
MORTAR MESH, BASE FLASHING AND WEEPS AT 24" O/C, TYP
DOWEL NEW CMU INTO EXISTING W/12" #4 REBAR AT BASE AND SIDES, 24" O/C
EXISTING COUNTERFLASHING AT BASE TO REMAIN,
EXISTING CMU, GROUT EXISTING CELLS SOLID WITH CEMENT AT DOWELS, TYP
EXISTING ROOFING SYSTEM. PROTECT SURFACE DURING DEMOLITION AND NEW CONSTRUCTION WORK, REF ROOF WARRANTY INFORMATION ON SHEET A201

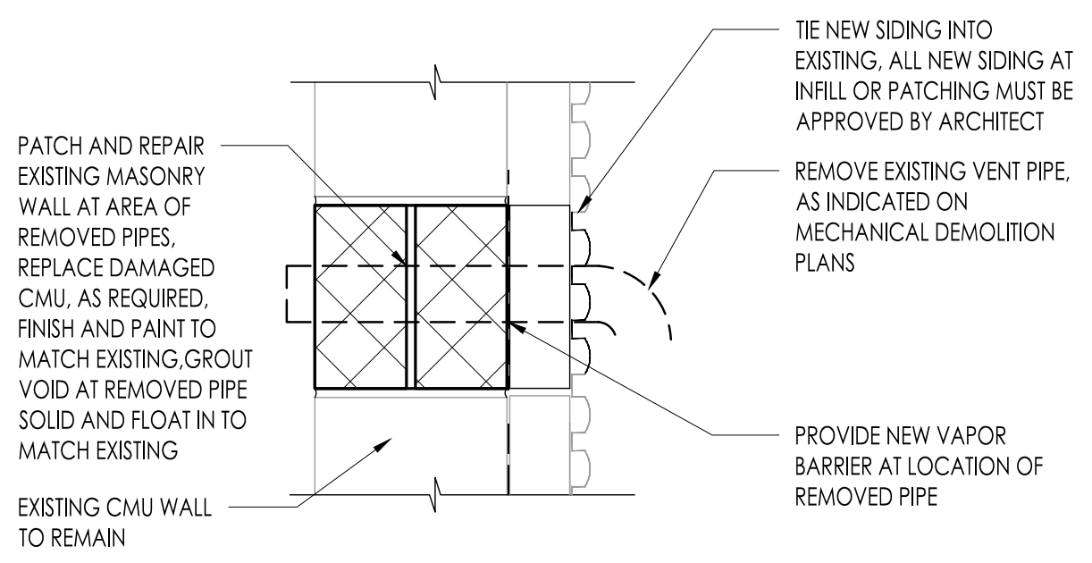
7 THRU-WALL DUCT FLASHING
1/2" = 1'-0"


EXISTING BRICK VENEER, SAW CUT EXISTING HALF BRICK AT EXISTING OPENING AND TOOTH NEW BRICK BACK INTO EXISTING VENEER
NEW BRICK INFILL, TOOTH INTO EXISTING, TOOL BRICK JOINTS TO MATCH EXISTING. MATCH EXISTING BRICK, BRICK MUST BE APPROVED BY ARCHITECT
PARTIAL ELEVATION

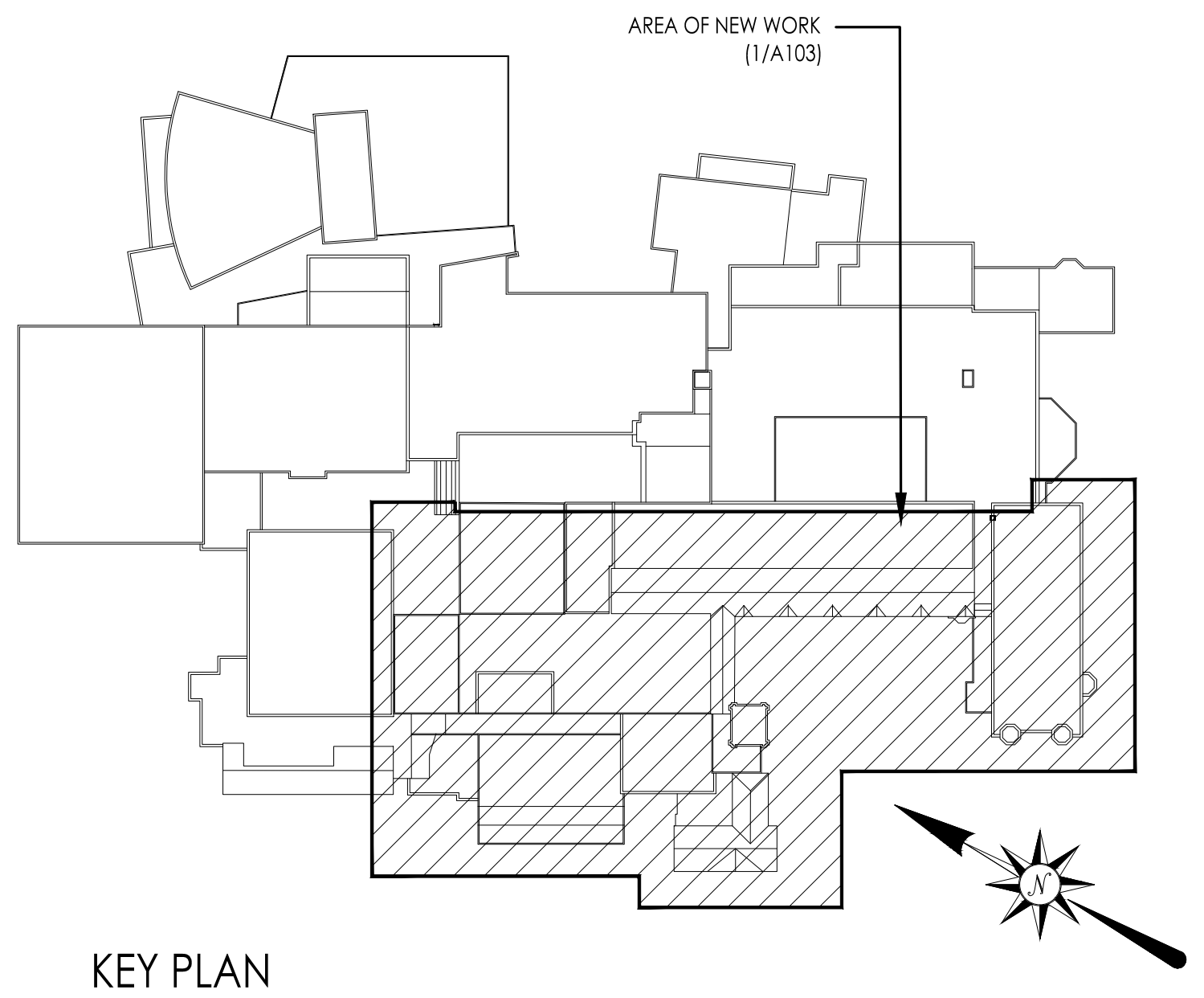
8 BRICK TIE-IN DETAIL
Scale: 1"=1'-0"


EXISTING CMU AND METAL SIDING TO REMAIN
CMU INFILL AT PIPE PENETRATION, MATCH EXISTING MATERIAL AND FINISHES
GROUT VOID AROUND VENT AND PIPE SOLID
SEALANT AND BACKER ROD ALL SIDES, APPLY (2) HOUR FIRE RATED SEALANT, AS PER FIRE RATED PENETRATION CHART ON SHEET A101, TYP
EXISTING CMU WALL, REMOVE ONLY AS REQUIRED FOR NEW VENT INSTALLATION
TIE NEW SIDING INTO EXISTING, ALL NEW SIDING AT INFILL OR PATCHING MUST BE APPROVED BY ARCHITECT
SELF ADHERED AIR/VAPOR BARRIER, (BLUESKIN VP100) BY HENERY OR APPROVED EQUAL. LAP EXISTING 4" MIN ALL SIDES
REMOVE PORTION OF METAL SIDING AND METAL FURRING, AS REQUIRED, FOR REMOVAL AND REINSTALLATION OF CMU
METAL COVER PLATE, PER VENT PIPE MANUFACTURER
THRU-WALL VENT, REF MECHANICAL
PROVIDE SIDING TRIM ENTIRE PERIMETER OF NEW PIPE, TYP
CONTINUOUS SEALANT AT VENT, ALL SIDES, TYP

9 (ALT BID # 3)
VENT PENETRATION FLASHING
1 1/2" = 1'-0"


PATCH AND REPAIR EXISTING MASONRY WALL AT AREA OF REMOVED PIPES, REPLACE DAMAGED CMU, AS REQUIRED, FINISH AND PAINT TO MATCH EXISTING,GROUT VOID AT REMOVED PIPE SOLID AND FLOAT IN TO MATCH EXISTING
EXISTING CMU WALL TO REMAIN
TIE NEW SIDING INTO EXISTING, ALL NEW SIDING AT INFILL OR PATCHING MUST BE APPROVED BY ARCHITECT
REMOVE EXISTING VENT PIPE, AS INDICATED ON MECHANICAL DEMOLITION PLANS
PROVIDE NEW VAPOR BARRIER AT LOCATION OF REMOVED PIPE

10 THRU-WALL INFILL
1 1/2" = 1'-0"



KEY PLAN
NTS

WILLIAM D. HOPKINS III, AIA, LEED AP
NJ - 21AI01706000 | PA - RA012520X
JASON J. DUBOWITCH, AIA
NJ - 21AI01979800 | PA - RA406009
STEPHEN W. SCHREYER JR., AIA, LEED AP BD+C
NJ - 21AI02003100 | PA - RA410435

William D. Hopkins 01/29/26
Architect Date

FVHD architects planners
Fraytak Veisz Hopkins Duthie PC
EST 1918
Corporate: 1515 Lower Ferry Road - Trenton - New Jersey 08618
Pennsylvania: 820 Adams Ave., Suite 210 - Audubon - Pennsylvania 19403
FVHDPC.COM

Project Name
HVAC Renovations at Princeton High School

Project Owner Name
Princeton Public Schools

Project Location
151 Moore Street,
Princeton, NJ
08540

Project Number
5516E

Project Date
01.29. 2026

Checked By
W.D.H.

Drawn By
BO

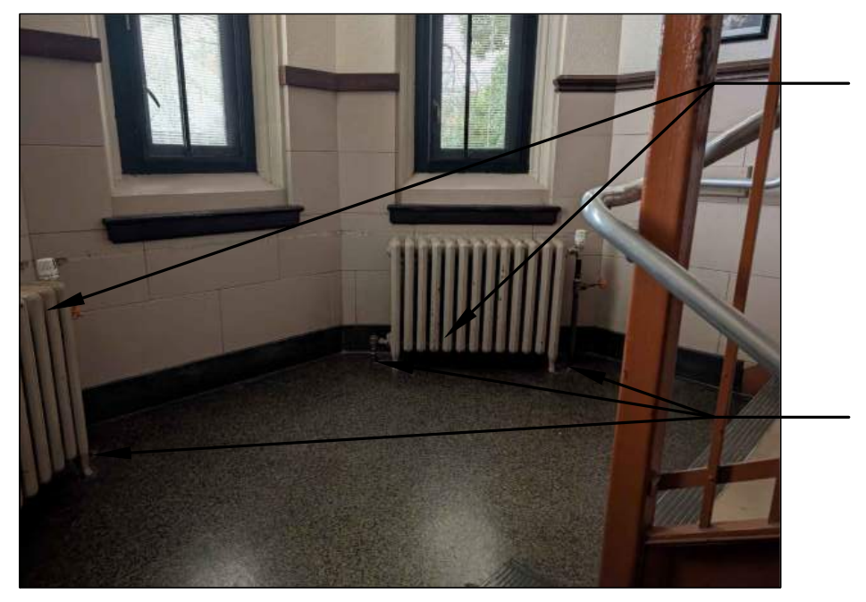
Scale
AS NOTED

Drawing Name
EXISTING PARTIAL FIRST FLOOR PLAN, NOTES, PHOTOS AND DETAILS

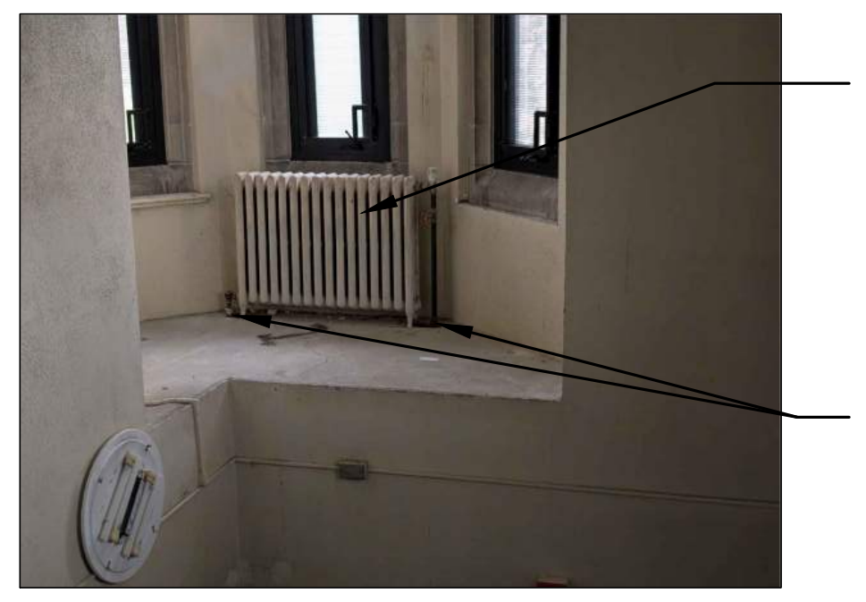
Revisions

No.	Date	Description

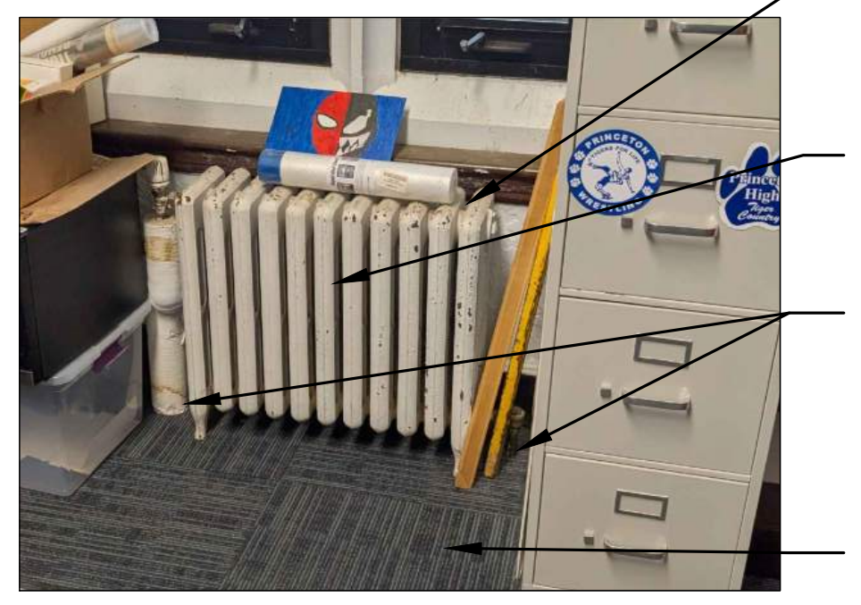
Drawing Number
A103


EXISTING EQUIPMENT TO BE REMOVED, REF MECHANICAL
REMOVE EXISTING PIPES IN FLOOR, AS DESCRIBED IN PLUMBING SHEETS. PATCH FLOOR WITH DARK GRAY PORTLAND CEMENT. SURFACE IS TO BE SMOOTH AND FLUSH WITH EXISTING FLOOR, CEMENT COLOR TO BE APPROVED BY ARCHITECT

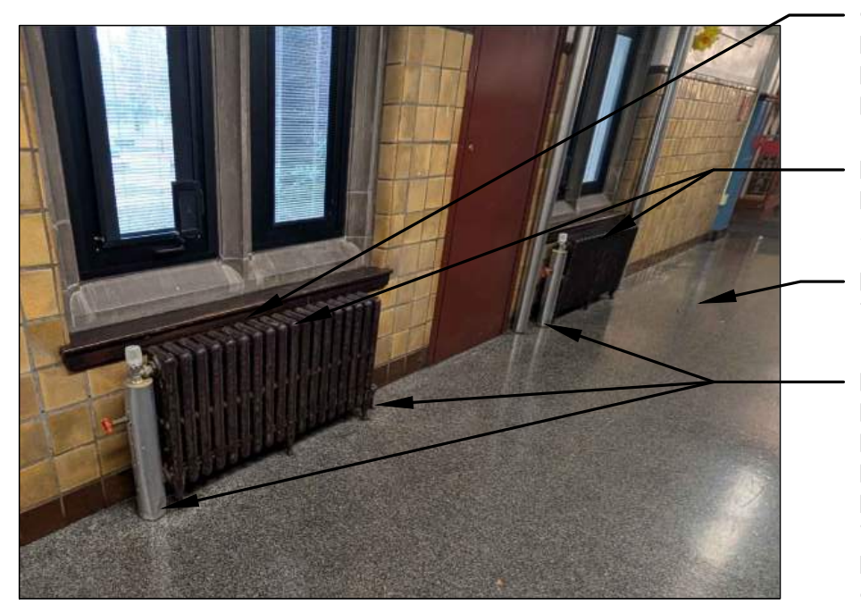
S PHOTOGRAPH
STAIR 8 (1st FLOOR)


EXISTING EQUIPMENT TO BE REMOVED, REF MECHANICAL
REMOVE EXISTING PIPES IN FLOOR, AS DESCRIBED IN PLUMBING SHEETS. PATCH FLOOR PORTLAND CEMENT. SURFACE IS TO BE SMOOTH AND FLUSH WITH EXISTING FLOOR

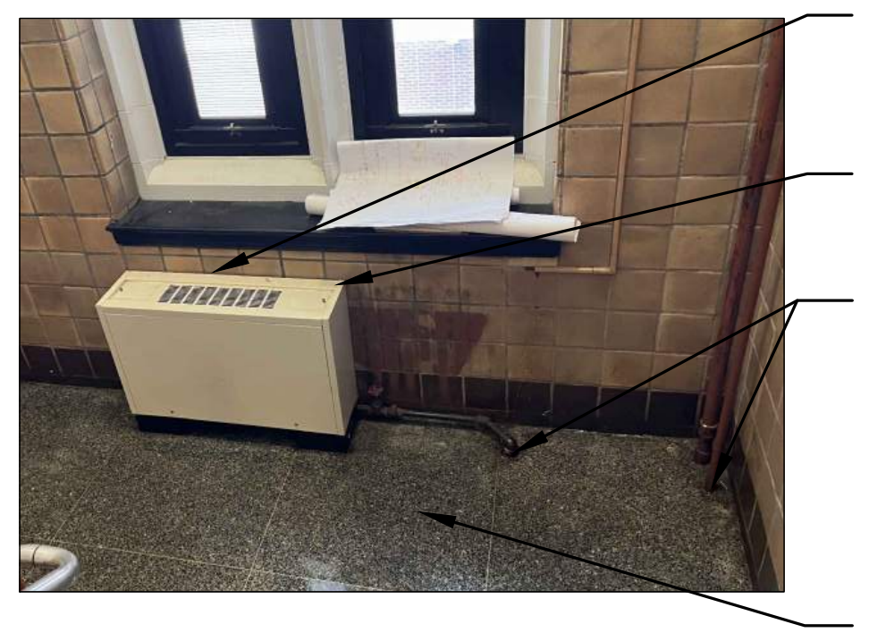
T PHOTOGRAPH
STAIR 9


REPAIR AND PAINT EXISTING WALLS DAMAGED FROM DEMOLITION OF EXISTING EQUIPMENT OR REINSTALLATION OF NEW
EXISTING EQUIPMENT TO BE REMOVED, REF MECHANICAL
EXISTING TO BE REMOVED, REF PLUMBING. PATCH, AND/OR REPLACE EXISTING CARPET TILE AT REMOVED EQUIPMENT AND FLOOR PATCH, MATCH EXISTING
EXISTING CARPET TILE FLOOR TO REMAIN

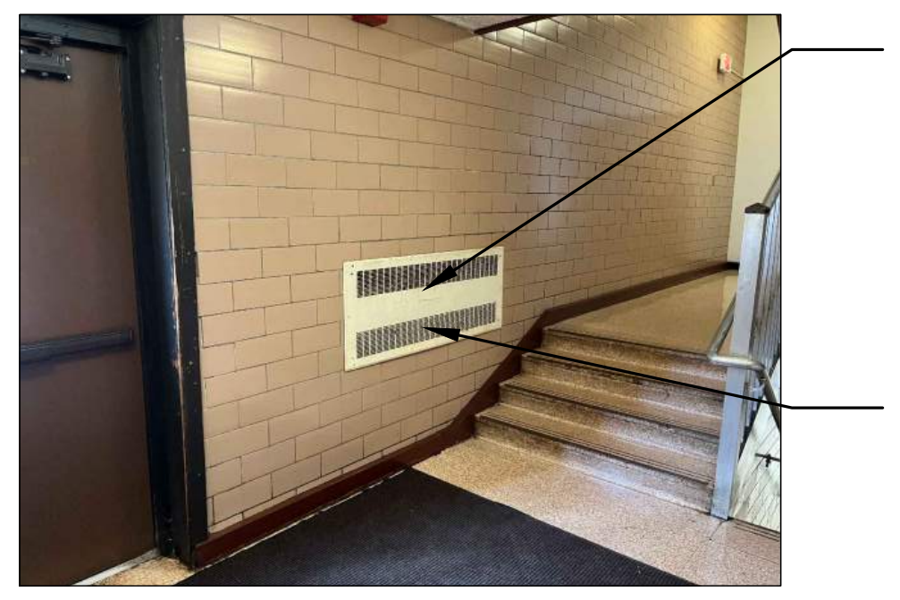
U PHOTOGRAPH
ASST. PRINC. (101D)


CLEAN/REPAIR NEWLY EXPOSED SURFACES FROM REMOVAL OF EXISTING EQUIPMENT, TYP
EXISTING EQUIPMENT TO BE REMOVED, REF MECHANICAL
EXISTING TERRAZZO FLOOR TO REMAIN
REMOVE EXISTING PIPES IN FLOOR, AS DESCRIBED IN PLUMBING SHEETS. PATCH FLOOR WITH DARK GRAY PORTLAND CEMENT. SURFACE IS TO BE SMOOTH AND FLUSH WITH EXISTING FLOOR, CEMENT COLOR TO BE APPROVED BY ARCHITECT

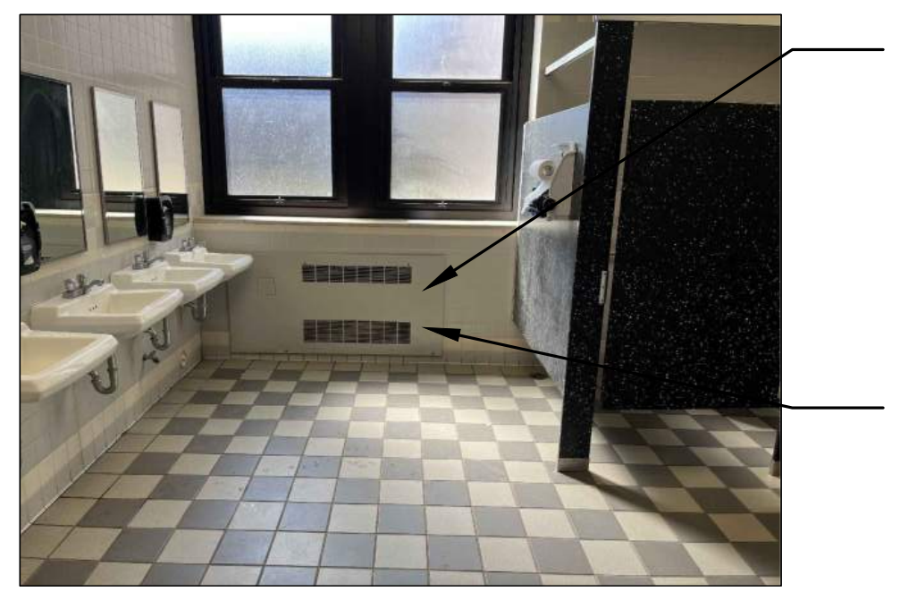
V PHOTOGRAPH
STAIR 10 (1st FLOOR)


CLEAN/REPAIR NEWLY EXPOSED SURFACES FROM REMOVAL OF EXISTING EQUIPMENT, TYP
EXISTING EQUIPMENT TO BE REMOVED, REF MECHANICAL
REMOVE EXISTING PIPES IN FLOOR, AS DESCRIBED IN PLUMBING SHEETS. PATCH FLOOR WITH DARK GRAY PORTLAND CEMENT. SURFACE IS TO BE SMOOTH AND FLUSH WITH EXISTING FLOOR, CEMENT COLOR TO BE APPROVED BY ARCHITECT
EXISTING TERRAZZO FLOOR TO REMAIN

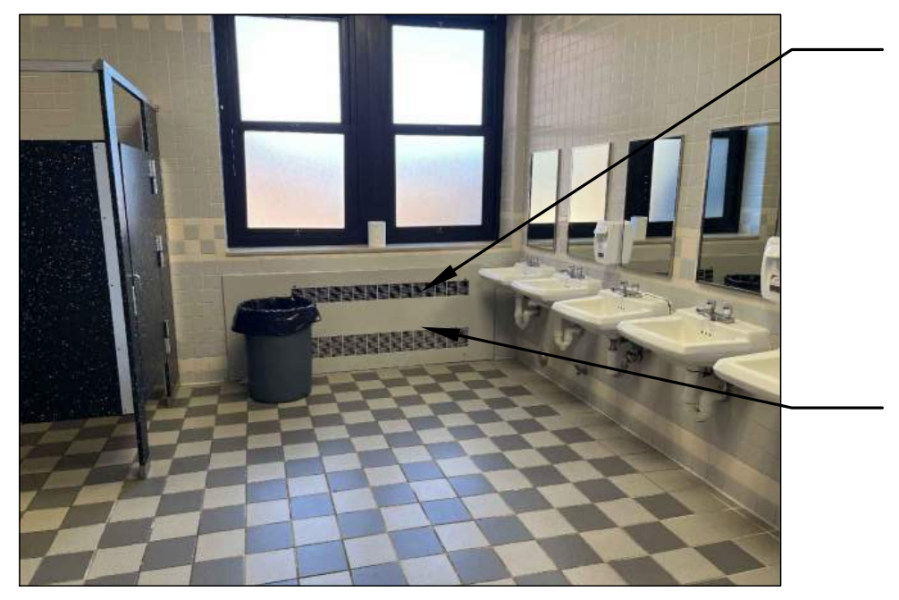
W PHOTOGRAPH
STAIR 12 (1st FLOOR)


REMOVE EXISTING METAL SHROUD AND REPLACE WITH 22ga. METAL COVER WITH HEMMED EDGES, PAINT TO MATCH ADJACENT WALL
MECHANICAL EQUIPMENT WILL BE ABANDONED IN PLACE, AS DESCRIBED IN MECHANICAL DRAWINGS

X PHOTOGRAPH
STAIR 07 (1st FLOOR)


REMOVE EXISTING METAL SHROUD AND REPLACE WITH 22ga. METAL COVER WITH HEMMED EDGES, PAINT TO MATCH ADJACENT WALL
MECHANICAL EQUIPMENT WILL BE REMOVED AS DESCRIBED IN MECHANICAL DRAWINGS

Y PHOTOGRAPH
BOYS 137 (SIM OTHER TOILETS)


REMOVE EXISTING METAL SHROUD AND REPLACE WITH 22ga. METAL COVER WITH HEMMED EDGES, PAINT TO MATCH ADJACENT WALL
MECHANICAL EQUIPMENT WILL BE REMOVED, AS DESCRIBED IN MECHANICAL DRAWINGS

Z PHOTOGRAPH
BOYS 418 (SIM OTHER TOILETS)

CONSTRUCTION KEYNOTES

1	REMOVE AND STORE EXISTING ACOUSTICAL CEILING TILES AND SUSPENSION GRID TO ACCOMMODATE DEMOLITION AND HVAC NEW WORK. FOLLOWING COMPLETION OF WORK, REINSTALL ALL EXISTING PANELS AND GRID TO PREVIOUS LOCATIONS, UNLESS SUPERCEDED BY REFLECTED CEILING PLAN OR MECHANICAL/ELECTRICAL DRAWINGS. REPLACE ALL DAMAGED, OR DETERIORATED CEILING TILES AND SUSPENSION GRID, WITH NEW MATERIAL TO MATCH EXISTING IN AREA DESCRIBED. REFERENCE MECHANICAL/ELECTRIC DRAWINGS.
2	PATCH AND REPAIR EXISTING WALL AT AREA OF REMOVED WALL MOUNTED THERMOSTAT, PATCH WALLS AND PAINT TO MATCH ADJACENT AT AREAS OF REMOVED WALL MOUNTED CONDUIT, TYP
3	MECHANICAL EQUIPMENT MOUNTED BELOW ROOF DECK ABOVE CEILING. REF MECHANICAL FOR ITEMS TO BE REMOVED AND REPLACED.
4	EXISTING CEILING MOUNTED EQUIPMENT TO BE REMOVED, REF MECHANICAL, TYP.
5	IN LOCATIONS WHERE NEW DUCT IS THRU EXISTING OPENINGS, FIELD VERIFY EXISTING OPENING AND MAKE REQUIRED MODIFICATIONS TO EXISTING WALL: THIS MAY REQUIRE ENLARGING OPENING AND/OR PATCHING EXISTING WALLS WITH LIKE MATERIAL WHERE DUCT IS SMALLER THEN EXISTING OPENING. TYP
6	NEW HVAC UNIT INSTALLED IN CEILING, REMOVE AND MODIFY EXISTING CEILING GRID AND TILE TO ACCEPT NEW UNIT. REPLACE CEILING TILE OR GRID DAMAGED FROM REMOVAL AND INSTALLATION OF UNIT AND ASSOCIATED EQUIPMENT, TYP
7	INDICATES NEW DUCT INSTALLED HIGH WITH HANGERS AND SUPPORTS, REF MECHANICAL . TYP.
8	NEW METAL SIDING OVER METAL STUD FURRING. MATCH EXISTING SIDING, REF 7/A101 . TYP.
9	REMOVE AND REPLACE EXISTING CEILING IN THIS AREA, TEMPORARILY REMOVE ALL CEILING EQUIPMENT AND REINSTALL INTO NEW CEILING, THIS INCLUDES EXISTING LIGHTING. REF MECHANICAL FOR FIRE PROTECTION SYSTEM RELOCATION. PATCH AND REPAIR EXISTING ADJACENT WALL AFTER CEILING IS INSTALLED, REF 2/A103 FOR CEILING EDGE AND SEISMIC BRACING WITH HANGER DETAIL, TYP.
10	DASHED LINE INDICATES EXISTING STEEL BEAM
11	CLEAN AND PATCH WALL PENETRATION FROM REMOVED PIPES AND CONDUIT. PATCH BOTH SIDES OF WALL WITH LIKE MATERIAL AND PAINT TO MATCH ADJACENT WALL.
12	EXISTING LOUVER TO REMAIN, LOUVER WILL BE CLEANED AND EXISTING BIRD SCREEN REPLACED, REF MECHANICAL. PROVIDE NEW PERIMETER SEALANT AT EXTERIOR JOINT, AS REQUIRED.
13	EXISTING SURFACE MOUNTED LIGHTING TO BE RELOCATED, REF ELECTRIC FOR ADDITIONAL INFORMATION
14	EXISTING EXTERIOR LOUVER TO REMAIN, REF MECHANICAL
15	EXTEND EXISTING CONCRETE HOUSEKEEPING PADS TO ASSOCIATED NEW MECHANICAL EQUIPMENT, REF MECHANICAL FOR EXACT SIZE, REF DETAIL 10/A101 FOR CONCRETE TIE-IN AND ADDITIONAL INFORMATION, PANT TO MACH EXISTING WITH SAFETY YELLOW EDGE BAND, TYP
16	METAL FLUE PIPE FASTENED TO EXISTING BUILDING, REF MECHANICAL AND 8/A101
17	EXISTING CONCRETE HOUSEKEEPING PAD TO REMAIN, PATCH AND REPAIR AS REQUIRED FOR NEW EQUIPMENT, TYP
18	HARD LID, GYP BOARD, CEILING, REF MECHANICAL FOR FULL EXTENT OF DEMOLITION AND NEW CONSTRUCTION. REMOVE ONLY AS NEEDED FOR NEW WORK, PATCH AND REPAIR WITH LIKE MATERIAL AND PAINT CEILING TO MATCH EXISTING.
19	EXISTING PIPES TO BE REMOVED AND NEW PIPES THRU-FLOOR TO BE INSTALLED. REPLACE EXISTING CEILING DAMAGED FROM WORK ABOVE CEILING WITH NEW CEILING TILE TO MATCH AT LOCATIONS OF EXISTING PIPES BEING REMOVED OR NEW PIPES BEING INSTALLED, REF MECHANICAL AND PLUMBING. PATCH EXISTING FLOORS, AS REQUIRE, WITH PORTLAND CEMENT AND SMOOTH FINISH.
20	INDICATES CEILING LIGHTING, REF ELECTRIC FOR RELOCATED LIGHT AND/OR NEW IN THIS AREA
21	REMOVE EXISTING EQUIPMENT, AS DESCRIBED IN MECHANICAL AND PLUMBING SHEETS, PATCH AND REPAIR ALL EXISTING MASONRY WALLS FROM EQUIPMENT REMOVAL. PATCH AND REPAIR RATED WALLS PER FIRE-RATED PENETRATIONS CHART, A101. WALLS WITH PAINT WILL RECEIVE PAINT TO MATCH EXISTING FINISHES AT PATCHED AND REPAIRED AREAS
22	INDICATES EXISTING PIPES TO BE REMOVED THROUGH WALLS AND FLOOR, REF MECHANICAL AND PLUMBING. PATCH AND REPAIR ALL EXISTING UNUSED PENETRATIONS WITH LIKE MATERIAL, CONCRETE FLOORS WILL PATCHED WITH CONCRETE AND FINISHED TO MATCH ADJACENT FLOOR. I LOCATIONS WITH TILE OR CARPET TILE, MATCH EXISTING
23	FINISH EXPOSED UNFINISHED SURFACES TO MATCH EXISTING. REPLACE DAMAGED FLOOR TILE FROM REMOVAL OR INSTALLATION WITH LIKE MATERIAL, TYP.
24	REMOVE EXISTING HVAC EQUIPMENT IN EXISTING WALL, REF MECHANICAL, REMOVE EXISTING HVAC COVER AND REPLACE WITH NEW SHEET METAL COVER WITH HEMMED EDGES, REF 4/A103 FOR SHEET METAL COVER, METAL COLOR TO MATCH ADJACENT WALL, TYP.
25	EXISTING CONCRETE HOUSE KEEPING PAD AND ASSOCIATED STEEL TIES TO BE REMOVED, GRID EXISTING FLOOR SURFACE SMOOTH AND PREP FOR PAINT. GRIND ANY EXISTING STEEL REBAR TIES TO 1" BELOW FINISHED FLOOR ELEVATION AND PATCH SMOOTH WITH FLOOR PATCH, PAINT TO MATCH ADJACENT FLOOR.
26	REMOVE EXISTING MECHANICAL/BOILER ROOM EQUIPMENT, AS DESCRIBED IN MECHANICAL AND PLUMBING SHEETS, PATCH AND REPAIR ALL EXISTING MASONRY WALLS AND CEILINGS FROM EQUIPMENT REMOVAL. PATCH AND REPAIR EXISTING CONCRETE HOUSE KEEPING PADS TO REMAIN AND PAINT, TYP REF MECHANICAL
27	INDICATES EXISTING DUCT TO BE REMOVED, REF MECHANICAL
28	REMOVE EXISTING LOUVER, PREP OPENING FOR NEW MASONRY INFILL AND METAL SIDING, REF 5/A103 AND REF MECHANICAL FOR ADDITIONAL INFORMATION
29	EXISTING DUCT TO REMAIN AND BE CAPPED, REF MECHANICAL
30	METAL VENT PIPE THRU MASONRY WALL AND METAL SIDING.REF MECHANICAL FOR SIZE AND LOCATION, REF 5/A104 FOR THRU-WALL DETAIL, (**ALT BID # 3**)
31	INFILL EXISTING OPENING WITH CMU, DOWEL AND TOOTH BACK AND PAINT. REF 6/A103
32	THROUGH WALL FLUE WITH INTERIOR AND EXTERIOR COVER PLATES, STEEL SUPPORTS AND KICKERS PAINTED, REF 3/A101
33	EXISTING REMOVABLE STEEL COLUMN TO REMAIN
34	MECHANICAL LOUVER TO BE REMOVED AND NEW REMOVABLE INSULATED WALL PANEL SYSTEM INSTALLED, REF 2/A102
35	REF MECHANICAL AND PLUMBING FOR ITEMS BEING REMOVED AND REPLACED, AT EXISTING DECK AND TROUGH EXISTING ROOF DECK, IN THIS ARES. PATCH, AS REQUIRED, AND PAINT ALL EXPOSED DUCT AND PIPING TO MATCH EXISTING COLOR OF ROOF DECK. REF 4/A104 FOR DECK PATCH AND PAINT, TYP
36	REF MECHANICAL FOR EXISTING EQUIPMENT TO BE REMOVED IN THIS AREA. REPLACE EXISTING MECHANICAL SHROUD WITH NEW SOLID 22GA. METAL SHROUD. PAINT TO MATCH ADJACENT WALLS, REF 4/A103 FOR "SIM" CONDITION
37	REMOVE EXISTING EXPANDED METAL COVER AND REPLACE WITH 22ga. METAL COVER TO FIT INTO EXISTING TRIM TO REMAIN, PAINT TO MATCH EXISTING TRIM
38	INDICATES NEW MECHANICAL EQUIPMENT INSTALLED, REF MECHANICAL, ELECTRIC ,AND PLUMBING FOR EXTENT OF NEW CONSTRUCTION
39	NEW CONCRETE HOUSEKEEPING PAD, REF MECHANICAL FOR EXACT SIZE AND LOCATION, REF DETAIL 10/A101 FOR CONCRETE TIE-IN AND ADDITIONAL INFORMATION, PANT TO MACH EXISTING WITH SAFETY YELLOW EDGE BAND, TYP
40	(1) HOUR RATED CMU PIPE CHASE FROM FLOOR TO DECK ABOVE, PROVIDE FIRESAFING CLOSURE MATERIAL BETWEEN LAST COURSE AND DECK, REF 5/A104
41	SAW CUT EXISTING GLAZED BLOCK FOR NEW RECESSED CABINET HEATER, AS DESCRIBED IN ELECTRICAL DRAWINGS. REMOVE CMU, VERIFY IN FIELD EXACT DEPTH OF EXISTING WALL AND PROVIDE CMU BACKING THAT ALLOWS FOR UNIT AND COVER TO ROOM BEYOND. MAINTAIN FIRE RATING OF WALL, AS INDICATED ON PLAN. PATCH AND REPAIR ANY DAMAGE IN ADJACENT OFFICE TO NEW LIKE CONDITION, MATCH ALL EXISTING FINISHES, REF CEILING NOTES, THIS SHEET, FOR ANY REMOVAL OR REPAIR TO EXISTING CEILINGS IN THIS AREA, TYP
42	INDICATES NEW 4" SOLID CMU BACKING FOR NEW RECESSED HEATER. TOOTH BACK IN NEW CMU TO EXISTING, MAINTAIN (1) FIRE SEPARATION. FINISH AND PAINT TO MATCH EXISTING OFFICE WALL
43	REMOVE EXISTING METAL SHROUD AND EXISTING RECESSED HVAC EQUIPMENT IN EXISTING WALL, REF MECHANICAL/ELECTRIC FOR NEW UNIT IN EXISTING LOCATION. PATCH AND REPAIR EXISTING TILE AND MASONRY WALLS TO NEW LIKE CONDITION, PROVIDE 2" SHEET METAL TRIM WITH HEMMED EDGE , METAL COLOR TO MATCH ADJACENT WALL, TRIM MUST COVER ENTIRE PERIMETER, REF ELECTRIC FOR NEW UNIT SIZE, REF PHOTO H1/A105, TYP.

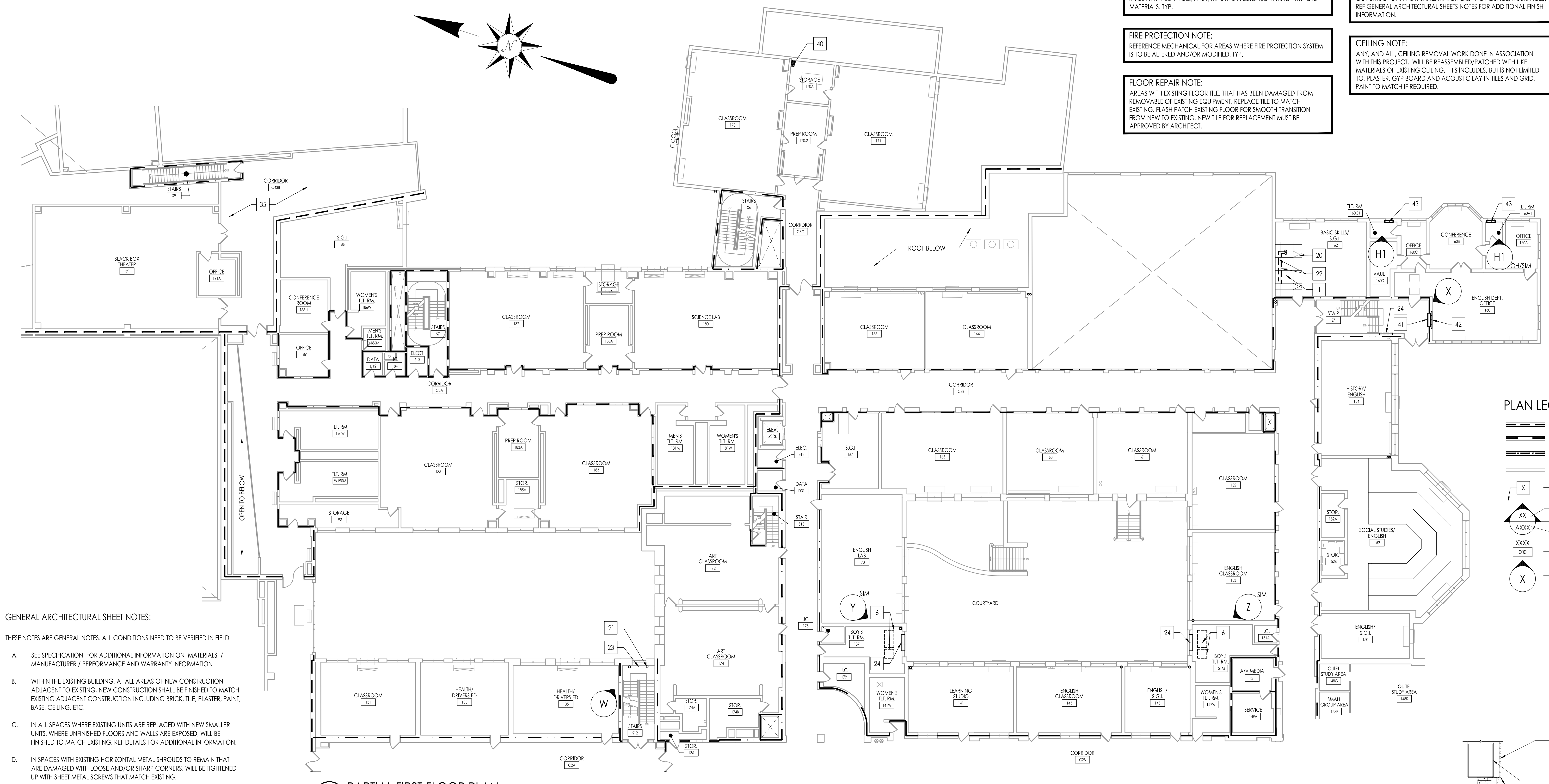
WALL PENETRATION NOTE:
REFERENCE FIRE-RATED PENETRATIONS CHART (UL DES # INFO) FOR INFILL AT RATED WALLS, A101, MAINTAIN ASSIGNED RATING WITH LIKE MATERIALS. TYP.

FIRE PROTECTION NOTE:
REFERENCE MECHANICAL FOR AREAS WHERE FIRE PROTECTION SYSTEM IS TO BE ALTERED AND/OR MODIFIED. TYP.

FLOOR REPAIR NOTE:
AREAS WITH EXISTING FLOOR TILE, THAT HAS BEEN DAMAGED FROM REMOVABLE OF EXISTING EQUIPMENT, REPLACE TILE TO MATCH EXISTING. FLASH PATCH EXISTING FLOOR FOR SMOOTH TRANSITION FROM NEW TO EXISTING. NEW TILE FOR REPLACEMENT MUST BE APPROVED BY ARCHITECT.

FINISH NOTE:
PAINT ALL AREAS LEFT EXPOSED BY DEMOLITION AND NEW CONSTRUCTION. PAINT SHALL MATCH EXISTING ADJACENT SURFACES. REF GENERAL ARCHITECTURAL SHEETS NOTES FOR ADDITIONAL FINISH INFORMATION.

CEILING NOTE:
ANY, AND ALL, CEILING REMOVAL WORK DONE IN ASSOCIATION WITH THIS PROJECT, WILL BE REASSEMBLED/PATCHED WITH LIKE MATERIALS OF EXISTING CEILING, THIS INCLUDES, BUT IS NOT LIMITED TO, PLASTER, GYP BOARD AND ACOUSTIC LAY-IN TILES AND GRID, PAINT TO MATCH IF REQUIRED.



1 PARTIAL FIRST FLOOR PLAN
Scale 1/8"=1'-0"

GENERAL ARCHITECTURAL SHEET NOTES:

THESE NOTES ARE GENERAL NOTES. ALL CONDITIONS NEED TO BE VERIFIED IN FIELD

A. SEE SPECIFICATION FOR ADDITIONAL INFORMATION ON MATERIALS / MANUFACTURER / PERFORMANCE AND WARRANTY INFORMATION .

B. WITHIN THE EXISTING BUILDING, AT ALL AREAS OF NEW CONSTRUCTION ADJACENT TO EXISTING, NEW CONSTRUCTION SHALL BE FINISHED TO MATCH EXISTING ADJACENT CONSTRUCTION INCLUDING BRICK, TILE, PLASTER, PAINT, BASE, CEILING, ETC.

C. IN ALL SPACES WHERE EXISTING UNITS ARE REPLACED WITH NEW SMALLER UNITS, WHERE UNFINISHED FLOORS AND WALLS ARE EXPOSED, WILL BE FINISHED TO MATCH EXISTING. REF DETAILS FOR ADDITIONAL INFORMATION.

D. IN SPACES WITH EXISTING HORIZONTAL METAL SHROUDS TO REMAIN THAT ARE DAMAGED WITH LOOSE AND/OR SHARP CORNERS, WILL BE TIGHTENED UP WITH SHEET METAL SCREWS THAT MATCH EXISTING.

E. SPACES WITH VERTICAL PIPE SHROUDS THAT ARE NOT STAINLESS STEEL WILL BE PAINTED TO MATCH ADJACENT WALL, REF DETAIL 3/A103 AND MECHANICAL FOR ADDITIONAL INFORMATION.

F. IN SPACES WHERE CEILING UNITS INSTALLED AND LEAVE EXPOSED SURFACES: GYP BOARD OR PLASTER, PATCH TO NEW LIKE CONDITION WITH LIKE MATERIAL AND PAINT TO MATCH EXISTING.

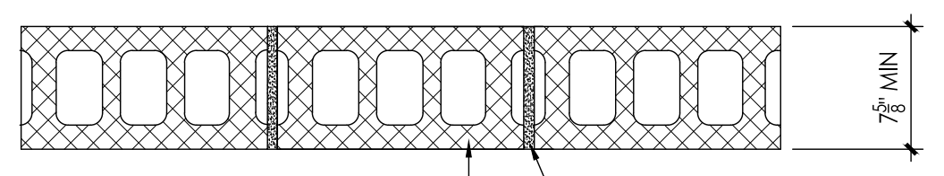
G. INFORMATIONAL PHOTOS ARE DISPLAYED ON ARCHITECTURAL SHEETS WITH ALPHABETICAL DESIGNATIONS.

H. REF SHEET A103 FOR ADDITIONAL MASONRY, CONCRETE AND STEEL NOTES

PLAN LEGEND & SYMBOLS

▬ ▬ ▬	(2) HOUR FIRE WALL
▬ · · ▬	(1) HOUR FIRE SEPARATION
▬ · ▬ · ▬	INDICATES SMOKE PARTITION
═══	EXISTING WALLS AND CHASES
X	INDICATES CONSTRUCTION NOTE
XX / AXXX	section number WALL SECTION drawing number
XXXX / 000	ROOM NAME / NUMBER
X	INDICATES PHOTO DIRECTION

Design No. U905
Bearing Wall Rating - 2 HR
Nonbearing Wall Rating - 2 HR

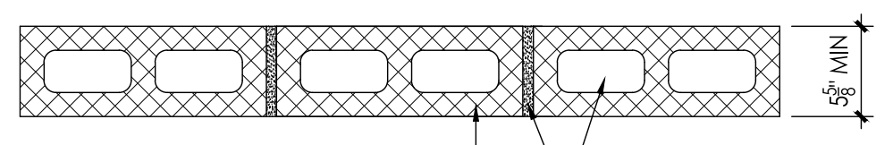


1. Concrete Blocks*- Various Designs. Classifications D-2 (2hr). See Concrete Blocks category for list of eligible manufacturers.
2. Mortar- Blocks laid in full bed of mortar, nom 3/8 in. thick, of not less than 2-1/4 and not more than 3-1/2 parts of clean sharp sand to 1 part Portland cement (proportioned by volume) and not more than 50 percent hydrated lime (by cement volume). Vertical joints staggered.

*Bearing the UL Classification Marking

2 TYPICAL RATED CONSTRUCTION - 8" CONCRETE MASONRY UNITS
N.T.S.

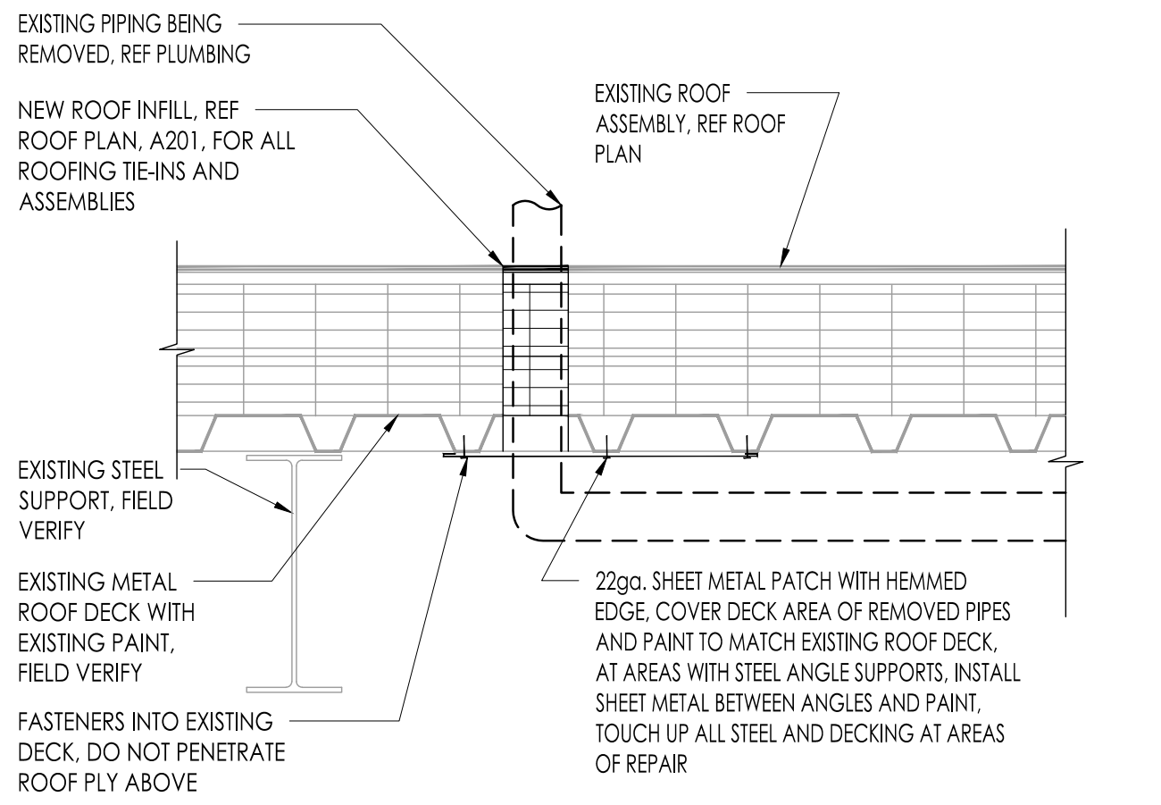
Design No. U906
Bearing Wall Rating - 2 HR
Nonbearing Wall Rating - 2 HR



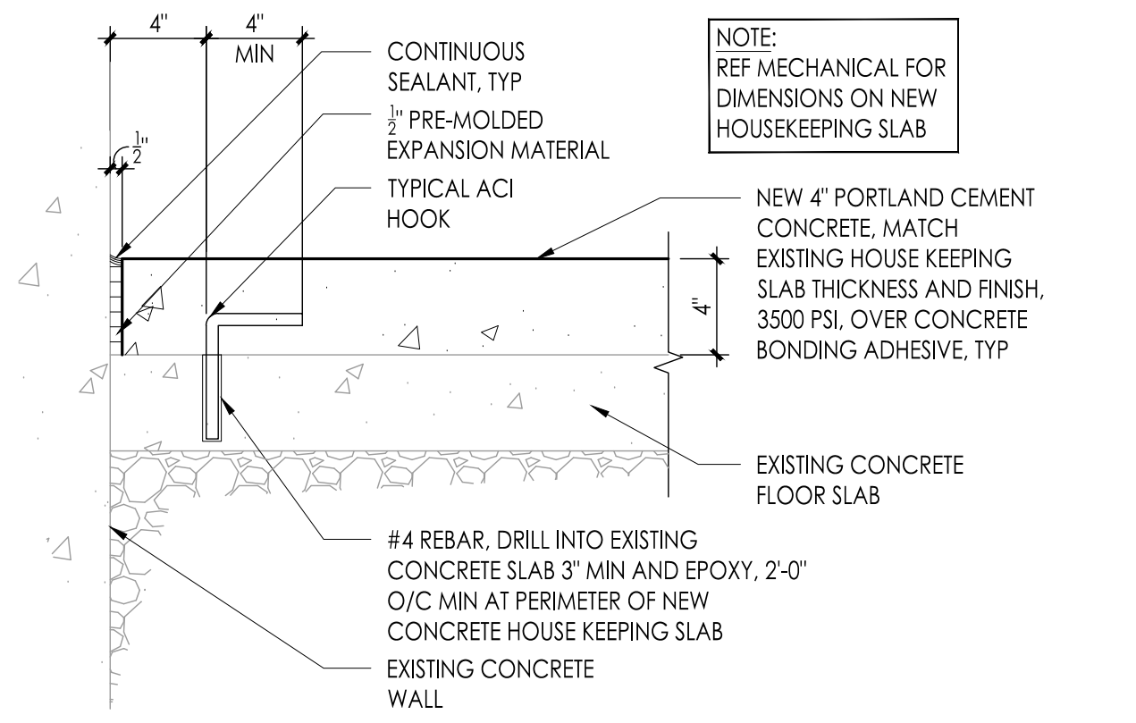
1. Concrete Blocks*- Nominal 6 by 8 in., hollow or solid. Classification D-2 (2 hr) Anchor Concrete Products, Inc. Empire Materials Co. Florida Rock Industries, Inc.
2. Mortar- Blocks laid in full bed of mortar, nom 3/8 in. thick, of not less than 2-1/4 and not more than 3 1/2 parts of clean sharp sand to 1 part Portland cement (proportioned by volume) and not more than 50 percent hydrated lime (by cement volume). Vertical joints staggered.

*Bearing the UL Classification Marking

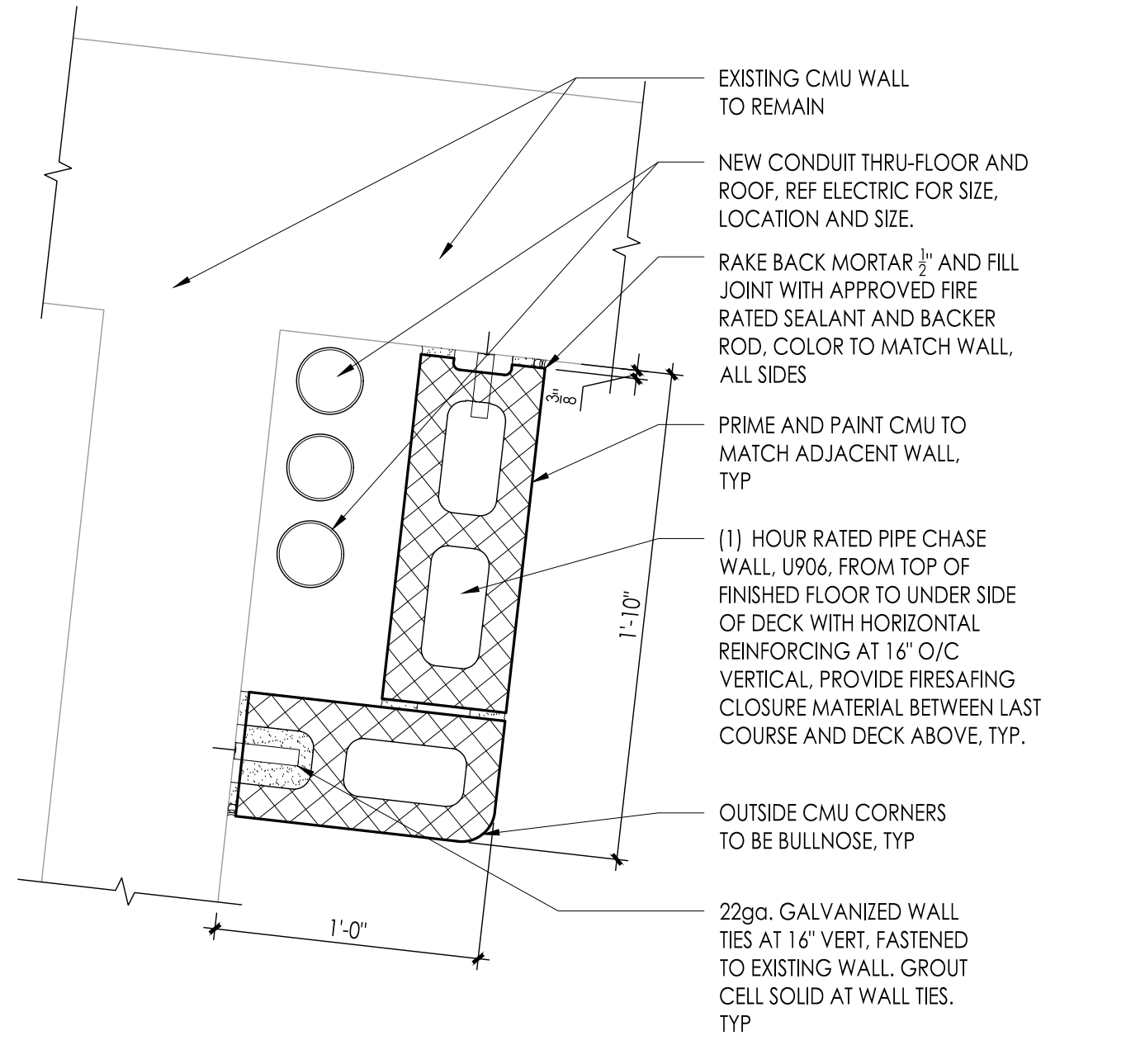
3 TYPICAL RATED CONSTRUCTION - 6" CONCRETE MASONRY UNITS
N.T.S.


EXISTING PIPING BEING REMOVED, REF PLUMBING
NEW ROOF INFILL, REF ROOF PLAN, A201, FOR ALL ROOFING TIE-INS AND ASSEMBLIES
EXISTING ROOF ASSEMBLY, REF ROOF PLAN
EXISTING STEEL SUPPORT, FIELD VERIFY
EXISTING METAL ROOF DECK WITH EXISTING PAINT, FIELD VERIFY
FASTENERS INTO EXISTING DECK, DO NOT PENETRATE ROOF PLY ABOVE
22ga. SHEET METAL PATCH WITH HEMMED EDGE, COVER DECK AREA OF REMOVED PIPES AND PAINT TO MATCH EXISTING ROOF DECK, AT AREAS WITH STEEL ANGLE SUPPORTS, INSTALL SHEET METAL BETWEEN ANGLES AND PAINT, TOUCH UP ALL STEEL AND DECKING AT AREAS OF REPAIR

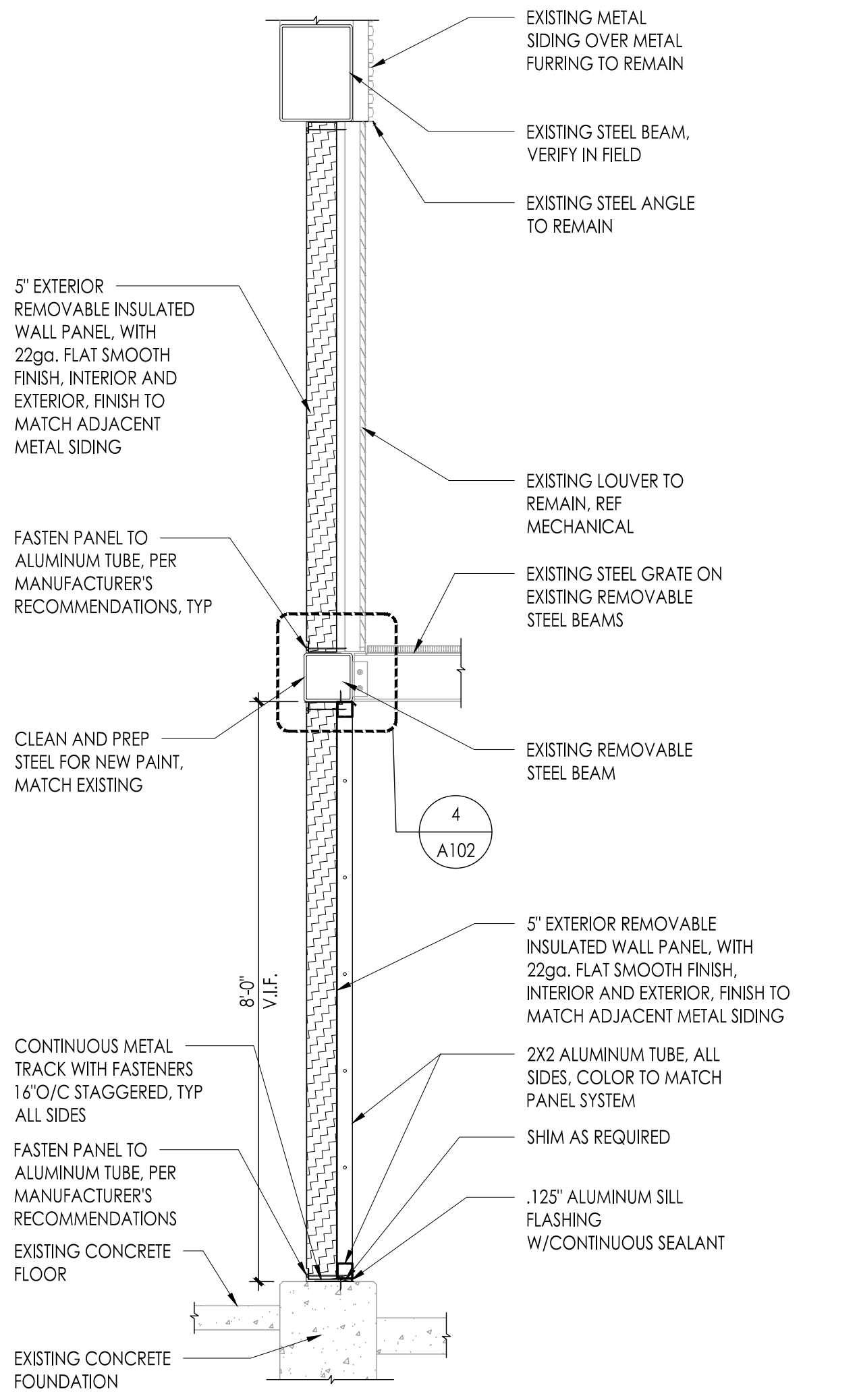
4 METAL PATCH AT EXISTING METAL DECK
1-1/2" = 1'-0"


4"
4" MIN
½"
4"
CONTINUOUS SEALANT, TYP
½" PRE-MOLDED EXPANSION MATERIAL
TYPICAL ACI HOOK
NOTE: REF MECHANICAL FOR DIMENSIONS ON NEW HOUSEKEEPING SLAB
NEW 4" PORTLAND CEMENT CONCRETE, MATCH EXISTING HOUSE KEEPING SLAB THICKNESS AND FINISH, 3500 PSI, OVER CONCRETE BONDING ADHESIVE, TYP
EXISTING CONCRETE FLOOR SLAB
#4 REBAR, DRILL INTO EXISTING CONCRETE SLAB 3" MIN AND EPOXY, 2'-0" O/C MIN AT PERIMETER OF NEW CONCRETE HOUSE KEEPING SLAB
EXISTING CONCRETE WALL

5 (ALT BID # 3) CONCRETE HOUSEKEEPING PAD DETAIL
1 1/2" = 1'-0"


EXISTING CMU WALL TO REMAIN
NEW CONDUIT THRU-FLOOR AND ROOF, REF ELECTRIC FOR SIZE, LOCATION AND SIZE.
RAKE BACK MORTAR ½" AND FILL JOINT WITH APPROVED FIRE RATED SEALANT AND BACKER ROD, COLOR TO MATCH WALL, ALL SIDES
PRIME AND PAINT CMU TO MATCH ADJACENT WALL, TYP
(1) HOUR RATED PIPE CHASE WALL, U906, FROM TOP OF FINISHED FLOOR TO UNDER SIDE OF DECK WITH HORIZONTAL REINFORCING AT 16" O/C VERTICAL, PROVIDE FIRESAFING CLOSURE MATERIAL BETWEEN LAST COURSE AND DECK ABOVE, TYP.
OUTSIDE CMU CORNERS TO BE BULLNOSE, TYP
22ga. GALVANIZED WALL TIES AT 16" VERT, FASTENED TO EXISTING WALL. GROUT CELL SOLID AT WALL TIES. TYP
⅜"
1'-10"
1'-0"

5 CMU PIPE CHASE (RATED)
1-1/2" = 1'-0"


EXISTING METAL SIDING OVER METAL FURRING TO REMAIN
EXISTING STEEL BEAM, VERIFY IN FIELD
EXISTING STEEL ANGLE TO REMAIN
5" EXTERIOR REMOVABLE INSULATED WALL PANEL, WITH 22ga. FLAT SMOOTH FINISH, INTERIOR AND EXTERIOR, FINISH TO MATCH ADJACENT METAL SIDING
EXISTING LOUVER TO REMAIN, REF MECHANICAL
FASTEN PANEL TO ALUMINUM TUBE, PER MANUFACTURER'S RECOMMENDATIONS, TYP
EXISTING STEEL GRATE ON EXISTING REMOVABLE STEEL BEAMS
CLEAN AND PREP STEEL FOR NEW PAINT, MATCH EXISTING
EXISTING REMOVABLE STEEL BEAM
4
A102
5" EXTERIOR REMOVABLE INSULATED WALL PANEL, WITH 22ga. FLAT SMOOTH FINISH, INTERIOR AND EXTERIOR, FINISH TO MATCH ADJACENT METAL SIDING
8'-0" V.I.F.
CONTINUOUS METAL TRACK WITH FASTENERS 16"O/C STAGGERED, TYP ALL SIDES
2X2 ALUMINUM TUBE, ALL SIDES, COLOR TO MATCH PANEL SYSTEM
SHIM AS REQUIRED
FASTEN PANEL TO ALUMINUM TUBE, PER MANUFACTURER'S RECOMMENDATIONS
.125" ALUMINUM SILL FLASHING W/CONTINUOUS SEALANT
EXISTING CONCRETE FLOOR
EXISTING CONCRETE FOUNDATION

6 REMOVABLE WALL SECTION
1" = 1'-0"

KEY PLAN
NTS

WILLIAM D. HOPKINS III, AIA, LEED AP
NJ - 21AI01706000 | PA - RA012520X
JASON J. DUBOWITCH, AIA
NJ - 21AI01979800 | PA - RA406009
STEPHEN W. SCHREYER JR., AIA, LEED AP BD+C
NJ - 21AI02003100 | PA - RA410435

William D. Hopkins
Architect

01/29/26
Date

F V H D P C . C O M

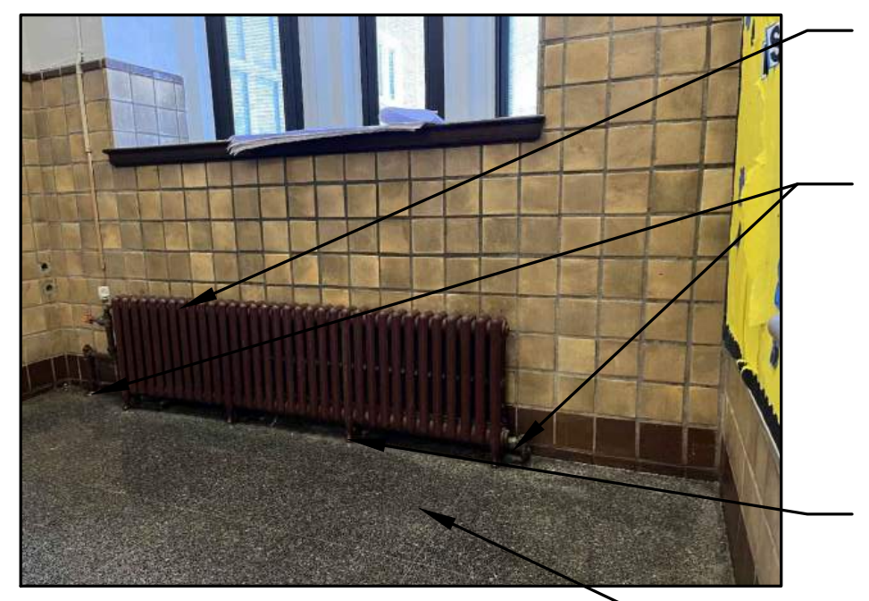
EST 1918
FVHD architects planners
Fraytak Veisz Hopkins Duthie PC
Corporate: 1515 Lower Ferry Road - Trenton - New Jersey 08618
Pennsylvania: 820 Adams Ave., Suite 210 - Audubon - Pennsylvania 19403

Project Name	HVAC Renovations at Princeton High School
Project Owner Name	Princeton Public Schools
Project Location	151 Moore Street, Princeton, NJ 08540
Project Number	5516E
Project Date	01.29. 2026
Checked By	W.D.H.
Drawn By	BO
Scale	AS NOTED
Drawing Name	EXISTING PARTIAL FIRST FLOOR PLAN, NOTES, PHOTOS, AND DETAILS

Revisions

No.	Date	Description

Drawing Number
A104



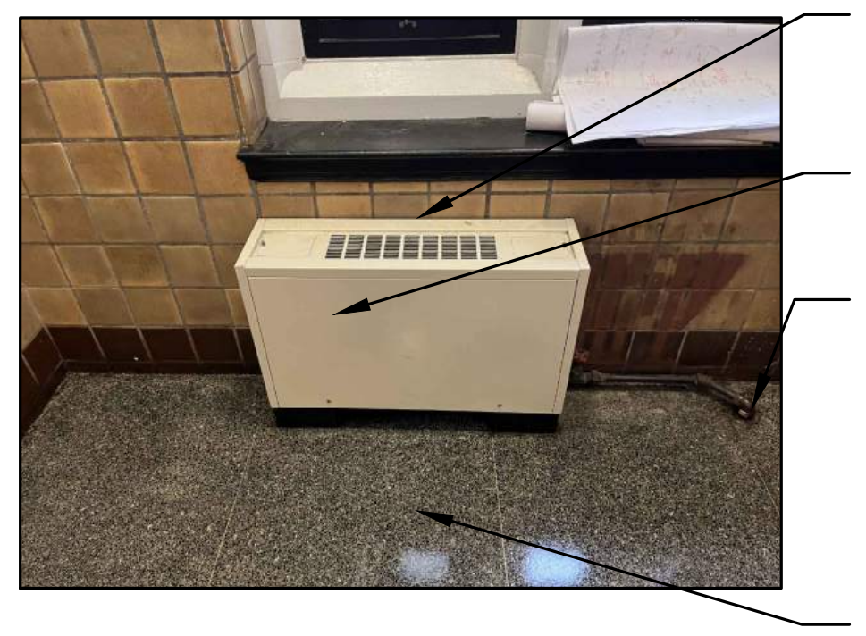
EXISTING EQUIPMENT TO BE REMOVED, REF MECHANICAL

REMOVE EXISTING PIPES IN FLOOR, AS DESCRIBED IN PLUMBING SHEETS. PATCH FLOOR WITH DARK GRAY PORTLAND CEMENT. SURFACE IS TO BE SMOOTH AND FLUSH WITH EXISTING FLOOR, CEMENT COLOR TO BE APPROVED BY ARCHITECT

CLEAN/REPAIR AND NEWLY EXPOSED SURFACES FROM REMOVAL OF EXISTING EQUIPMENT, TYP

EXISTING TERRAZZO FLOOR TO REMAIN

A1 PHOTOGRAPH
STAIR 10 (2nd FLOOR)



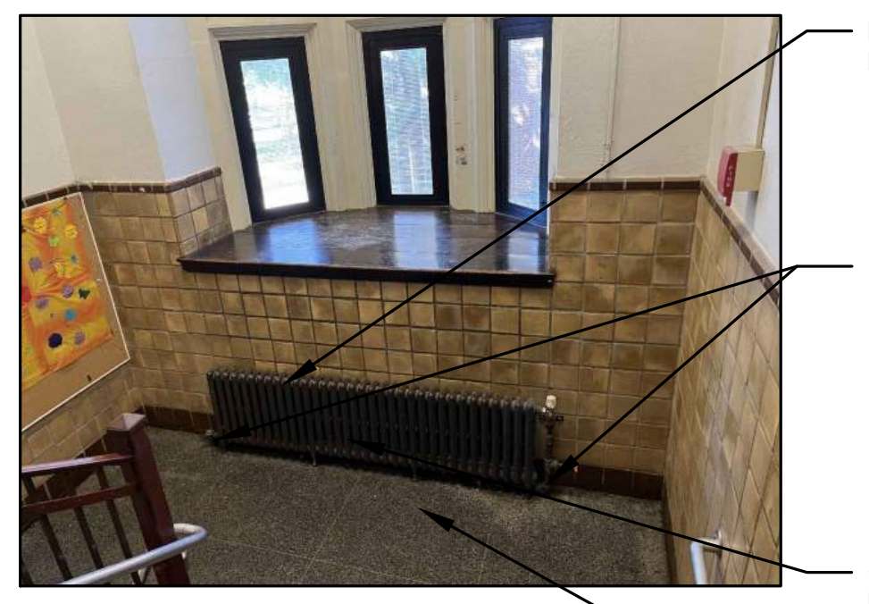
CLEAN/REPAIR NEWLY EXPOSED SURFACES FROM REMOVAL OF EXISTING EQUIPMENT, TYP

EXISTING EQUIPMENT TO BE REMOVED, REF MECHANICAL

REMOVE EXISTING PIPES IN FLOOR, AS DESCRIBED IN PLUMBING SHEETS. PATCH FLOOR WITH DARK GRAY PORTLAND CEMENT. SURFACE IS TO BE SMOOTH AND FLUSH WITH EXISTING FLOOR, CEMENT COLOR TO BE APPROVED BY ARCHITECT

EXISTING TERRAZZO FLOOR TO REMAIN

B1 PHOTOGRAPH
STAIR 12 (MID LANDING)



EXISTING EQUIPMENT TO BE REMOVED, REF MECHANICAL

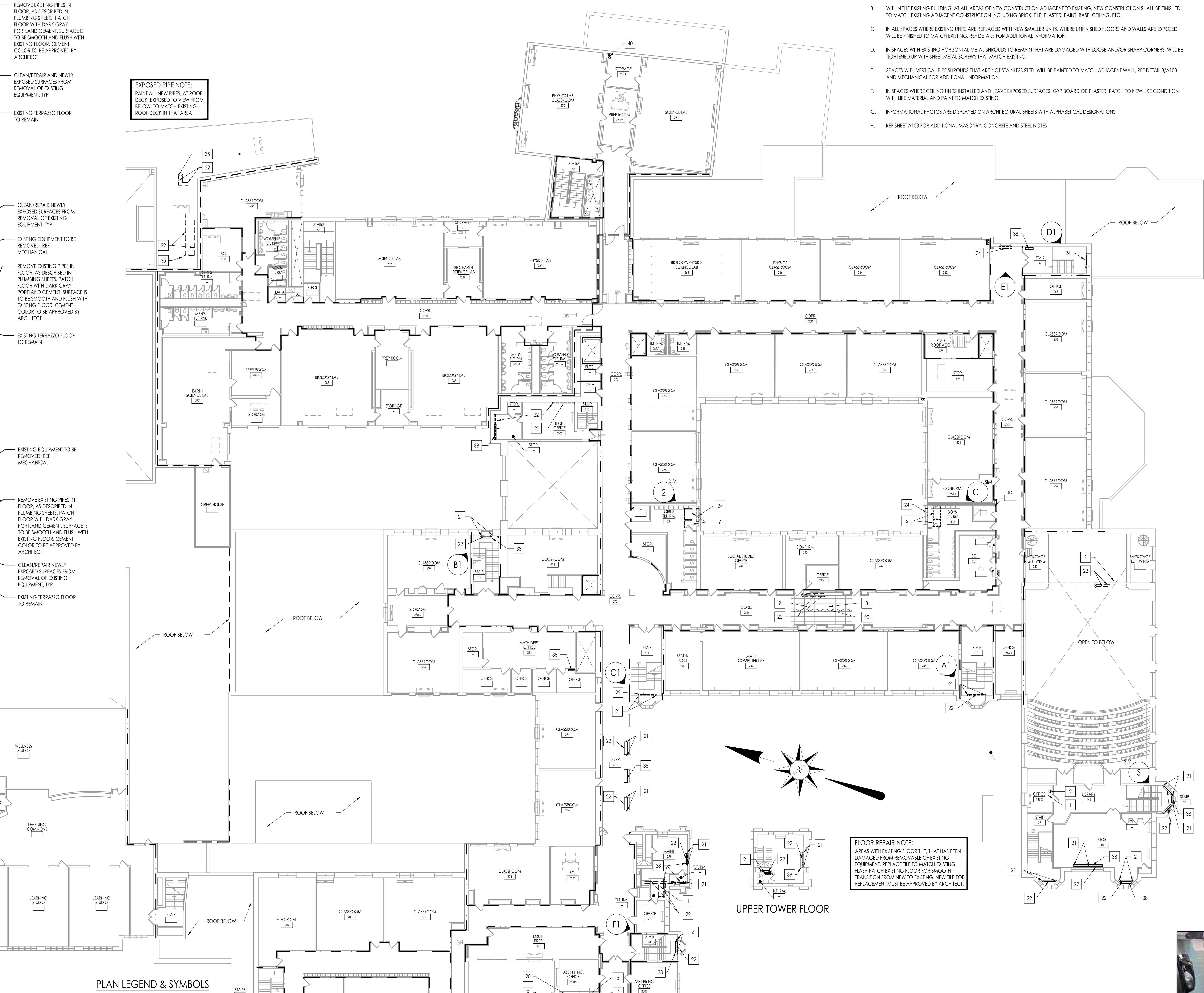
REMOVE EXISTING PIPES IN FLOOR, AS DESCRIBED IN PLUMBING SHEETS. PATCH FLOOR WITH DARK GRAY PORTLAND CEMENT. SURFACE IS TO BE SMOOTH AND FLUSH WITH EXISTING FLOOR, CEMENT COLOR TO BE APPROVED BY ARCHITECT

CLEAN/REPAIR NEWLY EXPOSED SURFACES FROM REMOVAL OF EXISTING EQUIPMENT, TYP

EXISTING TERRAZZO FLOOR TO REMAIN

C1 PHOTOGRAPH
STAIR 11 (2nd FLOOR)

EXPOSED PIPE NOTE:
PAINT ALL NEW PIPES, AT ROOF DECK, EXPOSED TO VIEW FROM BELOW, TO MATCH EXISTING ROOF DECK IN THAT AREA



1 PARTIAL SECOND FLOOR PLAN
Scale 1/8"=1'-0"

GENERAL ARCHITECTURAL SHEET NOTES:

THESE NOTES ARE GENERAL NOTES. ALL CONDITIONS NEED TO BE VERIFIED IN FIELD

A. SEE SPECIFICATION FOR ADDITIONAL INFORMATION ON MATERIALS / MANUFACTURER / PERFORMANCE AND WARRANTY INFORMATION .

B. WITHIN THE EXISTING BUILDING, AT ALL AREAS OF NEW CONSTRUCTION ADJACENT TO EXISTING, NEW CONSTRUCTION SHALL BE FINISHED TO MATCH EXISTING ADJACENT CONSTRUCTION INCLUDING BRICK, TILE, PLASTER, PAINT, BASE, CEILING, ETC.

C. IN ALL SPACES WHERE EXISTING UNITS ARE REPLACED WITH NEW SMALLER UNITS, WHERE UNFINISHED FLOORS AND WALLS ARE EXPOSED, WILL BE FINISHED TO MATCH EXISTING. REF DETAILS FOR ADDITIONAL INFORMATION.

D. IN SPACES WITH EXISTING HORIZONTAL METAL SHROUDS TO REMAIN THAT ARE DAMAGED WITH LOOSE AND/OR SHARP CORNERS, WILL BE TIGHTENED UP WITH SHEET METAL SCREWS THAT MATCH EXISTING.

E. SPACES WITH VERTICAL PIPE SHROUDS THAT ARE NOT STAINLESS STEEL WILL BE PAINTED TO MATCH ADJACENT WALL, REF DETAIL 3/A103 AND MECHANICAL FOR ADDITIONAL INFORMATION.

F. IN SPACES WHERE CEILING UNITS INSTALLED AND LEAVE EXPOSED SURFACES: GYP BOARD OR PLASTER, PATCH TO NEW LIKE CONDITION WITH LIKE MATERIAL AND PAINT TO MATCH EXISTING.

G. INFORMATIONAL PHOTOS ARE DISPLAYED ON ARCHITECTURAL SHEETS WITH ALPHABETICAL DESIGNATIONS.

H. REF SHEET A103 FOR ADDITIONAL MASONRY, CONCRETE AND STEEL NOTES

CONSTRUCTION KEYNOTES

1	REMOVE AND STORE EXISTING ACOUSTICAL CEILING TILES AND SUSPENSION GRID TO ACCOMMODATE DEMOLITION AND HVAC NEW WORK. FOLLOWING COMPLETION OF WORK, REINSTALL ALL EXISTING PANELS AND GRID TO PREVIOUS LOCATIONS, UNLESS SUPERCEDED BY REFLECTED CEILING PLAN OR MECHANICAL/ELECTRICAL DRAWINGS. REPLACE ALL DAMAGED, OR DETERIORATED CEILING TILES AND SUSPENSION GRID, WITH NEW MATERIAL TO MATCH EXISTING IN AREA DESCRIBED. REFERENCE MECHANICAL/ELECTRIC DRAWINGS.
2	PATCH AND REPAIR EXISTING WALL AT AREA OF REMOVED WALL MOUNTED THERMOSTAT, PATCH WALLS AND PAINT TO MATCH ADJACENT AT AREAS OF REMOVED WALL MOUNTED CONDUIT, TYP
3	MECHANICAL EQUIPMENT MOUNTED BELOW ROOF DECK ABOVE CEILING. REF MECHANICAL FOR ITEMS TO BE REMOVED AND REPLACED.
4	EXISTING CEILING MOUNTED EQUIPMENT TO BE REMOVED, REF MECHANICAL, TYP.
5	IN LOCATIONS WHERE NEW DUCT IS THRU EXISTING OPENINGS, FIELD VERIFY EXISTING OPENING AND MAKE REQUIRED MODIFICATIONS TO EXISTING WALL: THIS MAY REQUIRE ENLARGING OPENING AND/OR PATCHING EXISTING WALLS WITH LIKE MATERIAL WHERE DUCT IS SMALLER THEN EXISTING OPENING. TYP
6	NEW HVAC UNIT INSTALLED IN CEILING, REMOVE AND MODIFY EXISTING CEILING GRID AND TILE TO ACCEPT NEW UNIT. REPLACE CEILING TILE OR GRID DAMAGED FROM REMOVAL AND INSTALLATION OF UNIT AND ASSOCIATED EQUIPMENT, TYP
7	INDICATES NEW DUCT INSTALLED HIGH WITH HANGERS AND SUPPORTS, REF MECHANICAL . TYP.
8	NEW METAL SIDING OVER METAL STUD FURRING. MATCH EXISTING SIDING, REF 7/A101 . TYP.
9	REMOVE AND REPLACE EXISTING CEILING IN THIS AREA, TEMPORARILY REMOVE ALL CEILING EQUIPMENT AND REINSTALL INTO NEW CEILING, THIS INCLUDES EXISTING LIGHTING. REF MECHANICAL FOR FIRE PROTECTION SYSTEM RELOCATION. PATCH AND REPAIR EXISTING ADJACENT WALL AFTER CEILING IS INSTALLED, REF 2/A103 FOR CEILING EDGE AND SEISMIC BRACING WITH HANGER DETAIL, TYP.
10	DASHED LINE INDICATES EXISTING STEEL BEAM
11	CLEAN AND PATCH WALL PENETRATION FROM REMOVED PIPES AND CONDUIT. PATCH BOTH SIDES OF WALL WITH LIKE MATERIAL AND PAINT TO MATCH ADJACENT WALL.
12	EXISTING LOUVER TO REMAIN, LOUVER WILL BE CLEANED AND EXISTING BIRD SCREEN REPLACED, REF MECHANICAL. PROVIDE NEW PERIMETER SEALANT AT EXTERIOR JOINT, AS REQUIRED.
13	EXISTING SURFACE MOUNTED LIGHTING TO BE RELOCATED, REF ELECTRIC FOR ADDITIONAL INFORMATION
14	EXISTING EXTERIOR LOUVER TO REMAIN, REF MECHANICAL
15	EXTEND EXISTING CONCRETE HOUSEKEEPING PADS TO ASSOCIATED NEW MECHANICAL EQUIPMENT, REF MECHANICAL FOR EXACT SIZE, REF DETAIL 10/A101 FOR CONCRETE TIE-IN AND ADDITIONAL INFORMATION, PANT TO MACH EXISTING WITH SAFETY YELLOW EDGE BAND, TYP
16	METAL FLUE PIPE FASTENED TO EXISTING BUILDING, REF MECHANICAL AND 8/A101
17	EXISTING CONCRETE HOUSEKEEPING PAD TO REMAIN, PATCH AND REPAIR AS REQUIRED FOR NEW EQUIPMENT, TYP
18	HARD LID, GYP BOARD, CEILING, REF MECHANICAL FOR FULL EXTENT OF DEMOLITION AND NEW CONSTRUCTION. REMOVE ONLY AS NEEDED FOR NEW WORK, PATCH AND REPAIR WITH LIKE MATERIAL AND PAINT CEILING TO MATCH EXISTING.
19	EXISTING PIPES TO BE REMOVED AND NEW PIPES THRU-FLOOR TO BE INSTALLED. REPLACE EXISTING CEILING DAMAGED FROM WORK ABOVE CEILING WITH NEW CEILING TILE TO MATCH AT LOCATIONS OF EXISTING PIPES BEING REMOVED OR NEW PIPES BEING INSTALLED, REF MECHANICAL AND PLUMBING. PATCH EXISTING FLOORS, AS REQUIRE, WITH PORTLAND CEMENT AND SMOOTH FINISH.
20	INDICATES CEILING LIGHTING, REF ELECTRIC FOR RELOCATED LIGHT AND/OR NEW IN THIS AREA
21	REMOVE EXISTING EQUIPMENT, AS DESCRIBED IN MECHANICAL AND PLUMBING SHEETS, PATCH AND REPAIR ALL EXISTING MASONRY WALLS FROM EQUIPMENT REMOVAL. PATCH AND REPAIR RATED WALLS PER FIRE-RATED PENETRATIONS CHART, A101. WALLS WITH PAINT WILL RECEIVE PAINT TO MATCH EXISTING FINISHES AT PATCHED AND REPAIRED AREAS.
22	INDICATES EXISTING PIPES TO BE REMOVED THROUGH WALLS AND FLOOR, REF MECHANICAL AND PLUMBING. PATCH AND REPAIR ALL EXISTING UNUSED PENETRATIONS WITH LIKE MATERIAL, CONCRETE FLOORS WILL PATCHED WITH CONCRETE AND FINISHED TO MATCH ADJACENT FLOOR. I LOCATIONS WITH TILE OR CARPET TILE, MATCH EXISTING
23	FINISH EXPOSED UNFINISHED SURFACES TO MATCH EXISTING. REPLACE DAMAGED FLOOR TILE FROM REMOVAL OR INSTALLATION WITH LIKE MATERIAL, TYP.
24	REMOVE EXISTING HVAC EQUIPMENT IN EXISTING WALL, REF MECHANICAL, REMOVE EXISTING HVAC COVER AND REPLACE WITH NEW SHEET METAL COVER WITH HEMMED EDGES, REF 4/A103 FOR SHEET METAL COVER, METAL COLOR TO MATCH ADJACENT WALL, TYP.
25	EXISTING CONCRETE HOUSE KEEPING PAD AND ASSOCIATED STEEL TIES TO BE REMOVED, GRID EXISTING FLOOR SURFACE SMOOTH AND PREP FOR PAINT. GRIND ANY EXISTING STEEL REBAR TIES TO 1" BELOW FINISHED FLOOR ELEVATION AND PATCH SMOOTH WITH FLOOR PATCH, PAINT TO MATCH ADJACENT FLOOR.
26	REMOVE EXISTING MECHANICAL/BOILER ROOM EQUIPMENT, AS DESCRIBED IN MECHANICAL AND PLUMBING SHEETS, PATCH AND REPAIR ALL EXISTING MASONRY WALLS AND CEILINGS FROM EQUIPMENT REMOVAL. PATCH AND REPAIR EXISTING CONCRETE HOUSE KEEPING PADS TO REMAIN AND PAINT, TYP REF MECHANICAL
27	INDICATES EXISTING DUCT TO BE REMOVED, REF MECHANICAL
28	REMOVE EXISTING LOUVER, PREP OPENING FOR NEW MASONRY INFILL AND METAL SIDING, REF 5/A103 AND REF MECHANICAL FOR ADDITIONAL INFORMATION
29	EXISTING DUCT TO REMAIN AND BE CAPPED, REF MECHANICAL
30	METAL VENT PIPE THRU MASONRY WALL AND METAL SIDING.REF MECHANICAL FOR SIZE AND LOCATION, REF 5/A104 FOR THRU-WALL DETAIL, (**ALT BID # 3**)
31	INFILL EXISTING OPENING WITH CMU, DOWEL AND TOOTH BACK AND PAINT. REF 6/A103
32	THROUGH WALL FLUE WITH INTERIOR AND EXTERIOR COVER PLATES, STEEL SUPPORTS AND KICKERS PAINTED, REF 3/A101
33	EXISTING REMOVABLE STEEL COLUMN TO REMAIN
34	MECHANICAL LOUVER TO BE REMOVED AND NEW REMOVABLE INSULATED WALL PANEL SYSTEM INSTALLED, REF 2/A102
35	REF MECHANICAL AND PLUMBING FOR ITEMS BEING REMOVED AND REPLACED, AT EXISTING DECK AND TROUGH EXISTING ROOF DECK, IN THIS ARES. PATCH, AS REQUIRED, AND PAINT ALL EXPOSED DUCT AND PIPING TO MATCH EXISTING COLOR OF ROOF DECK. REF 4/A104 FOR DECK PATCH AND PAINT, TYP
36	REF MECHANICAL FOR EXISTING EQUIPMENT TO BE REMOVED IN THIS AREA. REPLACE EXISTING MECHANICAL SHROUD WITH NEW SOLID 22GA. METAL SHROUD. PAINT TO MATCH ADJACENT WALLS, REF 4/A103 FOR "SIM" CONDITION
37	REMOVE EXISTING EXPANDED METAL COVER AND REPLACE WITH 22ga. METAL COVER TO FIT INTO EXISTING TRIM TO REMAIN, PAINT TO MATCH EXISTING TRIM
38	INDICATES NEW MECHANICAL EQUIPMENT INSTALLED, REF MECHANICAL, ELECTRIC ,AND PLUMBING FOR EXTENT OF NEW CONSTRUCTION
39	NEW CONCRETE HOUSEKEEPING PAD, REF MECHANICAL FOR EXACT SIZE AND LOCATION, REF DETAIL 10/A101 FOR CONCRETE TIE-IN AND ADDITIONAL INFORMATION, PANT TO MACH EXISTING WITH SAFETY YELLOW EDGE BAND, TYP
40	(1) HOUR RATED CMU PIPE CHASE FROM FLOOR TO DECK ABOVE, PROVIDE FIRESAFING CLOSURE MATERIAL BETWEEN LAST COURSE AND DECK, REF 5/A104

FINISH NOTE:
PAINT ALL AREAS LEFT EXPOSED BY DEMOLITION AND NEW CONSTRUCTION. PAINT SHALL MATCH EXISTING ADJACENT SURFACES. REF GENERAL ARCHITECTURAL SHEET NOTES FOR ADDITIONAL FINISH INFORMATION.

CEILING NOTE:
ANY, AND ALL, CEILING REMOVAL WORK DONE IN ASSOCIATION WITH THIS PROJECT, WILL BE REASSEMBLED/PATCHED WITH LIKE MATERIALS OF EXISTING CEILING, THIS INCLUDES, BUT IS NOT LIMITED TO, PLASTER, GYP BOARD AND ACOUSTIC LAY-IN TILES AND GRID, PAINT TO MATCH IF REQUIRED.

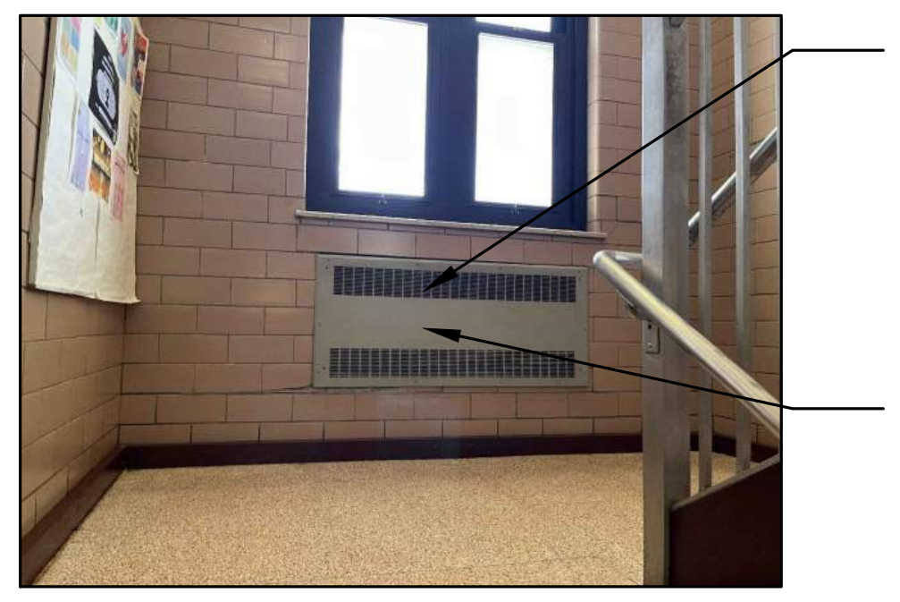
WALL PENETRATION NOTE:
REFERENCE FIRE-RATED PENETRATIONS CHART (UL DES # INFO) FOR INFILL AT RATED WALLS, A101, MAINTAIN ASSIGNED RATING WITH LIKE MATERIALS. TYP.

FIRE PROTECTION NOTE:
REFERENCE MECHANICAL FOR AREAS WHERE FIRE PROTECTION SYSTEM IS TO BE ALTERED AND/OR MODIFIED. TYP.

FLOOR REPAIR NOTE:
AREAS WITH EXISTING FLOOR TILE, THAT HAS BEEN DAMAGED FROM REMOVABLE OF EXISTING EQUIPMENT, REPLACE TILE TO MATCH EXISTING. FLASH PATCH EXISTING FLOOR FOR SMOOTH TRANSITION FROM NEW TO EXISTING. NEW TILE FOR REPLACEMENT MUST BE APPROVED BY ARCHITECT.

PLAN LEGEND & SYMBOLS

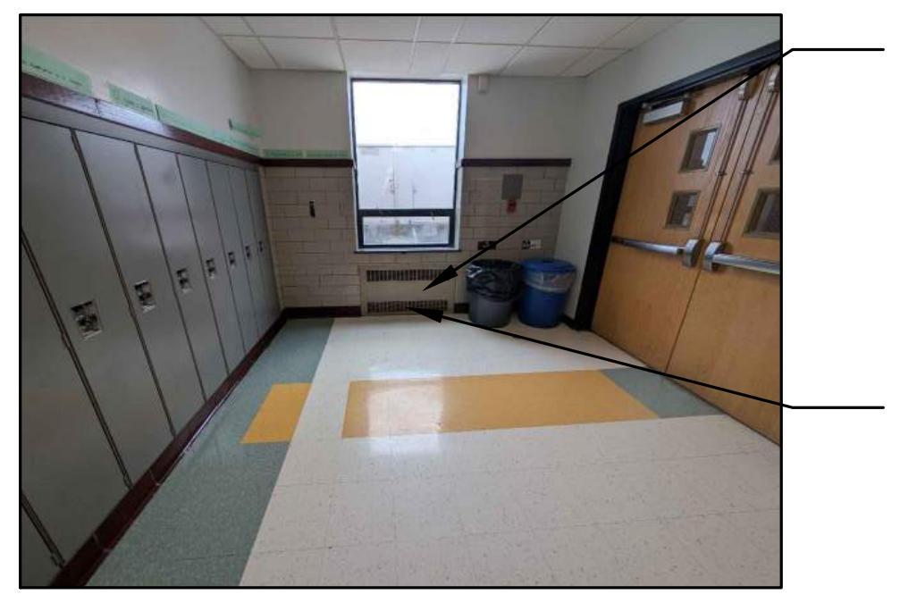
▬ ▬ ▬	(2) HOUR FIRE WALL
▬ ╎ ▬	(1) HOUR FIRE SEPARATION
▬ ▪ ▬	INDICATES SMOKE PARTITION
═	EXISTING WALLS AND CHASES
X	INDICATES CONSTRUCTION NOTE
XX / AXXX	section number WALL SECTION drawing number
XXXX 000	ROOM NAME / NUMBER
X	INDICATES PHOTO DIRECTION



REMOVE EXISTING METAL SHROUD AND REPLACE WITH 22ga. METAL COVER WITH HEMMED EDGES, PAINT TO MATCH ADJACENT WALL

MECHANICAL EQUIPMENT WILL BE ABANDONED IN PLACE, AS DESCRIBED IN MECHANICAL DRAWINGS

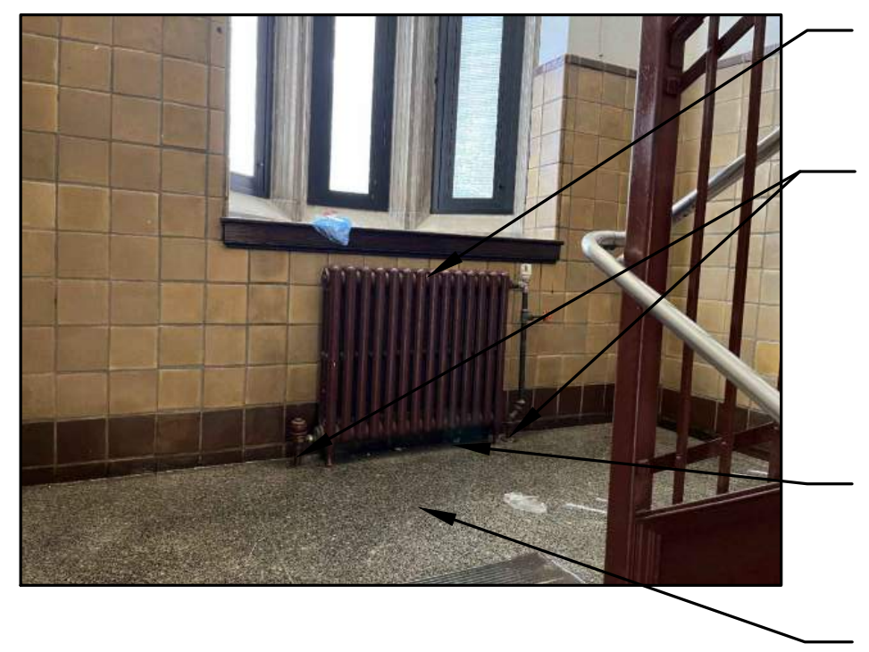
D1 PHOTOGRAPH
STAIR 11 (2nd FLOOR)



REMOVE EXISTING METAL SHROUD AND REPLACE WITH 22ga. METAL COVER WITH HEMMED EDGES, PAINT TO MATCH ADJACENT WALL, REF 4/A103 FOR "SIM" CONDITION

MECHANICAL EQUIPMENT WILL BE ABANDONED IN PLACE, AS DESCRIBED IN MECHANICAL DRAWINGS

E1 PHOTOGRAPH
CORRIDOR 250 (2nd FLOOR)



EXISTING EQUIPMENT TO BE REMOVED, REF MECHANICAL

REMOVE EXISTING PIPES IN FLOOR, AS DESCRIBED IN PLUMBING SHEETS. PATCH FLOOR WITH DARK GRAY PORTLAND CEMENT. SURFACE IS TO BE SMOOTH AND FLUSH WITH EXISTING FLOOR, CEMENT COLOR TO BE APPROVED BY ARCHITECT

CLEAN/REPAIR NEWLY EXPOSED SURFACES FROM REMOVAL OF EXISTING EQUIPMENT, TYP

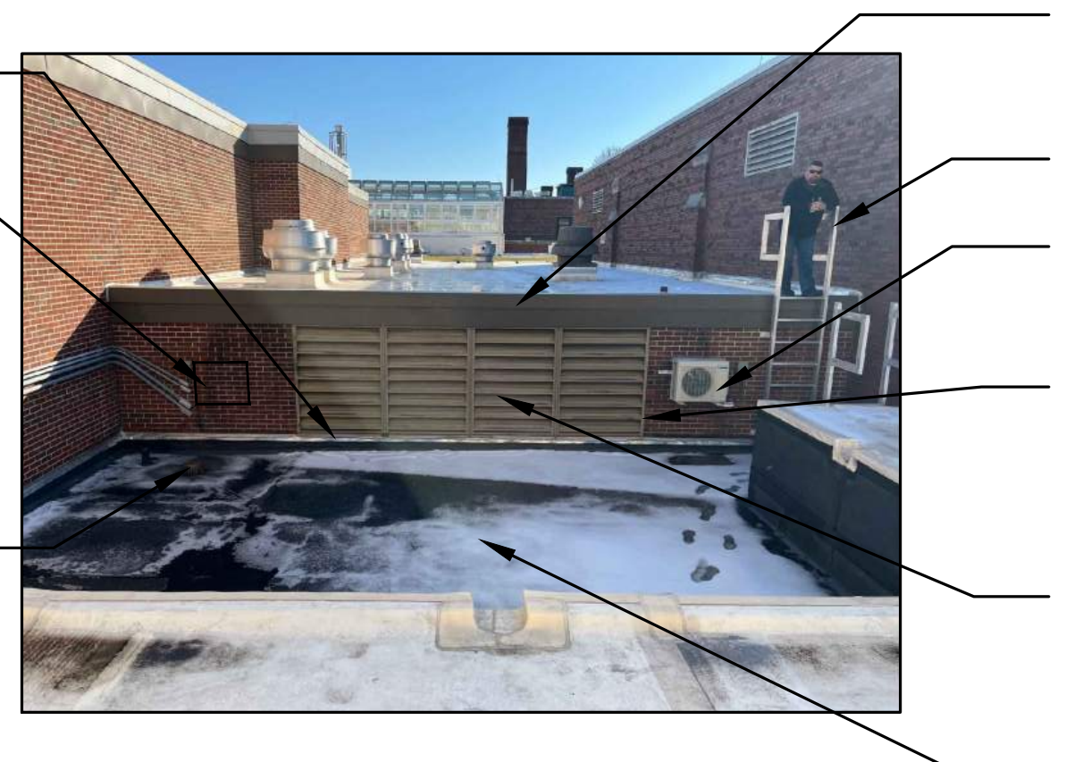
EXISTING TERRAZZO FLOOR TO REMAIN

F1 PHOTOGRAPH
STAIR 1 (2nd FLOOR)

EXISTING METAL FLASHING TO REMAIN, V.I.F.

SAW CUT AND REMOVE EXISTING BRICK AND CMU FOR NEW THRU-WALL LOUVER. REF MECHANICAL AND 2/A105

EXISTING ROOF DRAIN, REF GENERAL ROOF CONSTRUCTION NOTE "O" ON SHEET A201, TYP



EXISTING FASCIA TO REMAIN. REMOVE AND REINSTALL ONLY AS REQUIRED FOR NEW MASONRY INFILL

EXISTING ROOF LADDER TO REMAIN

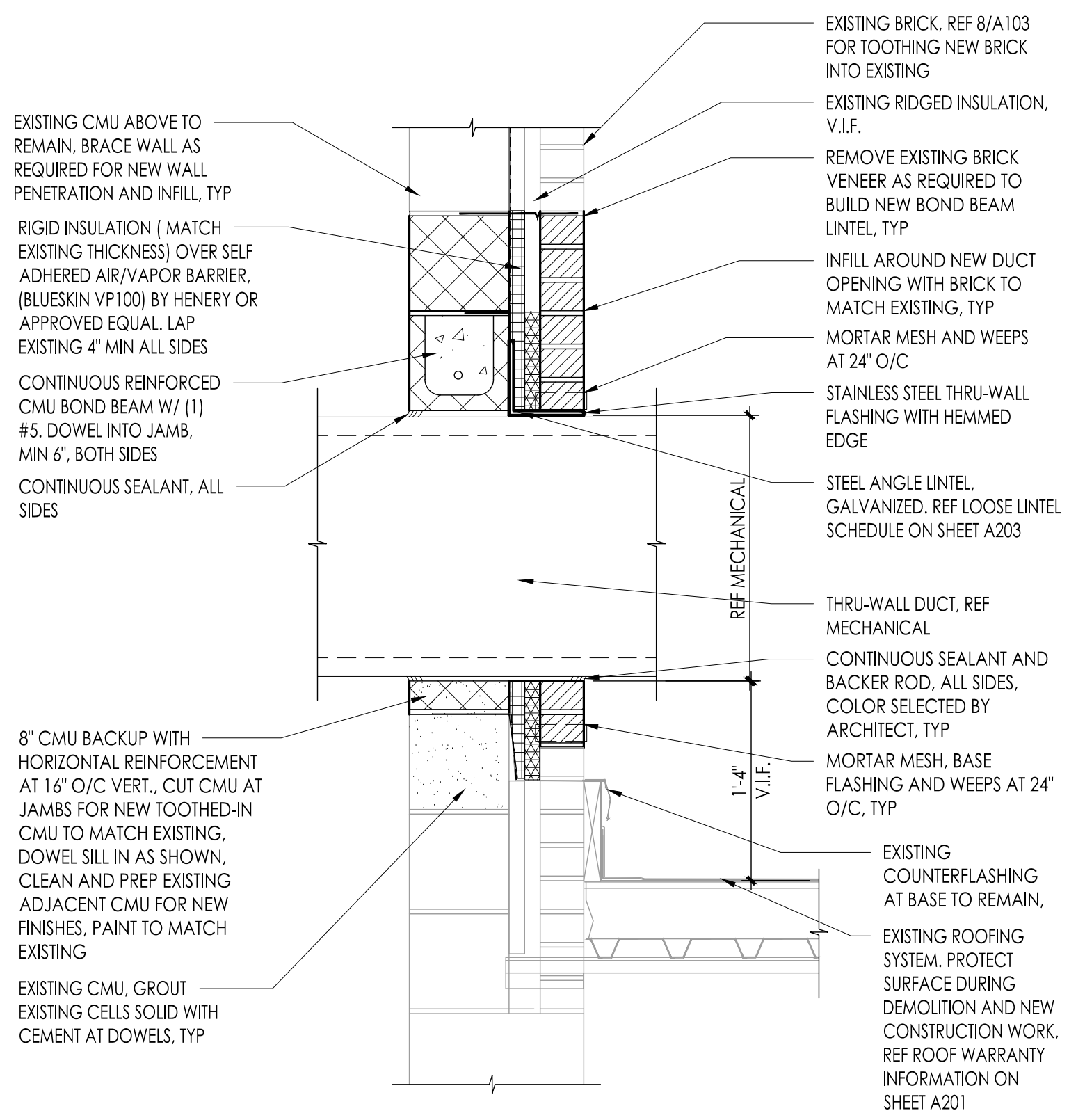
EXISTING MECHANICAL EQUIPMENT, WALL MOUNTED, REF MECHANICAL

REMOVE EXISTING FASTENERS, CUT EXISTING BRICK TO TOOTH NEW BRICK INTO EXISTING VENEER AND PREP OPENING FOR NEW MASONRY INFILL

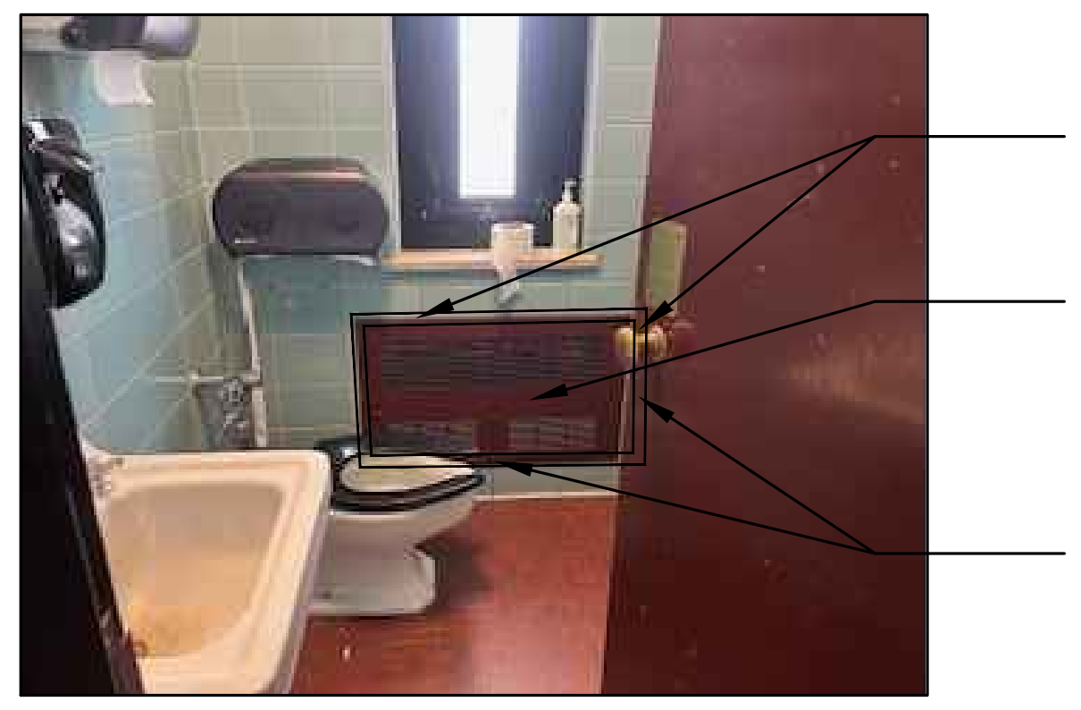
REMOVE EXISTING LOUVER IN ITS ENTIRETY, REF MECHANICAL FOR EQUIPMENT INSIDE TO BE REMOVED.

EXISTING ROOF ASSEMBLY TO REMAIN, REF ROOF WARRANTY INFORMATION SHEET A201

G1 PHOTOGRAPH
EXTERIOR LOUVER (ROOF)


EXISTING BRICK, REF 8/A103 FOR TOOTHING NEW BRICK INTO EXISTING
EXISTING CMU ABOVE TO REMAIN, BRACE WALL AS REQUIRED FOR NEW WALL PENETRATION AND INFILL, TYP
EXISTING RIDGED INSULATION, V.I.F.
REMOVE EXISTING BRICK VENEER AS REQUIRED TO BUILD NEW BOND BEAM LINTEL, TYP
RIGID INSULATION (MATCH EXISTING THICKNESS) OVER SELF ADHERED AIR/VAPOR BARRIER, (BLUESKIN VP100) BY HENERY OR APPROVED EQUAL. LAP EXISTING 4" MIN ALL SIDES
INFILL AROUND NEW DUCT OPENING WITH BRICK TO MATCH EXISTING, TYP
MORTAR MESH AND WEEPS AT 24" O/C
CONTINUOUS REINFORCED CMU BOND BEAM W/ (1) #5. DOWEL INTO JAMB, MIN 6", BOTH SIDES
STAINLESS STEEL THRU-WALL FLASHING WITH HEMMED EDGE
CONTINUOUS SEALANT, ALL SIDES
STEEL ANGLE LINTEL, GALVANIZED. REF LOOSE LINTEL SCHEDULE ON SHEET A203
REF MECHANICAL
THRU-WALL DUCT, REF MECHANICAL
CONTINUOUS SEALANT AND BACKER ROD, ALL SIDES, COLOR SELECTED BY ARCHITECT, TYP
8" CMU BACKUP WITH HORIZONTAL REINFORCEMENT AT 16" O/C VERT., CUT CMU AT JAMBS FOR NEW TOOTHED-IN CMU TO MATCH EXISTING, DOWEL SILL IN AS SHOWN, CLEAN AND PREP EXISTING ADJACENT CMU FOR NEW FINISHES, PAINT TO MATCH EXISTING
MORTAR MESH, BASE FLASHING AND WEEPS AT 24" O/C, TYP
1'-4" V.I.F.
EXISTING COUNTERFLASHING AT BASE TO REMAIN,
EXISTING CMU, GROUT EXISTING CELLS SOLID WITH CEMENT AT DOWELS, TYP
EXISTING ROOFING SYSTEM. PROTECT SURFACE DURING DEMOLITION AND NEW CONSTRUCTION WORK, REF ROOF WARRANTY INFORMATION ON SHEET A201

2 TRU-WALL DUCT INFILL/FLASHING
1" = 1'-0"

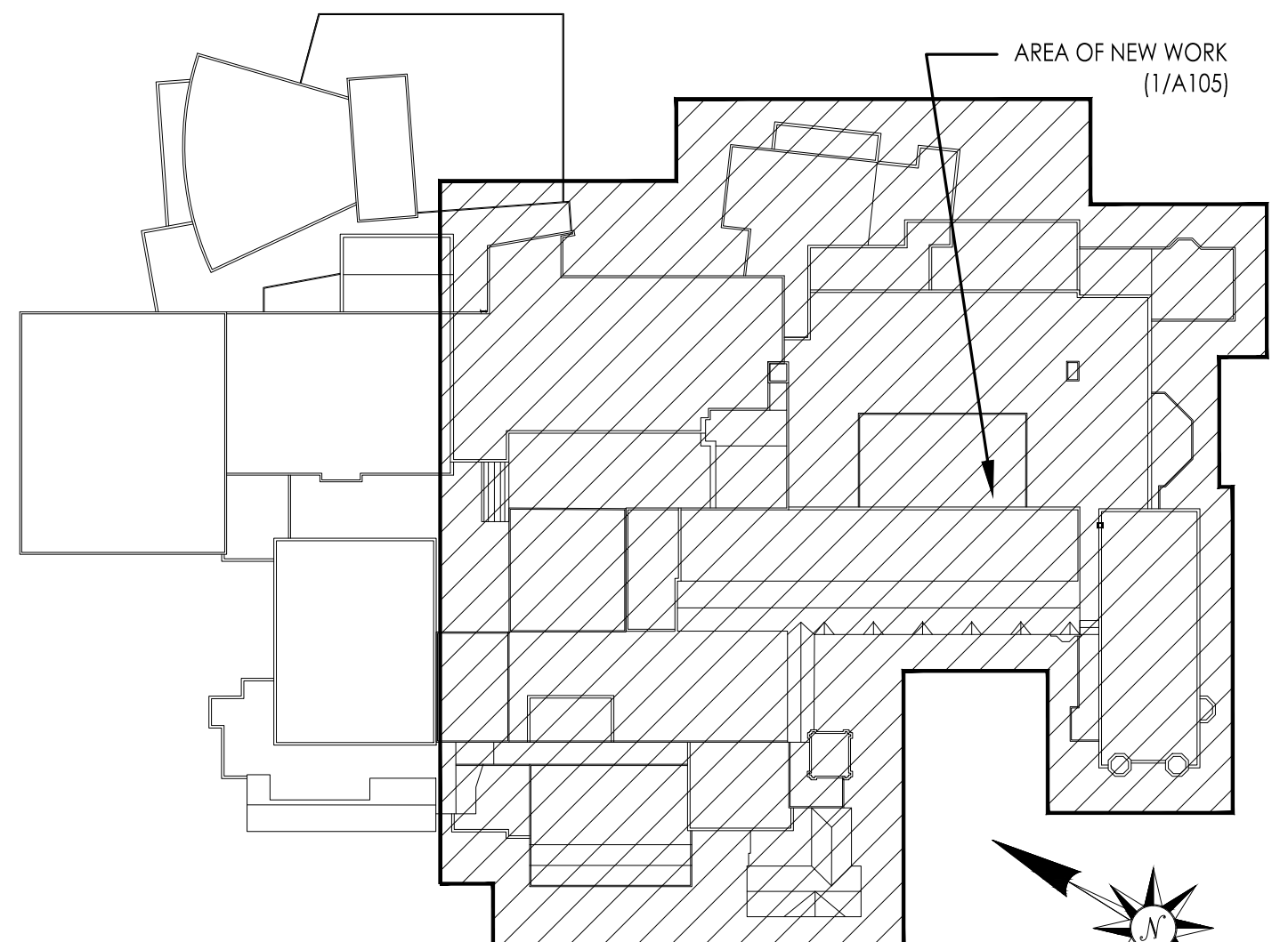


REPAIR EXISTING WALLS FROM DEMOLITION OF EXISTING UNIT AND INSTALLATION OF NEW HEATER.

REMOVE EXISTING SHROUD AND HEATING UNIT, REF MECHANICAL AND ELECTRIC

NEW 2" TRIM AT NEW UNIT, COORDINATE TRIM SIZE WITH EXISTING OPENING AND NEW UNIT SIZE, MATCH COLOR OF EXISTING

H1 PHOTOGRAPH
TOILET 160A



KEY PLAN
NTS

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JASON J. DUBOWITCH, AIA
NJ - 21AI01979800 | PA - RA406009
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NJ - 21AI02003100 | PA - RA410435

William D. Hopkins
Architect
01/29/26
Date

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FVHDPC.COM

Project Name
HVAC Renovations
at Princeton High
School

Project Owner Name
Princeton Public
Schools

Project Location
151 Moore Street,
Princeton, NJ
08540

Project Number
5516E

Project Date
01.29. 2026

Checked By
W.D.H.

Drawn By
BO

Scale
AS NOTED

Drawing Name
EXISTING PARTIAL
SECOND FLOOR
PLAN, NOTES,
PHOTOS, AND
DETAILS

Revisions

No.	Date	Description

Drawing Number
A105

STAGING NOTES:

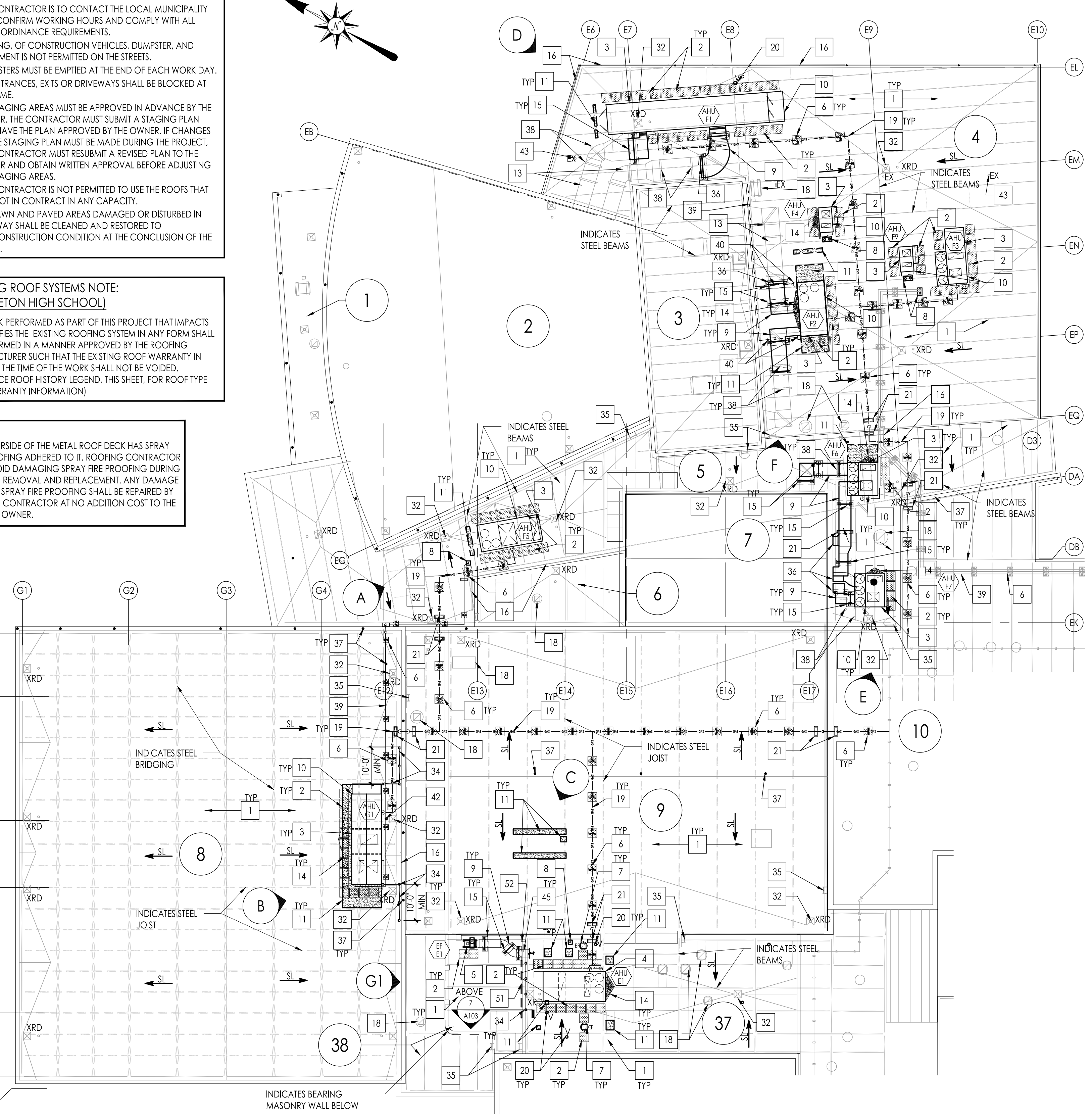
1. NO STAGING IS PERMITTED ON THE SIDEWALKS.
2. TEMPORARY TOILETS SHALL BE PROVIDED BY THE CONTRACTOR AND PLACEMENT COORDINATED WITH OWNER.
3. CONSTRUCTION SAFETY FENCING SHALL BE INSTALLED AROUND ALL STAGING AREAS.
4. THE CONTRACTOR IS TO CONTACT THE LOCAL MUNICIPALITY AND CONFIRM WORKING HOURS AND COMPLY WITH ALL NOISE ORDINANCE REQUIREMENTS.
5. PARKING, OF CONSTRUCTION VEHICLES, DUMPSTER, AND EQUIPMENT IS NOT PERMITTED ON THE STREETS.
6. DUMPSTERS MUST BE EMPTIED AT THE END OF EACH WORK DAY.
7. NO ENTRANCES, EXITS OR DRIVEWAYS SHALL BE BLOCKED AT ANY TIME.
8. ALL STAGING AREAS MUST BE APPROVED IN ADVANCE BY THE OWNER. THE CONTRACTOR MUST SUBMIT A STAGING PLAN AND HAVE THE PLAN APPROVED BY THE OWNER. IF CHANGES TO THE STAGING PLAN MUST BE MADE DURING THE PROJECT, THE CONTRACTOR MUST RESUBMIT A REVISED PLAN TO THE OWNER AND OBTAIN WRITTEN APPROVAL BEFORE ADJUSTING THE STAGING AREAS.
9. THE CONTRACTOR IS NOT PERMITTED TO USE THE ROOFS THAT ARE NOT IN CONTRACT IN ANY CAPACITY.
10. ALL LAWN AND PAVED AREAS DAMAGED OR DISTURBED IN ANY WAY SHALL BE CLEANED AND RESTORED TO PRE-CONSTRUCTION CONDITION AT THE CONCLUSION OF THE WORK.

EXISTING ROOF SYSTEMS NOTE:
(PRINCETON HIGH SCHOOL)

ALL WORK PERFORMED AS PART OF THIS PROJECT THAT IMPACTS OR MODIFIES THE EXISTING ROOFING SYSTEM IN ANY FORM SHALL BE PERFORMED IN A MANNER APPROVED BY THE ROOFING MANUFACTURER SUCH THAT THE EXISTING ROOF WARRANTY IN PLACE AT THE TIME OF THE WORK SHALL NOT BE VOIDED. (REFERENCE ROOF HISTORY LEGEND, THIS SHEET, FOR ROOF TYPE AND WARRANTY INFORMATION)

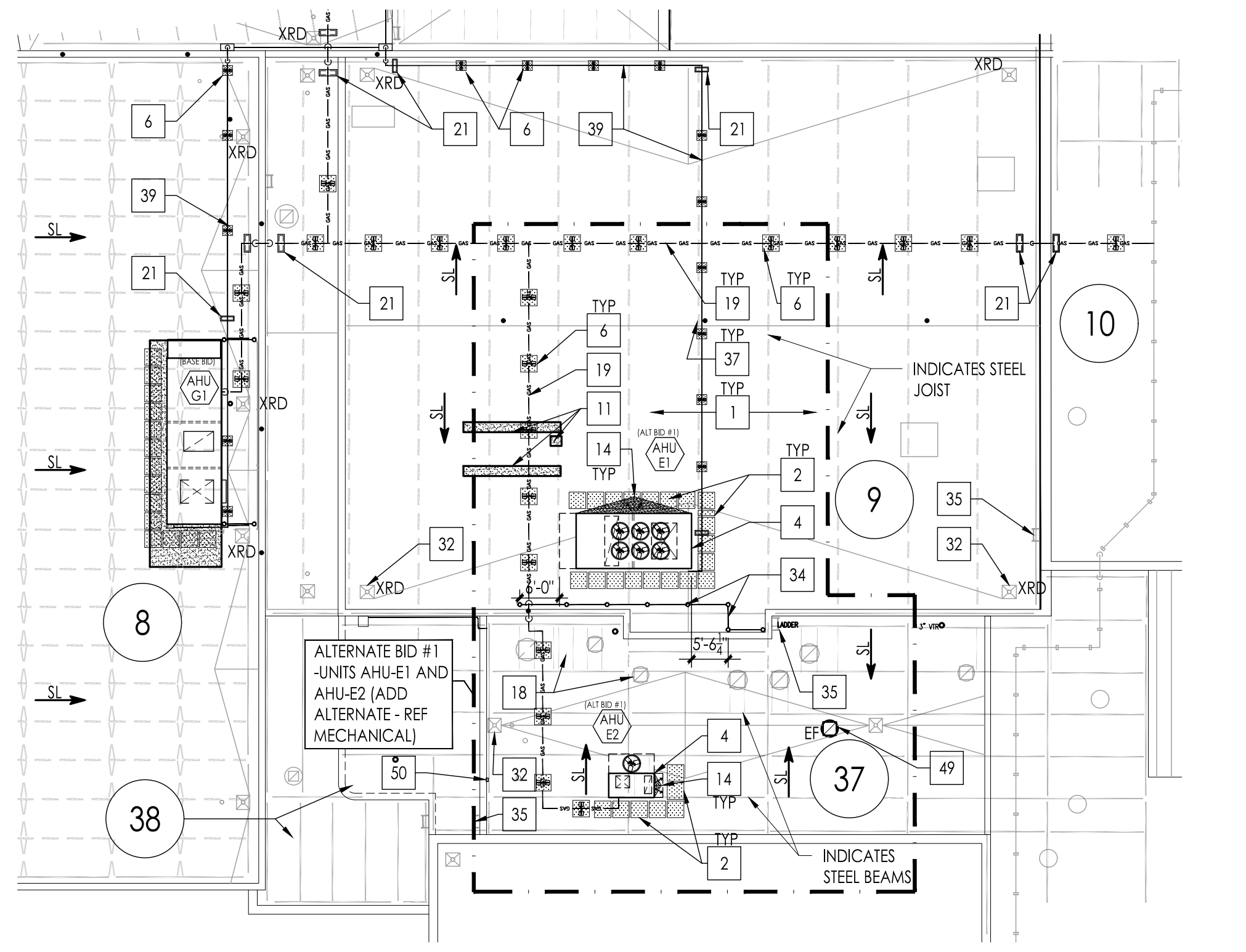
NOTE:

THE UNDERSIDE OF THE METAL ROOF DECK HAS SPRAY FIRE PROOFING ADHERED TO IT. ROOFING CONTRACTOR IS TO AVOID DAMAGING SPRAY FIRE PROOFING DURING ROOFING REMOVAL AND REPLACEMENT. ANY DAMAGE DONE TO SPRAY FIRE PROOFING SHALL BE REPAIRED BY ROOFING CONTRACTOR AT NO ADDITION COST TO THE BUILDING OWNER.



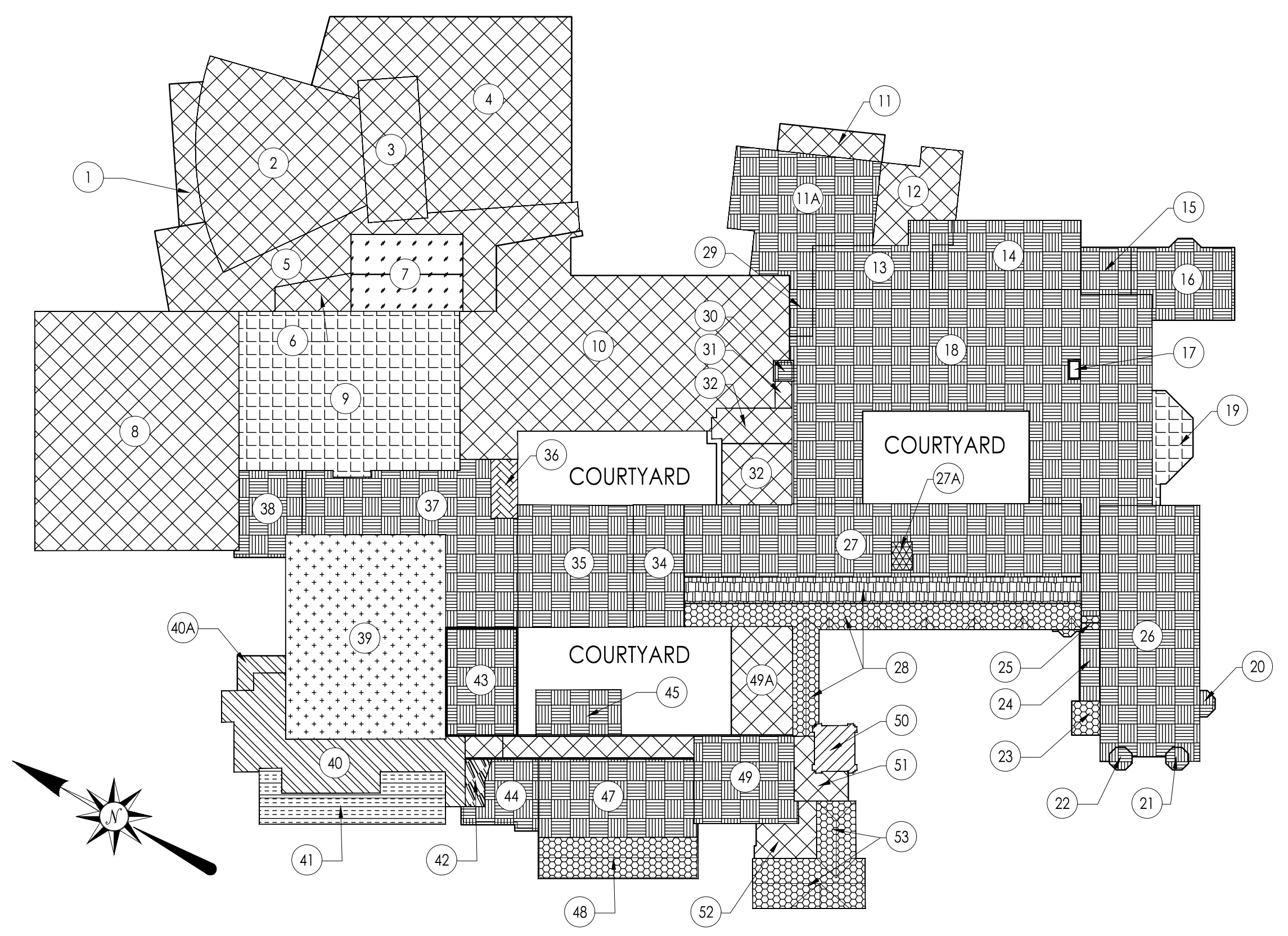
1 EXISTING PARTIAL ROOF PLAN

Scale 1"=20'-0"


ALTERNATE BID #1 -UNITS AHU-E1 AND AHU-E2 (ADD ALTERNATE - REF MECHANICAL)
INDICATES STEEL JOIST
INDICATES STEEL BEAMS
8
9
10
37
38

3 EXISTING PARTIAL ROOF PLAN (ALT BID #1)

Scale 1"=20'-0"



PRINCETON HIGH SCHOOL ROOF WARRANTIES LEGEND

GENERAL ROOF DEMOLITION NOTES:

A. THE ROOFING CONTRACTOR SHALL VERIFY THE EXACT LOCATION, DIMENSION, CONDITION AND QUANTITY OF ALL ROOFTOP EQUIPMENT AND APPURTENANCES WHICH INCLUDES, BUT ARE NOT LIMITED TO: EXHAUST FANS, VENT PIPES, DRAINS, HATCHES, FLUE PIPES, HOT STACKS, HVAC EQUIPMENT, CURBS, BASE FLASHING AND OTHER PENETRATIONS AND WORK ASSOCIATED WITH THIS ROOFING PORTION OF THIS PROJECT.

B. THE ROOFING CONTRACTOR SHALL BE RESPONSIBLE TO PERFORM DEMOLITION CAREFULLY CAUSING NO DAMAGE TO EXISTING CONSTRUCTION TO REMAIN. ANY DAMAGES MUST BE REPAIRED AND OR REPLACED BY THE ROOFING CONTRACTOR TO THE OWNER'S AND ARCHITECTS SATISFACTION AND AT NO ADDITIONAL COST TO THE CONTRACT PRICE. PRIOR TO THE COMMENCEMENT OF WORK, THE ROOFING CONTRACTOR IS RESPONSIBLE TO INSPECT AND PHOTOGRAPH EXISTING CONDITIONS WHICH COULD BE MISCONSTRUED AS DAMAGE RESULTING FROM DEMOLITION AND INSTALLATION WORK.

C. FOR PURPOSES OF THIS PROJECT, REMOVE SHALL MEAN REMOVE AND DISPOSE OF SAME OFF SITE IN AN APPROVED AND LEGAL MANNER. REF MECHANICAL, ELECTRIC, AND PLUMBING FOR ITEMS BEING REMOVED ON THE ROOF.

D. DETAILS REFERENCED IN THE PHOTOGRAPHS AND ON THESE DRAWINGS ARE TYPICAL. PHOTOGRAPHS ARE INTENDED TO SHOW TYPICAL EXISTING CONDITIONS AND ARE NOT INTENDED TO LIMIT SCOPE. THE ROOFING CONTRACTOR SHALL VERIFY THE TOTAL NUMBER AND EXACT LOCATION OF CONDITIONS IN THE FIELD AND PERFORM WORK IN ACCORDANCE WITH THE DETAILS REFERENCED AND/OR THOSE WHICH ARE SIMILAR.

E. THE ROOFING CONTRACTOR SHALL COORDINATE ALL DUMPSTER STAGING AND TRUCK ROUTES WITH THE OWNER. THE ROOFING CONTRACTOR SHALL PROTECT ALL EXISTING PAVED AND PLANTED AREAS. THE ROOFING CONTRACTOR SHALL REPAIR ANY PAVED OR PLANTED AREAS TO THE SATISFACTION OF THE OWNER. THE REPAIRS ARE TO INCLUDE, BUT ARE NOT LIMITED TO, RE-PAVING OF ASPHALT DRIVEWAYS AND PARKING LOTS, RE-GRADING AND SEEDING OF LAWN AND PLAYGROUND AREAS, (REF X/A203 FOR LAWN REPAIR DETAIL) AND REPLACING DAMAGED PLANTS, SHRUBS, ETC. ALL REPAIRS AND RESTORATIONS SHALL BE DONE AT NO ADDITIONAL COST TO THE CONTRACT PRICE.

F. THE BUILDING IS OCCUPIED. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL MEANS AND METHODS OF CONSTRUCTION AND FOR THE SAFETY OF ALL PERSONS AT THE PROJECT SITE.

G. LIGHTNING PROTECTION SYSTEMS: EXISTING LIGHTING PROTECTION THAT IS REMOVED, OR RELOCATED, FOR NEW WORK, WILL BE STORED SAFELY AND REINSTALLED TO NEW EQUIPMENT IN EXISTING LOCATIONS. CONTRACTOR IS RESPONSIBLE BUT NOT LIMITED TO PROVIDE AND INSTALL MATERIALS, REPLACE ALL MISSING, DEFECTIVE PARTS AND CONDUCTOR LINES PER CODE COMPLIANT TO ASCERTAIN A U.L. MASTER LABEL CERTIFICATE UPON COMPLETION OF RE-INSTALLATION. CONTRACTOR SHALL RECONNECT LIGHTNING PROTECTION SYSTEM TO ALL EQUIPMENT AND APPURTENANCES REPLACING UNITS WHICH ARE CURRENTLY CONNECTED. REF 4/A203 AND 6/A203 FOR TYPICAL DETAILS.

GENERAL ROOF CONSTRUCTION NOTES:

A. PROVIDE ROOFING MATERIALS THAT COMPLY WITH A CLASS "A" SYSTEM.

B. NEW IMPOSED DEAD LOAD IS EQUAL TO OR LESS THAN EXISTING DEAD LOAD.

C. FRT WOOD BLOCKING SHOWN ON DRAWINGS IS DIAGRAMMATIC. PROVIDE FIRE RETARDANT TREATED WOOD BLOCKING CONSTRUCTION IN THICKNESS AND HEIGHT TO MATCH THICKNESS OF ROOF ASSEMBLY AND TO MAINTAIN A CONSTANT ROOF EDGE ELEVATION IN A HORIZONTAL PLANE UNLESS NOTED OTHERWISE.

D. THE ROOFING CONTRACTOR IS RESPONSIBLE FOR FLASHING ALL ROOF TOP PENETRATIONS, UNITS, AND CURBS ON THE ROOFS TO A WATERTIGHT CONDITION TO BE INCLUDED IN THE MANUFACTURER'S WARRANTY. REVIEW ALL DRAWINGS INCLUDED IN THIS SET FOR ROOFTOP PENETRATIONS. ALL ROOF TOP PENETRATIONS, UNITS, AND CURBS SHALL BE RAISED A MINIMUM OF 8" ABOVE THE NEW ROOF SYSTEM.

E. ALL CRICKETS/ GUSSETS/ SADDLES SHALL HAVE A 3:5 RATIO. WHERE THIS CONDITION CANNOT BE ACHIEVED DUE TO VALLEY LINE OF CRICKET INTERSECTING MECHANICAL EQUIPMENT, PENETRATION AND A HIGH POINT GREATER THAN THE THRU-WALL COUNTERFLASHING, PROVIDE MAXIMUM CRICKET WIDTH TO PROMOTE POSITIVE DRAINAGE TO ALL ROOF DRAINS.

F. UNLESS NOTED OTHERWISE ALL ROOFING, ACCESSORIES, MATERIALS, ETC. SHALL BE CONSIDERED NEW.

G. CONTRACTOR SHALL MAKE NECESSARY TIE-INS AND ALTERATIONS TO EXISTING ROOF IN ACCORDANCE WITH ORIGINAL ROOF MANUFACTURERS REQUIREMENTS, SO AS TO MAINTAIN ORIGINAL WARRANTY ON EXISTING ROOF.

H. CONTRACTOR SHALL AT ALL TIMES HAVE A FULL SET OF DRAWINGS AND SPECIFICATIONS ON ROOF TOP WHILE WORK IS IN PROGRESS.

I. CONTRACTOR IS RESPONSIBLE TO RECTIFY ANY PONDING WATER ON FINISHED ROOF SURFACE THAT REMAINS AFTER 48 HOURS AT NO ADDITIONAL COST.

J. SCRAPE, PRIME AND PAINT ALL GAS LINES YELLOW ON ALL ROOFS IN CONTRACT.

K. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO PROVIDE A SUFFICIENT WORK FORCE TO MEET COMPLETION DATES AS OUTLINED IN THE SPECIFICATIONS. NO EXCEPTIONS WILL BE ALLOWED.

L. CONTRACTOR IS RESPONSIBLE FOR ALL MEANS AND METHODS OF CONSTRUCTION AND ALL REQUIRED SAFETY PROTECTION DURING CONSTRUCTION.

M. DETAILS NOTED TYPICAL "TYP" IMPLY ALL SUCH CONDITIONS BE TREATED SIMILARLY.

N. EXG ROOFS ARE UNDER WARRANTY, INSTALLATION OF ROOFTOP EQUIPMENT IN THESE AREAS SHALL BE DONE IN ACCORDANCE WITH THE ROOFING MANUFACTURES REQUIREMENTS TO MAINTAIN SAID WARRANTY, TYPICAL.

O. EXISTING DRAIN LINES FROM EXISTING ROOFS WHERE NEW WORK IS BEING PREFORMED SHALL BE ELECTRICALLY CLEANED TO INVERT OF HOUSE STORM SEWER USING POWER ROOTER ("ROTO-ROOTER"). CONTRACTOR SHALL PROVIDE CERTIFICATION TO ARCHITECT AT COMPLETION OF PROJECT THAT THIS WORK HAS BEEN PERFORMED.

H. INFILL ALL AREAS, SHOWN IN CALL OUT OR NOT, OF ROOF WHERE EXISTING PIPE THRU-ROOF HAS BEEN ABANDONED AND REMOVED WITH LIKE MATERIALS, REF 12/A201 FOR ROOF INFILL. REF ROOF WARRANTY LEGEND FOR ROOF TYPE AND WARRANTY INFORMATION.

ROOF KEYNOTES

1	EXG ROOFS TO REMAIN ARE UNDER WARRANTY, INSTALLATION OF ROOFTOP EQUIPMENT IN THESE AREAS SHALL BE DONE IN ACCORDANCE WITH THE ROOFING MANUFACTURES REQUIREMENTS TO MAINTAIN SAID WARRANTY, TYPICAL. (REF ROOF WARRANTY LEGEND SHEET A201) REFERENCE MECHANICAL, PLUMBING, AND ELECTRICAL FOR ITEMS BEING REMOVED AND NEW ITEM INSTALLATIONS IN THESE AREAS
2	WALKWAY PADS - INSTALL AROUND ALL NEW ROOFTOP UNITS, ROOFTOP EQUIPMENT. MODIFY WALKWAY PADS AS REQUIRED SO THAT THE PAD MUST NOT IMPEDE THE FREE FLOW OF WATER TO THE DRAINAGE POINTS. REF ROOF TYPE WARRANTY INFORMATION THIS SHEET. REF 15/A203 FOR WALK PAD DETAILS AND NOTES. (REF ROOF WARRANTY LEGEND FOR ROOF TYPE)
3	NEW UNIT ON NEW CURB IN EXISTING LOCATION, FIELD VERIFY THAT NEW UNIT SETS ON EXISTING CURB STEEL. REMOVE EXISTING STEEL THAT IS UN-USED BY NEW UNIT, AND ADD NEW STEEL SUPPORT AND NEW ROOF DECK IN LOCATIONS WHERE NEW CURB IS NOT SUPPORTED BY EXISTING STEEL, REF 11/A201 FOR CURB REINFORCEMENT AND 10/A201 FOR JOIST REINFORCEMENT IN LOCATIONS WHERE REQUIRED. REF A201 FOR ROOF WARRANTIES INFO AND 1/A203, 2/A203 FOR FLASHING AND TIE-IN DETAILS. ANY NEW STEEL SUPPORTS ADDED AND EXPOSED TO VIEW FROM BELOW WILL BE PAINTED TO MATCH THE EXISTING ROOF DECK IN THAT AREA, TYP.
4	NEW UNIT ON NEW CURB, REF MECHANICAL AND ROOF TYPE WARRANTIES INFORMATION. REF 11/A201 FOR UNIT STEEL REINFORCEMENT, REF 1/A203 AND 2/A203 FOR FLASHING DETAILS. REMOVE THE REQUIRED EXISTING ROOFING MATERIAL FOR NEW CURB AND DUCT PENETRATION, REF GENERAL ROOF DEMOLITION NOTES, AND GENERAL ROOF CONSTRUCTION NOTES THIS SHEET.
5	NEW UNIT ON NEW EQUIPMENT RAIL, REF MECHANICAL AND ROOF TYPE WARRANTY INFORMATION THIS SHEET. REF 8/A203 FOR EQUIPMENT RAIL FLASHING. REMOVE EXISTING ROOFING MATERIAL, AS REQUIRED, FOR INSTALLATION OF NEW EQUIPMENT RAILS. REF GENERAL ROOF DEMOLITION NOTES AND GENERAL ROOF CONSTRUCTION NOTES ON SHEET A201.
6	NEW PIPE SUPPORT ON WARE PAD, REF 13/A203. REF PLUMBING, ELECTRIC, AND MECHANICAL SHEETS, REF ROOF WARRANTY LEGEND FOR ROOF TYPE AND WARE PAD COMPATIBILITY ON THIS SHEET.
7	EXISTING EXHAUST FAN RE-LOCATED ON NEW CURB OVER NEW STEEL REINFORCING, REF MECHANICAL FOR CURB AND EQUIPMENT INFORMATION, REF A201 FOR ROOF WARRANTY INFORMATION, AND 9/A203 FOR FLASHING DETAILS.
8	NEW PIPE CURB, REF MECHANICAL AND ELECTRIC FOR CURB INFO, REF A201 FOR ROOF WARRANTY INFORMATION, AND FLASHING DETAIL 7/A203.
9	NEW EXPOSED ROOFTOP DUCT WORK, REF MECHANICAL.
10	CONTRACTOR SHALL COORDINATE REMOVAL OF EXISTING STEEL ANGLE SUPPORTS, INSTALLATION OF NEW STEEL ANGLE SUPPORTS AND ROOF INFILL WITH NEW MECHANICAL UNIT AND EXISTING CONDITIONS IN FIELD. REF TO 10/A203 FOR NEW CURB DETAILS AND 11/A201 FOR STEEL SUPPORTS. REFER TO MECHANICAL DRAWINGS CURB AND UNIT TYPE. NEW STEEL SUPPORTS EXPOSED TO VIEW WILL BE PAINTED TO MATCH THE EXISTING ROOF DECK IN THAT AREA,TYP
11	ROOF INFILL AT REMOVED EQUIPMENT, REF A201 FOR ROOF TYPE AND WARRANTY INFORMATION, INFILL PER MANUFACTURER'S RECOMMENDATIONS. REF 12/A201 ROOF AND DECK INFILL DETAIL, REF GENERAL ROOF CONSTRUCTION NOTE "H" FOR ADDITIONAL INFILL INFORMATION.
12	CONCRETE SPLASH BLOCK ON WARE PAD, REF MECHANICAL FOR SPLASH BLOCK INFORMATION, REF 14/A203 AND ROOF A201 FOR ROOF TYPE AND ROOF WARRANT INFORMATION.
13	EXISTING SURFACE MOUNTED DUCT ON EXISTING STANDS, REF MECHANICAL FOR NEW DUCT TIE-INS TO EXISTING
14	PROVIDE CRICKET AT NEW RTU'S AT $\frac{1}{4}$"/FT FOR POSITIVE DRAINAGE AT UNITS, REF ROOF WARRANTY INFORMATION THIS SHEET AND GENERAL ROOF CONSTRUCTION NOTES SHEET A201
15	SURFACE MOUNTED DUCT SUPPORT STAND ON WARE PAD, REF ROOF WARRANTY LEGEND, REF MECHANICAL AND REF 16/A203
16	EXISTING GUARDRAIL TO REMAIN
17	NEW CONDENSATE LINE ON PIPE SUPPORT WITH WARE PAD, REF4/A203
18	EXISTING ROOF TOP EQUIPMENT TO REMAIN, REF MECHANICAL, MAINTAIN EXISTING LIGHTNING PROTECTION SYSTEM AT ALL EXISTING LOCATIONS.
19	NEW GAS LINE ON PIPE SUPPORTS PAINTED, REF ROOF TYPE AND WARRANTY LEGEND, REF MECHANICAL AND PLUMBING SHEETS
20	NEW VENT PIPE PENETRATION, REF 11/A203 AND PLUMBING SHEETS
21	FIXED PIPE SUPPORT, REF 12/A203 FOR FLASHING DETAILS. REF MECHANICAL AND PLUMBING SHEETS FOR ADDITIONAL INFORMATION.
22	SUSPENSION WIRE STEEL SUPPORT AND FLASHING, REF 12/A202 FOR SUPPORT SYSTEM AND FLASHING AND REF MECHANICAL SHEETS
23	EXISTING STEEL BEAM FOR EXISTING DUNNAGE TO REMAIN, SCRAP, PRIME AND PAINT TO MATCH EXISTING, TYP, ALL EXISTING DUNNAGE STEEL TO REMAIN.
24	NEW RTU ON EXISTING DUNNAGE WITH NEW STEEL SUPPORT BEAMS, REFERENCE MECHANICAL SHEETS AND REF ENLARGED DUNNAGE PLANS SHEET A202
25	INDICATES NEW STEEL SUPPORT BEAMS, PAINTED, AT EXISTING DUNNAGE, REF SHEET A202 FOR ENLARGED DUNNAGE PLANS AND ADDITIONAL INFORMATION
26	GALVANIZED STEEL GRATING FOR CATWALK PAINTED, REF 1/A202 FOR ADDITIONAL INFORMATION, (**ALT BID # 4**), REF MECHANICAL,
27	GALVANIZED STEEL CATWALK RAILING, (**ALT BID # 4**) REF 6/A202
28	NEW GALVANIZED STEEL PLATFORM LADDER, REF 3/A202 AND 5/A202 **(ALT BID # 4**)
30	NEW GALVANIZED STEEL CROSSOVER LADDER, REF 18/A203
31	EXISTING STEEL DUNNAGE COLUMN TO REMAIN
32	EXISTING ROOF DRAIN TO REMAIN, REF GENERAL ROOF CONSTRUCTION NOTE "O" THIS SHEET FOR MAINTAINING EXISTING DRAINS ON EXISTING ROOFS WHERE NEW WORK IS BEING CONDUCTED.
33	TYPICAL FLASHING AT DUCT ROOF PENETRATION, REF 1/A203 FOR "SIM" FLASHING DETAIL AND REF MECHANICAL FOR CURB AND DUCT INFORMATION
34	NEW GUARDRAIL SYSTEM IN EXISTING ROOF, REF 19/A203 FOR PIPE INSULATION AND FLASHING DETAIL, TYPICAL AT ALL LOCATIONS
35	EXISTING ROOF LADDER TO REMAIN
36	NEW SURFACED MOUNTED DUCT TIED INTO EXISTING SURFACE MOUNTED DUCT ON EXISTING STANDS, REF MECHANICAL FOR NEW DUCT TIE-INS TO EXISTING
37	INDICATES EXISTING LIGHTNING PROTECTION SYSTEM TO REMAIN. REMOVE ONLY AS REQUIRED FOR INSTALLATION OF NEW EQUIPMENT AND ROOF REPAIR. REF GENERAL ROOF DEMOLITION NOTE "G" FOR ADDITIONAL INFORMATION.
38	INDICATES EXISTING FIXED DUCT SUPPORTS TO REMAIN, PATCH AND REPAIR AS REQUIRED TO MAINTAIN WATER TIGHT SYSTEM
39	INDICATES NEW ELECTRIC CONDUIT ON PIPE SUPPORTS, REF PLAN LEGEND, REF ELECTRICAL SHEETS
40	EXISTING FLOOD LIGHT AND CONDUIT RELOCATED AND FASTENED TO NEW ROOF TOP EQUIPMENT, MODIFY EXISTING LIGHTING PROTECTION TO ACCOMMODATE THE RELOCATION OF EXISTING LIGHTS
41	RELOCATED OVERFLOW DRAIN, REF PLUMBING AND MECHANICAL FOR LOCATION, REF 21/A203 FOR FLASHING INFORMATION
42	EXISTING DOWNSPOUT AND SPLASH BLOCK ON WARE PAD TO REMAIN INTACT AND FUNCTIONAL
43	EXISTING VENT PIPE TO REMAIN, REF PLUMBING SHEETS
44	EXISTING ELECTRIC CONDUIT THROUGH EXISTING ROOF TO REMAIN, REF ELECTRIC
45	SURFACE MOUNTED DUCT THROUGH SIDE WALL PENETRATION, REF 23/A203 FOR FLASHING DETAIL AND REF MECHANICAL FOR DUCT INFORMATION. KEEP DUCT THRU-WALL CENTERED BETWEEN JOIST ABOVE, TYP
46	INDICATES STEEL FLUE SUPPORTS ATTACHED TO PARAPET, REF 5/A101, TYP
47	NEW METAL FLUE, UP FROM BASEMENT BOILER ROOM, REF BASEMENT PLAN AND MECHANICAL. FLUE ARE STRUCTURALLY FASTENED TO EXISTING CMU WALL, REF 3/A101, TYP
48	INDICATES STEEL PIPE VENTILATION BELOW AT BASEMENT LEVEL. REF BASEMENT PLAN AND MECHANICAL
49	NEW EXHAUST FAN, REF MECHANICAL FOR CURB AND EQUIPMENT INFORMATION, A201 FOR ROOF WARRANTY INFORMATION, AND REF 9/A203 FOR REINFORCING AND FLASHING DETAILS.
50	INDICATES NEW SIDE WALL VENT THRU EXTERIOR WALL, REF MECHANICAL FOR TYPE, SIZE AND EXACT LOCATION. REF 24/A203 FOR FLASHING AND INFILL.
51	REMOVE EXISTING SIDE WALL LOUVER AND THRU-WALL DUCT AND ASSOCIATED STEEL FRAMING DOWN TO EXISTING MASONRY. CLEAN AND PREP OPENING FOR NEW MASONRY INFILL, MATCH ALL EXISTING MATERIAL AND BRICK, REF 7/A103 FOR ADDITIONAL INFORMATION
52	NEW ELECTRIC CONDUIT THRU EXISTING SIDE WALL IN EXISTING MASONRY. APPLY WEATHER TIGHT, EXTERIOR GRADE SEALANT AT EXTERIOR PENETRATION AROUND ENTIRETY OF CONDUIT, INTERIOR PENETRATION BETWEEN THE CONDUIT AND MASONRY, APPLY (2) HOUR FIRE RATED SEALANT, AS PER FIRE RATED PENETRATION CHART ON SHEET A101, REF ELECTRIC FOR SIZE AND LOCATION, TYP

PLAN LEGEND

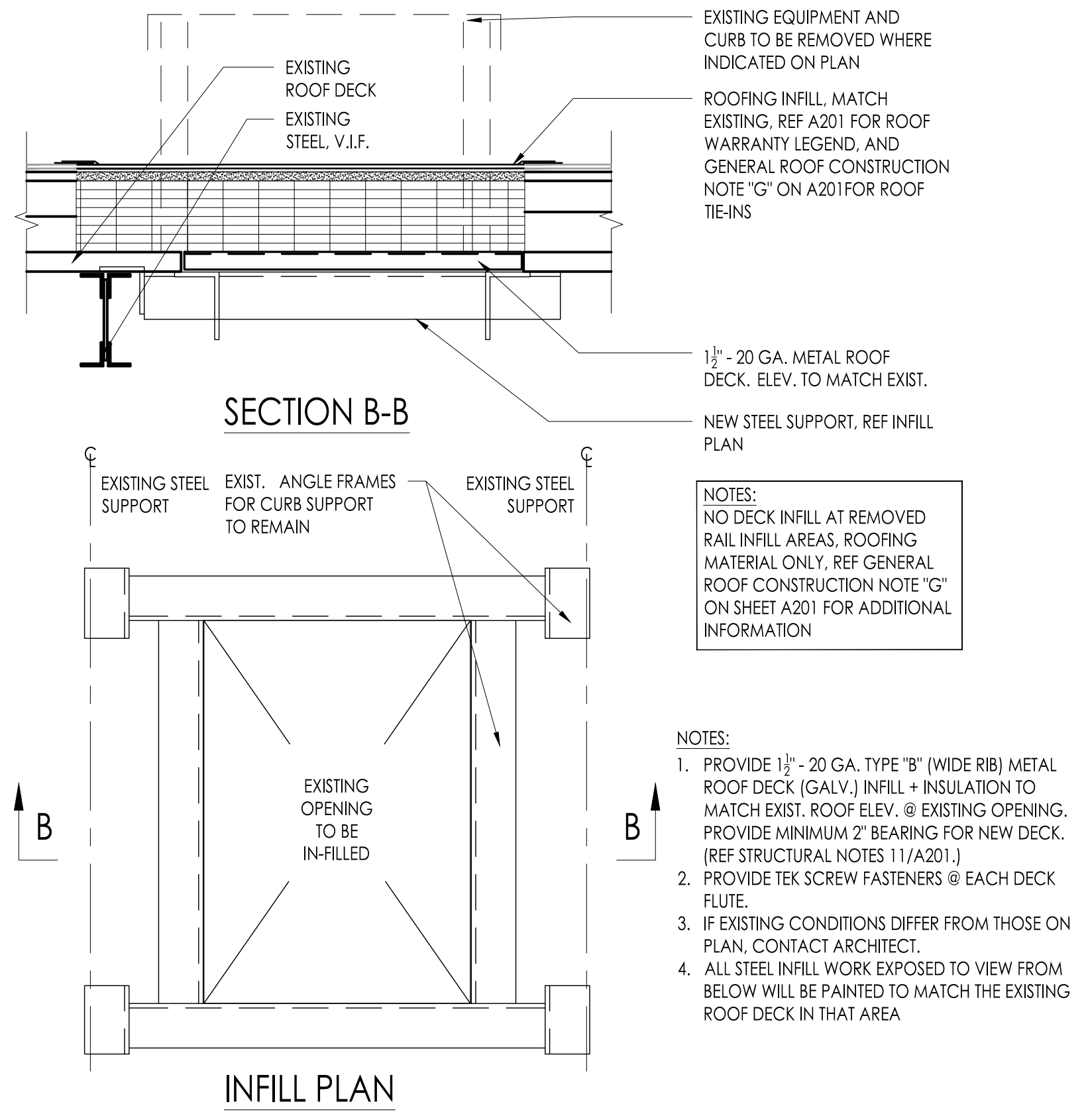
──	INDICATES STEEL BEAM	o VP	NEW VENT PIPE, REF 11/A203
- - -	INDICATES TYPICAL STEEL JOIST	EF	EXHAUST FAN UNIT, REF 9/A203
▨	WALKWAY PADS (EPDM) REF 15/A203	PC	PIPE CURB, REF 7/A203
RTU	ROOF TOP UNIT	▭	PIPE SUPPORT ON WARE PAD, (GAS AND CONDUIT LINES) REF ROOF WARRANTY LEGEND, THIS SHEET, FOR ROOF TYPE AND 13/A203 FOR ROOF DETAIL
— GAS —	GAS LINE ON PIPE SUPPORT	▭	EXTERIOR ROOF DUCT SUPPORT ON WEAR PAD, REF MECHANICAL
— — —	CONDUIT/PIPING ON PIPE SUPPORT	▭	FIXED GAS LINE SUPPORT WITH FLASHING, REF 12/A203 AND MECHANICAL
XRD	EXISTING ROOF DRAIN		
XVP	EXISTING VENT PIPE		

PLAN SYMBOLS

X / AXX	FLASHING DETAIL AND DRAWING NUMBER	▨	$\frac{1}{2}$" PER FOOT SLOPED TAPERED INSULATION CRICKETS
#	CONSTRUCTION NOTE	#	INDICATES ROOF NUMBER, REF WARRANTY LEGEND
← SL	DIRECTION OF ROOF SLOPE	#	INDICATES PHOTO OF EXISTING CONDITIONS, REF PHOTOS FOR EXISTING ROOF CONDITIONS ON SHEET A202

Princeton High School
151 Moore Street, Princeton, NJ 08540

	PRJ. #	AREA	MANUFACTURER/ WARRANTY #	ROOFING SYSTEM	DATE INSTALLED	WARRANTY EXPIRATION	RECOMMENDED REPLACEMENT YEAR
▨	N/A	9,000 S.F.+/-	CARLISLE / 1151803	EPDM	07/14/2014	12/14/2034	2034
▨	N/A	4,917 S.F.+/-	VERSICO /1586388	EPDM	08/31/2022	12/29/2042	2042
▨	N/A	11,169 S.F.+/-	CARLISLE /1589122	EPDM	11/14/2022	02/14/2043	2043
▨	N/A	11,370 S.F.+/- BASED ON $\frac{12}{12}$ SLOPE	UNKNOWN	SLATE	UNKNOWN	UNKNOWN	TBD
▨	N/A	76,536 S.F.+/-	GARLAND /24-1271-US	RESTORATION	2024 ?	2044 ?	2044 ?
▨	N/A	68,315 S.F.+/-	CARLISLE ? /1661653	EDPM	2024 ?	2044 ?	2044 ?
▨	N/A	342 S.F.+/-	UNKNOWN	EDPM	UNKNOWN	UNKNOWN	TBD
▨	N/A	434 S.F.+/-	ATRIUM STYLE GLAZING	UNKNOWN	UNKNOWN	UNKNOWN	TBD
▨	N/A	3,837 S.F.+/-	UNKNOWN	ASPHALT SHINGLES	2021	2051 ?	TBD
▨	N/A	150 S.F.+/-	METAL	UNKNOWN	UNKNOWN	UNKNOWN	TBD
▨	N/A	2,995 S.F.+/- BASED ON $\frac{12}{12}$ SLOPE	UNKNOWN	SYNTHETIC SLATE	UNKNOWN	UNKNOWN	TBD
▨	N/A	3,173 S.F.+/- BASED ON $\frac{12}{12}$ SLOPE	UNKNOWN	ASPHALT SHINGLES	2004 ?	2034 ?	TBD


EXISTING EQUIPMENT AND CURB TO BE REMOVED WHERE INDICATED ON PLAN
EXISTING ROOF DECK
EXISTING STEEL, V.I.F.
ROOFING INFILL, MATCH EXISTING, REF A201 FOR ROOF WARRANTY LEGEND, AND GENERAL ROOF CONSTRUCTION NOTE "G" ON A201FOR ROOF TIE-INS
1½" - 20 GA. METAL ROOF DECK. ELEV. TO MATCH EXIST.
NEW STEEL SUPPORT, REF INFILL PLAN
SECTION B-B
EXISTING STEEL SUPPORT
EXIST. ANGLE FRAMES FOR CURB SUPPORT TO REMAIN
EXISTING STEEL SUPPORT
EXISTING OPENING TO BE IN-FILLED
B
B
INFILL PLAN

NOTES:
NO DECK INFILL AT REMOVED RAIL INFILL AREAS, ROOFING MATERIAL ONLY, REF GENERAL ROOF CONSTRUCTION NOTE "G" ON SHEET A201 FOR ADDITIONAL INFORMATION

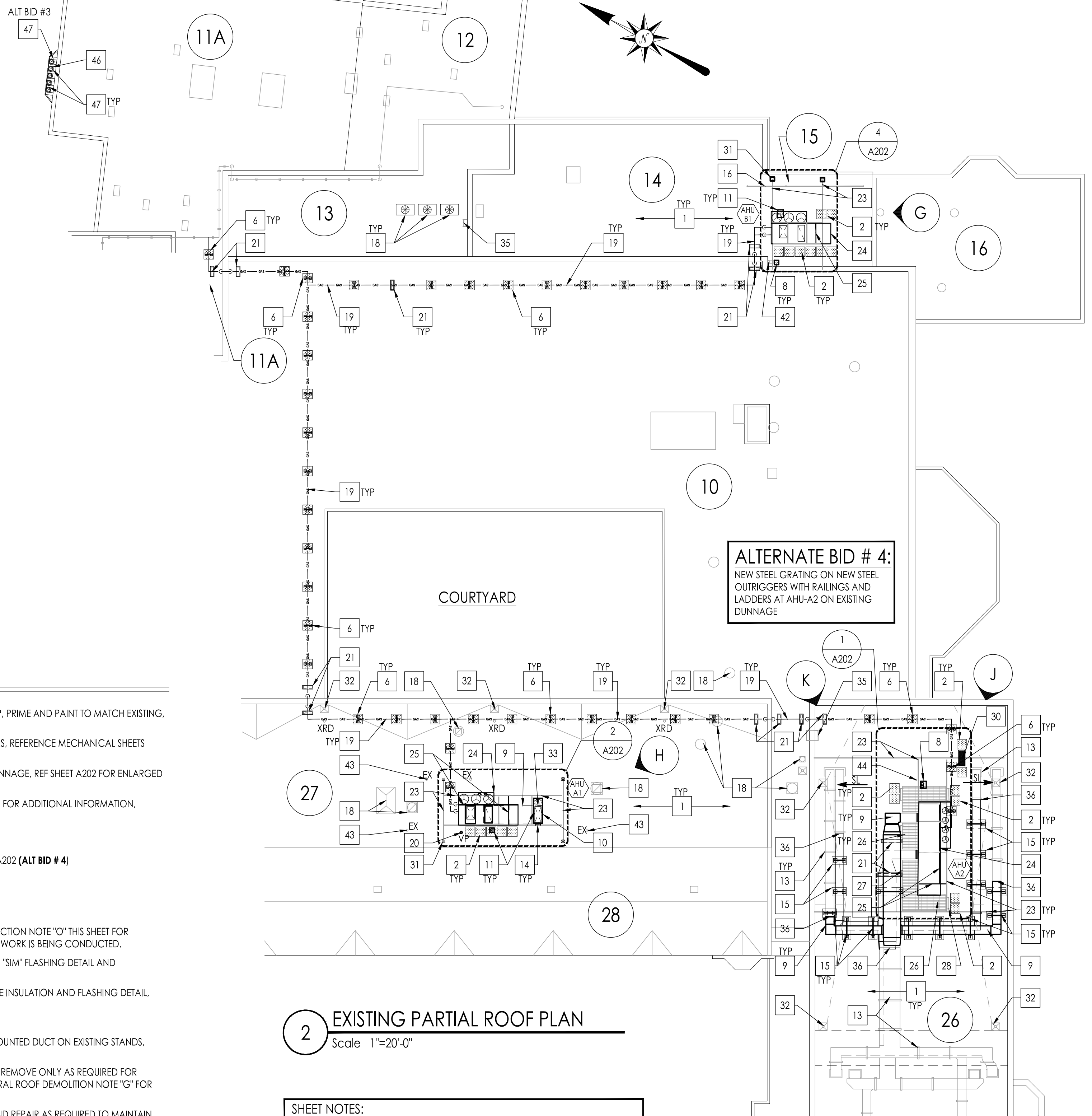
NOTES:
1. PROVIDE $1\frac{1}{2}$" - 20 GA. TYPE "B" (WIDE RIB) METAL ROOF DECK (GALV.) INFILL + INSULATION TO MATCH EXIST. ROOF ELEV. @ EXISTING OPENING. PROVIDE MINIMUM 2" BEARING FOR NEW DECK. (REF STRUCTURAL NOTES 11/A201.)
2. PROVIDE TEK SCREW FASTENERS @ EACH DECK FLUTE.
3. IF EXISTING CONDITIONS DIFFER FROM THOSE ON PLAN, CONTACT ARCHITECT.
4. ALL STEEL INFILL WORK EXPOSED TO VIEW FROM BELOW WILL BE PAINTED TO MATCH THE EXISTING ROOF DECK IN THAT AREA

5 DECK AND ROOF INFILL - STEEL DECK

1 1/2" = 1'-0"

STRUCTURAL NOTES:

1. CONTRACTOR IS TO FIELD VERIFY THE EXISTING ROOF STRUCTURE AND LOCATIONS OF EXISTING MECHANICAL, ELECTRICAL, AND PLUMBING EQUIPMENT PRIOR TO PLACEMENT AND INSTALLATION OF NEW HVAC UNITS, DUCTS, AND ASSOCIATED EQUIPMENT.
2. CONTRACTOR IS TO NOTIFY ARCHITECT IN THE EVENT THE NEW HVAC WORK HAS BEEN ALTERED OR CHANGED IN WEIGHTS AND/OR LOCATIONS DO TO EXISTING CONDITIONS FOR ITEMS MENTIONED IN NOTE #1.

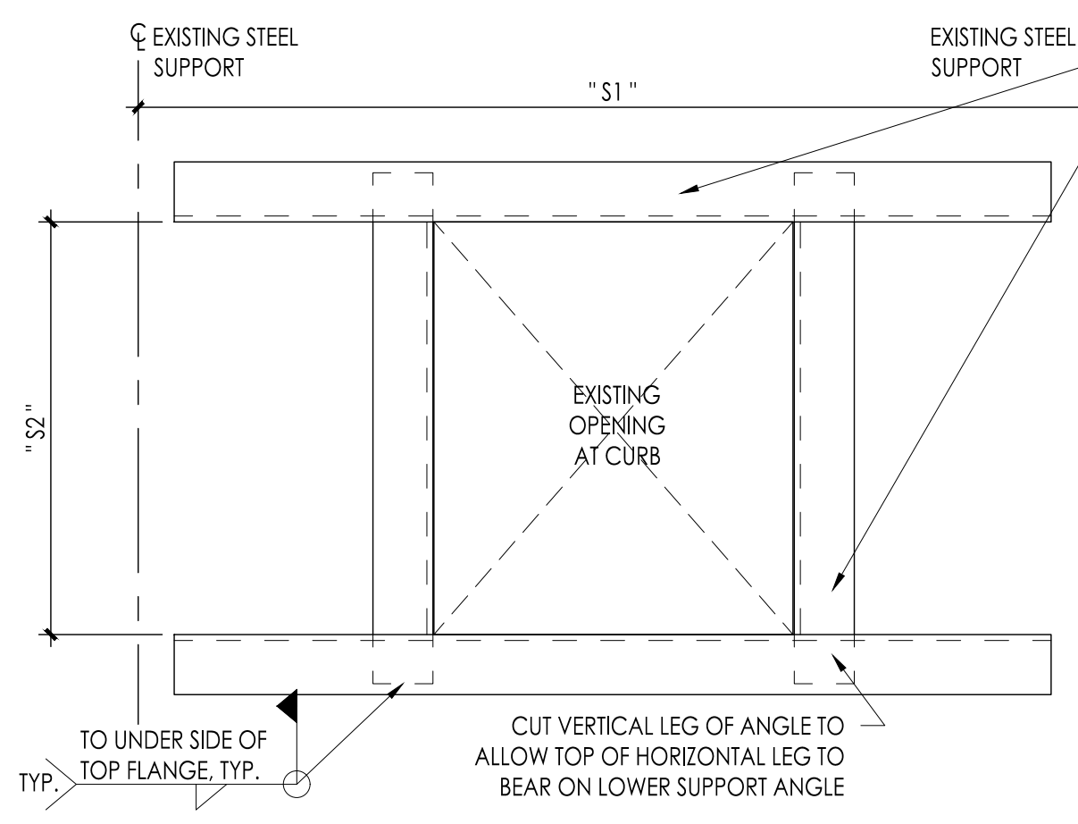


ALTERNATE BID # 4:
NEW STEEL GRATING ON NEW STEEL OUTRIGGERS WITH RAILINGS AND LADDERS AT AHU-A2 ON EXISTING DUNNAGE

2 EXISTING PARTIAL ROOF PLAN

Scale 1"=20'-0"

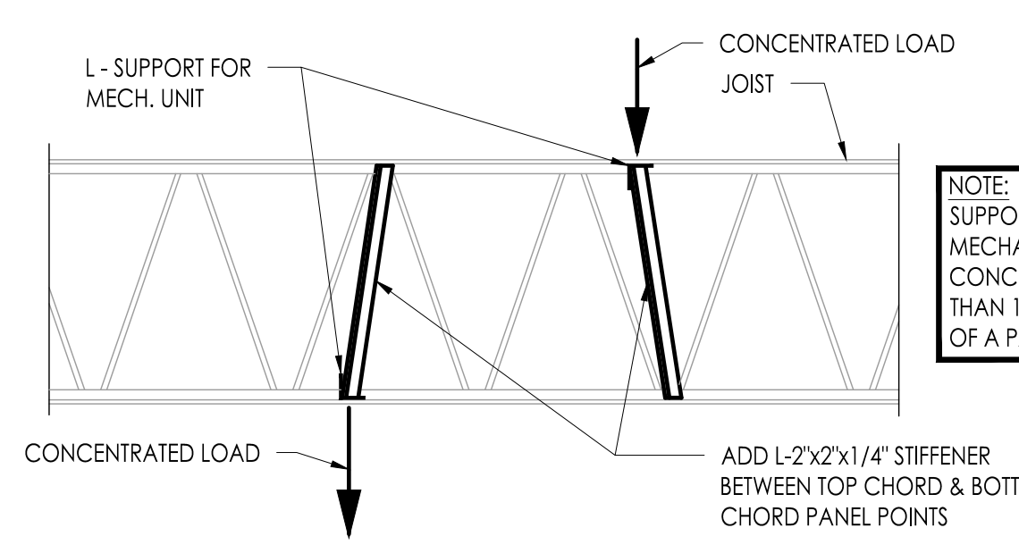
SHEET NOTES:
1. REFERENCE MECHANICAL PLUMBING AND ELECTRIC SHEETS FOR ALL ROOF TOP EQUIPMENT, ROOF TOP PLUMBING AND ELECTRICAL.
2. REFERENCE ALL MEP SHEETS FOR ITEMS AND EQUIPMENT TO BE REMOVED ON ROOF.
3. REFERENCE A201 FOR ROOF WARRANTY INFORMATION AND ASSOCIATED ROOF DETAILS
4. REF SHEET A202 FOR ENLARGED DUNNAGE PLANS.


EXISTING STEEL SUPPORT
EXISTING STEEL SUPPORT
"S1"
"S2"
EXISTING OPENING AT CURB
REF ALL EXISTING OPENINGS FOR EXISTING STEEL UNDER EXISTING CURBS
TO UNDER SIDE OF TOP FLANGE, TYP.
TYP.
CUT VERTICAL LEG OF ANGLE TO ALLOW TOP OF HORIZONTAL LEG TO BEAR ON LOWER SUPPORT ANGLE

NOTES:
1. REFERENCE PLANS, ARCH AND MECHANICAL, FOR SIZE AND LOCATION OF OPENINGS.
2. STEEL CONTRACTOR SHALL VERIFY ALL OPENINGS AND EXACT LOCATIONS WITH TRADE CONTRACTOR PRIOR TO ANY FABRICATION OF STEEL FRAMES.
3. PROVIDE STEEL FRAMES, AS SHOWN, AROUND ALL REQUIRED OPENINGS LARGER THAT 8" SQUARE AT EXISTING ROOF.
4. PROVIDE STEEL ANGLES ON ALL SIDES OF OPENINGS UNLESS BEAM IS SHOWN.
   ANGLE SIZES TO BE:
   FOR "S1" OR "S2" ≤ 6'-6" L-4"X 4"X $\frac{5}{16}$"
   FOR "S1" OR "S2" > 6'-6" L-6"X6"X$\frac{3}{8}$"
5. PROVIDE STEEL ANGLES ON ALL SIDES OF MECH'L CURBS UNLESS BEAM IS SHOWN ON PLAN. ANGLE SIZES TO BE L-6"X6"X$\frac{3}{8}$".
6. FOR SIZE & LOCATION OF MECH'L UNITS, REF BOTH ARCH AND MECHANIC FOR UNIT LOCATIONS
7. ANY NEW STEEL SUPPORTS EXPOSED TO VIEW FROM BELOW WILL BE PAINTED TO MATCH THE EXISTING METAL ROOF DECK IN THAT AREA

4 TYPICAL OPENING DETAIL @ EXISTING ROOF UNDER MECHANICAL CURB

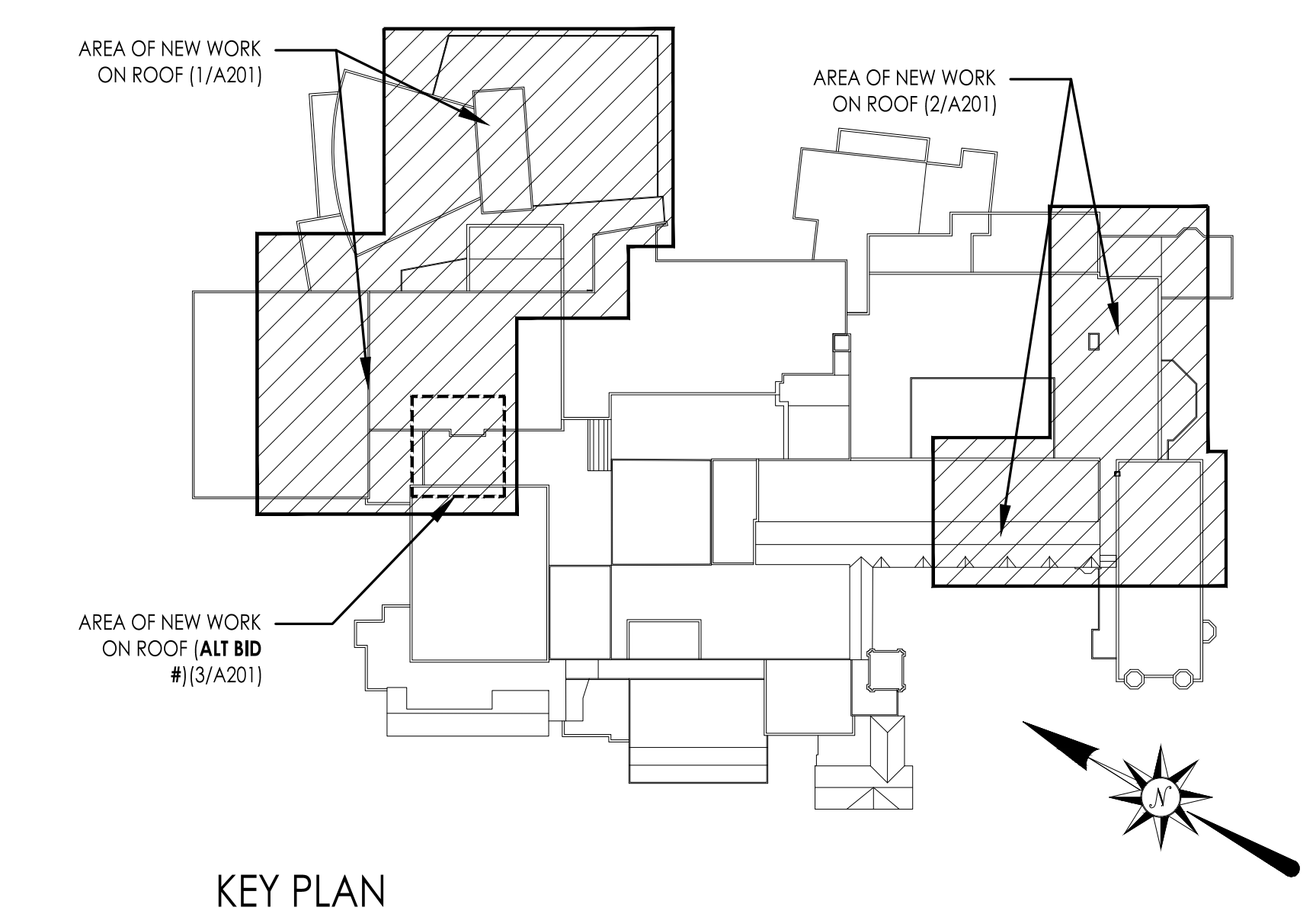
1 1/2" = 1'-0"


L - SUPPORT FOR MECH. UNIT
CONCENTRATED LOAD
JOIST
CONCENTRATED LOAD
ADD L-2"x2"x1/4" STIFFENER BETWEEN TOP CHORD & BOTTOM CHORD PANEL POINTS

NOTE:
SUPPORTING LOAD AT CONDENSERS, MECHANICAL UNITS AND ALL CONCENTRATED LOADS GREATER THAN 100 lbs. OMIT IF LOAD IS WITHIN 3" OF A PANEL POINT.

6 TYPICAL DETAIL OF REINF'D JOIST

N.T.S.


AREA OF NEW WORK ON ROOF (1/A201)
AREA OF NEW WORK ON ROOF (2/A201)
AREA OF NEW WORK ON ROOF (ALT BID #1)(3/A201)

KEY PLAN

NTS

WILLIAM D. HOPKINS III, AIA, LEED AP
NJ - 21AI01706000 | PA - RA012520X
JASON J. DUBOWITCH, AIA
NJ - 21AI01979800 | PA - RA406009
STEPHEN W. SCHREYER JR., AIA, LEED AP BD+C
NJ - 21AI02003100 | PA - RA410435

William D. Hopkins
Architect

01/29/26
Date

FVHD architects planners
EST 1918
Fraytak Veisz Hopkins Duthie PC
Corporate: 1515 Lower Ferry Road - Trenton - New Jersey 08618
Pennsylvania: 820 Adams Ave., Suite 210 - Audubon - Pennsylvania 19403
F V H D P C . C O M

Project Name
HVAC Renovations at Princeton High School

Project Owner Name
Princeton Public Schools

Project Location
151 Moore Street,
Princeton, NJ
08540

Project Number
5516E

Project Date
01.29. 2026

Checked By
W.D.H.

Drawn By
BO

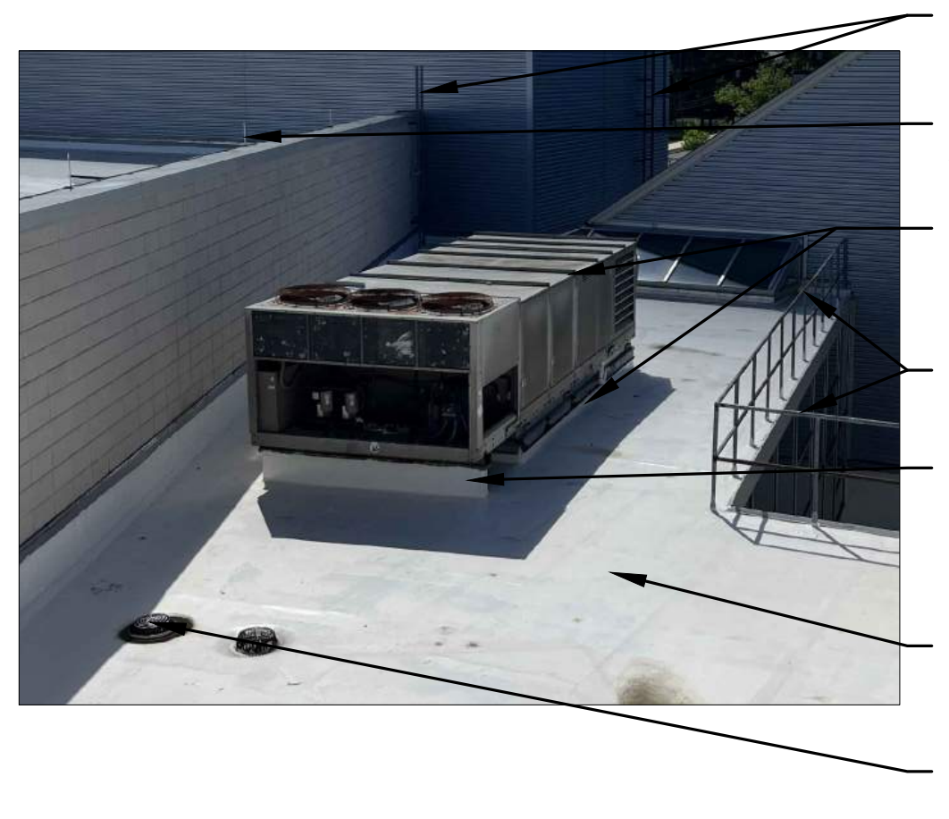
Scale
AS NOTED

Drawing Name
EXISTING ROOF PLAN, ROOF WARRANTY LEGEND, AND NOTES

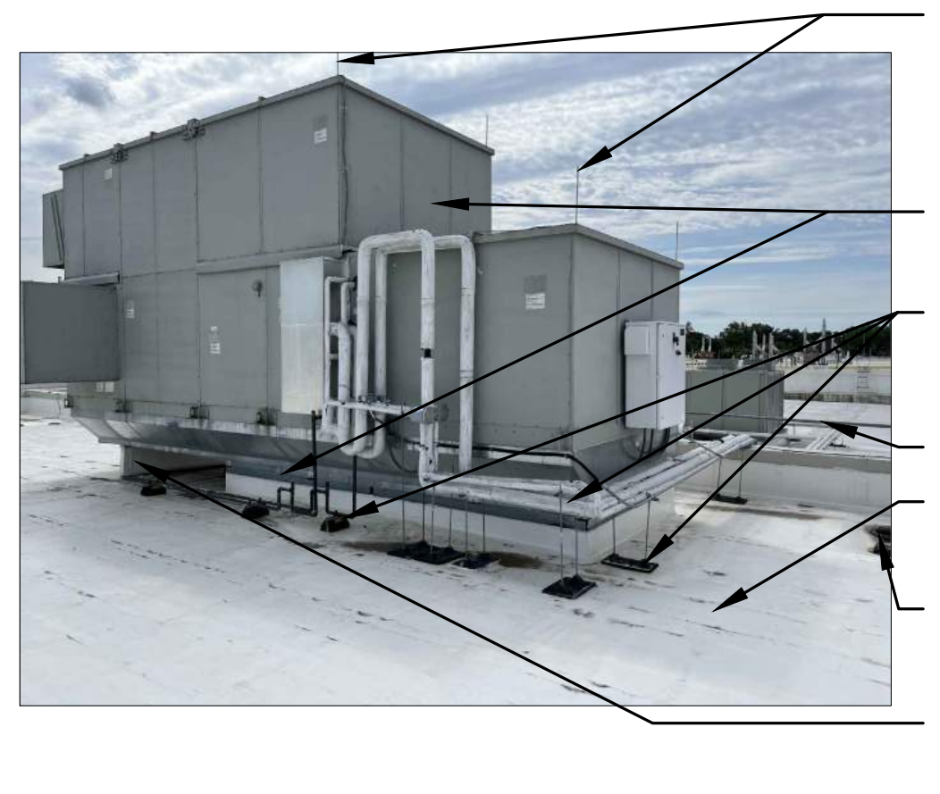
Revisions

No.	Date	Description

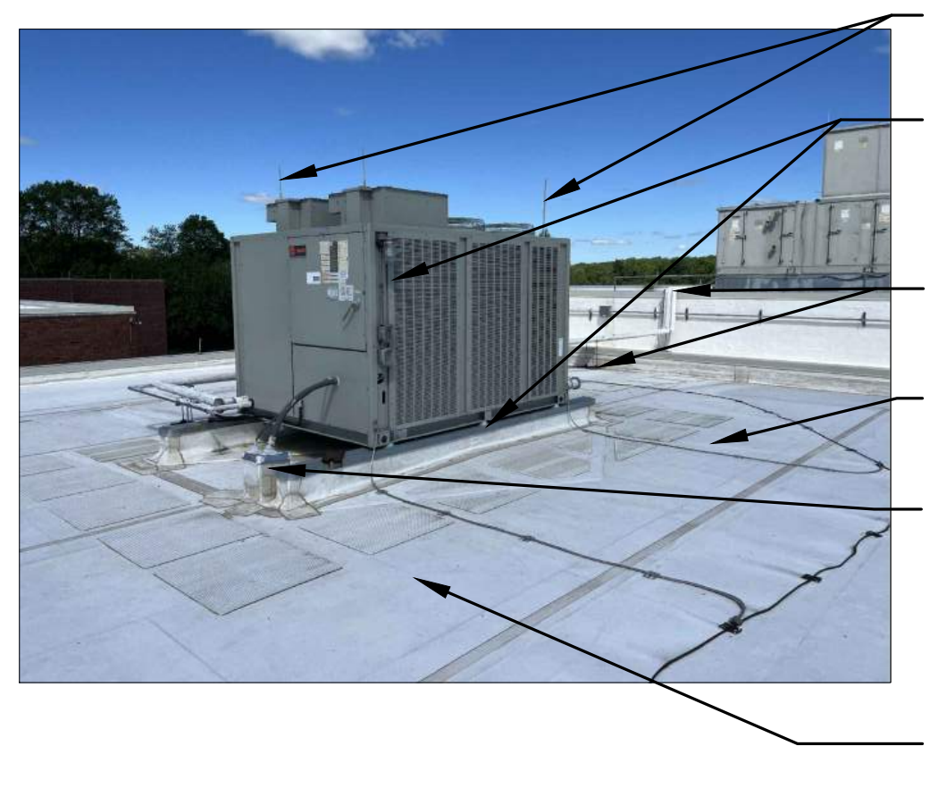
Drawing Number
A201


EXISTING ROOF LADDERS TO REMAIN
EXISTING LIGHTNING PROTECTION SYSTEM TO REMAIN
REMOVE EXISTING RTU AND EXISTING CURB DOWN TO EXISTING DECK
EXISTING GUARDRAIL TO REMAIN
REMOVE EXISTING EQUIPMENT RAIL DOWN TO BARE DECK AND INFILL WITH NEW ROOFING MATERIAL TO MATCH EXISTING, REF 12/A201
EXG ROOFS TO REMAIN ARE UNDER WARRANTY, (REF ROOF WARRANTY LEGEND SHEET A201)
EXISTING ROOF AND OVERFLOW DRAINS TO REMAIN, REF GENERAL ROOF CONSTRUCTION NOTE "O" SHEET A201

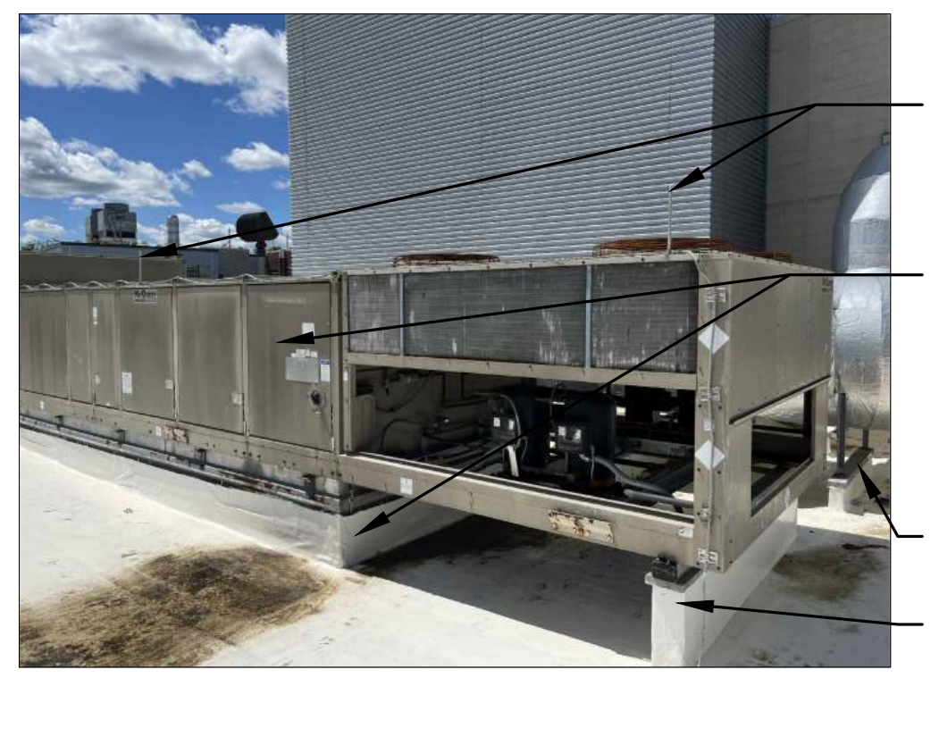
A PHOTOGRAPH (ROOF 5)(AHU F5)


TEMPORARILY REMOVE AND STORE COMPONENTS OF EXISTING LIGHTNING PROTECTION SYSTEM AND RE-INSTALL IN SIMILAR LOCATIONS AFTER INSTALLATION OF NEW EQUIPMENT, TYPICAL
REMOVE EXISTING RTU AND EXISTING CURB DOWN TO EXISTING DECK
REMOVE EXISTING PIPES AND PIPE SUPPORTS, REF PLUMBING AND MECHANICAL
EXISTING GUARDRAIL TO REMAIN
EXG ROOFS TO REMAIN ARE UNDER WARRANTY, (REF ROOF WARRANTY LEGEND SHEET A201)
EXISTING ROOF AND OVERFLOW DRAINS TO REMAIN, REF GENERAL ROOF CONSTRUCTION NOTE "O" SHEET A201
REMOVE EXISTING EQUIPMENT RAIL DOWN TO BARE DECK AND INFILL WITH NEW ROOFING MATERIAL TO MATCH EXISTING, REF 12/A201

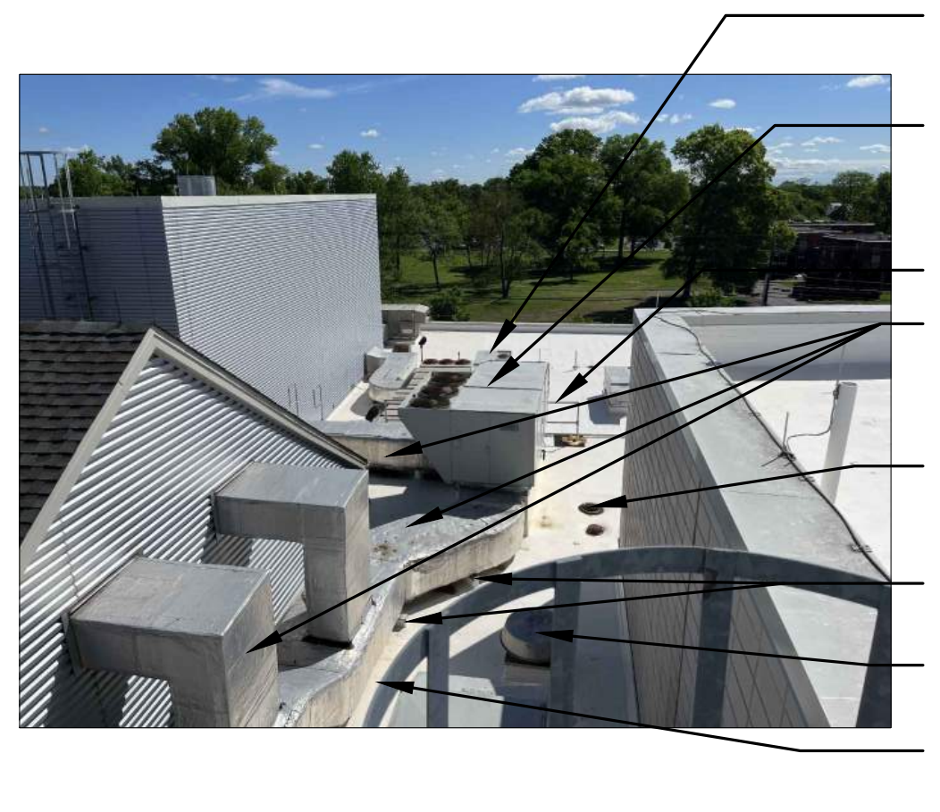
B PHOTOGRAPH (ROOF 8)(AHU G1)


REMOVE PORTION OF EXISTING LIGHTNING PROTECTION SYSTEM BACK TO MAIN SYSTEM
REMOVE EXISTING RTU AND EXISTING EQUIPMENT RAILS DOWN TO BARE ROOF DECK, INFILL OPENINGS WITH LIKE MATERIALS TO MATCH EXISTING, REF 12/A201
REMOVE EXISTING PIPES AND PIE SUPPORTS, REF PLUMBING AND MECHANICAL
EXG ROOFS TO REMAIN ARE UNDER WARRANTY, (REF ROOF WARRANTY LEGEND SHEET A201)
REMOVE EXISTING PIPE CURB TO EXISTING ROOF DECK AND INFILL WITH LIKE MATERIALS TO MATCH EXISTING ROOF, REF ROOF WARRANTY LEGEND SHEET A201 AND DETAIL 12/A201. REF PLUMBING AND ELECTRIC FOR ITEMS BEING REMOVED AND MODIFIED IN THIS AREA
EXG ROOFS TO REMAIN ARE UNDER WARRANTY, (REF ROOF WARRANTY LEGEND SHEET A201)

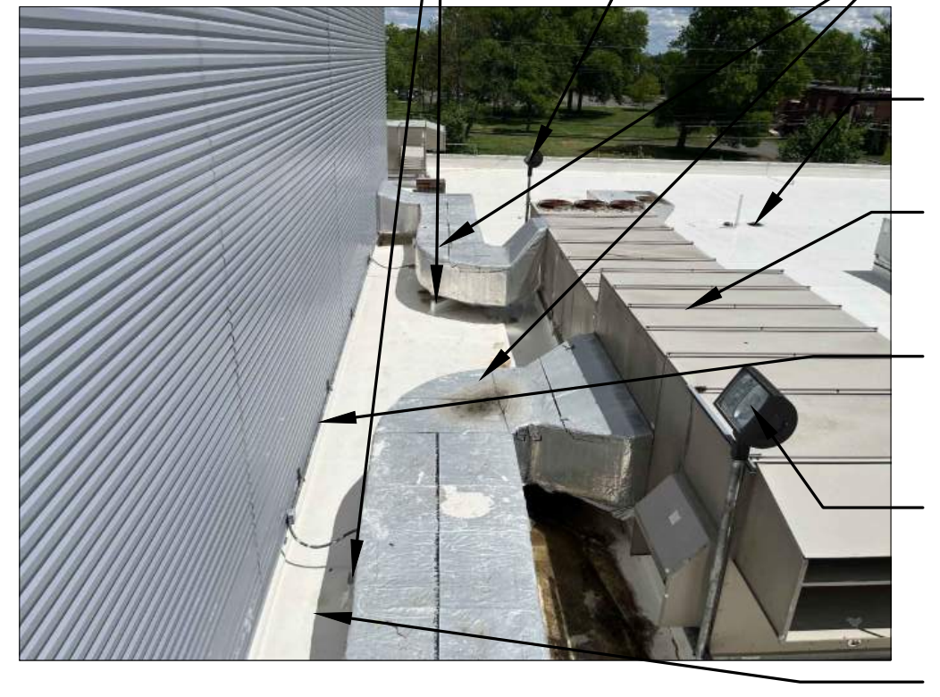
C PHOTOGRAPH (ROOF 9)


REMOVE PORTION OF EXISTING LIGHTNING PROTECTION SYSTEM BACK TO MAIN SYSTEM
REMOVE EXISTING RTU AND EXISTING EQUIPMENT RAILS DOWN TO BARE ROOF DECK, INFILL OPENINGS WITH LIKE MATERIALS TO MATCH EXISTING, REF 12/A201
EXISTING FIXED DUCK SUPPORTS TO REMAIN, TYPICAL
REMOVE EXISTING EQUIPMENT RAIL DOWN TO BARE DECK AND INFILL WITH NEW ROOFING MATERIAL TO MATCH EXISTING, REF 12/A201

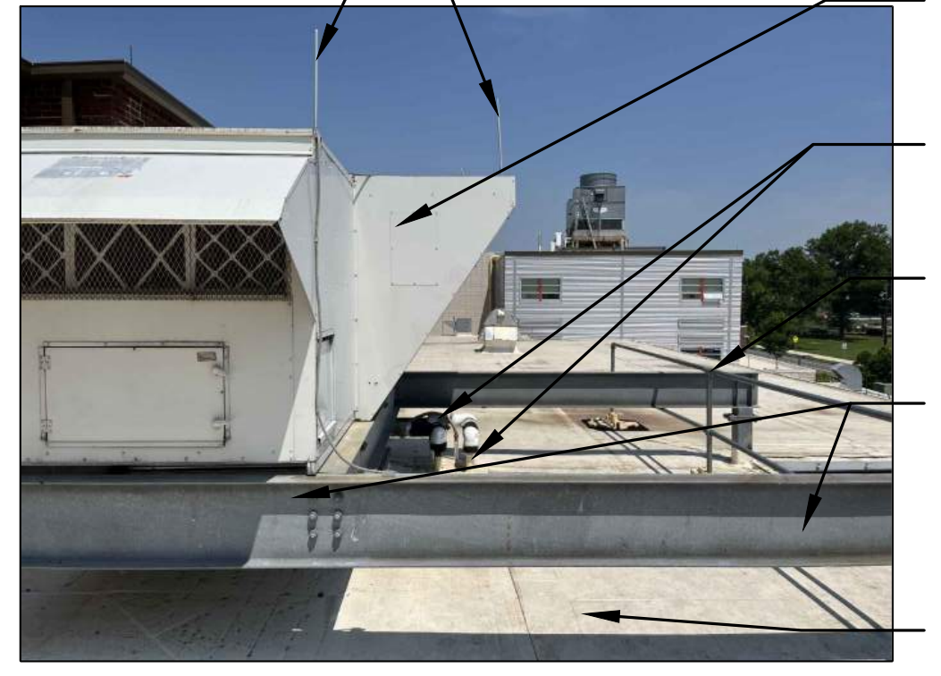
D PHOTOGRAPH (ROOF 4)(AHU F1)


REMOVE PORTION OF EXISTING LIGHTNING PROTECTION SYSTEM BACK TO MAIN SYSTEM
REMOVE EXISTING RTU AND EXISTING ROOF CURB DOWN TO BARE ROOF DECK, REF MECHANICAL FOR NEW EQUIPMENT TO BE INSTALLED
EXISTING GUARDRAIL TO REMAIN
EXISTING SURFACE MOUNTED DUCT TO BE REMOVED, REF MECHANICAL FOR DUCT TO REMAIN AND TIE-IN FROM NEW TO EXISTING
EXISTING ROOF AND OVERFLOW DRAINS TO REMAIN, REF GENERAL ROOF CONSTRUCTION NOTE "O" SHEET A201
EXISTING FIXED DUCT SUPPORTS TO REMAIN, REF ROOF PLAN
EXISTING EQUIPMENT AND CURB TO REMAIN, REF MECHANICAL
EXG ROOFS TO REMAIN ARE UNDER WARRANTY, (REF ROOF WARRANTY LEGEND SHEET A201)

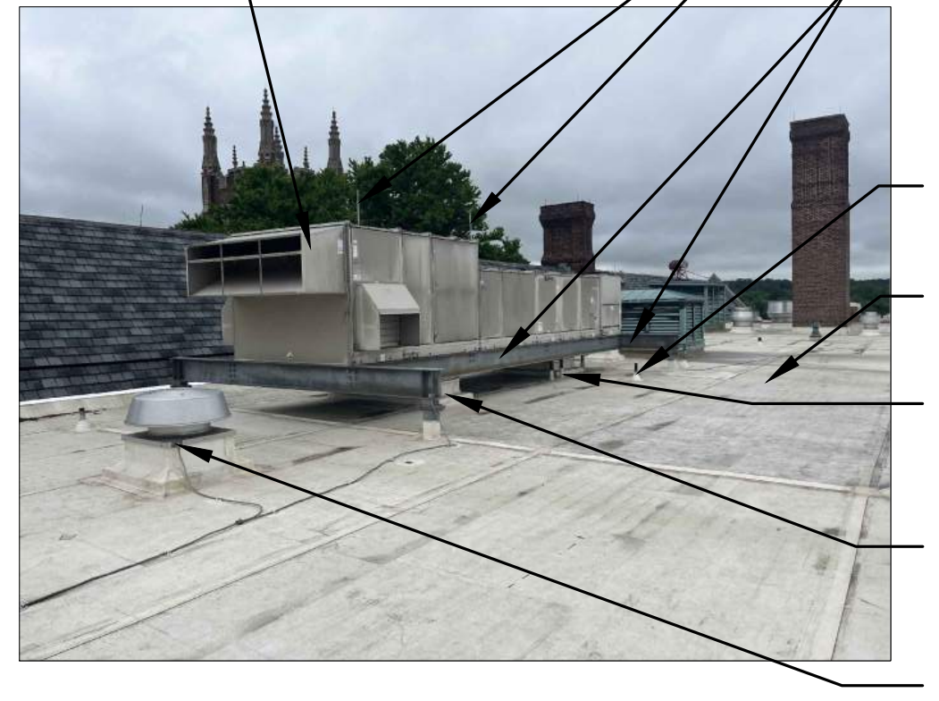
E PHOTOGRAPH (ROOF 5)(AHU F6)


EXISTING FIXED DUCT SUPPORTS TO REMAIN, REF ROOF PLAN
TEMPORARILY REMOVE AND STORE COMPONENTS OF EXISTING FLOOD LIGHTS AND RELOCATE PER PLAN, REF ELECTRIC
EXISTING SURFACE MOUNTED DUCT TO BE REMOVED, REF MECHANICAL FOR DUCT TO REMAIN AND TIE-IN FROM NEW TO EXISTING
EXISTING ROOF AND OVERFLOW DRAINS TO REMAIN, REF GENERAL ROOF CONSTRUCTION NOTE "O" SHEET A201
REMOVE EXISTING RTU AND EXISTING ROOF CURB DOWN TO BARE ROOF DECK, REF MECHANICAL FOR NEW EQUIPMENT TO BE INSTALLED
EXISTING SURFACE MOUNTED ELECTRIC CONDUIT TO REMAIN, REF ELECTRIC FOR MODIFICATIONS FOR EXISTING FLOOD LIGHTS
TEMPORARILY REMOVE AND STORE COMPONENTS OF EXISTING FLOOD LIGHTS AND RELOCATE PER PLAN, REF ELECTRIC
EXG ROOFS TO REMAIN ARE UNDER WARRANTY, (REF ROOF WARRANTY LEGEND SHEET A201)

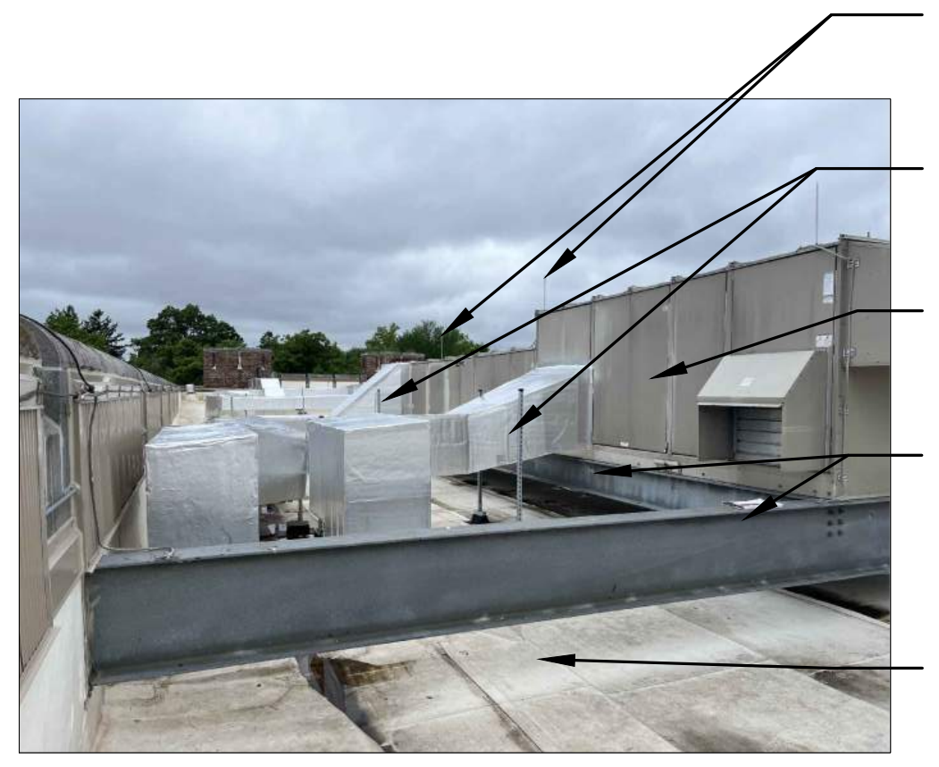
F PHOTOGRAPH (ROOF 4)(AHU F2)


TEMPORALLY DISCONNECT EXISTING LIGHTING PROTECTION SYSTEM AND REINSTALL AFTER NEW UNITS ARE INSTALLED
EXISTING RTU TO BE REMOVED FROM EXISTING DUNNAGE, REF MECHANICAL FOR ALL ITEMS BEING REMOVED IN THIS AREA
EXISTING PIPES TO BE REMOVED, REF PLUMBING, INFILL EXISTING ROOF TO MATCH EXISTING, REF 12/A201 FOR "SIM" CONDITION
EXISTING GUARDRAIL TO REMAIN
EXISTING STEEL BEAM SUPPORTS TO REMAIN, REF 4/A202 FOR NEW STEEL BEAMS, COORDINATE WITH MECHANICAL AND NEW UNIT TO RELOCATE EXISTING BEAMS FOR NEW DUCT
EXG ROOFS TO REMAIN ARE UNDER WARRANTY, (REF ROOF WARRANTY LEGEND SHEET A201)

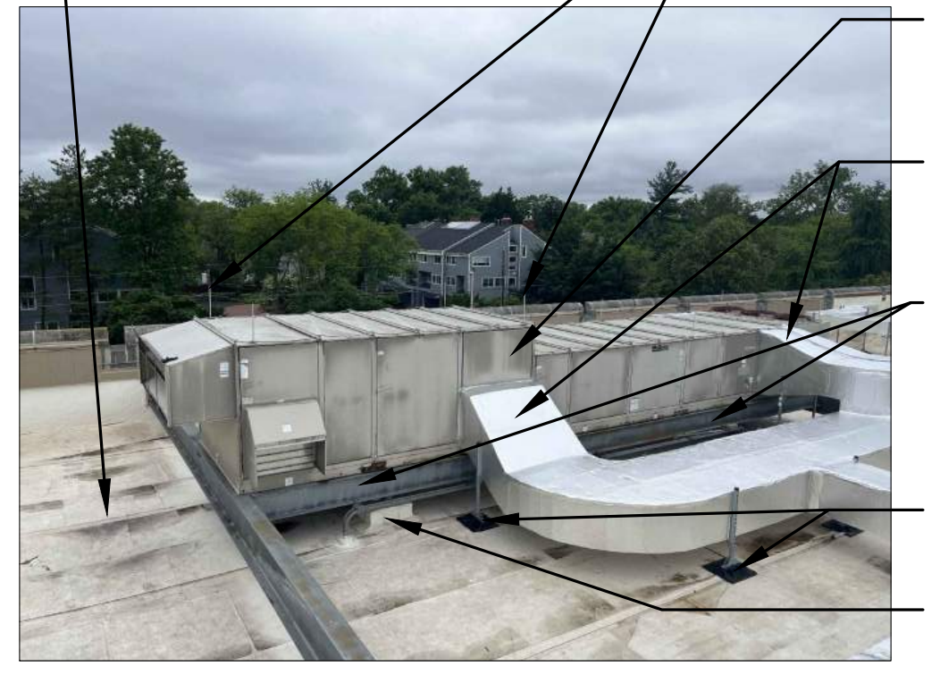
G PHOTOGRAPH (ROOF 16)(AHU B1)


EXISTING RTU TO BE REMOVED FROM EXISTING DUNNAGE, REF MECHANICAL FOR ALL ITEMS BEING REMOVED IN THIS AREA
TEMPORALLY DISCONNECT EXISTING LIGHTING PROTECTION SYSTEM AND REINSTALL AFTER NEW UNITS ARE INSTALLED
EXISTING STEEL BEAM SUPPORTS TO REMAIN, REF 2/A202 FOR NEW STEEL BEAMS, COORDINATE WITH MECHANICAL AND NEW UNIT TO RELOCATE EXISTING BEAMS FOR NEW DUCT
EXISTING VENT PIPE TO REMAIN, REF PLUMBING AND MECHANICAL
EXG ROOFS TO REMAIN ARE UNDER WARRANTY, (REF ROOF WARRANTY LEGEND SHEET A201)
EXISTING PIPES TO BE REMOVED, REF PLUMBING, INFILL EXISTING ROOF TO MATCH EXISTING, REF 12/A201 FOR "SIM" CONDITION
REMOVE EXISTING DUCT CURB PENETRATION TO EXISTING ROOF DECK, REF MECHANICAL FOR NEW DUCT AND ROOF PLAN FOR FLASHING
EXISTING ROOF TOP EQUIPMENT TO REMAIN WITH EXISTING LIGHTNING PROTECTION SYSTEM

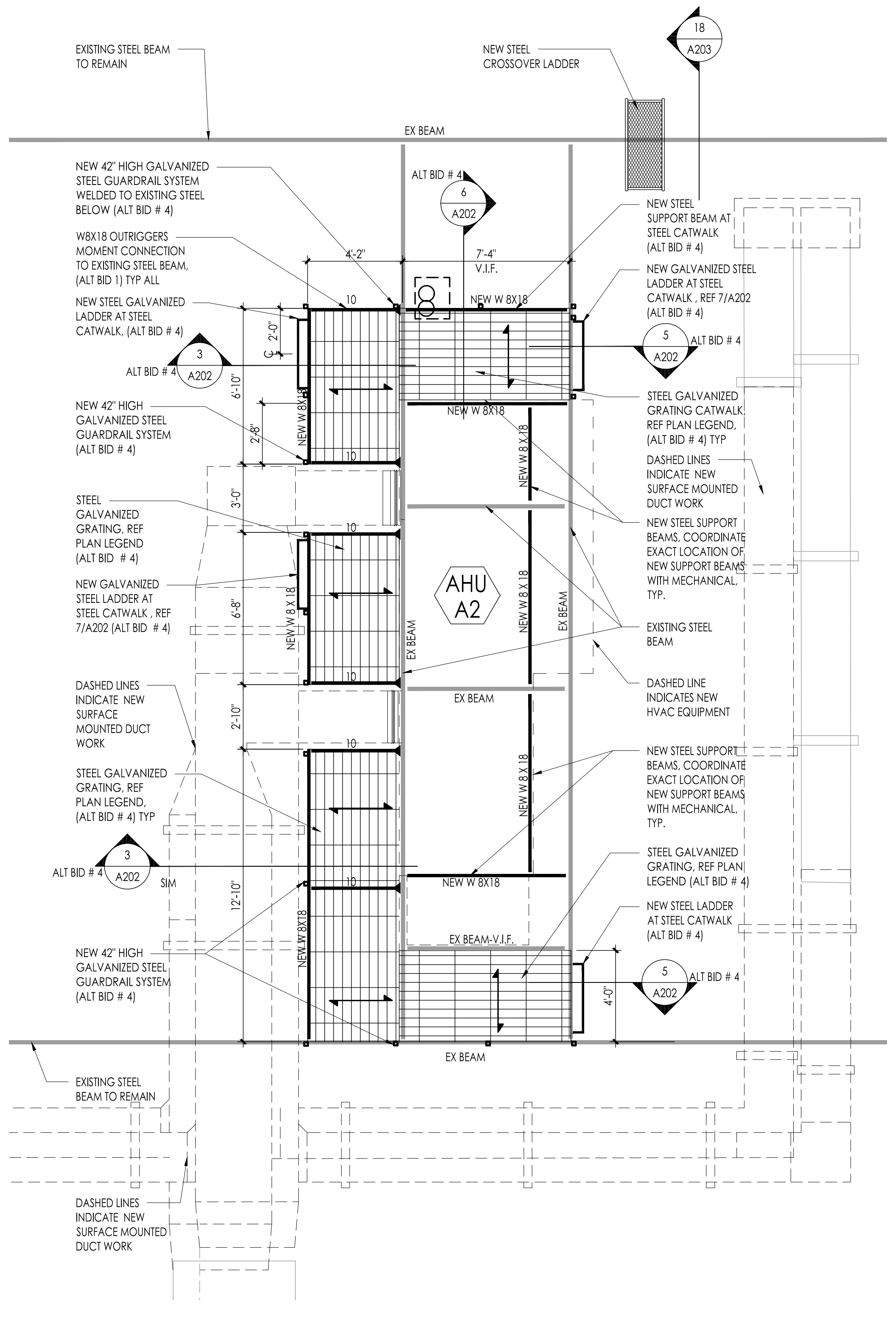
H PHOTOGRAPH (ROOF 27)(AHU A1)


TEMPORALLY DISCONNECT EXISTING LIGHTING PROTECTION SYSTEM AND REINSTALL AFTER NEW UNITS ARE INSTALLED
EXISTING SURFACE MOUNTED DUCT TO BE REMOVED, REF MECHANICAL FOR DUCT TO REMAIN AND TIE-IN FROM NEW TO EXISTING
EXISTING RTU TO BE REMOVED FROM EXISTING DUNNAGE, REF MECHANICAL FOR ALL ITEMS BEING REMOVED IN THIS AREA
EXISTING STEEL BEAM SUPPORTS TO REMAIN, REF 2/A202 FOR NEW STEEL BEAMS, COORDINATE WITH MECHANICAL AND NEW UNIT TO RELOCATE EXISTING BEAMS FOR NEW DUCT
EXG ROOFS TO REMAIN ARE UNDER WARRANTY, (REF ROOF WARRANTY LEGEND SHEET A201)

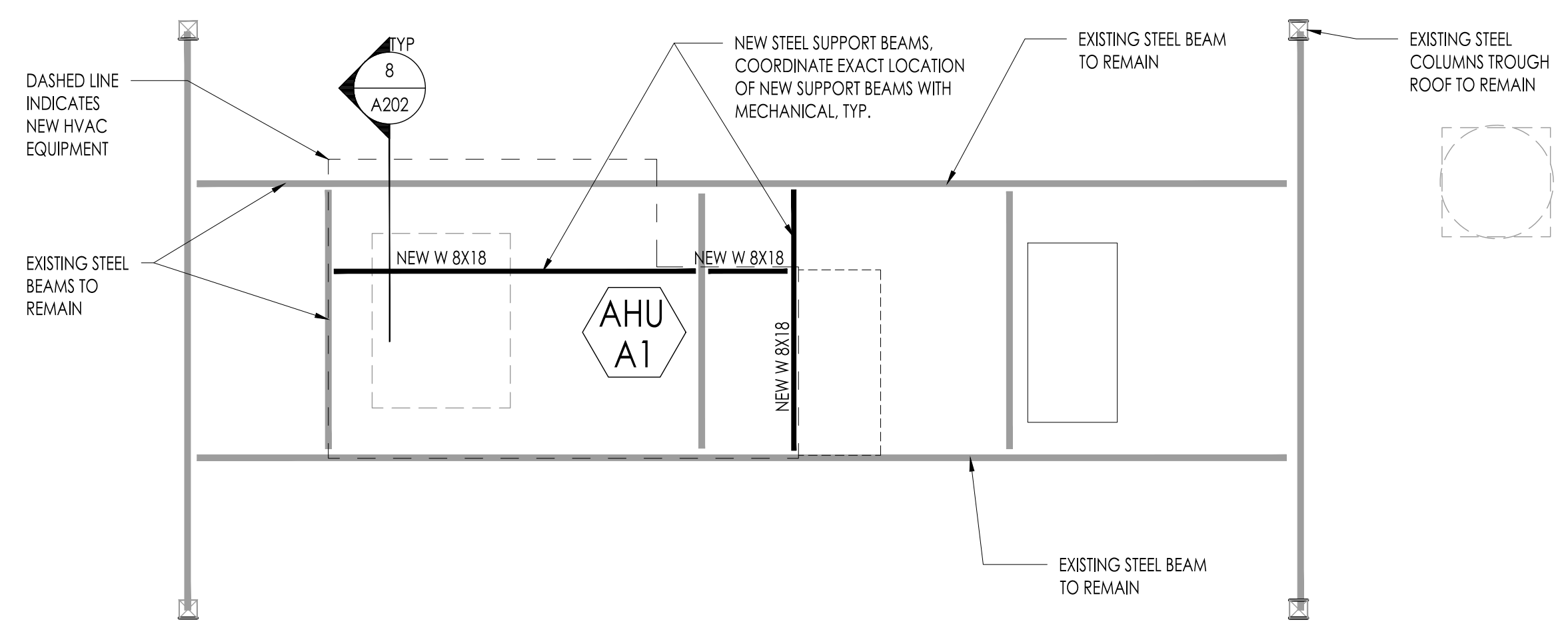
J PHOTOGRAPH (ROOF 26)(AHU A2)


EXG ROOFS TO REMAIN ARE UNDER WARRANTY, (REF ROOF WARRANTY LEGEND SHEET A201)
TEMPORALLY DISCONNECT EXISTING LIGHTING PROTECTION SYSTEM AND REINSTALL AFTER NEW UNITS ARE INSTALLED
EXISTING RTU TO BE REMOVED FROM EXISTING DUNNAGE, REF MECHANICAL FOR ALL ITEMS BEING REMOVED IN THIS AREA
EXISTING SURFACE MOUNTED DUCT TO BE REMOVED, REF MECHANICAL FOR DUCT TO REMAIN AND TIE-IN FROM NEW TO EXISTING
EXISTING STEEL BEAM SUPPORTS TO REMAIN, REF 2/A202 FOR NEW STEEL BEAMS, COORDINATE WITH MECHANICAL AND NEW UNIT TO RELOCATE EXISTING BEAMS FOR NEW DUCT
REMOVE EXISTING DUCT SUPPORTS, REF MECHANICAL
REMOVE EXISTING PIPE CURB TO EXISTING ROOF DECK AND INFILL WITH LIKE MATERIALS TO MATCH EXISTING ROOF, REF ROOF WARRANTY LEGEND SHEET A201 AND DETAIL 12/A201. REF PLUMBING AND ELECTRIC FOR ITEMS BEING REMOVED AND MODIFIED IN THIS AREA

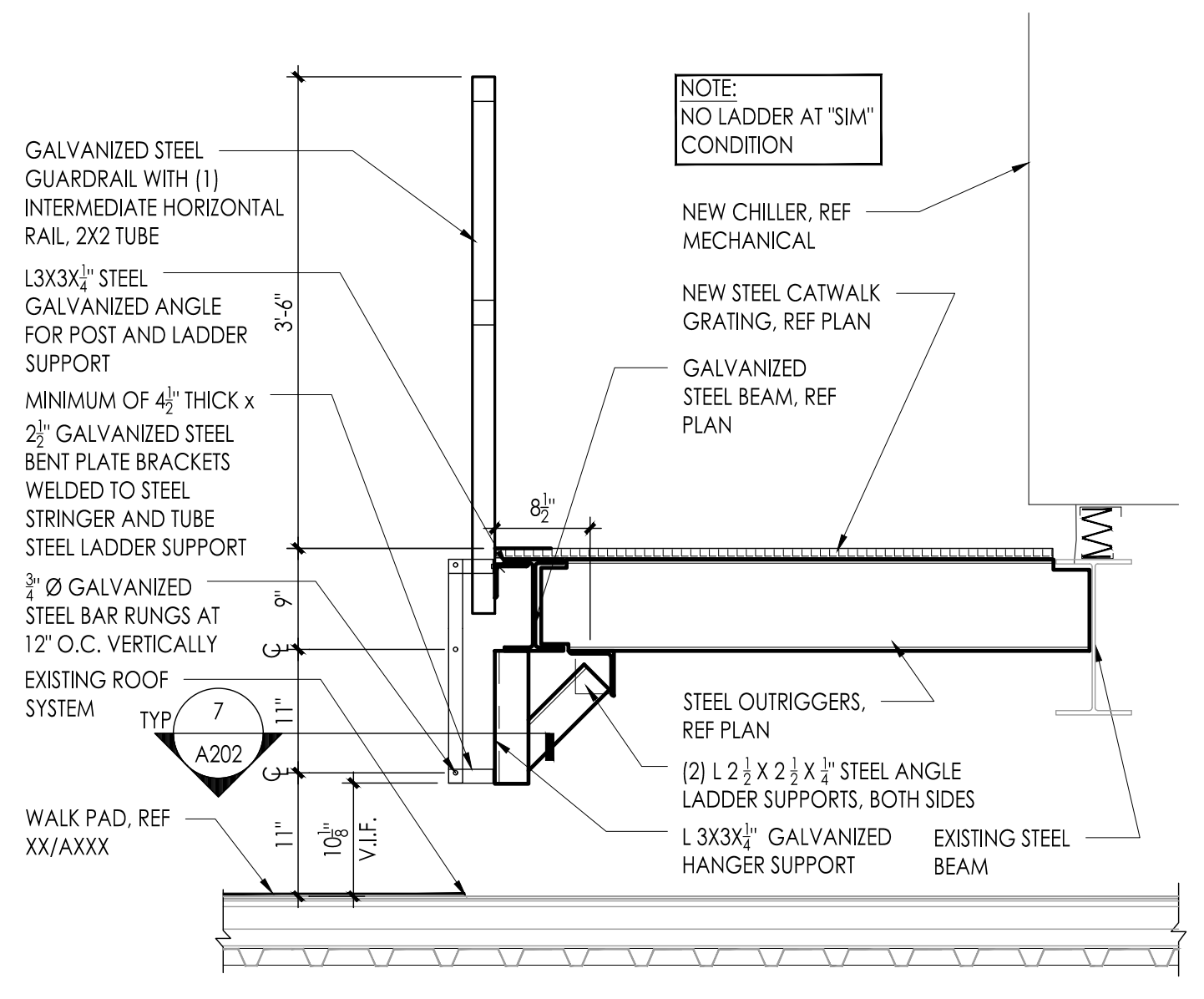
K PHOTOGRAPH (ROOF 26)(AHU A2)


EXISTING STEEL BEAM TO REMAIN
NEW STEEL CROSSOVER LADDER
18
A203
EX BEAM
NEW 42" HIGH GALVANIZED STEEL GUARDRAIL SYSTEM WELDED TO EXISTING STEEL BELOW (ALT BID # 4)
W8X18 OUTRIGGERS MOMENT CONNECTION TO EXISTING STEEL BEAM, (ALT BID 1) TYP ALL
NEW STEEL GALVANIZED LADDER AT STEEL CATWALK, (ALT BID # 4)
ALT BID # 4
3
A202
NEW 42" HIGH GALVANIZED STEEL GUARDRAIL SYSTEM (ALT BID # 4)
STEEL GALVANIZED GRATING, REF PLAN LEGEND (ALT BID # 4)
NEW GALVANIZED STEEL LADDER AT STEEL CATWALK , REF 7/A202 (ALT BID # 4)
DASHED LINES INDICATE NEW SURFACE MOUNTED DUCT WORK
STEEL GALVANIZED GRATING, REF PLAN LEGEND, (ALT BID # 4) TYP
SIM
NEW 42" HIGH GALVANIZED STEEL GUARDRAIL SYSTEM (ALT BID # 4)
EXISTING STEEL BEAM TO REMAIN
DASHED LINES INDICATE NEW SURFACE MOUNTED DUCT WORK
ALT BID # 4
6
A202
4'-2"
7'-4"
V.I.F.
10
NEW W 8X18
2'-0"
6'-10"
2'-8"
3'-0"
6'-8"
2'-10"
12'-10"
4'-0"
NEW W 8X18
NEW W 8 X 18
AHU
A2
EX BEAM
EX BEAM-V.I.F.
NEW STEEL SUPPORT BEAM AT STEEL CATWALK (ALT BID # 4)
NEW GALVANIZED STEEL LADDER AT STEEL CATWALK , REF 7/A202 (ALT BID # 4)
5
A202
ALT BID # 4
STEEL GALVANIZED GRATING CATWALK, REF PLAN LEGEND, (ALT BID # 4) TYP
DASHED LINES INDICATE NEW SURFACE MOUNTED DUCT WORK
NEW STEEL SUPPORT BEAMS, COORDINATE EXACT LOCATION OF NEW SUPPORT BEAMS WITH MECHANICAL, TYP.
EXISTING STEEL BEAM
DASHED LINE INDICATES NEW HVAC EQUIPMENT
NEW STEEL SUPPORT BEAMS, COORDINATE EXACT LOCATION OF NEW SUPPORT BEAMS WITH MECHANICAL, TYP.
STEEL GALVANIZED GRATING, REF PLAN LEGEND (ALT BID # 4)
NEW STEEL LADDER AT STEEL CATWALK (ALT BID # 4)

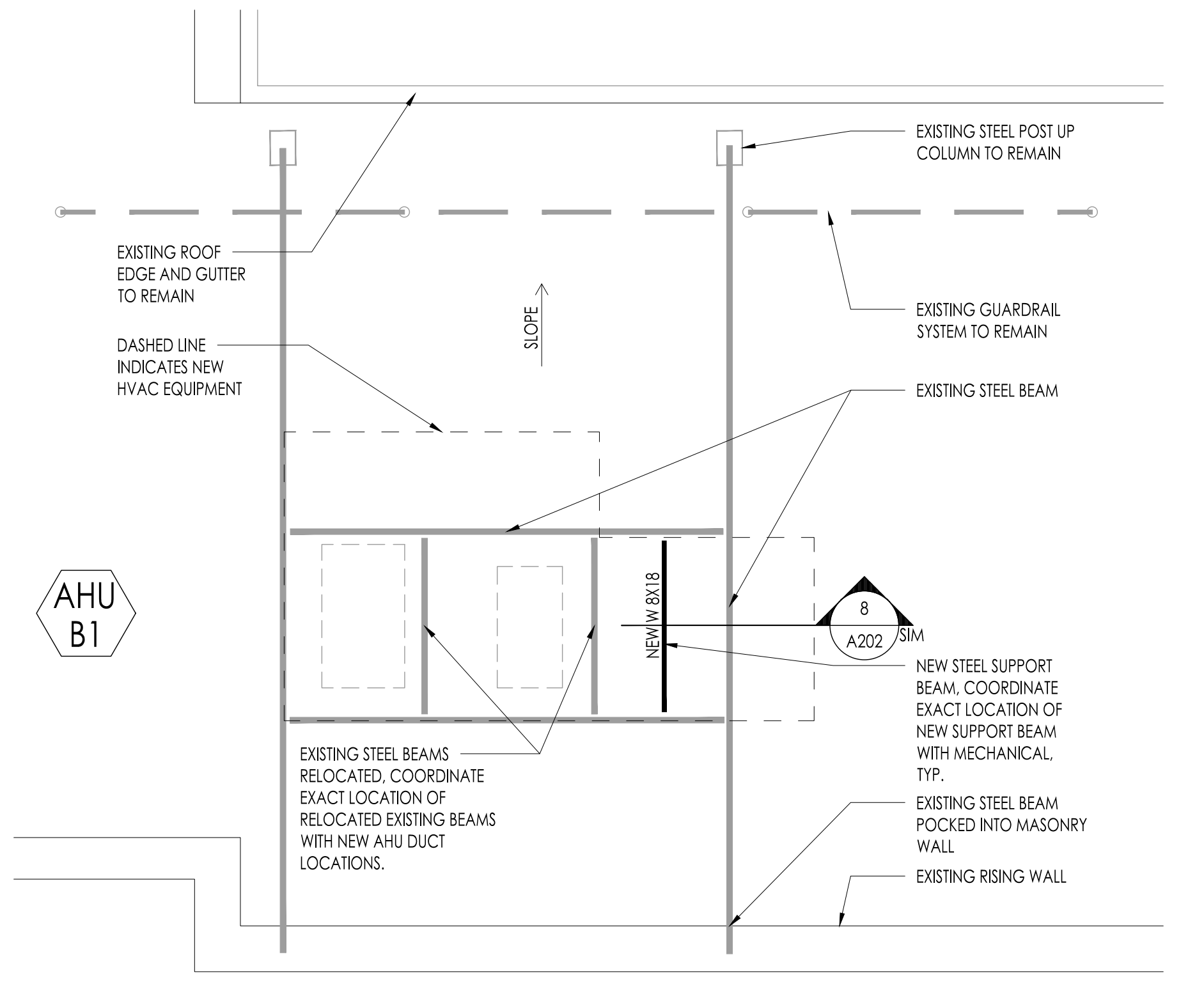
1 EXISTING STEEL DUNNAGE (AHU-A2)
Scale 1/4"=1'-0"


DASHED LINE INDICATES NEW HVAC EQUIPMENT
TYP
8
A202
NEW STEEL SUPPORT BEAMS, COORDINATE EXACT LOCATION OF NEW SUPPORT BEAMS WITH MECHANICAL, TYP.
EXISTING STEEL BEAM TO REMAIN
EXISTING STEEL COLUMNS TROUGH ROOF TO REMAIN
EXISTING STEEL BEAMS TO REMAIN
NEW W 8X18
AHU
A1
EXISTING STEEL BEAM TO REMAIN

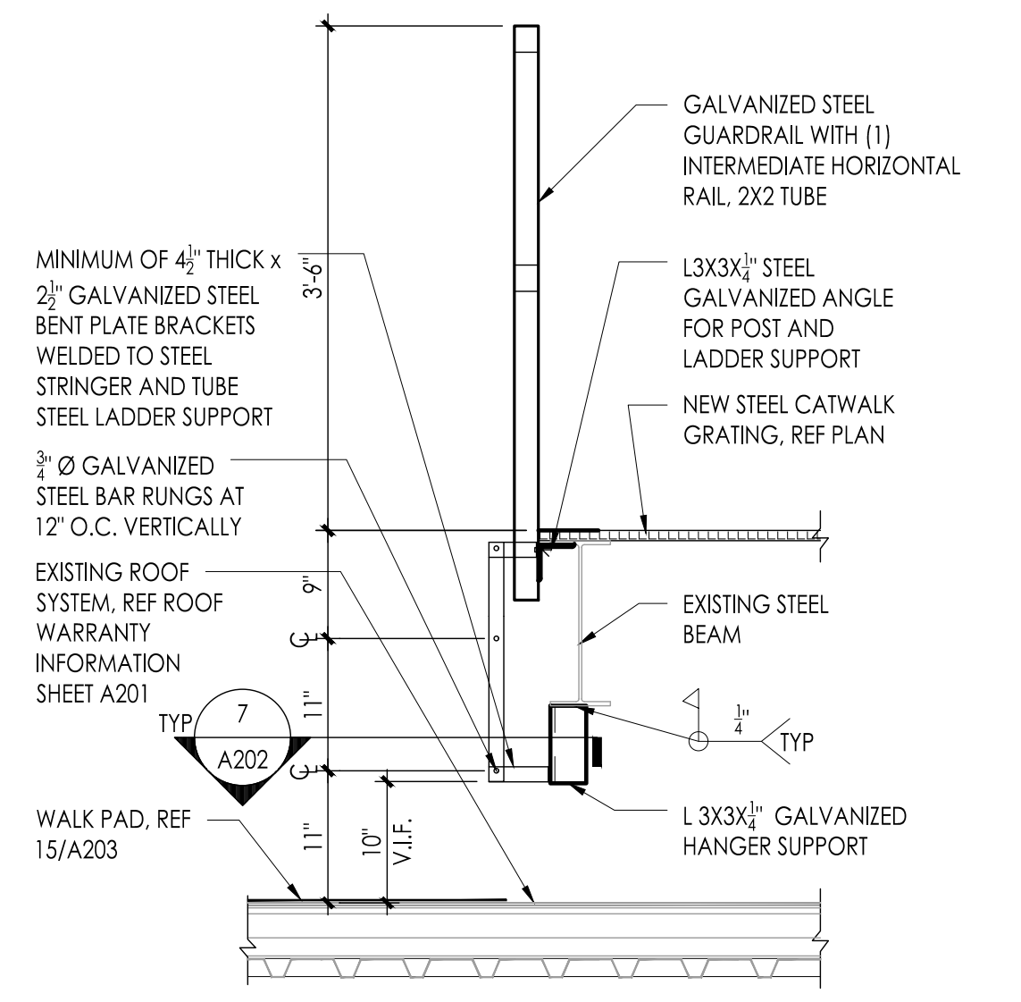
2 EXISTING STEEL DUNNAGE (AHU/A1)
Scale 1/4"=1'-0"


GALVANIZED STEEL GUARDRAIL WITH (1) INTERMEDIATE HORIZONTAL RAIL, 2X2 TUBE
L3X3X¼" STEEL GALVANIZED ANGLE FOR POST AND LADDER SUPPORT
MINIMUM OF 4½" THICK x 2½" GALVANIZED STEEL BENT PLATE BRACKETS WELDED TO STEEL STRINGER AND TUBE STEEL LADDER SUPPORT
¾" Ø GALVANIZED STEEL BAR RUNGS AT 12" O.C. VERTICALLY
EXISTING ROOF SYSTEM
TYP
7
A202
WALK PAD, REF XX/AXXX
3'-6"
9"
11"
10⅛"
V.I.F.
8½"
NOTE: NO LADDER AT "SIM" CONDITION
NEW CHILLER, REF MECHANICAL
NEW STEEL CATWALK GRATING, REF PLAN
GALVANIZED STEEL BEAM, REF PLAN
STEEL OUTRIGGERS, REF PLAN
(2) L 2½ X 2½ X ¼" STEEL ANGLE LADDER SUPPORTS, BOTH SIDES
L 3X3X¼" GALVANIZED HANGER SUPPORT
EXISTING STEEL BEAM

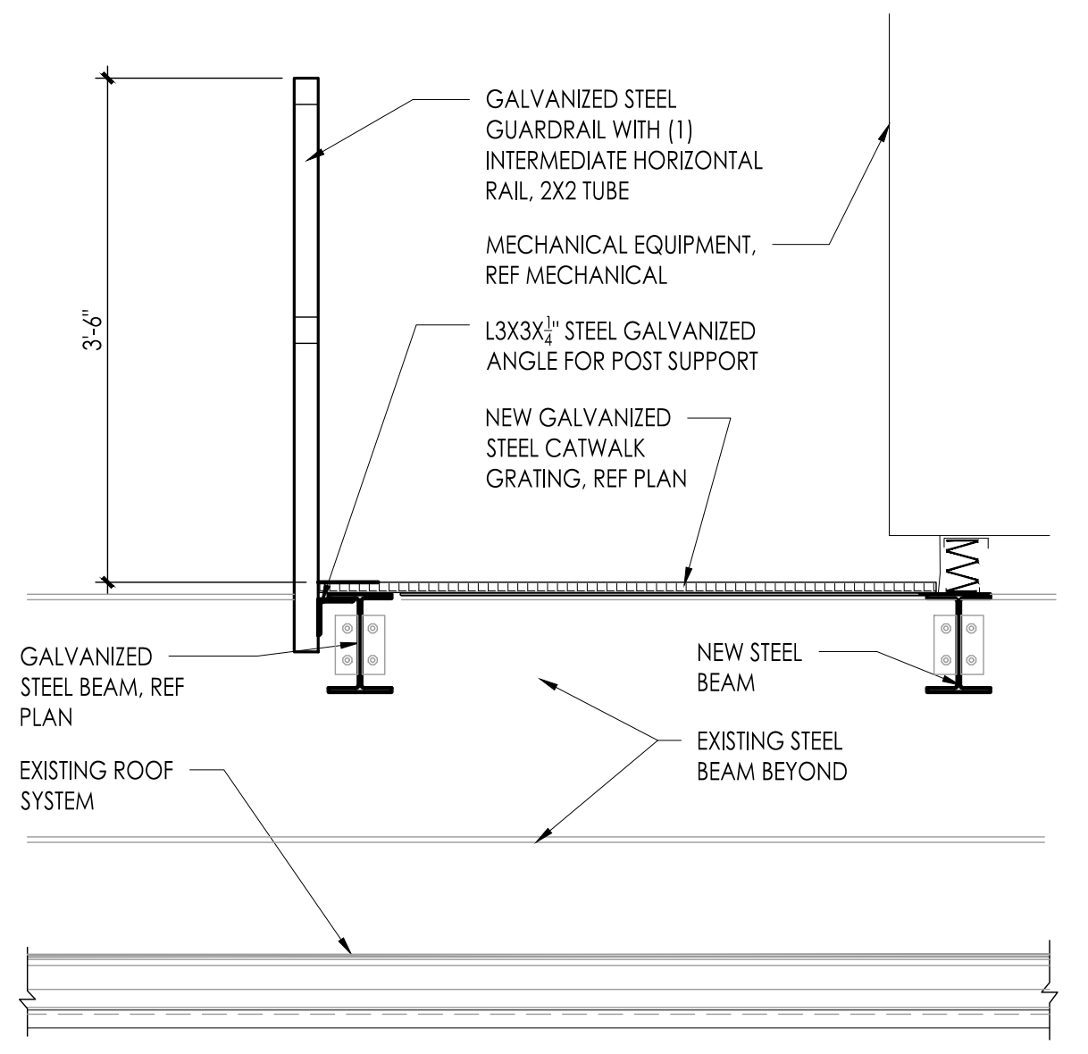
3 (ALT BID # 4) DUNNAGE FRAMING AND LADDER (AHU-A2)
3/4" = 1'-0"


EXISTING STEEL POST UP COLUMN TO REMAIN
EXISTING ROOF EDGE AND GUTTER TO REMAIN
DASHED LINE INDICATES NEW HVAC EQUIPMENT
SLOPE
EXISTING GUARDRAIL SYSTEM TO REMAIN
EXISTING STEEL BEAM
AHU
B1
NEW W 8X18
8
A202
SIM
NEW STEEL SUPPORT BEAM, COORDINATE EXACT LOCATION OF NEW SUPPORT BEAM WITH MECHANICAL, TYP.
EXISTING STEEL BEAMS RELOCATED, COORDINATE EXACT LOCATION OF RELOCATED EXISTING BEAMS WITH NEW AHU DUCT LOCATIONS.
EXISTING STEEL BEAM POCKED INTO MASONRY WALL
EXISTING RISING WALL

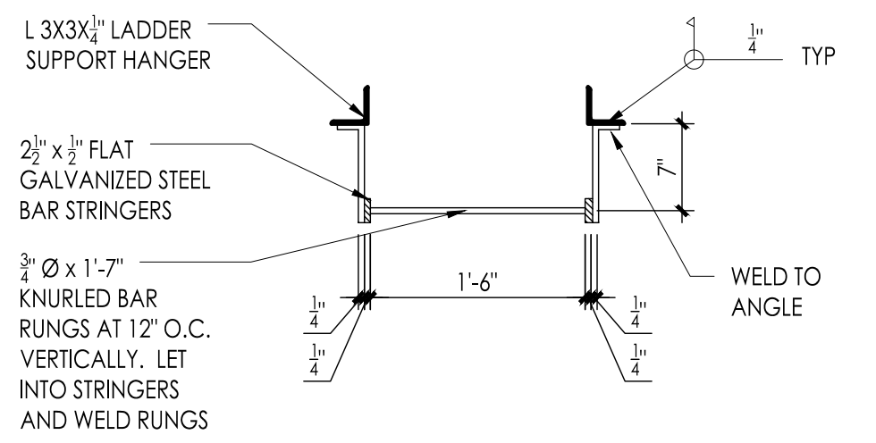
4 EXISTING STEEL DUNNAGE (AHU/B1)
Scale 1/4"=1'-0"


GALVANIZED STEEL GUARDRAIL WITH (1) INTERMEDIATE HORIZONTAL RAIL, 2X2 TUBE
MINIMUM OF 4½" THICK x 2½" GALVANIZED STEEL BENT PLATE BRACKETS WELDED TO STEEL STRINGER AND TUBE STEEL LADDER SUPPORT
L3X3X¼" STEEL GALVANIZED ANGLE FOR POST AND LADDER SUPPORT
NEW STEEL CATWALK GRATING, REF PLAN
¾" Ø GALVANIZED STEEL BAR RUNGS AT 12" O.C. VERTICALLY
EXISTING ROOF SYSTEM, REF ROOF WARRANTY INFORMATION SHEET A201
EXISTING STEEL BEAM
TYP
7
A202
¼"
TYP
WALK PAD, REF 15/A203
L 3X3X¼" GALVANIZED HANGER SUPPORT
3'-6"
9"
11"
10"
V.I.F.

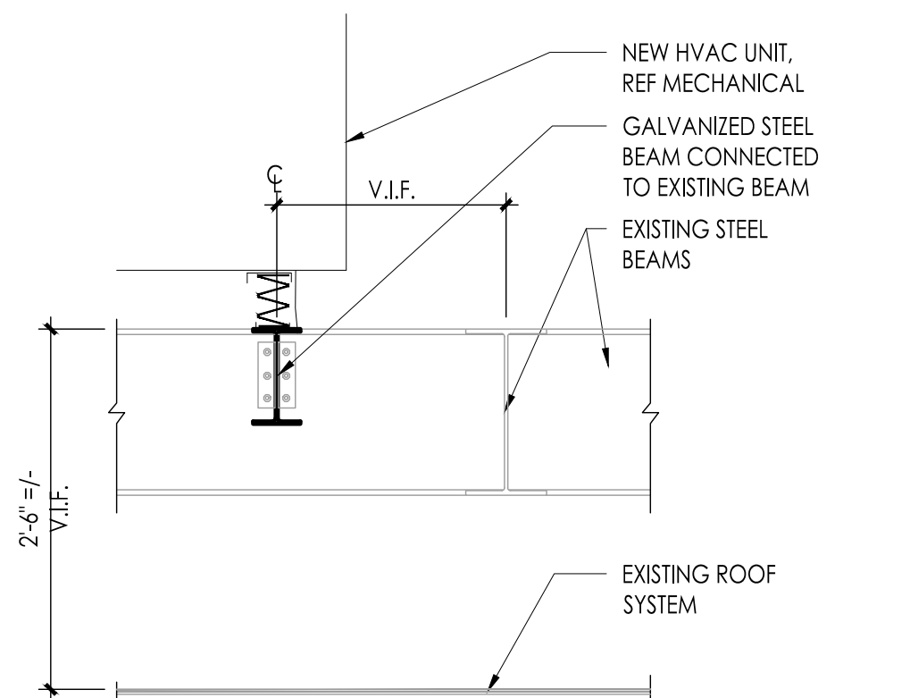
5 (ALT BID # 4) LADDER AT EXISTING BEAM (AHU-A2)
3/4" = 1'-0"


GALVANIZED STEEL GUARDRAIL WITH (1) INTERMEDIATE HORIZONTAL RAIL, 2X2 TUBE
MECHANICAL EQUIPMENT, REF MECHANICAL
L3X3X¼" STEEL GALVANIZED ANGLE FOR POST SUPPORT
NEW GALVANIZED STEEL CATWALK GRATING, REF PLAN
3'-6"
GALVANIZED STEEL BEAM, REF PLAN
NEW STEEL BEAM
EXISTING STEEL BEAM BEYOND
EXISTING ROOF SYSTEM

6 (ALT BID # 4) DUNNAGE CATWALK AND RAILING
3/4" = 1'-0"


L 3X3X¼" LADDER SUPPORT HANGER
2½" x ½" FLAT GALVANIZED STEEL BAR STRINGERS
¾" Ø x 1'-7" KNURLED BAR RUNGS AT 12" O.C. VERTICALLY. LET INTO STRINGERS AND WELD RUNGS
¼"
TYP
7"
1'-6"
WELD TO ANGLE

7 (ALT BID # 4) LADDER PLAN (AHU-A2)
3/4" = 1'-0"


NEW HVAC UNIT, REF MECHANICAL
GALVANIZED STEEL BEAM CONNECTED TO EXISTING BEAM
EXISTING STEEL BEAMS
V.I.F.
2'-6" =/- V.I.F.
EXISTING ROOF SYSTEM

8 STEEL CONNECTION (TYPICAL)
3/4" = 1'-0"

PLAN LEGEND

▬	INDICATES NEW SUPPORT BEAM FASTENED TO EXISTING DUNNAGE
▬	INDICATES EXISTING BEAMS AT EXISTING DUNNAGE
▦	MCNICHOLS -BAR GRATING STANDARD-DUTY WELDED, RECTANGULAR BAR, GW-150, 19-W-4 SPACING, GALVANIZED STEEL, HOT DIPPED, 1-1/2" X $\frac{3}{16}$" RECTANGULAR BAR, SMOOTH SURFACE, OR APPROVED EQUAL (ALT BID #4)
00	INDICATES MOMENT CONNECTION IN UNITS OF KIP - FT, TYP

SYMBOLS

X / A-X	FLASHING DETAIL AND DRAWING NUMBER
XXX / ##	ROOF TOP EQUIPMENT INDICATOR

STRUCTURAL NOTES:

1. CONTRACTOR IS TO FIELD VERIFY THE EXISTING ROOF STRUCTURE AND LOCATIONS OF EXISTING MECHANICAL, ELECTRICAL, AND PLUMBING EQUIPMENT PRIOR TO PLACEMENT AND INSTALLATION OF NEW HVAC UNITS, DUCTS, AND ASSOCIATED EQUIPMENT.
2. CONTRACTOR IS TO NOTIFY ARCHITECT IN THE EVENT THE NEW HVAC WORK HAS BEEN ALTERED OR CHANGED IN WEIGHTS AND/OR LOCATIONS DO TO EXISTING CONDITIONS FOR ITEMS MENTIONED IN NOTE #1.

SHEET NOTES:

1. REFERENCE MECHANICAL PLUMBING AND ELECTRIC SHEETS FOR ALL ROOF TOP EQUIPMENT, ROOF TOP PLUMBING AND ELECTRICAL.
2. REFERENCE ALL MEP SHEETS FOR ITEMS AND EQUIPMENT TO BE REMOVED ON ROOF.
3. REFERENCE A201 FOR ROOF WARRANTY INFORMATION AND ASSOCIATED ROOF DETAILS
4. REFERENCE A101 FOR GENERAL DEMOLITION AND GENERAL CONSTRUCTION NOTES

GENERAL STRUCTURAL STEEL NOTES:

STRUCTURAL STEEL

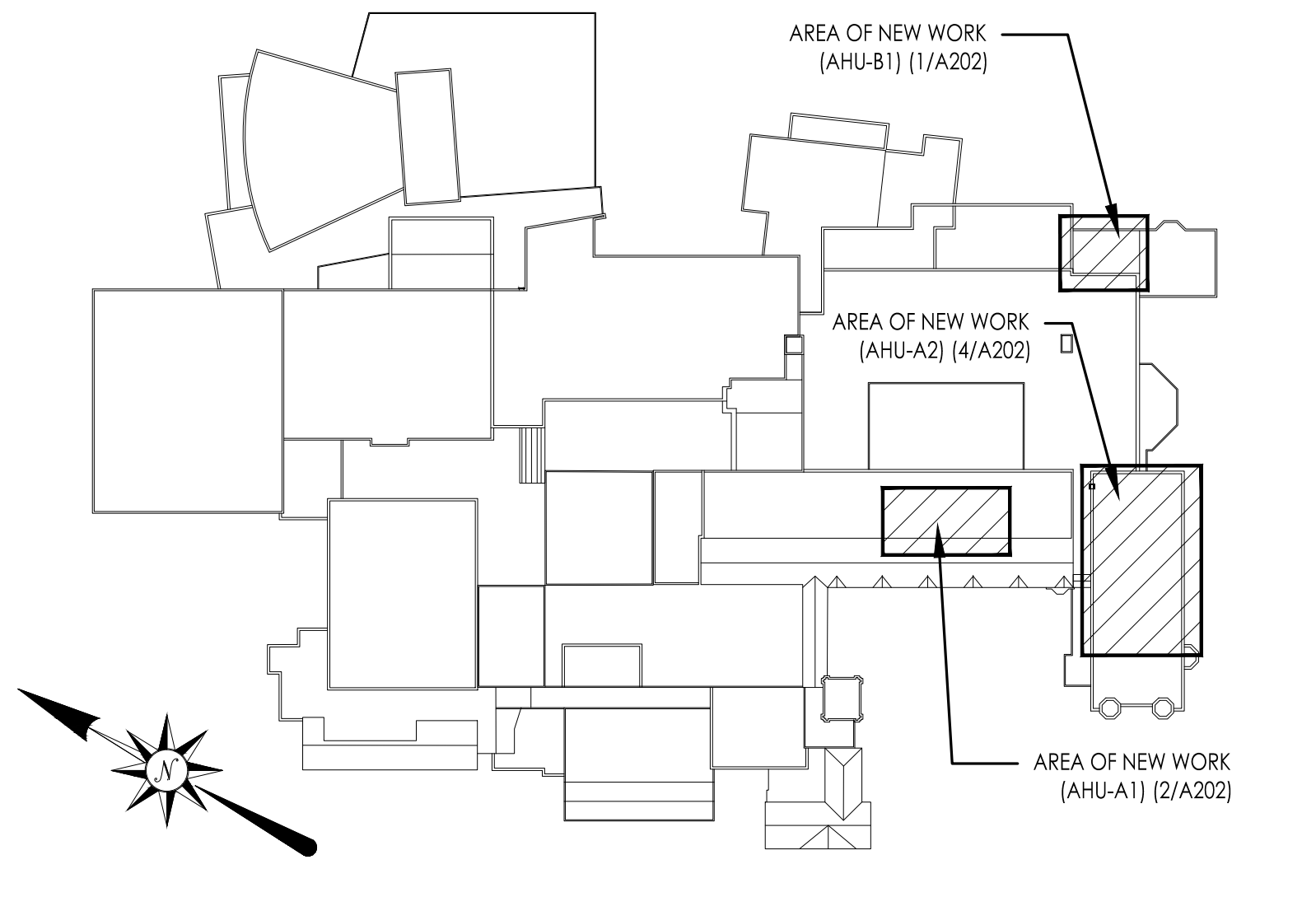
1. All structural steel details shall be designed in accordance with the latest issue of the American Institute of Steel Construction (AISC), "Specification for Structural Steel Buildings - Allowable Stress Design and Plastic Design".
2. Field connections shall be made by high strength bolts 3/4" minimum in diameter or welded.
3. High strength bolts shall be tightened to a bolt tension not less than the proof load given in ASTM A-325 Specifications.
4. Welding shall be done in conformity with the latest code for Arc and Gas Welding in Building Construction of the American Welding Society. All welds shall develop the full strength of the material being welded, unless otherwise noted.
5. All structural steel shall receive one shop coat of paint except contact surfaces, within 4 inches of field welds.
6. All structural steel shall be accurately set and properly held in position with suitable temporary braces and stays until permanently secured. .
7. All pipe shapes shall be ASTM A53, Grade B, Fy= 35 KSI.
8. All tubes shapes shall be ASTM A500, Grade B, FY=46 KSI.
9. All structural wide flange shapes to be ASTM A-992/A572, Grade 50.
10. All steel plates, angles, channels are to be ASTM A-36 unless indicated otherwise.
11. Contractor shall submit shop drawings for review with all new steel construction, typ.

STEEL ROOF DECK

1. Deck shall be 20 gage galvanized 1.5" wide rib variety (type "B") continuous over at least 3 spans.
2. Welds to be made in strict accordance with manufacturer's recommendations by certified welders. Steel deck infill exposed to below will be painted to match ajacent existing deck.

MISCELLANEOUS

1. Contractor shall verify all dimensions, sections and elevations on the job.
2. Consult the Architectural, Mechanical and Electrical drawings for verification of location and dimensions of chases, inserts, openings, sleeves, washes, drips, reveals, depressions, equipment pads and other product requirements.
3. Contractor is responsibly to shore existing building during construction and during the installation of new structural elements.
4. See specifications for additional requirements. In the case of conflict between specifications and general notes, more stringent requirements shall govern.


AREA OF NEW WORK (AHU-B1) (1/A202)
AREA OF NEW WORK (AHU-A2) (4/A202)
AREA OF NEW WORK (AHU-A1) (2/A202)
N

KEY PLAN
NTS

WILLIAM D. HOPKINS III, AIA, LEED AP
NJ - 21AI01706000 | PA - RA012520X
JASON J. DUBOWITCH, AIA
NJ - 21AI01979800 | PA - RA406009
STEPHEN W. SCHREYER JR., AIA, LEED AP BD+C
NJ - 21AI02003100 | PA - RA410435

William D. Hopkins
Architect

01/29/26
Date

F V H D P C . C O M

FVHD architects planners
EST 1918
Fraytak Veisz Hopkins Duthie PC

Corporate: 1515 Lower Ferry Road - Trenton - New Jersey 08618
Pennsylvania: 820 Adams Ave., Suite 210 - Audubon - Pennsylvania 19403

Project Name
HVAC Renovations at Princeton High School

Project Owner Name
Princeton Public Schools

Project Location
151 Moore Street,
Princeton, NJ
08540

Project Number
5516E

Project Date
01.29. 2026

Checked By
W.D.H.

Drawn By
BO

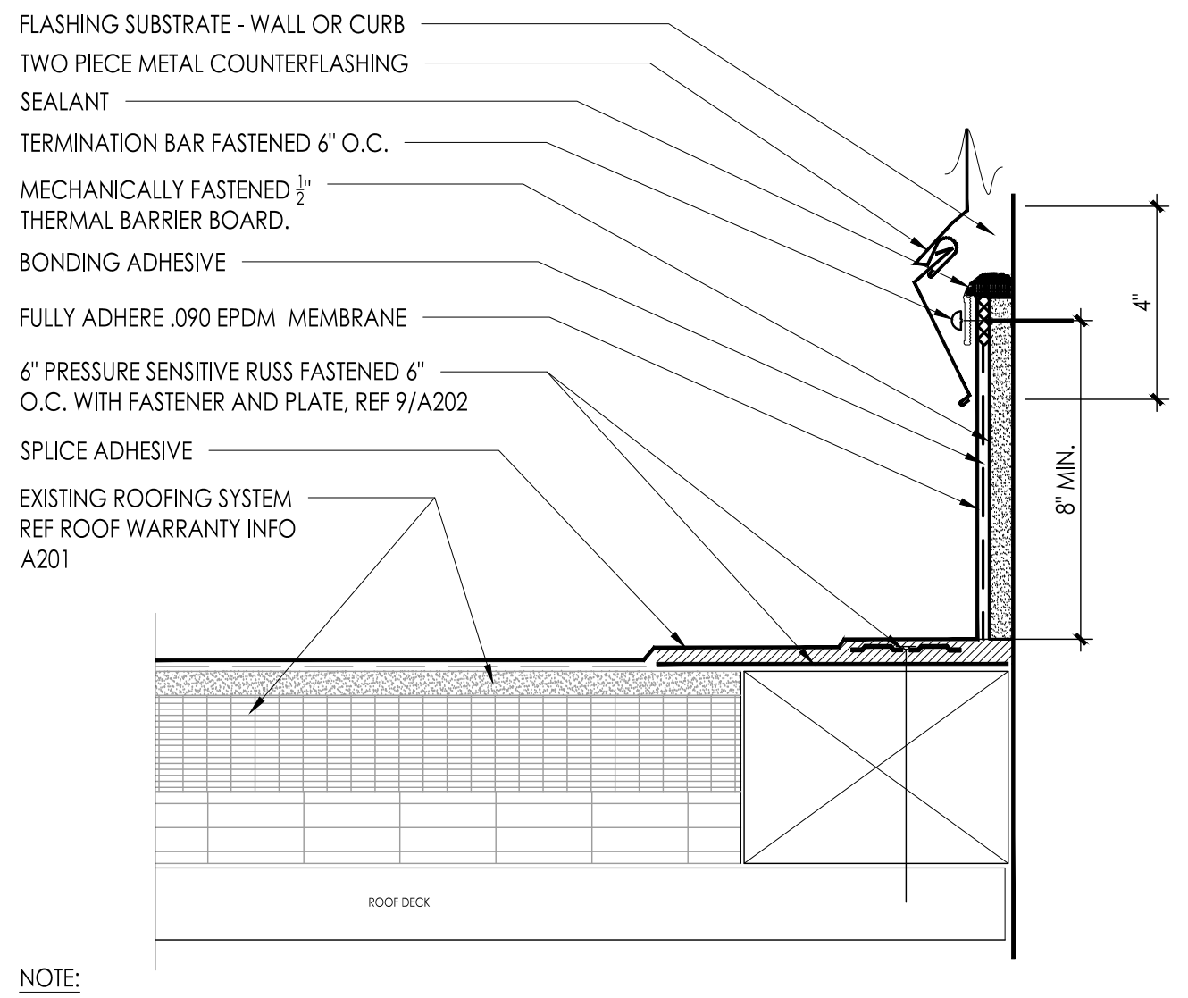
Scale
AS NOTED

Drawing Name
ENLARGED DUNNAGE PLANS (ALT #4), NOTES, PHOTOS, AND DETAILS

Revisions

No.	Date	Description

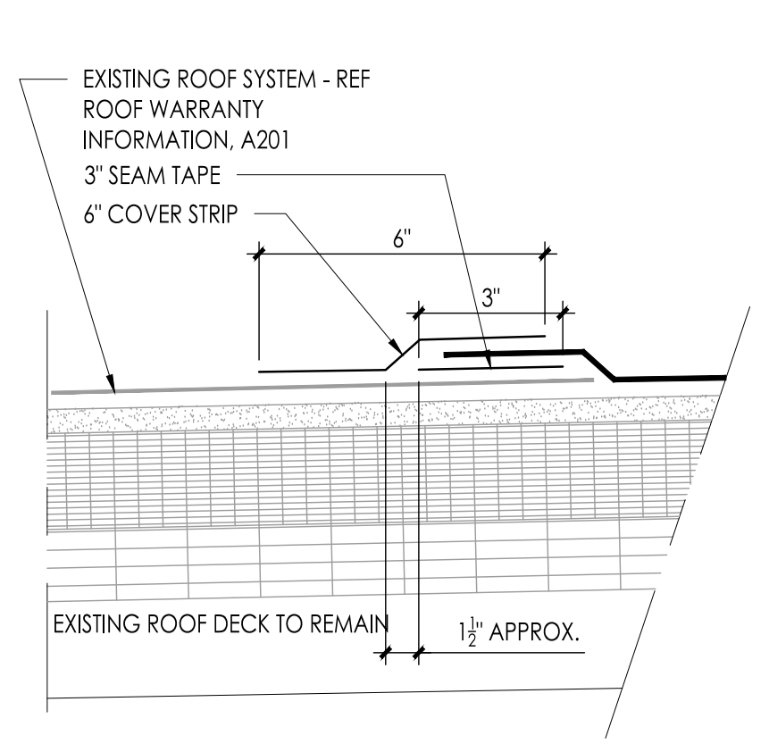
Drawing Number
A202


FLASHING SUBSTRATE - WALL OR CURB
TWO PIECE METAL COUNTERFLASHING
SEALANT
TERMINATION BAR FASTENED 6" O.C.
MECHANICALLY FASTENED $\frac{1}{2}$" THERMAL BARRIER BOARD.
BONDING ADHESIVE
FULLY ADHERE .090 EPDM MEMBRANE
6" PRESSURE SENSITIVE RUSS FASTENED 6" O.C. WITH FASTENER AND PLATE, REF 9/A202
SPLICE ADHESIVE
EXISTING ROOFING SYSTEM REF ROOF WARRANTY INFO A201
4"
8" MIN.
ROOF DECK

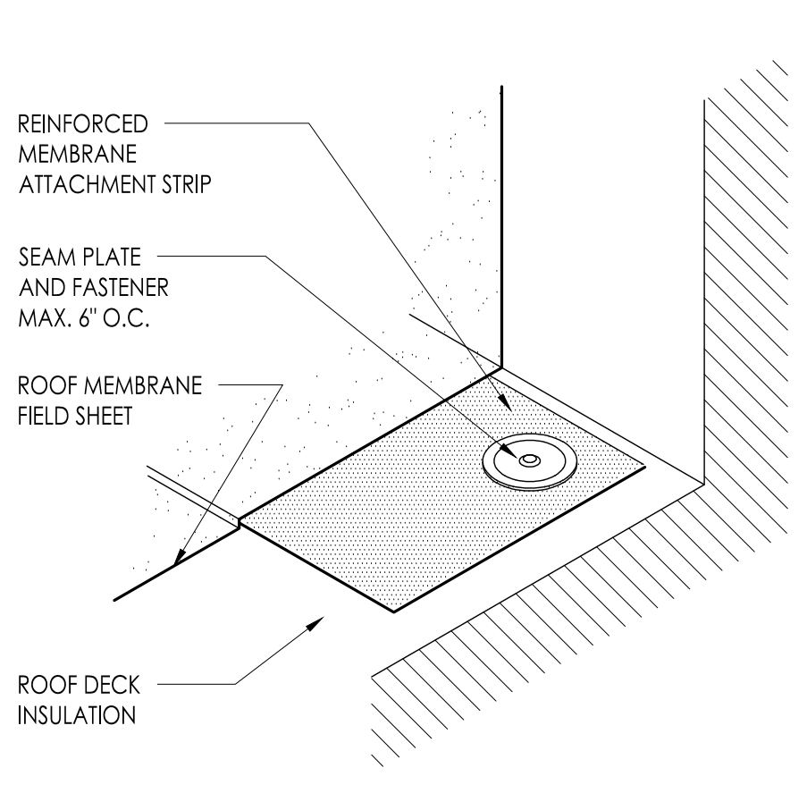
NOTE:
ALL VERT. SPLICES MUST BE OVERLAID WITH TWO LAYERS OF PRESSURE SENSITIVE ELASTOFORM FLASHING. 6" WIDE AT BOTTOM COVERED BY 12" WIDE. SEE MANUFACTURERS DETAILS AND GUIDELINES.

1 TYPICAL BASE FLASHING DETAIL
3" = 1'-0"

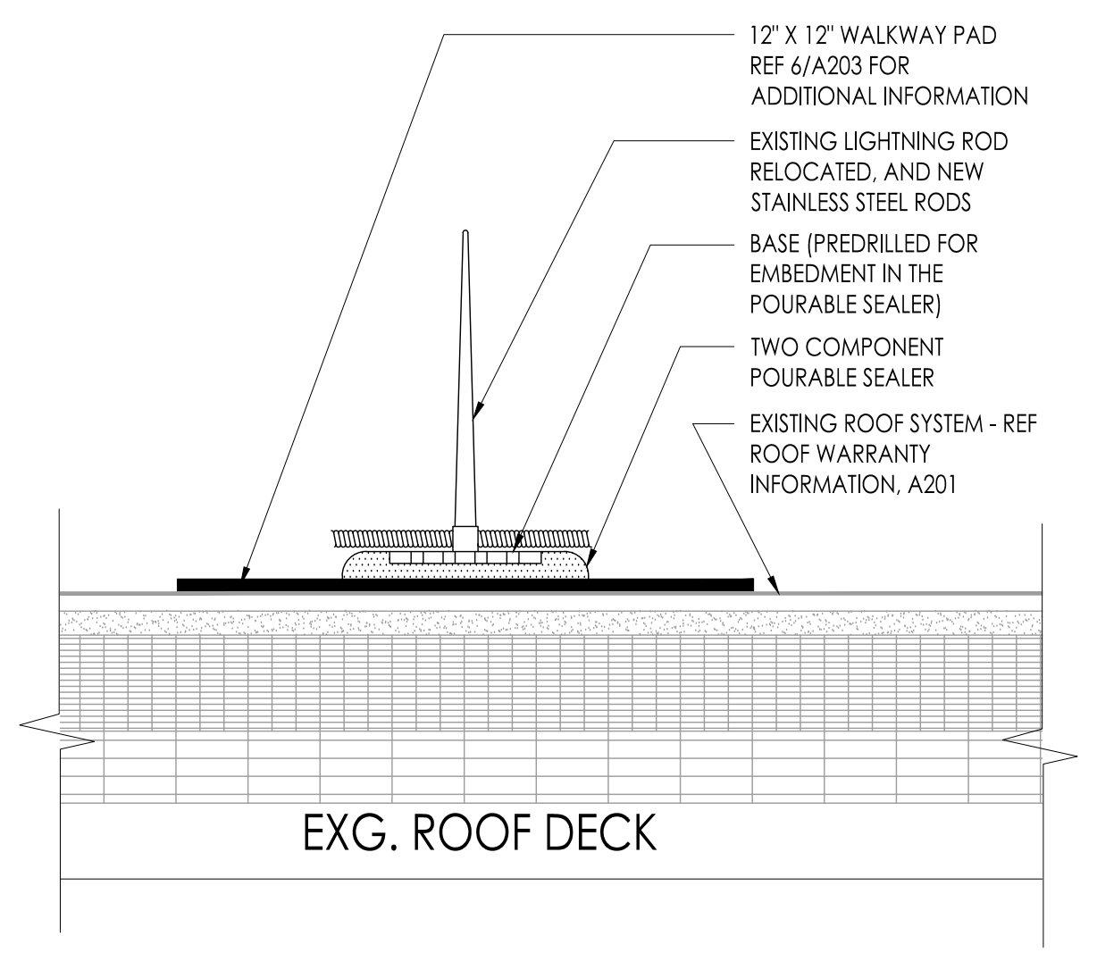
NOTES:
1. PRIOR TO SEAM TAPE INSTALLATION PRIME SPLICE AREAS
2. OVERLAP ENDS OF CUT PIECES A MINIMUM OF 1"
3. LAP SEALANT IS TO COVER THE EDGE OF SEAM TAPE


EXISTING ROOF SYSTEM - REF ROOF WARRANTY INFORMATION, A201
3" SEAM TAPE
6" COVER STRIP
6"
3"
EXISTING ROOF DECK TO REMAIN
$1\frac{1}{2}$" APPROX.

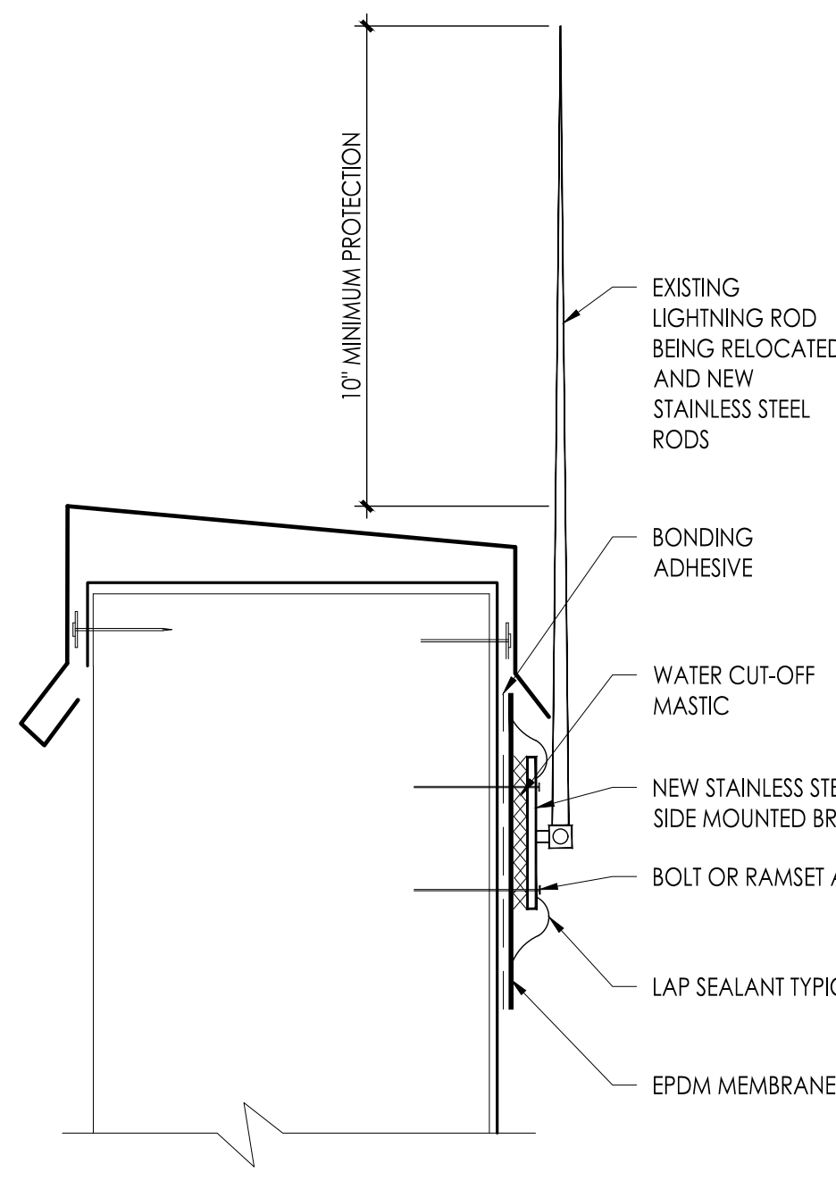
2 TYPICAL LAP SPLICE DETAIL
3" = 1'-0"


REINFORCED MEMBRANE ATTACHMENT STRIP
SEAM PLATE AND FASTENER MAX. 6" O.C.
ROOF MEMBRANE FIELD SHEET
ROOF DECK INSULATION

3 TYPICAL SECUREMENT STRIP DETAIL
3" = 1'-0"

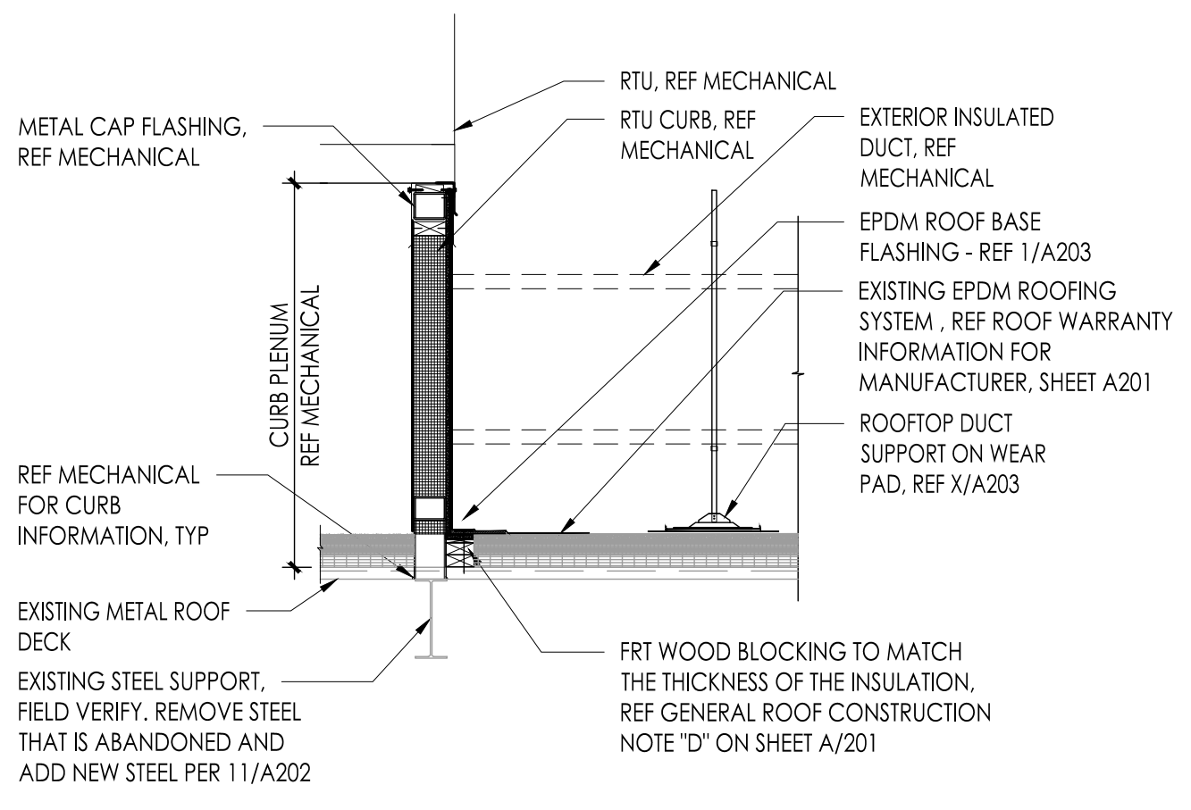

12" X 12" WALKWAY PAD REF 6/A203 FOR ADDITIONAL INFORMATION
EXISTING LIGHTNING ROD RELOCATED, AND NEW STAINLESS STEEL RODS
BASE (PREDRILLED FOR EMBEDMENT IN THE POURABLE SEALER)
TWO COMPONENT POURABLE SEALER
EXISTING ROOF SYSTEM - REF ROOF WARRANTY INFORMATION, A201
EXG. ROOF DECK

4 LIGHTNING PROTECTION RELOCATED
3" = 1'-0"

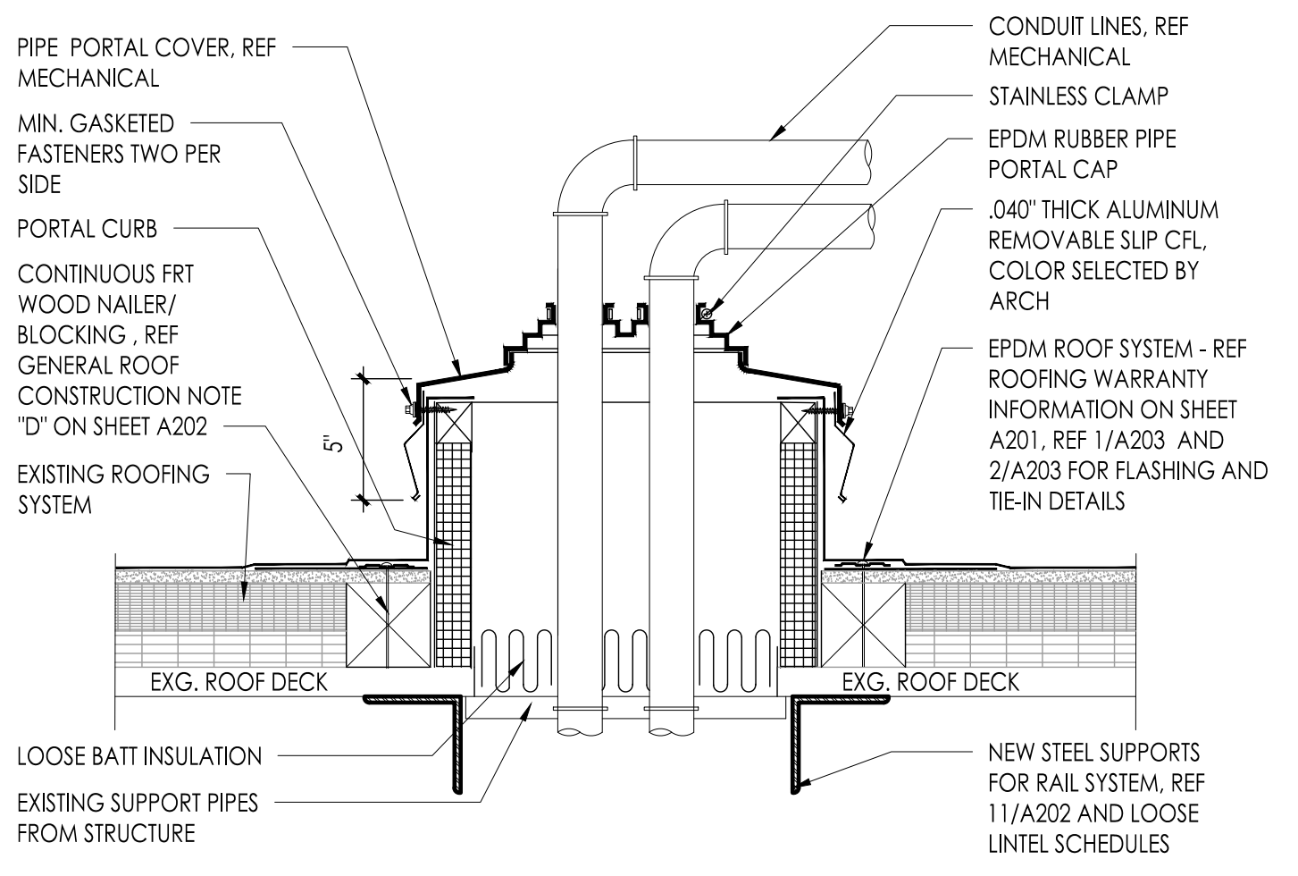


NOTES:
1. DETAIL MAY BE USED FOR ANY FASTENER PENETRATION (E.G., ACCESS PARAPET). LADDER, RTU, ANCHOR SUPPORT
2. WATER CUT-OFF MASTIC MUST BE UNDER CONSTANT COMPRESSION.
3. UNACCEPTABLE FOR HORIZONTAL APPLICATION ON ROOF DECK.
4. UNDER NO CIRCUMSTANCES SHALL FASTENERS OF ANY TYPE PUNCTURE THE NEW COPING. RELOCATE LIGHTING ROD TO EXISTING LOCATION.
5. IN THE EVENT THAT THE OVERALL LENGTH OF THE LIGHTING ROD IS OVER 24" INCHES, PROVIDE ADDITIONAL SUPPORTS THAT ARE REQUIRED BY THE MANUFACTURER

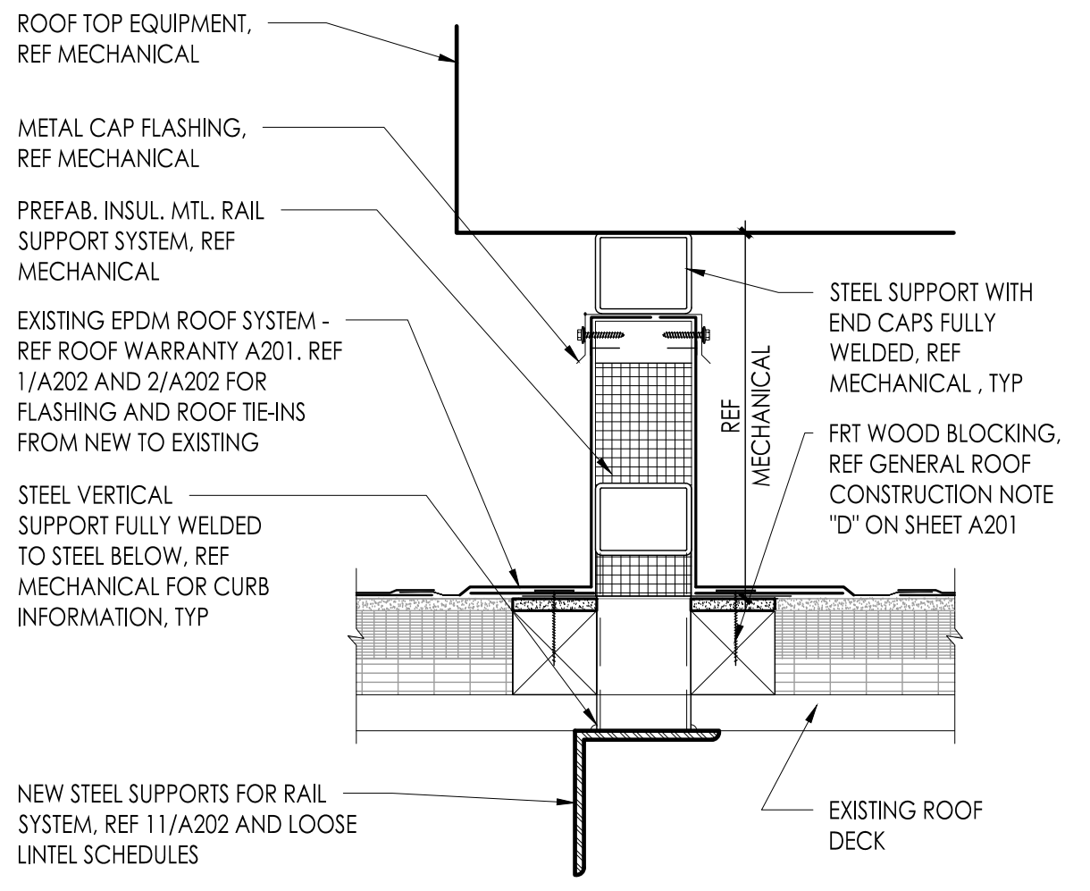
5 LIGHTNING PROTECTION DETAIL
3" = 1'-0"


RTU, REF MECHANICAL
METAL CAP FLASHING, REF MECHANICAL
RTU CURB, REF MECHANICAL
EXTERIOR INSULATED DUCT, REF MECHANICAL
EPDM ROOF BASE FLASHING - REF 1/A203
EXISTING EPDM ROOFING SYSTEM , REF ROOF WARRANTY INFORMATION FOR MANUFACTURER, SHEET A201
ROOFTOP DUCT SUPPORT ON WEAR PAD, REF X/A203
CURB PLENUM REF MECHANICAL
REF MECHANICAL FOR CURB INFORMATION, TYP
EXISTING METAL ROOF DECK
EXISTING STEEL SUPPORT, FIELD VERIFY. REMOVE STEEL THAT IS ABANDONED AND ADD NEW STEEL PER 11/A202
FRT WOOD BLOCKING TO MATCH THE THICKNESS OF THE INSULATION, REF GENERAL ROOF CONSTRUCTION NOTE "D" ON SHEET A/201

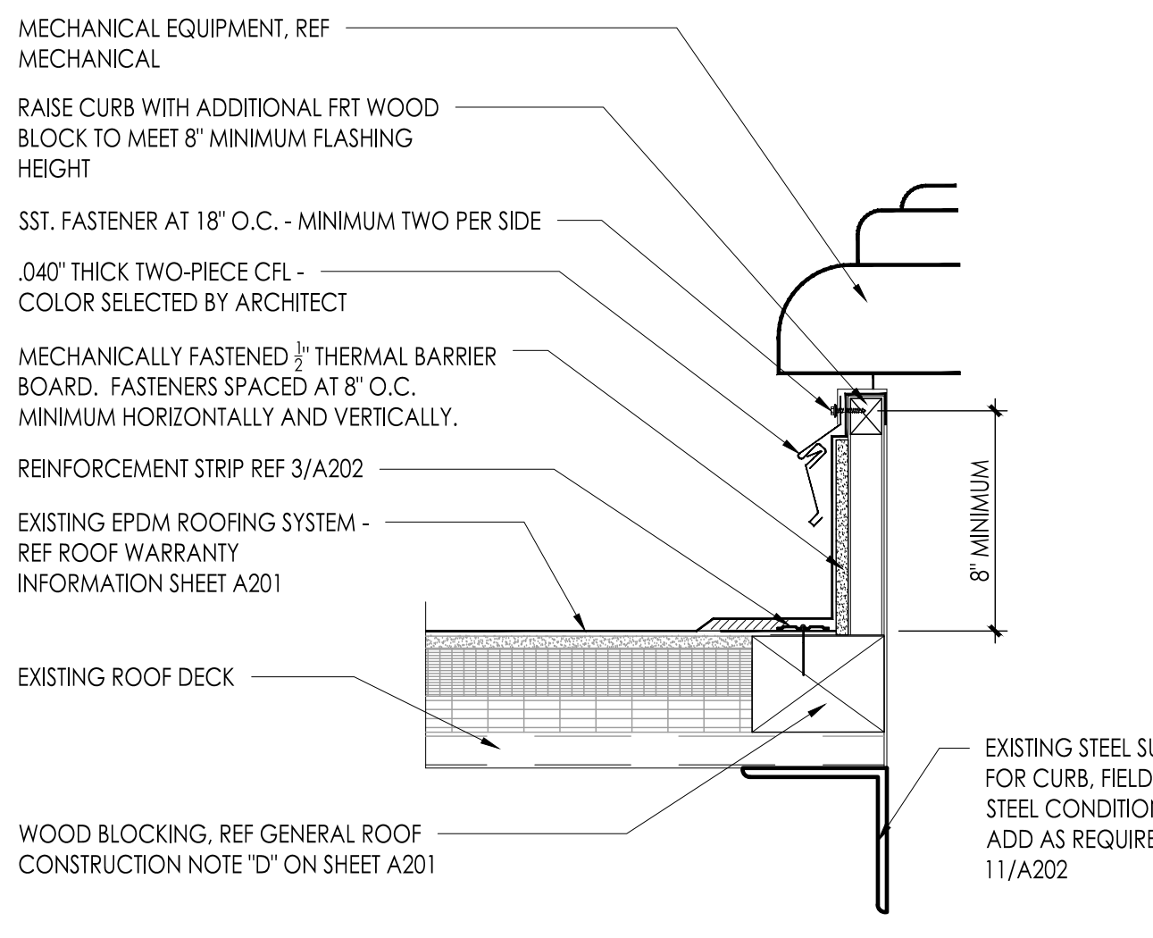
6 RTU PLENUM CURB DETAIL
1/2" = 1'-0"


PIPE PORTAL COVER, REF MECHANICAL
MIN. GASKETED FASTENERS TWO PER SIDE
PORTAL CURB
CONTINUOUS FRT WOOD NAILER/ BLOCKING , REF GENERAL ROOF CONSTRUCTION NOTE "D" ON SHEET A202
EXISTING ROOFING SYSTEM
5"
CONDUIT LINES, REF MECHANICAL
STAINLESS CLAMP
EPDM RUBBER PIPE PORTAL CAP
.040" THICK ALUMINUM REMOVABLE SLIP CFL, COLOR SELECTED BY ARCH
EPDM ROOF SYSTEM - REF ROOFING WARRANTY INFORMATION ON SHEET A201, REF 1/A203 AND 2/A203 FOR FLASHING AND TIE-IN DETAILS
EXG. ROOF DECK
EXG. ROOF DECK
LOOSE BATT INSULATION
EXISTING SUPPORT PIPES FROM STRUCTURE
NEW STEEL SUPPORTS FOR RAIL SYSTEM, REF 11/A202 AND LOOSE LINTEL SCHEDULES

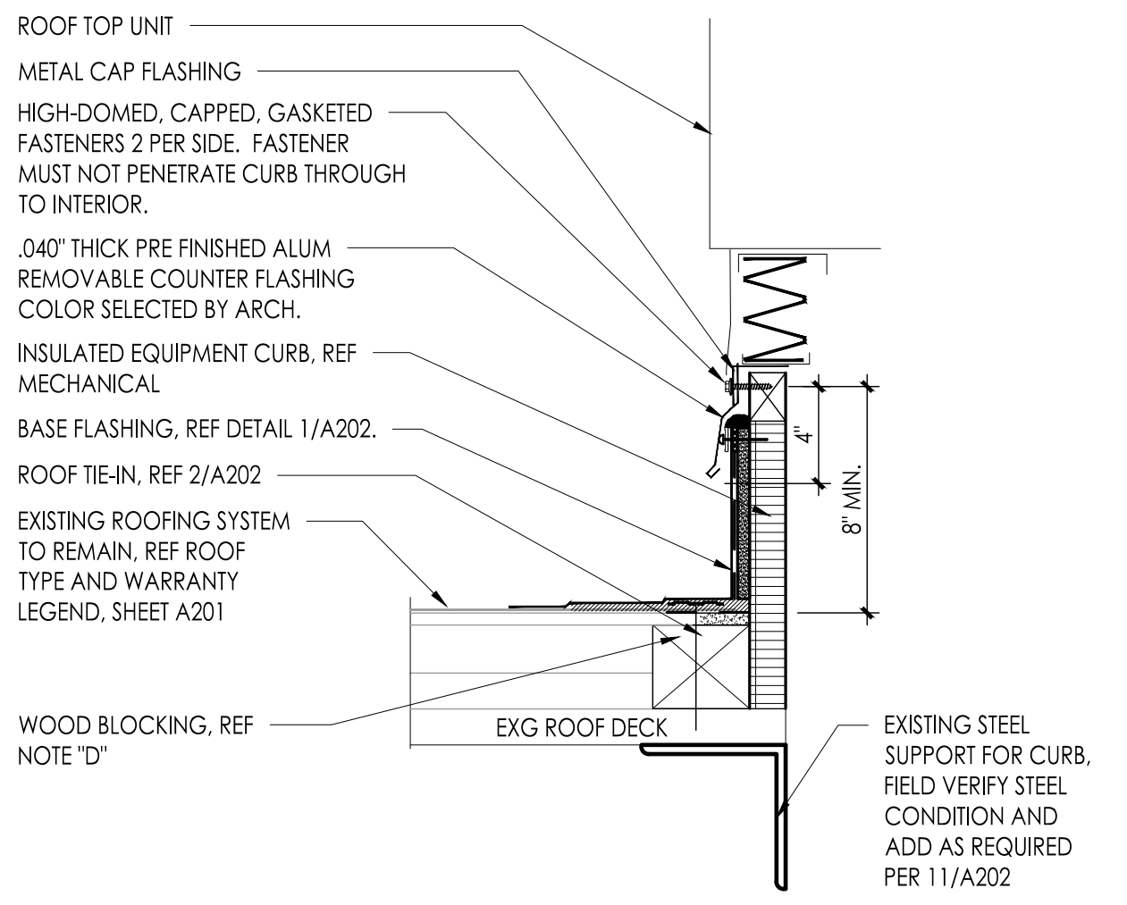
7 TYPICAL PIPE CURB FLASHING
1-1/2" = 1'-0"


ROOF TOP EQUIPMENT, REF MECHANICAL
METAL CAP FLASHING, REF MECHANICAL
PREFAB. INSUL. MTL. RAIL SUPPORT SYSTEM, REF MECHANICAL
EXISTING EPDM ROOF SYSTEM - REF ROOF WARRANTY A201. REF 1/A202 AND 2/A202 FOR FLASHING AND ROOF TIE-INS FROM NEW TO EXISTING
STEEL VERTICAL SUPPORT FULLY WELDED TO STEEL BELOW, REF MECHANICAL FOR CURB INFORMATION, TYP
STEEL SUPPORT WITH END CAPS FULLY WELDED, REF MECHANICAL , TYP
REF MECHANICAL
FRT WOOD BLOCKING, REF GENERAL ROOF CONSTRUCTION NOTE "D" ON SHEET A201
NEW STEEL SUPPORTS FOR RAIL SYSTEM, REF 11/A202 AND LOOSE LINTEL SCHEDULES
EXISTING ROOF DECK

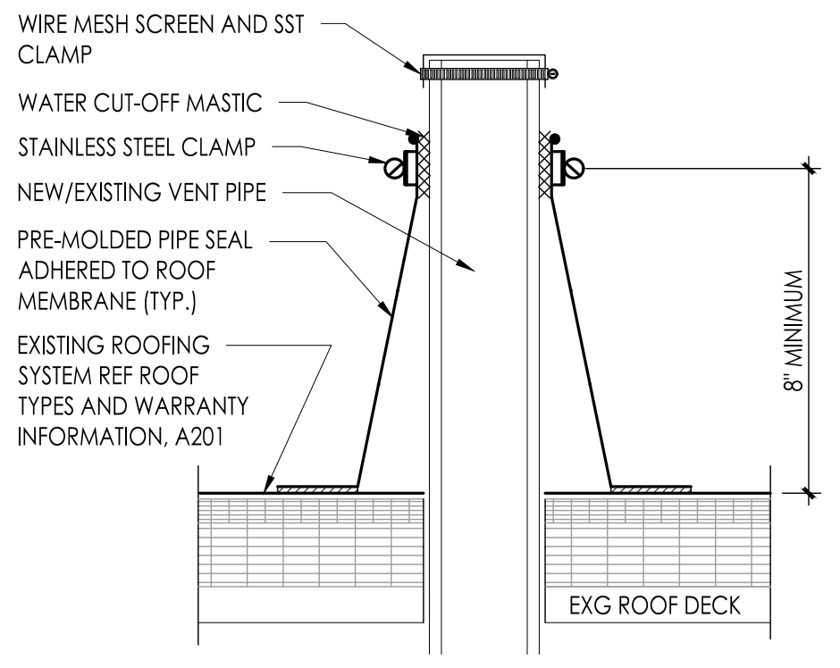
8 EQUIPMENT SUPPORT RAIL DETAIL
1-1/2" = 1'-0"


MECHANICAL EQUIPMENT, REF MECHANICAL
RAISE CURB WITH ADDITIONAL FRT WOOD BLOCK TO MEET 8" MINIMUM FLASHING HEIGHT
SST. FASTENER AT 18" O.C. - MINIMUM TWO PER SIDE
.040" THICK TWO-PIECE CFL - COLOR SELECTED BY ARCHITECT
MECHANICALLY FASTENED $\frac{1}{2}$" THERMAL BARRIER BOARD. FASTENERS SPACED AT 8" O.C. MINIMUM HORIZONTALLY AND VERTICALLY.
REINFORCEMENT STRIP REF 3/A202
EXISTING EPDM ROOFING SYSTEM - REF ROOF WARRANTY INFORMATION SHEET A201
8" MINIMUM
EXISTING ROOF DECK
EXISTING STEEL SUPPORT FOR CURB, FIELD VERIFY STEEL CONDITION AND ADD AS REQUIRED PER 11/A202
WOOD BLOCKING, REF GENERAL ROOF CONSTRUCTION NOTE "D" ON SHEET A201

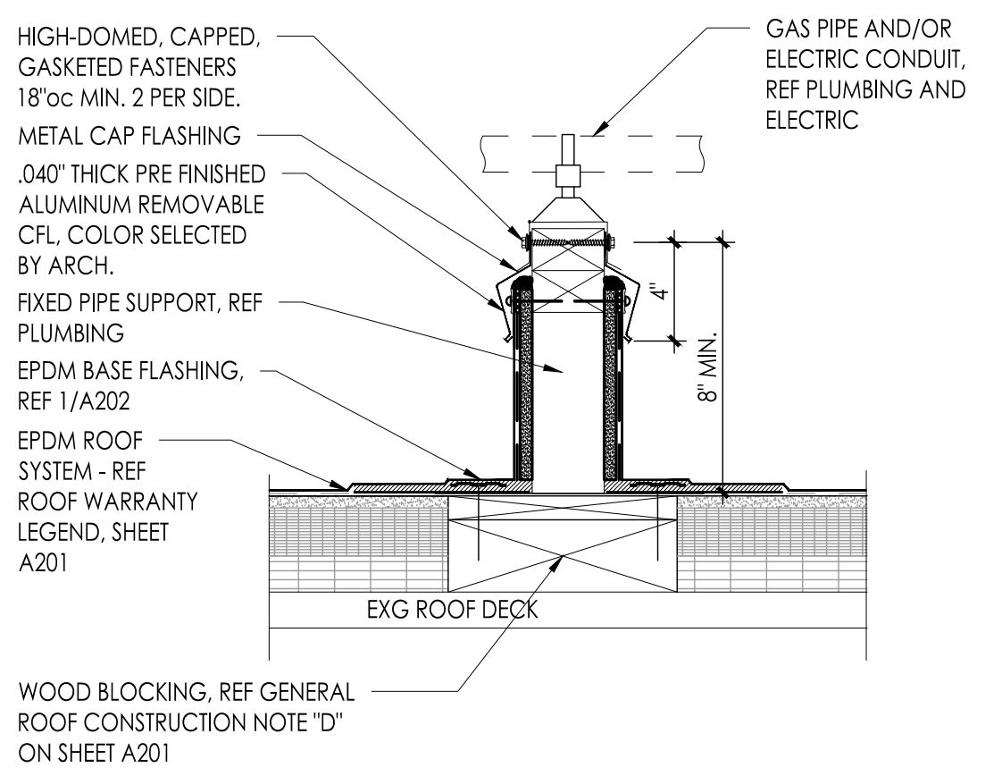
9 EQUIPMENT CURB DETAIL
1-1/2" = 1'-0"


ROOF TOP UNIT
METAL CAP FLASHING
HIGH-DOMED, CAPPED, GASKETED FASTENERS 2 PER SIDE. FASTENER MUST NOT PENETRATE CURB THROUGH TO INTERIOR.
.040" THICK PRE FINISHED ALUM REMOVABLE COUNTER FLASHING COLOR SELECTED BY ARCH.
INSULATED EQUIPMENT CURB, REF MECHANICAL
BASE FLASHING, REF DETAIL 1/A202.
ROOF TIE-IN, REF 2/A202
EXISTING ROOFING SYSTEM TO REMAIN, REF ROOF TYPE AND WARRANTY LEGEND, SHEET A201
4"
8" MIN.
WOOD BLOCKING, REF NOTE "D"
EXG ROOF DECK
EXISTING STEEL SUPPORT FOR CURB, FIELD VERIFY STEEL CONDITION AND ADD AS REQUIRED PER 11/A202

10 CURB FLASHING DETAIL
1-1/2" = 1'-0"

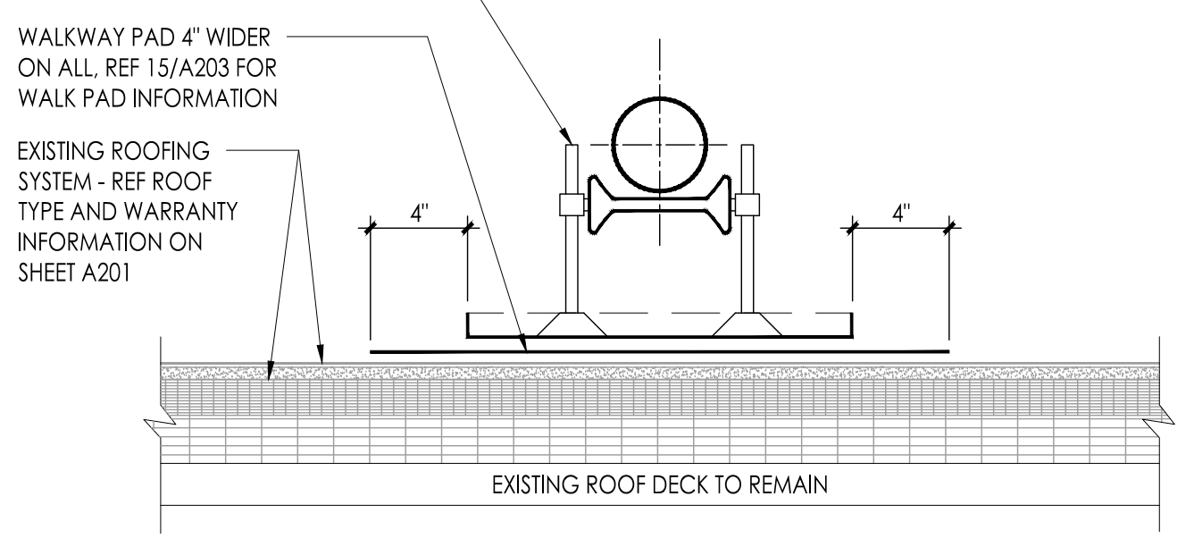

WIRE MESH SCREEN AND SST CLAMP
WATER CUT-OFF MASTIC
STAINLESS STEEL CLAMP
NEW/EXISTING VENT PIPE
PRE-MOLDED PIPE SEAL ADHERED TO ROOF MEMBRANE (TYP.)
EXISTING ROOFING SYSTEM REF ROOF TYPES AND WARRANTY INFORMATION, A201
8" MINIMUM
EXG ROOF DECK

11 VENT PIPE DETAIL
1 1/2" = 1'-0"

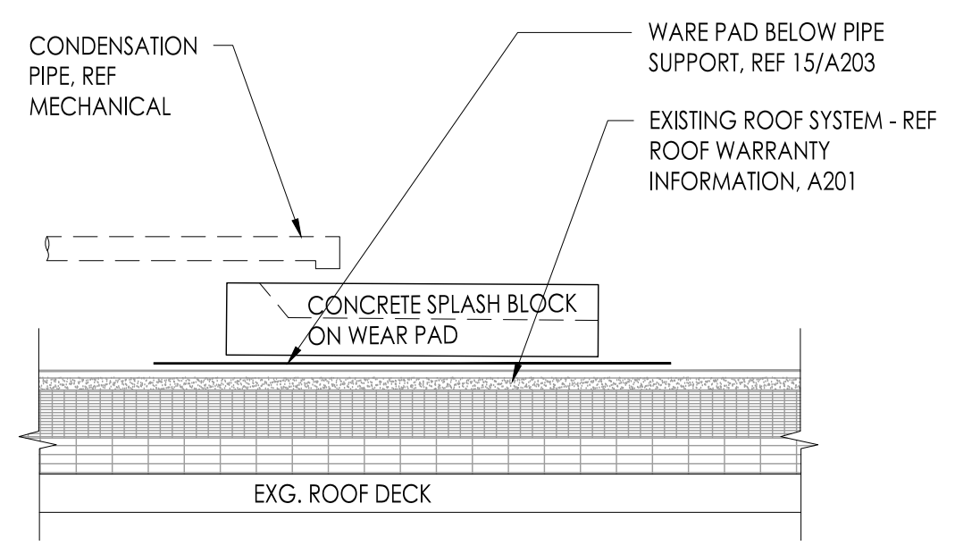

HIGH-DOMED, CAPPED, GASKETED FASTENERS 18"oc MIN. 2 PER SIDE.
METAL CAP FLASHING
.040" THICK PRE FINISHED ALUMINUM REMOVABLE CFL, COLOR SELECTED BY ARCH.
FIXED PIPE SUPPORT, REF PLUMBING
EPDM BASE FLASHING, REF 1/A202
EPDM ROOF SYSTEM - REF ROOF WARRANTY LEGEND, SHEET A201
GAS PIPE AND/OR ELECTRIC CONDUIT, REF PLUMBING AND ELECTRIC
4"
8" MIN.
EXG ROOF DECK
WOOD BLOCKING, REF GENERAL ROOF CONSTRUCTION NOTE "D" ON SHEET A201

12 FIXED PIPE SUPPORT FLASHING DETAIL
1-1/2" = 1'-0"

NOTE:
WALKWAYS MUST NOT IMPEDE THE FREE FLOW OF WATER TO THE DRAINAGE POINTS QUANTITIES OF PIPE VARY - CONFIRM ACTUAL QUANTITIES IN FIELD

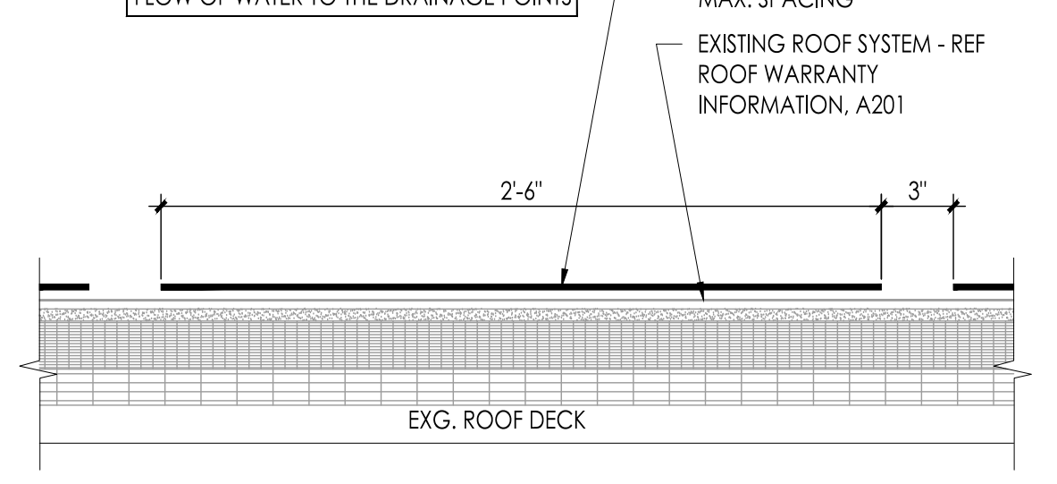

PIPE SUPPORT, REF MECHANICAL - SPACING NOT TO EXCEED 10'-0" CENTER TO CENTER
WALKWAY PAD 4" WIDER ON ALL, REF 15/A203 FOR WALK PAD INFORMATION
EXISTING ROOFING SYSTEM - REF ROOF TYPE AND WARRANTY INFORMATION ON SHEET A201
4"
4"
EXISTING ROOF DECK TO REMAIN

13 TYPICAL PIPE SUPPORT DETAIL
1-1/2" = 1'-0"


CONDENSATION PIPE, REF MECHANICAL
WARE PAD BELOW PIPE SUPPORT, REF 15/A203
EXISTING ROOF SYSTEM - REF ROOF WARRANTY INFORMATION, A201
CONCRETE SPLASH BLOCK ON WEAR PAD
EXG. ROOF DECK

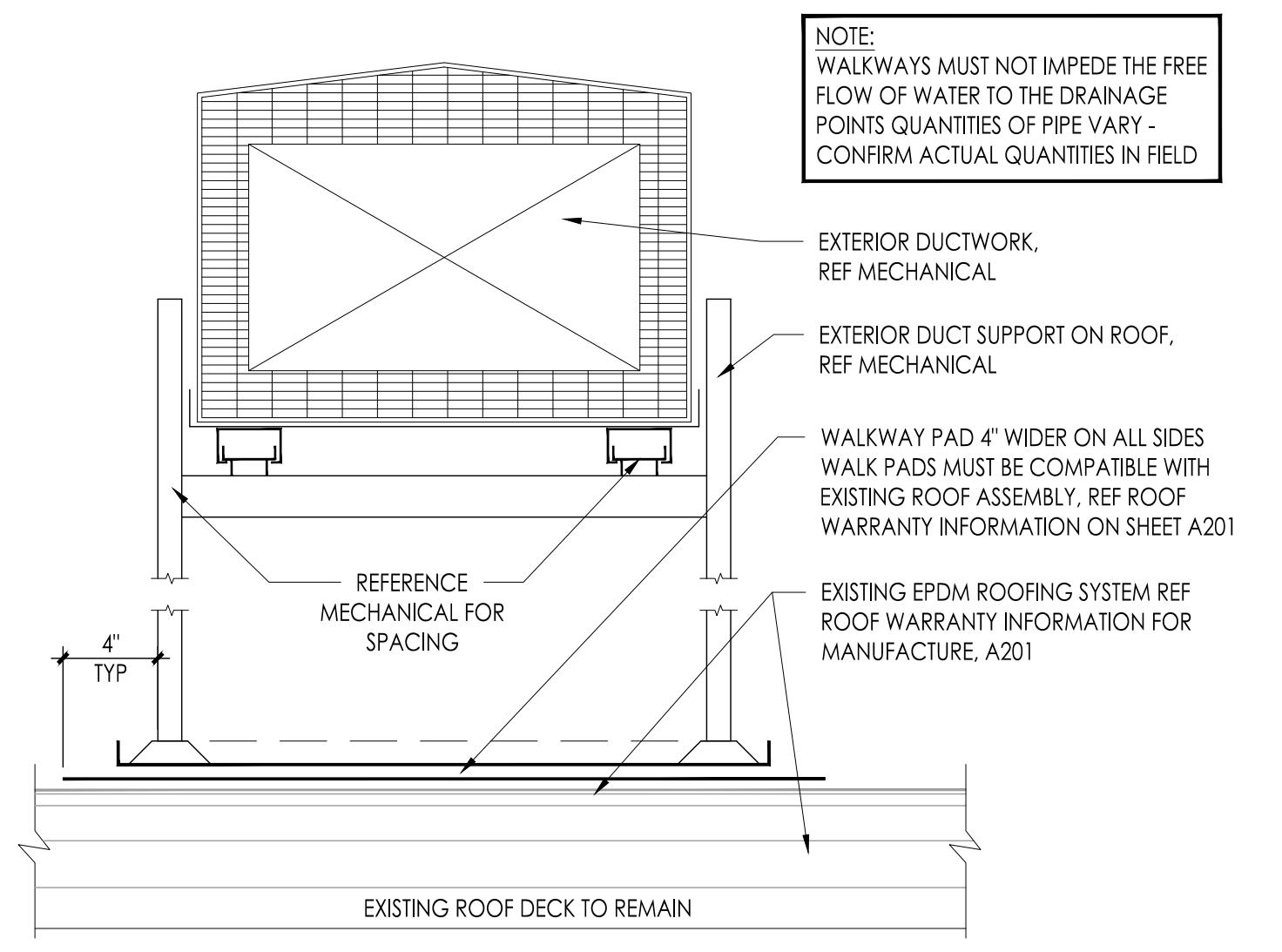
14 TYPICAL SPLASH BLOCK DETAIL
1-1/2" = 1'-0"

NOTE:
WALKWAYS MUST NOT IMPEDE THE FREE FLOW OF WATER TO THE DRAINAGE POINTS

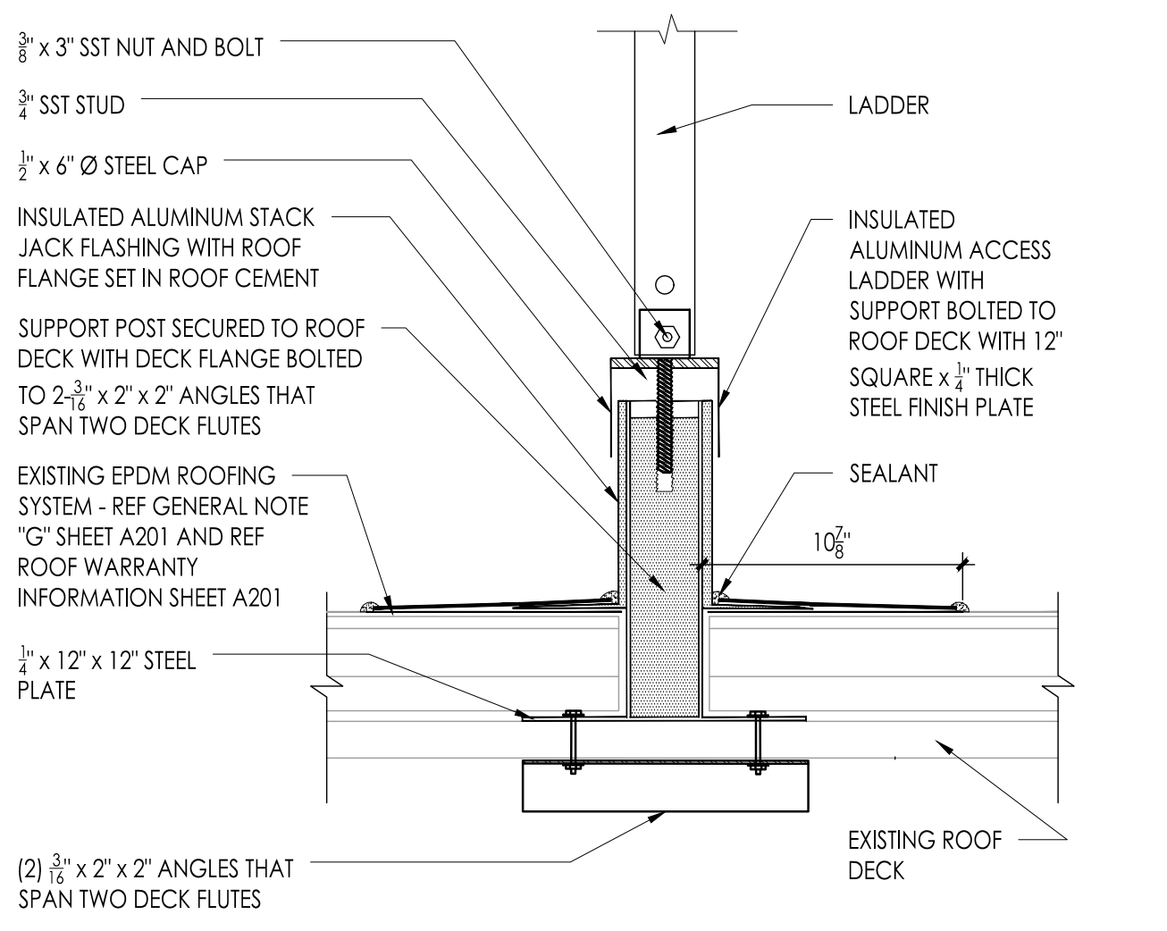

30" X 30" WALKWAY PADS SET IN SPLICING CEMENT W/ 3" MAX. SPACING
EXISTING ROOF SYSTEM - REF ROOF WARRANTY INFORMATION, A201
2'-6"
3"
EXG. ROOF DECK

15 TYPICAL WALK WAY PAD DETAIL
1-1/2" = 1'-0"

NOTE:
WALKWAYS MUST NOT IMPEDE THE FREE FLOW OF WATER TO THE DRAINAGE POINTS QUANTITIES OF PIPE VARY - CONFIRM ACTUAL QUANTITIES IN FIELD


EXTERIOR DUCTWORK, REF MECHANICAL
EXTERIOR DUCT SUPPORT ON ROOF, REF MECHANICAL
WALKWAY PAD 4" WIDER ON ALL SIDES WALK PADS MUST BE COMPATIBLE WITH EXISTING ROOF ASSEMBLY, REF ROOF WARRANTY INFORMATION ON SHEET A201
EXISTING EPDM ROOFING SYSTEM REF ROOF WARRANTY INFORMATION FOR MANUFACTURE, A201
REFERENCE MECHANICAL FOR SPACING
4" TYP
EXISTING ROOF DECK TO REMAIN

16 DUCT SUPPORT ON WEAR PAD
1-1/2" = 1'-0"


$\frac{3}{8}$" x 3" SST NUT AND BOLT
$\frac{3}{4}$" SST STUD
$\frac{1}{2}$" x 6" Ø STEEL CAP
INSULATED ALUMINUM STACK JACK FLASHING WITH ROOF FLANGE SET IN ROOF CEMENT
SUPPORT POST SECURED TO ROOF DECK WITH DECK FLANGE BOLTED TO 2-$\frac{3}{16}$" x 2" x 2" ANGLES THAT SPAN TWO DECK FLUTES
EXISTING EPDM ROOFING SYSTEM - REF GENERAL NOTE "G" SHEET A201 AND REF ROOF WARRANTY INFORMATION SHEET A201
$\frac{1}{4}$" x 12" x 12" STEEL PLATE
(2) $\frac{3}{16}$" x 2" x 2" ANGLES THAT SPAN TWO DECK FLUTES
LADDER
INSULATED ALUMINUM ACCESS LADDER WITH SUPPORT BOLTED TO ROOF DECK WITH 12" SQUARE x $\frac{1}{4}$" THICK STEEL FINISH PLATE
SEALANT
$10\frac{7}{8}$"
EXISTING ROOF DECK

17 TYPICAL LADDER SUPPORT STANCHION
1-1/2" = 1'-0"

NOTES:
UNLESS OTHERWISE SPECIFIED ON DRAWINGS PROVIDE & INSTALL LINTELS FOR ALL SQUARE HEAD MASONRY OPENINGS IN ALL MASONRY WALLS IN ACCORDANCE WITH THE FOLLOWING SCHEDULES & COMMENTS.

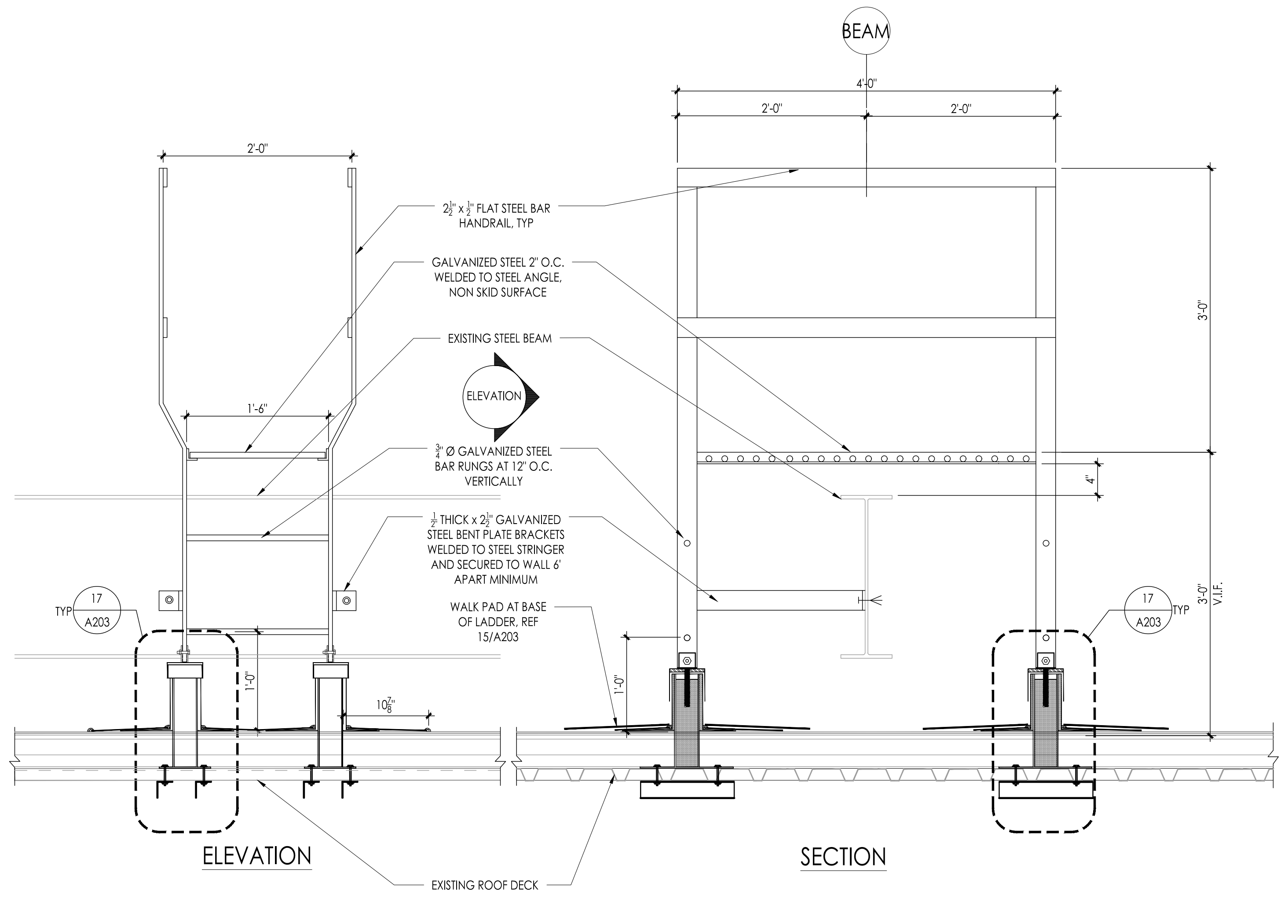
LOOSE LINTEL SCHEDULE
(FOR 4", 8", 12", & 16" WALLS)

MASONRY OPENING	LINTEL SIZE	REMARKS
UP TO 4'-0"	L - 3 1/2" x 3 1/2" x 1/4"	
4'-1" TO 6'-0"	L - 5" x 3 1/2" x 5/16"	
6'-1" TO 8'-0"	L - 6" x 3 1/2" x 5/16"	
OVER 8'-0"	W 8 x 18 + PLATE	

LOOSE LINTEL SCHEDULE
(FOR 6" WALLS)

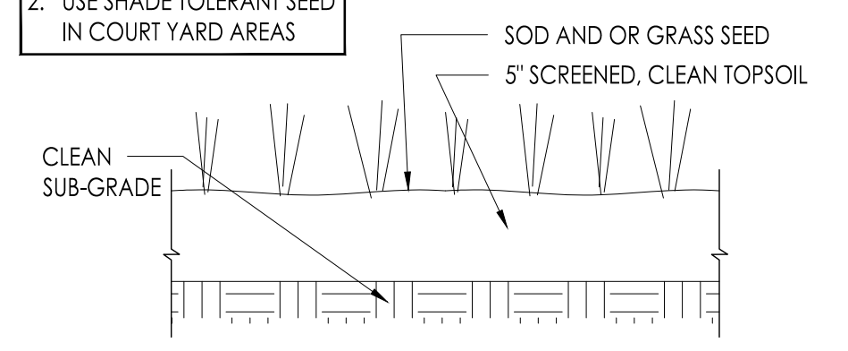
MASONRY OPENING	LINTEL SIZE	REMARKS
2'-0" TO 6'-0"	WT 7 x 11	
6'-1" TO 8'-0"	WT 8 x 13	

NOTES:
1. PROVIDE ONE (1) ANGLE FOR EACH 4" OF MASONRY WIDTH.
2. BEAR LINTELS 6" MINIMUM EACH SIDE OF OPENING.
3. ALL LINTELS IN EXTERIOR WALLS TO BE GALVANIZED.
4. WHERE OPENINGS LOCATED NEXT TO COLUMNS OR BEAMS,ATTACH TO STRUCTURAL STEEL, CONNECTION NOT TO PROTRUDE INTO OPENING.
5. CONSULT ARCHITECTURAL, MECHANICAL & ELECTRICAL DRAWINGS FOR OPENING SIZE & LOCATION.

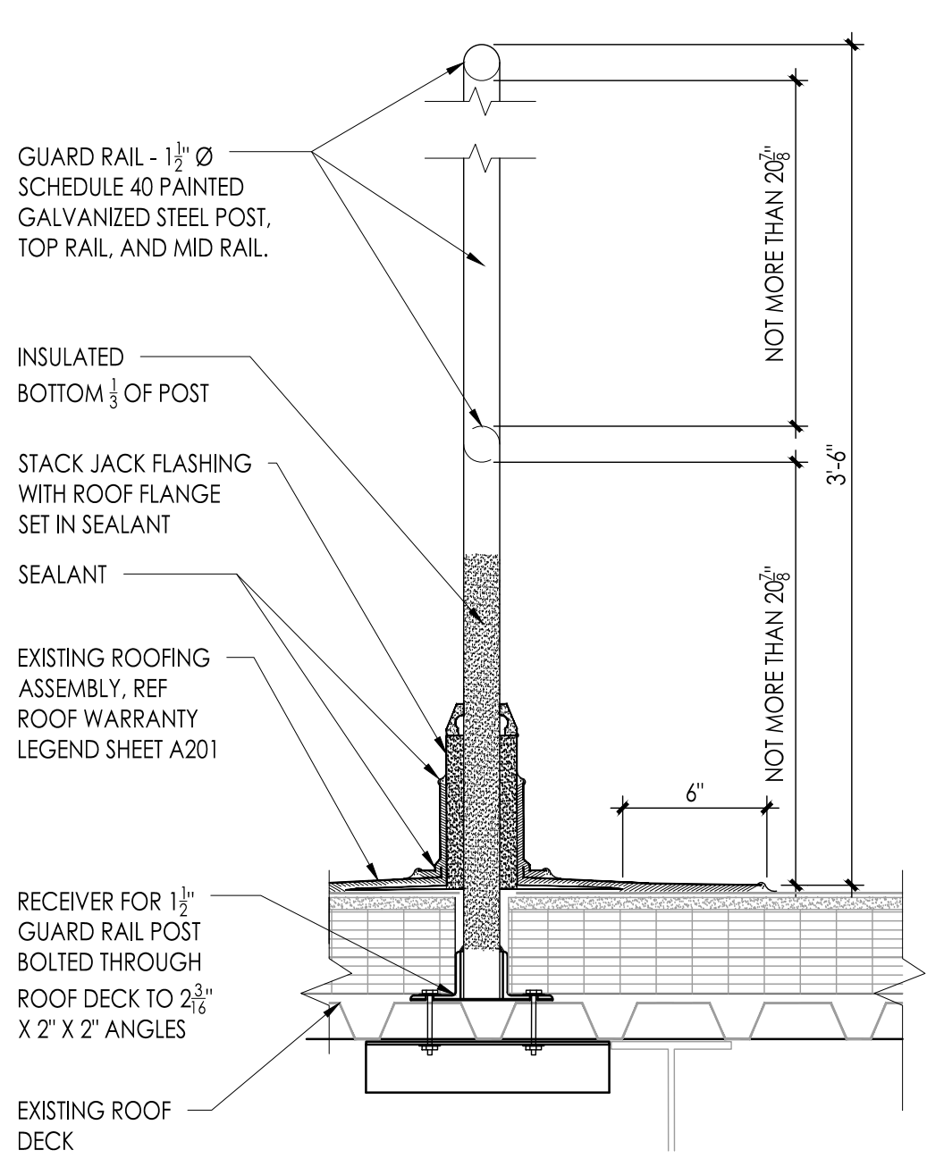

BEAM
4'-0"
2'-0"
2'-0"
2'-0"
1'-6"
$2\frac{1}{2}$" x $\frac{1}{2}$" FLAT STEEL BAR HANDRAIL, TYP
GALVANIZED STEEL 2" O.C. WELDED TO STEEL ANGLE, NON SKID SURFACE
EXISTING STEEL BEAM
ELEVATION
$\frac{3}{4}$" Ø GALVANIZED STEEL BAR RUNGS AT 12" O.C. VERTICALLY
$\frac{1}{2}$" THICK x $2\frac{1}{2}$" GALVANIZED STEEL BENT PLATE BRACKETS WELDED TO STEEL STRINGER AND SECURED TO WALL 6' APART MINIMUM
WALK PAD AT BASE OF LADDER, REF 15/A203
3'-0"
3'-0" V.I.F.
4"
1'-0"
1'-0"
$10\frac{7}{8}$"
17 A203 TYP
17 A203 TYP
ELEVATION
SECTION
EXISTING ROOF DECK

18 TYPICAL CROSSOVER LADDER DETAIL
1" = 1'-0"

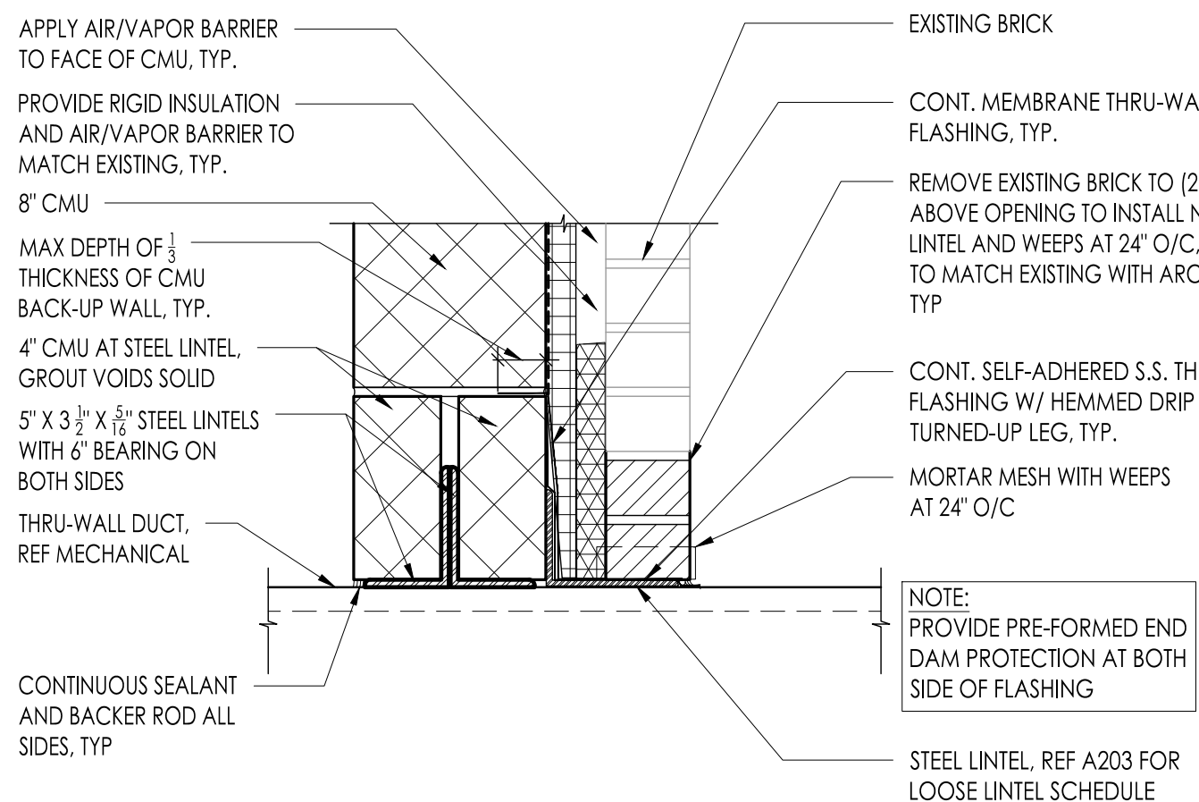
NOTES:
1. DO NOT OVER COMPACT SUB-GRADE AT STOOPS.
2. USE SHADE TOLERANT SEED IN COURT YARD AREAS



20 LAWN REPAIR DETAIL
Scale: 1" = 1'-0"

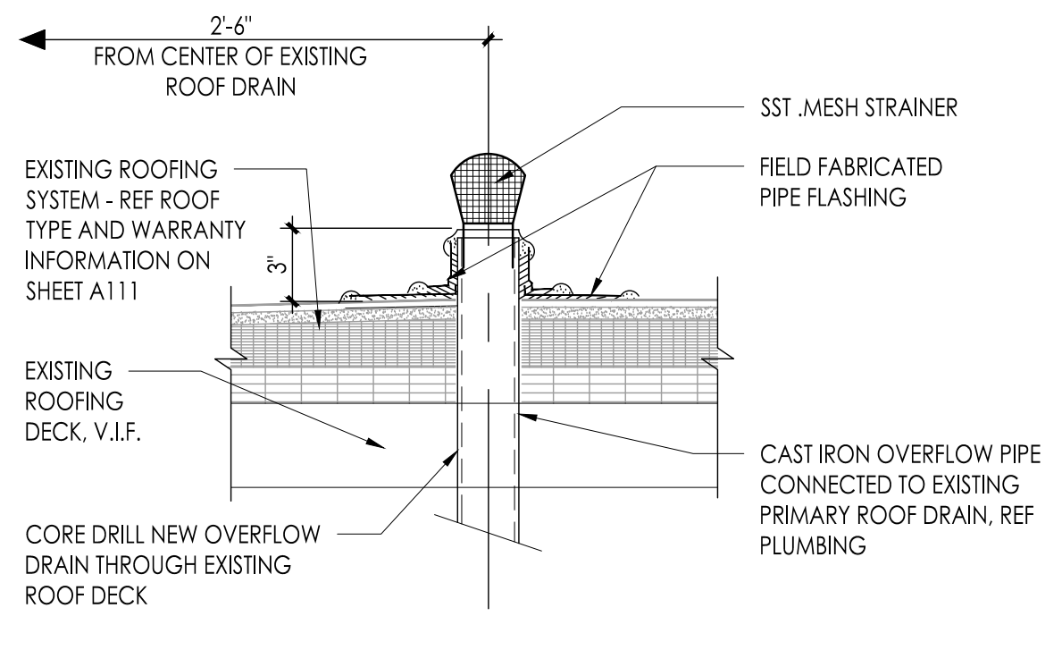

GUARD RAIL - $1\frac{1}{2}$" Ø SCHEDULE 40 PAINTED GALVANIZED STEEL POST, TOP RAIL, AND MID RAIL.
INSULATED BOTTOM $\frac{1}{3}$ OF POST
STACK JACK FLASHING WITH ROOF FLANGE SET IN SEALANT
SEALANT
EXISTING ROOFING ASSEMBLY, REF ROOF WARRANTY LEGEND SHEET A201
RECEIVER FOR $1\frac{1}{2}$" GUARD RAIL POST BOLTED THROUGH ROOF DECK TO $2\frac{3}{16}$" X 2" X 2" ANGLES
EXISTING ROOF DECK
NOT MORE THAN $20\frac{7}{8}$"
NOT MORE THAN $20\frac{7}{8}$"
3'-6"
6"

19 GUARD RAILING DETAIL
1-1/2" = 1'-0"

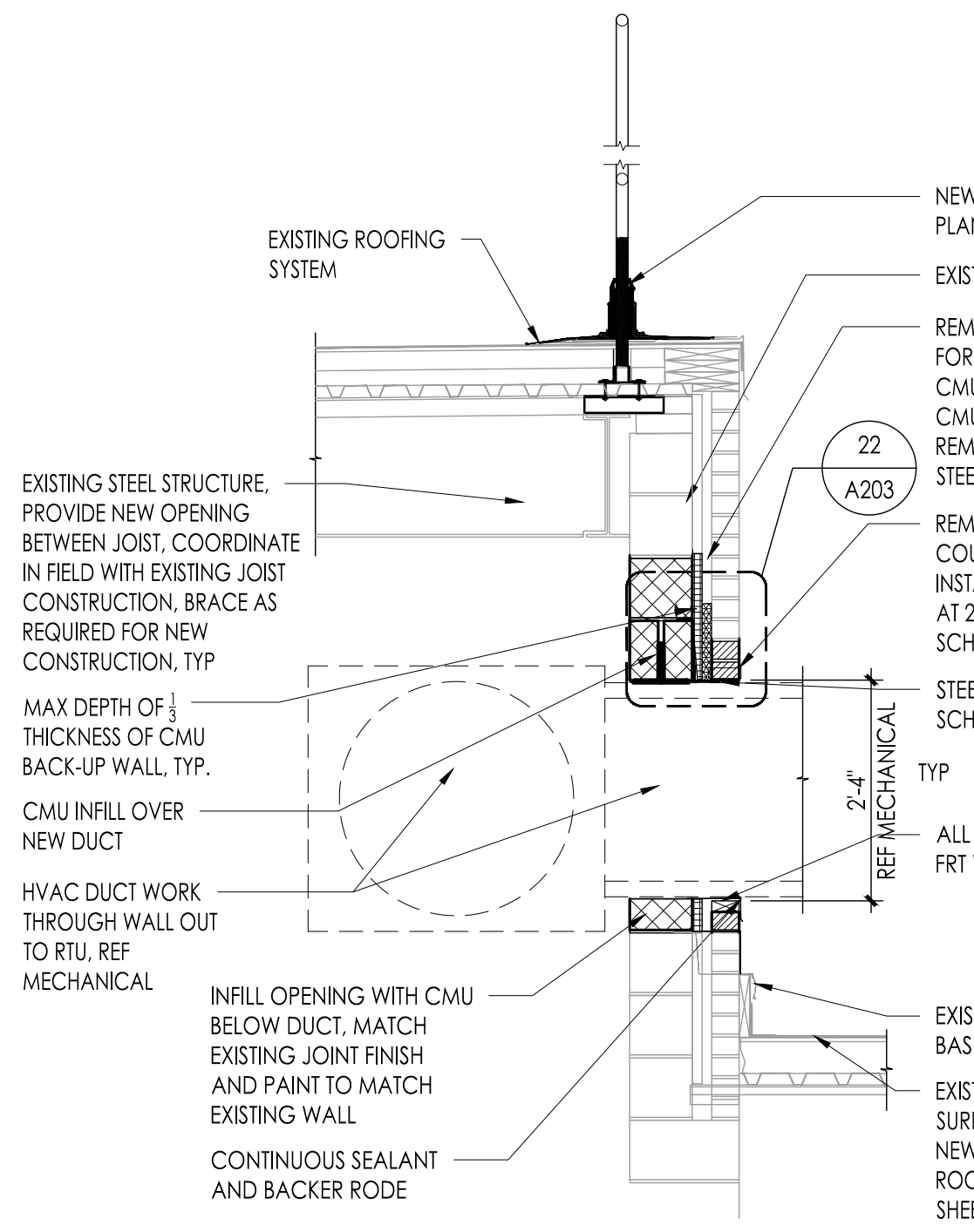

APPLY AIR/VAPOR BARRIER TO FACE OF CMU, TYP.
PROVIDE RIGID INSULATION AND AIR/VAPOR BARRIER TO MATCH EXISTING, TYP.
8" CMU
MAX DEPTH OF $\frac{1}{3}$ THICKNESS OF CMU BACK-UP WALL, TYP.
4" CMU AT STEEL LINTEL, GROUT VOIDS SOLID
5" X $3\frac{1}{2}$" X $\frac{5}{16}$" STEEL LINTELS WITH 6" BEARING ON BOTH SIDES
THRU-WALL DUCT, REF MECHANICAL
CONTINUOUS SEALANT AND BACKER ROD ALL SIDES, TYP
EXISTING BRICK
CONT. MEMBRANE THRU-WALL FLASHING, TYP.
REMOVE EXISTING BRICK TO (2) COURSES ABOVE OPENING TO INSTALL NEW STEEL LINTEL AND WEEPS AT 24" O/C, , NEW BRICK TO MATCH EXISTING WITH ARCH APPROVAL, TYP
CONT. SELF-ADHERED S.S. THRU-WALL FLASHING W/ HEMMED DRIP & TURNED-UP LEG, TYP.
MORTAR MESH WITH WEEPS AT 24" O/C
STEEL LINTEL, REF A203 FOR LOOSE LINTEL SCHEDULE

NOTE:
PROVIDE PRE-FORMED END DAM PROTECTION AT BOTH SIDE OF FLASHING

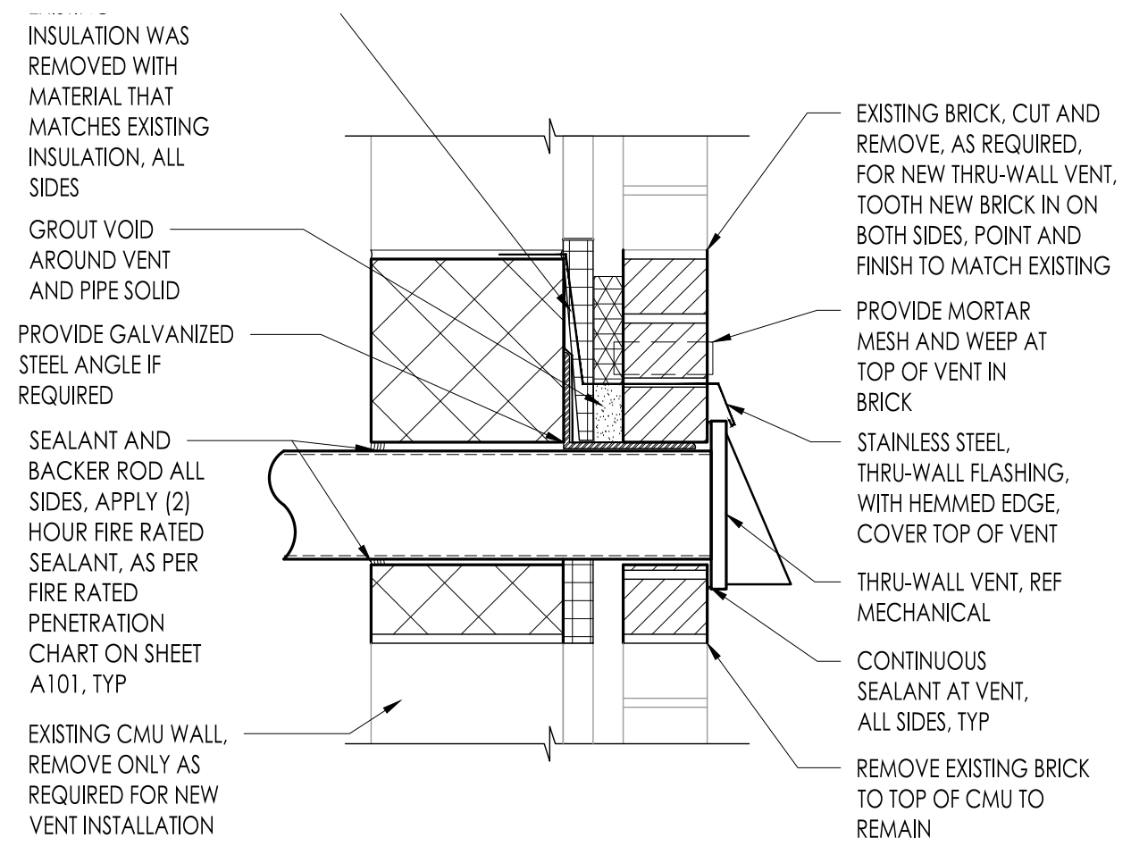
22 TYPICAL FLASHING DETAIL AT DUCT PENETRATION
1 1/2" = 1'-0"


2'-6"
FROM CENTER OF EXISTING ROOF DRAIN
EXISTING ROOFING SYSTEM - REF ROOF TYPE AND WARRANTY INFORMATION ON SHEET A111
EXISTING ROOFING DECK, V.I.F.
CORE DRILL NEW OVERFLOW DRAIN THROUGH EXISTING ROOF DECK
3"
SST .MESH STRAINER
FIELD FABRICATED PIPE FLASHING
CAST IRON OVERFLOW PIPE CONNECTED TO EXISTING PRIMARY ROOF DRAIN, REF PLUMBING

21 OVERFLOW DRAIN DETAIL @ EX ROOF
1-1/2" = 1'-0"


EXISTING ROOFING SYSTEM
EXISTING STEEL STRUCTURE, PROVIDE NEW OPENING BETWEEN JOIST, COORDINATE IN FIELD WITH EXISTING JOIST CONSTRUCTION, BRACE AS REQUIRED FOR NEW CONSTRUCTION, TYP
MAX DEPTH OF $\frac{1}{3}$ THICKNESS OF CMU BACK-UP WALL, TYP.
CMU INFILL OVER NEW DUCT
HVAC DUCT WORK THROUGH WALL OUT TO RTU, REF MECHANICAL
INFILL OPENING WITH CMU BELOW DUCT, MATCH EXISTING JOINT FINISH AND PAINT TO MATCH EXISTING WALL
CONTINUOUS SEALANT AND BACKER RODE
NEW GUARDRAIL SYSTEM, REF PLAN AND 19/A203
EXISTING CMU AND BRICK
REMOVE EXISTING CMU AS REQUIRED FOR NEW DUCT PENETRATION, REMOVE CMU (2) COURSES ABOVE DUCT FOR CMU TIE-IN AND JAMB GROUTING, REMOVE 8" , BOTH SIDES FOR MIN 6" OF STEEL LINTEL BEARING
22 A203
REMOVE EXISTING BRICK TO (2) COURSES ABOVE OPENING TO INSTALL NEW STEEL LINTEL AND WEEPS AT 24" O/C, REF LOOSE LINTEL SCHEDULE THIS SHEET, TYP
STEEL LINTEL, REF LOOSE LINTEL SCHEDULE THIS SHEET
2'-4" REF MECHANICAL
TYP
ALL WOOD BLOCKING SHALL FRT WOOD, TYP
EXISTING COUNTERFLASHING AT BASE TO REMAIN,
EXISTING ROOFING SYSTEM. PROTECT SURFACE DURING DEMOLITION AND NEW CONSTRUCTION WORK, REF ROOF WARRANTY INFORMATION ON SHEET A201

23 TRU-WALL DUCT FLASHING
1/2" = 1'-0"


INSULATION WAS REMOVED WITH MATERIAL THAT MATCHES EXISTING INSULATION, ALL SIDES
GROUT VOID AROUND VENT AND PIPE SOLID
PROVIDE GALVANIZED STEEL ANGLE IF REQUIRED
SEALANT AND BACKER ROD ALL SIDES, APPLY (2) HOUR FIRE RATED SEALANT, AS PER FIRE RATED PENETRATION CHART ON SHEET A101, TYP
EXISTING CMU WALL, REMOVE ONLY AS REQUIRED FOR NEW VENT INSTALLATION
EXISTING BRICK, CUT AND REMOVE, AS REQUIRED, FOR NEW THRU-WALL VENT, TOOTH NEW BRICK IN ON BOTH SIDES, POINT AND FINISH TO MATCH EXISTING
PROVIDE MORTAR MESH AND WEEP AT TOP OF VENT IN BRICK
STAINLESS STEEL, THRU-WALL FLASHING, WITH HEMMED EDGE, COVER TOP OF VENT
THRU-WALL VENT, REF MECHANICAL
CONTINUOUS SEALANT AT VENT, ALL SIDES, TYP
REMOVE EXISTING BRICK TO TOP OF CMU TO REMAIN

24 VENT PENETRATION FLASHING
1 1/2" = 1'-0"

WILLIAM D. HOPKINS III, AIA, LEED AP
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William D. Hopkins
Architect
01/29/26
Date

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Corporate: 1515 Lower Ferry Road - Trenton - New Jersey 08618
Pennsylvania: 820 Adams Ave., Suite 210 - Audubon - Pennsylvania 19403
F V H D P C . C O M

Project Name
HVAC Renovations at Princeton High School

Project Owner Name
Princeton Public Schools

Project Location
151 Moore Street,
Princeton, NJ
08540

Project Number
5516E

Project Date
01.29. 2026

Checked By
W.D.H.

Drawn By
BO

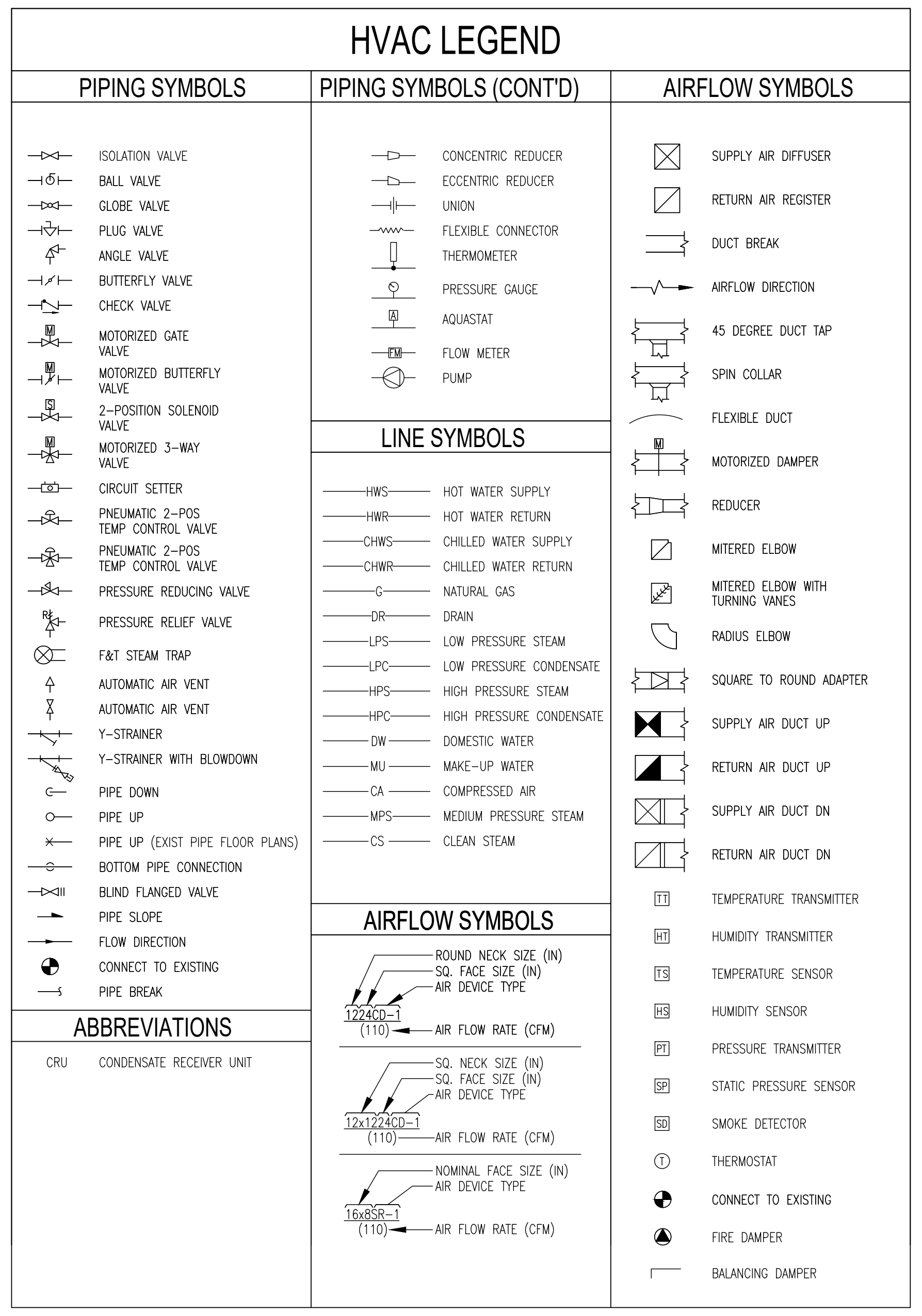
Scale
AS NOTED

Drawing Name
ROOFING DETAILS, STRUCTURAL DETAILS, AND NOTES

Revisions

No.	Date	Description

Drawing Number
A203



PROPOSED PROJECT PHASING

THE PROJECT IS A MULT-YEAR PROJECT AND THE PROPOSAL SHALL REFLECT THE ADDITIONAL MOBILIZATION AND SUPERVISION. THE CONTRACTOR SHALL INCLUDE A SCHUDULE FOR THE PROJECT WITH THE PROPOSAL. A PROPOSAL WITHOUT A PROPOSED SCHEDULE SHALL NOT BE ACCEPTED.

PHASE 1 – REMOVAL & REPLACEMENT OF EXISTING MECHANICAL EQUIPMENT UTILIZING STEAM.

WORK SCOPE THAT CAN TO COMPLETED DURING SCHOOL IN SESSION
1. REMOVE AND INSTALL AIR HANDLERS AHU-CI AND AHU-C2. (ALTERNATE 2)
2. INSTALL NEW ROOF GAS PIPING FOR THE NEW ROOFTOP UNITS.
3. REMOVE AND INSTALL A NEW DOMESTIC HOT WATER HEATER LOCATED IN BOILER ROOM. (ALTERNATE 3)

WORK SCOPE THAT CAN TO COMPLETED ONLY WHEN SCHOOL IS NOT IN SESSION (JUNE 20 TO AUGUST 15)
1. INSTALL NEW SUPPORT STEEL FOR NEW ROOFTOP EQUIPMENT.
2. INSTALL NEW ROOFTOP EQUIPMENT AS NOTED IN MECHANICAL SCHEDULES & ON FLOOR PLANS.
3. REMOVE STEAM CONVECTORS AND INSTALL NEW FAN COIL UNITS.
4. EXPAND EXISTING BAS NETWORK SYSTEM AND INTERFACE WITH THE NEW MECHANICAL EQUIPMENT INTO THE EXISTING CONTROL SYSTEM.
5. INSTALL NEW SMOKE & CO DETECTORS AND INTERFACE WITH EXISTING FIRE ALARM SYSTEM.
6. TESTING AS NOTED IN PROJECT PROJECT DOCUMENTS.
7. STARTUP & COMMISSIONING OF NEW MECHANICAL EQUIPMENT.
8. WATER & AIRFLOW BALANCING OF NEW MECHANICAL EQUIPMENT.
9. PERSONNEL TRAINING ON NEW EQUIPMENT & CONTROLS.

ELECTRICAL SCOPE OF WORK
1. INSTALL AMPS METERS ON EXISTING SWITCH BOARDS & PANELBOARDS THAT WILL POWER THE NEW MECHANICAL & ELECTRICAL EQUIPMENT. THIS INCLUDES THE PANELS THAT WILL POWER EQUIPMENT IN PHASE 2.
2. NOTIFY UTILITY COMPANY OF INCREASE IN ELECTRIC LOAD. MAIN TRANSFORMERS AND MAIN SWITCHGEAR HAS SUFFICIENT CAPACITY TO ACCOMMODATE INCREASE IN LOAD.
3. REMOVE EXISTING POWER CIRCUITS, CONDUIT, ETC., THAT WILL NO LONGER POWER EXISTING EQUIPMENT AS NOTED ON FLOOR PLANS.
4. INSTALL NEW ELECTRICAL DISTRIBUTION EQUIPMENT (I.E. PANELBOARDS, TRANSFORMERS, ETC.) REQUIRED TO POWER NEW MECHANICAL EQUIPMENT & ELECTRIC HEAT EQUIPMENT.
5. INSTALL NEW BRANCH CIRCUITS & MODIFY EXISTING CIRCUITS THAT WILL POWER THE NEW MECHANICAL EQUIPMENT & ELECTRIC HEATING EQUIPMENT.
6. ELECTRICAL TESTING AS NOTED IN PROJECT PROJECT DOCUMENTS.
7. STARTUP & COMMISSIONING OF NEW ELECTRICAL EQUIPMENT.

PLUMBING SCOPE OF WORK
1. NOTIFY UTILITY COMPANY OF CHANGE IN NATURAL GAS LOAD.
2. CONNECT NEW GAS PIPING FROM MAINS TO ROOFTOP EQUIPMENT.
3. PIPE PRESSURE TESTING AS NOTED IN PROJECT PROJECT DOCUMENTS.

PHASE 2 – REMOVAL & REPLACEMENT OF EXISTING STEAM BOILERS
THE DEMOLITION AND REPLACEMENT OF THE STEAM BOILERS WITH HOT WATER BOILER SHALL BE COMPLETED AND COMISSIONED BY SEPTEMBER 15. CONTRACTOR IS RESPONSIBLE FOR TEMPORARY BOILERS IF THIS DATE IS NOT MET. THE COST OF THE RENTAL AND INSTALLATION SHALL BE BORNE BY THE CONTRACTOR.

MECHANICAL SCOPE OF WORK
1. REMOVE EXISTING GAS-FIRED STEAM BOILERS & INSTALL NEW CONDENSING HOT WATER BOILERS.
2. INSTALL NEW PRIMARY HOT WATER PUMPS & ASSOCIATED VFDs.
3. INSTALL NEW COMBUSTION AIR INTAKE FLUES AND EXHAUST FLUE PIPING.
3. EXPAND EXISTING HONEYWELL JACE CONTROL SYSTEM AND INTERFACE NEW BOILERS & PUMPS INTO THE EXISTING CONTROL SYSTEM.
4. REMOVE AUTOMATED LOGIC PROGRAMMING & CONTROLS FROM THE BUILDING AUTOMATION SYSTEM THAT CONTROLS THE EXISTING BOILERS.
5. INSTALL NATURAL GAS LEL DETECTOR & CO DETECTOR AND INTERFACE WITH EXISTING FIRE ALARM SYSTEM.
6. TESTING AS NOTED IN PROJECT PROJECT DOCUMENTS.
7. STARTUP & COMMISSIONING OF NEW BOILERS & PRIMARY HOT WATER PUMPS.
8. WATER BALANCING OF NEW MECHANICAL EQUIPMENT.
9. PERSONNEL TRAINING ON NEW EQUIPMENT & CONTROLS.

ELECTRICAL SCOPE OF WORK
1. REMOVE EXISTING POWER CIRCUITS, CONDUIT, ETC., THAT WILL NO LONGER POWER EXISTING BOILER ROOM EQUIPMENT.
2. INSTALL NEW BRANCH CIRCUITS POWERING THE NEW BOILERS, PUMPS, ETC.
3. TESTING AS NOTED IN PROJECT PROJECT DOCUMENTS.
4. SUBMIT PROJECT REDLINES FOR INCORPORATION INTO DRAWINGS.

PLUMBING SCOPE OF WORK
1. MODIFY EXISTING GAS PIPING THAT WILL SERVE THE NEW BOILERS.
2. PIPE PRESSURE TESTING AS NOTED IN PROJECT PROJECT DOCUMENTS.

CLOSE OUT/TURNOVER AND COMMISSIONING DOCUMENTS
1. AIR AND WATER TAB REPORTS
2. TURNOVER PROJECT REDLINES MECHANICAL, ELECTRICAL, FIRE PROTECTION, FIRE ALARM, PLUMBING AND STRUCTURAL DRAWINGS.
3. TRENDING LOGS FOR ALL SYSTEMS TO PROVE OPERATION. TRENDING LOGS EVERY HOUR FOR 72 HOURS IN TABULAR FORM (TEMPERATURE, RELATIVE HUMIDITY, OUTSIDE AIR FLOWS, AND CO2.
4. PIPE PRESSURE TESTING, DUCT LEAKAGE TESTS,
5. ELECTRICAL AND LIGHTNING SYSTEM TESTING.
6. SMOKE DETECTOR AND CO TEST RESULTS.
7. POINT TO POINT CONTROL WIRING CHECKOUT
8. MANUFACTURER'S START-UP SHEETS FOR ALL EQUIPMENT.
9. SHOP DRAWINGS AND FOR RECORD SUBMITTALS.
10. SUBMIT PROJECT REDLINES FOR INCORPORATION INTO DRAWINGS.
11. COMMISSIONING DOCUMENT AND SUPPORTING TESTS HAVE BEEN COMPLETED AND DOCUMENTED.

UNIT PRICING

CONTRACTOR SHALL PROVIDE UNIT PRICING FOR THE FOLLOWING WORK SCOPE:

1. REMOVAL AND RELOCATION OF A SPRINKLER.
2. INSTALLATION OF A 16x12 MANUAL BALANCING DAMPER IN EXISTING DUCT.
3. INSTALLATION OF A 12"ø MANUAL BALANCING DAMPER IN EXISTING DUCT.
4. INSTALLATION OF A NEW STRAINER FOR A FAN COIL UNIT / UNIT VENTILATOR.

ADD / ALTERNATES

THE CONTRACTOR SHALL PROVIDE AN ADDED COST FOR EACH OF THE FOLLOWING WORK SCOPES. THE REQUIREMENTS HAVE BEEN INCLUDED IN THE DESIGN PACKAGE.

ADD/ALTERNATE #1 – PROVIDE AIR CONDITIONING FOR OLD GYM & TEAM ROOMS
1. REMOVAL OF ALL EXISTING DUCTWORK, AIR DEVICES, ETC., ABOVE THE STORAGE & TEAM ROOMS ASSOCIATED WITH EXISTING AIR HANDLER, AHU-E1.
2. INSTALL NEW SUPPORT STEEL FOR NEW ROOFTOP EQUIPMENT.
3. INSTALL NEW ROOFTOP HEAT RECOVERY UNIT (AHU-E1). THIS UNIT WILL BE DEDICATED TO THE OLD GYM.
4. INSTALL NEW ROOFTOP HEAT RECOVERY UNIT (AHU-E3). THIS UNIT WILL BE DEDICATED TO THE TEAM ROMS, STORAGE ROOMS, CORRIDOR, ETC.
5. INSTALL ASSOCIATED CONTROLS FOR EACH NEW ROOFTOP UNIT & INTERFACE WITH EXISTING HONEYWELL JACE CONTROL SYSTEM. EXPAND CONTROL SYSTEM AS REQUIRED.
6. INSTALL POWER TO NEW ROOFTOP EQUIPMENT.
7. INSTALL NEW SMOKE DETECTORS & CO2 DETECTORS FOR EACH UNIT AND INTERFACE WITH EXISTING FIRE ALARM SYSTEM.
8. INSTALL NEW SUPPLY & RETURN AIR DUCTWORK AND AIR DEVICES AS SHOWN IN PROJECT DOCUMENTS.
9. REMOVE EXISTING RETURN AIR GRILLES IN GYMNASIUM (I.E. NO LONGER REQUIRED).
10. INSTALL NEW GAS PIPING TO NEW ROOFTOP UNITS.
11. TESTING AS NOTED IN PROJECT PROJECT DOCUMENTS.
12. STARTUP & COMMISSIONING OF NEW MECHANICAL EQUIPMENT.
13. AIRFLOW BALANCING OF NEW MECHANICAL EQUIPMENT & DISTRIBUTION DUCTWORK.
14. PERSONNEL TRAINING ON NEW EQUIPMENT & CONTROLS.
15. SUBMIT PROJECT REDLINES FOR INCORPORATION INTO DRAWINGS.

ADD/ALTERNATE #2 – REMOVAL & REPLACEMENT OF AHU-C1 AND C2
1. REMOVAL OF EXISTING AIR HANDLER (AHU-C2) & ASSOCIATED CONTROLS FROM EXISTING AUTOMATED LOGIC BUILDING CONTROL SYSTEM.
2. REMOVAL OF EXISTING RETURN AIR FAN, RF-C1.
3. REMOVE & CUT BACK EXISTING STEAM PIPING SERVING EXISTING AIR HANDLER.
4. INSTALL NEW AIR HANDLER, AHU-C2 & ASSOCIATED CONTROLS. EXPAND EXISTING HONEYWELL JACE CONTROL SYSTEM AND INTERFACE NEW EQUIPMENT.
5. INSTALL NEW SMOKE DETECTOR AND INTERFACE WITH EXISTING FIRE ALARM SYSTEM.
6. MODIFY EXISTING DUCTWORK AS SHOWN IN PROJECT DOCUMENTS.
7. MODIFY EXISTING PIPING (I.E. DUAL TEMP & CONDENSATE) AND CONNECT TO NEW AIR HANDLER.
8. TESTING AS NOTED IN PROJECT PROJECT DOCUMENTS.
9. STARTUP & COMMISSIONING OF NEW MECHANICAL EQUIPMENT.
10. WATER & AIRFLOW BALANCING OF NEW MECHANICAL EQUIPMENT.
11. PERSONNEL TRAINING ON NEW EQUIPMENT & CONTROLS.
12. SUBMIT PROJECT REDLINES FOR INCORPORATION INTO DRAWINGS.

ADD/ALTERNATE #3 – REMOVAL & REPLACEMENT OF THE DOMESTIC HOT WATER HEATER IN THE BOILER ROOM
1. REMOVAL OF EXISTING PVI DOMESTIC HOT WATER HEATER & ASSOCIATED CONTROLS.
2. INSTALL NEW DOMESTIC HOT WATER HEATER, RECIRCULATING PUMPS, FLUES, AIR INTAKE & ASSOCIATED CONTROLS.
3. EXPAND EXISTING HONEYWELL JACE CONTROL SYSTEM AND INTERFACE NEW EQUIPMENT.
4. STARTUP & COMMISSIONING OF NEW THE DHW HEATER.
5. WATER & AIRFLOW BALANCING OF NEW MECHANICAL EQUIPMENT.
6. PERSONNEL TRAINING ON THE NEW EQUIPMENT & CONTROLS.
7. SUBMIT PROJECT REDLINES FOR INCORPORATION INTO DRAWINGS.

ADD/ALTERNATE #4 – PROVIDE ACCESS PLATFORM AND RAILINGS FOR AHU-A2 (LIBRARY)
1. INSTALL STEEL, GRATING, ACCESS LADDERS AND RAILINGS

CODE COMPLIANCE

BELOW ARE THE BUILDING CODES UTILIZED IN THE ENGINEERING AND DESIGN FOR THIS PROJECT.
2021 INTERNATIONAL MECHANICAL CODE (IMC)
2021 INTERNATIONAL ENERGY CONSERVATION CODE (IECC)
2021 INTERNATIONAL FUEL GAS CODE (IFGC)
2021 INTERNATIONAL FIRE CODE (IFC)
2020 NATIONAL ELECTRIC CODE (NEC)
2021 NATIONAL STANDARD PLUMBING CODE (NSPC)2021

GENERAL NEW WORK NOTES

1. CONTRACTORS SHALL PROVIDE DUCTWORK, PIPING, ELECTRICAL, STRUCTURAL, PLUMBING AND SUPPORT SHOP DRAWINGS FOR REVIEW AND APPROVAL BY ENGINEER AND OWNER BEFORE COMMENCING WORK. REFER TO SPECIFICATION FOR DETAILS. SHOP DRAWINGS SHALL BE COORDINATED BETWEEN ALL THE TRADES ON THE PROJECT SUCH AS ELECTRICAL, FIRE PROTECTION, PLUMBING, MECHANICAL, STRUCTURAL AND GENERAL CONSTRUCTION. EACH CONTRACTOR SHALL SCAN EXISTING CONDITIONS AND GENERATE THREE DIMENSIONAL MODEL FOR THE BOILER SHOP DRAWINGS.

2. THE AIR FLOW CONTROL BOXES SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR. THE ACTUATOR/CONTROLLER SHALL BE PROVIDED BY THE ATC CONTRACTOR. THE ACTUATORS SHALL BE SENT TO AIR FLOW CONTROL MANUFACTURER TO MOUNT.

3. PROVIDE STANDARD SPECIALTIES, VALVES AND GAGES FOR EACH HOT WATER COIL. SEE DETAIL.

4. CONTRACTORS SHOULD PLAN TO LIMIT WORKING FROM LADDERS WHENEVER POSSIBLE. ALLOWANCES FOR MAN LIFTS, SCAFFORDS, ETC. SHALL BE PROVIDED.

5. ALL CONTRACTORS SHALL STRICTLY ADHERE TO ALL OWNER SAFETY POLICIES AND REQUIREMENTS.

6. ALL CONTRACTORS WILL BE RESPONSIBLE FOR DISPOSAL OF ANY AND ALL DEBRIS AND MATERIAL GENERATED BY THEIR SCOPE OF WORK. DUMPSTERS SHALL BE PROVIDED BY THE CONTRACTOR.

7. ALL DUCT WORK SHALL BE FLANGED AND ALL JOINTS SEALED WITH HARDCAST. PROVIDE OWNER WITH MSDS OF SEALANT.

8. CONTRACTOR SHALL FIRE PROOF ALL OPENINGS IN FIRE RATED WALLS, FLOORS OR CEILINGS. SEE ARCHITECTURAL PLANS FOR FIRE RATED DESIGNATION.

9 ALL DIFFUSERS AND REGISTERS SHALL BE HARD DUCTED. FLEXIBLE DUCTWORK SHALL BE NO LONGER THAN 5 FT.

10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF ALL WORK INCLUDING SUBCONTRACTORS. THE CONTRACTOR SHALL ASSIGN A PROJECT MANAGER TO COORDINATE WORK WITH OWNER AND SUBCONTRACTORS.

11. CONTRACTOR SHALL PERFORM RIGGING OF ROOF EQUIPMENT WHEN THE BUILDING IS NOT OCCUPIED. CONTRACTOR SHALL PROVIDE A RIGGING PLAN AND DRAWING FOR APPROVAL BY THE OWNER'S REPRESENTATIVE. CONTRACTOR SHALL COORDINATE TIME AND DATE FOR RIGGING WITH OWNER. CONTRACTOR SHALL PREPARE RIGGING PLAN AND SAFETY PROTOCOLS FOR THE OWNER REVIEW BEFORE ANY WORK CAN BEGIN.

12. CONTRACTOR SHALL UTILIZE A BONDED ROOFER FOR ALL ROOFING WORK. CONTRACTOR SHALL OBTAIN OWNER APPROVAL OF ROOFING CONTRACTOR BEFORE WORK CAN BEGIN.

13. MAINTAIN SERVICE CLEARANCE AROUND MECHANICAL AND ELECTRICAL EQUIPMENT AS PER MANUFACTURER'S RECOMMENDATIONS.

14. THE TAB CONTRACTOR SHALL BE NATIONAL BALANCING BUREAU (NEBB) CERTIFIED FOR THE AIR AND WATER BALANCING FOR THE PROJECT. THE REPORT SHALL BE CONDUCTED IN ACCORDANCE WITH NEEB STANDARDS.

15. THE DAMPERS AND ACTUATORS SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR. THE ACTUATORS SHALL BE SIZED FOR THE TORQUE REQUIREMENTS OF THE DAMPERS. THE ACTUATORS SHALL BE COMPATIBLE WITH THE CONTROL SYSTEM.

16.. ANY RIGGING OF EQUIPMENT LOCATED ON THE ROOF SHALL BE PRICED ON PREMIUM TIME.

17. ALL VALVES THAT ARE EQUAL TO OR GREATER THAN 6' AFF SHALL HAVE CHAIN OPERATORS.

18. SMOKE DETECTOR AND SENSING TUBE ON THE RETURN AIR SHALL BE PROVIDED AND INSTALLED BY THE MECHANICAL CONTRACTOR. SMOKE DETECTOR FOR EACH SYSTEM SHALL BE HARD WIRED TO THE FAN VFD/STARTER BY THE ELECTRICAL CONTRACTOR. FIRE ALARM CONTRACTOR SHALL WIRE SMOKE DETECTOR BACK TO FIRE ALARM PANEL.

19. CONTRACTOR SHALL FIRE PROOF ALL OPENINGS IN THE WALLS AND FLOORS SO THAT THE FIRE RATING IS MAINTAINED. SEE ARCHITECTURAL DRAWINGS. IF FIRE RATING IS NOT SHOWN USE 3HRS FOR PRICING.

20. CONTRACTOR SHALL REFER TO AIR HANDLER AND UNITARY ROOFTOP UNITS MANUFACTURERS REQUIREMENTS FOR SIZE AND NUMBER OF DRAIN PAN CONNECTIONS. CONDENSATE SHALL BE PIPED TO NEAREST ROOF AND/OR FLOOR DRAIN.

21. ALL WORK SHALL BE WARRANTED FOR TWO (2) FOR PARTS AND LABOR FROM THE TIME OF SUBSTANTIAL COMPLETION.

22. ALL EQUIPMENT SHALL BE START-UP AND COMMISSIONED BY THE MANUFACTURER'S REPRESENTATIVE. START-UP SHEETS SHALL BE FILLED OUT IN THEIR ENTIRETY. ITEMS NOT APPLICABLE SHALL BE MARKED N/A.

23. EQUIPMENT MANUFACTURER AND BAS CONTRACTOR SHALL COMPLETE THE UNIT CONFIGURATION TO ACHIEVE THE SEQUENCE OF OPERATION FOR THE SYSTEM. THEY SHALL ALSO WORK TOGETHER TO VERIFY THAT THE BACNET POINTS FROM THE UNIT ARE PRPERLY VIEWED AT THE BAS WORKSTATION.

24. EQUIPMENT CURBS SHALL BE FIELD VERIFIED FOR SLOPE, DUCT CONNECTION LOCATIONS, PLENUM WALL LOCATION, ETC. FIELD VERIFICATIONS AND SHOP DRAWINGS SHALL BE COMPLETED BEFORE DEVELOPING THE CURB SUBMITTAL.

25. THE CONTRACTOR SHALL PROVIDE PIPING SUPPORT AND SEISMIC RESTRAINTS DESIGN BASED ON APPROVED SHOP DRAWINGS. THE PIPING SUPPORT DESIGN AND CALCULATIONS SHALL BE SIGNED AND SEALED BY A NJ PROFESSIONAL ENGINEER.

26. EXISTING INSULATION SHALL BE REPAIRED IN AREAS WHERE IT WAS DISTURBED OR REMOVED FOR THE NEW WORK.

27. MECHANICAL AND ELECTRICAL EQUIPMENT SHALL BE LABELED WITH BAKE-A-LITE LABELS, 2" HIGH WHITE LETTERS WITH BLACK BACKGROUND. ALL VALVES SHALL HAVE BRASS TAGS WIRED TO THE VALVE. PIPING LENGTH SHALL HAVE UTILITY LABELS AND DIRECTION OF FLOW INSTALLED EVERY 10'.

28. MECHANICAL CONTRACTOR SHALL PROVIDE AND INSTALL FAN COIL STRAINER, CONTROL VALVE, CIRCUIT SETTER, AND ISOLATION VALVES ON THE SUPPLY AND RETURN PIPING. BAS CONTRACTOR SHALL PROVIDE CONTROL AND COMMUNICATION WIRING FOR CONTROL VALVE, TEMPERATURE SENSOR, CO2 SENSOR, HUMIDITY SENSORS AND CONTROLLERS.

29. ALL CONTRACTORS SHALL MAINTAIN A DRAWING SET FOR THE PROJECT ON SITE TO BE USED TO GENERATE REDLINE DRAWINGS. THE CONTRACTORS SHALL MARK-UP THESE DRAWINGS BASED ON ANY FIELD CHANGES MADE DURING THE COURSE OF THE CONSTRUCTION. THE REDLINE DRAWINGS WILL BE TURNED OVER TO THE ENGINEER TO DEVELOP FOR RECORD DRAWINGS.

30. THE INFORMATION SHOWN ON THE DRAWINGS SUPERSEDES ANY INFORMATION IN THE BOOK SPECIFICATIONS.

31. INTERIOR DUCTWORK THAT IS EXPOSED SHALL BE GALVALUME PAINTABLE SHEETMETAL. COLOR SHALL BE DETERMINED BY THE ARCHITECT AND OWNER. SEE SCHEDULE.

32. WHERE SPECIFIED VIBRATION PADS SHALL BE SHALL BE MASON INDUCTRIES SUPER W WAFFLE PAD DURO 70. INSTALL AS PER UNIT MANUFACTURER LOCATIONS, SIZE AND UNIT WEIGHT.

33. PLUMBING CONTRACTORS SHALL PROVIDE CLEANING, FLUSHING AND DISINFECTION PROCEDURES FOR APPROVAL BEFORE WORK CAN COMMENCE.

34. MECHANICAL CONTRACTOR SHALL PROVIDE A SPLASH BLOCK ON THE ROOF WHERE COIL CONDENSATE PIPING ENDS. PROVIDE A 1/2" THICK WHITE RUBBER PAD BENEATH EACH SPLASH BLOCK.

35. THE EXISTING DUAL TEMPERATURE (DT) PIPING & EQUIPMENT SHALL BE COMPLETELY DRAINED OF EXISTING FLUID. THE EXISTING PIPING AND EQUIPMENT SHALL BE FLUSHED ACCORDING SPECIFICATIONS. THE SLIP STREAM FILTER (FLT-1) SHALL FIRST BE INSTALLED. THE SYSTEM SHALL THEN BE FILLED WITH FRESH WATER & CLEANING SOLUTION. THE CLEANING SOLUTION SHALL BE CIRCULATED WITH MAIN SYSTEM PUMPS AND FILTER IN OPERATION FOR A PERIOD OF 24 HOURS. ENERGIZE THE PRIMARY CHILLED WATER PUMPS AS WELL. DO NOT CIRCULATE WATER THROUGH THE NEW HOT WATER PIPING & EQUIPMENT. DRAIN SYSTEM REFILL WITH FRESH WATER AND CIRCULATE AGAIN WITH FILTER IN OPERATION FOR 12 HOURS (MIN). DRAIN & REFILL WITH A 30% PROPYLENE GLYCOL SOLUTION. THE CONTRACTOR SHALL BLEED THE AIR FROM THE PIPING SYSTEM AND ALL EQUIPMENT THROUGHOUT THE BUILDING. A REPORT SHALL BE PROVIDED TO THE ENGINEER INDICATING THE FINAL PROPYLENE GLYCOL CONCENTRATION IN THE SYSTEM.

[NOTE: THE CONTRACTOR SHALL PURCHASE A MINIMUM OF TEN (10) REPLACEMENT FILTER BAGS. THE FILTER BAGS SHALL BE CHANGED WHEN THE FILTER PRESSURE DIFFERENCE REACHES 25 PSI.]

36. ALL STRAINERS FOR THE MECHANICAL EQUIPMENT THROUGHOUT THE BUILDING, INCLUDING ALL FAN COIL UNITS AND ALL UNIT VENTILATORS, SHALL BE CLEANED.

GENERAL DEMOLITION NOTES

1. CONTRACTOR SHALL DEVELOP DETAILED WRITTEN PLAN TO COORDINATE ALL DEMOLITION AND NmaEW WORK IN ORDER TO MINIMIZE DOWNTIME OF THE HVAC SYSTEMS. THIS PLAN SHALL BE COMPLETED AND APPROVED BY THE OWNER. THE PLAN SHALL BE COMPLETED AND SUBMITTED WITHIN 2 WEEKS OF CONTRACTOR SELECTION. OWNER APPROVAL IS REQUIRED BEFORE ANY WORK CAN COMMENCE. DEMOLITION ACTIVITITIES SHALL BE SCHEDULED ON A WEEKLY BASIS WITH THE OWNER'S REPRESENTATIVE.

2. THE CONTRACTOR SHALL RESTORE TO ITS ORIGINAL CONDITION WITHOUT EXTRA PAYMENT, ANY OF THE OWNERS PROPERTY OR PROPERTY OR WORK BY/OF OTHER CONTRACTORS THAT SHALL BECOME DAMAGED DUE TO THE NEGLIGENCE OF EMPLOYEES OR AGENTS OF THE CONTRACTOR. SUCH REPAIRS SHALL MEET THE APPROVAL OF THE OWNER. PARTICULAR CARE SHALL BE EXERCISED TO PROTECT FIRE ALARM AND SECURITY WIRING.

3. WHERE EXSITING CONTROL VALVES ARE BEING REMOVED, CONTRACTOR SHALL REMOVE ALL CONTROLLING SENSORS, THERMOSTATS, CONTROL WIRING AND ASSOCIATED CONDUIT, SUPPORT, ETC. THE CONTROL POINTS SHALL BE REMOVED FROM THE BAS SYSTEM INCLUDING PROGRAMMING, GRAPHIS, ETC. WHERE WALL SENSORS AND/OR THERMOSTATS ARE REMOVED, THE WALL SHALL BE REPAIRED AND PAINTED. SEE ARCHITECTURAL DRAWINGS FOR DETAILS.

4. CONTRACTOR SHALL TAKE PROPER CARE AND PROTECT ALL PORTIONS OF THE WORK UNTIL ITS ACCEPTANCE. ANY AND ALL PORTIONS OF THE WORK LIABLE TO DAMAGE UNDER THIS OR OTHER SECTIONS, BY FREEZING OR INCLEMENT WEATHER MUST BE THOROUGHLY AND COMPLETELY PROTECTED BY ANY SUBSTANTIAL MEANS UNTIL NOT FURTHER REQUIRED. TEMPORARY HEAT SHALL BE REMOVED FROM THE PREMISES ONLY WHEN ITS REMOVAL IS APPROVED BY THE ENGINEER.

5. THE CONTRACTOR SHALL HAVE A COMPETENT FOREMAN IN RESPONSIBLE CHARGE OF THE WORK WHO SHALL BE ON THE SITE DURING THE DEMOLITION OF THE SYSTEM. FOREMAN SHALL BE ON SITE AT ALL TIMES DURING WORK BY ALL TRADES. SUB CONTRACTORS WILL NOT BE PERMITTED TO WORK IF FORMAN IS NOT ONSITE.

6. SAFE OPEN ENDS OF DUCTWORK TO BE REUSED DURING DEMOLITION TO MINIMIZE DEBRIS FROM ENTERING DUCTS DURING DEMOLITION. CONTRACTOR SHALL BLANK-OFF THE EXISTING SUPPLY AIR AND RETURN AIR OPENINGS IN THE AIR SHAFT BEFORE DEMOLITION CAN BEGIN.

7. AT LEAST ONCE A DAY, OR AS REQUIRED BY THE OWNER, GATHER ALL RUBBISH, INCLUDING CARTONS, CRATES AND PACKAGING MATERIALS, DEBRIS AND OTHER WASTE MATERIALS. WASTE TO BE PLACED IN TRASH BIN/DUMPSTER PROVIDED BY CONTRACTOR. ALL DEBRIS TO BE REMOVED DURING OFF HOURS.

8. WHEN WORK IS PERFORMED IN OCCUPIED AREAS, TRASH REMOVAL SHOULD BE CONTINUOUS TO PREVENT HEALTH AND SAFETY ISSUES. NO MATERIAL REMOVED SHALL BE STORED IN THE BUILDING.

9. PROTECT ALL WORK AND EQUIPMENT AGAINST DAMAGE OR THEFT UNTIL FINAL INSPECTION, TESTED AND ACCEPTED. CAREFULLY STORE AND PROTECT MATERIALS AND EQUIPMENT RECEIVED ON SITE WHICH ARE NOT IMMEDIATELY INSTALLED. CLOSE OPEN ENDS OF WORK WITH TEMPORARY PLUGS OR COVERS DURING CONSTRUCTION TO PREVENT ENTRY DEBRIS.

10. PERFORM WORK IN EXISTING BUILDING WHEN AND AS DIRECTED. ALL WORK IS TO BE PERFORMED SO AS TO CAUSE THE LEAST POSSIBLE INCONVENIENCE AND DISTURBANCE TO THE OCCUPANTS.

11. SHIFT WORK AND STAGING WILL BE REQUIRED AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR SHALL PROVIDE SCHEDULE AND PREMIUM TIME FOR ALL DEMOLITION AND REMOVAL OF MATERIALS IN THEIR PROPOSAL. ALL DEMOLITION OF VAV BOXES, DUCTWORK AND PIPING WORK SHALL BE COMPLETED ON OFF HOURS. CONTRACTOR SHALL COORDINATE WORK SCHEDULE WITH OWNER.

12. WHEN THE DEMOLITION OR INSTALLATION OF WORK REQUIRES THE SHUTDOWN OF AN EXISTING OPERATING SYSTEM, A MINIMUM OF 72 HOURS WRITTEN NOTICE SHALL BE GIVEN TO THE OWNER BEFORE WORK IS STARTED.

13. CONTRACTOR SHALL PHOTOGRAPH ALL EXISTING CONDITIONS FOR OWNER AND SUBMIT TO OWNER.

14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF ALL PERSONS PERFORMING THE WORK OF THIS CONTRACT.

15. THIS CONTRACTOR SHALL OBTAIN AND READ ALL SITE, JOB AND CORPORATE SAFETY AND SECURITY RULES AND REGULATIONS FROM THE OWNER, AND SIGN OFF ON THEM IF REQUIRED. THIS CONTRACTOR SHALL ADEQUATELY INFORM AND INSTRUCT ALL EMPLOYEES, AND OTHERS PERFORMING WORK FOR HIM, OF SUCH RULES AND REGULATIONS. THESE INSTRUCTIONS ARE THE MINIMUM THAT WILL BE ACCEPTED ON THIS PROJECT. CONTRACTOR SHALL HAVE A SAFETY OFFICER TO SUPERVISE PERSONNEL ON A DAILY BASIS.

16. ALL OF THE ABOVE RULES AND REGULATIONS ARE NOT MEANT TO REPLACE OR ELIMINATE INDIVIDUAL CONTRACTORS SAFETY PROGRAMS OR CHANGE ANY LOCAL, STATE OR FEDERAL RULES AND REGULATIONS, BUT RATHER TO AUGMENT THEM AS REQUIRED FOR THE INDIVIDUAL PREMISES ON WHICH THIS WORK IS BEING PERFORMED

17. PIPING REMOVED THAT PENETRATES THE ROOF SHALL BE PATCHED AND SEALED BY A BONDED ROOFER IMMEDIATELY AFTER REMOVAL TO ENSURE THAT THE ROOF IS WATER PROOF.

18. CONTRACTOR SHALL TAKE CONCENTRATION READING OF THE GLYCOL/WATER DUAL TEMPERATURE LOOP BEFORE DRAINING THE SYSTEM. RESULTS OF THE TESTING SHALL BE FORWARDED TO THE ENGINEER. CONTRACTOR IS RESPONSIBLE FOR DRAINING THE SYSTEM TO COMPLETE THE MODIFICATIONS. THE GLYCOL/WATER REMOVED SHALL BE STORED IN A TANKER TRUCK. ONCE THE WORK IS COMPLETED, CONTRACTOR SHALL REFILL AND BLEED ALL THE AIR OUT OF THE SYSTEM. WATER BALANCING SHALL ONLY OCCUR ONCE ALL THE AIR IS OUT OF THE DUAL TEMPERATURE AND HOT WATER SYSTEMS.

19. STEAM PIPING TO BE PRESSURE TESTED FOR LEAKS AT ALL LOCATIONS WHERE STEAM AND CONDENSATE PIPING HAS BEEN REMOVED AND CAPPED.

20. CONTRACTOR SHALL HAVE THE NEBB CERTIFIED TAB CONTRACTOR OBTAIN THE DUAL TEMPERATURE WATER SECONDARY FLOW AND PUMP PERFORMANCE BEFORE DEMOLITION IS STARTED. THE RESULTS SHALL BE PROVIDED TO THE ENGINEER.

DRAWING LEGEND

DWG NO.	DRAWING TITLE	REV
C-000	COVER SHEET	0
MD-302	MECHANICAL – GROUND FLOOR SECTOR 'B' PIPING DEMOLITION PLAN	0
MD-303	MECHANICAL – GROUND FLOOR SECTOR 'C' PIPING DEMOLITION PLAN	0
MD-304	MECHANICAL – GROUND FLOOR SECTOR 'D' PIPING DEMOLITION PLAN	0
MD-305	MECHANICAL – GROUND FLOOR SECTOR 'E' & 'G' PIPING DEMOLITION PLAN	0
MD-306	MECHANICAL – GROUND FLOOR SECTOR 'F' PIPING DEMOLITION PLAN	0
MD-311	MECHANICAL – FIRST FLOOR SECTOR 'A' PIPING DEMOLITION PLAN	0
MD-312	MECHANICAL – FIRST FLOOR SECTOR 'B' PIPING DEMOLITION PLAN	0
MD-313	MECHANICAL – FIRST FLOOR SECTOR 'C' PIPING DEMOLITION PLAN	0
MD-314	MECHANICAL – FIRST FLOOR SECTOR 'D' PIPING DEMOLITION PLAN	0
MD-321	MECHANICAL – SECOND FLOOR SECTOR 'A' PIPING DEMOLITION PLAN	0
MD-322	MECHANICAL – SECOND FLOOR SECTOR 'B' PIPING DEMOLITION PLAN	0
MD-323	MECHANICAL – SECOND FLOOR SECTOR 'C' PIPING DEMOLITION PLAN	0
MD-324	MECHANICAL – SECOND FLOOR SECTOR 'D' PIPING DEMOLITION PLAN	0
MD-326	MECHANICAL – SECOND FLOOR SECTOR 'F' PIPING DEMOLITION PLAN	0
MD-431	MECHANICAL – ROOF SECTOR 'A' DEMOLITION PLAN	0
MD-432	MECHANICAL – ROOF SECTOR 'B' DEMOLITION PLAN	0
MD-435	MECHANICAL – ROOF SECTOR 'E' DEMOLITION PLAN	0
MD-436	MECHANICAL – ROOF SECTOR 'F' DEMOLITION PLAN	0
MD-501	MECHANICAL – BOILER ROOM DEMOLITION PLANS	0
MD-503	MECHANICAL – BSMT SECTOR 'H' & GROUND FLOOR SECTOR 'C' PARTIAL DEMO PLAN	0
MD-505	MECHANICAL – GROUND FLOOR SECTOR 'E' PARTIAL DEMOLITION PLAN (ALT #1)	0
M-301	MECHANICAL – GROUND FLOOR SECTOR 'A' PIPING DEMOLITION & NEW WORK PLAN	0
M-303	MECHANICAL – GROUND FLOOR SECTOR 'C' PIPING NEW WORK PLAN	0
M-311	MECHANICAL – FIRST FLOOR SECTOR 'A' PIPING NEW WORK PLAN	0
M-313	MECHANICAL – FIRST & SECOND FLOOR SECTOR 'C' PIPING NEW WORK PLAN	0
M-326	MECHANICAL – SECOND FLOOR SECTOR 'F' PIPING NEW WORK PLAN	0
M-431	MECHANICAL – ROOF SECTOR 'A' NEW WORK PLAN	0
M-432	MECHANICAL – ROOF SECTOR 'B' NEW WORK PLAN	0
M-435	MECHANICAL – ROOF SECTOR 'E' NEW WORK PLAN	0
M-435-1	MECHANICAL – ROOF SECTOR 'E' NEW WORK PLAN (ALT #1)	0
M-436	MECHANICAL – ROOF SECTOR 'F' NEW WORK PLAN	0
M-437	MECHANICAL – ROOF SECTOR 'G' DEMOLITION & NEW WORK PLAN	0
M-501	MECHANICAL – BOILER ROOM NEW WORK PLAN	0
M-502	MECHANICAL – BOILER ROOM SECTIONS & ELEVATIONS	0
M-503	MECHANICAL – GROUND FLOOR SECTOR 'C' PARTIAL NEW WORK PLANS	0
M-504	MECHANICAL – GROUND FLOOR SECTOR 'E' PARTIAL DEMO & NEW WORK PLANS	0
M-504-1	MECHANICAL – GROUND FLOOR SECTOR 'E' PARTIAL NEW WORK PLAN (ALT #1)	0
M-505	MECHANICAL – SECOND FLOOR SECTOR 'A' & 'C' PARTIAL DEMO & NEW WORK PLANS	0
M-600	MECHANICAL – NETWORK DIAGRAM	0
M-601	MECHANICAL – AHU A1 CONTROL & AIRFLOW DIAGRAM	0
M-602	MECHANICAL – AHU A2 CONTROL & AIRFLOW DIAGRAM	0
M-603	MECHANICAL – AHU B1 & AHU E1 CONTROL & AIRFLOW DIAGRAM	0
M-604	MECHANICAL – AHU C1 CONTROL & AIRFLOW DIAGRAM	0
M-605	MECHANICAL – AHU C2 CONTROL & AIRFLOW DIAGRAM	0
M-606	MECHANICAL – AHU F1 & AHU F2 CONTROL & AIRFLOW DIAGRAM	0
M-607	MECHANICAL – AHU F3 CONTROL & AIRFLOW DIAGRAM	0
M-608	MECHANICAL – AHU F4 & AHU F5 CONTROL & AIRFLOW DIAGRAM	0
M-609	MECHANICAL – AHU F6 & AHU G1 CONTROL & AIRFLOW DIAGRAM	0
M-610	MECHANICAL – AHU F7 CONTROL & AIRFLOW DIAGRAM	0
M-611	MECHANICAL – AHU F9 CONTROL & AIRFLOW DIAGRAM	0
M-612	MECHANICAL – AHU E1 & AHU E2 CONTROL & AIRFLOW DIAGRAM (ALTERNATE #1)	0
M-701	MECHANICAL – SCHEDULES, SHEET 1	0
M-702	MECHANICAL – SCHEDULES, SHEET 2	0
M-801	MECHANICAL – DETAILS	0
M-802	MECHANICAL – BOILER PIPING DIAGRAM DEMOLITION PLAN	0
M-803	MECHANICAL – BOILER PIPING DIAGRAM & CONTROLS NEW WORK PLAN	0
M-901	MECHANICAL – SPECIFICATIONS	0
ED-431	ELECTRICAL – ROOF SECTOR 'A' DEMOLITION PLAN	0
ED-432	ELECTRICAL – ROOF SECTOR 'B' DEMOLITION PLAN	0
ED-435	ELECTRICAL – ROOF SECTOR 'E' DEMOLITION PLAN	0
ED-436	ELECTRICAL – ROOF SECTOR 'F' DEMOLITION PLAN	0
ED-437	ELECTRICAL – ROOF SECTOR 'G' DEMOLITION PLAN	0
ED-501	ELECTRICAL – BASEMENT PARTIAL DEMOLITION PLANS	0
ED-502	ELECTRICAL – GROUND FLOOR PARTIAL DEMOLITION PLANS	0
ED-503	ELECTRICAL – FIRST FLOOR PARTIAL DEMOLITION PLANS	0
ED-504	ELECTRICAL – SECOND FLOOR PARTIAL DEMOLITION PLANS	0
ED-601	ELECTRICAL – PARTIAL SINGLE LINE DIAGRAM, DEMOLITION PLAN	0
E-431	ELECTRICAL – ROOF SECTOR 'A' NEW WORK PLAN	0
E-432	ELECTRICAL – ROOF SECTOR 'B' NEW WORK PLAN	0
E-435	ELECTRICAL – ROOF SECTOR 'E' NEW WORK PLAN	0
E-435-1	ELECTRICAL – ROOF SECTOR 'E' DEMOLITION NEW WORK PLAN (ALT #1)	0
E-436	ELECTRICAL – ROOF SECTOR 'F' NEW WORK PLAN	0
E-437	ELECTRICAL – ROOF SECTOR 'G' NEW WORK PLAN	0
E-501	ELECTRICAL – BASEMENT PARTIAL NEW WORK PLANS	0
E-502	ELECTRICAL – GROUND FLOOR PARTIAL NEW WORK PLANS, SHEET 1	0
E-503	ELECTRICAL – GROUND FLOOR PARTIAL NEW WORK PLANS, SHEET 2	0
E-504	ELECTRICAL – FIRST FLOOR PARTIAL NEW WORK PLANS, SHEET 1	0
E-505	ELECTRICAL – FIRST FLOOR PARTIAL NEW WORK PLANS, SHEET 2	0
E-506	ELECTRICAL – SECOND FLOOR PARTIAL NEW WORK PLANS, SHEET 1	0
E-507	ELECTRICAL – SECOND FLOOR PARTIAL NEW WORK PLANS, SHEET 2	0
E-601	ELECTRICAL – PARTIAL SINGLE LINE DIAGRAM, NEW WORK PLAN	0
E-701	ELECTRICAL – SCHEDULES & DETAILS	0
E-702	ELECTRICAL – PANEL SCHEDULES	0
E-901	ELECTRICAL – SPECIFICATIONS	0
P-430	PLUMBING – ROOF GAS PIPING NEW WORK PLAN	0
P-501	PLUMBING – GAS PIPING RISER DIAGRAMS	0
P-502	PLUMBING – GAS PIPING DETAILS & PARTIAL PLAN	0
P-901	PLUMBING – SPECIFICATIONS	0
FA-301	FIRE ALARM – BASEMENT & GROUND FLOOR NEW WORK PLAN	0
FA-302	FIRE ALARM – FIRST & SECOND FLOOR FLOOR NEW WORK PLAN	0
FA-303	FIRE ALARM – ROOF NEW WORK PLAN	0
FA-901	FIRE ALARM – SPECIFICATIONS	0
FP-301	FIRE PROTECTION – BASEMENT & GROUND FLOOR NEW WORK PLAN	0
FP-302	FIRE PROTECTION – 1ST & 2ND FLOOR NEW WORK PLAN	0
FP-901	FIRE PROTECTION – SPECIFICATIONS	0

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Project Name
HVAC Renovations at Princeton High School

Project Owner Name
Princeton Public Schools

Project Location
151 Moore Street,
Princeton, NJ
08540

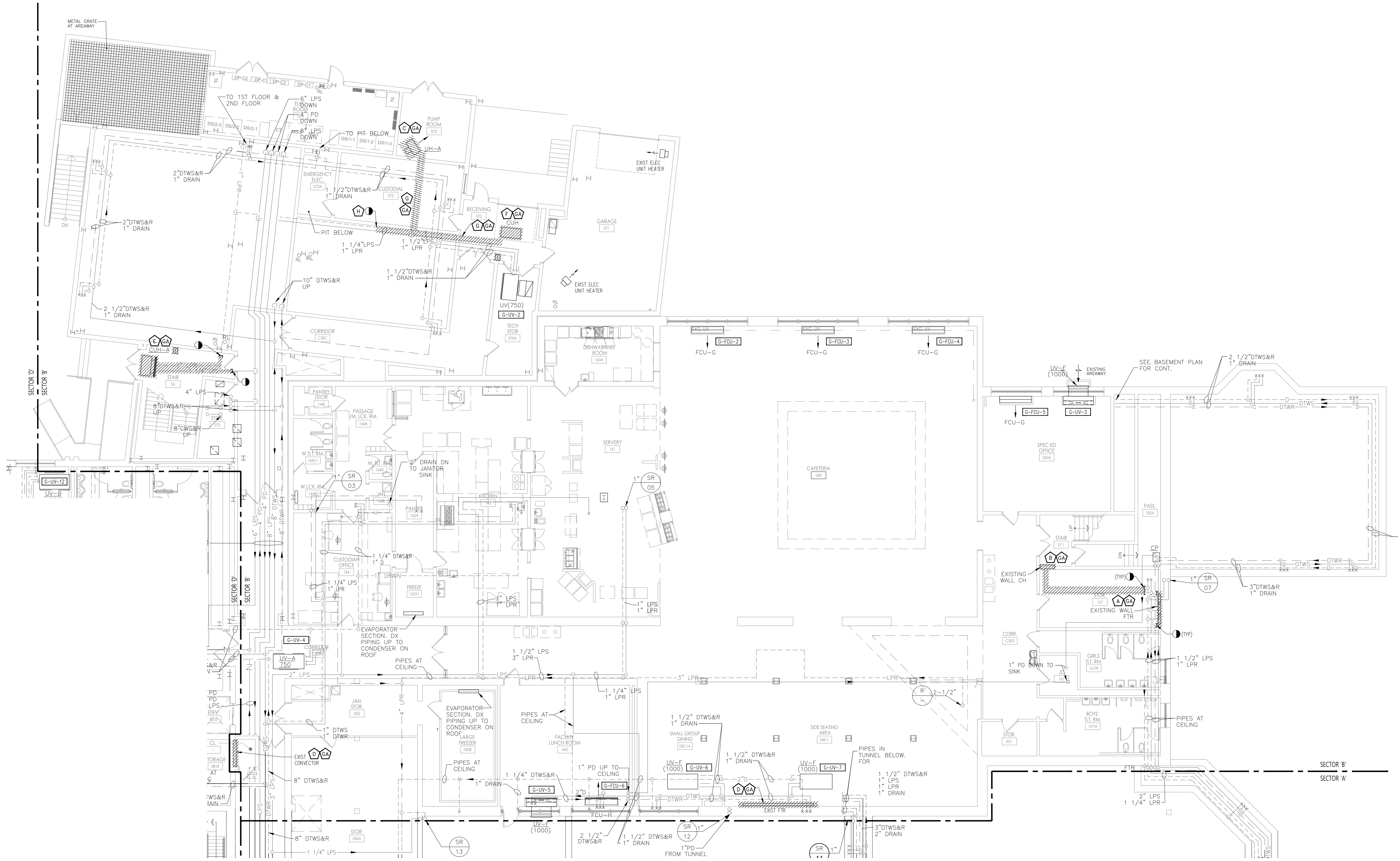
Project Number
5516E
Project Date
01.29. 2026
Checked By
JTM
Drawn By
JD
Scale
AS NOTED

Drawing Name
COVER SHEET

Revisions

No.	Date	Description

Drawing Number
C-000



① MECHANICAL - SECTOR 'B' GROUND FLOOR PIPING DEMOLITON PLAN

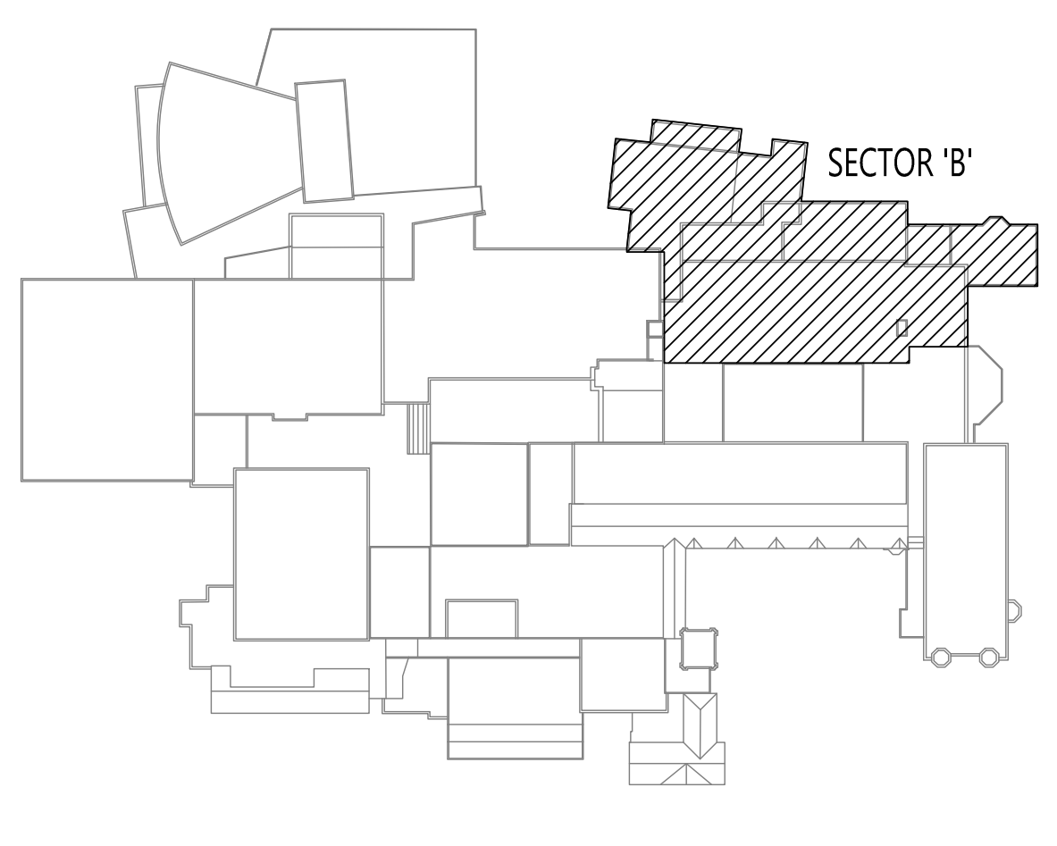
SCALE: 1/8"=1'-0"

MECHANICAL DEMOLITION NOTES

- (A) REMOVE EXISTING STEAM RADIATION, CONTROL VALVE, STRAINER, CONDENSATE TRAP, ISOLATION VALVES, ETC., IN THEIR ENTIRETY. REMOVE EXISTING STEAM & CONDENSATE PIPING & INSULATION BACK TO MAIN AND CAP PIPING. RE-INSULATE PIPING.
- (B) REMOVE EXISTING WALL CABINET STEAM HEATER, CONTROL VALVE, CONTROL WIRING, STRAINER, CONDENSATE TRAP, ISOLATION VALVES, ETC., IN THEIR ENTIRETY. REMOVE STEAM & CONDENSATE PIPING BACK TO MAIN & CAP. RE-INSULATE PIPING.
- (C) REMOVE EXISTING STEAM UNIT HEATER, CONTROL VALVE, THERMOSTAT, CONTROL WIRING, CONDUIT, STRAINER, CONDENSATE TRAP, ISOLATION VALVES, ETC., IN THEIR ENTIRETY. REMOVE EXISTING STEAM & CONDENSATE PIPING & INSULATION BACK TO MAIN AND CAP PIPING. RE-INSULATE PIPING.
- (D) REMOVE EXISTING STEAM RADIATION, CONTROL VALVE, STRAINER, CONDENSATE TRAP, ISOLATION VALVES, ETC., IN THEIR ENTIRETY. REMOVE EXISTING STEAM & CONDENSATE PIPING DOWN BELOW FLOOR & CAP. RE-INSULATE PIPING.
- (E) REMOVE EXISTING CEILING STEAM UNIT HEATER, CONTROL VALVE, THERMOSTAT, STRAINER, CONDENSATE TRAP, ISOLATION VALVES, ETC., IN THEIR ENTIRETY. REMOVE EXISTING STEAM & CONDENSATE PIPING UP ABOVE CEILING & CAP. RE-INSULATE PIPING. REPAIR CEILING.
- (F) REMOVE EXISTING CEILING STEAM UNIT HEATER, CONTROL VALVE, THERMOSTAT, STRAINER, CONDENSATE TRAP, ISOLATION VALVES, ETC., IN THEIR ENTIRETY. REMOVE EXISTING STEAM & CONDENSATE PIPING BACK TO WALL & CAP. RE-INSULATE PIPING.
- (G) REMOVE EXISTING STEAM AND CONDENSATE PIPING.
- (H) REFER TO BOILER ROOM DEMOLITION PLAN (MD-501) FOR CONTINUATION OF STEAM & CONDENSATE PIPING REMOVAL.

GENERAL CONSTRUCTION DEMOLITION NOTES

- (GA) WHERE EXISTING EQUIPMENT & PIPING IS NOTED TO BE REMOVED, THE BRACKETS, HANGERS, SUPPORTS, ETC., SHALL BE REMOVED IN THEIR ENTIRETY. THE WALL, FLOOR, CEILING, ETC., SHALL BE REPAIRED & OPENINGS SHALL BE IN-FILLED TO MATCH MATCH EXISTING CONSTRUCTION. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.



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William D. Hopkins 01/29/26
Architect Date

Project Name
HVAC Renovations at Princeton High School

Project Owner Name
Princeton Public Schools

Project Location
151 Moore Street,
Princeton, NJ
08540

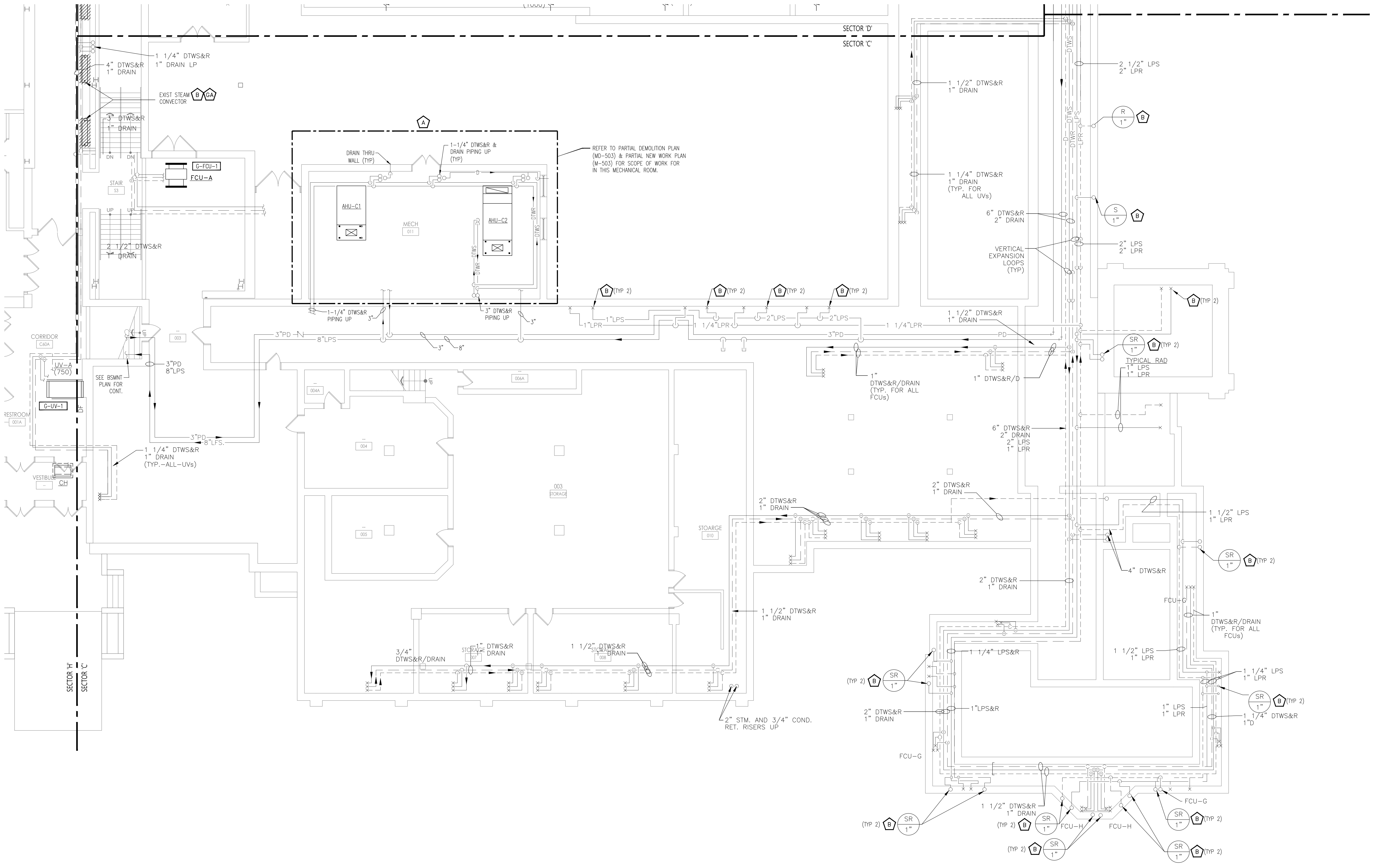
Project Number
5516E
Project Date
01.29. 2026
Checked By
JTM
Drawn By
JD
Scale
AS NOTED

Drawing Name
MECHANICAL - GROUND FLOOR SECTOR B PIPING DEMOLITION PLAN

Revisions

No.	Date	Description

Drawing Number
MD-302



1 MECHANICAL - SECTOR 'C' GROUND FLOOR PIPING DEMOLITON PLAN

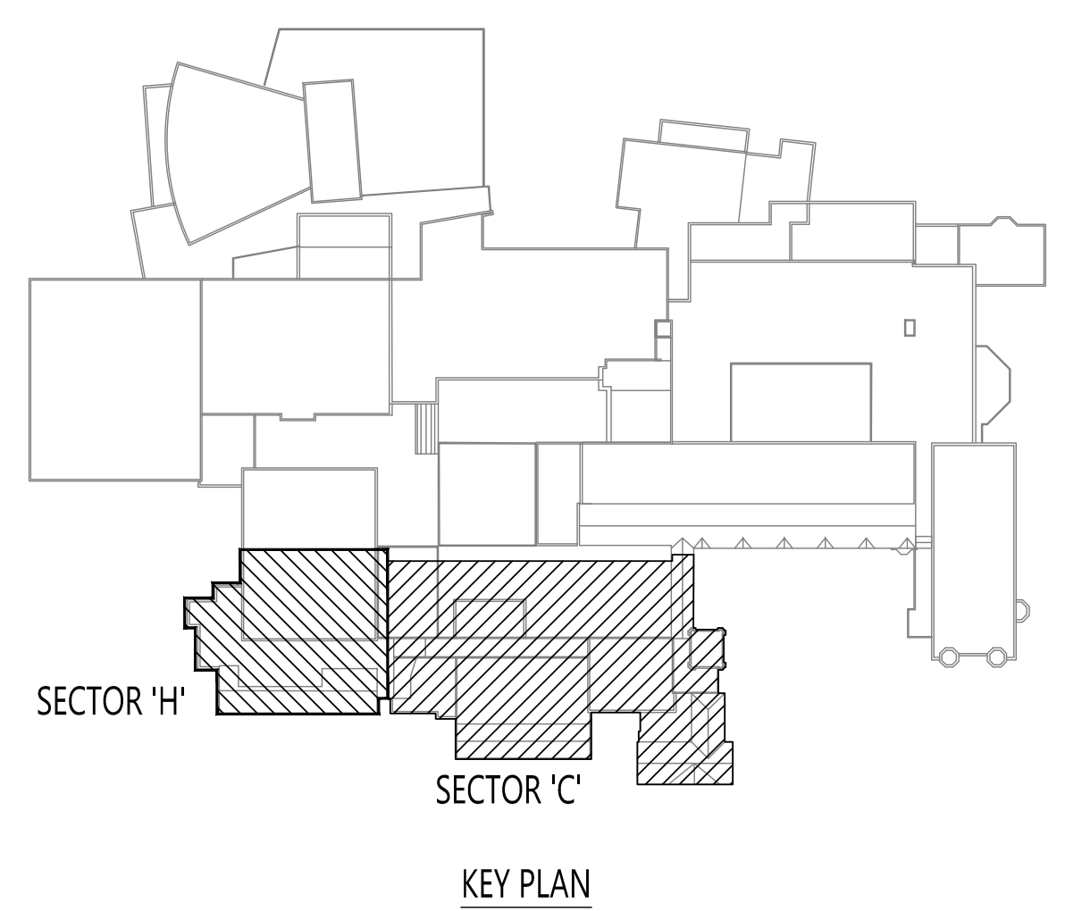
SCALE: 1/8"=1'-0"

MECHANICAL DEMOLITION NOTES

- A REFER TO PARTIAL PLANS ON DRAWING MD-503 & M-503 FOR DEMOLITION & NEW WORK IN MECHANICAL ROOM 011.
- B REMOVE EXISTING STEAM RADIATION, CONTROL VALVE, STRAINER, CONDENSATE TRAP, ISOLATION VALVES, ETC., IN THEIR ENTIRETY. CAP PIPING & RE-INSULATE PIPING BEHIND WALL.

GENERAL CONSTRUCTION DEMOLITION NOTES

- GA WHERE EXISTING EQUIPMENT & PIPING IS NOTED TO BE REMOVED, THE BRACKETS, HANGERS, SUPPORTS, ETC., SHALL BE REMOVED IN THEIR ENTIRETY. THE WALL, FLOOR, CEILING, ETC., SHALL BE REPAIRED & OPENINGS SHALL BE IN-FILLED TO MATCH MATCH EXISTING CONSTRUCTION. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.



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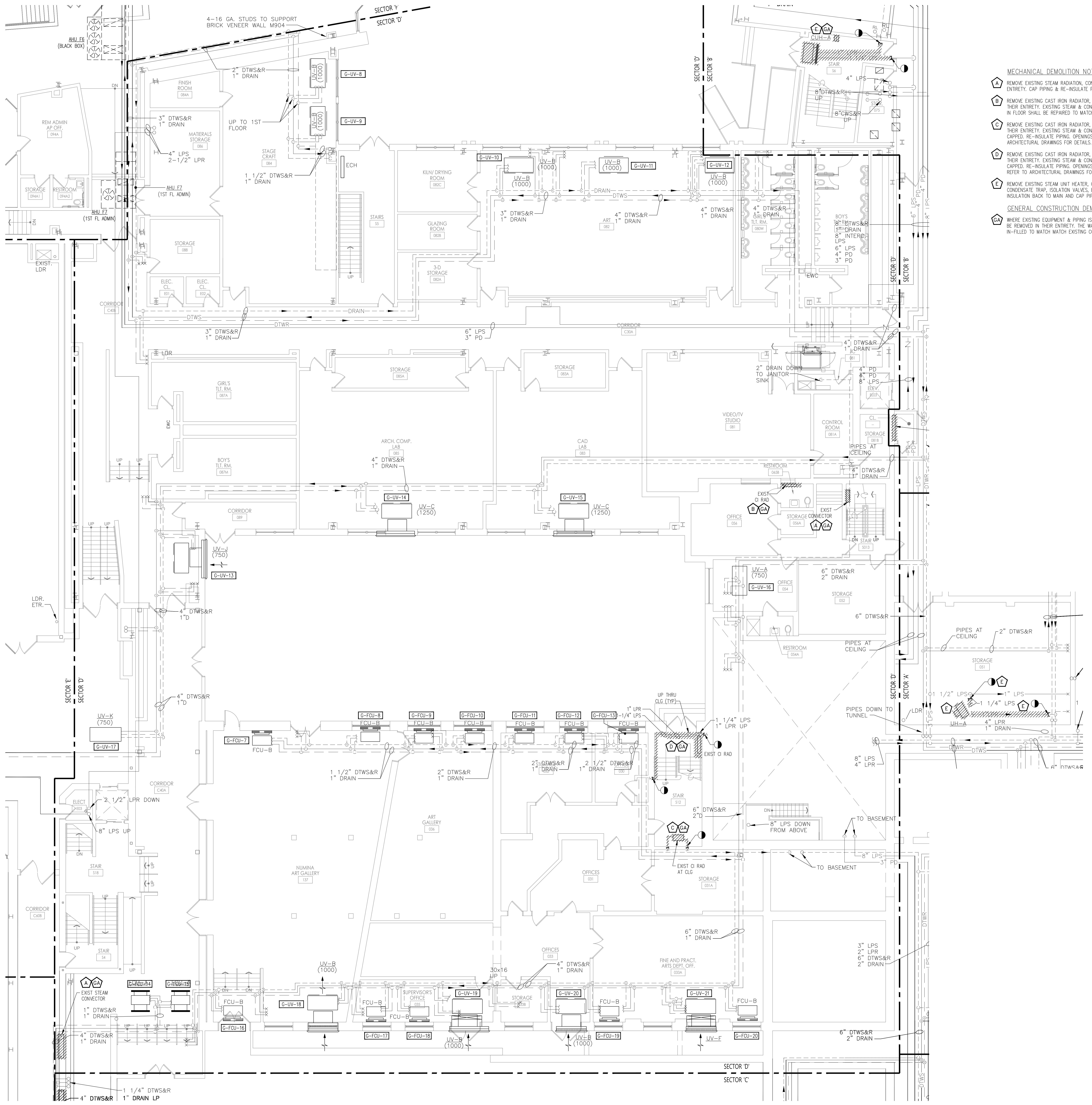
Project Name	HVAC Renovations at Princeton High School
Project Owner Name	Princeton Public Schools
Project Location	151 Moore Street, Princeton, NJ 08540
Project Number	5516E
Project Date	01.29. 2026
Checked By	JTM
Drawn By	JD
Scale	AS NOTED
Drawing Name	MECHANICAL - GROUND FLOOR SECTOR C & H PIPING DEMOLITION PLAN

Revisions

No.	Date	Description

Drawing Number

MD-303



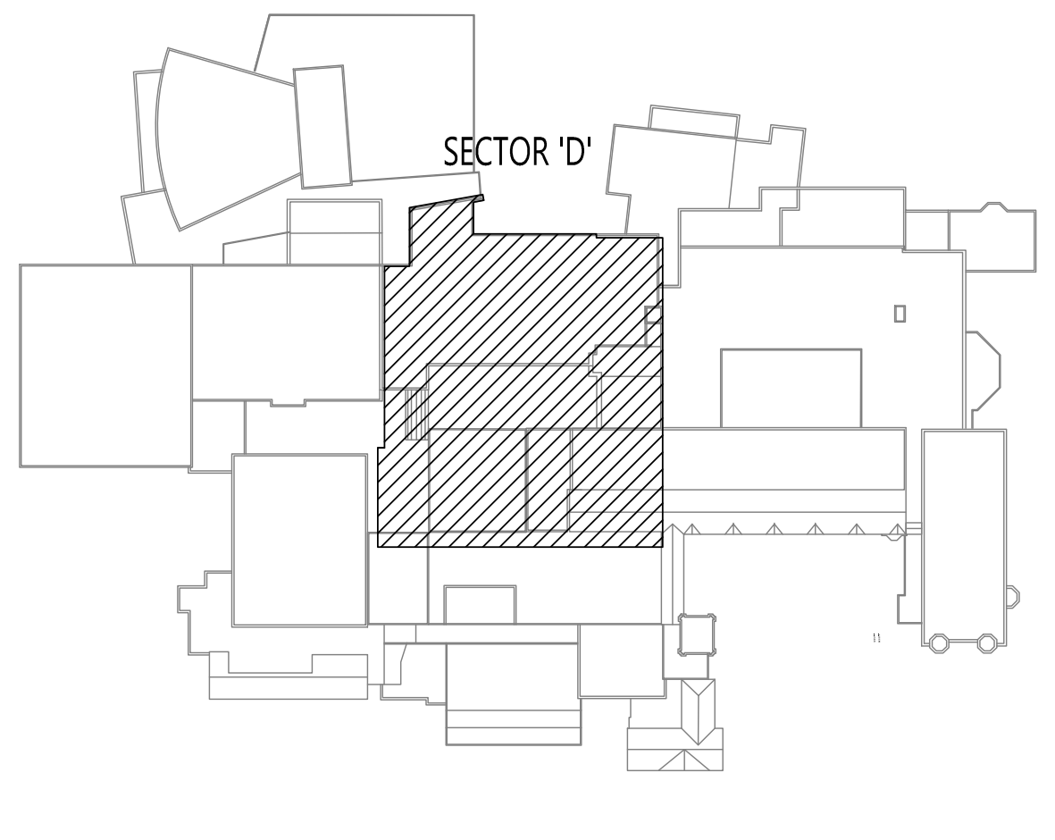
1 MECHANICAL - SECTOR 'D' GROUND FLOOR PIPING DEMOLITON PLAN
SCALE: 1/8"=1'-0"

MECHANICAL DEMOLITION NOTES

- A REMOVE EXISTING STEAM RADIATION, CONTROL VALVE, STRAINER, CONDENSATE TRAP, ISOLATION VALVES, ETC., IN THEIR ENTIRETY. CAP PIPING & RE-INSULATE PIPING BEHIND WALL.
- B REMOVE EXISTING CAST IRON RADIATOR, CONTROL VALVE, STRAINER, CONDENSATE TRAP, ISOLATION VALVES, ETC., IN THEIR ENTIRETY. EXISTING STEAM & CONDENSATE PIPING & INSULATION SHALL REMOVED DOWN THRU FLOOR. OPENINGS IN FLOOR SHALL BE REPAIRED TO MATCH EXISTING CONDITIONS. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.
- C REMOVE EXISTING CAST IRON RADIATOR, CONTROL VALVE, STRAINER, CONDENSATE TRAP, ISOLATION VALVES, ETC., IN THEIR ENTIRETY. EXISTING STEAM & CONDENSATE PIPING & INSULATION SHALL REMOVED BEYOND WALL SURFACE & CAPPED. RE-INSULATE PIPING. OPENINGS IN WALL SHALL BE REPAIRED TO MATCH EXISTING CONDITIONS. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.
- D REMOVE EXISTING CAST IRON RADIATOR, CONTROL VALVE, STRAINER, CONDENSATE TRAP, ISOLATION VALVES, ETC., IN THEIR ENTIRETY. EXISTING STEAM & CONDENSATE PIPING & INSULATION SHALL REMOVED BEYOND WALL & CEILING & CAPPED. RE-INSULATE PIPING. OPENINGS IN WALL & CEILING SHALL BE REPAIRED TO MATCH EXISTING CONDITIONS. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.
- E REMOVE EXISTING STEAM UNIT HEATER, CONTROL VALVE, THERMOSTAT, CONTROL WIRING, CONDUIT, STRAINER, CONDENSATE TRAP, ISOLATION VALVES, ETC., IN THEIR ENTIRETY. REMOVE EXISTING STEAM & CONDENSATE PIPING & INSULATION BACK TO MAIN AND CAP PIPING. RE-INSULATE PIPING.

GENERAL CONSTRUCTION DEMOLITION NOTES

- GA WHERE EXISTING EQUIPMENT & PIPING IS NOTED TO BE REMOVED, THE BRACKETS, HANGERS, SUPPORTS, ETC., SHALL BE REMOVED IN THEIR ENTIRETY. THE WALL, FLOOR, CEILING, ETC., SHALL BE REPAIRED & OPENINGS SHALL BE IN-FILLED TO MATCH MATCH EXISTING CONSTRUCTION. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.



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Project Name
HVAC Renovations at Princeton High School

Project Owner Name
Princeton Public Schools

Project Location
151 Moore Street,
Princeton, NJ
08540

Project Number
5516E

Project Date
01.29. 2026

Checked By
JTM

Drawn By
JD

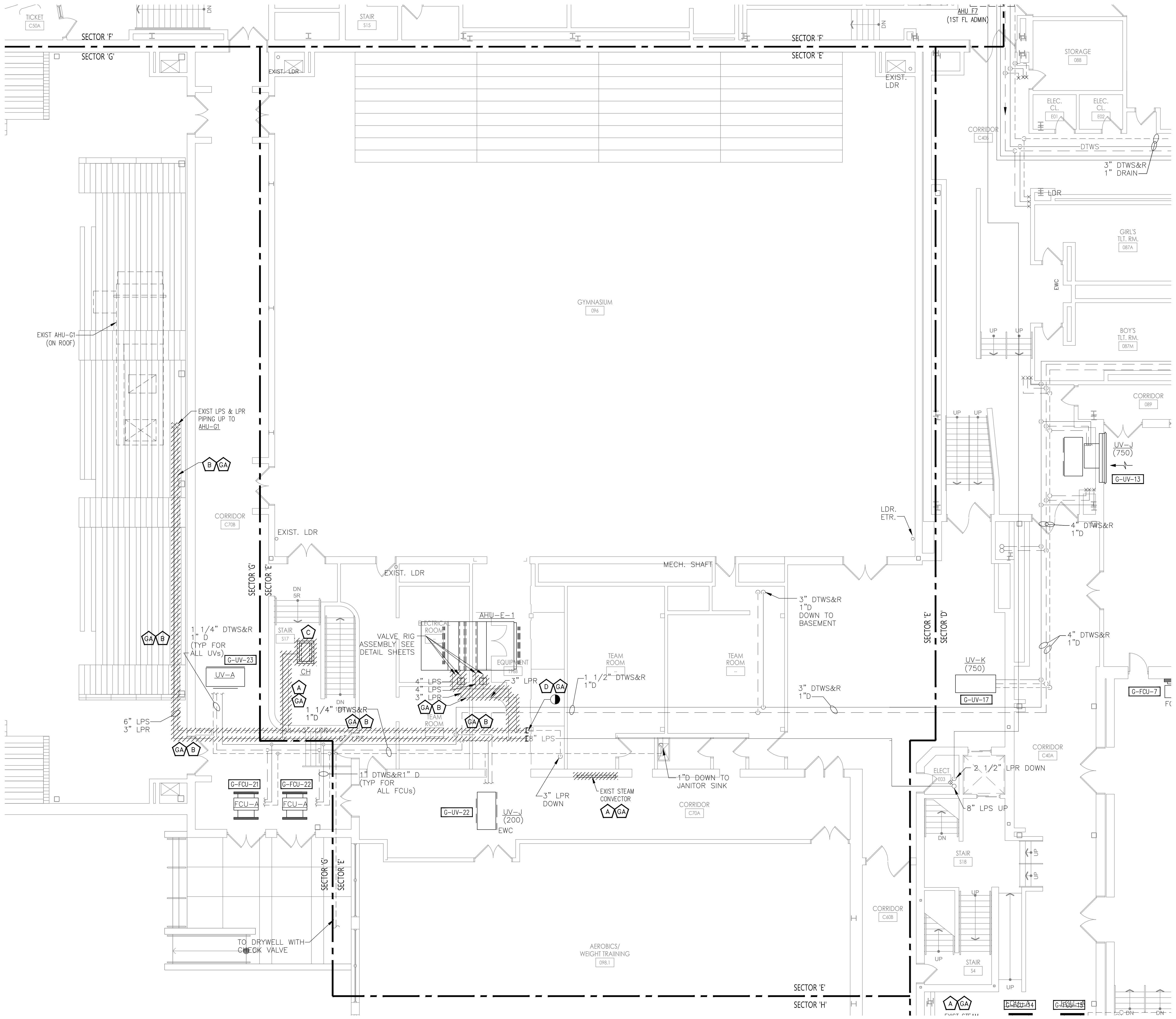
Scale
AS NOTED

Drawing Name
MECHANICAL - GROUND FLOOR SECTOR D PIPING DEMOLITION PLAN

Revisions

No.	Date	Description

Drawing Number
MD-304



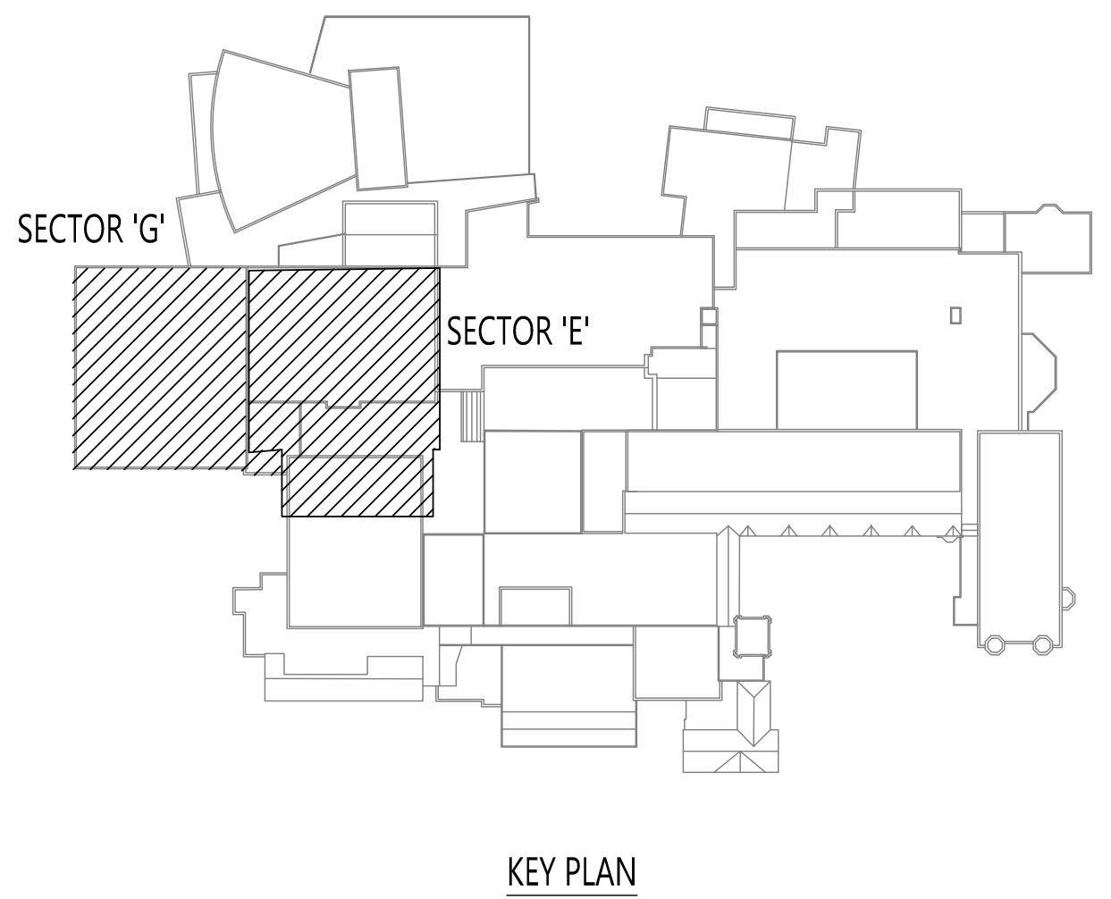
1 **MECHANICAL - SECTOR 'E' & 'G' GROUND FLOOR PIPING DEMOLITON PLAN**
SCALE: 1/8"=1'-0"

MECHANICAL DEMOLITION NOTES

- A REMOVE EXISTING STEAM RADIATION, CONTROL VALVE, STRAINER, CONDENSATE TRAP, ISOLATION VALVES, ETC., IN THEIR ENTIRETY.
- B REMOVE EXISTING STEAM & CONDENSATE PIPING, VALVES, CONTROL VALVES, STRAINERS, TRAPS, HANGERS, ETC.
- C REMOVE EXISTING STEAM CABINET HEATER, CONTROL VALVE, THERMOSTAT, STRAINER, CONDENSATE TRAP, ISOLATION VALVES, ETC., IN THEIR ENTIRETY.
- D CUT PIPING BACK TO LOCATION SHOWN & CAP. RE-INSULATE PIPING. INSTALL SELF-ADHESIVE PIPING LABELS (YELLOW BACKGROUND WITH BLACK LETTERING) UPSTREAM OF PIPE CAPS THAT READ, "ABANDONED PIPE". OPENINGS IN WALLS, ETC., SHALL BE REPAIRED. SEE ARCHITECTURAL DRAWINGS.

GENERAL CONSTRUCTION DEMOLITION NOTES

- GA WHERE EXISTING EQUIPMENT & PIPING IS NOTED TO BE REMOVED, THE BRACKETS, HANGERS, SUPPORTS, ETC., SHALL BE REMOVED IN THEIR ENTIRETY. THE WALL, FLOOR, CEILING, ETC., SHALL BE REPAIRED & OPENINGS SHALL BE IN-FILLED TO MATCH MATCH EXISTING CONSTRUCTION. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.



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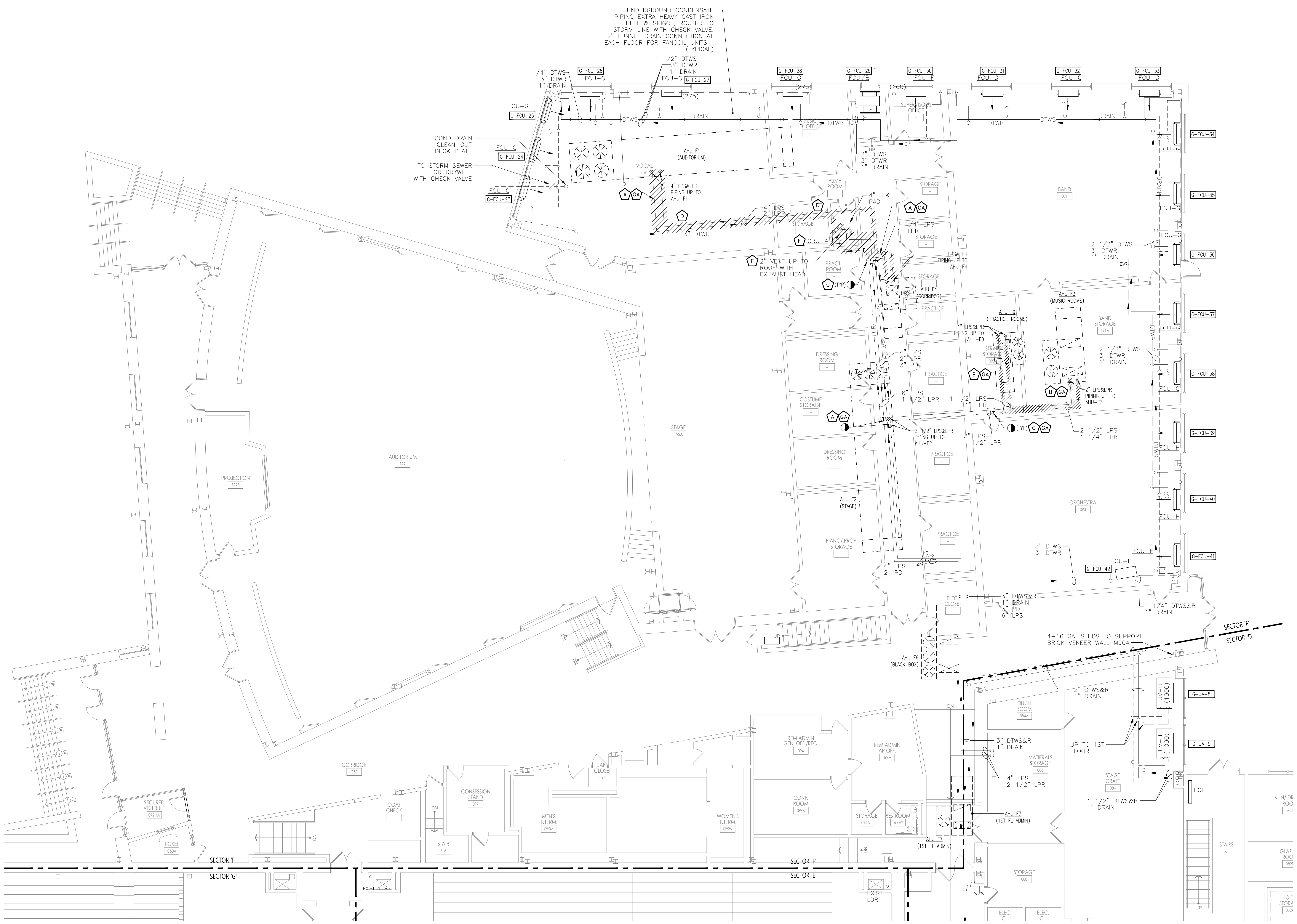
Project Name	HVAC Renovations at Princeton High School
Project Owner Name	Princeton Public Schools
Project Location	151 Moore Street, Princeton, NJ 08540
Project Number	5516E
Project Date	01.29. 2026
Checked By	JTM
Drawn By	JD
Scale	AS NOTED
Drawing Name	MECHANICAL - GROUND FLOOR SECTOR E & G PIPING DEMOLITION PLAN

Revisions

No.	Date	Description

Drawing Number

MD-305



MECHANICAL - SECTOR 'F' GROUND FLOOR PIPING DEMOLITON PLAN

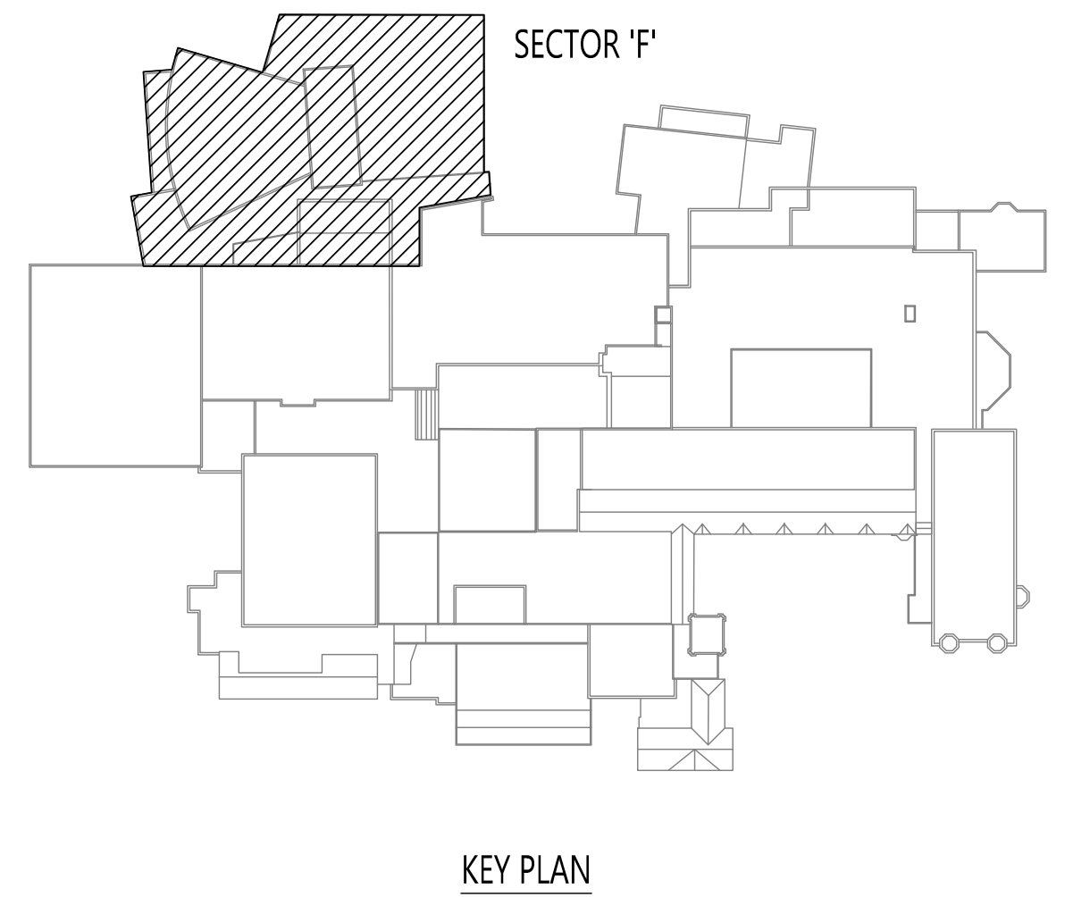
1
SCALE: 1/8"=1'-0"

MECHANICAL DEMOLITION NOTES

- A REMOVE EXISTING STEAM PIPING UP TO UNIT INCLUDING CONTROL VALVES, STRAINERS, TRAPS, ETC. CAP PIPING AS SHOWN. RE-INSULATE PIPING. INSTALL SELF-ADHESIVE PIPING LABELS (YELLOW BACKGROUND WITH BLACK LETTERING) UPSTREAM OF THE PIPE CAPS THAT READ, "ABANDONED PIPE". OPENING IN ROOF SHALL BE REPAIRED. SEE ARCHITECTURAL DRAWINGS.
- B REMOVE EXISTING STEAM PIPING UP TO UNIT INCLUDING CONTROL VALVES, STRAINERS, TRAPS, ETC.
- C CAP PIPING AS SHOWN AND RE-INSULATE. INSTALL SELF-ADHESIVE PIPING LABELS (YELLOW BACKGROUND WITH BLACK LETTERING) UPSTREAM OF PIPE CAPS THAT READ, "ABANDONED PIPE". OPENING IN ROOF SHALL BE REPAIRED. SEE ARCHITECTURAL DRAWINGS.
- D REMOVE EXISTING STEAM & CONDENSATE PIPING.
- E EXISTING VENT LINE SHALL BE REMOVED UP THRU ROOF. OPENING IN ROOF SHALL BE REPAIRED. SEE ARCHITECTURAL DRAWINGS.
- F REMOVE EXISTING CONDENSATE RECEIVER, ASSOCIATED PIPING, CONTROLS, ETC., IN ITS ENTIRETY. ALL ASSOCIATED CONTROLS, ALARMING, PROGRAMMING & GRAPHICS CONNECTED TO THE BAS SHALL BE REMOVED.

GENERAL CONSTRUCTION DEMOLITION NOTES

- GA WHERE EXISTING EQUIPMENT & PIPING IS NOTED TO BE REMOVED, THE BRACKETS, HANGERS, SUPPORTS, ETC., SHALL BE REMOVED IN THEIR ENTIRETY. THE WALL, FLOOR, CEILING, ETC., SHALL BE REPAIRED & OPENINGS SHALL BE IN-FILLED TO MATCH MATCH EXISTING CONSTRUCTION. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.



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Project Name
HVAC Renovations at Princeton High School

Project Owner Name
Princeton Public Schools

Project Location
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08540

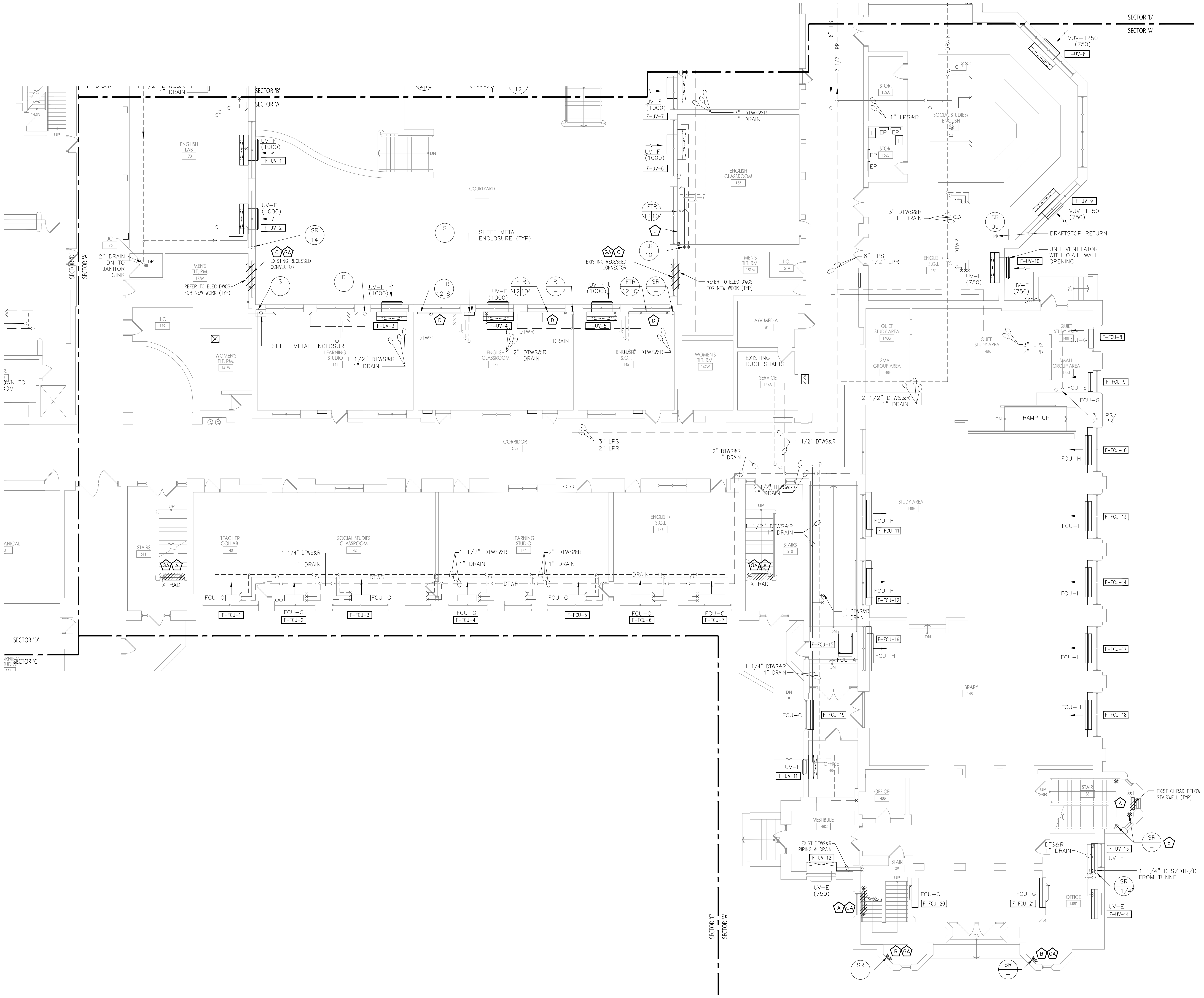
Project Number
5516E
Project Date
01.29. 2026
Checked By
JTM
Drawn By
JD
Scale
AS NOTED

Drawing Name
MECHANICAL - GROUND FLOOR SECTOR F PIPING DEMOLITION PLAN

Revisions

No.	Date	Description

Drawing Number
MD-306



1 MECHANICAL - SECTOR 'A' 1ST FLOOR PIPING DEMOLITON PLAN

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

MECHANICAL DEMOLITION NOTES

(A) REMOVE EXISTING CAST IRON RADIATOR, CONTROL VALVE, STRAINER, CONDENSATE TRAP, ISOLATION VALVES, ETC., IN THEIR ENTIRETY. EXISTING STEAM & CONDENSATE PIPING & INSULATION SHALL REMOVED DOWN THRU FLOOR. OPENINGS IN FLOOR SHALL BE REPAIRED TO MATCH EXISTING CONDITIONS. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.

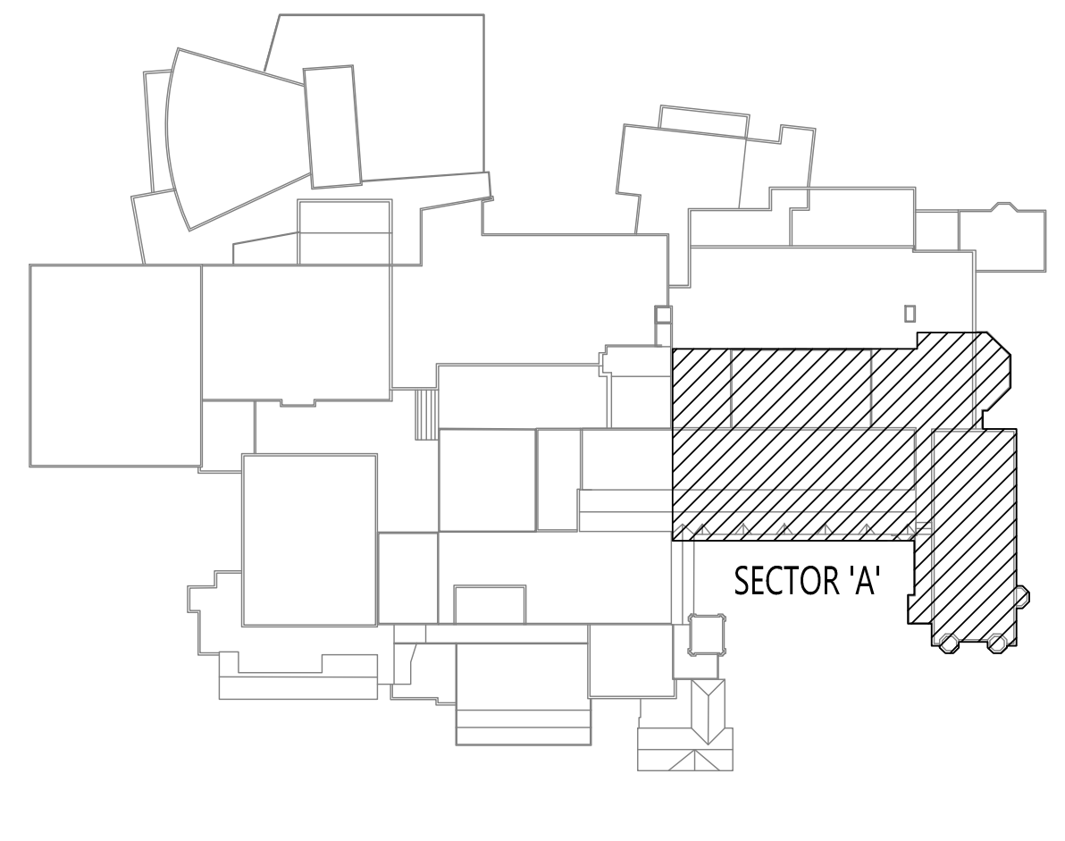
(B) REMOVE EXISTING STEAM & CONDENSATE PIPING RISERS DOWN INTO PIPE TUNNEL. CAP STEAM & CONDENSATE PIPING BELOW FLOOR.. SEE ARCHITECTURAL DRAWINGS FOR REPAIR OF WALLS, CEILING & FLOOR PENETRATIONS.

(C) REMOVE EXISTING WALL CABINET STEAM HEATER, CONTROL VALVE, CONTROL WIRING, STRAINER, CONDENSATE TRAP, ISOLATION VALVES, ETC., IN THEIR ENTIRETY. REMOVE STEAM & CONDENSATE PIPING TO WHERE IT PENETRATES THE WALL/FLOOR & CAP. RE-INSULATE PIPING.

(D) THE CONTROL WIRING TO THE RADIATION STEAM CONTROL VALVE SHALL BE REMOVED FROM THE UNIT VENTILATOR'S MAIN CONTROL BOARD & SAFED OFF AT THE CONTROL BOARD. THE BAS PROGRAMMING & GRAPHICS SHALL BE MODIFIED TO NO LONGER HAVE THE PERIMETER RADIATION INCLUDED IN THE UNIT'S SEQUENCE OF OPERATION. NOTE-THIS WORK CAN BE COMPLETED PRIOR TO THE BOILERS BEING REMOVED AND REPLACED.

GENERAL CONSTRUCTION DEMOLITION NOTES

(GA) WHERE EXISTING EQUIPMENT & PIPING IS NOTED TO BE REMOVED, THE BRACKETS, HANGERS, SUPPORTS, ETC., SHALL BE REMOVED IN THEIR ENTIRETY. THE WALL, FLOOR, CEILING, ETC., SHALL BE REPAIRED & OPENINGS SHALL BE IN-FILLED TO MATCH MATCH EXISTING CONSTRUCTION. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.



KEY PLAN

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William D. Hopkins 01/29/26
Architect Date

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Project Name
HVAC Renovations at Princeton High School

Project Owner Name
Princeton Public Schools

Project Location
151 Moore Street,
Princeton, NJ
08540

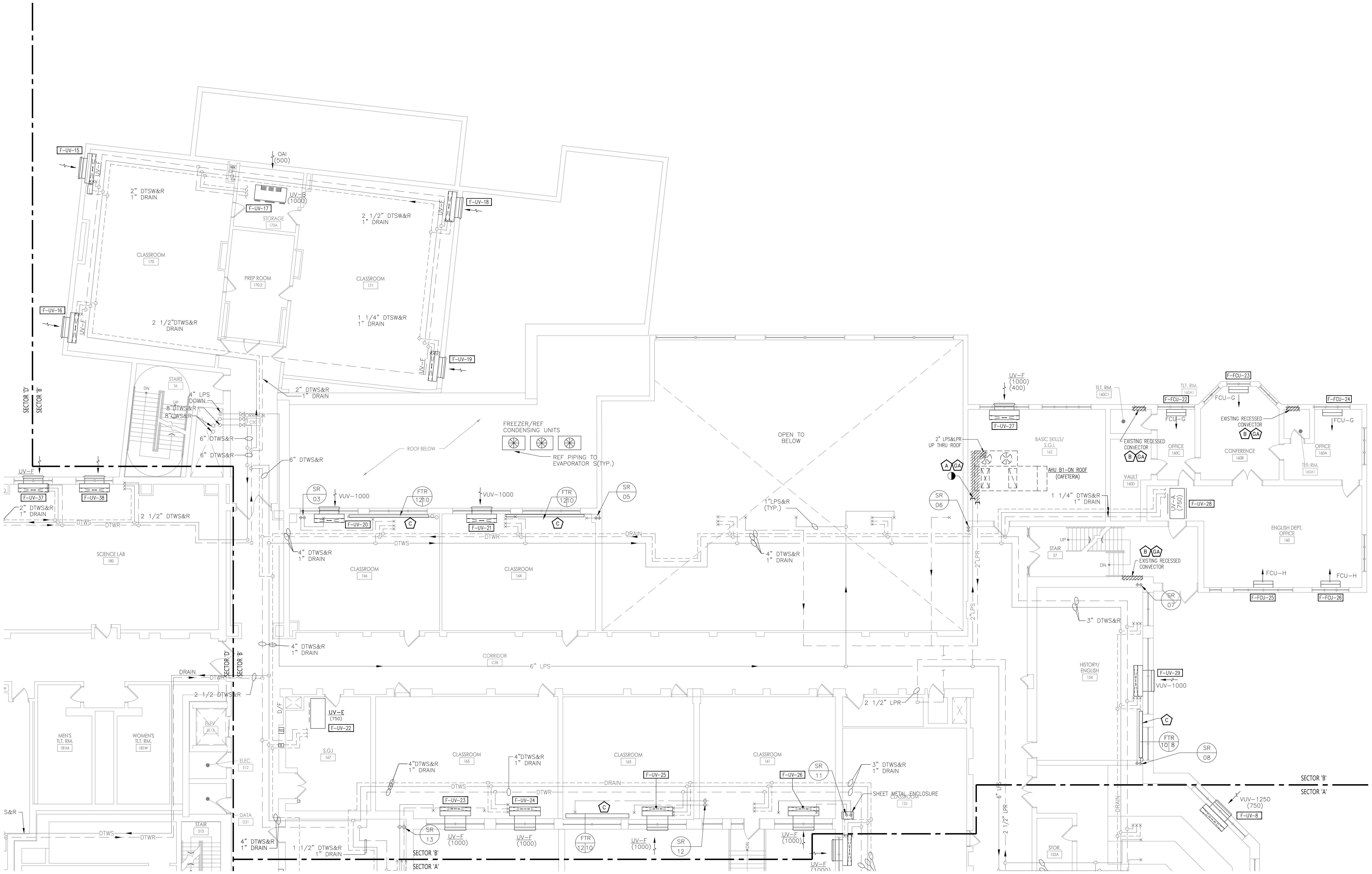
Project Number
5516E
Project Date
01.29. 2026
Checked By
JTM
Drawn By
JD
Scale
AS NOTED

Drawing Name
MECHANICAL - 1ST FLOOR SECTOR A PIPING DEMOLITION PLAN

Revisions

No.	Date	Description

Drawing Number
MD-311



1 MECHANICAL - SECTOR 'B' 1ST FLOOR PIPING DEMOLITON PLAN

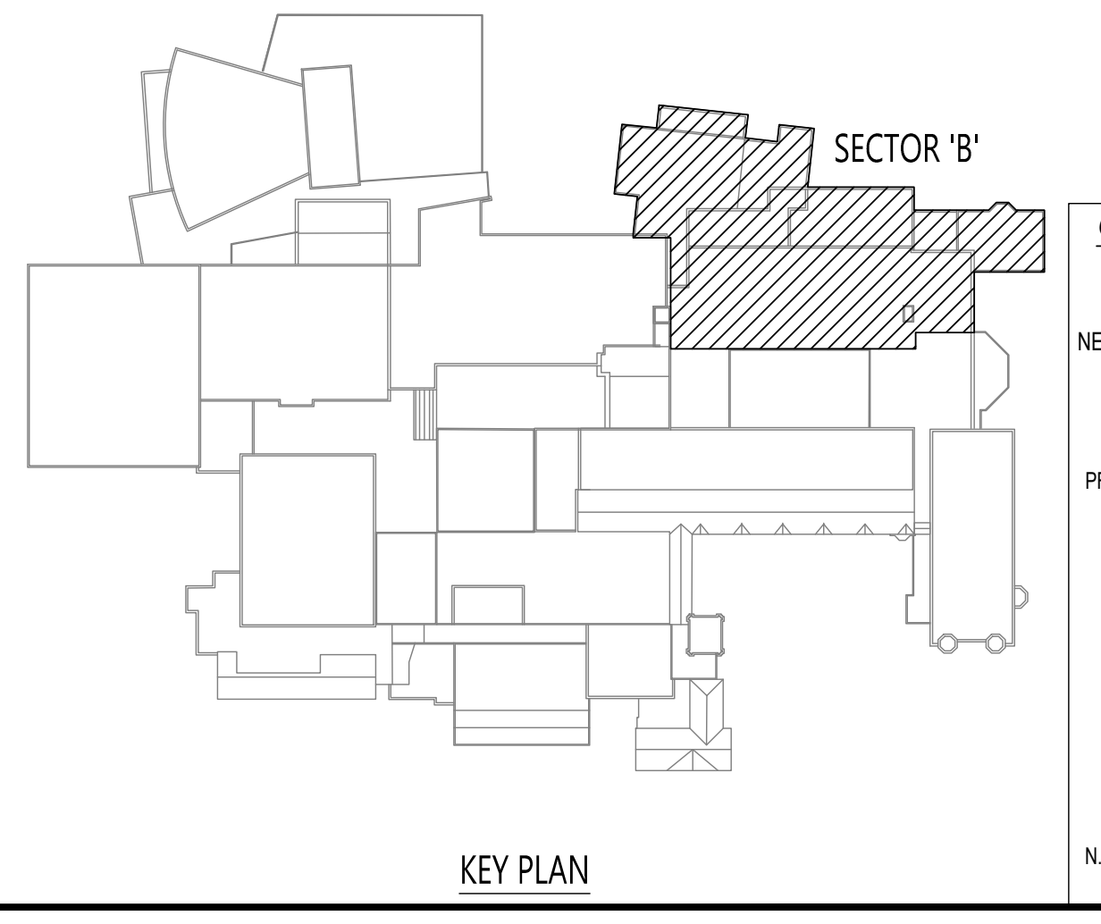
SCALE: 1/8"=1'-0"

MECHANICAL DEMOLITION NOTES

- A REMOVE EXISTING STEAM PIPING UP TO UNIT INCLUDING CONTROL VALVES, STRAINERS, TRAPS, ETC. CLOSE THE MAIN ISOLATION VALVES/AND OR CAP PIPING. RE-INSULATE PIPING. INSTALL SELF-ADHESIVE PIPING LABELS (YELLOW BACKGROUND WITH BLACK LETTERING) UPSTREAM OF THE MAIN VALVES/CAPS THAT READ, "ABANDONED PIPE". OPENING IN ROOF SHALL BE REPAIRED. SEE ARCHITECTURAL DRAWINGS.
- B REMOVE EXISTING STEAM CONVECTOR, CONTROL VALVE, CONTROL WIRING, STRAINER, CONDENSATE TRAP, ISOLATION VALVES, ETC., IN THEIR ENTIRETY. REMOVE STEAM & CONDENSATE PIPING TO WHERE IT PENETRATES THE WALL/FLOOR & CAP. RE-INSULATE PIPING.
- C THE CONTROL WIRING TO THE RADIATION STEAM CONTROL VALVE SHALL BE REMOVED FROM THE UNIT VENTILATOR'S MAIN CONTROL BOARD & SAFED OFF AT THE CONTROL BOARD. THE BAS PROGRAMMING & GRAPHICS SHALL BE MODIFIED TO NO LONGER HAVE THE PERIMETER RADIATION INCLUDED IN THE UNIT'S SEQUENCE OF OPERATION. NOTE-THIS WORK CAN BE COMPLETED PRIOR TO THE BOILERS BEING REMOVED AND REPLACED.

GENERAL CONSTRUCTION DEMOLITION NOTES

- GA WHERE EXISTING EQUIPMENT & PIPING IS NOTED TO BE REMOVED, THE BRACKETS, HANGERS, SUPPORTS, ETC., SHALL BE REMOVED IN THEIR ENTIRETY. THE WALL, FLOOR, CEILING, ETC., SHALL BE REPAIRED & OPENINGS SHALL BE IN-FILLED TO MATCH MATCH EXISTING CONSTRUCTION. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.



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Architect

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Project Name
HVAC Renovations at Princeton High School

Project Owner Name
Princeton Public Schools

Project Location
151 Moore Street,
Princeton, NJ
08540

Project Number
5516E

Project Date
01.29. 2026

Checked By
JTM

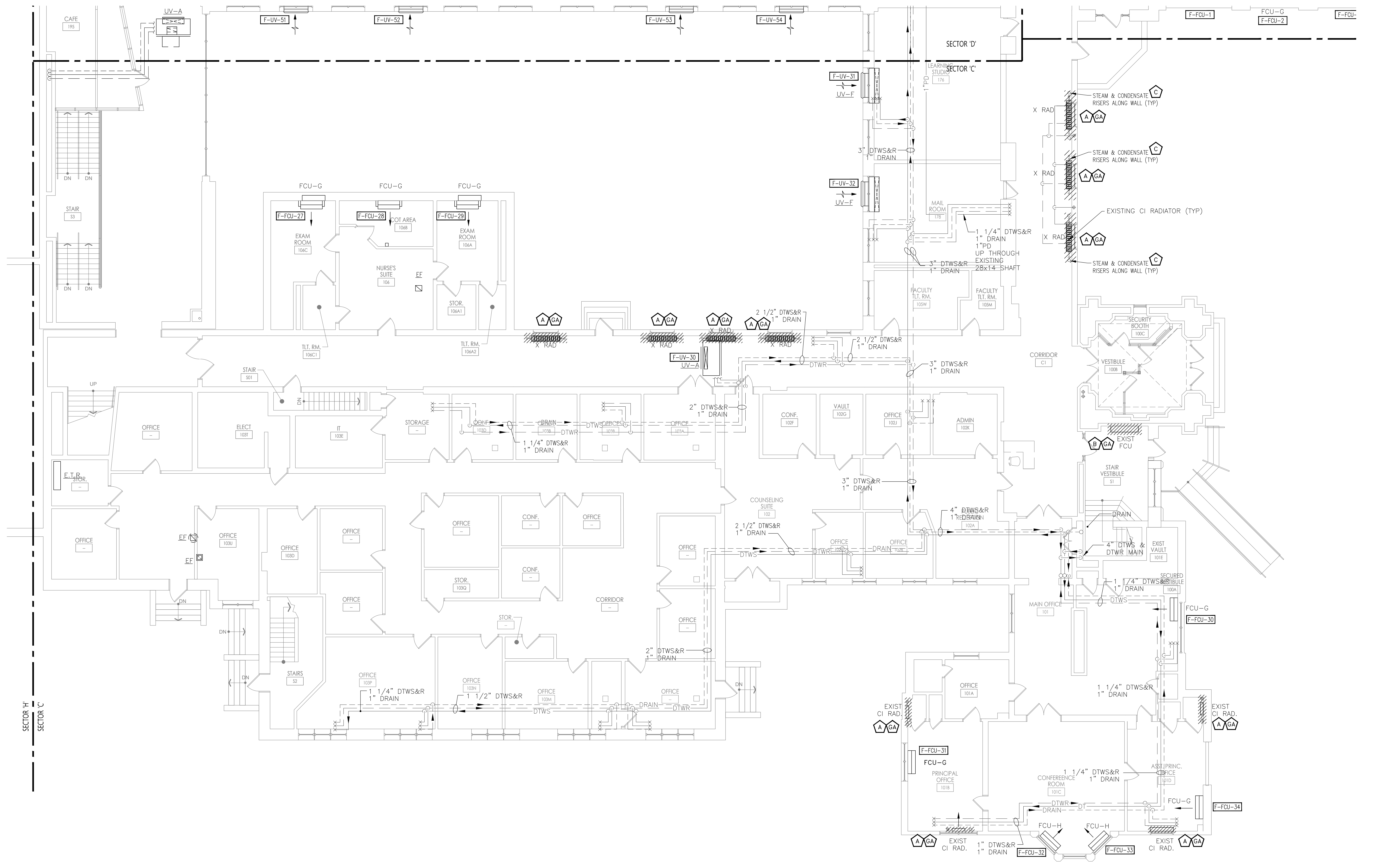
Drawn By
JD

Scale
AS NOTED

Drawing Name
MECHANICAL - 1ST FLOOR SECTOR B PIPING DEMOLITION PLAN

Revisions		
No.	Date	Description

Drawing Number
MD-312



1 MECHANICAL - SECTOR 'C' 1ST FLOOR PIPING DEMOLITON PLAN

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

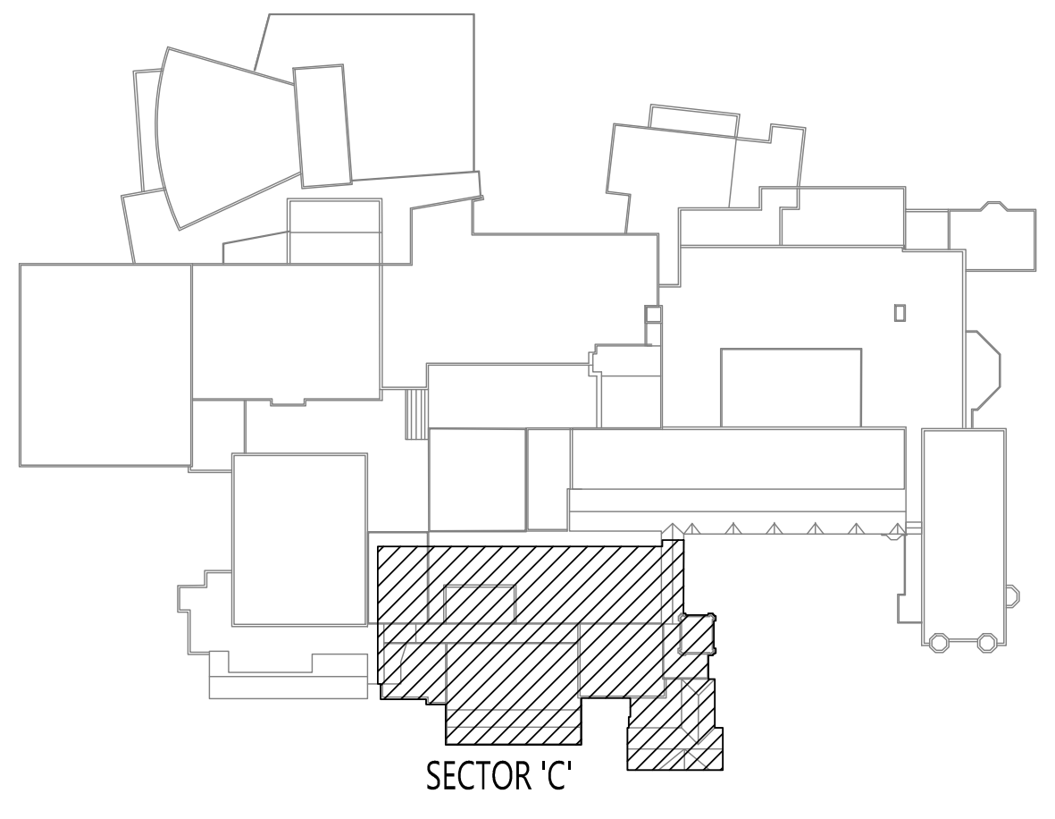
N

MECHANICAL DEMOLITION NOTES

- A — REMOVE EXISTING CAST IRON RADIATOR, CONTROL VALVE, STRAINER, CONDENSATE TRAP, ISOLATION VALVES, ETC., IN THEIR ENTIRETY. EXISTING STEAM & CONDENSATE PIPING & INSULATION SHALL REMOVED DOWN THRU FLOOR. CAP STEAM & CONDENSATE PIPING. OPENINGS IN FLOOR SHALL BE REPAIRED TO MATCH EXISTING CONDITIONS. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.
- B — REMOVE EXISTING FAN COIL UNIT, CONTROL VALVE, THERMOSTAT AND CONTROL WIRING, STRAINER, CONDENSATE TRAP, ISOLATION VALVES, ETC., IN THEIR ENTIRETY. EXISTING STEAM & CONDENSATE PIPING & INSULATION SHALL REMOVED DOWN THRU FLOOR. OPENINGS IN FLOOR SHALL BE REPAIRED TO MATCH EXISTING CONDITIONS. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.
- C — REMOVE EXISTING STEAM & CONDENSATE PIPING ALONG WALL & UP TO CI RADIATORS ON FLOOR ABOVE. CAP STEAM & CONDENSATE PIPING BELOW FLOOR.

GENERAL CONSTRUCTION DEMOLITION NOTES

- GA — WHERE EXISTING EQUIPMENT & PIPING IS NOTED TO BE REMOVED, THE BRACKETS, HANGERS, SUPPORTS, ETC., SHALL BE REMOVED IN THEIR ENTIRETY. THE WALL, FLOOR, CEILING, ETC., SHALL BE REPAIRED & OPENINGS SHALL BE IN-FILLED TO MATCH MATCH EXISTING CONSTRUCTION. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.



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William D. Hopkins
Architect

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Project Number
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Project Date
01.29. 2026

Checked By
JTM

Drawn By
JD

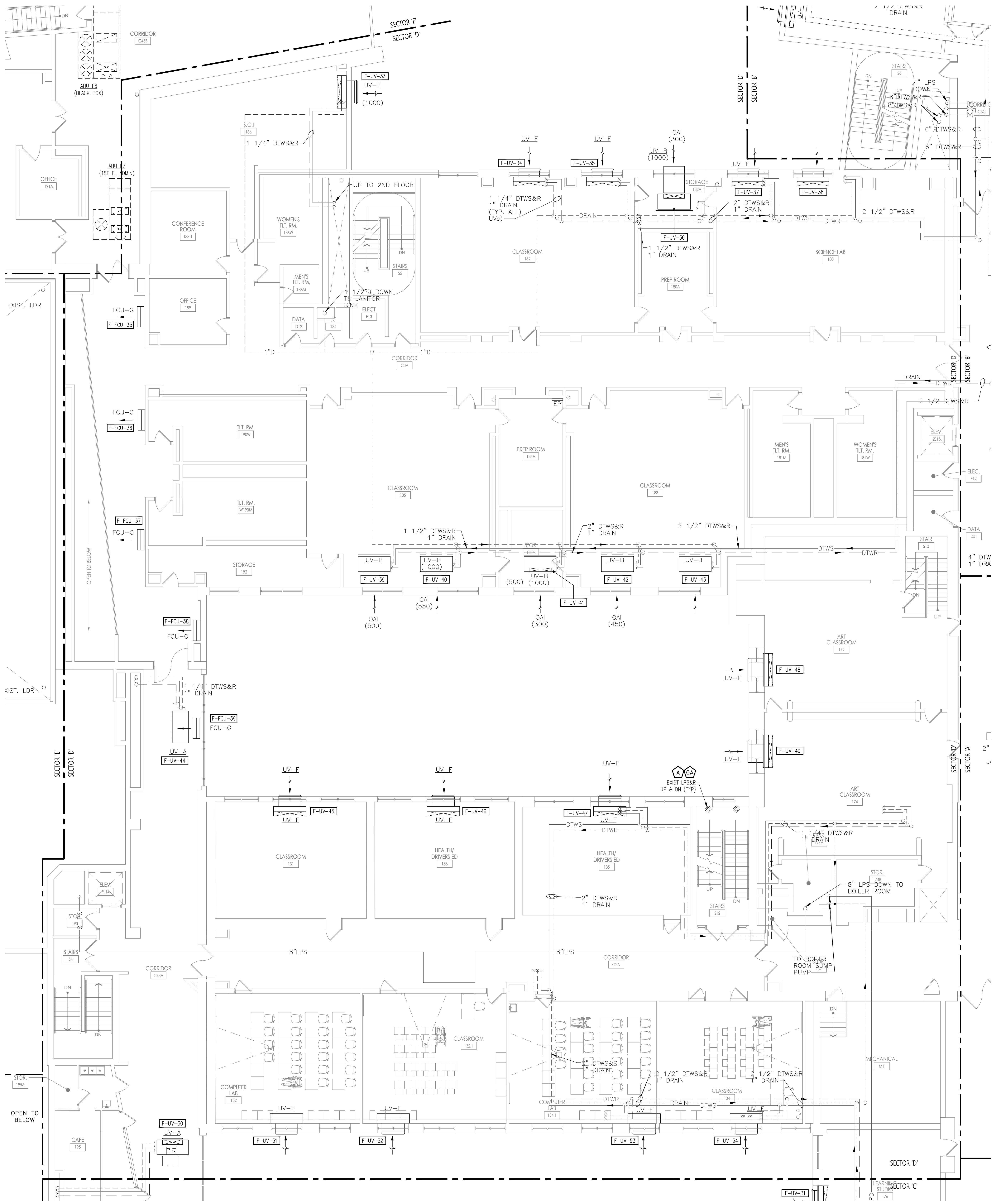
Scale
AS NOTED

Drawing Name
MECHANICAL - 1ST FLOOR SECTOR C PIPING DEMOLITION PLAN

Revisions

No.	Date	Description

Drawing Number
MD-313



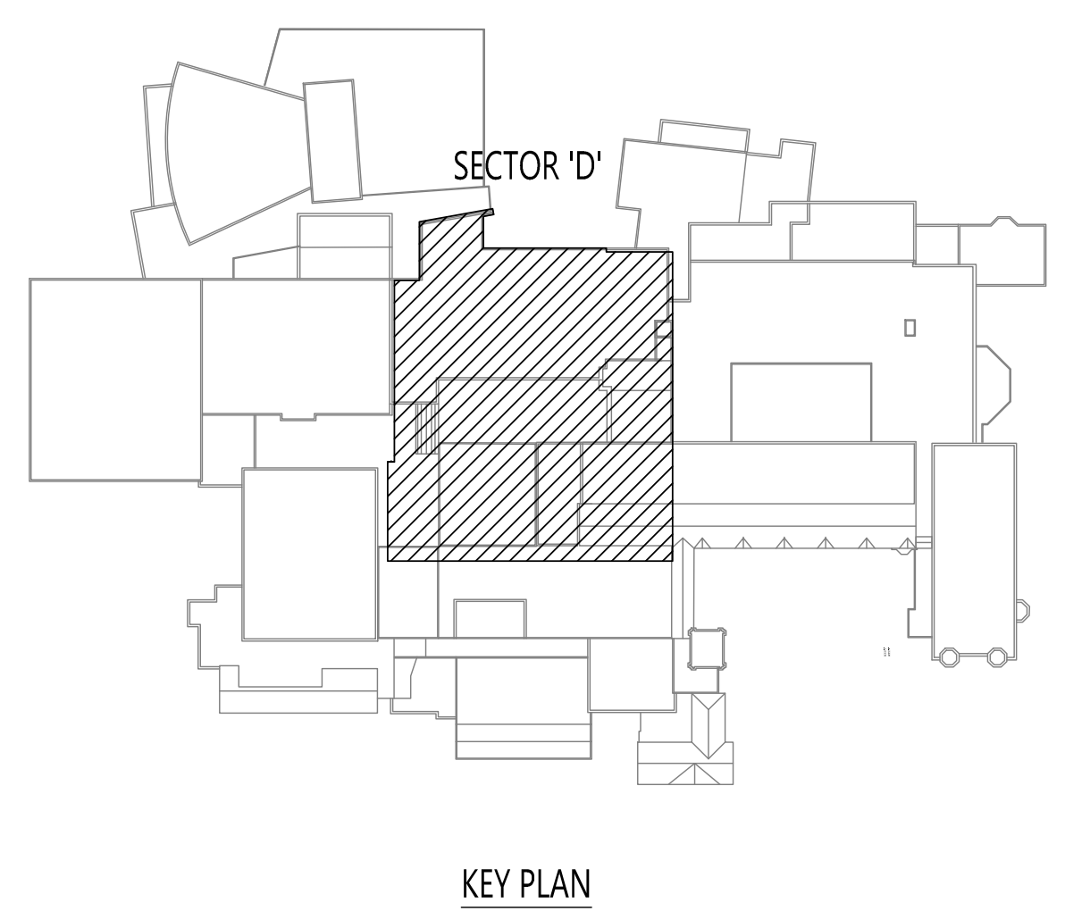
1 MECHANICAL - SECTOR 'D' 1ST FLOOR PIPING DEMOLITON PLAN
SCALE: 1/8"=1'-0"

MECHANICAL DEMOLITION NOTES

A REMOVE EXISTING STEAM & CONDENSATE PIPING ALONG WALL & UP TO CI RADIATORS ON FLOOR ABOVE. CAP STEAM & CONDENSATE PIPING BELOW FLOOR.

GENERAL CONSTRUCTION DEMOLITION NOTES

GA WHERE EXISTING EQUIPMENT & PIPING IS NOTED TO BE REMOVED, THE BRACKETS, HANGERS, SUPPORTS, ETC., SHALL BE REMOVED IN THEIR ENTIRETY. THE WALL, FLOOR, CEILING, ETC., SHALL BE REPAIRED & OPENINGS SHALL BE IN-FILLED TO MATCH MATCH EXISTING CONSTRUCTION. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.



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Project Name
HVAC Renovations at Princeton High School

Project Owner Name
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Project Location
151 Moore Street,
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08540

Project Number
5516E

Project Date
01.29. 2026

Checked By
JTM

Drawn By
JD

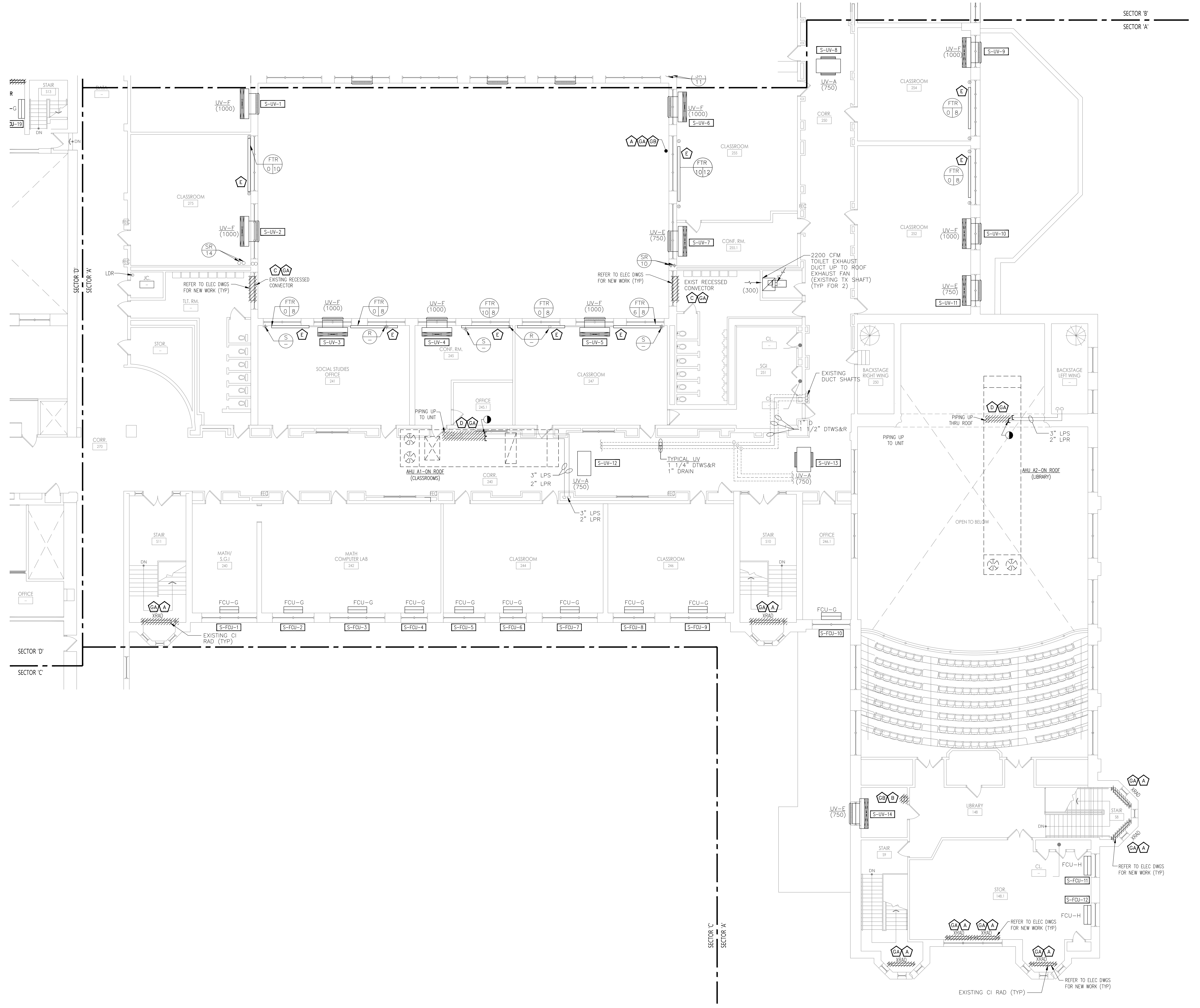
Scale
AS NOTED

Drawing Name
MECHANICAL - 1ST FLOOR SECTOR D PIPING DEMOLITION PLAN

Revisions

No.	Date	Description

Drawing Number
MD-314



1 MECHANICAL - SECTOR 'A' 2ND FLOOR PIPING DEMOLITON PLAN

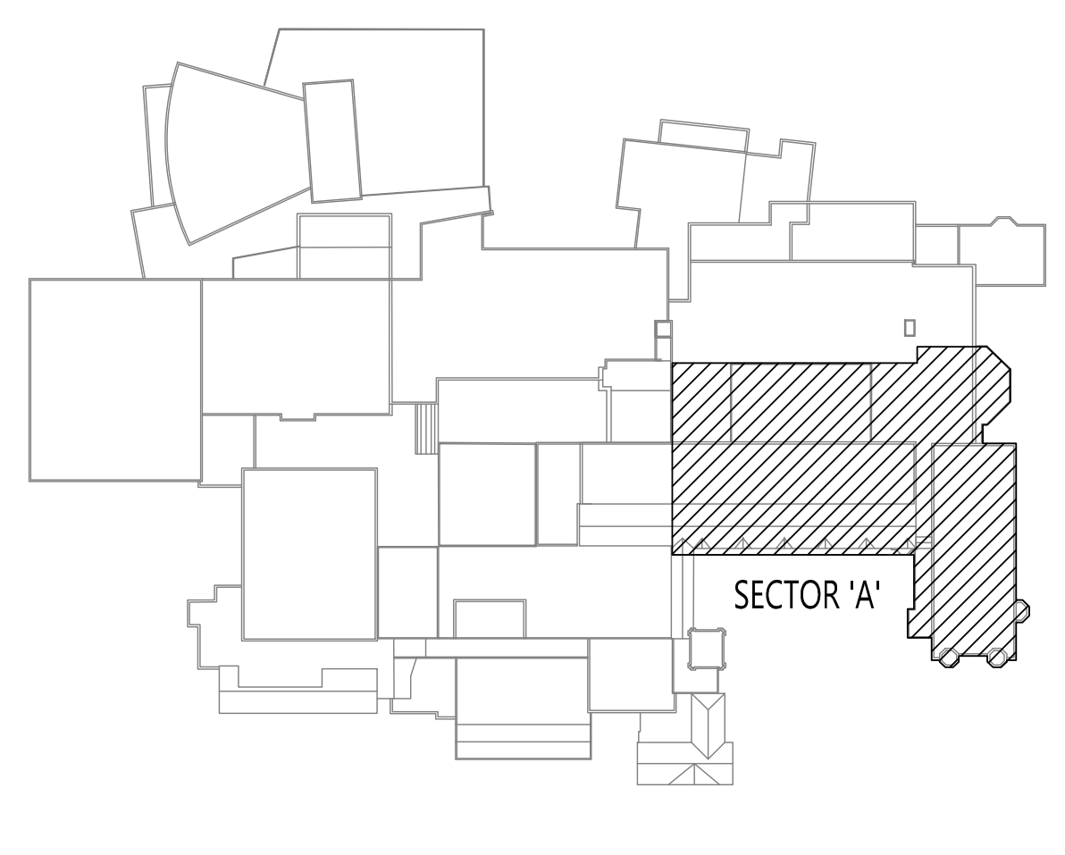
SCALE: 1/8"=1'-0"

MECHANICAL DEMOLITION NOTES

- A REMOVE EXISTING CAST IRON RADIATOR, CONTROL VALVE, STRAINER, CONDENSATE TRAP, ISOLATION VALVES, ETC., IN THEIR ENTIRETY. EXISTING STEAM & CONDENSATE PIPING & INSULATION SHALL REMOVED DOWN THRU FLOOR. OPENINGS IN FLOOR SHALL BE REPAIRED TO MATCH EXISTING CONDITIONS. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.
- B REMOVE EXISTING PNEUMATIC THERMOSTAT. REMOVE TUBING TO MAIN PIPE ABOVE CEILING & CAP LINES AIR-TIGHT. REPAIR WALL.
- C REMOVE EXISTING WALL CABINET STEAM HEATER, CONTROL VALVE, CONTROL WIRING, STRAINER, CONDENSATE TRAP, ISOLATION VALVES, ETC., IN THEIR ENTIRETY. REMOVE STEAM & CONDENSATE PIPING TO WHERE IT PENETRATES THE WALL/FLOOR & CAP. RE-INSULATE PIPING.
- D REMOVE EXISTING STEAM PIPING UP TO UNIT INCLUDING CONTROL VALVES, STRAINERS, TRAPS, ETC. CLOSE THE MAIN ISOLATION VALVES/AND OR CAP PIPING. RE-INSULATE PIPING. INSTALL SELF-ADHESIVE PIPING LABELS (YELLOW BACKGROUND WITH BLACK LETTERING) UPSTREAM OF THE MAIN VALVES/CAPS THAT READ, "ABANDONED PIPE". OPENING IN ROOF SHALL BE REPAIRED. SEE ARCHITECTURAL DRAWINGS.
- E THE CONTROL WIRING TO THE RADIATION STEAM CONTROL VALVE SHALL BE REMOVED FROM THE UNIT VENTILATOR'S MAIN CONTROL BOARD & SAFED OFF AT THE CONTROL BOARD. THE BAS PROGRAMMING & GRAPHICS SHALL BE MODIFIED TO NO LONGER HAVE THE PERIMETER RADIATION INCLUDED IN THE UNIT'S SEQUENCE OF OPERATION. NOTE-THIS WORK CAN BE COMPLETED PRIOR TO THE BOILERS BEING REMOVED AND REPLACED.

GENERAL CONSTRUCTION DEMOLITION NOTES

- GA WHERE EXISTING EQUIPMENT & PIPING IS NOTED TO BE REMOVED, THE BRACKETS, HANGERS, SUPPORTS, ETC., SHALL BE REMOVED IN THEIR ENTIRETY. THE WALL, FLOOR, CEILING, ETC., SHALL BE REPAIRED & OPENINGS SHALL BE IN-FILLED TO MATCH MATCH EXISTING CONSTRUCTION. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.
- GB REPAIR WALL WHERE THERMOSTAT WAS REMOVED. SEE ARCHITECTURAL DRAWINGS.



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William D. Hopkins 01/29/26
Architect Date

Project Name
HVAC Renovations at Princeton High School

Project Owner Name
Princeton Public Schools

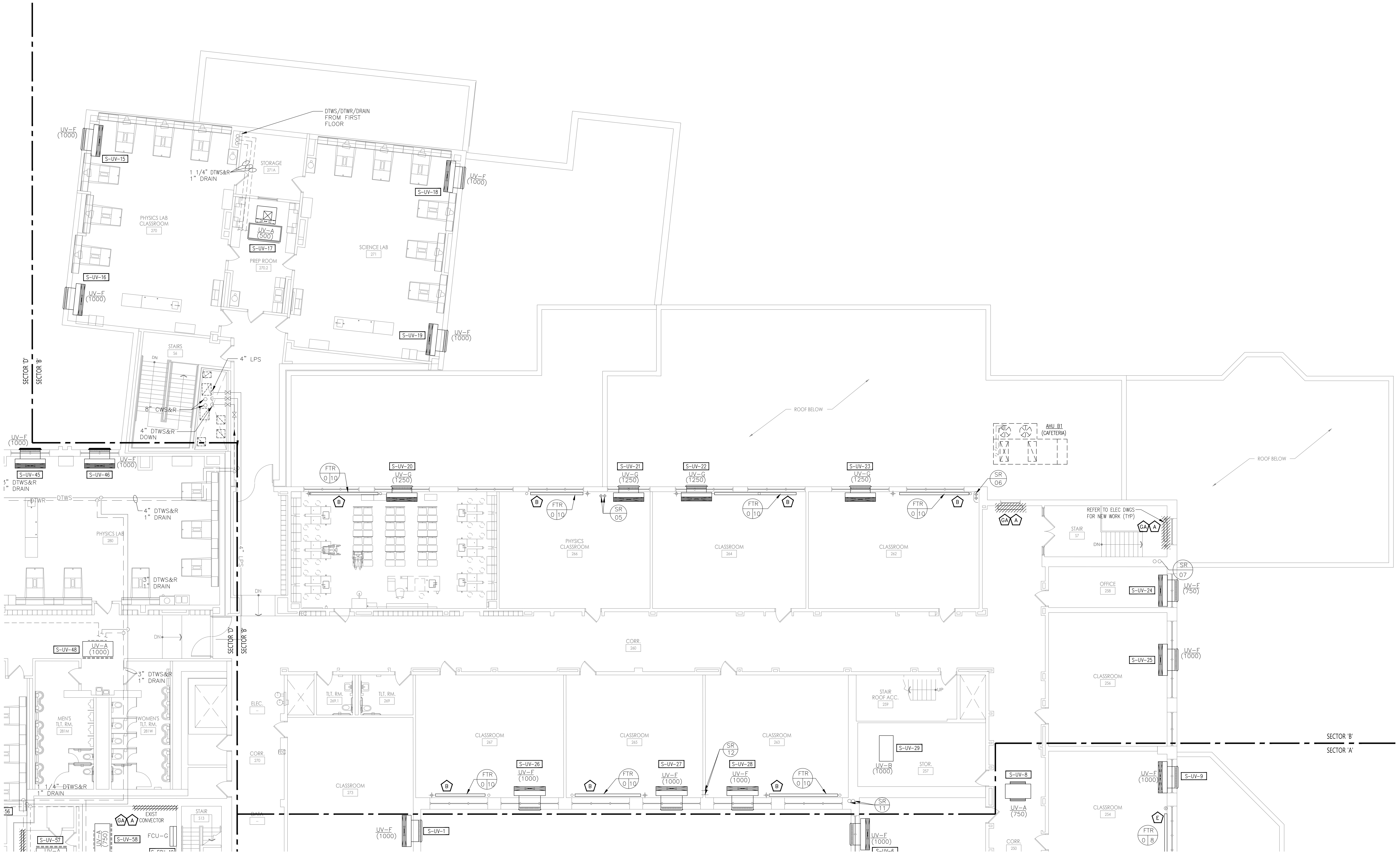
Project Location
151 Moore Street,
Princeton, NJ
08540

Project Number
5516E
Project Date
01.29. 2026
Checked By
JTM
Drawn By
JD
Scale
AS NOTED

Drawing Name
MECHANICAL - 2ND FLOOR SECTOR A PIPING DEMOLITION PLAN

Revisions		
No.	Date	Description

Drawing Number
MD-321



1 MECHANICAL - SECTOR 'B' 2ND FLOOR PIPING DEMOLITON PLAN
SCALE: 1/8"=1'-0"

MECHANICAL DEMOLITION NOTES

A — REMOVE EXISTING CAST IRON RADIATOR, CONTROL VALVE, STRAINER, CONDENSATE TRAP, ISOLATION VALVES, ETC., IN THEIR ENTIRETY. EXISTING STEAM & CONDENSATE PIPING & INSULATION SHALL REMOVED DOWN THRU FLOOR. CAP EXISTING STEAM & CONDENSATE PIPING. OPENINGS IN FLOOR SHALL BE REPAIRED TO MATCH EXISTING CONDITIONS. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.

B — THE CONTROL WIRING TO THE RADIATION STEAM CONTROL VALVE SHALL BE REMOVED FROM THE UNIT VENTILATOR'S MAIN CONTROL BOARD & SAFED OFF AT THE CONTROL BOARD. THE BAS PROGRAMMING & GRAPHICS SHALL BE MODIFIED TO NO LONGER HAVE THE PERIMETER RADIATION INCLUDED IN THE UNIT'S SEQUENCE OF OPERATION. NOTE–THIS WORK CAN BE COMPLETED PRIOR TO THE BOILERS BEING REMOVED AND REPLACED.

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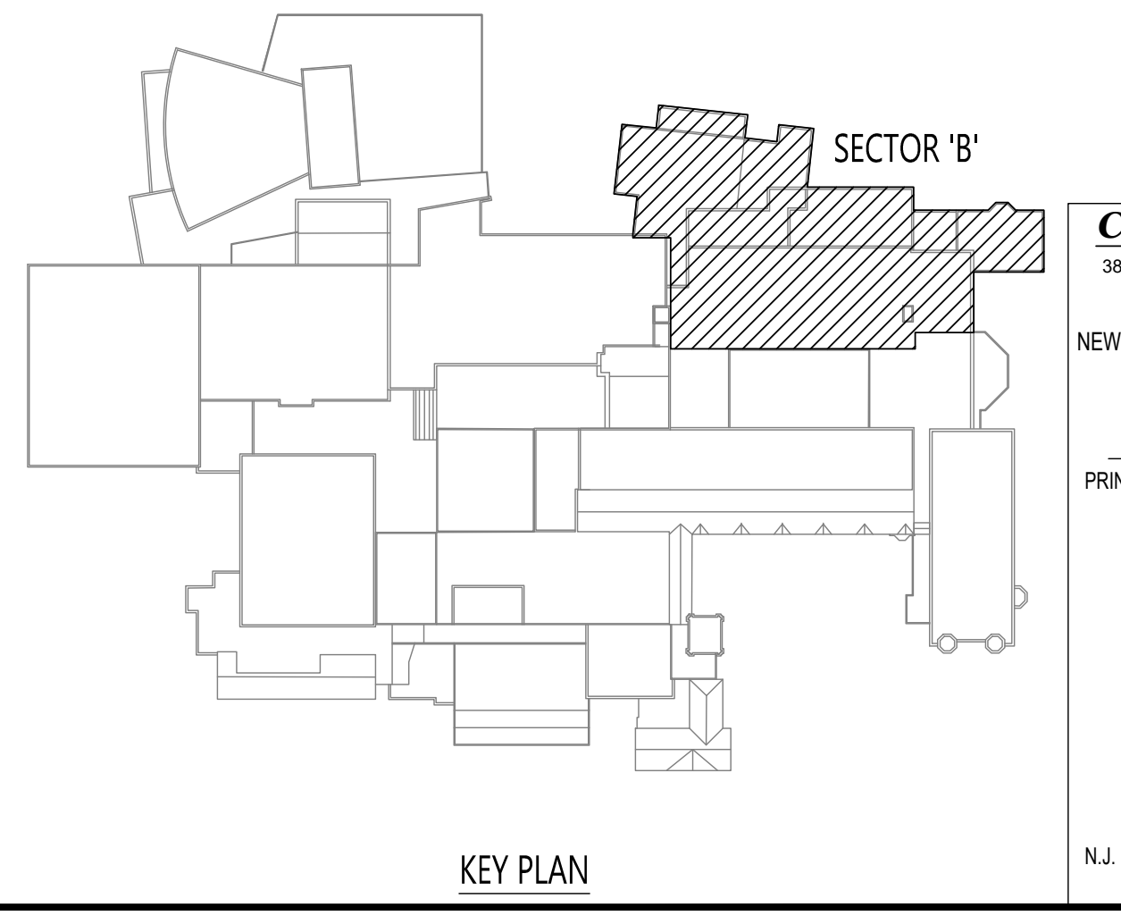
GA — WHERE EXISTING EQUIPMENT & PIPING IS NOTED TO BE REMOVED, THE BRACKETS, HANGERS, SUPPORTS, ETC., SHALL BE REMOVED IN THEIR ENTIRETY. THE WALL, FLOOR, CEILING, ETC., SHALL BE REPAIRED & OPENINGS SHALL BE IN–FILLED TO MATCH MATCH EXISTING CONSTRUCTION. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.



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William D. Hopkins
Architect
01/29/26
Date

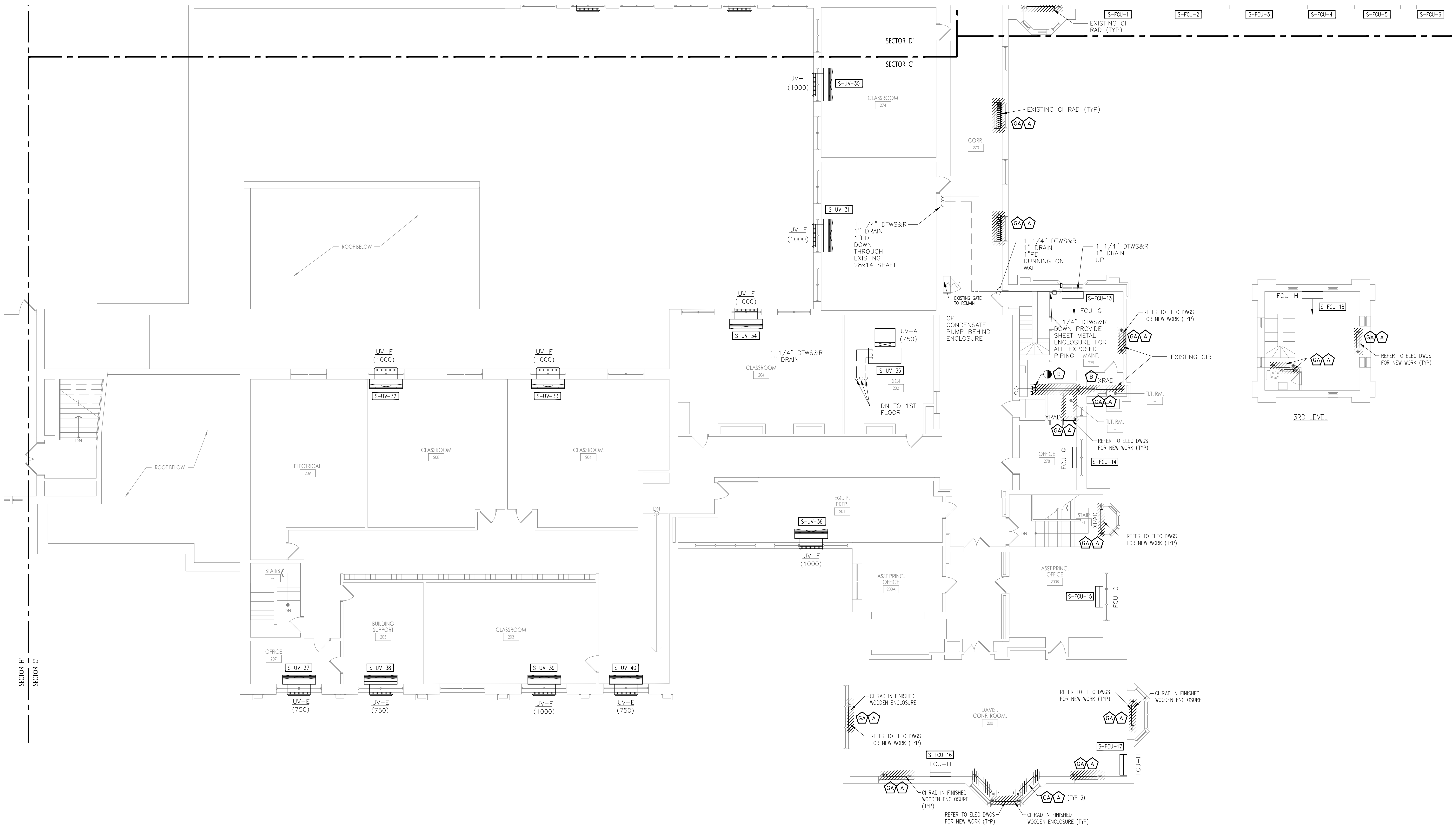
Project Name	HVAC Renovations at Princeton High School
Project Owner Name	Princeton Public Schools
Project Location	151 Moore Street, Princeton, NJ 08540
Project Number	5516E
Project Date	01.29. 2026
Checked By	JTM
Drawn By	JD
Scale	AS NOTED
Drawing Name	MECHANICAL - 2ND FLOOR SECTOR B PIPING DEMOLITION PLAN

Revisions

No.	Date	Description

Drawing Number

MD-322



1 MECHANICAL - SECTOR 'C' 2ND FLOOR PIPING DEMOLITON PLAN
SCALE: 1/8"=1'-0"

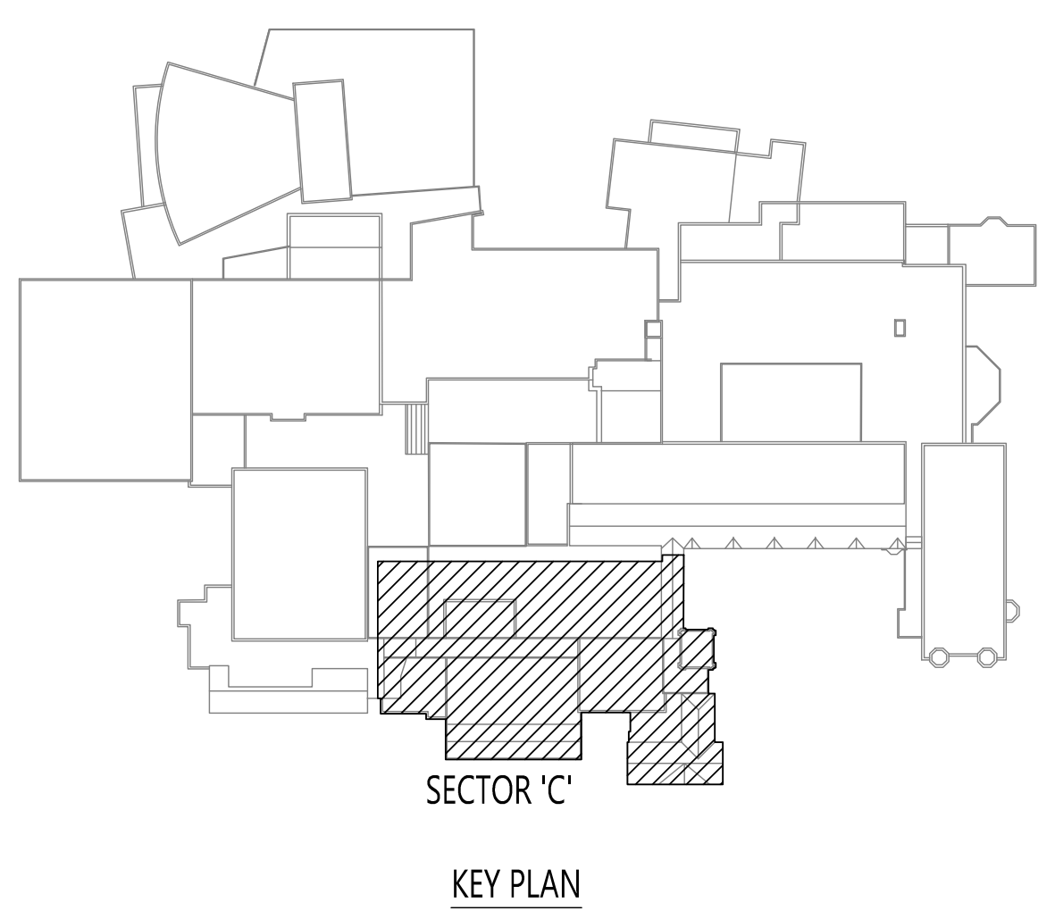
MECHANICAL DEMOLITION NOTES

A REMOVE EXISTING CAST IRON RADIATOR, CONTROL VALVE, STRAINER, CONDENSATE TRAP, ISOLATION VALVES, ETC., IN THEIR ENTIRETY. EXISTING STEAM & CONDENSATE PIPING & INSULATION SHALL REMOVED DOWN THRU FLOOR. CAP EXISTING STEAM & CONDENSATE PIPING. OPENINGS IN FLOOR SHALL BE REPAIRED TO MATCH EXISTING CONDITIONS. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.

B REMOVE ALL EXPOSED EXISTING STEAM & CONDENSATE PIPING & INSULATION BACK TO MAIN AND CAP PIPING. RE-INSULATE PIPING.

GENERAL CONSTRUCTION DEMOLITION NOTES

GA WHERE EXISTING EQUIPMENT & PIPING IS NOTED TO BE REMOVED, THE BRACKETS, HANGERS, SUPPORTS, ETC., SHALL BE REMOVED IN THEIR ENTIRETY. THE WALL, FLOOR, CEILING, ETC., SHALL BE REPAIRED & OPENINGS SHALL BE IN-FILLED TO MATCH MATCH EXISTING CONSTRUCTION. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.


SECTOR 'C'

KEY PLAN

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Checked By
JTM

Drawn By
JD

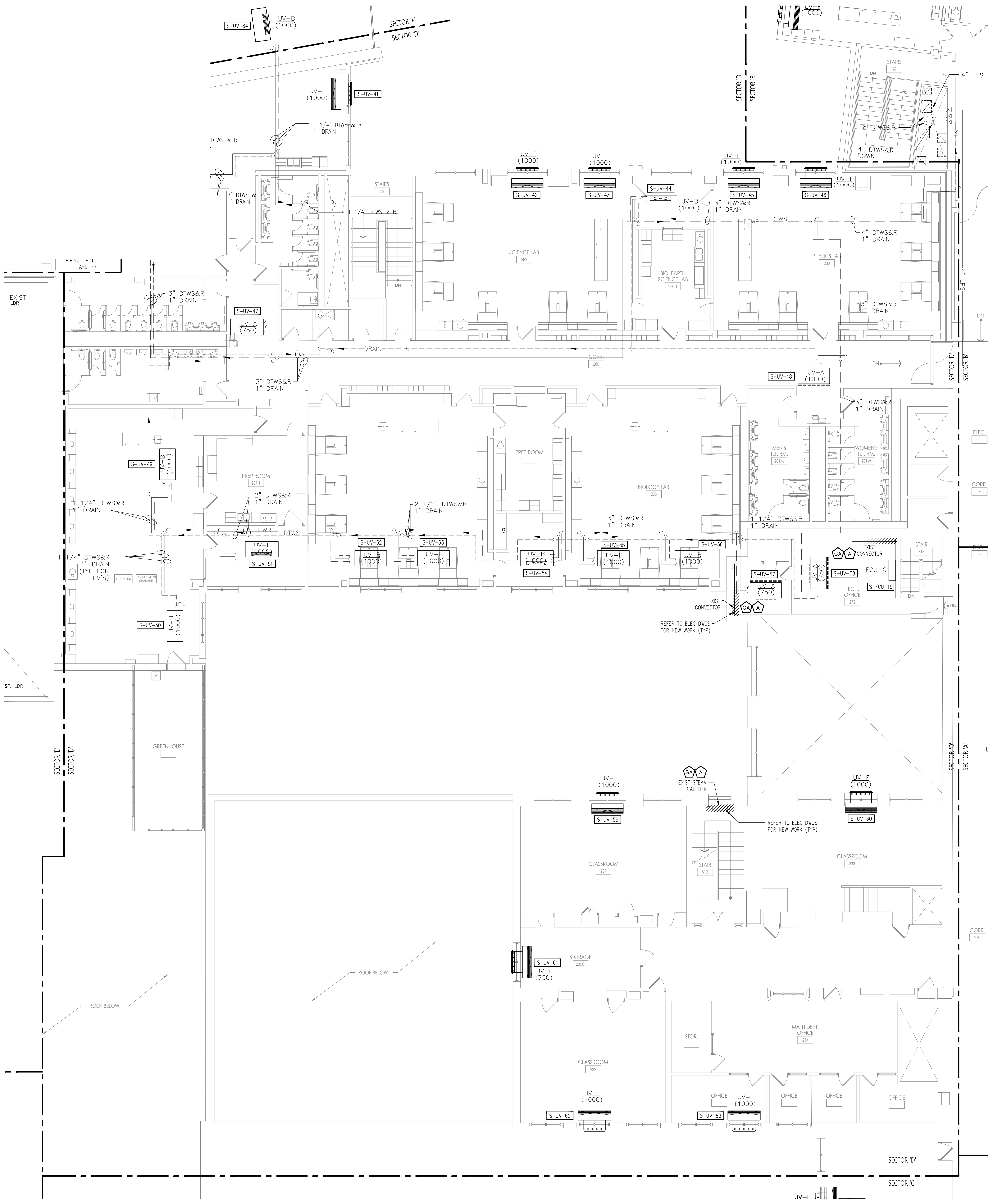
Scale
AS NOTED

Drawing Name
MECHANICAL - 2ND FLOOR SECTOR C PIPING DEMOLITION PLAN

Revisions

No.	Date	Description

Drawing Number
MD-323



1 MECHANICAL - SECTOR 'D' 2ND FLOOR PIPING DEMOLITON PLAN

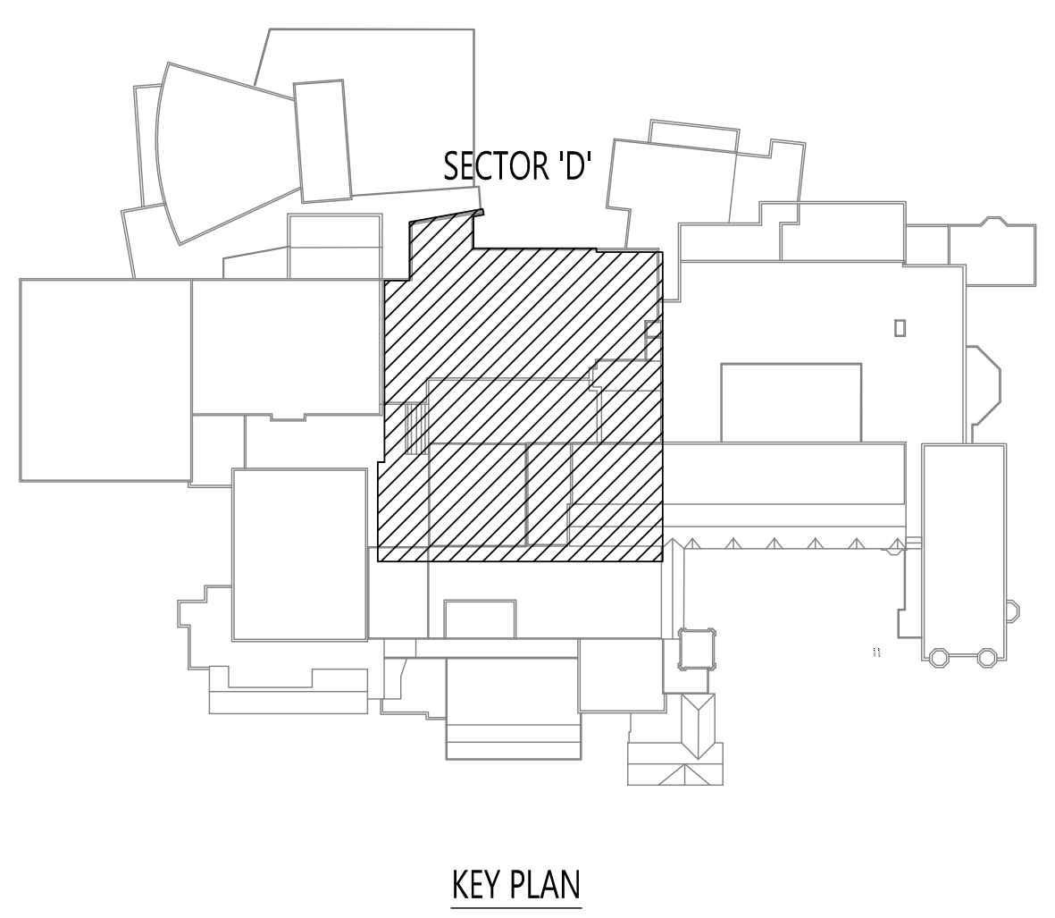
SCALE: 1/8"=1'-0"

MECHANICAL DEMOLITION NOTES

A REMOVE EXISTING STEAM CONVECTOR/CABINET HEATER, ENCLOSURE, CONTROL VALVE, STRAINER, CONDENSATE TRAP, ISOLATION VALVES, ETC., IN THEIR ENTIRETY. EXISTING STEAM & CONDENSATE PIPING & INSULATION SHALL REMOVED DOWN THRU FLOOR. CAP EXISTING STEAM & CONDENSATE PIPING. RE-INSULATE PIPING. OPENINGS IN FLOOR SHALL BE REPAIRED TO MATCH EXISTING CONDITIONS. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.

GENERAL CONSTRUCTION DEMOLITION NOTES

GA WHERE EXISTING EQUIPMENT & PIPING IS NOTED TO BE REMOVED, THE BRACKETS, HANGERS, SUPPORTS, ETC., SHALL BE REMOVED IN THEIR ENTIRETY. THE WALL, FLOOR, CEILING, ETC., SHALL BE REPAIRED & OPENINGS SHALL BE IN-FILLED TO MATCH MATCH EXISTING CONSTRUCTION. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.



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William D. Hopkins 01/29/26
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Date

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F V H D P C . C O M

Project Name
HVAC Renovations at Princeton High School

Project Owner Name
Princeton Public Schools

Project Location
151 Moore Street,
Princeton, NJ
08540

Project Number
5516E

Project Date
01.29. 2026

Checked By
JTM

Drawn By
JD

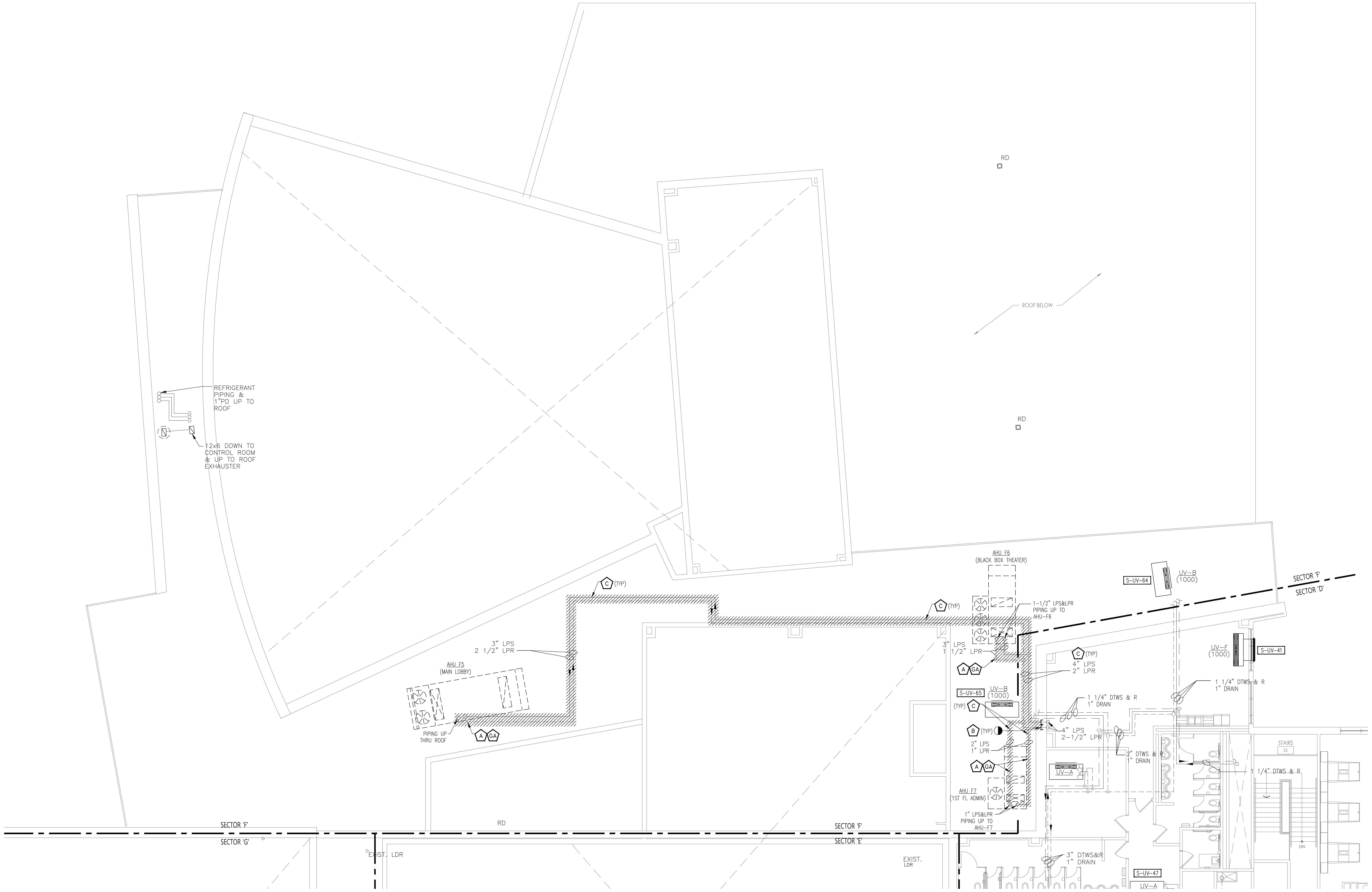
Scale
AS NOTED

Drawing Name
MECHANICAL - 2ND FLOOR SECTOR D PIPING DEMOLITION PLAN

Revisions

No.	Date	Description

Drawing Number
MD-324



① MECHANICAL - SECTOR 'F' 2ND FLOOR PIPING DEMOLITON PLAN

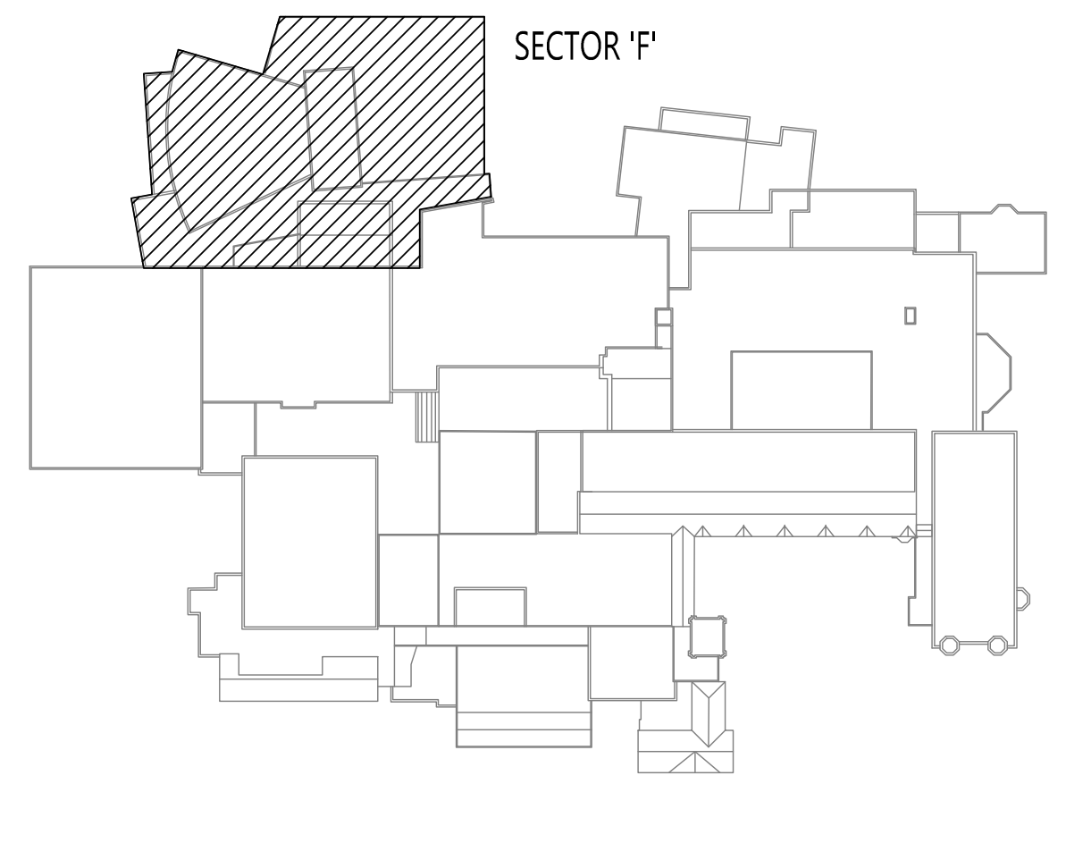
SCALE: 1/8"=1'-0"

MECHANICAL DEMOLITION NOTES

- A REMOVE EXISTING STEAM PIPING UP TO UNIT INCLUDING CONTROL VALVES, STRAINERS, TRAPS, ETC.
- B CAP EXISTING STEAM & CONDENSATE PIPING WHERE SHOWN. RE-INSULATE PIPING. INSTALL SELF-ADHESIVE PIPING LABELS (YELLOW BACKGROUND WITH BLACK LETTERING) UPSTREAM OF THE PIPE CAPS THAT READ, "ABANDONED PIPE". OPENING IN ROOF SHALL BE REPAIRED. SEE ARCHITECTURAL DRAWINGS.
- C REMOVE EXISTING STEAM & CONDENSATE PIPING, VALVES, CONTROL VALVES, STRAINERS, TRAPS, HANGERS, ETC.

GENERAL CONSTRUCTION DEMOLITION NOTES

- GA WHERE EXISTING EQUIPMENT & PIPING IS NOTED TO BE REMOVED, THE BRACKETS, HANGERS, SUPPORTS, ETC., SHALL BE REMOVED IN THEIR ENTIRETY. THE WALL, FLOOR, CEILING, ETC., SHALL BE REPAIRED & OPENINGS SHALL BE IN-FILLED TO MATCH MATCH EXISTING CONSTRUCTION. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.



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Project Name
HVAC Renovations at Princeton High School

Project Owner Name
Princeton Public Schools

Project Location
151 Moore Street,
Princeton, NJ
08540

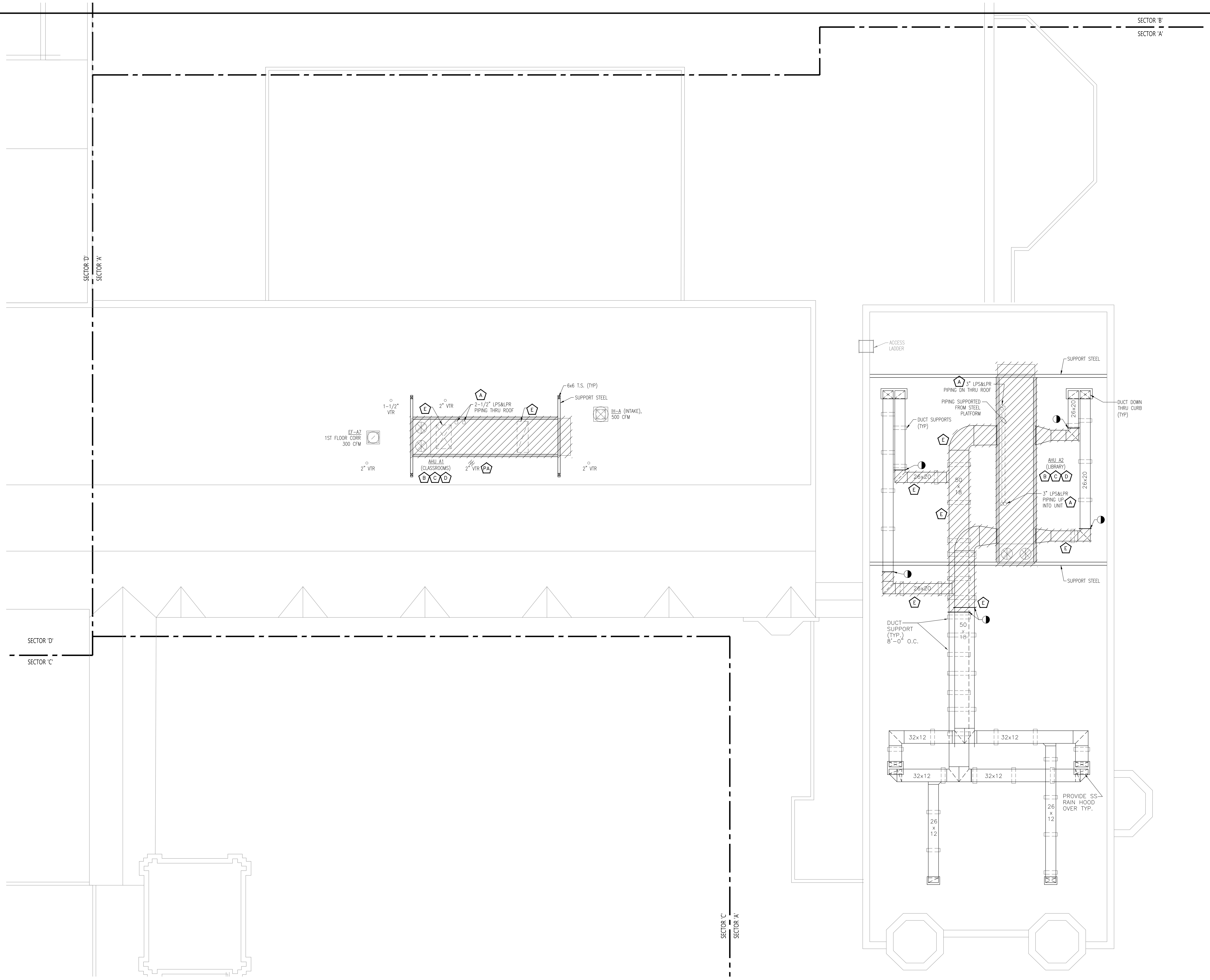
Project Number
5516E
Project Date
01.29.2026
Checked By
JTM
Drawn By
JD
Scale
AS NOTED

Drawing Name
MECHANICAL - 2ND FLOOR SECTOR F PIPING DEMOLITION PLAN

Revisions

No.	Date	Description

Drawing Number
MD-326



① MECHANICAL - SECTOR 'A' ROOF DEMOLITON PLAN

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

N

MECHANICAL DEMOLITION NOTES

(A) REMOVE EXISTING LPS & LPR PIPING & SUPPORTS DOWN THROUGH ROOF. CAP STEAM & CONDENSATE PIPING BELOW ROOF. REFER TO FLOOR PLANS FOR ADDITIONAL DEMOLITION ACTIVITIES BELOW THE ROOF.

(B) REMOVE REFRIGERANT CHARGE FROM ROOFTOP UNIT IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. REFRIGERANT SHALL BE DISPOSED OF IN ACCORDANCE WITH THE LATEST FEDERAL, STATE, AND LOCAL GUIDELINES. PROVIDE THE OWNER WITH TYPE & QUANTITY OF REFRIGERANT THAT HAS BEEN DISPOSED OF.

(C) EXISTING CONTROLS, PROGRAMMING & GRAPHICS SHALL BE REMOVED FROM EXISTING BUILDING AUTOMATION SYSTEM. REMOVE EXISTING THERMOSTATS, HUMIDISTATS, CO2 SENSORS, CONTROL WIRING, ASSOCIATED CONDUIT, ETC., IN THEIR ENTIRETY.

(D) REMOVE EXISTING ROOFTOP UNIT FROM EXISTING STEEL DUNNAGE. REMOVE ALL ANCHORS AND ATTACHMENTS FROM STEEL.

(E) REMOVE EXISTING DUCTWORK & DUCT SUPPORTS TO LOCATION SHOWN. REFER TO ARCHITECTURAL DRAWINGS FOR REPAIR ROOF.

PLUMBING DEMOLITION NOTES

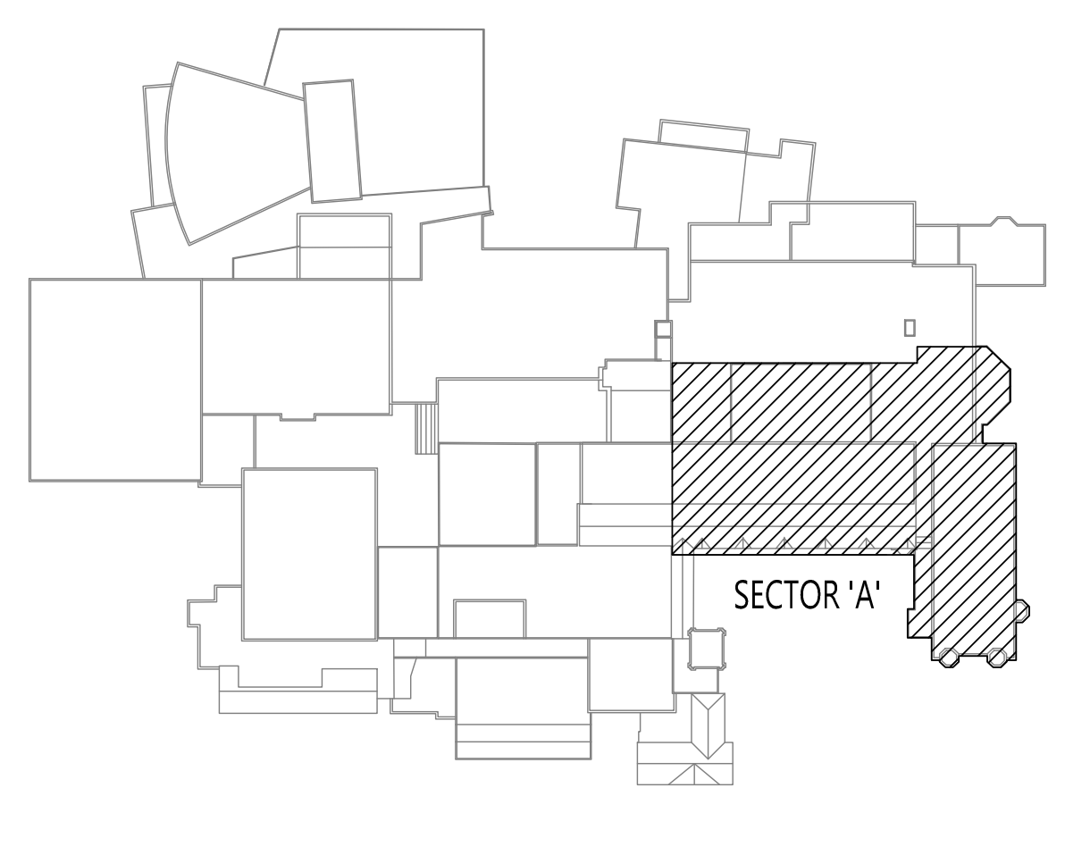
(PA) REMOVE EXISTING VENT & RELOCATE AS SHOWN ON NEW WORK PLAN. REFER TO ARCHITECTURAL DRAWINGS FOR REPAIR OF ROOF.

GENERAL CONSTRUCTION DEMOLITION NOTES

(GA) REPAIR ROOF WHERE EXISTING EQUIPMENT SUPPORTS RAILS, ROOF CURBS, ROOF DRAINS, PIPE & PIPE SUPPORTS, DUCT SUPPORTS, ETC. ARE NOTED TO BE REMOVED. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.

GENERAL DEMOLITION NOTES

1. REFER TO COVER SHEET (M-000) FOR ADDITIONAL NOTES THAT PERTAIN TO THE DEMOLITION WORK.



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Project Name
HVAC Renovations at Princeton High School

Project Owner Name
Princeton Public Schools

Project Location
151 Moore Street,
Princeton, NJ
08540

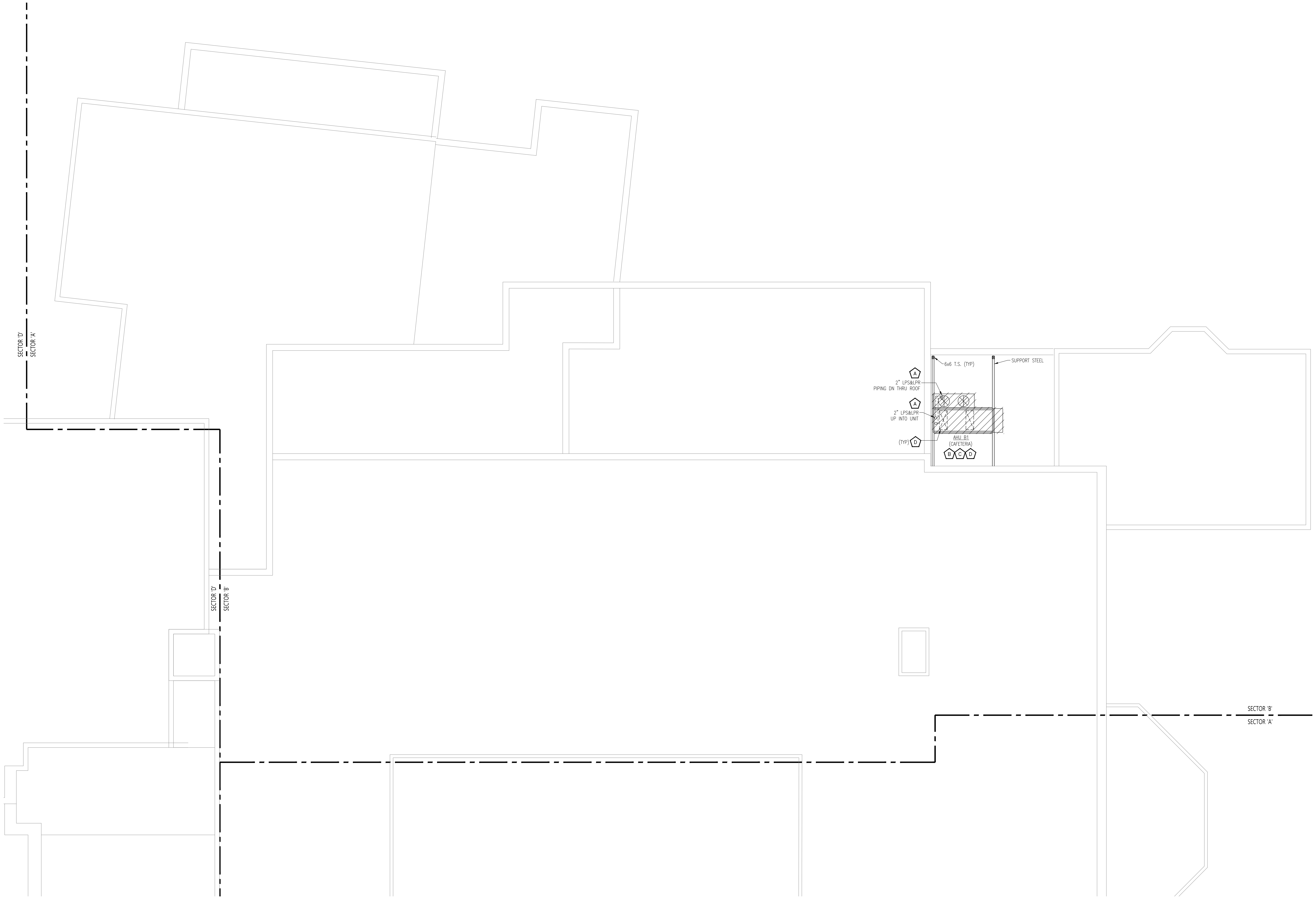
Project Number
5516E
Project Date
01.29. 2026
Checked By
JTM
Drawn By
JD
Scale
AS NOTED

Drawing Name
MECHANICAL - ROOF
SECTOR A
DEMOLITION PLAN

Revisions

No.	Date	Description

Drawing Number
MD-431



1 MECHANICAL - SECTOR 'B' ROOF DEMOLITON PLAN

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

MECHANICAL DEMOLITION NOTES

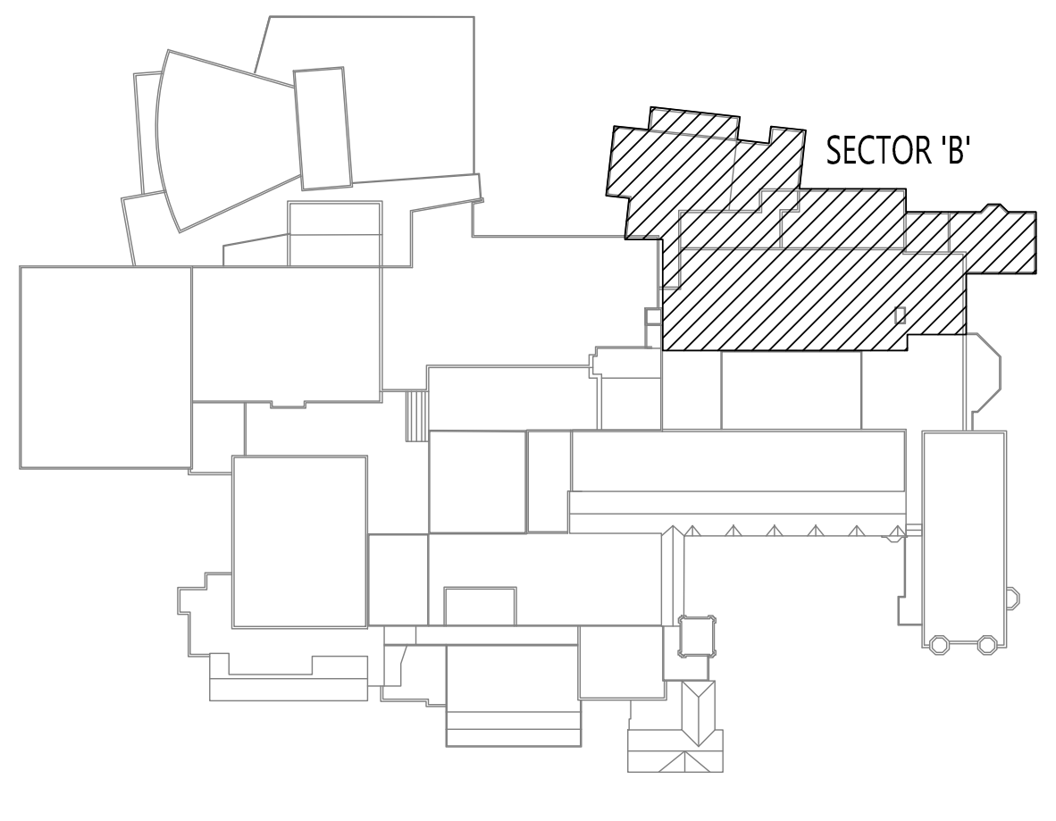
- A REMOVE EXISTING LPS & LPR PIPING & SUPPORTS DOWN THROUGH ROOF. CAP STEAM & CONDENSATE PIPING BELOW ROOF. REFER TO FLOOR PLANS FOR ADDITIONAL DEMOLITION ACTIVITIES BELOW THE ROOF.
- B REMOVE REFRIGERANT CHARGE FROM ROOFTOP UNIT IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. REFRIGERANT SHALL BE DISPOSED OF IN ACCORDANCE WITH THE LATEST FEDERAL, STATE, AND LOCAL GUIDELINES. PROVIDE THE OWNER WITH TYPE & QUANTITY OF REFRIGERANT THAT HAS BEEN DISPOSED OF.
- C EXISTING CONTROLS, PROGRAMMING & GRAPHICS SHALL BE REMOVED FROM EXISTING BUILDING AUTOMATION SYSTEM. REMOVE EXISTING THERMOSTATS, HUMIDISTATS, CO2 SENSORS, CONTROL WIRING, ASSOCIATED CONDUIT, ETC., IN THEIR ENTIRETY.
- D REMOVE EXISTING ROOFTOP UNIT FROM EXISTING STEEL DUNNAGE. REMOVE ALL ANCHORS AND ATTACHMENTS FROM STEEL. CUT BACK EXISTING SUPPLY & RETURN AIR DUCTS TO MATE UP WITH NEW UNIT CONNECTIONS.

GENERAL CONSTRUCTION DEMOLITION NOTES

- GA REPAIR ROOF WHERE EXISTING EQUIPMENT SUPPORTS RAILS, ROOF CURBS, ROOF DRAINS, PIPE & PIPE SUPPORTS, DUCT SUPPORTS, ETC. ARE NOTED TO BE REMOVED. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.

GENERAL DEMOLITION NOTES

1. REFER TO COVER SHEET (M-000) FOR ADDITIONAL NOTES THAT PERTAIN TO THE DEMOLITION WORK.



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Project Name
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Project Owner Name
Princeton Public Schools

Project Location
151 Moore Street,
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08540

Project Number
5516E

Project Date
01.29. 2026

Checked By
JTM

Drawn By
JD

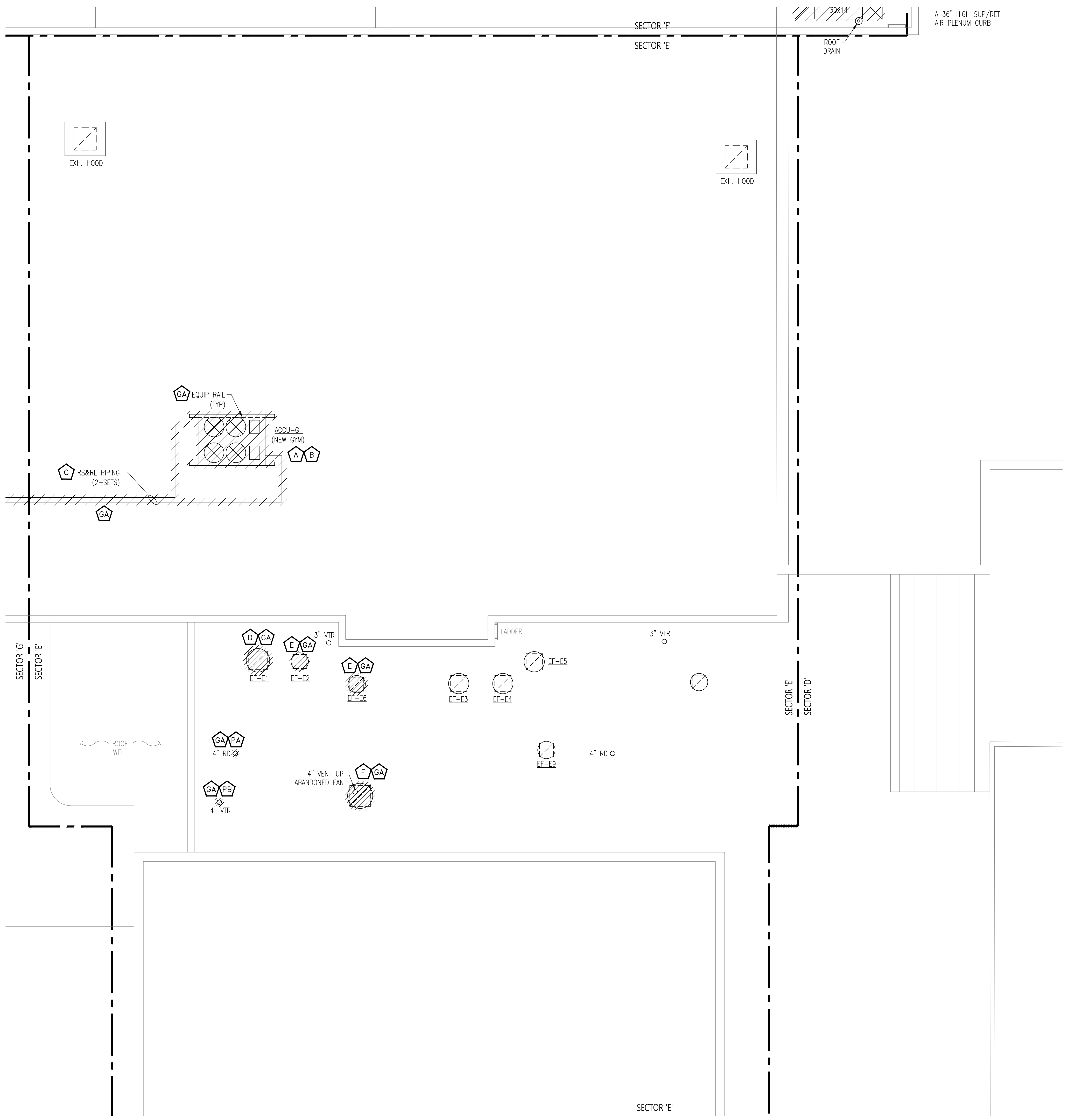
Scale
AS NOTED

Drawing Name
MECHANICAL - ROOF SECTOR B DEMOLITION PLAN

Revisions

No.	Date	Description

Drawing Number
MD-432



1 MECHANICAL - SECTOR 'E' ROOF DEMOLITON PLAN

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

MECHANICAL DEMOLITION NOTES

(A) REMOVE EXISTING CONDENSING UNIT FOR AHU-G1, ASSOCIATED CONTROLS/WIRING, SUPPORT RAILS, ETC. IN THEIR ENTIRETY. EXISTING CONTROLS, PROGRAMMING & GRAPHICS SHALL BE REMOVED FROM EXISTING BUILDING AUTOMATION SYSTEM. REMOVE CONTROL WIRING, ASSOCIATED CONDUIT, ETC., IN THEIR ENTIRETY.

(B) REMOVE REFRIGERANT CHARGE FROM CONDENSING UNIT & PIPING IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. REFRIGERANT SHALL BE DISPOSED OF IN ACCORDANCE WITH THE LATEST FEDERAL, STATE, AND LOCAL GUIDELINES. PROVIDE THE OWNER WITH TYPE & QUANTITY OF REFRIGERANT THAT HAS BEEN DISPOSED OF.

(C) REMOVE EXISTING REFRIGERANT PIPING & SUPPORTS.

(D) REMOVE EXISTING EXHAUST FAN AND ROOF CURB. REPAIR ROOF & ROOF DECK. EXISTING DUCT WILL BE ROUTED TO NEW EXHAUST FAN. SEE NEW WORK PLAN.

(E) REMOVE EXISTING EXHAUST FAN & ROOF CURB. RELOCATE TO LOCATION SHOWN ON NEW WORK PLAN. REPAIR ROOF & ROOF DECK. EXISTING DUCT WILL BE ROUTED TO NEW LOCATION. SEE NEW WORK PLAN.

(F) REMOVE EXISTING EXHAUST FAN AND ROOF CURB. REPAIR ROOF & ROOF DECK. EXISTING 4" VENT SHALL BE RE-ROUTED AS SHOWN ON NEW WORK PLAN.

PLUMBING DEMOLITION NOTES

(PA) REMOVE EXISTING ROOF DRAIN & REPAIR ROOF. RELOCATE AS SHOWN ON NEW WORK PLAN.

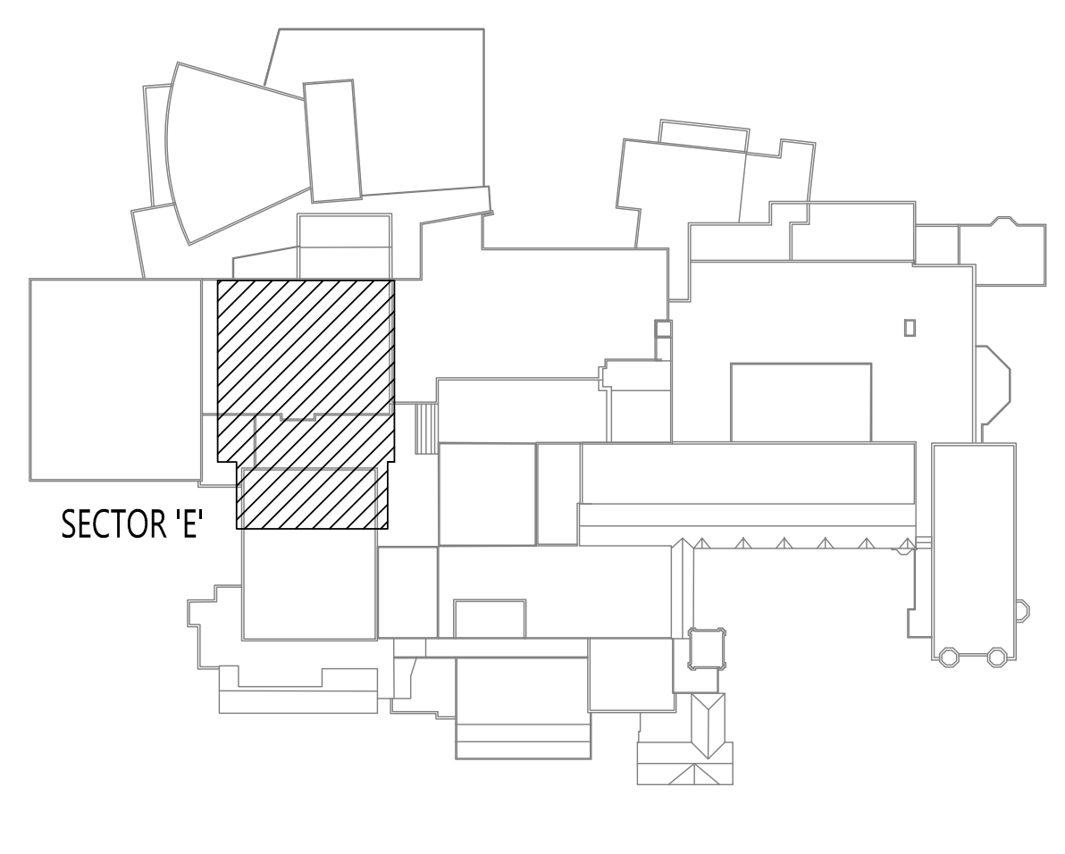
(PB) REMOVE EXISTING VENT THRU ROOF & REPAIR ROOF. RELOCATE AS SHOWN ON NEW WORK PLAN.

GENERAL CONSTRUCTION DEMOLITION NOTES

(GA) REPAIR ROOF WHERE EXISTING EQUIPMENT SUPPORTS RAILS, ROOF CURBS, ROOF DRAINS/VENTS, PIPE & PIPE SUPPORTS, DUCT SUPPORTS, ETC. ARE NOTED TO BE REMOVED. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.

GENERAL DEMOLITION NOTES

1. REFER TO COVER SHEET (M-000) FOR ADDITIONAL NOTES THAT PERTAIN TO THE DEMOLITION WORK.



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Architect
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Project Name
HVAC Renovations at Princeton High School

Project Owner Name
Princeton Public Schools

Project Location
151 Moore Street,
Princeton, NJ
08540

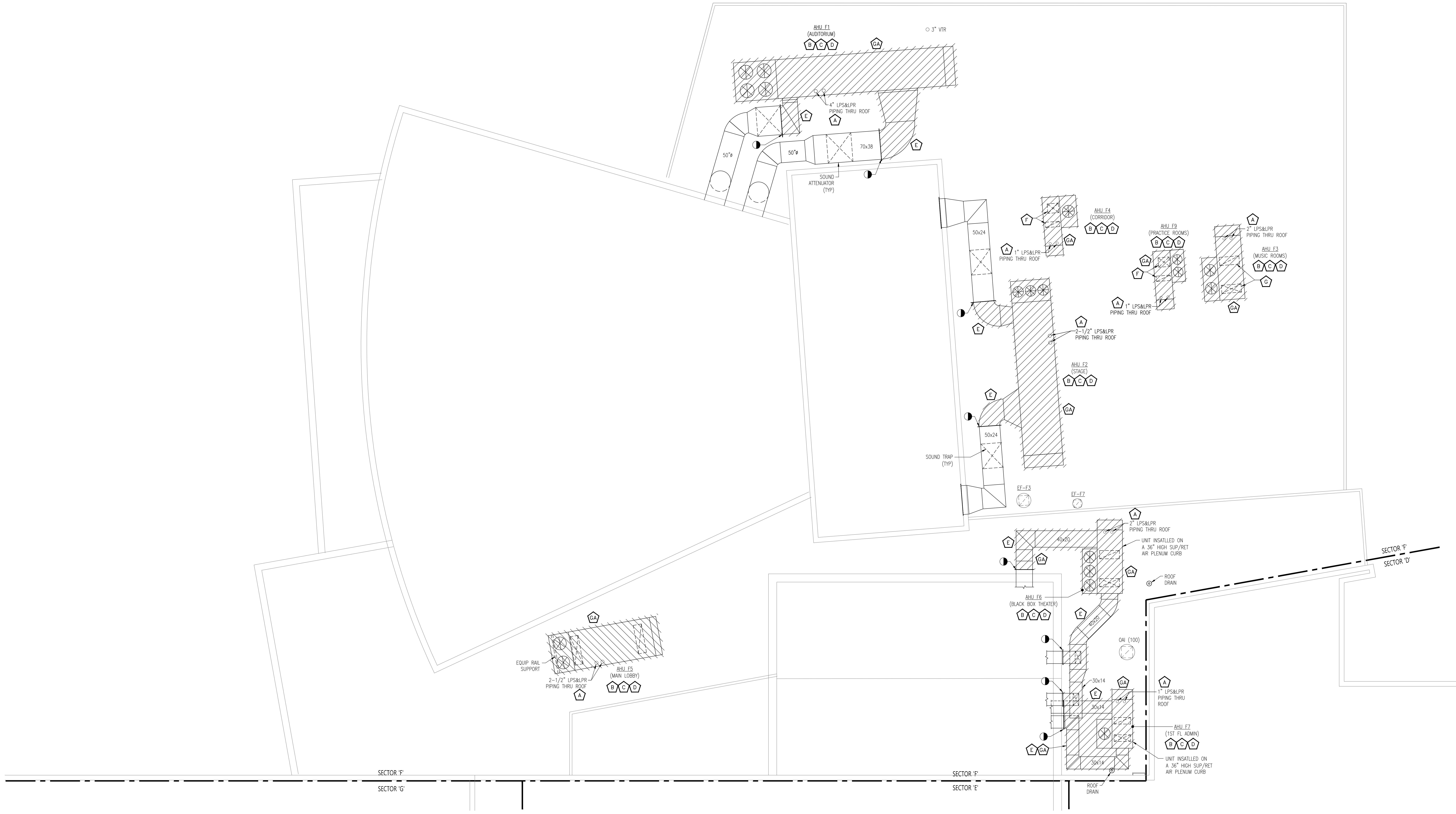
Project Number
5516E
Project Date
01.29. 2026
Checked By
JTM
Drawn By
JD
Scale
AS NOTED

Drawing Name
MECHANICAL - ROOF
SECTOR E
DEMOLITION PLAN

Revisions

No.	Date	Description

Drawing Number
MD-435



1 MECHANICAL - SECTOR 'F' ROOF DEMOLITON PLAN
SCALE: 1/8"=1'-0"

MECHANICAL DEMOLITION NOTES

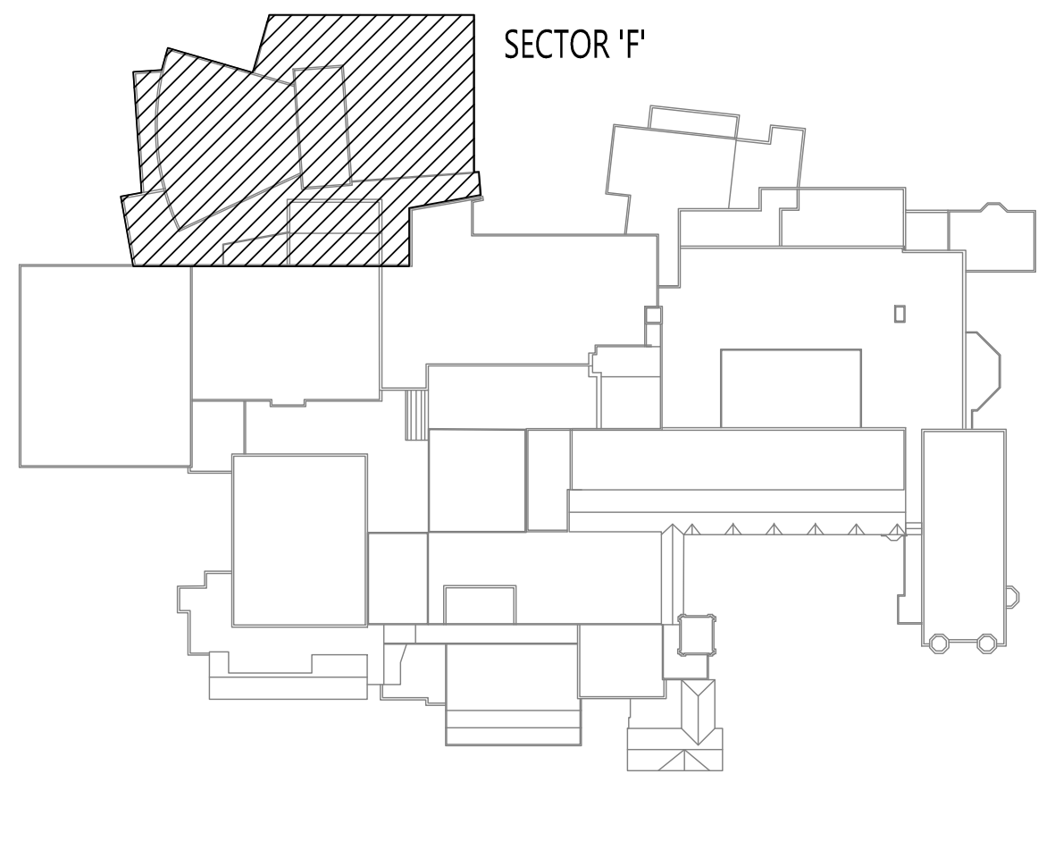
- A REMOVE EXISTING LPS & LPR PIPING & SUPPORTS DOWN THROUGH ROOF. CAP STEAM & CONDENSATE PIPING BELOW ROOF. REFER TO FLOOR PLANS FOR ADDITIONAL DEMOLITION ACTIVITIES BELOW THE ROOF.
- B REMOVE REFRIGERANT CHARGE FROM ROOFTOP UNIT IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. REFRIGERANT SHALL BE DISPOSED OF IN ACCORDANCE WITH THE LATEST FEDERAL, STATE, AND LOCAL GUIDELINES. PROVIDE THE OWNER WITH TYPE & QUANTITY OF REFRIGERANT THAT HAS BEEN DISPOSED OF.
- C EXISTING CONTROLS, PROGRAMMING & GRAPHICS SHALL BE REMOVED FROM EXISTING BUILDING AUTOMATION SYSTEM. REMOVE EXISTING THERMOSTATS, HUMIDISTATS, CO2 SENSORS, CONTROL WIRING, ASSOCIATED CONDUIT, ETC., IN THEIR ENTIRETY.
- D REMOVE EXISTING ROOFTOP UNIT, ASSOCIATED ROOF CURB & CONDENSING UNIT SUPPORTS IN THEIR ENTIRETY. ROOF & DECKING SHALL BE REPAIRED & COORDINATED WITH NEW CURB SIZE & LOCATION. SEE ARCHITECTURAL DRAWINGS FOR ROOF REPAIR.
- E REMOVE EXISTING DUCTWORK & DUCT SUPPORTS TO LOCATION SHOWN. REFER TO ARCHITECTURAL DRAWINGS FOR REPAIR ROOF.
- F CUT BACK EXISTING RETURN AIR DUCTWORK TO MATE UP WITH NEW PLENUM CURB. CUT BACK EXISTING SUPPLY AIR DUCT TO MATE UP WITH NEW UNIT CONNECTION.
- G CUT BACK EXISTING SUPPLY & RETURN AIR DUCTS TO MATE UP WITH NEW UNIT CONNECTIONS.

GENERAL CONSTRUCTION DEMOLITION NOTES

- GA REPAIR ROOF WHERE EXISTING EQUIPMENT SUPPORTS RAILS, ROOF CURBS, ROOF DRAINS, PIPE & PIPE SUPPORTS, DUCT SUPPORTS, ETC. ARE NOTED TO BE REMOVED. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.

GENERAL DEMOLITION NOTES

1. REFER TO COVER SHEET (M-000) FOR ADDITIONAL NOTES THAT PERTAIN TO THE DEMOLITION WORK.



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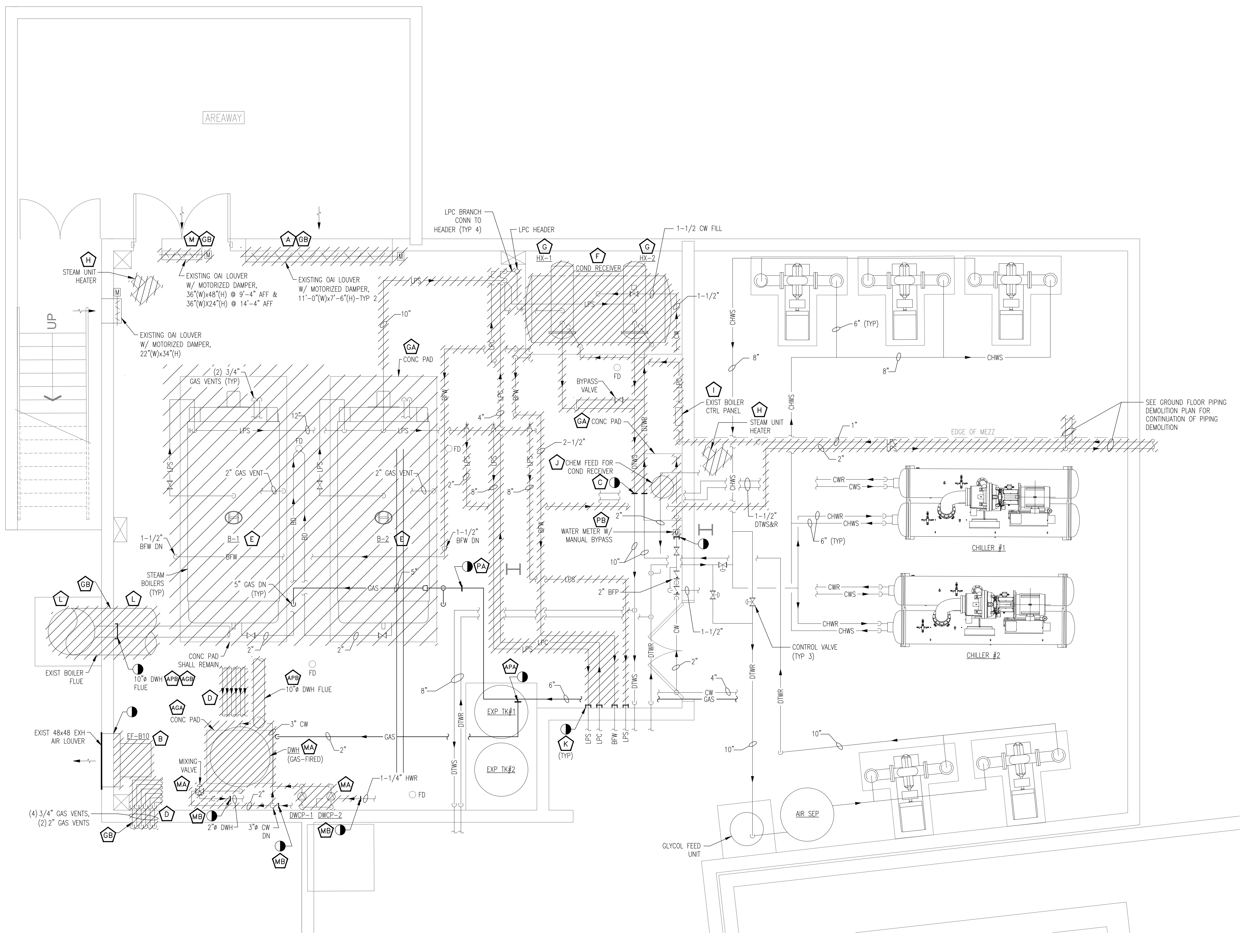
Project Name	HVAC Renovations at Princeton High School
Project Owner Name	Princeton Public Schools
Project Location	151 Moore Street, Princeton, NJ 08540
Project Number	5516E
Project Date	01.29. 2026
Checked By	JTM
Drawn By	JD
Scale	AS NOTED
Drawing Name	MECHANICAL - ROOF SECTOR F DEMOLITION PLAN

Revisions

No.	Date	Description

Drawing Number
MD-436



1 MECHANICAL - MAIN BOILER ROOM DEMOLITION PLAN

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

MECHANICAL DEMOLITION NOTES–BASE BID

- A THE EXISTING OUTDOOR AIR INTAKE LOUVER (BOTTOM SECTION ONLY) & MOUNTING ANGLES/HARDWARE SHALL BE REMOVED IN ITS ENTIRETY. THE EXISTING LOUVERS ON THE TOP SECTION SHALL REMAIN. THE EXISTING MOTORIZED DAMPERS SHALL BE REMOVED (TOP & BOTTOM) AND CONTROL POINT(S) AND GRAPHICS SHALL BE REMOVED FROM THE BAS. SEE NEW ARCHITECTURAL DRAWING FOR CLOSING OFF OPENING.
- B REMOVE EXISTING EXHAUST FAN, HANGERS, SUPPORTS, ETC., IN THEIR ENTIRETY. REMOVE EXISTING LOUVER BACK BOX TO PREPARE FOR NEW FAN.
- C REMOVE EXISTING HOT WATER PIPING TO LOCATION SHOWN.
- D REMOVE GAS VENT PIPING THRU WALL AS SHOWN.
- E REMOVE EXISTING STEAM BOILERS, ASSOCIATED BOILER CONTROLS, CONTROL WIRING, BLOW DOWN PIPING, GAS TRAIN, CONTROL VALVES, BOILER FEED WATER PIPING, ETC., IN THEIR ENTIRETY.
- F REMOVE EXISTING CONDENSATE RECEIVER/BOILER FEED WATER TANK, BOILER FEED WATER PUMPS, ASSOCIATED CONTROLS, CONTROL WIRING, CONDENSATE PIPING, ETC. IN ITS ENTIRETY.
- G REMOVE BOTH EXISTING STEAM TO HOT WATER CONVERTER, STEAM & CONDENSATE PIPING, CONTROL VALVES, CONTROL WIRING, ETC., IN ITS ENTIRETY.
- H REMOVE EXISTING STEAM UNIT HEATER, CONTROL VALVES & WIRING, ASSOCIATED THERMOSTAT, STEAM & CONDENSATE PIPING, ETC., IN ITS ENTIRETY.
- I REMOVE CENTRAL BOILER CONTROL PANEL, CONTROL CONDUITS, WIRING, ETC., IN ITS ENTIRETY.
- J REMOVE THE EXISTING BOILER CHEMICAL FEED TANK, PUMP & ASSOCIATED CONTROLS & WIRING, ETC., IN ITS ENTIRETY. CONTRACTOR SHALL DISPOSE OF UNUSED CHEMICALS IN ACCORDANCE WITH THE LATEST FEDERAL, STATE & LOCAL ORDINANCES.
- K REMOVE EXISTING STEAM STEAM CONDENSATE, BOILER FEED WATER PIPING BACK TO WALL AND CAP.
- L REMOVE THE EXISTING BOILER FLUES AND CHIMNEY IN ITS ENTIRITY FROM THE BOILERS TO THE OUTDOOR STACK TO THE ROOF.
- M THE EXISTING MOTORIZED OUTDOOR AIR INTAKE DAMPERS ABOVE DOOR SHALL BE REMOVED. CONTROL POINT(S) AND GRAPHICS SHALL BE REMOVED FROM THE BAS. SEE NEW ARCHITECTURAL DRAWING FOR DETAIL TO IN-FILL OPENING.

PLUMBING DEMOLITION NOTES–BASE BID

- PA REMOVE EXISTING GAS PIPING FROM BOILERS TO LOCATION SHOWN.
- PB REMOVE EXISTING MAKEUP WATER TO CONDENSATE RECEIVER BACK TO LOCATION SHOWN & CAP. REMOVE EXISTING WATER METER & BYPASS PIPING.

GENERAL CONSTRUCTION DEMOLITION NOTES–BASE BID

- GA THE EXISTING CONCRETE PAD SHALL BE REMOVED. SEE ARCHITECTURAL DRAWINGS FOR DETAILS.
- GB WALL OPENING SHALL REPAIRED. SEE ARCHITECTURAL DRAWINGS FOR DETAILS.

MECHANICAL DEMOLITION NOTES–ADD/ALT #3

- MA REMOVE THE EXISTING DOMESTIC HOT WATER HEATER WHICH IS NO LONGER OPERATIONAL. REMOVE ALL ASSOCIATED POWER, DHW PIPING, MIXING VALVE, GAS PIPING, FLUE, HW RECIRCULATION PUMPS, HANGERS, SUPPORTS AND CONTROLS IN THEIR ENTIRETY.
- MB REMOVE EXISTING PIPING TO LOCATION SHOWN.

PLUMBING DEMOLITION NOTES–ADD/ALT #3

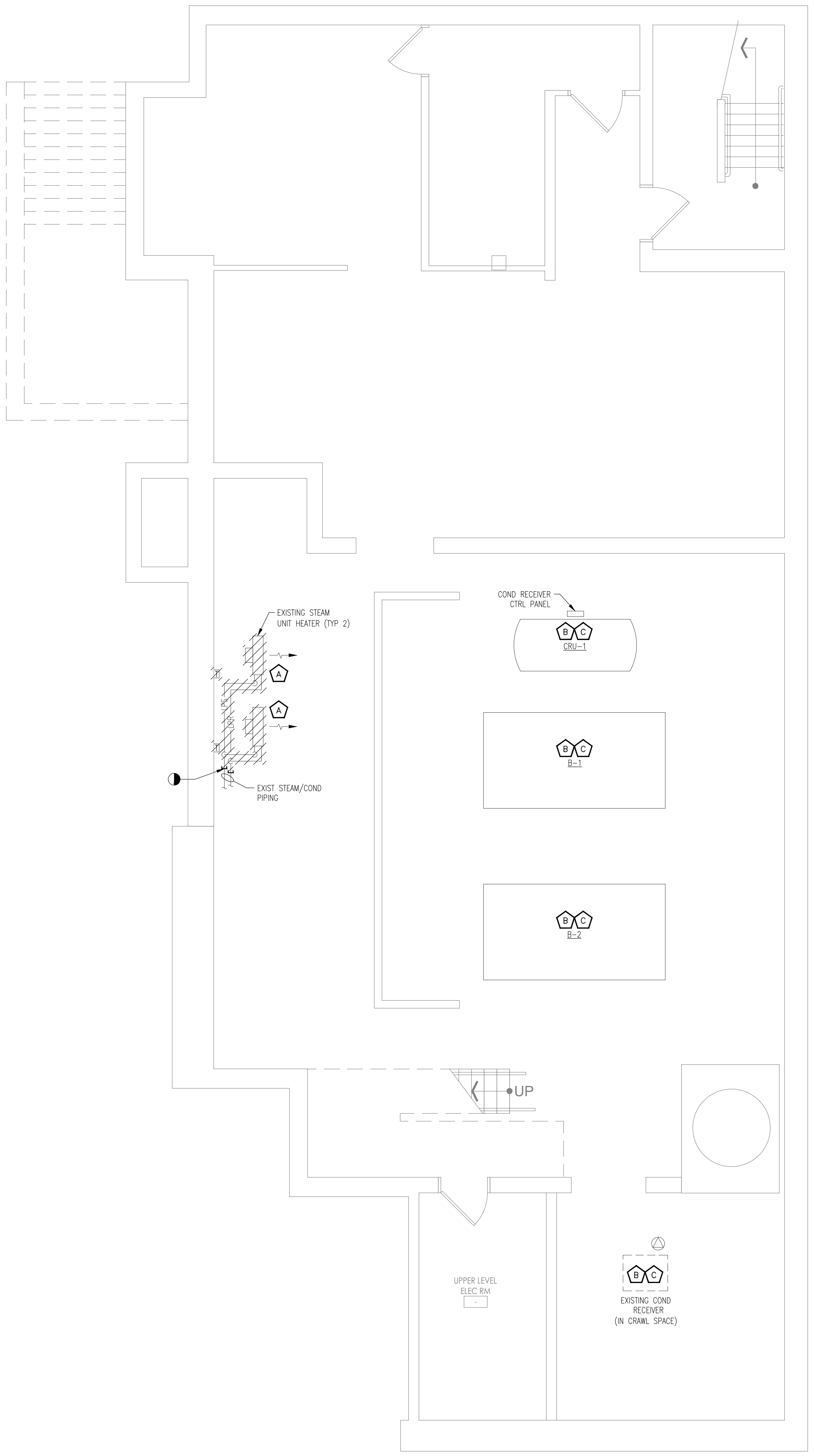
- APA REMOVE EXISTING GAS PIPING FROM DOMESTIC WATER HEATER TO LOCATION SHOWN.
- APB REMOVE EXISTING FLUE PIPING, SUPPORTS, BRACKETS, ETC., AND CAP & SEAL FLUE AT THE WALL. IF THE REPLACEMENT OF THE DW HEATER HAPPENS THE SAME TIME AS THE BOILER REPLACEMENT, THE ENTIRE FLUE PIPE SHALL BE REMOVED THROUGH THE WALL.

GENERAL CONSTRUCTION DEMOLITION NOTES–ADD/ALT #3

- AGA THE EXISTING CONCRETE PAD SHALL BE REMOVED. SEE ARCHITECTURAL DRAWINGS FOR DETAILS.
- AGB WALL OPENING SHALL REPAIRED WHEN FLUE PIPE IS REMOVED. SEE ARCHITECTURAL DRAWINGS FOR DETAILS.

GENERAL DEMOLITION NOTES–BASE BID & ALT BIDS

1. REFER TO OTHER GENERAL DEMOLITION NOTES & ADD/ALT BID NOTES SHOWN ON THE COVER SHEET.
2. ALL PIPE SIZES HAVE NOT BEEN CONFIRMED. CONTRACTOR SHALL VERIFY THE SIZES OF PIPING TO REMAIN AND SHALL SHOW THE SIZES ON THE PIPING SHOP DRAWING.
3. WHERE EQUIPMENT, PIPING, FLUES, CONDUITS, ETC., ARE BEING REMOVED, THE CONTRACTOR SHALL REMOVE ALL HANGERS, SUPPORTS & FASTENERS IN THEIR ENTIRETY.
4. NO TORCHES WILL BE ALLOWED TO CUT MATERIALS UP.
5. ALL OPENINGS TO THE OUTDOORS DURING THE DEMOLITION SHALL BE SECURED WITH A TEMPORARY WALL CONSTRUCTED OF STUDS AND PLYWOOD.



2 MECHANICAL - ORIGINAL BOILER ROOM DEMOLITION PLAN

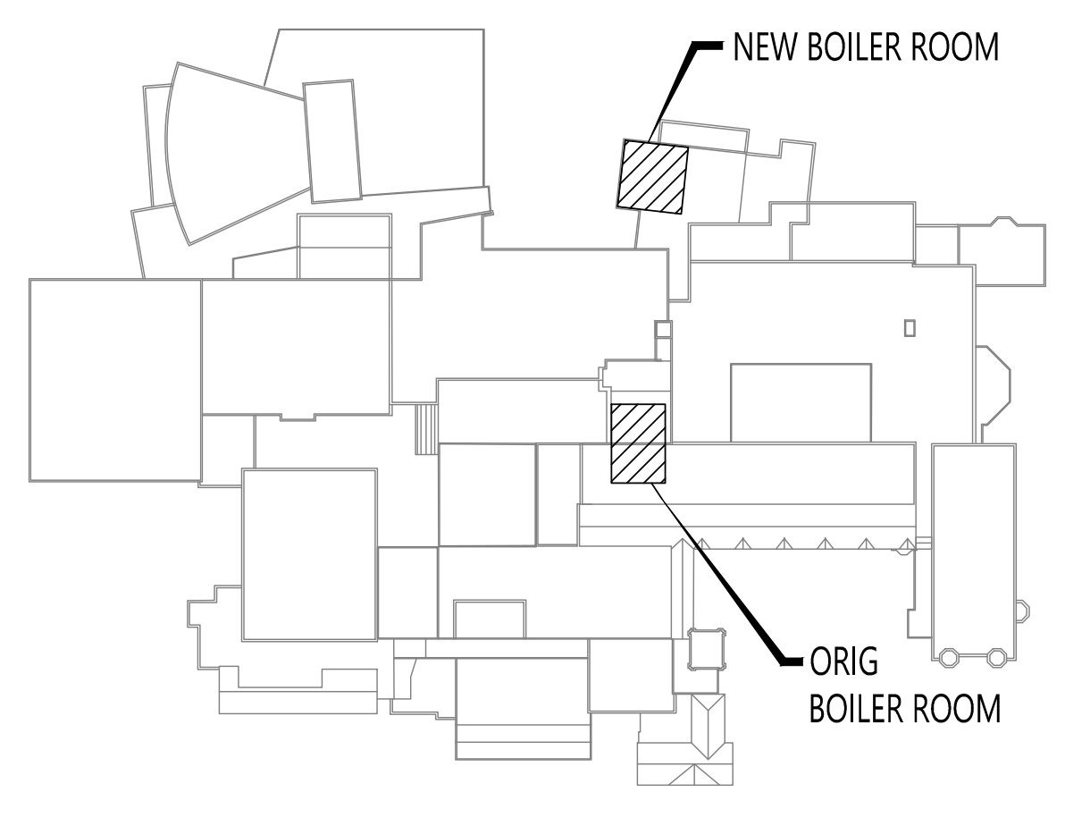
SCALE: 1/4"=1'-0"

MECHANICAL DEMOLITION NOTES

- A REMOVE EXISTING STEAM UNIT HEATER, CONTROL VALVES, THERMOSTATS, STRAINER, CONDENSATE TRAP, ISOLATION VALVES, ETC., IN THEIR ENTIRETY. EXISTING STEAM & CONDENSATE PIPING & INSULATION SHALL REMOVED.
- B EXISTING EQUIPMENT SHALL BE ABANDONED IN PLACE.
- C ALL ASSOCIATED CONTROLS, ALARMING, PROGRAMMING & GRAPHICS CONNECTED TO THE BAS SHALL BE REMOVED.

GENERAL CONSTRUCTION DEMOLITION NOTES

- GA WHERE EXISTING EQUIPMENT & PIPING IS NOTED TO BE REMOVED, THE BRACKETS, HANGERS, SUPPORTS, ETC., SHALL BE REMOVED IN THEIR ENTIRETY.



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Project Name
HVAC Renovations at Princeton High School

Project Owner Name
Princeton Public Schools

Project Location
151 Moore Street,
Princeton, NJ
08540

Project Number
5516E

Project Date
01.29. 2026

Checked By
JTM

Drawn By
JD

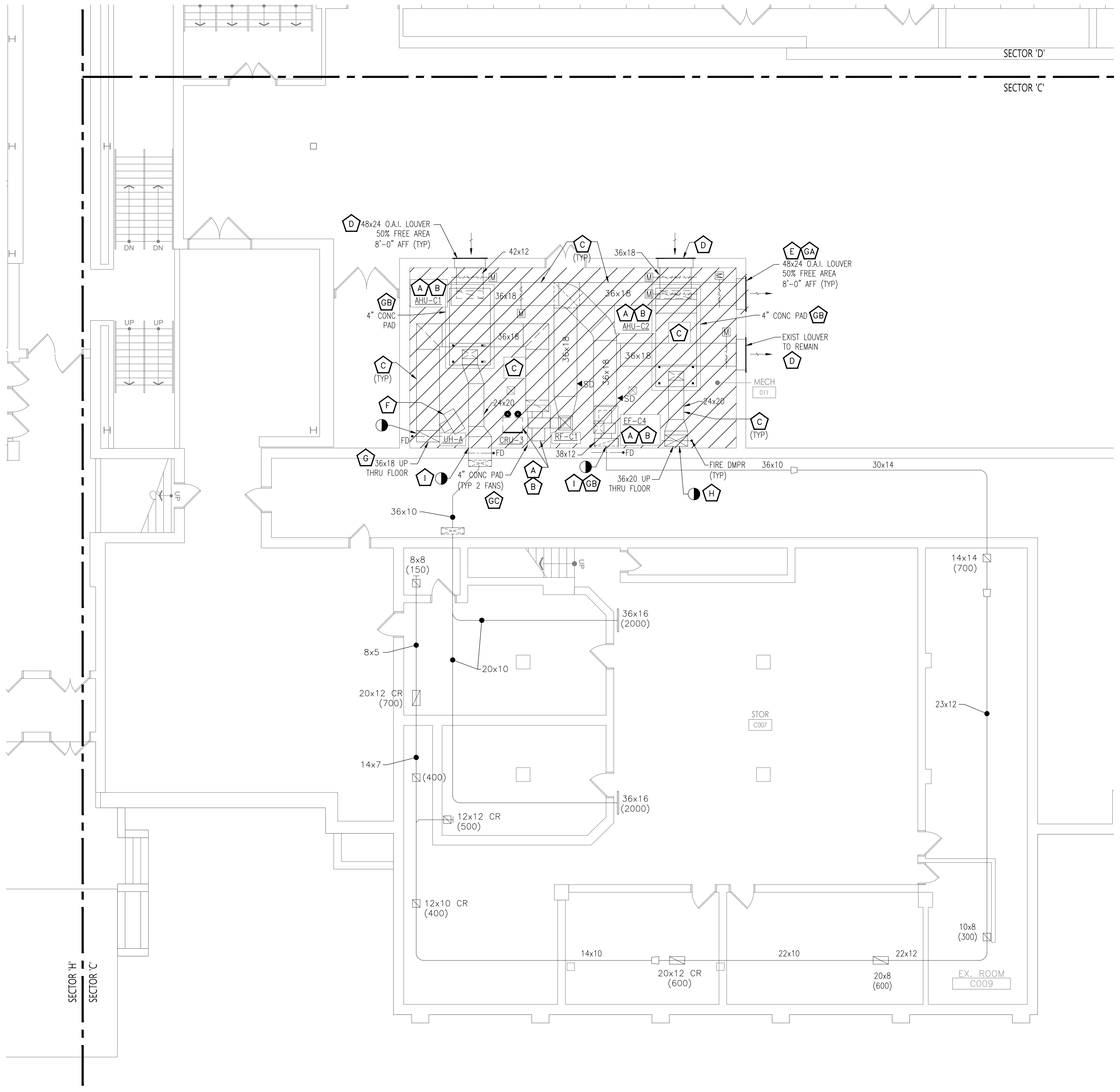
Scale
AS NOTED

Drawing Name
MECHANICAL - BOILER ROOMS DEMOLITION PLANS

Revisions

No.	Date	Description

Drawing Number
MD-501



1 MECHANICAL - SECTOR 'C' GROUND FLOOR DUCTWORK DEMOLITION PLAN - ADD/ALT #2

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

MECHANICAL DEMOLITION NOTES

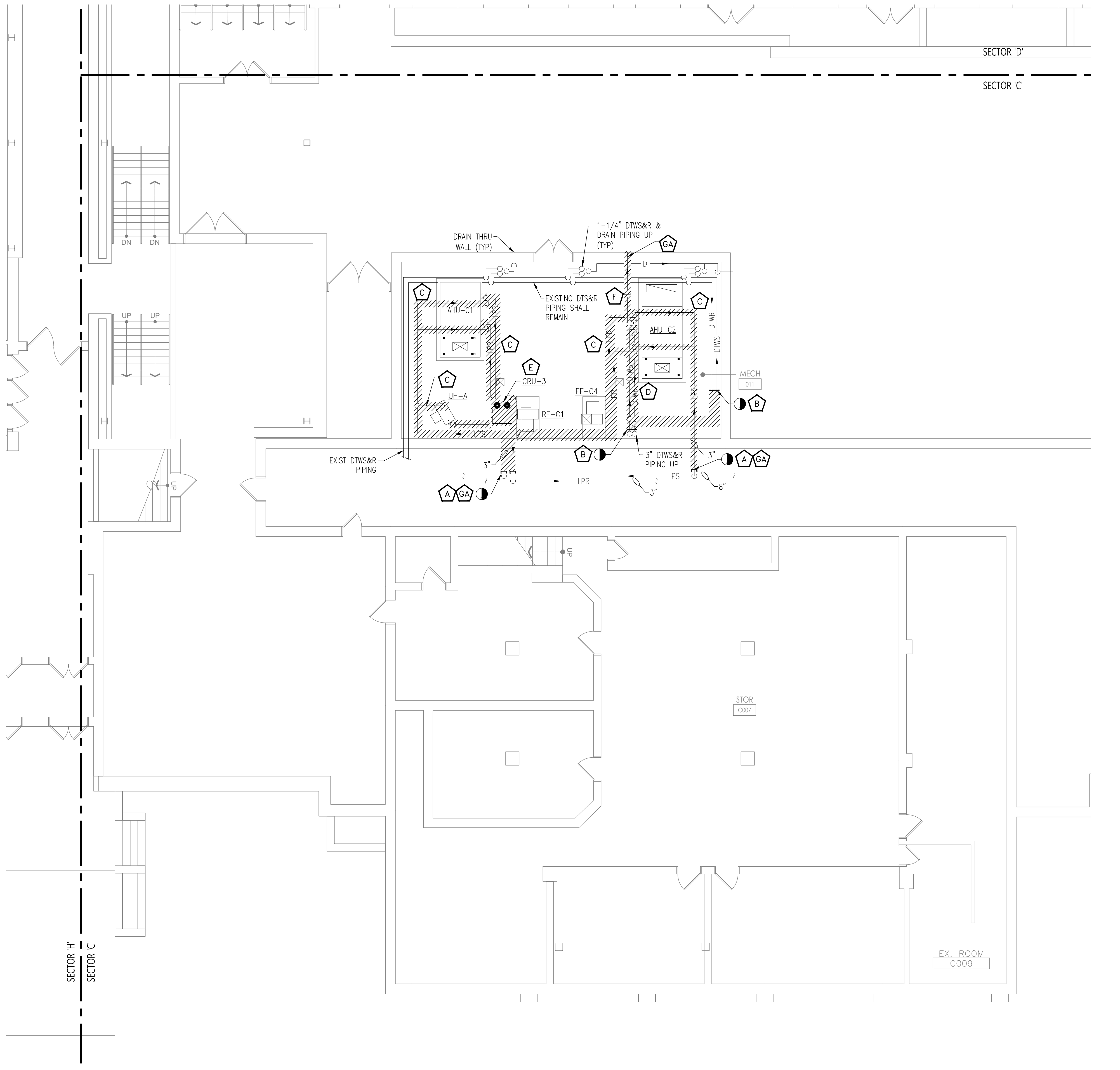
- A REMOVE EXISTING AIR HANDLER, EXHAUST FAN, CONDENSATE RECEIVER & ASSOCIATED CONTROLS IN THEIR ENTIRETY. ANCHORS SHALL BE REMOVED AND/OR GROUND DOWN FLUSH WITH EXISTING CONCRETE PAD. REFER TO PIPING DRAWING FOR ADDITIONAL DEMOLITION REQUIREMENTS.
- B EXISTING CONTROLS, PROGRAMMING & GRAPHICS SHALL BE REMOVED FROM EXISTING BUILDING AUTOMATION SYSTEM. REMOVE EXISTING THERMOSTATS, HUMIDISTATS, CO2 SENSORS, CONTROL WIRING, ASSOCIATED CONDUIT, ETC., IN THEIR ENTIRETY.
- C REMOVE EXISTING DUCTWORK, MOTORIZED DAMPERS, CONTROL WIRING, CONDUITS, ETC., IN THEIR ENTIRETY.
- D EXISTING LOUVER SHALL BE CLEANED AND A NEW GALVANIZED BIRD SCREEN INSTALLED.
- E EXISTING EXHAUST AIR LOUVER SHALL BE REMOVED.
- F EXISTING STEAM UNIT HEATER & ASSOCIATED CONTROLS SHALL BE REMOVED. REFER TO PIPING DRAWING FOR ADDITIONAL DEMOLITION REQUIREMENTS.
- G REMOVE EXISTING DUCT TO DUCTMATE CONNECTION AT FLOOR DECK. INSTALL A CAPPED DUCTMATE CONNECTION WITH GASKET OVER OPENING. APPLY A BLUE LABEL WITH WHITE LETTERING OVER CAP THAT READS, "ABANDONED DUCT".
- H REMOVE EXISTING DUCT TO EXISTING DUCTMATE CONNECTION AT ROOF DECK. THE EXISTING DUCT THROUGH THE FLOOR DECK SHALL REMAIN ALONG WITH THE FIRE DAMPER. CONTRACTOR SHALL THOROUGHLY CLEAN THE DAMPER CURTAIN AND INSTALL A NEW FUSIBLE LINK MATCHING THE EXISTING TEMPERATURE RATING.
- I REMOVE EXISTING DUCT TO EXISTING DUCTMATE CONNECTION AT WALL. THE EXISTING DUCT THROUGH THE FLOOR DECK SHALL REMAIN ALONG WITH THE FIRE DAMPER. CONTRACTOR SHALL THOROUGHLY CLEAN THE DAMPER CURTAIN AND INSTALL A NEW FUSIBLE LINK MATCHING THE EXISTING TEMPERATURE RATING.

GENERAL DEMOLITION NOTES

1. WHERE EXISTING PIPING, DUCTWORK, EQUIPMENT, ETC., HAS BEEN NOTED TO BE REMOVED, THE ASSOCIATED HANGERS, SUPPORTS, FASTENERS, ETC. SHALL ALSO BE REMOVED.

GENERAL CONSTRUCTION DEMOLITION NOTES

- GA REPAIR WALL OPENING WHERE EXISTING LOUVER IS BEING REMOVED. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.
- GB EXISTING CONCRETE PAD FOR THE TWO (2) AIR HANDLERS & EXHAUST FAN (EF-C4) SHALL EPOXY PAINTED BEFORE NEW EQUIPMENT IS INSTALLED. REFER TO ARCHITECTURAL DRAWINGS FOR PAINTING DETAILS & SPECIFICATIONS.
- GC CONCRETE PAD FOR RF-C1 SHALL BE REMOVED. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.



1 MECHANICAL - SECTOR 'C' GROUND FLOOR PIPING DEMOLITION PLAN - ADD/ALT #2

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

MECHANICAL DEMOLITION NOTES

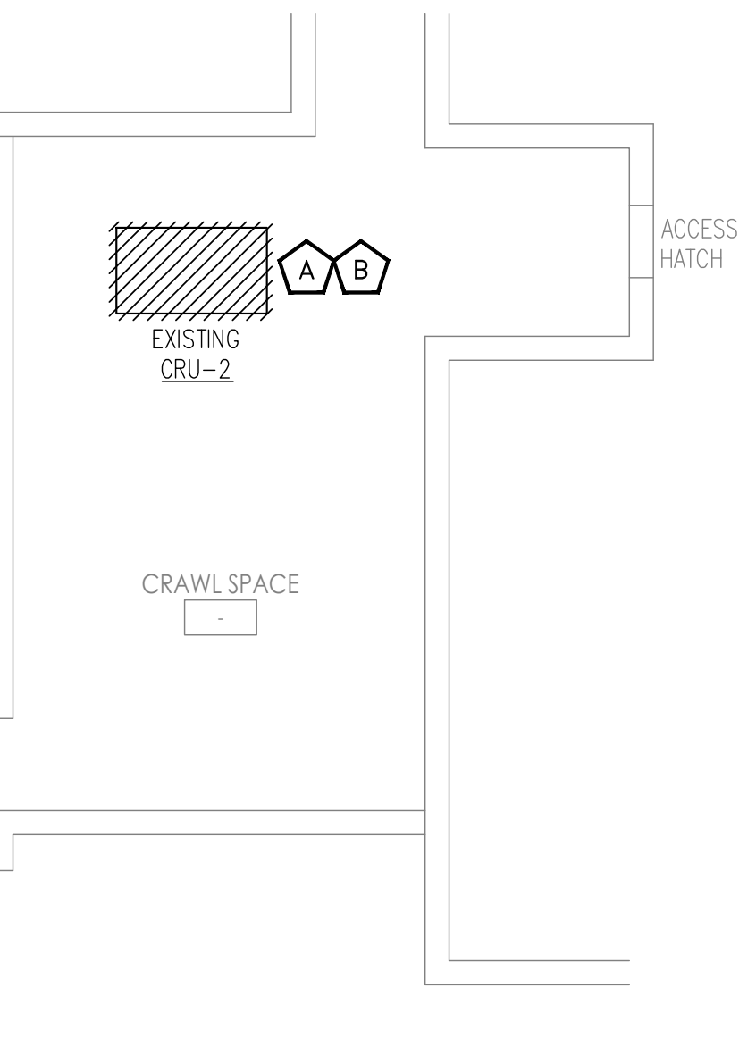
- A REMOVE EXISTING PIPING BACK TO LOCATION SHOWN & CAP. FOR LARGER PIPING, INSTALL BLIND FLANGE WITH GASKET.
- B REMOVE EXISTING PIPING TO LOCATION SHOWN.
- C REMOVE EXISTING STEAM & CONDENSATE PIPING, CONTROL VALVES, STEAM TRAPS, STRAINERS, ISOLATION VALVES, ETC., IN THEIR ENTIRETY.
- D REMOVE EXISTING DUAL TEMP SUPPLY & RETURN PIPING, CONTROL VALVES, STRAINERS, ISOLATION VALVES, ETC., IN THEIR ENTIRETY.
- E REMOVE EXISTING CONDENSATE PUMP, ASSOCIATED PIPING, CONTROLS, ETC., IN ITS ENTIRETY.
- F REMOVE EXISTING COIL CONDENSATE PIPING.

GENERAL CONSTRUCTION DEMOLITION NOTES

- GA REPAIR OPENING IN WALL WHERE PIPING WAS REMOVED. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.

GENERAL DEMOLITION NOTES

1. WHERE EXISTING PIPING, DUCTWORK, EQUIPMENT, ETC., HAS BEEN NOTED TO BE REMOVED, THE ASSOCIATED HANGERS, SUPPORTS, FASTENERS, ETC. SHALL ALSO BE REMOVED.

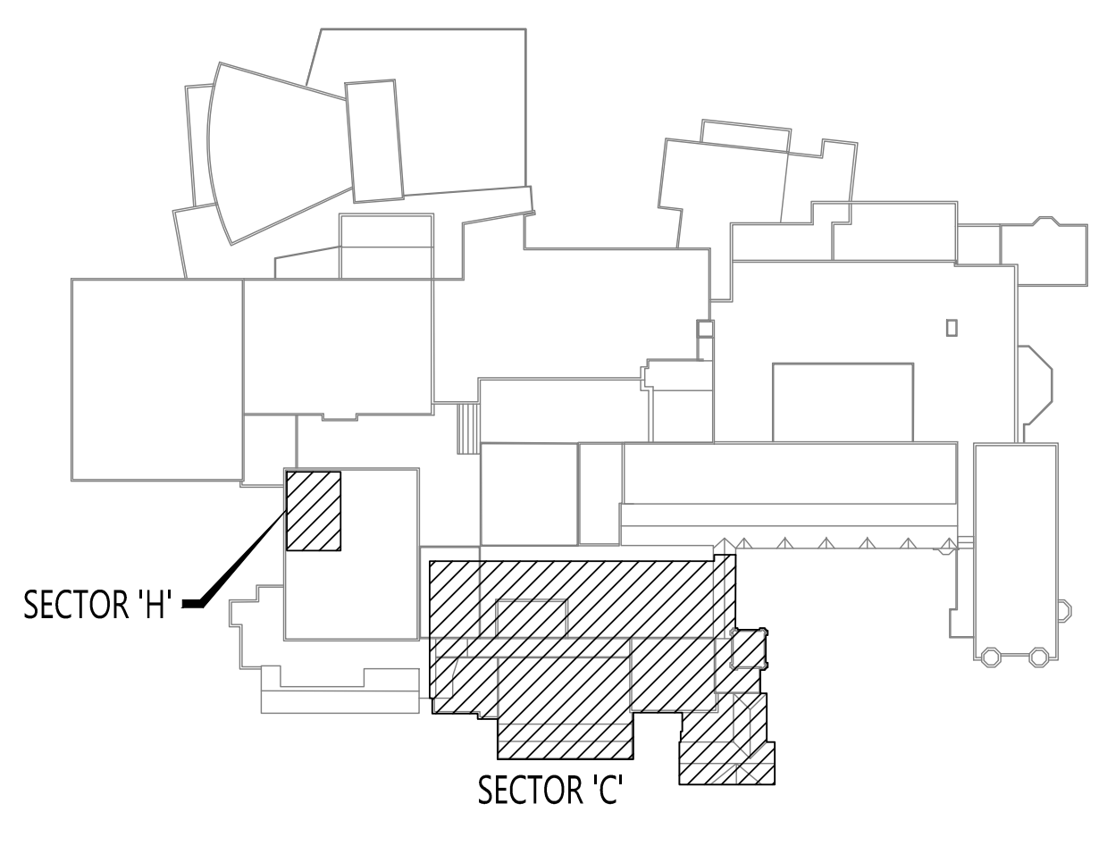


3 MACHANICAL - SECTOR 'H' BASEMENT DEMOLITION PARTIAL PLAN

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

MECHANICAL DEMOITION NOTES

- A EXISTING CONTROLS, PROGRAMMING, GRAPHICS, ALARM, ETC., SHALL BE REMOVED FROM EXISTING BUILDING AUTOMATION SYSTEM IN ITS ENTIRETY.
- B EXISTING EQUIPMENT SHALL BE ABANDONED IN PLACE.



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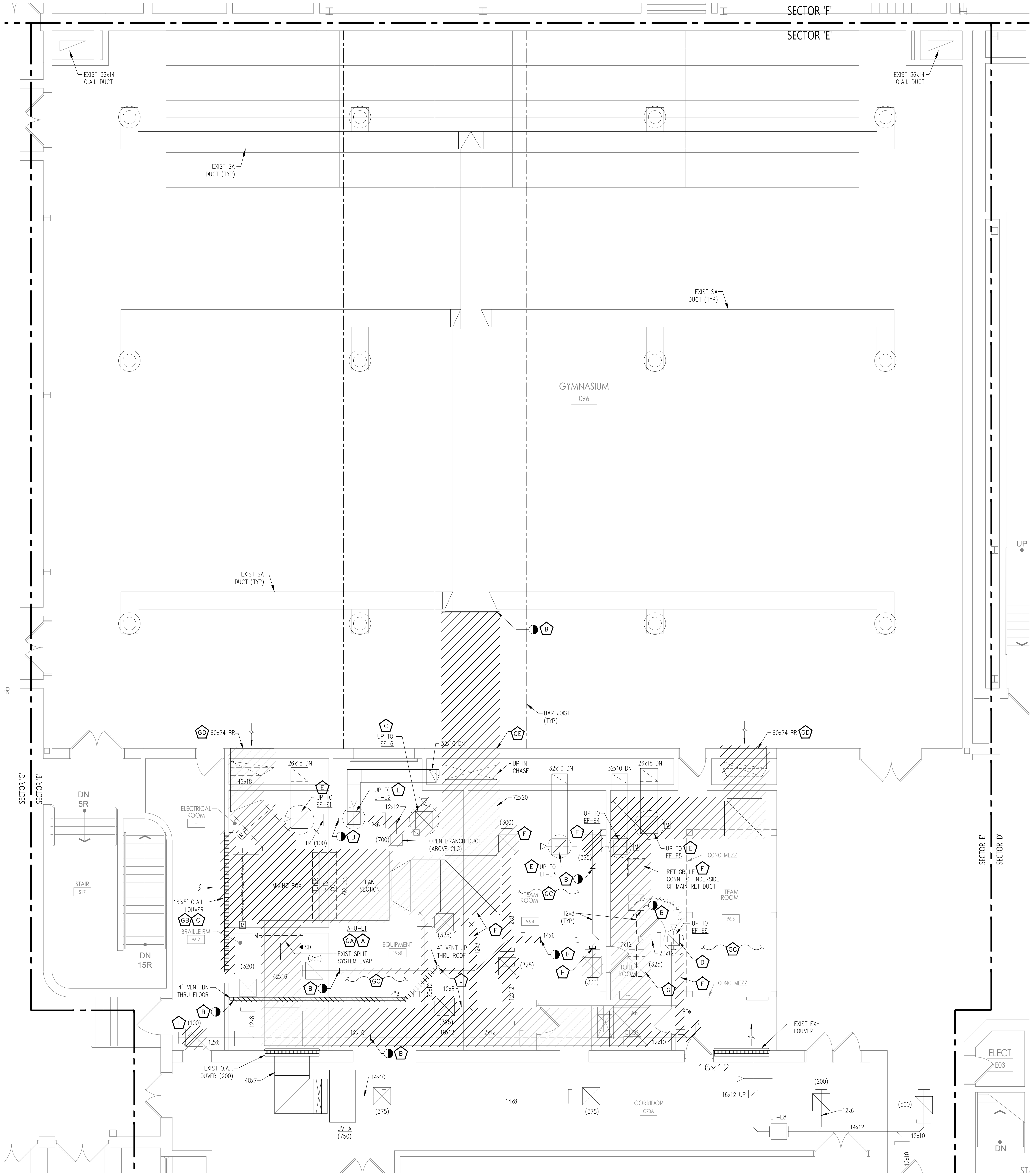
Project Name	HVAC Renovations at Princeton High School
Project Owner Name	Princeton Public Schools
Project Location	151 Moore Street, Princeton, NJ 08540
Project Number	5516E
Project Date	01.29. 2026
Checked By	JTM
Drawn By	JD
Scale	AS NOTED
Drawing Name	MECHANICAL - BASEMENT SECTOR 'H' & GROUND FLOOR SECTOR 'C' PARTIAL DEMOLITION PLANS

Revisions

No.	Date	Description

Drawing Number

MD-503



1 MECHANICAL - SECTOR 'E' GROUND FLOOR DUCTWORK DEMOLITON PLAN - ADD/ALT #1
SCALE: 3/16"=1'-0"

MECHANICAL DEMOLITION NOTES

A REMOVE EXISTING AIR HANDLER, CONDENSATE PIPING, SUPPORTS, HANGERS, ETC., IN THEIR ENTIRETY. EXISTING CONTROLS, PROGRAMMING & GRAPHICS SHALL BE REMOVED FROM EXISTING BUILDING AUTOMATION SYSTEM. REMOVE EXISTING THERMOSTATS, HUMIDISTATS, CO2 SENSORS, CONTROL WIRING, ASSOCIATED CONDUIT, ETC., IN THEIR ENTIRETY. REFER TO DRAWING MD-305 FOR DEMOLITION OF EXISTING PIPING.

B REMOVE EXISTING DUCTWORK BACK TO LOCATION SHOWN.

C REMOVE EXISTING EXHAUST DUCTWORK, BACK DRAFT DAMPER & EXISTING EXHAUST FAN. REMOVE EXISTING CURB AND REPAIR ROOF.

D REMOVE EXISTING VERTICAL SECTION OF EXHAUST DUCTWORK AND BACK DRAFT DAMPER UP TO FAN. SEE NEW WORK PLAN FOR NEW DUCTWORK AND NEW FAN TO BE INSTALLED.

E EXHAUST FAN AND DUCTWORK TO REMAIN.

F REMOVE EXISTING DUCTWORK AND AIR DEVICES.

G EXISTING AIR DEVICE AND BRANCH DUCT TO REMAIN.

H REMOVE EXISTING AIR DEVICE. CAP EXISTING DUCT.

I REMOVE EXISTING DIFFUSER AND REPLACE WITH NEW. SEE NEW WORK PLAN.

J REMOVE EXISTING VENT UP THRU ROOF.

GENERAL CONSTRUCTION DEMOLITION NOTES

GA WHERE EXISTING EQUIPMENT & PIPING IS NOTED TO BE REMOVED, THE BRACKETS, HANGERS, SUPPORTS, ETC., SHALL BE REMOVED IN THEIR ENTIRETY. THE WALL, FLOOR, CEILING, ETC., SHALL BE REPAIRED & OPENINGS SHALL BE IN-FILLED TO MATCH MATCH EXISTING CONSTRUCTION. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.

GB REMOVE EXISTING OUTDOOR AIR LOUVER & BACK BOX. REFER TO ARCHITECTURAL DRAWINGS FOR REPAIR OF OPENING.

GC REMOVE EXISTING CEILING TILES & GRID TO ALLOW FOR REMOVAL OF EXISTING MECHANICAL EQUIPMENT, DUCTWORK AND PIPING. REFER TO ARCHITECTURAL DRAWINGS.

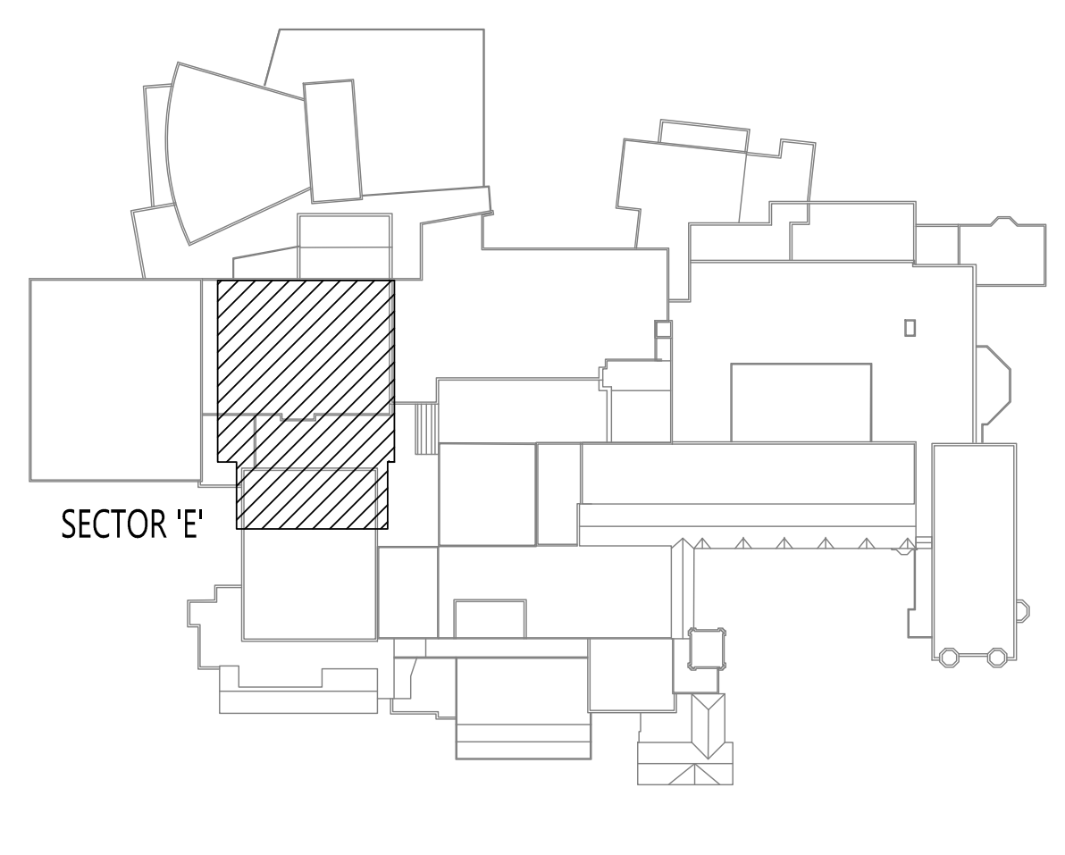
GD REMOVE EXISTING WALL-MOUNTED RETURN AIR GRILLE. OPENING IN WALL SHALL BE REPAIRED AS SHOWN ON ARCHITECTURAL DRAWINGS.

GE OPENING IN WALL SHALL BE REPAIRED WHERE THE SUPPLY AIR DUCT HAS BEEN REMOVED. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.

GENERAL DEMOLITION NOTES

1. WHERE EXISTING PIPING, DUCTWORK, EQUIPMENT, ETC., HAS BEEN NOTED TO BE REMOVED, THE ASSOCIATED HANGERS, SUPPORTS, FASTENERS, ETC. SHALL ALSO BE REMOVED.
2. COORDINATE THIS DEMOLITION PLAN WITH THE NEW WORK PLAN.
3. REFER TO DEMOLITION DRAWING MD-305 FOR PIPING DEMOLITION SCOPE OF WORK.

ALTERNATE #1



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Project Name
HVAC Renovations at Princeton High School

Project Owner Name
Princeton Public Schools

Project Location
151 Moore Street,
Princeton, NJ
08540

Project Number
5516E

Project Date
01.29. 2026

Checked By
JTM

Drawn By
JD

Scale
AS NOTED

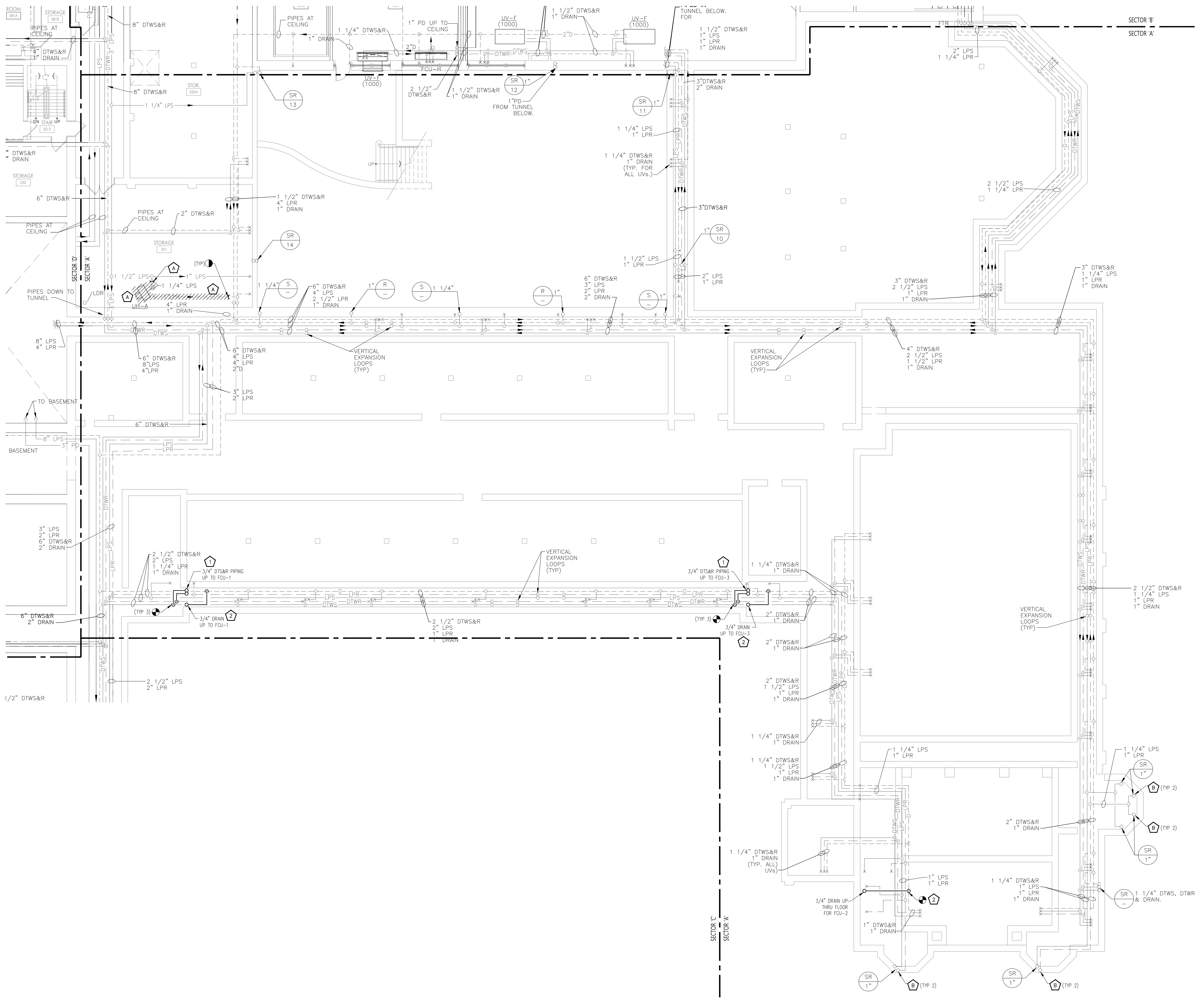
Drawing Name
MECHANICAL - GROUND FLOOR SECTOR E PARTIAL DEMOLITION PLAN

ALTERNATE #1

Revisions

No.	Date	Description

Drawing Number
MD-505



1 MECHANICAL - SECTOR 'A' GROUND FLOOR PIPING NEW WORK PLAN

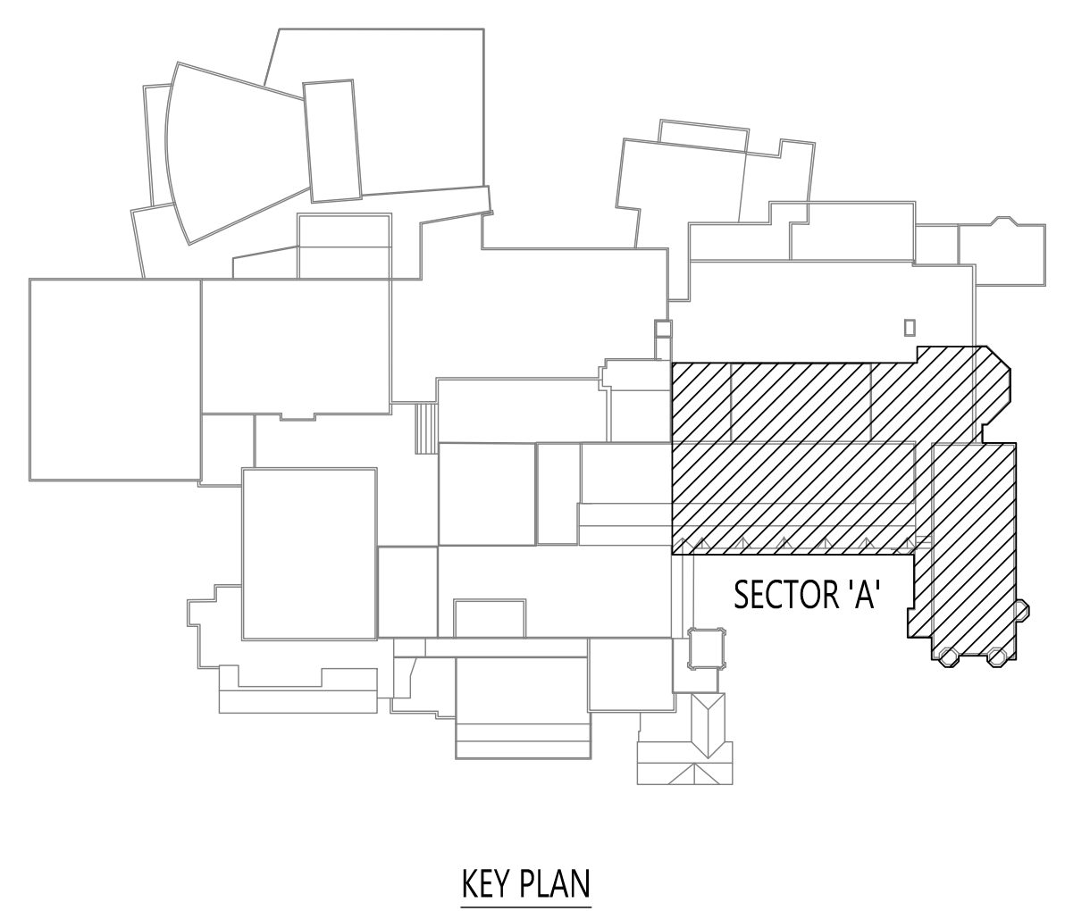
SCALE: 1/8"=1'-0"

MECHANICAL DEMOLITION NOTES

- Ⓐ REMOVE EXISTING STEAM UNIT HEATER (INCLUDING BRACKETS & SUPPORTS), CONTROL VALVE, THERMOSTAT & WIRING, STRAINER, CONDENSATE TRAP, ISOLATION VALVES, ETC., IN THEIR ENTIRETY. REMOVE EXISTING STEAM & CONDENSATE PIPING TO LOCATION SHOWN AND CAP PIPING. RE-INSULATE PIPING.
- Ⓑ CAP STEAM & CONDENSATE PIPING BELOW FLOOR.

MECHANICAL NEW WORK NOTES

- ① TAP EXISTING DTS&R PIPING AND DRAIN PIPING & RUN NEW INSULATED PIPING UP TO NEW FAN COIL UNIT. INSTALL NEW ISOLATION VALVES & PIPING PACKAGE FROM FAN COIL UNIT MANUFACTURER. EXISTING PIPING INSULATION SHALL BE REPAIRED IN AREAS WHERE DAMAGED. SEE PIPING DETAIL FOR FAN COIL.
- ② TAP EXISTING DRAIN PIPING AND RUN NEW INSULATED PIPING UP TO NEW FAN COIL UNIT. EXISTING PIPING INSULATION SHALL BE REPAIRED IN AREAS WHERE DAMAGED.



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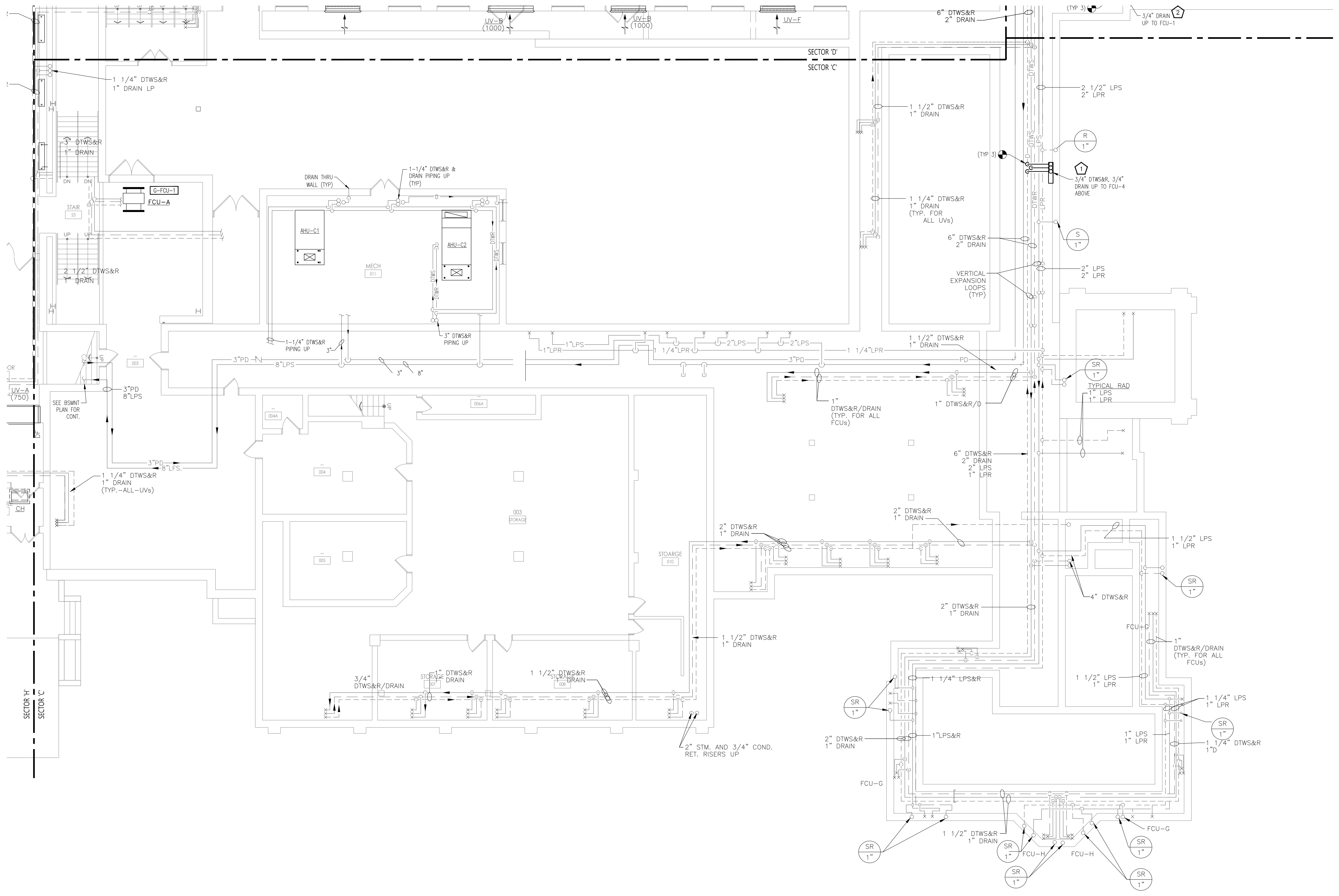
Project Name	HVAC Renovations at Princeton High School
Project Owner Name	Princeton Public Schools
Project Location	151 Moore Street, Princeton, NJ 08540
Project Number	5516E
Project Date	01.29. 2026
Checked By	JTM
Drawn By	JD
Scale	AS NOTED
Drawing Name	MECHANICAL - GROUND FLOOR SECTOR A PIPING DEMOLITION & NEW WORK PLAN

Revisions

No.	Date	Description

Drawing Number

M-301

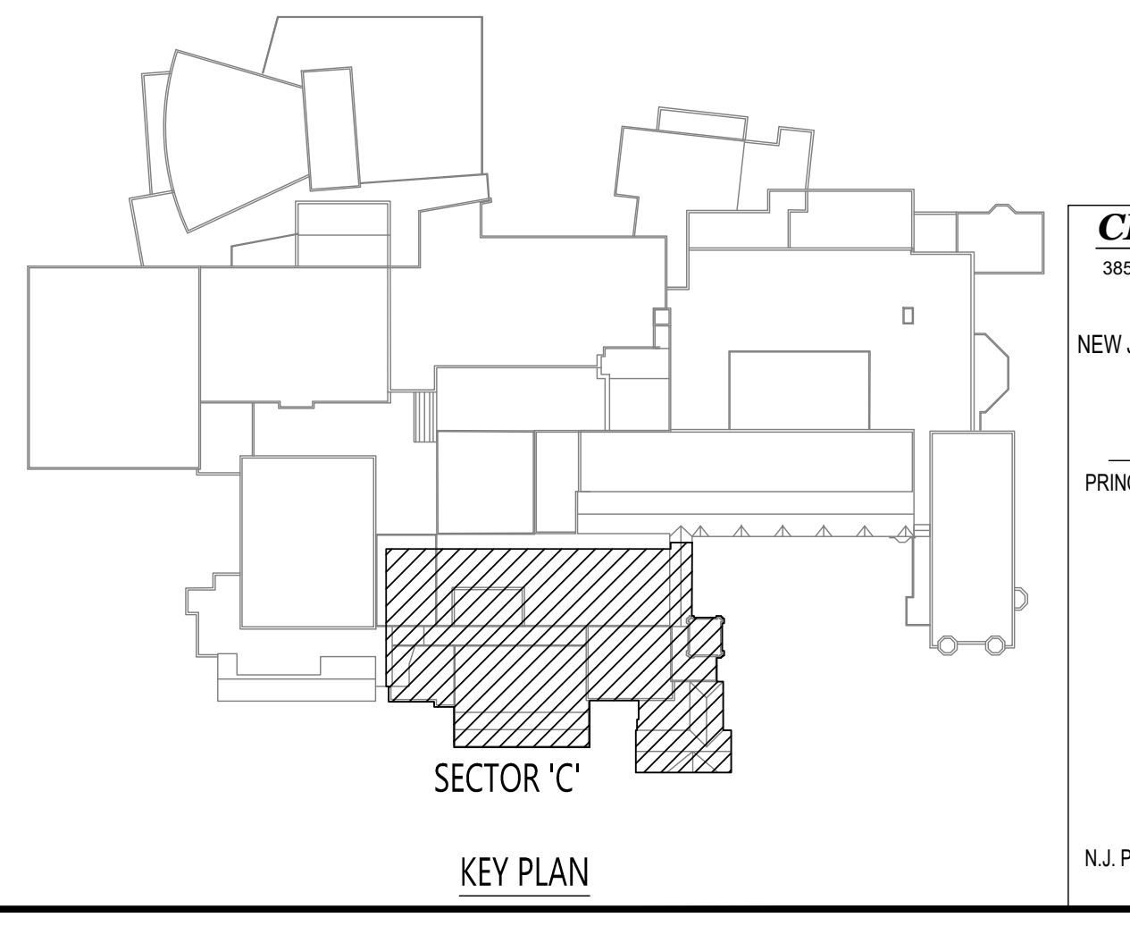


① MECHANICAL - SECTOR 'C' GROUND FLOOR PIPING NEW WORK PLAN

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

MECHANICAL NEW WORK NOTES

1. TAP EXISTING DTS&R PIPING AND DRAIN PIPING & RUN NEW INSULATED PIPING UP TO NEW FAN COIL UNIT. INSTALL NEW ISOLATION VALVES ON DTS&R PIPING. EXISTING PIPING INSULATION SHALL BE REPAIRED IN AREAS WHERE DAMAGED. SEE FAN COIL PIPING DETAIL.


SECTOR 'C'

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Project Name
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Project Owner Name
Princeton Public Schools

Project Location
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Princeton, NJ
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Project Number
5516E

Project Date
01.29. 2026

Checked By
JTM

Drawn By
JD

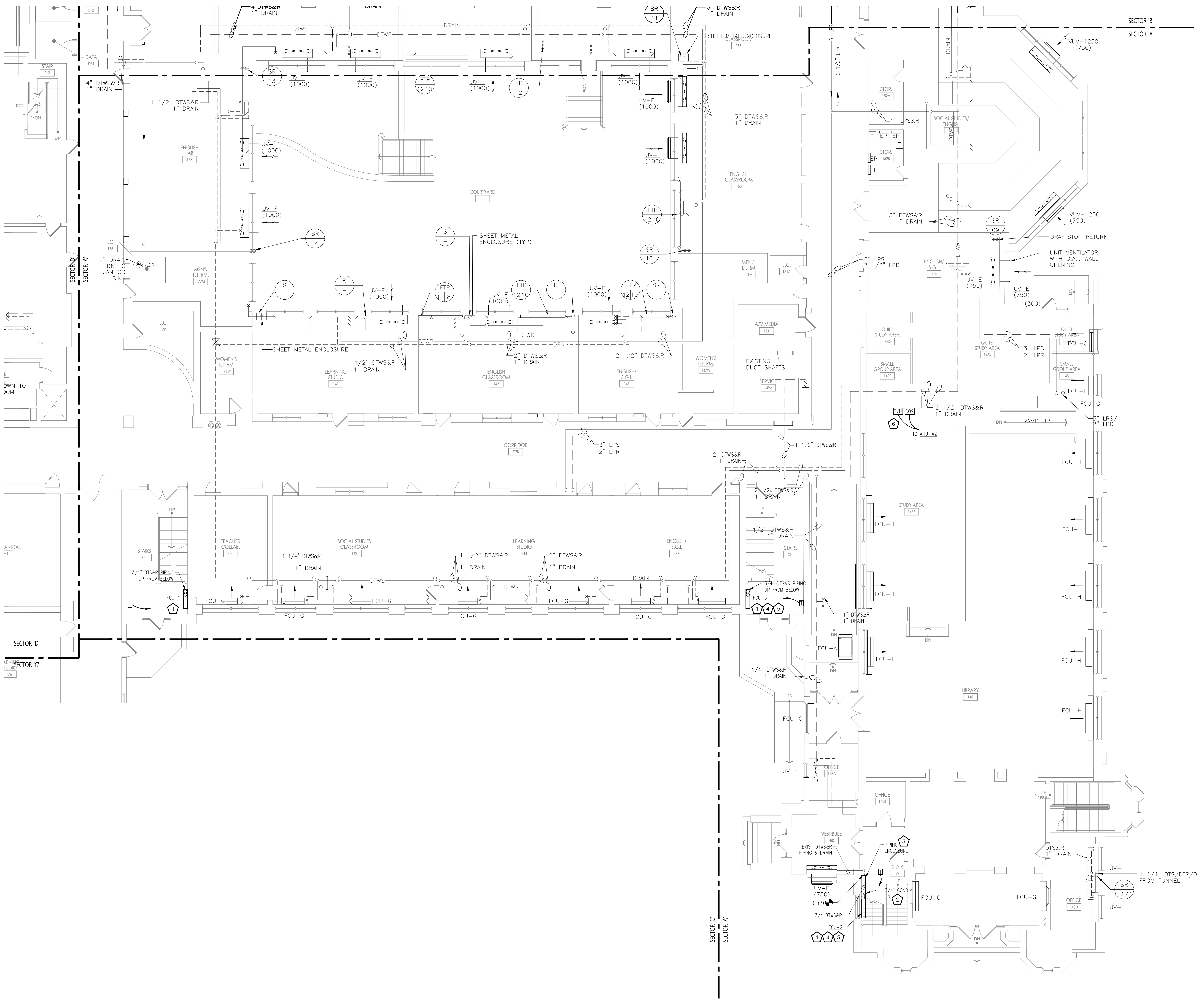
Scale
AS NOTED

Drawing Name
MECHANICAL -
GROUND FLOOR
SECTOR C
PIPING
NEW WORK PLAN

Revisions

No.	Date	Description

Drawing Number
M-303



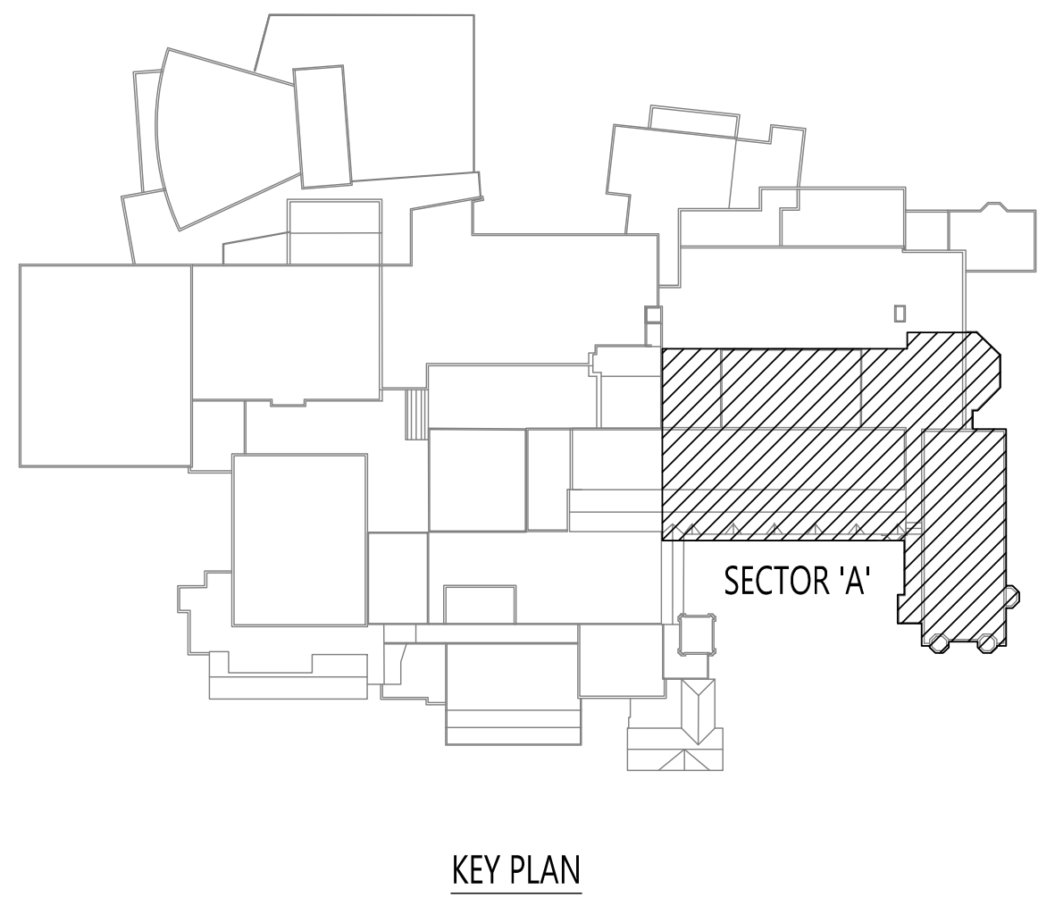
① MECHANICAL - SECTOR 'A' 1ST FLOOR PIPING NEW WORK PLAN
SCALE: 1/8"=1'-0"

MECHANICAL NEW WORK NOTES

1. INSTALL NEW FAN COIL UNIT & THERMOSTAT. FAN COIL UNIT SHALL BE INSTALLED AND SECURED TO FLOOR/WALL PER MANUFACTURER'S REQUIREMENTS. CONTRACTOR SHALL INSTALL PIPING PACKAGE SUPPLIED BY MANUFACTURER. SEE EQUIPMENT SCHEDULE.
2. USE EXISTING OPENING IN FLOOR TO ROUTE NEW CHW COIL CONDENSATE PIPING. FIRE SEAL OPENING.
3. INSTALL NEW PIPING IN PIPING ENCLOSURE AS MANUFACTURED BY SLANT FIN, MODEL: RT-14. ENCLOSURE SHALL BE INSTALLED AT 4" ABOVE F.F. TO ALLOW FOR REMOVAL OF FLOOR ACCESS PANEL. REDUCE PIPE INSULATION WITHIN ENCLOSURE TO 1" THICK. INSTALL HANGERS FOR PIPING.
4. BAS CONTRACTOR SHALL MOUNT THERMOSTAT AT 48" AFF. BAS CONTRACTOR SHALL WIRE THERMOSTAT & CONTROL VALVE TO UNIT'S CONTROLLER. THE CONTROLLER SHALL BE CONNECTED TO THE EXISTING BAS NETWORK. SEE CONTROL DRAWINGS FOR SEQUENCE OF OPERATION & OTHER REQUIREMENTS.
5. MECHANICAL CONTRACTOR SHALL INSTALL STRAINER, CONTROL VALVE, CIRCUIT SETTER & ISOLATION VALVES PURCHASED WITH THE FAN COIL UNIT.
6. BAS CONTRACTOR SHALL MOUNT TEMP/HUMIDITY & CARBON DIOXIDE SENSORS AT 48" AFF. BAS CONTRACTOR SHALL WIRE SENSORS BACK TO UNIT'S CONTROLLER. THE CONTROLLER SHALL BE CONNECTED TO THE EXISTING BAS NETWORK. SEE CONTROL DRAWINGS FOR SEQUENCE OF OPERATION & OTHER REQUIREMENTS. COORDINATE EXACT LOCATION OF SENSORS WITH OWNER.

MECHANICAL GENERAL NEW WORK NOTES

1. ALL EXPOSED CONTROL WIRING SHALL BE CONCEALED IN SURFACE RACEWAY AS MANUFACTURED BY WIREMOLD, PART NO. PN10L. PROVIDE COVER CLIP (PN10F06) TO CONCEAL SEAMS WHERE TWO SECTIONS MEET. INSTALL USING #8 PAN HEAD FASTENERS EVERY 2 FT (MAX). DOUBLE-SIDED TAPE, SELF-STICK FASTENERS, ETC., SHALL NOT BE USED.
2. ALL NEW THERMOSTATS IN PUBLIC AREAS/STAIRWELLS SHALL BE INSTALLED IN A HEAVY DUTY METAL THERMOSTAT LOCK BOX AS MANUFACTURED BY HONEYWELL, MODEL: TG511D 004. CONTRACTOR SHALL VERIFY THAT COVER HAS ADEQUATE SPACE FOR THERMOSTAT INSTALLATION. PROVIDE OWNER WITH 5 SETS OF KEYS.



KEY PLAN

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F V H D P C . C O M

Project Name
HVAC Renovations at Princeton High School

Project Owner Name
Princeton Public Schools

Project Location
151 Moore Street,
Princeton, NJ
08540

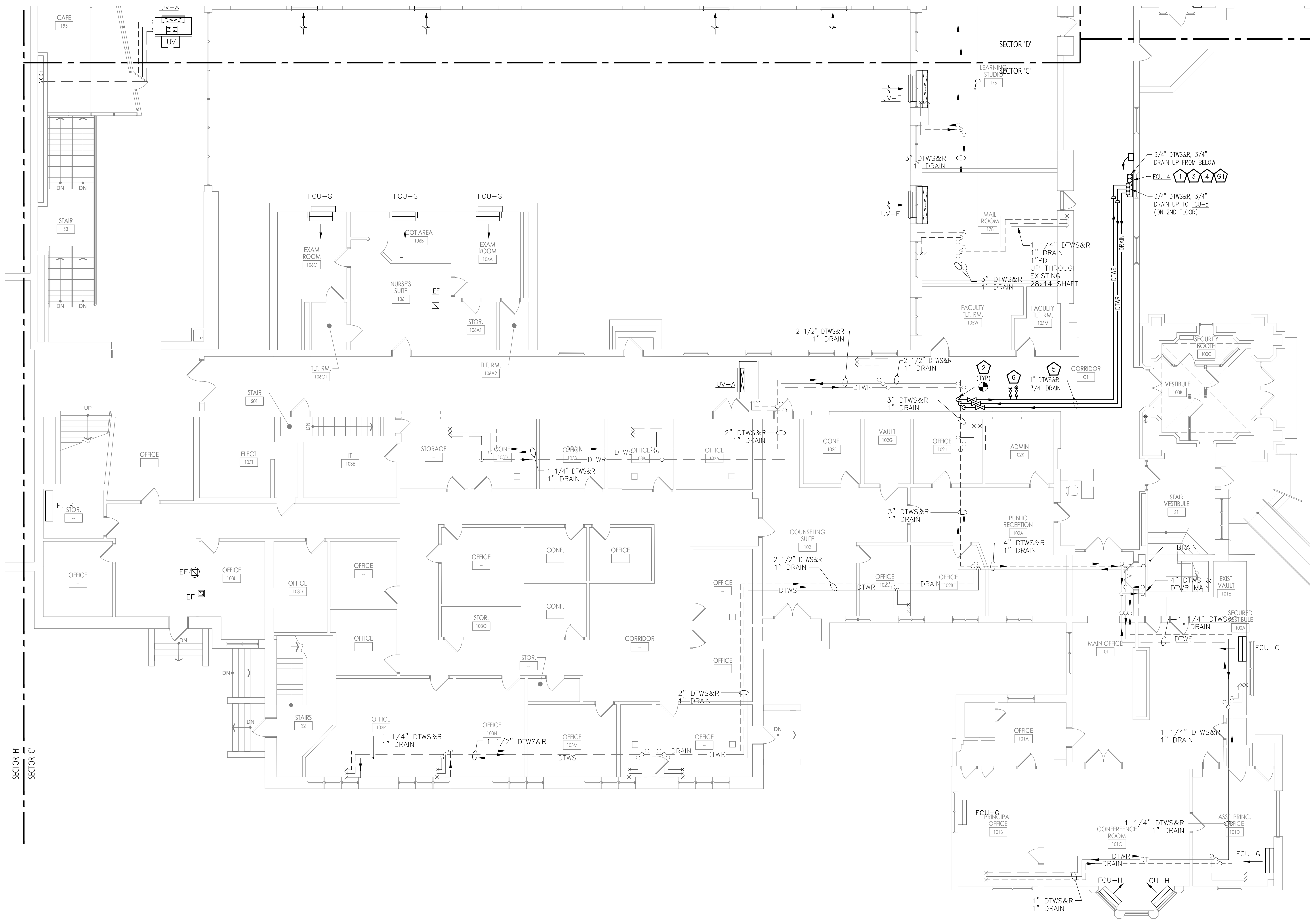
Project Number
5516E
Project Date
01.29. 2026
Checked By
JTM
Drawn By
JD
Scale
AS NOTED

Drawing Name
MECHANICAL -
1ST FLOOR
SECTOR A
PIPING
NEW WORK PLAN

Revisions

No.	Date	Description

Drawing Number
M-311



1 MECHANICAL - SECTOR 'C' 1ST FLOOR PIPING NEW WORK PLAN

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

MECHANICAL NEW WORK NOTES

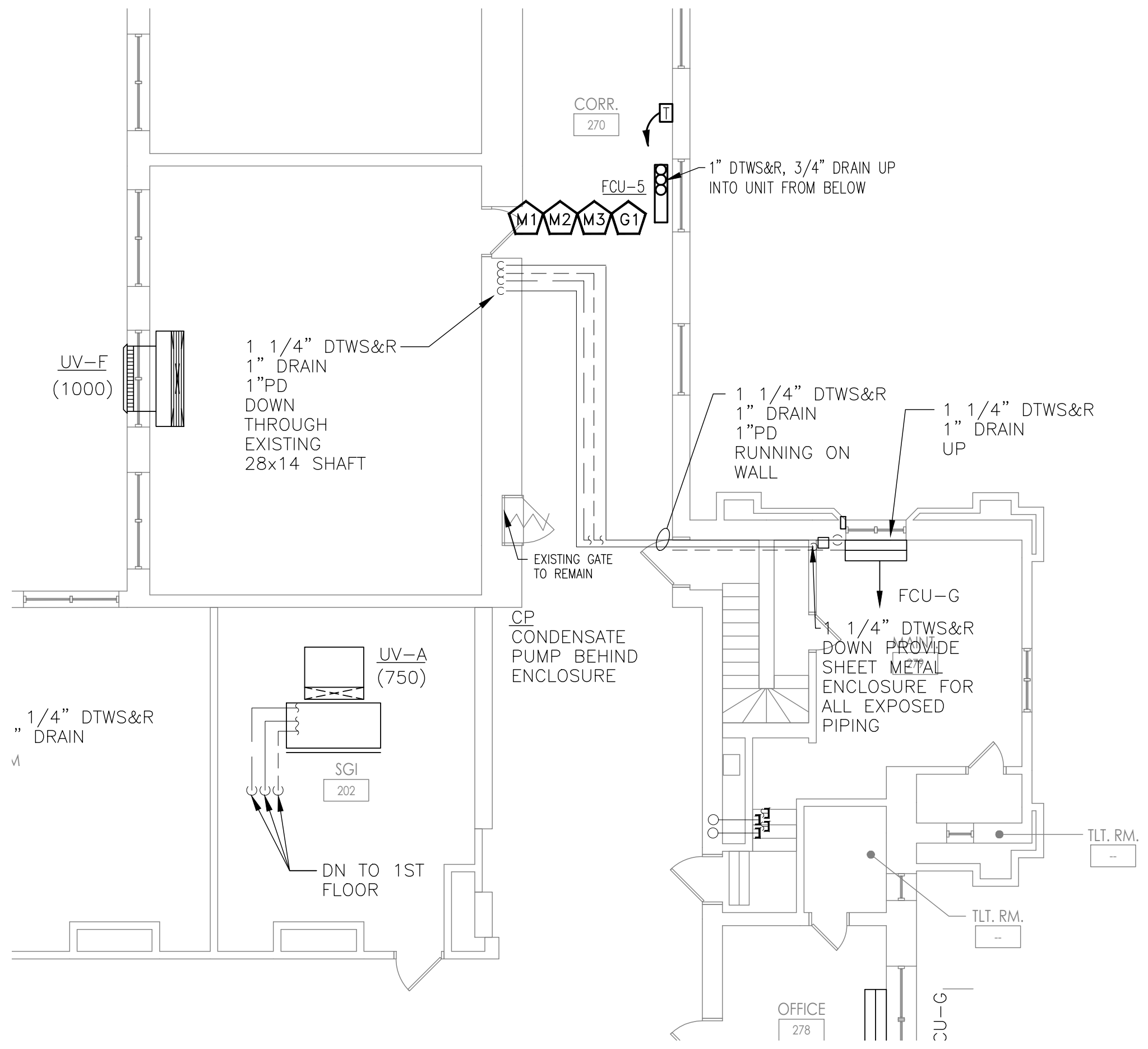
1. INSTALL NEW FAN COIL UNIT & THERMOSTAT. UNIT SHALL BE CENTERED UNDER WINDOW. FAN COIL UNIT SHALL BE INSTALLED AND SECURED TO FLOOR/WALL PER MANUFACTURER'S REQUIREMENTS. CONTRACTOR SHALL INSTALL PIPE PACKAGE SUPPLIED BY MANUFACTURER. SEE EQUIPMENT SCHEDULE.
2. TAP EXISTING DTS&R PIPING AND DRAIN PIPING & RUN NEW INSULATED PIPING UP TO NEW FAN COIL UNIT. INSTALL NEW ISOLATION VALVES ON DTS&R PIPING. EXISTING PIPING INSULATION SHALL BE REPAIRED IN AREAS WHERE DAMAGED.
3. BAS CONTRACTOR SHALL MOUNT THERMOSTAT AT 48" AFF. BAS CONTRACTOR SHALL WIRE THERMOSTAT & CONTROL VALVE TO UNIT'S CONTROLLER. THE CONTROLLER SHALL BE CONNECTED TO THE EXISTING BAS NETWORK. SEE CONTROL DRAWINGS FOR SEQUENCE OF OPERATION & OTHER REQUIREMENTS.
4. MECHANICAL CONTRACTOR SHALL INSTALL STRAINER, CONTROL VALVE, CIRCUIT SETTER & ISOLATION VALVES PURCHASED WITH THE FAN COIL UNIT.
5. NEW PIPING IN CEILING TO SERVE NEW FCU-5 ON SECOND FLOOR.
6. INSTALL A 3/4" MANUAL AIR VENT WITH HOSE END AND HIGH CAPACITY AUTO AIR VENT AS MANUFACTURED BY B&G, MODEL 707A.

GENERAL CONSTRUCTION NEW WORK NOTES

G1 CREATE NEW OPENINGS IN FLOOR FOR NEW PIPING AS REQUIRED. FIRE SEAL NEW PIPE PENETRATIONS. CLOSE ALL UNUSED HOLES WHERE STEAM & CONDENSATE PIPING WAS REMOVED. CONSTRUCTION TO MATCH EXISTING. SEE ARCHITECTURAL PLANS.

MECHANICAL GENERAL NEW WORK NOTES

1. ALL EXPOSED CONTROL WIRING SHALL BE CONCEALED IN SURFACE RACEWAY AS MANUFACTURED BY WIREMOLD, PART NO. PN10L. PROVIDE COVER CLIP (PN10F06) TO CONCEAL SEAMS WHERE TWO SECTIONS MEET. INSTALL USING #8 PAN HEAD FASTENERS EVERY 2 FT (MAX). DOUBLE-SIDED TAPE, SELF-STICK FASTENERS, ETC., SHALL NOT BE USED.
2. ALL NEW THERMOSTATS IN PUBLIC AREAS/STAIRWELLS SHALL BE INSTALLED IN A HEAVY DUTY METAL THERMOSTAT LOCK BOX AS MANUFACTURED BY HONEYWELL, MODEL: TG511D1004. CONTRACTOR SHALL VERIFY THAT COVER HAS ADEQUATE SPACE FOR THERMOSTAT INSTALLATION. PROVIDE OWNER WITH 5 SETS OF KEYS.


CORR.
1" DTWS&R, 3/4" DRAIN UP INTO UNIT FROM BELOW
FCU-5
M1
M2
M3
G1
UV-F (1000)
1 1/4" DTWS&R 1" DRAIN 1"PD DOWN THROUGH EXISTING 28x14 SHAFT
1 1/4" DTWS&R 1" DRAIN 1"PD RUNNING ON WALL
1 1/4" DTWS&R 1" DRAIN UP
EXISTING GATE TO REMAIN
CP CONDENSATE PUMP BEHIND ENCLOSURE
FCU-G
1 1/4" DTWS&R DOWN PROVIDE SHEET METAL ENCLOSURE FOR ALL EXPOSED PIPING
UV-A (750)
1 1/4" DTWS&R 1" DRAIN
DN TO 1ST FLOOR
TLT. RM.
OFFICE
278

2 MECHANICAL - SECTOR 'C' 2ND FLOOR PARTIAL PIPING NEW WORK PLAN

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

MECHANICAL NEW WORK NOTES

M1 INSTALL NEW FAN COIL UNIT & THERMOSTAT. UNIT SHALL BE CENTERED UNDER WINDOW. FAN COIL UNIT SHALL BE INSTALLED AND SECURED TO FLOOR/WALL PER MANUFACTURER'S REQUIREMENTS. CONTRACTOR SHALL INSTALL PIPE PACKAGE SUPPLIED BY MANUFACTURER. SEE EQUIPMENT SCHEDULE.

M2 BAS CONTRACTOR SHALL MOUNT THERMOSTAT AT 48" AFF. BAS CONTRACTOR SHALL WIRE THERMOSTAT & CONTROL VALVE TO UNIT'S CONTROLLER. THE CONTROLLER SHALL BE CONNECTED TO THE EXISTING BAS NETWORK. SEE CONTROL DRAWINGS FOR SEQUENCE OF OPERATION & OTHER REQUIREMENTS.

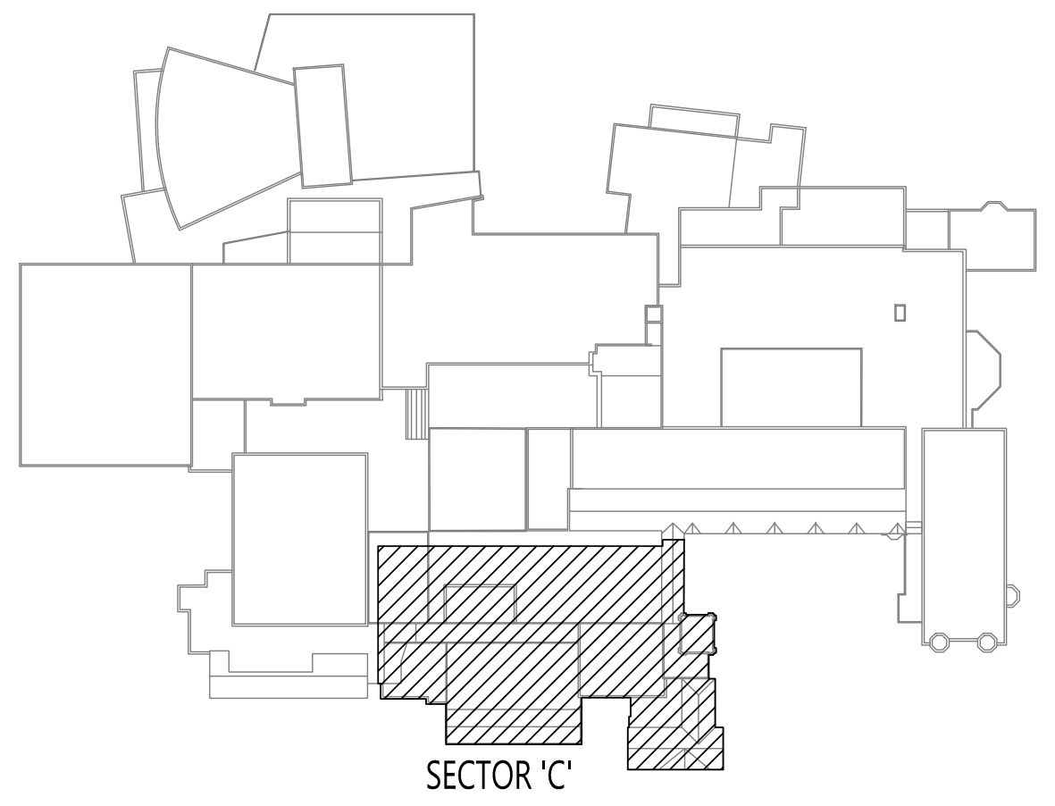
M3 MECHANICAL CONTRACTOR SHALL INSTALL STRAINER, CONTROL VALVE, CIRCUIT SETTER & ISOLATION VALVES PURCHASED WITH THE FAN COIL UNIT.

GENERAL CONSTRUCTION NEW WORK NOTES

G1 CREATE NEW OPENINGS IN FLOOR FOR NEW PIPING AS REQUIRED. FIRE SEAL NEW PIPE PENETRATIONS. CLOSE ALL UNUSED HOLES WHERE STEAM & CONDENSATE PIPING WAS REMOVED. CONSTRUCTION TO MATCH EXISTING. SEE ARCHITECTURAL PLANS.

MECHANICAL GENERAL NEW WORK NOTES

1. ALL EXPOSED CONTROL WIRING SHALL BE CONCEALED IN SURFACE RACEWAY AS MANUFACTURED BY WIREMOLD, PART NO. PN10L. PROVIDE COVER CLIP (PN10F06) TO CONCEAL SEAMS WHERE TWO SECTIONS MEET. INSTALL USING #8 PAN HEAD FASTENERS EVERY 2 FT (MAX). DOUBLE-SIDED TAPE, SELF-STICK FASTENERS, ETC., SHALL NOT BE USED.
2. ALL NEW THERMOSTATS IN PUBLIC AREAS/STAIRWELLS SHALL BE INSTALLED IN A HEAVY DUTY METAL THERMOSTAT LOCK BOX AS MANUFACTURED BY HONEYWELL, MODEL: TG511D1004. CONTRACTOR SHALL VERIFY THAT COVER HAS ADEQUATE SPACE FOR THERMOSTAT INSTALLATION. PROVIDE OWNER WITH 5 SETS OF KEYS.



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Project Name
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Project Owner Name
Princeton Public Schools

Project Location
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08540

Project Number
5516E

Project Date
01.29. 2026

Checked By
JTM

Drawn By
JD

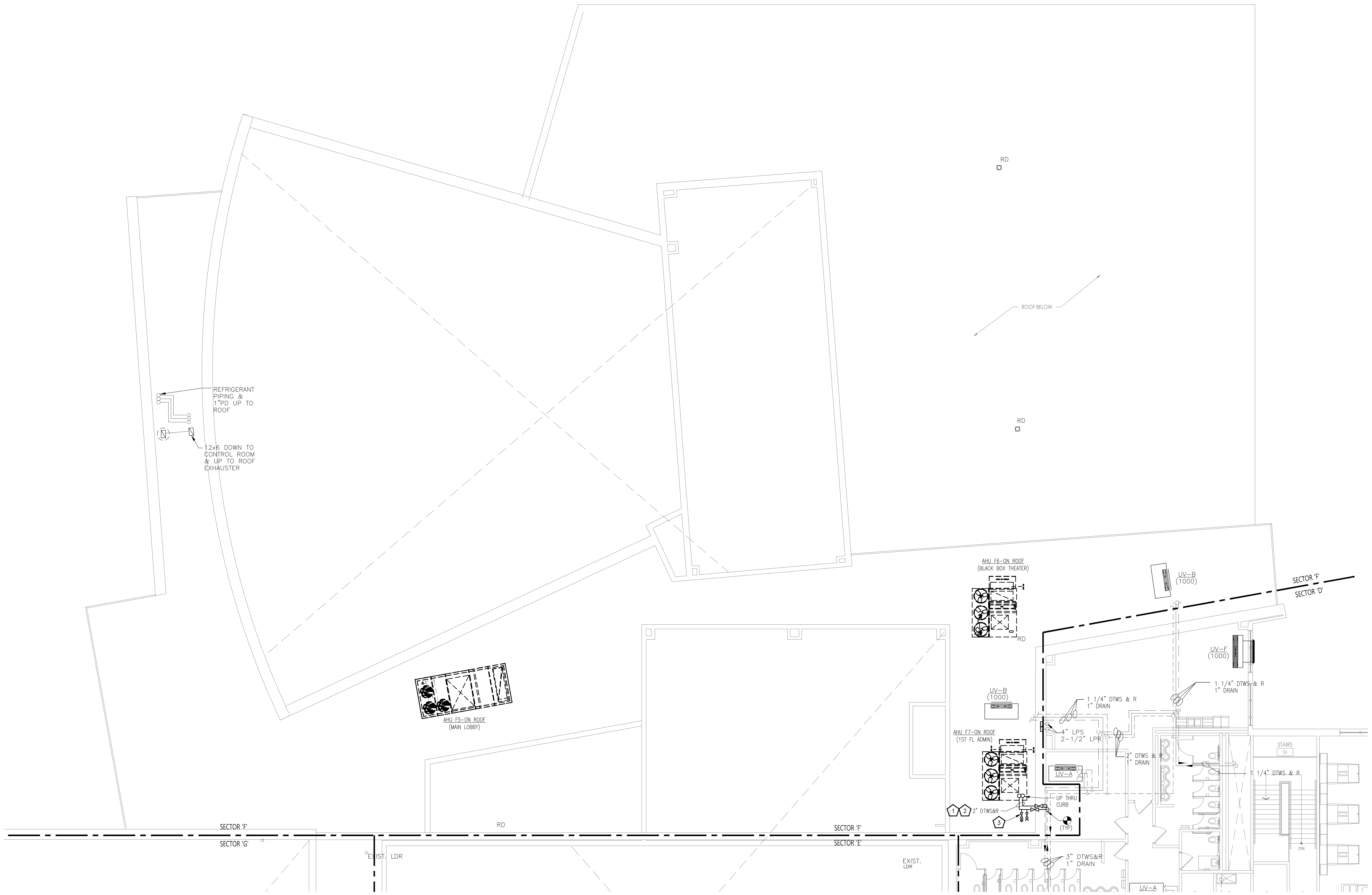
Scale
AS NOTED

Drawing Name
MECHANICAL - 1ST & 2ND FLOOR SECTOR C PIPING NEW WORK PLAN

Revisions

No.	Date	Description

Drawing Number
M-313

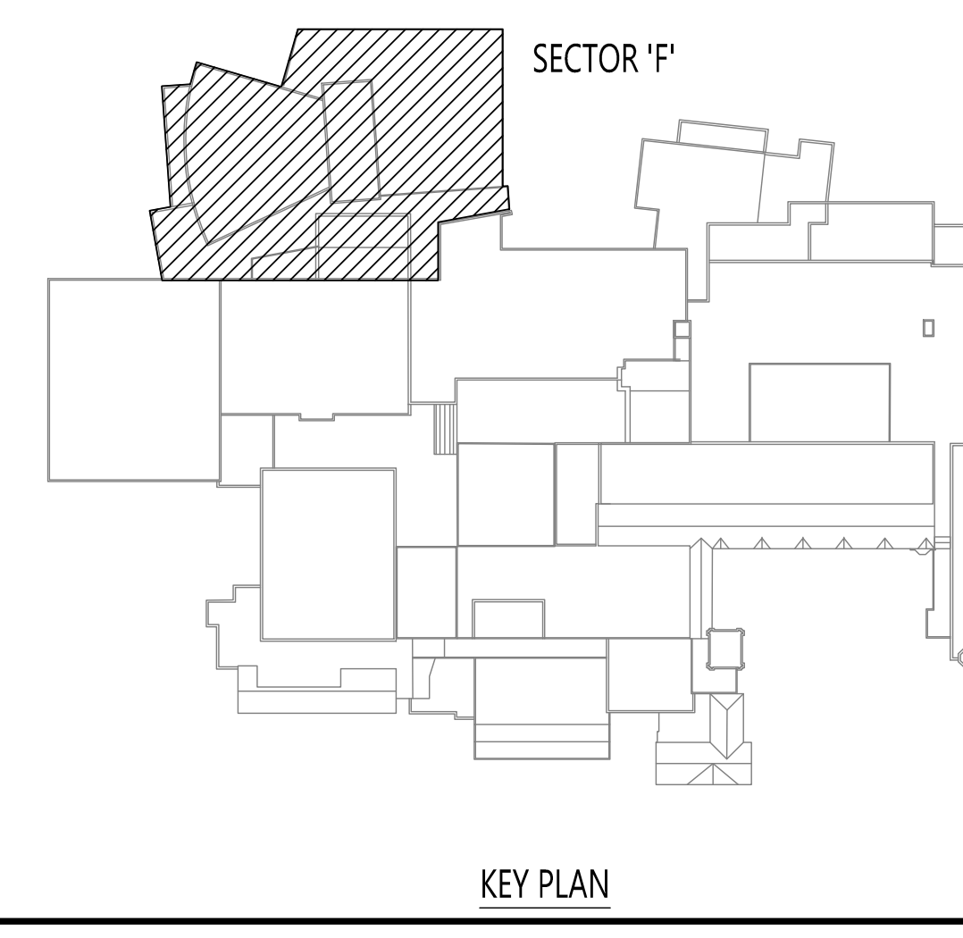


① MECHANICAL - SECTOR 'F' 2ND FLOOR PIPING NEW WORK PLAN

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

MECHANICAL NEW WORK NOTES

1. NEW DUAL TEMP SUPPLY & RETURN PIPING SHALL BE ROUTED UP THRU CURB. INSULATE ALL NEW PIPING. INSTALLED PIPING SPECIALTIES & VALVES. VALVES SHALL HAVE EXTENDED STEM TO ACCOMMODATE INSULATION THICKNESS.
2. CONTRACTOR SHALL SUPPLY & INSTALL STRAINER, CIRCUIT SETTER, ISOLATION VALVES, CONTROL VALVE AND THERMOWELLS FOR DTS&R PIPING. BAS CONTRACTOR SHALL MOUNT TEMP/HUMIDITY SENSOR & SHALL WIRE SENSOR AND CONTROL VALVE TO UNIT CONTROLLER. MANUFACTURER'S REPRESENTATIVE & BAS CONTRACTOR SHALL COMPLETE THE STARTUP OF THE UNIT.
3. INSTALL A 3/4" MANUAL AIR VENT WITH HOSE END AND HIGH CAPACITY AUTO AIR VENT AS MANUFACTURED BY B&G, MODEL 707A.



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Project Owner Name
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Project Date
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JTM
Drawn By
JD
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Drawing Name
MECHANICAL -
2ND FLOOR
SECTOR F
PIPING
NEW WORK PLAN

Revisions

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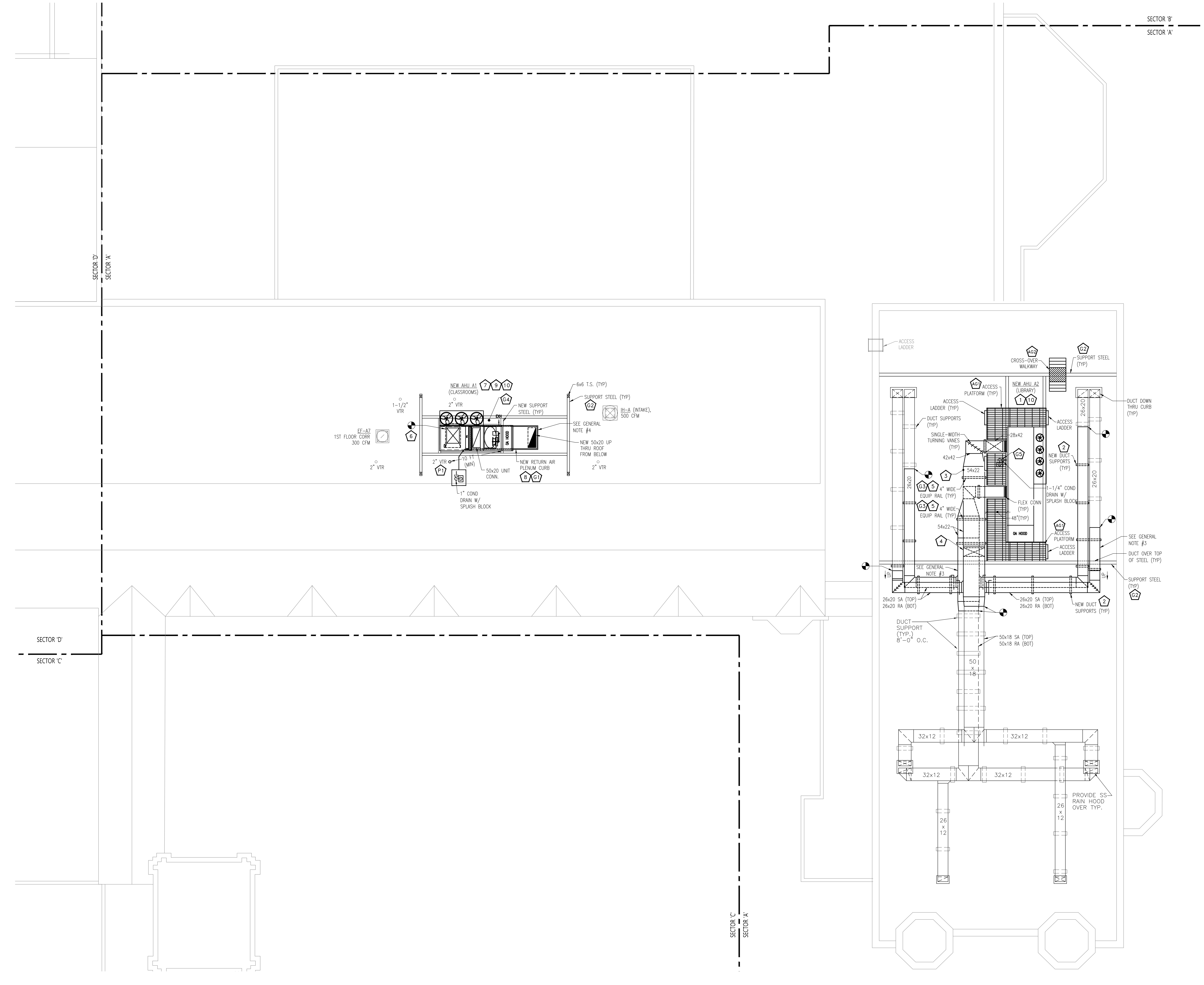
M-326



① MECHANICAL - SECTOR 'A' ROOF NEW WORK PLAN

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

MECHANICAL NEW WORK NOTES

1. THE NEW ROOTFOP UNIT SHALL BE INSTALLED ON EXISTING DUNNAGE FRAMING SUPPLEMENTED WITH NEW STEEL. INSTALL A 3/4" HIGH DENSITY VIBRATION PAD BENEATH SUPPORT STEEL. SEE COVER SHEET FOR PAD SPECIFICATION. CONTRACTOR SHALL WELD A 3/8" THICK, 4" WIDE GALVANIZED ANGLE TO BASE RAIL (4 CORNERS), THEN WELD ANGLE TO EXISTING STEEL. LENGTH OF ANGLE TO SUIT FIELD CONDITIONS. TOUCH UP WELDS WITH PRIMER & FINAL ZINC COATING. SUBMIT DETAIL TO ENGINEER FOR REVIEW. REFER TO STRUCTURAL DRAWINGS FOR FRAMING DETAILS.

2. DUCT SUPPORTS SHALL BE AS MANUFACTURED BY MIRO INDUSTRIES. REFER TO DETAIL, THIS DWG, FOR DETAILS. INSTALL 1" THICK, WHITE, HIGH DENSITY ROOF PAD BENEATH EACH SUPPORT.

3. BOTTOM OF DUCT SHALL BE 6'-6" ABOVE ACCESS PLATFORM.

4. DROP SUPPLY DUCT DOWN SO BOTTOM OF DUCT MATCHES THE ELEVATION OF THE MAIN EXISTING SUPPLY DUCT.

5. INSTALL NEW DUCT SUPPORT USING AN EQUIPMENT RAIL THAT IS SECURED TO ROOF DECK & IS FLASHED INTO EXISTING ROOFING.

6. TRANSITION EXISTING SUPPLY & RETURN AIR DUCTS TO NEW UNIT DUCT CONNECTION. NEW EXPOSED DUCTWORK SHALL BE INSULATED.

7. THE NEW ROOFTOP UNIT SHALL BE INSTALLED ON EXISTING DUNNAGE FRAMING WITH CENTER OF THE SUPPLY AIR CONNECTION ON THE UNIT MATCHING THE CENTER OF THE EXISTING SUPPLY AIR DUCT. ADDITIONAL STEEL FRAMING WILL BE REQUIRED. REFER TO STRUCTURAL DRAWINGS FOR FRAMING DETAILS. INSTALL A 3/4" HIGH DENSITY VIBRATION PAD BENEATH SUPPORT STEEL. SEE COVER SHEET FOR PAD SPECIFICATION. CONTRACTOR SHALL WELD A 3/8" THICK, 4" WIDE GALVANIZED ANGLE TO BASE RAIL (4 CORNERS), THEN WELD ANGLE TO EXISTING STEEL. LENGTH OF ANGLE TO SUIT FIELD CONDITIONS. TOUCH UP WELDS WITH PRIMER & FINAL ZINC COATING. SUBMIT DETAIL TO ENGINEER FOR REVIEW. REFER TO STRUCTURAL DRAWINGS FOR FRAMING DETAILS.

8. CONTRACTOR SHALL INSTALL A 2" WIDE INSULATED RETURN AIR PLENUM CURB AS SHOWN. CURB DIMENSIONS SHALL BE 56"(WIDE)x20"(HIGH)-CLEAR INSIDE DIMENSIONS. CONTRACTOR SHALL VERIFY THE REQUIRED LENGTH BASED ON FIELD CONDITIONS & THE APPROVED EQUIPMENT SUBMITTAL. THE CURB SHALL BE ROOFED IN PROVIDE FLANGED & GASKET CONNECTIONS ON CURB FOR CONNECTION TO BOTH RETURN AIR OPENINGS. ALL EXPOSED DUCTWORK SHALL BE INSULATED ACCORDING TO THE INSULATION SCHEDULE.

9. SEE GENERAL NOTES 3 & 4. CONTRACTOR SHALL INCLUDE ON THEIR DUCTWORK SHOP DRAWING THE RETURN CONNECTION SIZES & LOCATIONS. INCLUDE DUCTWORK ELEVATIONS, RETURN AIR PLENUM CURB, CURB SUPPORTS (TYPE & LOCATION), EXISTING STEEL DIMENSIONS & ELEVATION, ETC.

10. BAS CONTRACTOR SHALL INSTALL & WIRE CONTROL SENSORS TO UNIT CONTROLLER. SEE CONTROL DRAWINGS FOR ADDITIONAL INFORMATION.

GENERAL CONSTRUCTION NEW WORK NOTES

G1 NEW RETURN AIR PLENUM CURB SHALL BE ROOFED-IN. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.

G2 THE EXISTING STEEL SHALL BE PREPARED FOR PRIMER & PAINT. REFER TO ARCHITECTURAL/STRUCTURAL DRAWINGS FOR REQUIREMENTS.

G3 EQUIPMENT RAIL SHALL BE ROOFED-IN. SEE ARCHITECTURAL PLANS FOR FLASHING DETAILS.

G4 EXISTING CROSS MEMBERS TO BE RELOCATED OUTSIDE OF RETURN AIR CONNECTIONS TO ALLOW FOR INSTALLATION OF NEW RETURN AIR PLENUM CURB & DUCTWORK TRANSITIONS. REFER TO STRUCTURAL DRAWINGS FOR DETAILS.

G5 CUT HOLE IN GRATING FOR CONDENSATE DRAIN PIPE.

PLUMBING NEW WORK NOTES

P1 RELOCATE THE EXISTING PLUMBING VENT TO LOCATION SHOWN (I.E. 10FT MIN FROM OUTSIDE AIR OPENING ON NEW ROOFTOP UNIT). VENT PIPING SHALL BE TYPE 'L' COPPER. USE DIELECTRIC UNION WHEN JOINING DISSIMILAR METALS. INSTALL NEW PIPE PORTAL & FLASH INTO EXISTING ROOF. SEE ARCHITECTURAL DRAWINGS FOR DETAILS.

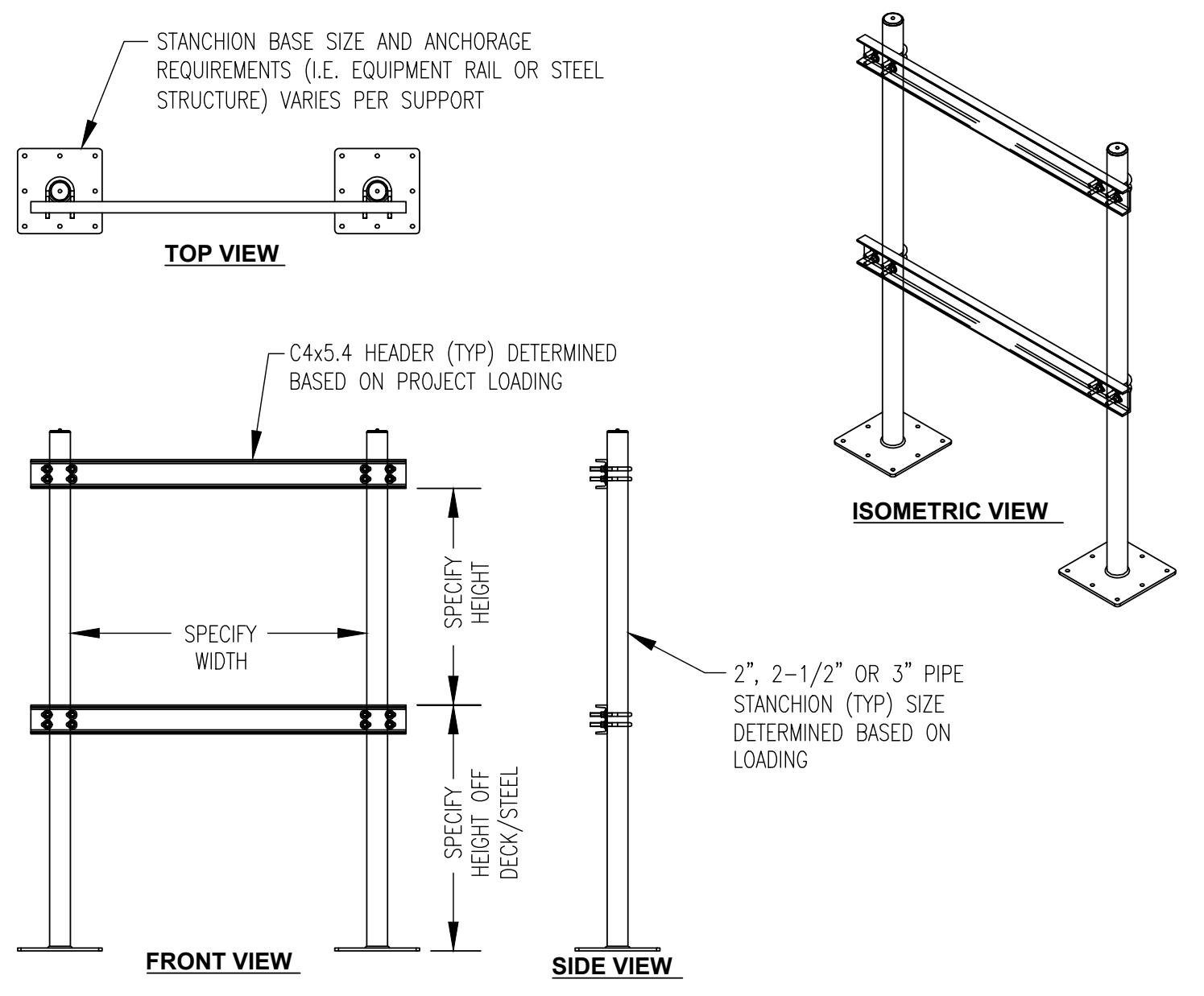
GENERAL CONSTRUCTION NEW WORK NOTES-ADD/ALT #4

AG1 NEW 48" WIDE ACCESS PLATFORM WITH OPEN GRATING, VERTICAL RUNG LADDER, AND OSHA COMPLIANT SAFETY RAILS. REFER TO STRUCTURAL & ARCHITECTURAL DRAWINGS FOR DETAILS.

AG2 NEW 42" WIDE CROSS-OVER WALKWAY. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.

GENERAL NEW WORK NOTES

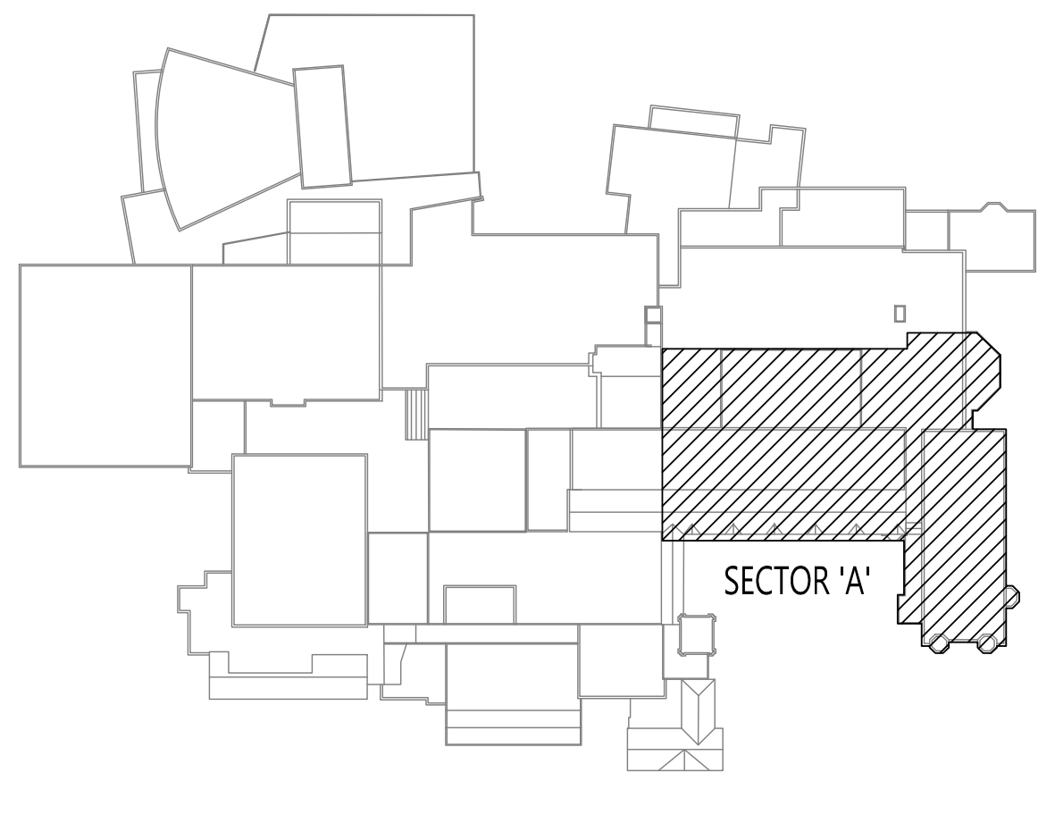
1. THE ROOF SLOPES IN VARIOUS AREAS. CONTRACTOR SHALL PROVIDE SLOPED ROOF CURBS SUCH THAT UNIT IS LEVEL AFTER INSTALLATION. COORDINATE WITH VENDOR WHEN ORDERING NEW ROOF CURBS.
2. DUCT SUPPORT SPACING SHALL BE PER SMACNA GUIDELINES.
3. CONTRACTOR SHALL PROVIDE A COORDINATED DUCTWORK SHOP DRAWING FOR NEW INSTALLATION. DRAWING SHALL BE 1/4"=1'-0" SCALE (OR LARGER). INCLUDE OVERALL DIMENSIONS OF APPROVED NEW ROOFTOP EQUIPMENT, SUPPLY & RETURN CONNECTION SIZES, DUCTWORK TRANSITIONS, ROOF CURB DIMENSIONS & ELEVATION, STEEL DIMENSIONS (WHERE INSTALLED ON DUNNAGE FRAMING), DUCTWORK SUPPORT TYPE & LOCATION, ETC. REFER TO PLAN DRAWING NOTES FOR ADDITIONAL REQUIREMENTS (WHERE NOTED).
4. CONTRACTOR SHALL VERIFY SIZE & LOCATION OF EXISTING SUPPLY AND RETURN AIR CONNECTIONS ON EXISTING ROOFTOP EQUIPMENT. THESE DIMENSIONS SHALL BE NOTED ON THE DUCTWORK/CURB SHOP DRAWINGS BEING SUBMITTED FOR REVIEW & APPROVAL.
5. NEW SMOKE DETECTORS SHALL BE INSTALLED FOR EACH ROOFTOP UNIT. REFER TO FIRE ALARM DRAWINGS FOR SCOPE OF WORK ASSOCIATED WITH THE MECHANICAL TRADE.
6. HIGH DENSITY VIBRATION PADS SHALL BE AS MANUFACTURED BY MASON INDUSTRIES, SUPER WAFFLE PAD, 3/4" THICKNESS.
7. REFER TO COVER SHEET (M-000) FOR ADDITIONAL NOTES THAT PERTAIN TO THE NEW WORK.


STANCHION BASE SIZE AND ANCHORAGE REQUIREMENTS (I.E. EQUIPMENT RAIL OR STEEL STRUCTURE) VARIES PER SUPPORT
TOP VIEW
ISOMETRIC VIEW
C4x5.4 HEADER (TYP) DETERMINED BASED ON PROJECT LOADING
SPECIFY WIDTH
SPECIFY HEIGHT
SPECIFY HEIGHT OFF DECK/STEEL
2", 2-1/2" OR 3" PIPE STANCHION (TYP) SIZE DETERMINED BASED ON LOADING
FRONT VIEW
SIDE VIEW

② DUCT SUPPORT DETAIL

SCALE: NTS

NOTES:
1. BASIS OF DESIGN: MIRO INDUSTRIES, MODEL: 8DS-ST.
2. CONTRACTOR SHALL PROVIDE MIRO INDUSTRIES AN APPROVED DUCTWORK SHOP DRAWING FOR THEIR REVIEW AND DETERMINATION OF THE SPECIFIC DUCTWORK SUPPORT REQUIRED AT EACH LOCATION.
3. CONTRACTOR SHALL PROVIDE MIRO INDUSTRIES THE WIDTH & HEIGHTS NOTED IN THE DETAIL ABOVE.
4. PROVIDE 1" THICK HIGH-DENSITY ROOF PAD UNDER EACH SUPPORT. COLOR SHALL BE WHITE.



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Drawing Name
MECHANICAL -
ROOF
SECTOR A
NEW WORK PLAN

Revisions		
No.	Date	Description

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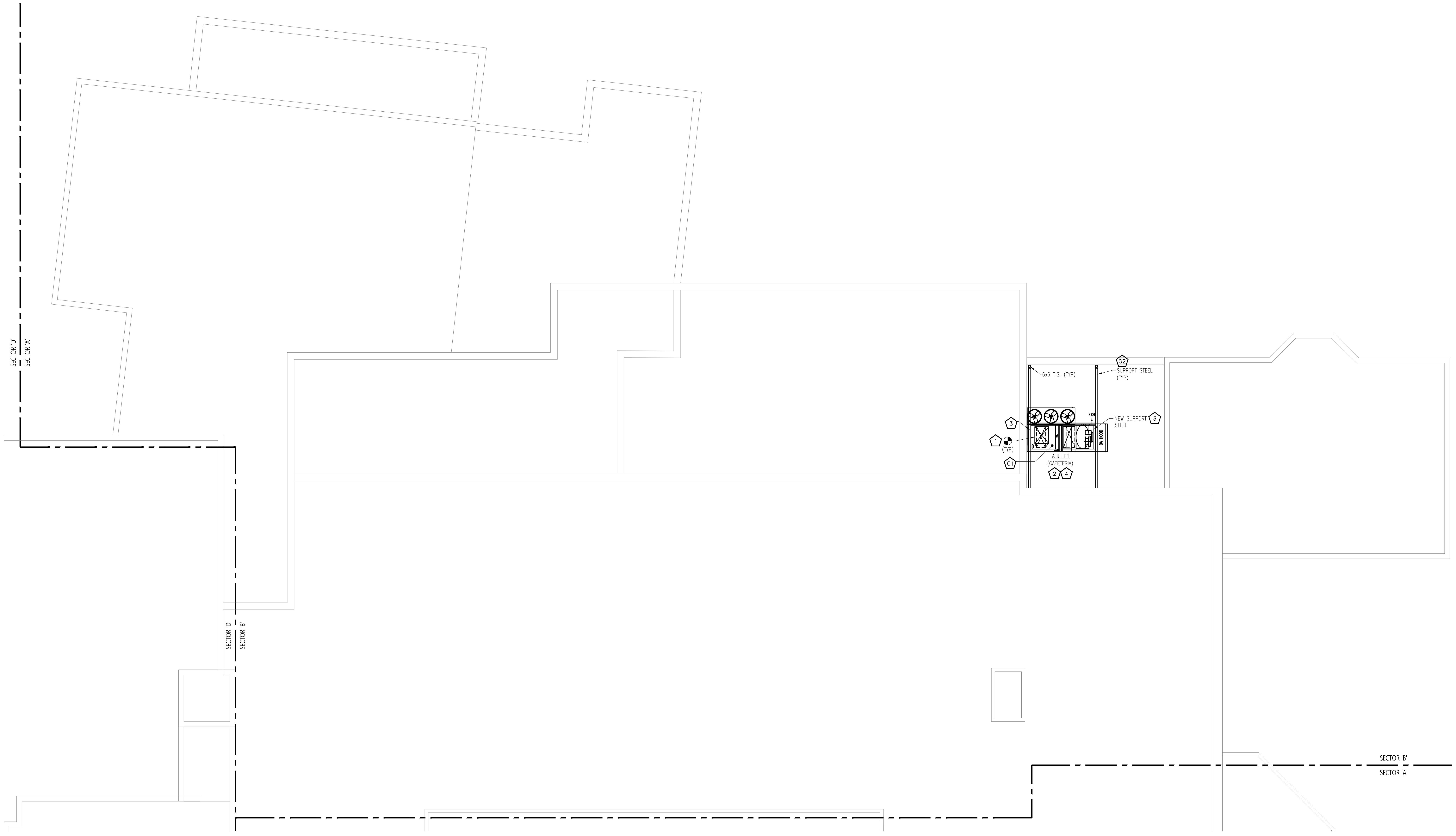
M-431



1 MECHANICAL - SECTOR 'B' ROOF NEW WORK PLAN
SCALE: 1/8"=1'-0"

MECHANICAL NEW WORK NOTES

1. TRANSITION EXISTING SUPPLY & RETURN AIR DUCTS TO NEW UNIT DUCT CONNECTION. NEW EXTERIOR EXPOSED DUCTWORK SHALL BE DOUBLE-WALL INSULATED WITH 2" INSULATION. SEE INSULATION SCHEDULE.

2. THE NEW ROOTFOP UNIT SHALL BE INSTALLED ON EXISTING DUNNAGE FRAMING USING A 3/4" HIGH DENSITY VIBRATION PAD BENEATH SUPPORT STEEL. SEE COVER SHEET FOR PAD SPECIFICATION. ALIGN CENTER OF RETURN DUCT TO CENTER OF RETURN OPENING ON UNIT. CONTRACTOR SHALL WELD A 3/8" THICK, 4" WIDE GALVANIZED ANGLE TO BASE RAIL (4 CORNERS), THEN WELD ANGLE TO EXISTING STEEL. LENGTH OF ANGLE TO SUIT FIELD CONDITIONS. TOUCH UP WELDS WITH PRIMER & FINAL ZINC COATING. SUBMIT DETAIL TO ENGINEER FOR REVIEW. ADDITIONAL STEEL FRAMING WILL ALSO BE REQUIRED. REFER TO STRUCTURAL DRAWINGS FOR FRAMING DETAILS.

3. THE CENTER OF THE FRONT ROOFTOP UNIT SUPPORT (NEAR SUPPLY CONNECTION) SHALL BE CENTERED ON THE EXISTING STEEL DUNNAGE. THE REAR SUPPORT SHALL REST ON NEW STEEL FRAMING.

4. BAS CONTRACTOR SHALL INSTALL & WIRE CONTROL SENSORS TO UNIT CONTROLLER. SEE CONTROL DRAWINGS FOR ADDITIONAL INFORMATION.

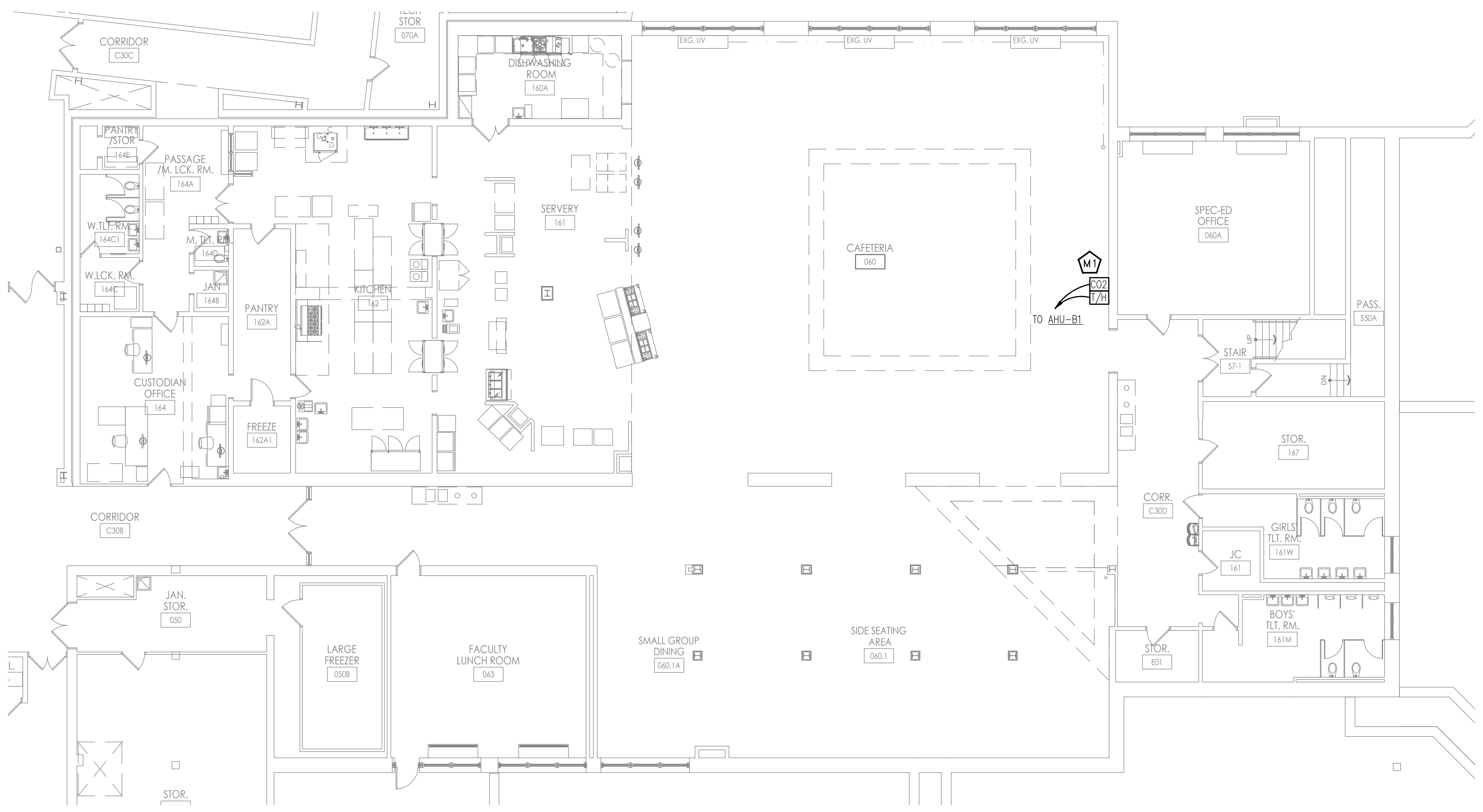
GENERAL CONSTRUCTION NEW WORK NOTES

G1 EXISTING STEEL CROSS MEMBERS TO BE RELOCATED TO ALLOW FOR NEW DUCTWORK TRANSITIONS. REFER TO STRUCTURAL DRAWINGS FOR DETAILS.

G2 THE EXISTING STEEL SHALL BE PREPPED FOR PRIMER & PAINT. REFER TO ARCHITECTURAL/STRUCTURAL DRAWINGS FOR REQUIREMENTS.

GENERAL NEW WORK NOTES

1. THE ROOF SLOPES IN VARIOUS AREAS. CONTRACTOR SHALL PROVIDE SLOPED ROOF CURBS SUCH THAT UNIT IS LEVEL AFTER INSTALLATION. COORDINATE WITH VENDOR WHEN ORDERING NEW ROOF CURBS.
2. DUCT SUPPORT SPACING SHALL BE PER SMACNA GUIDELINES.
3. CONTRACTOR SHALL PROVIDE A COORDINATED DUCTWORK SHOP DRAWING FOR NEW INSTALLATION. DRAWING SHALL BE 1/4"=1'-0" SCALE (OR LARGER). INCLUDE OVERALL DIMENSIONS OF APPROVED NEW ROOFTOP EQUIPMENT, SUPPLY & RETURN CONNECTION SIZES, DUCTWORK TRANSITIONS, ROOF CURB DIMENSIONS & ELEVATION, STEEL DIMENSIONS (WHERE INSTALLED ON DUNNAGE FRAMING), DUCTWORK SUPPORT TYPE & LOCATION, ETC. REFER TO PLAN DRAWING NOTES FOR ADDITIONAL REQUIREMENTS (WHERE NOTED).
4. CONTRACTOR SHALL VERIFY SIZE & LOCATION OF EXISTING SUPPLY AND RETURN AIR CONNECTIONS ON EXISTING ROOFTOP EQUIPMENT. THESE DIMENSIONS SHALL BE NOTED ON THE DUCTWORK/CURB SHOP DRAWINGS BEING SUBMITTED FOR REVIEW & APPROVAL.
5. NEW SMOKE DETECTORS SHALL BE INSTALLED FOR EACH ROOFTOP UNIT. REFER TO FIRE ALARM DRAWINGS FOR SCOPE OF WORK ASSOCIATED WITH THE MECHANICAL TRADE.
6. HIGH DENSITY VIBRATION PADS SHALL BE AS MANUFACTURED BY MASON INDUSTRIES, SUPER WAFFLE PAD, 3/4" THICKNESS.
7. REFER TO COVER SHEET (M-000) FOR ADDITIONAL NOTES THAT PERTAIN TO THE NEW WORK.



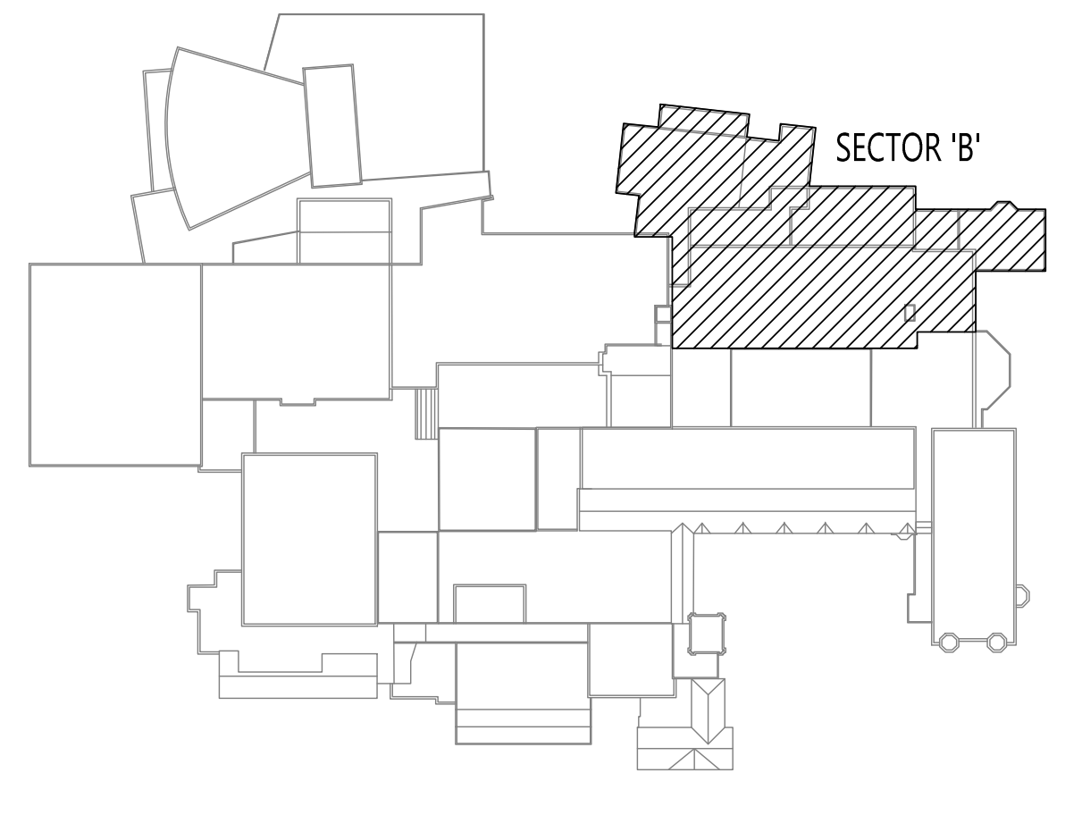
2 MECHANICAL - GROUND FLOOR SECTOR 'B' AHU CONTROL SENSOR LOCATION
SCALE: 3/32"=1'-0"

AHU CONTROL SENSORS – NEW WORK NOTES

M1 BAS CONTRACTOR SHALL MOUNT TEMP/HUMIDITY & CARBON DIOXIDE SENSORS AT 48" AFF. BAS CONTRACTOR SHALL WIRE SENSORS BACK TO UNIT'S CONTROLLER. THE CONTROLLER SHALL BE CONNECTED TO THE EXISTING BAS NETWORK. SEE CONTROL DRAWINGS FOR SEQUENCE OF OPERATION & OTHER REQUIREMENTS. COORDINATE EXACT LOCATION OF SENSORS WITH OWNER.

MECHANICAL GENERAL NEW WORK NOTES

1. ALL EXPOSED CONTROL WIRING TO AHUs SHALL BE CONCEALED IN SURFACE RACEWAY AS MANUFACTURED BY WIREMOLD, PART NO. PN10L. PROVIDE COVER CLIP (PN10F06) TO CONCEAL SEAMS WHERE TWO SECTIONS MEET. INSTALL USING #8 PAN HEAD FASTENERS EVERY 2 FT (MAX). DOUBLE-SIDED TAPE, SELF-STICK FASTENERS, ETC., SHALL NOT BE USED.
2. ALL NEW THERMOSTATS IN PUBLIC AREAS/STAIRWELLS SHALL BE INSTALLED IN A HEAVY DUTY METAL THERMOSTAT LOCK BOX AS MANUFACTURED BY HONEYWELL, MODEL: TG511D1004. CONTRACTOR SHALL VERIFY THAT COVER HAS ADEQUATE SPACE FOR THERMOSTAT INSTALLATION. PROVIDE OWNER WITH 5 SETS OF KEYS.



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William D. Hopkins
Architect
01/29/26
Date

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Corporate: 1515 Lower Ferry Road - Trenton - New Jersey 08618
Pennsylvania: 820 Adams Ave., Suite 210 - Audubon - Pennsylvania 19403
F V H D P C . C O M

Project Name
HVAC Renovations at Princeton High School

Project Owner Name
Princeton Public Schools

Project Location
151 Moore Street,
Princeton, NJ
08540

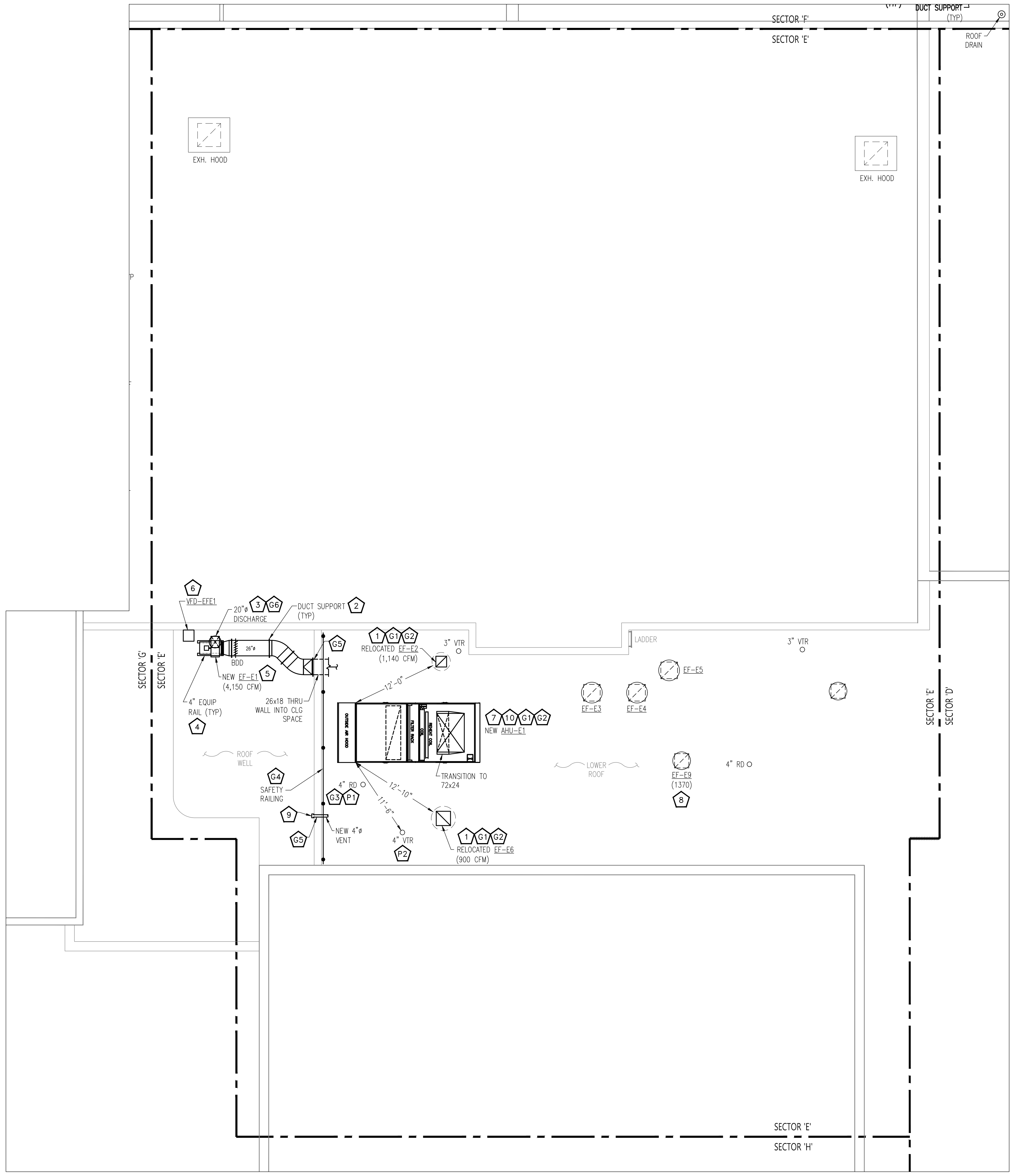
Project Number
5516E
Project Date
01.29.2026
Checked By
JTM
Drawn By
JD
Scale
AS NOTED

Drawing Name
MECHANICAL - ROOF
SECTOR B
NEW WORK PLAN

Revisions

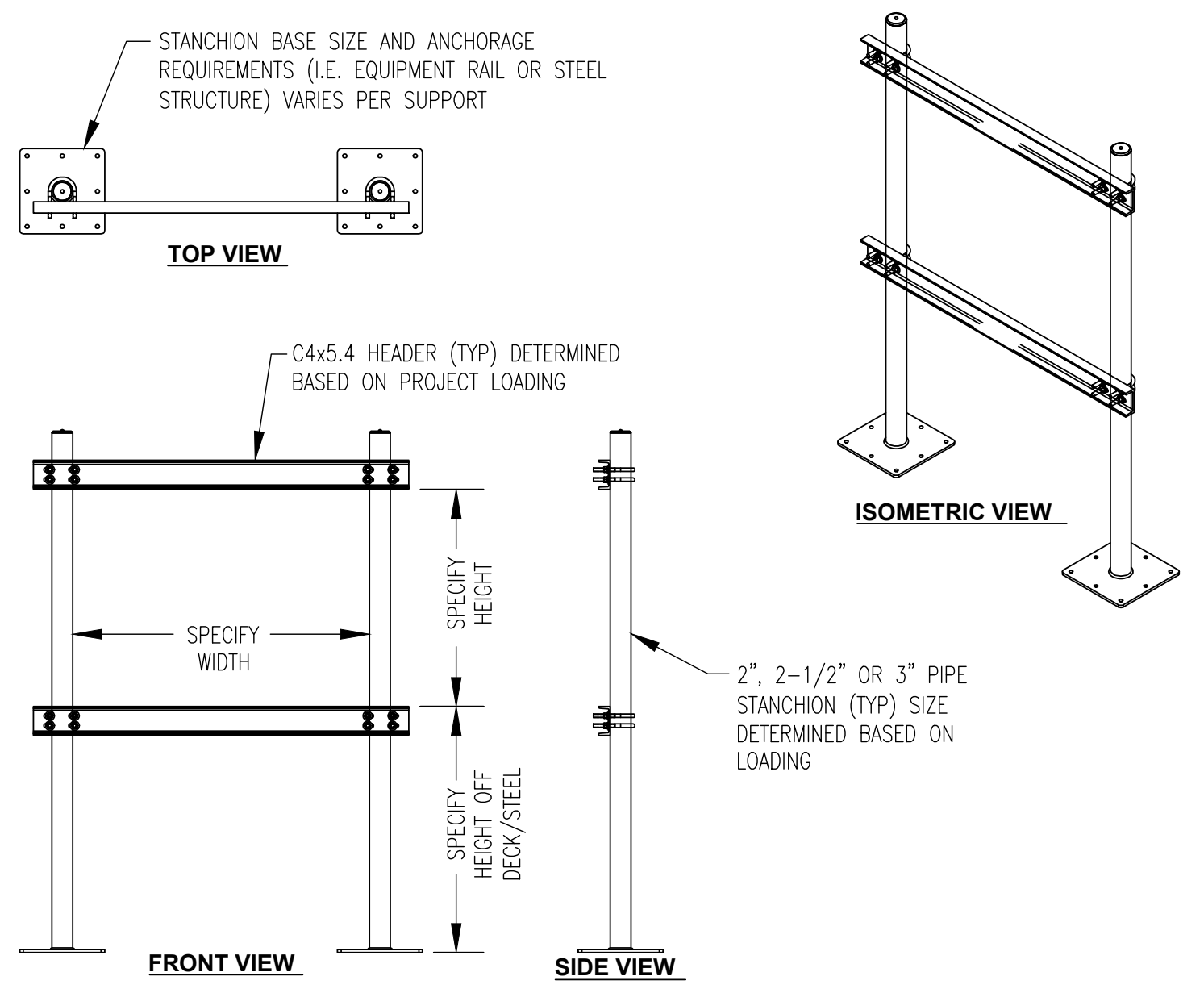
No.	Date	Description

Drawing Number
M-432



1 MECHANICAL - SECTOR 'E' ROOF NEW WORK PLAN

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


STANCHION BASE SIZE AND ANCHORAGE REQUIREMENTS (I.E. EQUIPMENT RAIL OR STEEL STRUCTURE) VARIES PER SUPPORT
TOP VIEW
C4x5.4 HEADER (TYP) DETERMINED BASED ON PROJECT LOADING
SPECIFY WIDTH
SPECIFY HEIGHT
SPECIFY HEIGHT OFF DECK/STEEL
FRONT VIEW
2", 2-1/2" OR 3" PIPE STANCHION (TYP) SIZE DETERMINED BASED ON LOADING
SIDE VIEW
ISOMETRIC VIEW

2 DUCT SUPPORT DETAIL

SCALE: NTS

NOTES:

1. BASIS OF DESIGN: MIRO INDUSTRIES, MODEL: 8DS-ST.
2. CONTRACTOR SHALL PROVIDE MIRO INDUSTRIES AN APPROVED DUCTWORK SHOP DRAWING FOR THEIR REVIEW AND DETERMINATION OF THE SPECIFIC DUCTWORK SUPPORT REQUIRED AT EACH LOCATION.
3. CONTRACTOR SHALL PROVIDE MIRO INDUSTRIES THE WIDTH & HEIGHTS NOTED IN THE DETAIL ABOVE.
4. PROVIDE 1" THICK HIGH-DENSITY ROOF PAD UNDER EACH SUPPORT. COLOR SHALL BE WHITE.

MECHANICAL NEW WORK NOTES

1 INSTALL EXISTING EXHAUST FAN ON A NEW ROOF CURB EQUIPPED WITH NEW BACK DRAFT DAMPER & DAMPER TRAY. HEIGHT TO MATCH EXISTING. INSTALL NEW BELTS & SHEAVES & BALANCE TO AIR QUANTITY SHOWN. EXTEND EXISTING CONTROL CIRCUIT/WIRING AS REQUIRED. FAN OPERATING SEQUENCE SHALL REMAIN UNCHANGED.

2 DUCT SUPPORTS SHALL BE AS MANUFACTURED BY MIRO INDUSTRIES. REFER TO DETAIL, THIS DWG. INSTALL 1" THICK, WHITE, HIGH DENSITY ROOF PAD BENEATH EACH SUPPORT.

3 EXTEND THE DISCHARGE DUCT TO 10FT ABOVE ROOF. SUPPORT DUCT TO EXTERIOR WALL. SEE ARCHITECTURAL DRAWINGS.

4 4" WIDE, ROOFED-IN, EQUIPMENT RAILS WITH GALVANIZED RAIL CAP.

5 INSTALL FAN ON NEW SPRING VIBRATION ISOLATORS. BALANCE TO AIR QUANTITY SHOWN. EXTEND EXISTING CONTROL CIRCUIT/WIRING AS REQUIRED. FAN OPERATING SEQUENCE SHALL REMAIN UNCHANGED.

6 CONTRACTOR SHALL PROVIDED & INSTALL A NEW VFD (SEE SPECIFICATION, THIS DWG). MOUNT NEW VFD ON WALL USING GALVANIZED UNISTRUT AT 5FT AFF.

7 CONTRACTOR SHALL INSTALL UNIT IN A 24" HIGH SEISMIC CURB.

8 INSTALL NEW BELTS & SHEAVES & BALANCE TO AIR QUANTITY SHOWN.

9 PROVIDE AND INSTALL ALUMINUM HOODED WALL CAP AS MANUFACTURED BY GREENHECK, MODEL: WC-4.

10 BAS CONTRACTOR SHALL INSTALL & WIRE CONTROL SENSORS TO UNIT CONTROLLER. SEE CONTROL DRAWINGS FOR ADDITIONAL INFORMATION.

PLUMBING NEW WORK NOTES

P1 RELOCATE EXISTING ROOF DRAIN & CAGE WHERE SHOWN. USE CAST IRON PIPE & INSULATE NEW PIPING, MATCHING EXISTING TYPE, THICKNESS, AND JACKET.

P2 RELOCATE EXISTING PLUMBING VENT WHERE SHOWN. USE NEW TYPE 'DWV' PVC PIPING, MATCHING EXISTING TYPE & SCHEDULE.

GENERAL CONSTRUCTION NEW WORK NOTES

G1 NEW CURB SHALL BE ROOFED-IN. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.

G2 REFER TO STRUCTURAL DRAWINGS FOR INSTALLATION OF STEEL FRAMING BENEATH NEW CURB.

G3 TAPER ROOF INSULATION TO ACCOMMODATE NEW ROOF DRAIN. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.

G4 INSTALL A GALVANIZED, OSHA APPROVED SAFETY RAILING AS SHOWN. REFER TO ARCHITECTURAL DRAWINGS FOR SPECIFICATION & INSTALLATION REQUIREMENTS.

G5 PROVIDE NEW OPENING IN EXTERIOR WALL. SEE ARCHITECTURAL DRAWINGS.

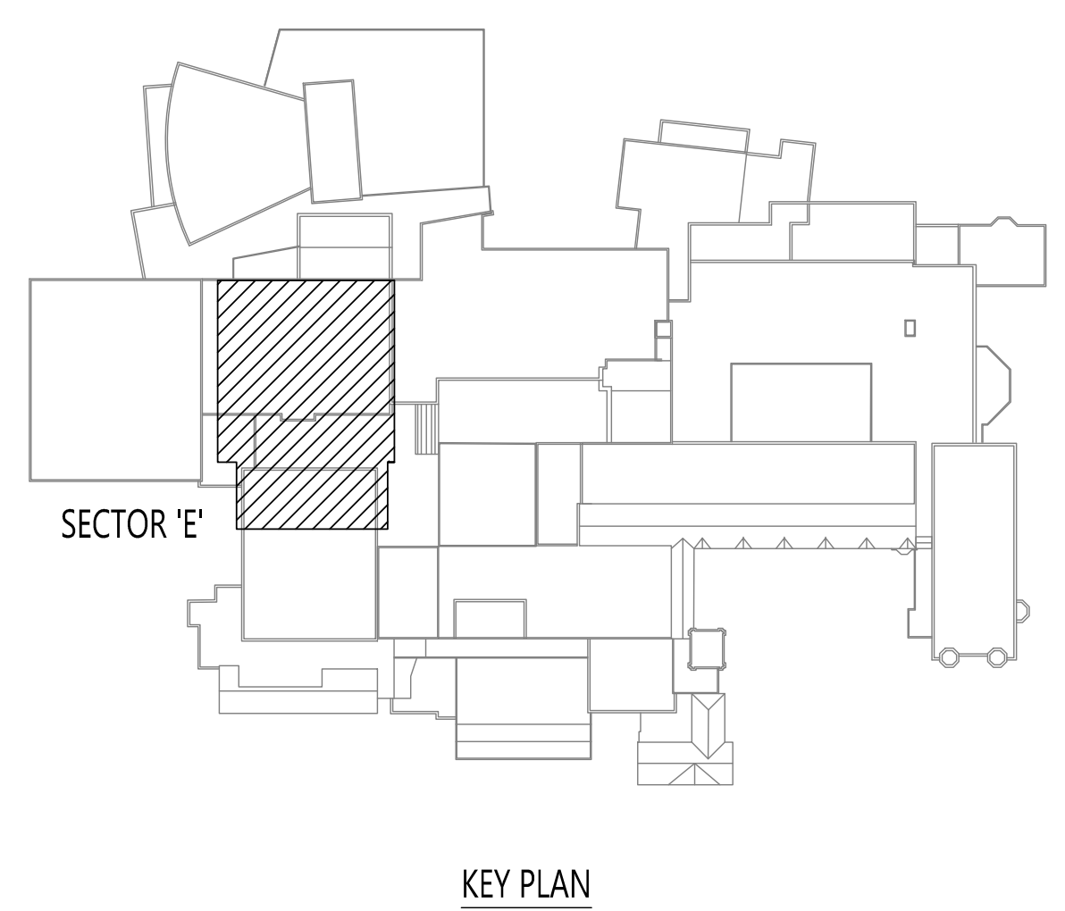
G6 PROVIDE WALL SUPPORT FOR EXHAUST STACK. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS. FAN SHALL NOT SUPPORT THE WEIGHT OF THE EXHAUST DUCT.

VFD EFE1 SPECIFICATION

CONTRACTOR SHALL PROVIDE & INSTALL NEW VFD AS MANUFACTURED BY YASKAWA, SERIES: HV600, MODEL: H6C3B004PMF3TW. DRIVE SHALL BE RATED FOR 3 HP, 4.8 FLA @ 480V-3PH. DRIVE SHALL BE IN NEMA 3R ENCLOSURE, 6-PULSE DRIVE WITH 5% DC LINK CHOKE, INTEGRAL MAIN DISCONNECT BREAKER, 100 kA SHORT CIRCUIT RATING, ON-BOARD EMI/RMI FILTERS, ALPHA NUMERIC KEY PAD WITH H-O-A BUTTONS, ELECTRONIC GROUND FAULT PROTECTION, INPUT & OUTPUT PHASE LOSS PROTECTION, UL APPROVED ELECTRONIC THERMAL MOTOR OVERLOAD PROTECTION, AND SHALL HAVE A BACNET MS/TP COMMUNICATIONS CARD.

GENERAL NEW WORK NOTES

1. THE ROOF SLOPES IN VARIOUS AREAS. CONTRACTOR SHALL PROVIDE SLOPED ROOF CURBS SUCH THAT UNIT IS LEVEL AFTER INSTALLATION. COORDINATE WITH VENDOR WHEN ORDERING NEW ROOF CURBS.
2. DUCT SUPPORT SPACING SHALL BE PER SMACNA GUIDELINES.
3. CONTRACTOR SHALL PROVIDE A COORDINATED DUCTWORK SHOP DRAWING FOR NEW INSTALLATION. DRAWING SHALL BE 1/4"=1'-0" SCALE (OR LARGER). INCLUDE OVERALL DIMENSIONS OF APPROVED NEW ROOFTOP EQUIPMENT, SUPPLY & RETURN CONNECTION SIZES, DUCTWORK TRANSITIONS, ROOF CURB DIMENSIONS & ELEVATION, STEEL DIMENSIONS (WHERE INSTALLED ON DUNNAGE FRAMING), DUCTWORK SUPPORT TYPE & LOCATION, ETC. REFER TO PLAN DRAWING NOTES FOR ADDITIONAL REQUIREMENTS (WHERE NOTED).
4. CONTRACTOR SHALL VERIFY SIZE & LOCATION OF EXISTING SUPPLY AND RETURN AIR CONNECTIONS ON EXISTING ROOFTOP EQUIPMENT. THESE DIMENSIONS SHALL BE NOTED ON THE DUCTWORK/CURB SHOP DRAWINGS BEING SUBMITTED FOR REVIEW & APPROVAL.
5. NEW SMOKE DETECTORS SHALL BE INSTALLED FOR EACH ROOFTOP UNIT. REFER TO FIRE ALARM DRAWINGS FOR SCOPE OF WORK ASSOCIATED WITH THE MECHANICAL TRADE.
6. REFER TO COVER SHEET (M-000) FOR ADDITIONAL NOTES THAT PERTAIN TO THE NEW WORK.



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Project Name
HVAC Renovations
at Princeton High
School

Project Owner Name
Princeton Public
Schools

Project Location
151 Moore Street,
Princeton, NJ
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Project Number
5516E
Project Date
01.29. 2026
Checked By
JTM
Drawn By
JD
Scale
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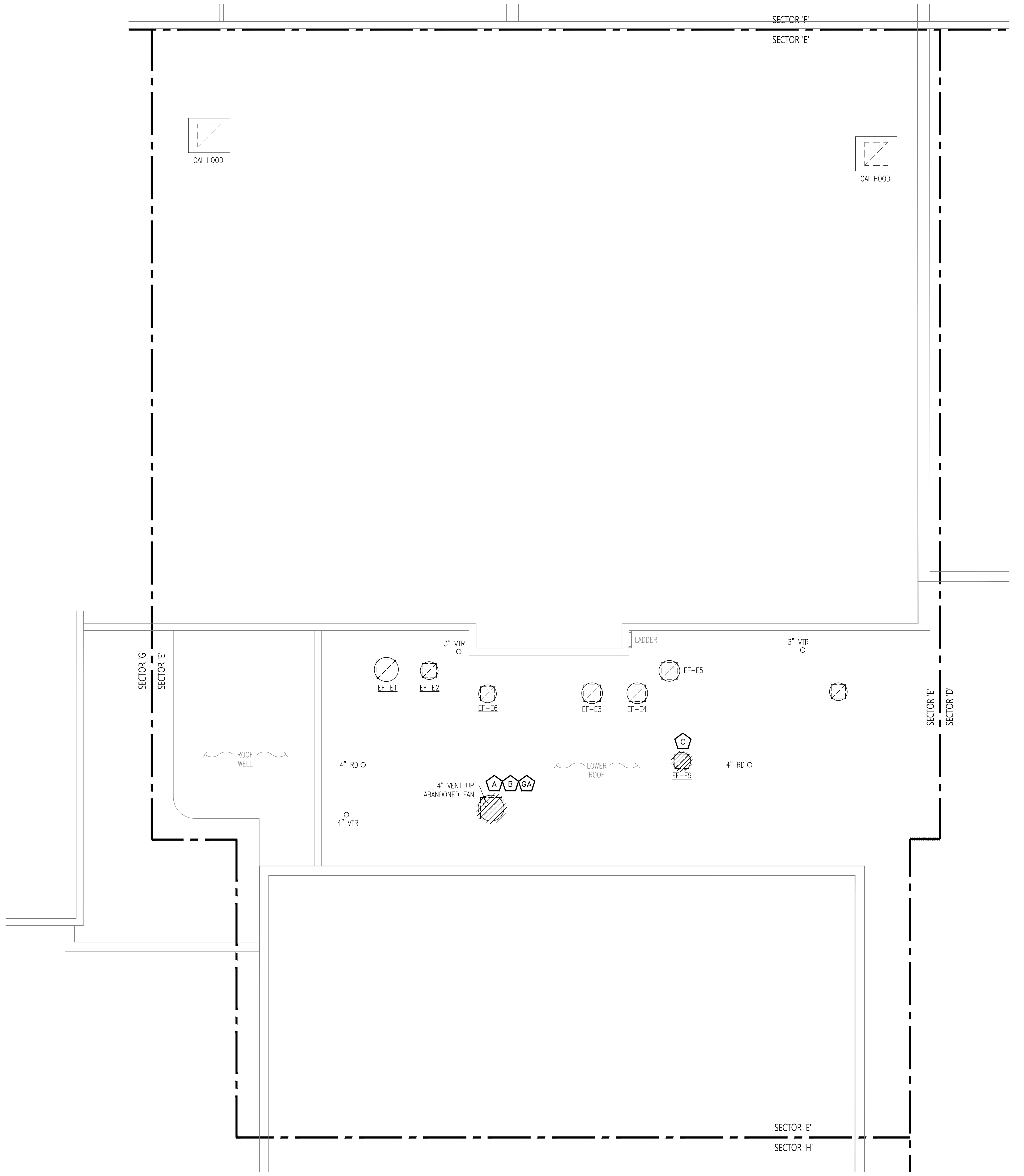
Drawing Name
MECHANICAL -
ROOF
SECTOR E
NEW WORK PLAN

Revisions

No.	Date	Description

Drawing Number
M-435



1 MECHANICAL - SECTOR 'E' ROOF DEMOLITON PLAN - ADD/ALT #1

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

MECHANICAL DEMOLITION NOTES

A REMOVE EXISTING EXHAUST FAN AND ROOF CURB. REPAIR ROOF & ROOF DECK.

B EXISTING 4" VENT SHALL BE RE-ROUTED AS SHOWN ON NEW WORK PLAN.

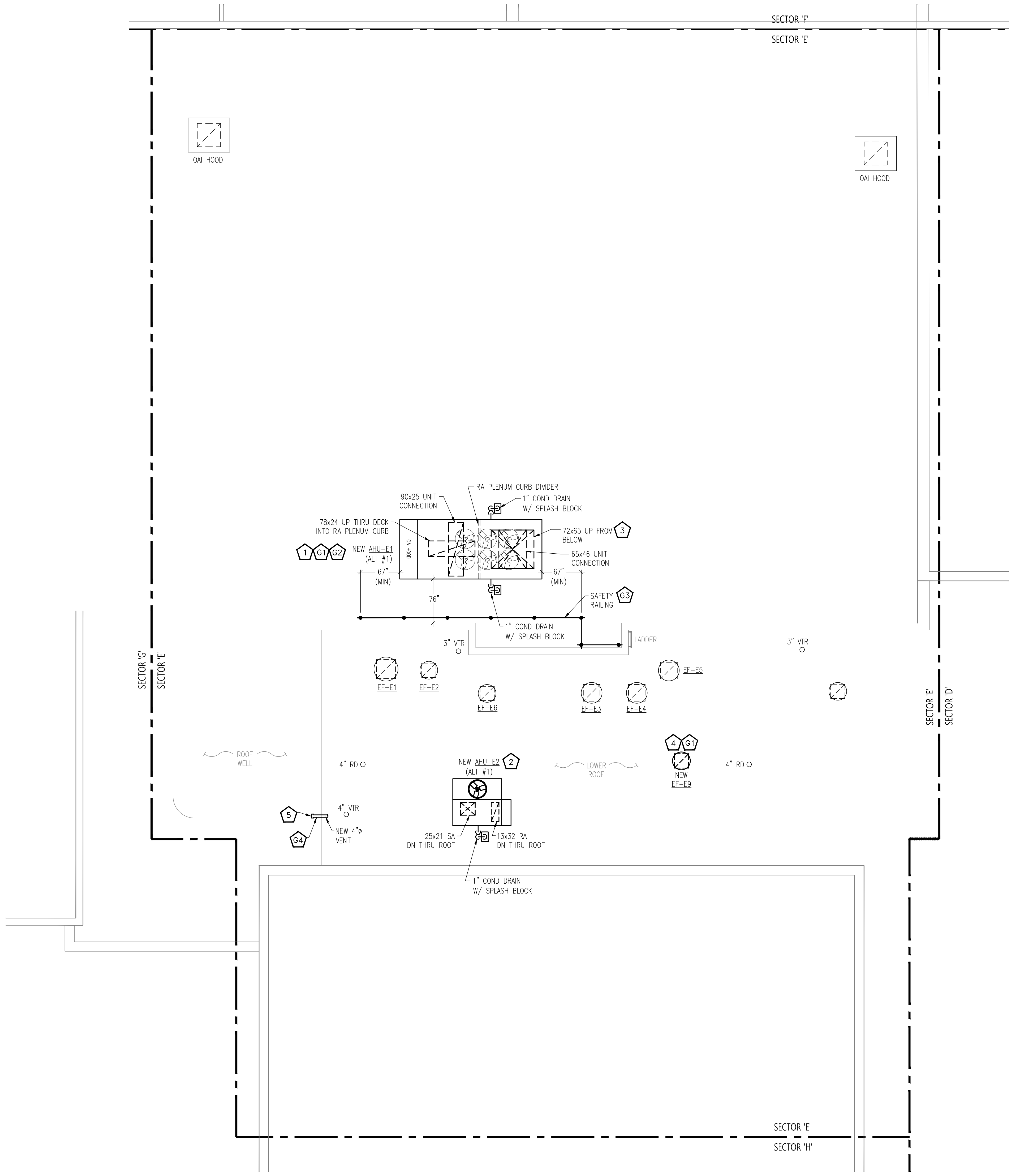
C REMOVE EXISTING EXHAUST FAN AND ROOF CURB. NEW EXHAUST FAN SHALL BE INSTALLED IN SAME LOCATION.

GENERAL CONSTRUCTION DEMOLITION NOTES

GA REPAIR ROOF WHERE EXISTING EQUIPMENT SUPPORTS RAILS, ROOF CURBS, ROOF DRAINS/VENTS, PIPE & PIPE SUPPORTS, DUCT SUPPORTS, ETC. ARE NOTED TO BE REMOVED. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.

GENERAL DEMOLITION NOTES

1. THE EXISTING DUCTWORK SHALL BE DEMOLISHED AND REMOVED FROM THE SITE BY THE CONTRACTOR. CONNECTING DUCTWORK WILL BE CUT BACK AND REMOVED BASED ON THE SHEETMETAL CONTRACTORS REQUIREMENTS.
2. CONTRACTOR SHALL DEVELOP DETAILED WRITTEN PLAN TO COORDINATE ALL DEMOLITION AND NEW WORK IN ORDER TO MINIMIZE DOWNTIME OF THE HVAC SYSTEMS. THIS PLAN SHALL BE COMPLETED AND APPROVED BY THE OWNER. THE PLAN SHALL BE COMPLETED AND SUBMITTED WITHIN 2 WEEKS OF CONTRACTOR SELECTION. OWNER APPROVAL IS REQUIRED BEFORE ANY WORK CAN COMMENCE.
3. THE CONTRACTOR SHALL RESTORE TO ITS ORIGINAL CONDITION WITHOUT EXTRA PAYMENT, ANY OF THE OWNERS PROPERTY OR PROPERTY OR WORK BY/OF OTHER CONTRACTORS THAT SHALL BECOME DAMAGED DUE TO THE NEGLIGENCE OF EMPLOYEES OR AGENTS OF THE CONTRACTOR. SUCH REPAIRS SHALL MEET THE APPROVAL OF THE OWNER. PARTICULAR CARE SHALL BE EXERCISED TO PROTECT FIRE ALARM AND SECURITY WIRING.
4. CONTRACTOR SHALL TAKE PROPER CARE AND PROTECT ALL PORTIONS OF THE WORK UNTIL ITS ACCEPTANCE. ANY AND ALL PORTIONS OF THE WORK LIABLE TO DAMAGE UNDER THIS OR OTHER SECTIONS, BY FREEZING OR INCLEMENT WEATHER MUST BE THOROUGHLY AND COMPLETELY PROTECTED BY ANY SUBSTANTIAL MEANS UNTIL NOT FURTHER REQUIRED. TEMPORARY HEAT SHALL BE REMOVED FROM THE PREMISES ONLY WHEN ITS REMOVAL IS APPROVED BY THE ENGINEER.
5. THE CONTRACTOR SHALL HAVE A COMPETENT FOREMAN IN RESPONSIBLE CHARGE OF THE WORK WHO SHALL BE ON THE SITE DURING THE DEMOLITION OF THE SYSTEM. FOREMAN SHALL BE ON SITE AT ALL TIMES DURING WORK BY ALL TRADES. SUB CONTRACTORS WILL NOT BE PERMITTED TO WORK IF FORMAN IS NOT ONSITE.
6. SAFE OPEN ENDS OF DUCTWORK TO BE REUSED DURING DEMOLITION TO MINIMIZE DEBRIS FROM ENTERING DUCTS DURING DEMOLITION.
7. AT LEAST ONCE A DAY, OR AS REQUIRED BY THE OWNER, GATHER ALL RUBBISH, INCLUDING CARTONS, CRATES AND PACKAGING MATERIALS, DEBRIS AND OTHER WASTE MATERIALS. WASTE TO BE PLACED IN TRASH BIN/DUMPSTER PROVIDED BY CONTRACTOR. ALL DEBRIS TO BE REMOVED DURING OFF HOURS.
8. WHEN WORK IS PERFORMED IN OCCUPIED AREAS, TRASH REMOVAL SHOULD BE CONTINUOUS TO PREVENT HEALTH AND SAFETY ISSUES.
9. PROTECT ALL WORK AND EQUIPMENT AGAINST DAMAGE OR THEFT UNTIL FINAL INSPECTION, TESTED AND ACCEPTED. CAREFULLY STORE AND PROTECT MATERIALS AND EQUIPMENT RECEIVED ON SITE WHICH ARE NOT IMMEDIATELY INSTALLED. CLOSE OPEN ENDS OF WORK WITH TEMPORARY PLUGS OR COVERS DURING CONSTRUCTION TO PREVENT ENTRY DEBRIS.
10. PERFORM WORK IN EXISTING BUILDING WHEN AND AS DIRECTED. ALL WORK IS TO BE PERFORMED SO AS TO CAUSE THE LEAST POSSIBLE INCONVENIENCE AND DISTURBANCE TO THE OCCUPANTS.
11. SHIFT WORK AND STAGING WILL BE REQUIRED AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR SHALL PROVIDE SCHEDULE AND PREMIUM TIME FOR ALL DEMOLITION AND REMOVAL OF MATERIALS IN THEIR PROPOSAL. ALL DEMOLITION OF DUCTWORK AND PIPING WORK SHALL BE COMPLETED ON OFF HOURS. CONTRACTOR SHALL COORDINATE WORK SCHEDULE WITH OWNER.
12. WHEN THE DEMOLITION OR INSTALLATION OF WORK REQUIRES THE SHUTDOWN OF AN EXISTING OPERATING SYSTEM, A MINIMUM OF 72 HOURS WRITTEN NOTICE SHALL BE GIVEN TO THE OWNER BEFORE WORK IS STARTED.
13. CONTRACTOR SHALL PHOTOGRAPH ALL EXISTING CONDITIONS FOR OWNER AND SUBMIT TO OWNER BEFORE DEMOLITION BEGINS.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF ALL PERSONS PERFORMING THE WORK OF THIS CONTRACT.
15. THIS CONTRACTOR SHALL OBTAIN AND READ ALL SITE, JOB AND CORPORATE SAFETY AND SECURITY RULES AND REGULATIONS FROM THE OWNER, AND SIGN OFF ON THEM IF REQUIRED. THIS CONTRACTOR SHALL ADEQUATELY INFORM AND INSTRUCT ALL EMPLOYEES, AND OTHERS PERFORMING WORK FOR HIM, OF SUCH RULES AND REGULATIONS. THESE INSTRUCTIONS ARE THE MINIMUM THAT WILL BE ACCEPTED ON THIS PROJECT. CONTRACTOR SHALL ALLOW 4HRS FOR EACH EMPLOYEE TO BE TRAINED IN SITE SAFETY PROTOCOLS.
16. ALL OF THE ABOVE RULES AND REGULATIONS ARE NOT MEANT TO REPLACE OR ELIMINATE INDIVIDUAL CONTRACTORS SAFETY PROGRAMS OR CHANGE ANY LOCAL, STATE OR FEDERAL RULES AND REGULATIONS, BUT RATHER TO AUGMENT THEM AS REQUIRED FOR THE INDIVIDUAL PREMISES ON WHICH THIS WORK IS BEING PERFORMED.
17. REFER TO COVER SHEET (M-000) FOR ADDITIONAL NOTES THAT PERTAIN TO THE DEMOLITION WORK.



1 MECHANICAL - SECTOR 'E' ROOF NEW WORK PLAN - ADD/ALT #1

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

MECHANICAL NEW WORK NOTES

1 NEW ROOFTOP UNIT SHALL BE INSTALLED ON A 24" HIGH (CLEAR DIM) SEISMIC VIBRATION PLENUM CURB. CONTRACTOR SHALL DETERMINE LOCATION OF CURB DIVIDER.

2 NEW ROOFTOP UNIT SHALL BE INSTALLED ON A 14" HIGH SEISMIC CURB.

3 TRANSITION TO UNIT CONNECTION WITHIN CURB. INSTALL FLEX CONNECTION AT UNIT FLANGE.

4 INSTALL NEW EXHAUST FAN AND ROOF CURB WHERE EXISTING WAS REMOVED.

5 PROVIDE AND INSTALL ALUMINUM HOODED WALL CAP AS MANUFACTURED BY GREENHECK, MODEL: WC-4.

GENERAL CONSTRUCTION NEW WORK NOTES

G1 NEW CURB SHALL BE ROOFED-IN. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.

G2 REFER TO STRUCTURAL DRAWINGS FOR INSTALLATION OF STEEL FRAMING BENEATH NEW CURB.

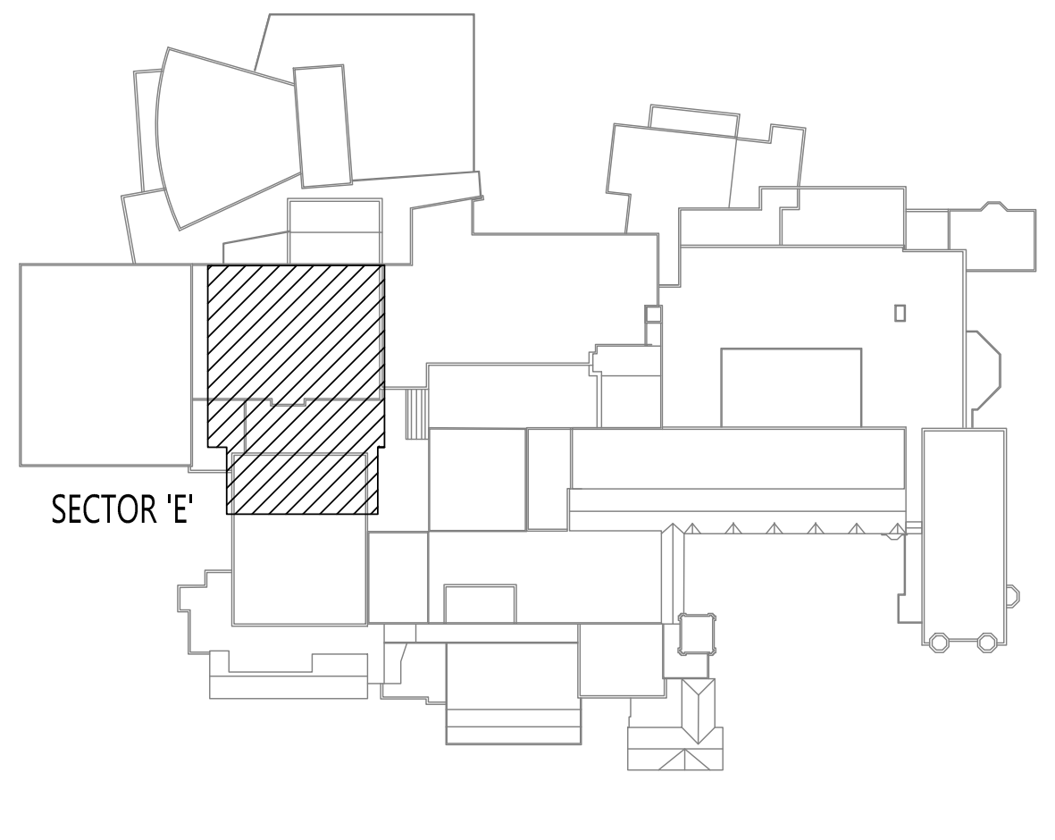
G3 INSTALL A GALVANIZED, OSHA APPROVED SAFETY RAILING AS SHOWN. REFER TO ARCHITECTURAL DRAWINGS FOR SPECIFICATION & INSTALLATION REQUIREMENTS.

G4 PROVIDE NEW OPENING IN EXTERIOR WALL. SEE ARCHITECTURAL DRAWINGS.

GENERAL NEW WORK NOTES

1. THE ROOF SLOPES IN VARIOUS AREAS. CONTRACTOR SHALL PROVIDE SLOPED ROOF CURBS SUCH THAT UNIT IS LEVEL AFTER INSTALLATION. COORDINATE WITH VENDOR WHEN ORDERING NEW ROOF CURBS.
2. DUCT SUPPORT SPACING SHALL BE PER SMACNA GUIDELINES.
3. CONTRACTOR SHALL PROVIDE A COORDINATED DUCTWORK SHOP DRAWING FOR NEW INSTALLATION. DRAWING SHALL BE 1/4"=1'-0" SCALE (OR LARGER). INCLUDE OVERALL DIMENSIONS OF APPROVED NEW ROOFTOP EQUIPMENT, SUPPLY & RETURN CONNECTION SIZES, DUCTWORK TRANSITIONS, ROOF CURB DIMENSIONS & ELEVATION, STEEL DIMENSIONS (WHERE INSTALLED ON DUNNAGE FRAMING), DUCTWORK SUPPORT TYPE & LOCATION, ETC. REFER TO PLAN DRAWING NOTES FOR ADDITIONAL REQUIREMENTS (WHERE NOTED).
4. CONTRACTOR SHALL VERIFY SIZE & LOCATION OF EXISTING SUPPLY AND RETURN AIR CONNECTIONS. THESE DIMENSIONS SHALL BE NOTED ON THE DUCTWORK/CURB SHOP DRAWINGS BEING SUBMITTED FOR REVIEW & APPROVAL.
5. NEW SMOKE DETECTORS SHALL BE INSTALLED FOR EACH ROOFTOP UNIT. REFER TO FIRE ALARM DRAWINGS FOR SCOPE OF WORK ASSOCIATED WITH THE MECHANICAL TRADE.
6. REFER TO COVER SHEET (M-000) FOR ADDITIONAL NOTES THAT PERTAIN TO THE NEW WORK.

ALTERNATE #1



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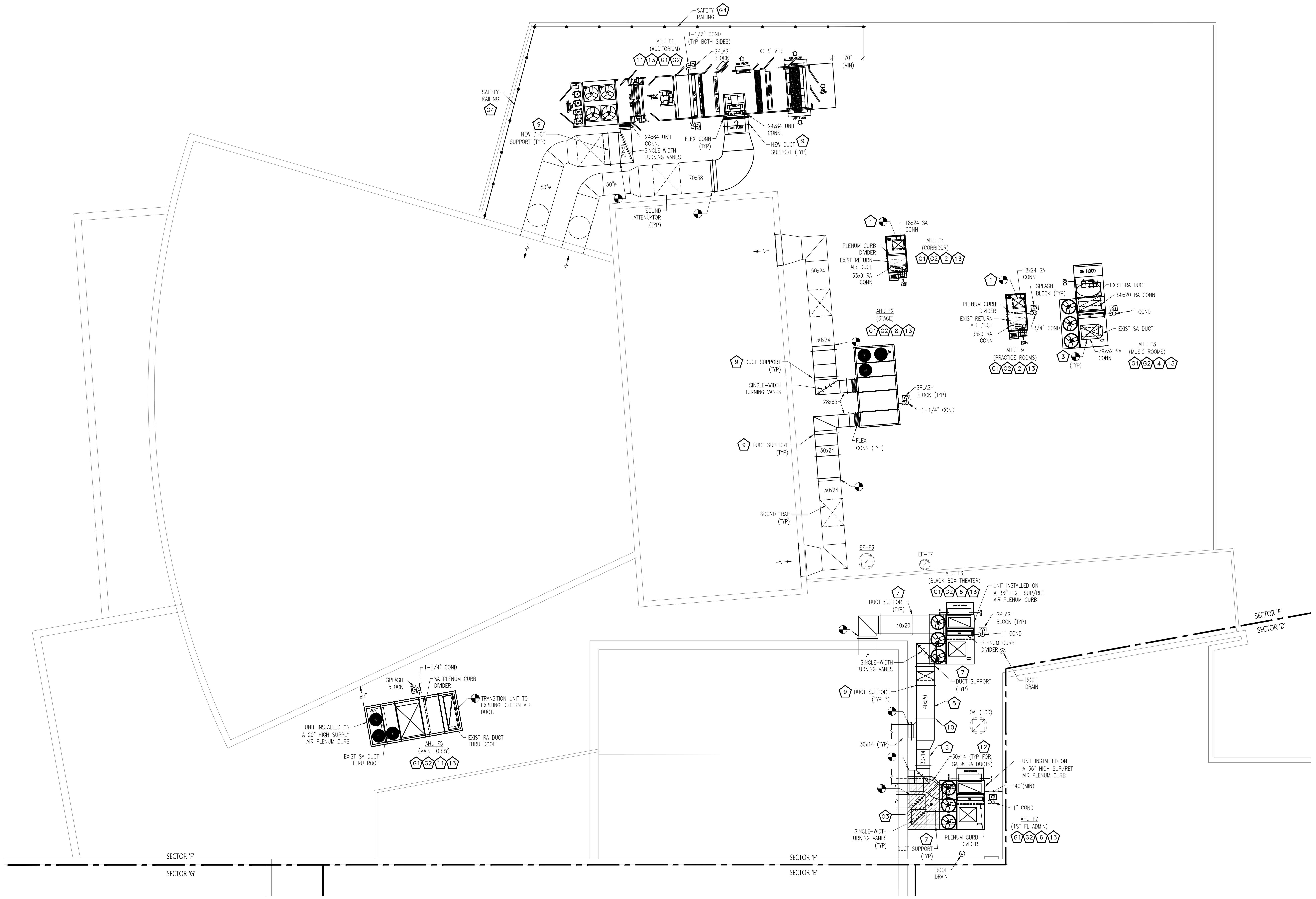
Project Name	HVAC Renovations at Princeton High School
Project Owner Name	Princeton Public Schools
Project Location	151 Moore Street, Princeton, NJ 08540
Project Number	5516E
Project Date	01.29. 2026
Checked By	JTM
Drawn By	JD
Scale	AS NOTED
Drawing Name	MECHANICAL - ROOF SECTOR E DEMOLITION & NEW WORK PLAN ALTERNATE #1

Revisions

No.	Date	Description

Drawing Number

M-435-1



1 MECHANICAL - SECTOR 'F' ROOF NEW WORK PLAN
SCALE: 1/8"=1'-0"

NEW WORK NOTES

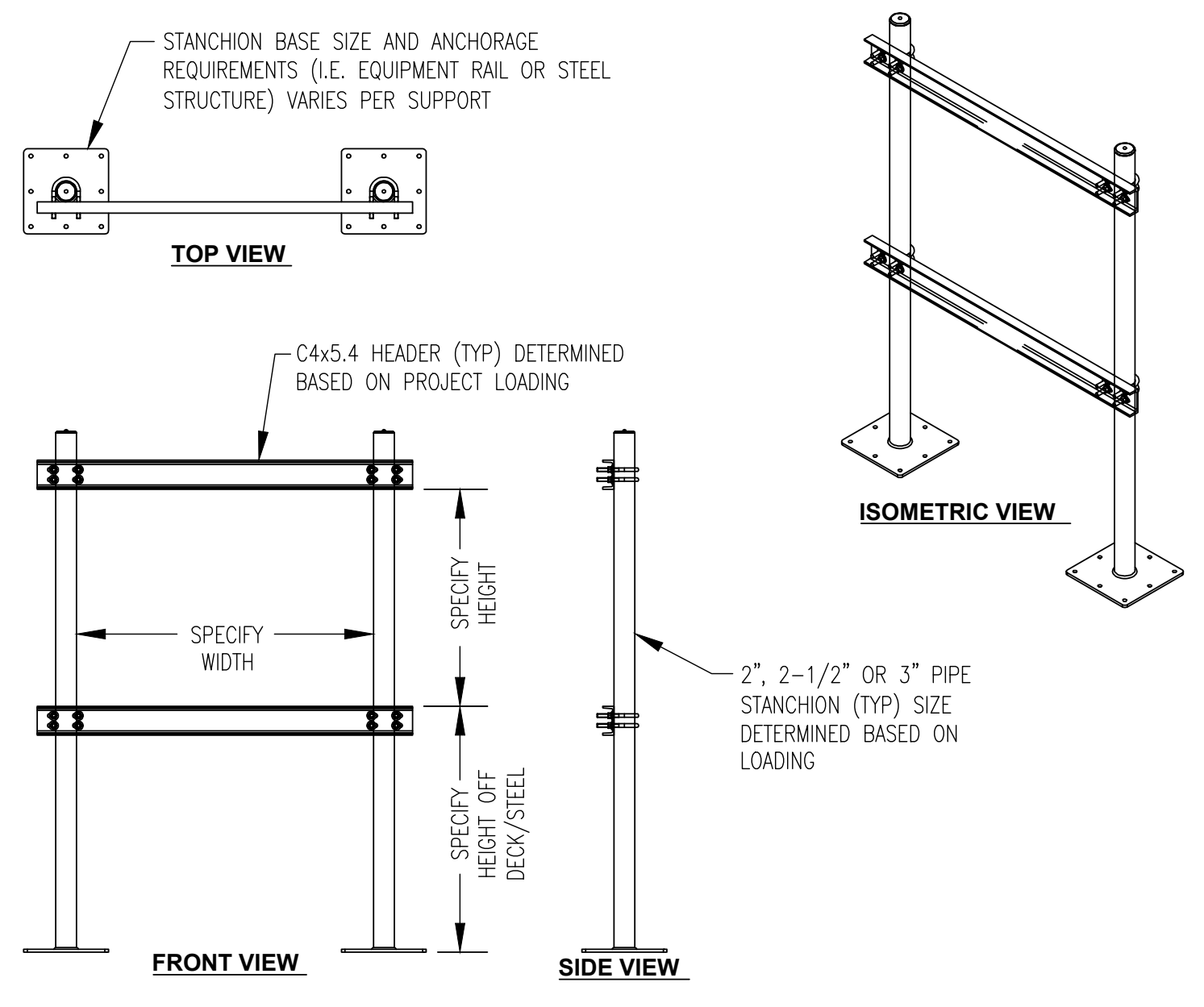
1. TRANSITION EXISTING SUPPLY AIR DUCT TO NEW UNIT SUPPLY DUCT CONNECTION.
2. CONTRACTOR SHALL INSTALL A NEW INSULATED SEISMIC RETURN AIR PLENUM CURB. CURB CURB HEIGHT SHALL BE 24" TO ALLOW FOR SUPPLY DUCT TRANSITION. CONTRACTOR SHALL VERIFY THE LOCATION OF THE CURB DIVIDER.
3. TRANSITION EXISTING SUPPLY & RETURN AIR DUCTS TO NEW UNIT DUCT CONNECTION.
4. CONTRACTOR SHALL INSTALL A NEW SEISMIC VIBRATION ISOLATION CURB. CURB HEIGHT SHALL BE 24" TO ALLOW FOR SUPPLY & RETURN AIR DUCT TRANSITIONS.
5. BOTTOM OF DUCT SHALL MATCH THE ELEVATION OF THE TWO (2) EXISTING SUPPLY AIR BRANCH DUCTS ENTERING THE BUILDING.
6. CONTRACTOR SHALL INSTALL A NEW INSULATED SEISMIC VIBRATION ISOLATION RETURN & SUPPLY AIR PLENUM CURB. CURB HEIGHT SHALL BE 36" HIGH (CLEAR HEIGHT). THE CURB DIVIDER SHALL BE 55" FROM FRONT EDGE OF UNIT (SUPPLY SIDE).
7. DUCT SUPPORTS SHALL BE AS MANUFACTURED BY EATON, DURABLOK DB5 SERIES. INSTALL 1" THICK, WHITE, HIGH DENSITY ROOF PAD BENEATH EACH SUPPORT.
8. CONTRACTOR SHALL INSTALL A NEW SEISMIC VIBRATION ISOLATION CURB. CURB HEIGHT SHALL BE 16" HIGH.
9. DUCT SUPPORTS SHALL BE AS MANUFACTURED BY MIRO INDUSTRIES. REFER TO DETAIL, THIS DWG. INSTALL 1" THICK, WHITE, HIGH DENSITY ROOF PAD BENEATH EACH SUPPORT.
10. INSTALL NEW DUCT SUPPORT USING AN EQUIPMENT RAIL THAT IS SECURED TO ROOF DECK & IS FLASHED INTO EXISTING ROOFING.
11. CONTRACTOR SHALL INSTALL A NEW INSULATED SEISMIC VIBRATION ISOLATION SUPPLY AIR PLENUM CURB. CURB HEIGHT SHALL BE 20" HIGH (CLEAR HEIGHT). THE CURB DIVIDER SHALL BE 6" FROM EDGE OF SUPPLY AIR DUCT CONNECTION ON UNIT AS SHOWN.
12. DUCTWORK SHALL BE INSULATED WITH 2" EXTERIOR BOARD INSULATION. SEE INSULATION SCHEDULE.
13. BAS CONTRACTOR SHALL INSTALL & WIRE CONTROL SENSORS TO UNIT CONTROLLER. SEE CONTROL DRAWINGS FOR ADDITIONAL INFORMATION.

GENERAL CONSTRUCTION NEW WORK NOTES

G1 NEW CURB SHALL BE ROOFED-IN. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.
G2 REFER TO STRUCTURAL DRAWINGS FOR INSTALLATION OF STEEL FRAMING BENEATH NEW CURB.
G3 THE SUPPLY AND RETURN AIR DUCTS FOR AHU-F7 SHALL BE ROOFED IN AS SHOWN. REFER TO ARCHTECURAL DRAWINGS FOR CONSTRUCTION DETAILS.
G4 INSTALL A GALVANIZED, OSHA APPROVED SAFETY RAILING AS SHOWN. REFER TO ARCHITECTURAL DRAWINGS FOR SPECIFICATION & INSTALLATION REQUIREMENTS.

GENERAL NEW WORK NOTES

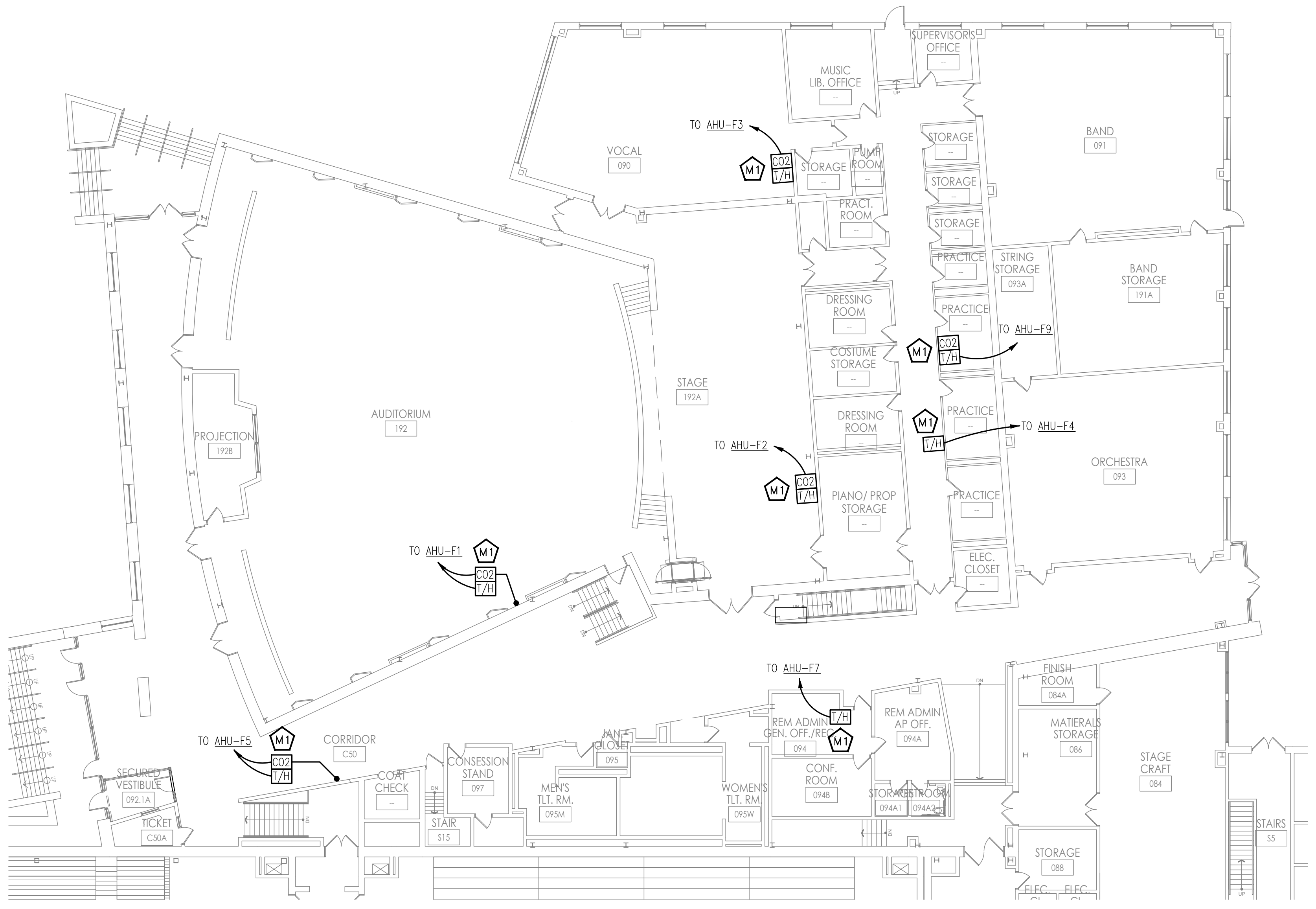
1. THE ROOF SLOPES IN VARIOUS AREAS. CONTRACTOR SHALL PROVIDE SLOPED ROOF CURBS SUCH THAT UNIT IS LEVEL AFTER INSTALLATION. COORDINATE WITH VENDOR WHEN ORDERING NEW ROOF CURBS.
2. DUCT SUPPORT SPACING SHALL BE PER SMACNA GUIDELINES.
3. CONTRACTOR SHALL PROVIDE A COORDINATED DUCTWORK SHOP DRAWING FOR NEW INSTALLATION. DRAWING SHALL BE 1/4"=1'-0" SCALE (OR LARGER). INCLUDE OVERALL DIMENSIONS OF APPROVED NEW ROOFTOP EQUIPMENT, SUPPLY & RETURN CONNECTION SIZES, DUCTWORK TRANSITIONS, ROOF CURB DIMENSIONS & ELEVATION, STEEL DIMENSIONS (WHERE INSTALLED ON DUNNAGE FRAMING), DUCTWORK SUPPORT TYPE & LOCATION, ETC. REFER TO PLAN DRAWING NOTES FOR ADDITIONAL REQUIREMENTS (WHERE NOTED).
4. CONTRACTOR SHALL VERIFY SIZE & LOCATION OF EXISTING SUPPLY AND RETURN AIR CONNECTIONS ON EXISTING ROOFTOP EQUIPMENT. THESE DIMENSIONS SHALL BE NOTED ON THE DUCTWORK/CURB SHOP DRAWINGS BEING SUBMITTED FOR REVIEW & APPROVAL.
5. NEW SMOKE DETECTORS SHALL BE INSTALLED FOR EACH ROOFTOP UNIT. REFER TO FIRE ALARM DRAWINGS FOR SCOPE OF WORK ASSOCIATED WITH THE MECHANICAL TRADE.
6. REFER TO COVER SHEET (M-000) FOR ADDITIONAL NOTES THAT PERTAIN TO THE NEW WORK.


STANCHION BASE SIZE AND ANCHORAGE REQUIREMENTS (I.E. EQUIPMENT RAIL OR STEEL STRUCTURE) VARIES PER SUPPORT
TOP VIEW
ISOMETRIC VIEW
C4x5.4 HEADER (TYP) DETERMINED BASED ON PROJECT LOADING
SPECIFY WIDTH
SPECIFY HEIGHT
SPECIFY HEIGHT OFF DECK/STEEL
2", 2-1/2" OR 3" PIPE STANCHION (TYP) SIZE DETERMINED BASED ON LOADING
FRONT VIEW
SIDE VIEW

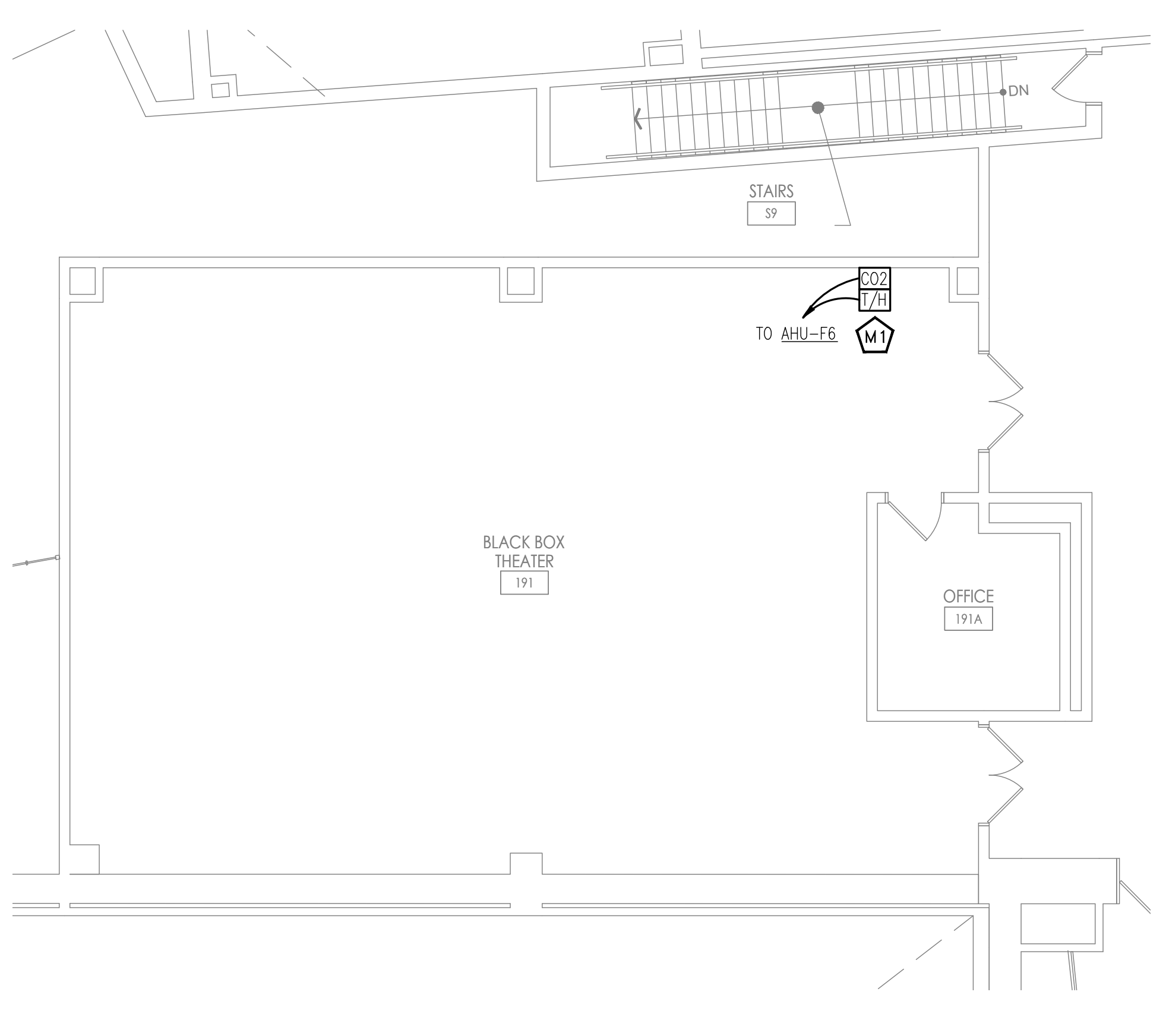
1 DUCT SUPPORT DETAIL

SCALE: NTS

NOTES:
1. BASIS OF DESIGN: MIRO INDUSTRIES, MODEL: 8DS-ST.
2. CONTRACTOR SHALL PROVIDE MIRO INDUSTRIES AN APPROVED DUCTWORK SHOP DRAWING FOR THEIR REVIEW AND DETERMINATION OF THE SPECIFIC DUCTWORK SUPPORT REQUIRED AT EACH LOCATION.
3. CONTRACTOR SHALL PROVIDE MIRO INDUSTRIES THE WIDTH & HEIGHTS NOTED IN THE DETAIL ABOVE.
4. PROVIDE 1" THICK HIGH-DENSITY ROOF PAD UNDER EACH SUPPORT. COLOR SHALL BE WHITE.



2 MECHANICAL - GROUND FLOOR SECTOR 'F' AHU CONTROL SENSOR LOCATIONS
SCALE: 1/16"=1'-0"



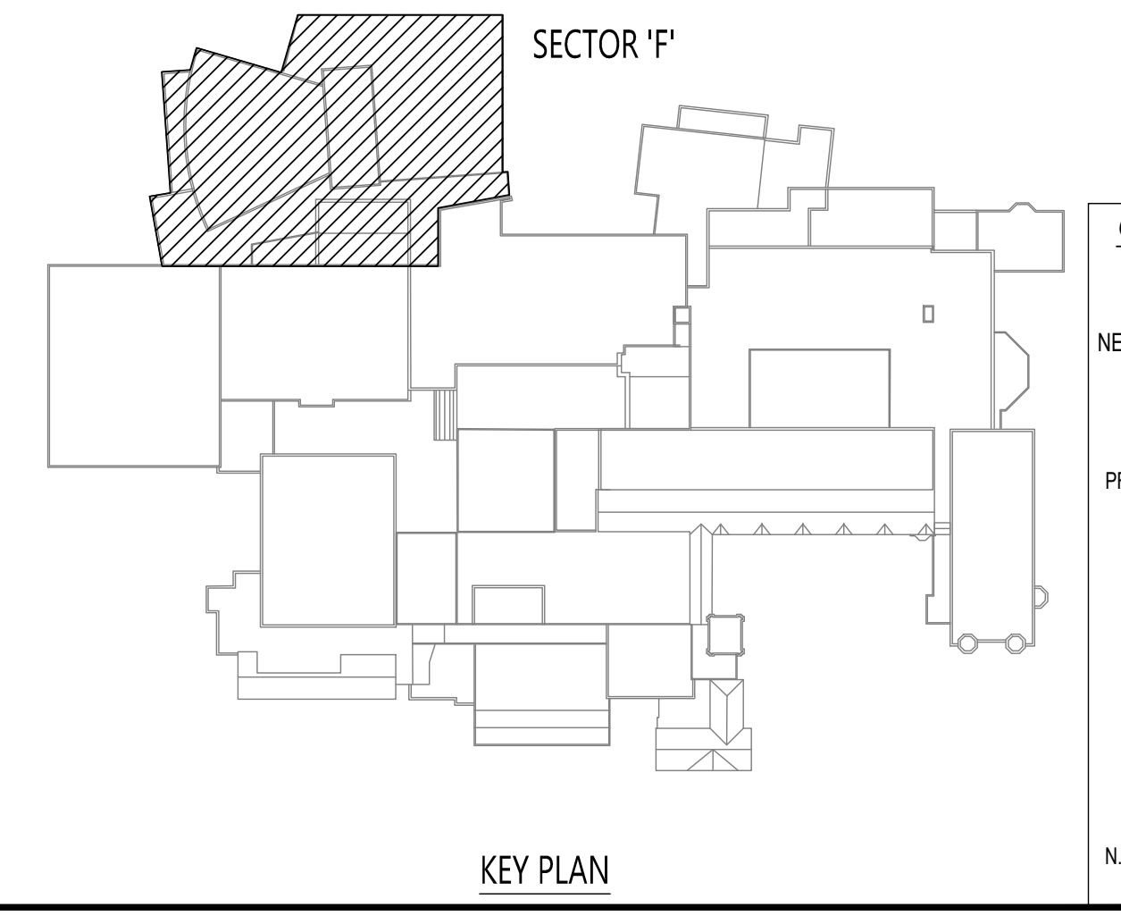
3 MECHANICAL - FIRST FLOOR SECTOR 'F' AHU CONTROL SENSOR LOCATIONS
SCALE: 1/8"=1'-0"

AHU CONTROL SENSORS - NEW WORK NOTES

M1 BAS CONTRACTOR SHALL MOUNT TEMP/HUMIDITY & CARBON DIOXIDE SENSORS AT 48" AFF. BAS CONTRACTOR SHALL WIRE SENSORS BACK TO UNIT'S CONTROLLER. THE CONTROLLER SHALL BE CONNECTED TO THE EXISTING BAS NETWORK. SEE CONTROL DRAWINGS FOR SEQUENCE OF OPERATION & OTHER REQUIREMENTS. COORDINATE EXACT LOCATION OF SENSORS WITH OWNER.

MECHANICAL GENERAL NEW WORK NOTES

1. ALL EXPOSED CONTROL WIRING TO AHUs SHALL BE CONCEALED IN SURFACE RACEWAY AS MANUFACTURED BY WIREMOLD, PART NO. PN10L. PROVIDE COVER CLIP (PN10F06) TO CONCEAL SEAMS WHERE TWO SECTIONS MEET. INSTALL USING #8 PAN HEAD FASTENERS EVERY 2 FT (MAX). DOUBLE-SIDED TAPE, SELF-STICK FASTENERS, ETC., SHALL NOT BE USED.
2. ALL NEW THERMOSTATS IN PUBLIC AREAS/STAIRWELLS SHALL BE INSTALLED IN A HEAVY DUTY METAL THERMOSTAT LOCK BOX AS MANUFACTURED BY HONEYWELL, MODEL: TG511D1004. CONTRACTOR SHALL VERIFY THAT COVER HAS ADEQUATE SPACE FOR THERMOSTAT INSTALLATION. PROVIDE OWNER WITH 5 SETS OF KEYS.



KEY PLAN

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William D. Hopkins 01/29/26
Architect Date

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Project Name
HVAC Renovations at Princeton High School

Project Owner Name
Princeton Public Schools

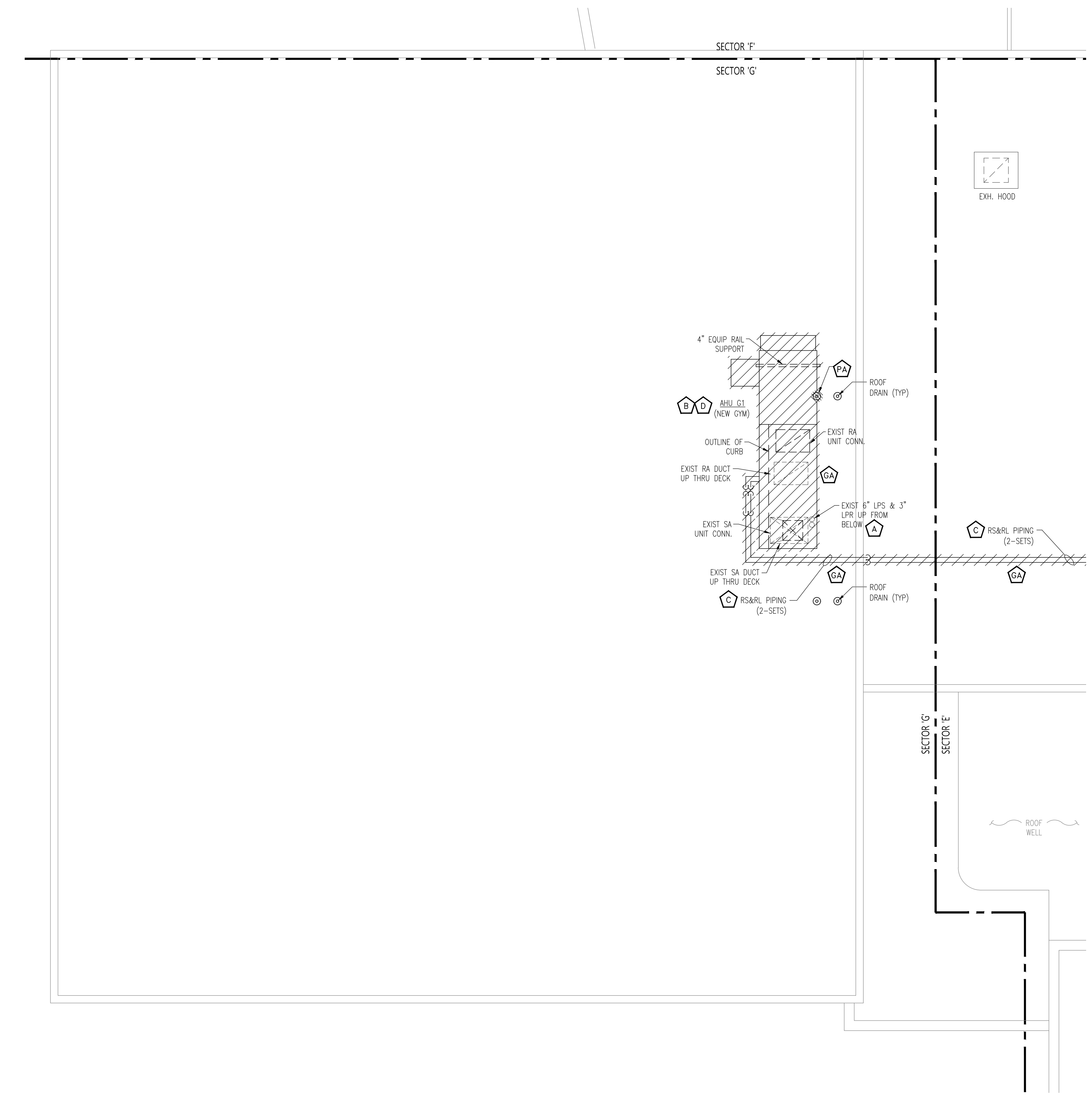
Project Location
151 Moore Street,
Princeton, NJ
08540

Project Number
5516E
Project Date
01.29. 2026
Checked By
JTM
Drawn By
JD
Scale
AS NOTED

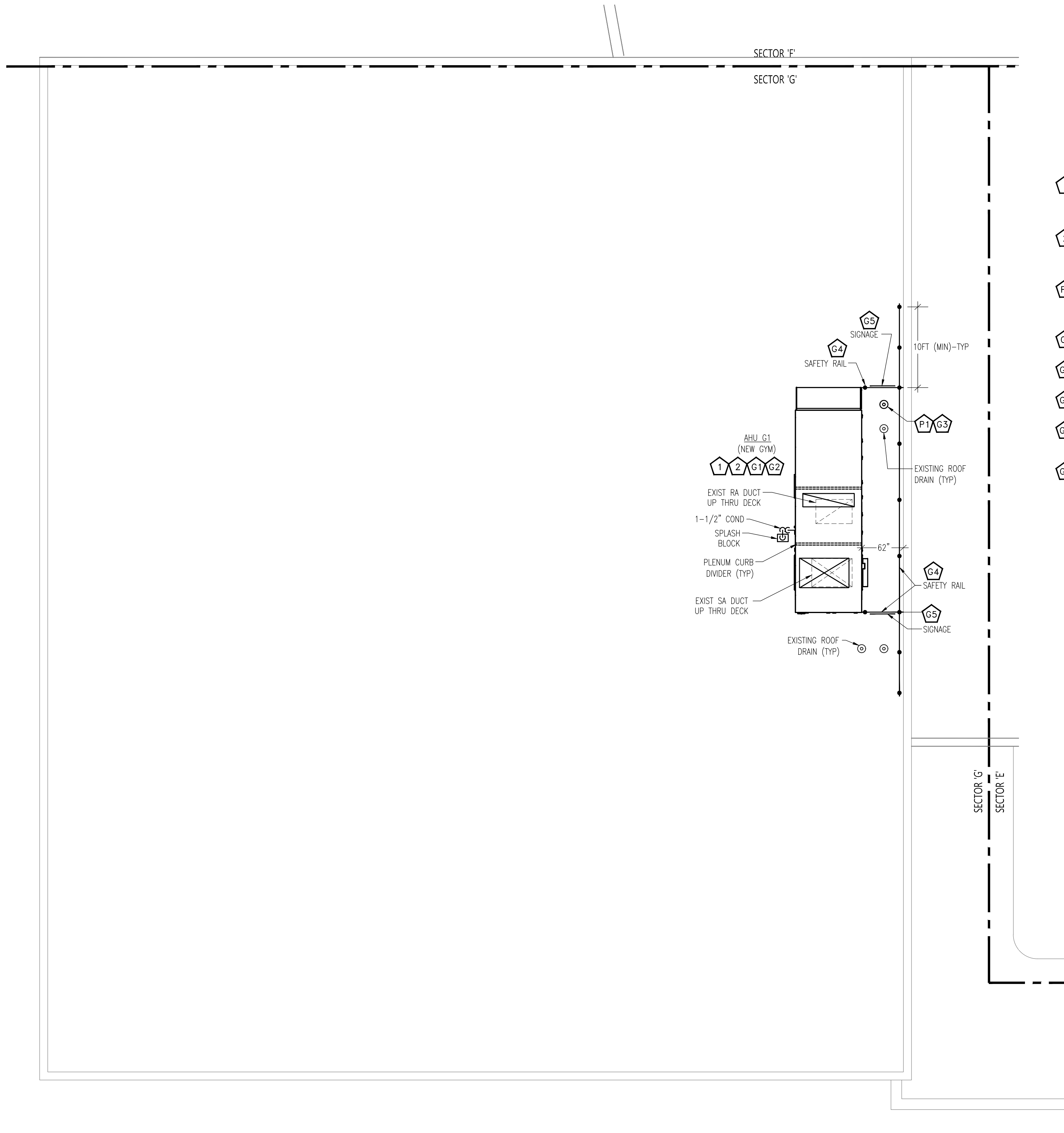
Drawing Name
MECHANICAL - ROOF SECTOR F NEW WORK PLAN

Revisions		
No.	Date	Description

Drawing Number
M-436



① MECHANICAL - SECTOR 'G' ROOF DEMOLITON PLAN
SCALE: 1/8"=1'-0"



① MECHANICAL - SECTOR 'G' ROOF NEW WORK PLAN
SCALE: 1/8"=1'-0"

MECHANICAL NEW WORK NOTES

① CONTRACTOR SHALL INSTALL A NEW INSULATED SEISMIC VIBRATION ISOLATION RETURN & SUPPLY AIR PLENUM CURB. CURB HEIGHT SHALL BE 34" HIGH (CLEAR HEIGHT). CONTRACTOR SHALL DETERMINE, BASED ON FIELD CONDITIONS, THE REQUIRED LOCATION FOR THE CURB DIVIDERS.

② BAS CONTRACTOR SHALL INSTALL & WIRE CONTROL SENSORS TO UNIT CONTROLLER. SEE CONTROL DRAWINGS FOR ADDITIONAL INFORMATION.

PLUMBING NEW WORK NOTES

P1 RELOCATE EXISTING ROOF DRAIN & CAGE. USE CAST IRON PIPE & INSULATE NEW PIPING, MATCHING EXISTING TYPE, THICKNESS, AND JACKET.

GENERAL CONSTRUCTION NEW WORK NOTES

G1 NEW CURB SHALL BE ROOFED-IN. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.

G2 REFER TO STRUCTURAL DRAWINGS FOR INSTALLATION OF STEEL FRAMING BENEATH NEW CURB.

G3 TAPER ROOF INSULATION TO ACCOMMODATE NEW ROOF DRAIN. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.

G4 INSTALL A GALVANIZED, OSHA APPROVED SAFETY RAILING AS SHOWN. REFER TO ARCHITECTURAL DRAWINGS FOR SPECIFICATION & INSTALLATION REQUIREMENTS.

G5 INSTALL SIGNAGE ON SAFETY RAIL. THE SIGN SHALL BE 30" WIDE x 24" HIGH. THE SIGN SHALL HAVE THE RED & WHITE OSHA APPROVED "DANGER" SYMBOL WITHIN A BLACK RECTANGULAR BACKGROUND. BELOW THE "DANGER" SYMBOL, INCLUDE THE FOLLOWING MESSAGE: "KEEP OUT, HAZARD AREA".

GENERAL NEW WORK NOTES

1. THE ROOF SLOPES IN VARIOUS AREAS. CONTRACTOR SHALL PROVIDE SLOPED ROOF CURBS SUCH THAT UNIT IS LEVEL AFTER INSTALLATION. COORDINATE WITH VENDOR WHEN ORDERING NEW ROOF CURBS.
2. DUCT SUPPORT SPACING SHALL BE PER SMACNA GUIDELINES.
3. CONTRACTOR SHALL PROVIDE A COORDINATED DUCTWORK SHOP DRAWING FOR NEW INSTALLATION. DRAWING SHALL BE 1/4"=1'-0" SCALE (OR LARGER). INCLUDE OVERALL DIMENSIONS OF APPROVED NEW ROOFTOP EQUIPMENT, SUPPLY & RETURN CONNECTION SIZES, DUCTWORK TRANSITIONS, ROOF CURB DIMENSIONS & ELEVATION, STEEL DIMENSIONS (WHERE INSTALLED ON DUNNAGE FRAMING), DUCTWORK SUPPORT TYPE & LOCATION, ETC. REFER TO PLAN DRAWING NOTES FOR ADDITIONAL REQUIREMENTS (WHERE NOTED).
4. CONTRACTOR SHALL VERIFY SIZE & LOCATION OF EXISTING SUPPLY AND RETURN AIR CONNECTIONS ON EXISTING ROOFTOP EQUIPMENT. THESE DIMENSIONS SHALL BE NOTED ON THE DUCTWORK/CURB SHOP DRAWINGS BEING SUBMITTED FOR REVIEW & APPROVAL.
5. NEW SMOKE DETECTORS SHALL BE INSTALLED FOR EACH ROOFTOP UNIT. REFER TO FIRE ALARM DRAWINGS FOR SCOPE OF WORK ASSOCIATED WITH THE MECHANICAL TRADE.
6. REFER TO COVER SHEET (M-000) FOR ADDITIONAL NOTES THAT PERTAIN TO THE NEW WORK.

MECHANICAL DEMOLITION NOTES

A REMOVE EXISTING LPS & LPR PIPING & SUPPORTS DOWN THROUGH ROOF. CAP STEAM & CONDENSATE PIPING BELOW ROOF. REFER TO FLOOR PLANS FOR ADDITIONAL DEMOLITION ACTIVITIES BELOW THE ROOF.

B REMOVE EXISTING ROOFTOP UNIT, ASSOCIATED ROOF CURB & CONDENSING UNIT SUPPORTS IN THEIR ENTIRETY. ROOF & DECKING SHALL BE REPAIRED & COORDINATED WITH NEW CURB SIZE & LOCATION. SEE ARCHITECTURAL DRAWINGS FOR ROOF REPAIR.

C REMOVE EXISTING REFRIGERANT PIPING & SUPPORTS.

D EXISTING CONTROLS, PROGRAMMING & GRAPHICS SHALL BE REMOVED FROM EXISTING BUILDING AUTOMATION SYSTEM. REMOVE EXISTING THERMOSTATS, HUMIDISTATS, CO2 SENSORS, CONTROL WIRING, ASSOCIATED CONDUIT, ETC., IN THEIR ENTIRETY.

PLUMBING DEMOLITION NOTES

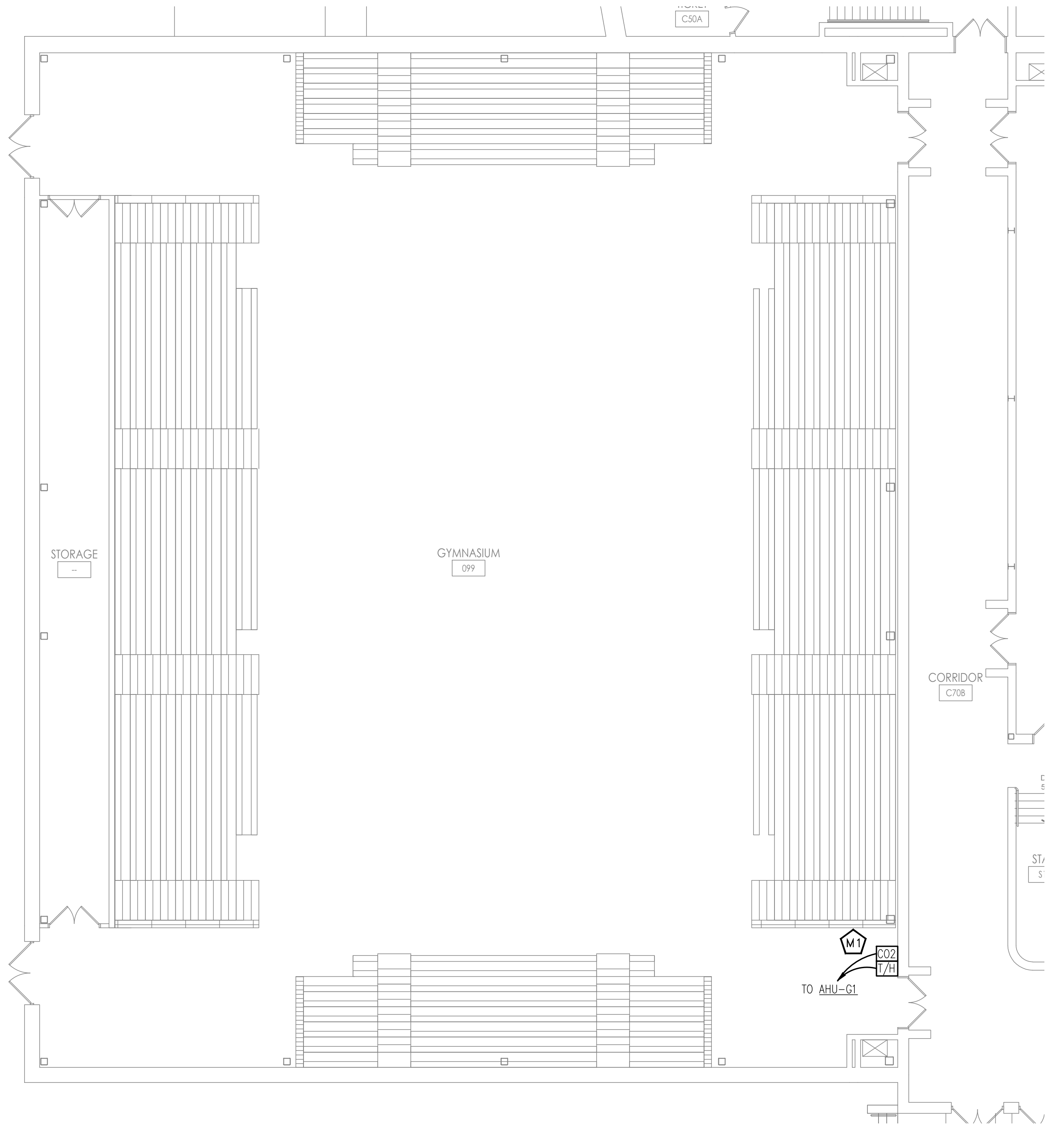
PA REMOVE EXISTING ROOF DRAIN & RELOCATE AS SHOWN ON NEW WORK PLAN. REPAIR ROOF & DECK.

GENERAL CONSTRUCTION DEMOLITION NOTES

GA REPAIR ROOF WHERE EXISTING EQUIPMENT SUPPORTS RAILS, ROOF CURBS, ROOF DRAINS, PIPE & PIPE SUPPORTS, DUCT SUPPORTS, ETC. ARE NOTED TO BE REMOVED. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.

GENERAL DEMOLITION NOTES

1. REFER TO COVER SHEET (M-000) FOR ADDITIONAL NOTES THAT PERTAIN TO THE DEMOLITION WORK.



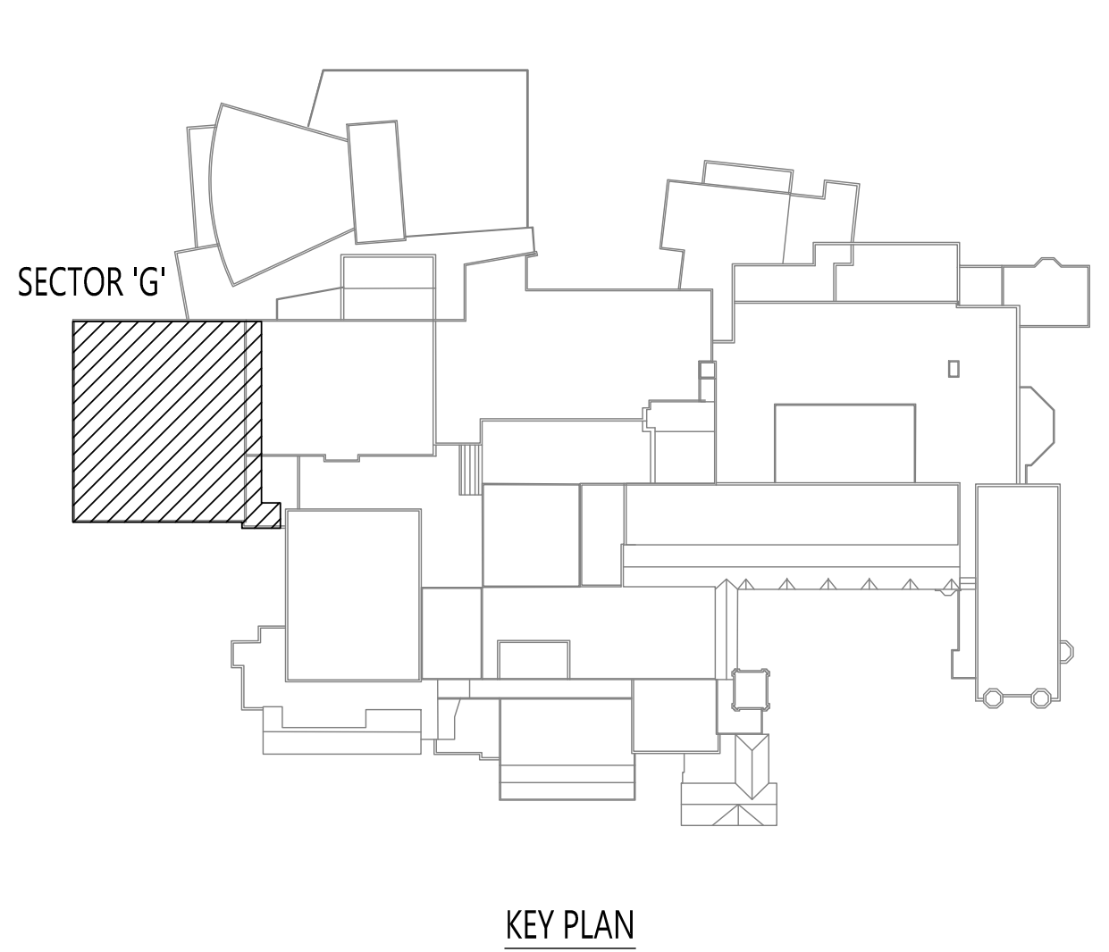
② MECHANICAL - GROUND FLOOR SECTOR 'G' AHU CONTROL SENSOR LOCATION
SCALE: 3/32"=1'-0"

AHU CONTROL SENSORS – NEW WORK NOTES

M1 BAS CONTRACTOR SHALL MOUNT TEMP/HUMIDITY & CARBON DIOXIDE SENSORS AT 48" AFF. BAS CONTRACTOR SHALL WIRE SENSORS BACK TO UNIT'S CONTROLLER. THE CONTROLLER SHALL BE CONNECTED TO THE EXISTING BAS NETWORK. SEE CONTROL DRAWINGS FOR SEQUENCE OF OPERATION & OTHER REQUIREMENTS. COORDINATE EXACT LOCATION OF SENSORS WITH OWNER.

MECHANICAL GENERAL NEW WORK NOTES

1. ALL EXPOSED CONTROL WIRING TO AHUs SHALL BE CONCEALED IN SURFACE RACEWAY AS MANUFACTURED BY WIREMOLD, PART NO. PN10L. PROVIDE COVER CLIP (PN10F06) TO CONCEAL SEAMS WHERE TWO SECTIONS MEET. INSTALL USING #8 PAN HEAD FASTENERS EVERY 2 FT (MAX). DOUBLE-SIDED TAPE, SELF-STICK FASTENERS, ETC., SHALL NOT BE USED.
2. ALL NEW THERMOSTATS IN PUBLIC AREAS/STAIRWELLS SHALL BE INSTALLED IN A HEAVY DUTY METAL THERMOSTAT LOCK BOX AS MANUFACTURED BY HONEYWELL, MODEL: TG511D1004. CONTRACTOR SHALL VERIFY THAT COVER HAS ADEQUATE SPACE FOR THERMOSTAT INSTALLATION. PROVIDE OWNER WITH 5 SETS OF KEYS.



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William D. Hopkins
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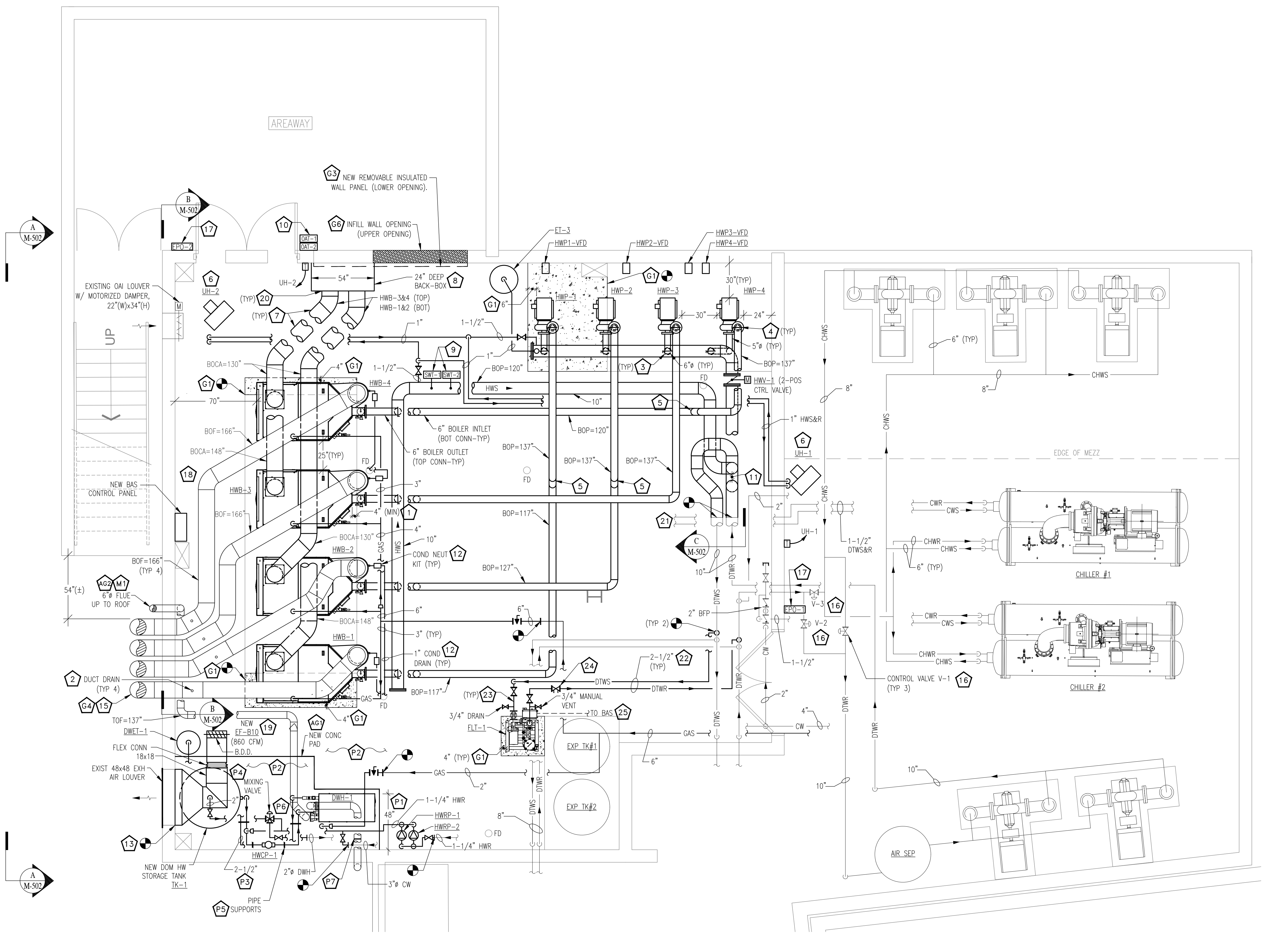
Project Name	HVAC Renovations at Princeton High School
Project Owner Name	Princeton Public Schools
Project Location	151 Moore Street, Princeton, NJ 08540
Project Number	5516E
Project Date	01.29. 2026
Checked By	JTM
Drawn By	JD
Scale	AS NOTED
Drawing Name	MECHANICAL - ROOF SECTOR G DEMOLITION & NEW WORK PPLAN

Revisions

No.	Date	Description

Drawing Number

M-437



① MECHANICAL - MAIN BOILER ROOM NEW WORK PLAN
SCALE: 1/4"=1'-0"

MECHANICAL NEW WORK NOTES–BASE BID

1. BACK OF BOILER SHALL BE INSTALLED 4" FROM EDGE OF CONC PAD.
2. THE FLUE SECTION LOCATED INSIDE BEFORE CONNECTING TO THE VERTICAL FLUE SHALL HAVE A DRAIN ON THE BOTTOM OF THE FLUE WITH A TRAP. INSTALL TO MANUFACTURER'S REQUIREMENTS. THE FOUR DRAINS SHALL DISCHARGE INTO A SEPARATE LOCHINVAR MODEL CN6T NEUTRALIZATION TANK. THE TANK SHALL DISCHARGE TO A FLOOR DRAIN WITH A 1" CPVC CONDENSATE LINE.
3. 6" CONNECTION AT HEADER WITH BUTTERFLY VALVE. REDUCE TO PIPE TO 5"ø IN VERTICAL.
4. REDUCE 6"ø PIPE TO 4"ø IN VERTICAL (PUMP DISCHARGE CONNECTION). INSTALL BUTTERFLY VALVE AT 6FT AFF.
5. ROLL PUMP DISCHARGE PIPE BY USING TWO (2) 45–DEG ELBOWS INSTEAD OF 90–DEG ELBOWS.
6. INSTALL UNIT HEATER 3/8"ø GALVANIZED THREADED ROD WITH MASON NEOPRENE VIBRATION ISOLATORS. INSTALL AT 11FT ABOVE FINISHED FLOOR AND 5' FROM BACK OF UNIT TO WALL. REFER TO MANUFACTURER'S INSTALLATION MANUAL. MOUNT THERMOSTAT AT 60" AFF. SET THERMOSTAT AT 60° F.
7. INSTALL THE 14" GALVANIZED COMBUSTION AIR INTAKE DUCTWORK (SEE SCHUDULE) ONE OVER THE TOP OF THE OTHER AT ELEVATIONS SHOWN. (HWB–1 UNDER HWB–2 AND HWB–3 OVER HWB–4). SHOP DRAWINGS SHALL BE DEVELOPED. THE APPROVED SHOP DRAWING SHALL BE USED TO DEVELOP A SUPPORT AND SEISMIC DESIGN. THE SUPPORT AND RESTRAINT DESIGN SHALL BE SIGNED AND SEALED BY NJ PROFESSIONAL ENGINEER.
8. MECHANICAL CONTRACTOR SHALL BUILDING A GALVANIZED SHEET METAL BACK–BOX OVER WALL OPENING MEASURING 54"(W)x90"(H)x24"(D). USE 16 GA METAL WITH WELDED CORNERS. INSTALL GASKET BETWEEN BACK–BOX AND EXISTING WALL CONSTRUCTION. BACK–BOX SHALL BE INSULATED WITH 1" THICK RIGID BOARD INSULATION.
9. INSTALL TWO (2) HOT WATER SUPPLY TEMPERATURE SENSORS. WIRE TO BOILER CONTROL PANEL ON BOILERS HWB–1 AND HWB–2. SEE CONTROL DIAGRAM.
10. INSTALL TWO (2) OUTDOOR AIR TEMPERATURE SENSORS MOUNTED AT 7FT ABOVE AIRWAY GRATING. WIRE TO BOILER CONTROL PANEL ON BOILERS HWB–1 AND HWB–2. SEE CONTROL DIAGRAM.
11. THE DISTANCE BETWEEN HWS & HWR PIPE SHALL BE 10" (MAX).
12. INSTALL CONDENSATE TRAP, LOCHIVAR MODEL CN6T NEUTRALIZER KIT TRAP & 1" CPVC CONDENSATE PIPING FOR EACH BOILER. SLOPE DRAIN PIPING TO FLOOR DRAIN. SEE BOILER CONDENSATE DRAIN DETAIL.
13. INSTALL A 48' BY 48' REDUCED TO NEW GALVANIZED BACK BOX, 6" DEEP AS SHOWN.
14. INSTALL NEW EXHAUST FAN USING 3/8" GALVANIZED THREADED ROD WITH MASON NEOPRENE VIBRATION ISOLATORS.
15. INSTALL 14" MODEL CM+2 BY BLUE FLAME VERTICAL FLUE FOR EACH BOILER IN ACCORDANCE TO MANUFACTURER'S REQUIREMENTS. THE OUTER JACKET FOR THE OUTDOOR FLUE SHALL BE STAINLESS STEEL. SEE STRUCTURAL DRAWINGS FOR THE SUPPORT AND SEISMIC DESIGN FOR THE VERTICAL FLUE. THE SUPPORT AND RESTRAINT DESIGN SHALL BE SIGNED AND SEALED BY NJ PROFESSIONAL ENGINEER. RIGHT EDGE OF FLUE SHALL NOT TO BE INSTALLED IN FRONT OF WINDOWS. SEE ELEVATION, SECTION A.
16. TEST AND REPAIR EXISTING AUTOMATIC VALVES ON DUAL LOOP.
17. EMERGENCY POWER OFF SWITCH THAT SHALL DE–ENERGIZE THE BOILERS & DOMESTIC WATER HEATER WHEN PUSHED. MOUNT SWTCHES AT 60" AFF. SEE CONTROL DRAWING FOR REQUIREMENTS. INSTALL A 6"x4" PLACARD (RED BACKGROUND WITH WHITE LETTERING) ABOVE SWITCH THAT READS "BOILER – EMERGENCY POWER OFF SWITCH".
18. INSTALL 14" MODEL CM+2 BY BLUE FLAME INDOOR HORIZONTAL FLUE IN ACCORDANCE TO MANUFACTURER'S REQUIREMENTS. FLUE SHALL BE PITCHED BACK TO BOILER. SUPPORTS SHALL NOT BE MORE THAN 10'. THE OUTER JACKET SHALL BE ALUMINIZED STEEL. MANUFACTURER APPROVED SHOP DRAWINGS SHALL BE USED AS A BASE FOR A SUPPORT AND SEISMIC DESIGN. THE SUPPORT AND RESTRAINT DESIGN SHALL BE SIGNED AND SEALED BY A NJ PROFESSIONAL ENGINEER.
19. EXHAUST FAN SHALL NOT BE INSTALLED OVER TOP OF NEW DOMESTIC WATER STORAGE TANK.
20. INSTALL GASKET WHERE COMBUSTION AIR DUCT ATTACHES TO BACK–BOX.
21. MODIFY EXISTING DTWS&R PIPING TO ACCOMMODATE NEW PIPING TO/FROM HOT WATER PUMPS & BOILERS.
22. INSTALL PIPING TO FILTER AS HIGH AS POSSIBLE.
23. PROVIDE 15" (MIN) STRAIGHT RUN OF PIPING INTO & OUT OF SEPARATOR CONNECTIONS.
24. INSTALL A CALIBRATED CIRCUIT SETTER AS MANUFACTURED BY B&G, MODEL: CB 2–1/2. SET FLOW TO 80 GPM.
25. CONTROLS CONTRACTOR SHALL BRING THE FILTER PRESSURE DIFFERENTIAL DRY CONTACT ALARM BACK TO THE BAS. THE BAS SHALL ALARM AT 25 PSID, INDICATING A DIRTY FILTER.

GENERAL CONSTRUCTION NEW WORK NOTES–BASE BID

G1 EXISTING CONCRETE PAD SHALL BE EXTENDED BEYOND EDGE OF EQUIPMENT. SEE ARCHITECTURAL DRAWINGS FOR DETAILS.

G2 EXISTING CONCRETE PAD SHALL BE EXTENDED 6" BEYOND EDGE OF PUMP MOTOR SUPPORT. SEE ARCHITECTURAL DRAWINGS FOR DETAILS.

G3 GENERAL CONTRACTOR SHALL INSTALL A NEW INSULATED WALL PANEL WHERE EXISTING LOUVER WAS REMOVED. THE PANELS SHALL BE REMOVABLE OVER THE ENTIRE OPENING. SEE ARCHITECTURAL DRAWINGS FOR DETAILS.

G4 REFER TO STRUCTURAL DRAWINGS FOR SUPPORT AND RESTRAINT OF THE VERTICAL FLUES.

G5 POUR A NEW 4" THICK CONCRETE PAD. SEE ARCHITECTURAL DRAWINGS FOR DETAILS.

G6 IN–FILL THE WALL OPENING THAT WILL NO LONGER BE USED. REFER TO ARCHITECTURAL DRAWINGS. COORDINATE WITH MECHANICAL CONTRACTOR.

MECHANICAL GENERAL NEW WORK NOTES–BASE BID

1. ALL VALVES 3" & LARGER THAT ARE INSTALLED HIGHER THAN 7FT ABOVE FINISHED FLOOR SHALL HAVE CHAIN OPERATORS.
2. REFER TO PIPING DIAGRAM & CONTROL DIAGRAM FOR ADDITIONAL INSTALLATION REQUIREMENTS.
3. CONTRACTOR SHALL PROVIDE APPROVED SHOP DRAWINGS TO NJ PROFESSIONAL ENGINEER TO DEVELOP DESIGN FOR SUPPORT AND SEISMIC RESTRAINT FOR ALL PIPING. CALCULATIONS AND SHOP DRAWING SHALL BE SIGNED AND SEALED BY NJ PROFESSIONAL ENGINEER. REFER TO SPECIFICATIONS FOR SEISMIC CATEGORY.
4. ALL NEW EQUIPMENT (I.E. HW BOILERS, PRIMARY HW PUMPS, DOMESTIC WATER HEATER, STORAGE TANK, ETC.) SHALL BE SECURED TO CONCRETE PAD AT FOUR LOCATIONS USING EPOXY ANCHORS WITH GALVANIZED THREADED ROD AND NUTS.
5. CONTRACTOR SHALL USE 45° ELBOWS ON THE BOILER & DOMESTIC HEATER FLUE PIPING WHERE POSSIBLE. THIS SHALL BE REFLECTED ON THE SHOP DRAWINGS ISSUED FOR APPROVAL.

MECHANICAL NEW WORK NOTES–ADD/ALT #3

M1 INSTALL A 6" MODEL CM+2 BY BLUE FLAME VERTICAL FLUE FOR WATER HEATER IN ACCORDANCE TO MANUFACTURER'S REQUIREMENTS. THE OUTER JACKET FOR THE OUTDOOR FLUE SHALL BE STAINLESS STEEL. SEE STRUCTURAL DRAWINGS FOR THE SUPPORT AND SEISMIC DESIGN FOR THE VERTICAL FLUE. THE SUPPORT AND RESTRAINT DESIGN SHALL BE SIGNED AND SEALED BY NJ PROFESSIONAL ENGINEER. RIGHT EDGE OF FLUE SHALL NOT TO BE INSTALLED IN FRONT OF WINDOWS. SEE ELEVATION, SECTION A.

PLUMBING NEW WORK NOTES–ADD/ALT #3

P1 EDGE OF HOT WATER HEATER SHALL BE INSTALLED WHERE SOWN TO ALLOW FOR REMOVAL OF DHW STORAGE TANK.

P2 ANY OVERHEAD PIPING, DUCT, CONDUITS, ETC., SHALL BE INSTALLED A MINIMUM OF 11'–0" AFF TO ALLOW FOR REMOVAL OF DHW STORAGE TANK.

P3 THE DHW SUPPLY PIPE FROM THE HEATER TO THE TANK SHALL BE ATTACHED TO THE WALL & INSTALLED OVER THE TOP OF THE RETURN PIPE. ALLOW ROOM FOR PUMP/MOTOR REMOVAL.

P4 NEW THERMOSTATIC MIXING VALVE SHALL BE AS MANUFACTURED BY LEONARD, MODEL: LARGE TYPE TM WITH WALL BRACKETS, COLOR CODED DIAL THERMOMETER & LOCKING TEMPERATURE REGULATOR. SET TEMPERATURE TO 110° F (ADJ). INSTALL MIXING VALVE & ASSOCIATED PIPING ALONG WALL AT 5FT AFF.

P5 SUPPORT PUMP & PIPING USING DURA–BLOK PIPE SUPPORTS AS MAFACTURED BY EATON, MODEL: DB–10 OR EQUAL.

P6 REFER TO DOMESTIC HOT WATER PIPING DIAGRAM FOR ADDITIONAL INFORMATION.

P7 SLOPE FLUE PIPE BACK TOWARD HEATER WITH A SLOPE OF NOT LESS THAN 1:12 PITCH. HORIZONTAL SUPPORT SPACING SHALL BE 5FT MAX. VERTICAL SUPPORT SPACING SHALL BE NO GREATER THAN 10 FT.

P7 INSTALL APPROVED ADAPTER (UL 1738) TO TRANSITION FROM GALVANIZED METAL TO 316L STAINLESS STEEL.

P8 INSTALL A 316L STAINLESS STEEL BIRD SCREEN.

GENERAL CONSTRUCTION NEW WORK NOTES–ADD/ALT #3

AG1 POUR A NEW 4" THICK CONCRETE PAD. SEE ARCHITECTURAL DRAWINGS FOR DETAILS.

AG2 REFER TO STRUCTURAL DRAWINGS FOR SUPPORT AND RESTRAINT OF THE VERTICAL FLUES.

MECHANICAL GENERAL NEW WORK NOTES–ADD ALT #3

1. ALL VALVES 3" & LARGER THAT ARE INSTALLED HIGHER THAN 7FT ABOVE FINISHED FLOOR SHALL HAVE CHAIN OPERATORS.
2. REFER TO PIPING DIAGRAM & CONTROL DIAGRAM FOR ADDITIONAL INSTALLATION REQUIREMENTS.
3. CONTRACTOR SHALL PROVIDE APPROVED SHOP DRAWINGS TO NJ PROFESSIONAL ENGINEER TO DEVELOP DESIGN FOR SUPPORT AND SEISMIC RESTRAINT FOR ALL PIPING. CALCULATIONS AND SHOP DRAWING SHALL BE SIGNED AND SEALED BY NJ PROFESSIONAL ENGINEER. REFER TO SPECIFICATIONS FOR SEISMIC CATEGORY.
4. ALL NEW EQUIPMENT (I.E. HW BOILERS, PRIMARY HW PUMPS, DOMESTIC WATER HEATER, STORAGE TANK, ETC.) SHALL BE SECURED TO CONCRETE PAD AT FOUR LOCATIONS USING EPOXY ANCHORS WITH GALVANIZED THREADED ROD AND NUTS.
5. CONTRACTOR SHALL USE 45° ELBOWS ON THE BOILER & DOMESTIC HEATER FLUE PIPING WHERE POSSIBLE. THIS SHALL BE REFLECTED ON THE SHOP DRAWINGS ISSUED FOR APPROVAL.
6. BEFORE WORK CAN COMMENCE, CONTRACTOR SHALL PROVIDE CLEANING, FLUSHING & DISINFECTING PROCEDURE FOR THE DOMESTIC WATER SYSTEM.

GAS VENT SPECIFICATION–BASE BID & ALT BIDS

A. THE SPECIAL GAS VENT, MODEL CM+2 BY BLUE FLAME., SHALL BE MANUFACTURED FROM VP1738 STAINLESS STEEL SPECIFICALLY DESIGNED FOR EXTREME RESISTANCE TO CHLORINE ION PITTING, CREVICE CORROSION, AND STRESS CORROSION INDUCED BY THE GENERATION OF CORROSIVE CONDENSATES BY PARTIALLY OR FULLY CONDENSING NATURAL GAS OR PROPANE FIRED HEATING APPLIANCES. PLEASE CONTACT CHIMNEY DESIGN SOLUTIONS AT 800–685–7077 OR BIDS@CHIMNEY.NET FOR PRICING AND AVAILABILITY.

B. THE SYSTEM COMPONENTS, SUPPORTS AND TERMINATIONS SHALL BE THE PRODUCT OF ONE MANUFACTURER, TESTED AND LISTED TO UL 1738 BY UNDERWRITERS' LABORATORIES, INC. (UL) FOR USE WITH CATEGORY II, III & IV APPLIANCES, 550°F UNDER CONTINUOUS OPERATING CONDITIONS, AND 40"WATER COLUMN POSITIVE PRESSURE.

C. THE COMPLETE VENT SYSTEM SHALL BE FABRICATED AS FOLLOWS:
  1. THE INNER WALL MATERIAL SHALL BE VP1738 STAINLESS STEEL.
  2. THE OUTER WALL MATERIAL SHALL BE ALUMINIZED STEEL FOR INDOOR LOCATIONS. PORTIONS EXPOSED TO THE OUTDOORS SHALL BE CONSTRUCTED WITH A STAINLESS STEEL OUTER JACKET.
  3. THE INSULATION BETWEEN THE INNER WALL AND OUTER JACKET SHALL BE 2.0 INCH FIBER INSULATION.

D. THE VENT SECTIONS AND FITTINGS SHALL BE JOINED BY CLAMPING A VEE BAND OVER THE MATING MALE–FEMALE FLANGES OF ADJACENT COMPONENTS AND SEALED WITH SILICONE SEALANT. ALL JOINTS SHALL HAVE MALE–FEMALE CONNECTIONS; SPECIAL GAS VENTS WITHOUT MALE–FEMALE CONNECTIONS ARE NOT ACCEPTABLE. ALL CONNECTOR–TO–BREECHING TEES SHALL 45–DEGREE (LATERAL) TEES; BOOT TEES AND 90–DEGREE TEES ARE NOT ACCEPTABLE. PROVIDE ALL REQUIRED ACCESSORIES FOR A COMPLETE SYSTEM INCLUDING, BUT NOT LIMITED TO, SUPPORTS, APPLIANCE CONNECTORS, DRAIN FITTINGS, AND TERMINATIONS.

E. THE SPECIAL GAS VENT MANUFACTURER SHALL PROVIDE A TWO YEAR PARTS AND LABOR WARRANTY FOR THE VENT SYSTEM. SEE MANUFACTURER'S LITERATURE FOR ADDITIONAL INFORMATION.

F. THE VENT SYSTEM MANUFACTURER SHALL VERIFY THAT THE SHOP DRAWINGS' PROPOSED EXHAUST SYSTEM COMPLIES WITH THE APPLIANCE MANUFACTURERS' WRITTEN REQUIREMENTS AND THAT THE INSTALLATION WILL SAFELY EXHAUST THE CONNECTED EQUIPMENT. DRAFT CALCULATIONS SHALL BE BASED UPON THE APPLIANCE MANUFACTURERS' WRITTEN REQUIREMENTS. THE DRAFT CALCULATION SHALL BE BASED UPON ASHRAE'S CHIMNEY DESIGN EQUATION AND SUBMITTED WITH THE APPLIANCE MANUFACTURERS' REQUIREMENTS FOR REVIEW AND APPROVAL BY THE ENGINEER.

G. THE SHOP DRAWINGS FOR THE VENT DESIGN SHALL BE APPROVED BY THE BOILER MANUFACTURER. THESE SHOP DRAWINGS SHALL BE USED TO DEVELOP A SUPPORT AND SEISMIC DESIGN FOR THE VENT SYSTEM. THE SUPPORT AND SIESMIC DESIGN SHALL BE SIGNED AND SEALED BY A NJ PROFESSIONAL ENGINEER.

H. HORIZONTAL VENTS SHALL BE PITCHED BACK TO THE BOILER $\frac{1}{4}$' PER 24".

I. DRAIN AT THE BOTTOM OF THE VENT SHALL BE INSTALLED AT A VERTICAL SECTION AND EVERY 30'.

J. THE VENT SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.

KEY PLAN

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Project Name
HVAC Renovations at Princeton High School

Project Owner Name
Princeton Public Schools

Project Location
151 Moore Street,
Princeton, NJ
08540

Project Number
5516E

Project Date
01.29. 2026

Checked By
JTM

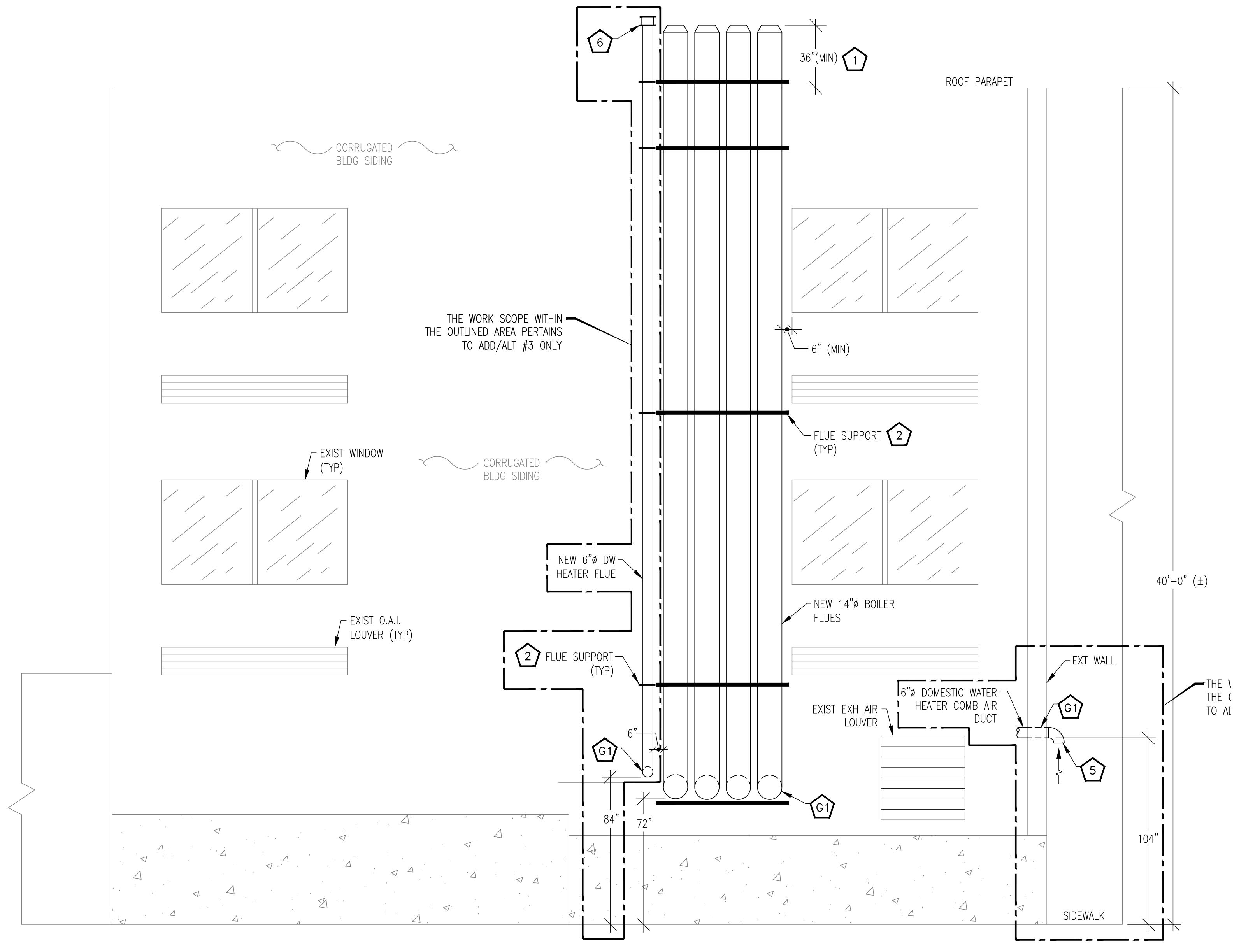
Drawn By
JD

Scale
AS NOTED

Drawing Name
MECHANICAL - BOILER ROOMS NEW WORK PLANS

Revisions		
No.	Date	Description

Drawing Number
M-501



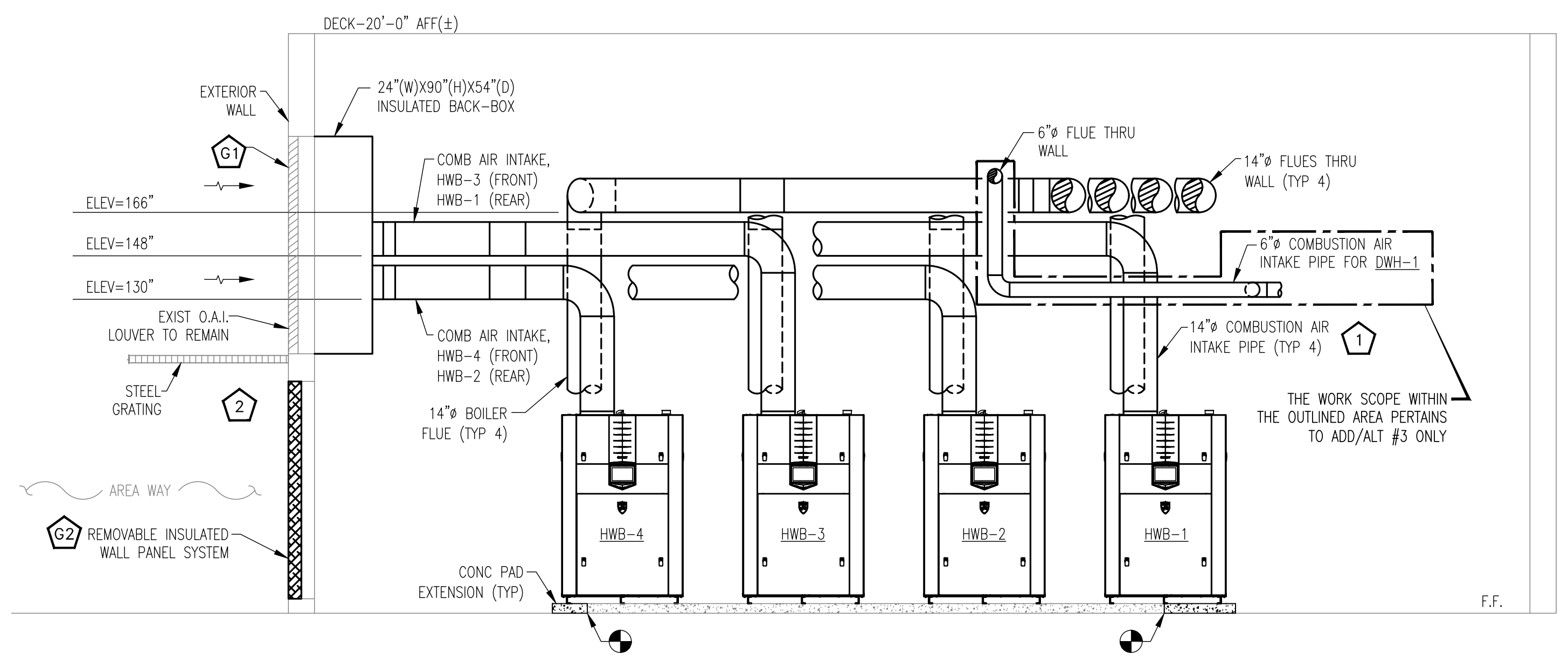
1 **ELEVATION A-A**
SCALE: 1/4"=1'-0"

MECHANICAL NEW WORK NOTES–BASE BID

1. FLUE PIPING SHALL EXTEND 36" (MIN) ABOVE TOP OF PARAPET WALL.
2. THE OUTDOOR FLUE SHALL HAVE A STAINLESS STEEL OUTER JACKET. FLUE PIPING SUPPORTS SHALL BE AT INTERVALS AS PER MANUFACTURER'S REQUIREMENTS. REFER TO ARCHITECTURAL/STRUCTURAL DRAWINGS FOR DETAILS.
3. OUTER EDGE OF FLUE SHALL BE 6" (MIN) FROM EDGE OF WINDOW & OUTDOOR AIR INTAKE LOVER.
4. FLUE THRU WALL PENETRATION SHALL BE AS HIGH AS POSSIBLE, (I.E. TIGHT TO UNDERSIDE OF DECK.
5. INSTALL A 316L STAINLESS STEEL BIRD SCREEN.
6. APPROVED MANUFACTURER'S STAINLESS STEEL RAIN CAP AS MANUFACTURED BY DURAVENT, MODEL: FSRC6 (OR EQUAL).

GENERAL CONSTRUCTION NEW WORK NOTES

G1 REFER TO ARCHITECTURAL DRAWINGS WALL PENETRATIONS, SIDING MODIFICATIONS & FINISHING DETAILS AT FLUE PENETRATIONS THRU WALL.


DECK–20'-0" AFF(±)
EXTERIOR WALL
G1
24"(W)X90"(H)X54"(D) INSULATED BACK-BOX
ELEV=166"
ELEV=148"
ELEV=130"
COMB AIR INTAKE, HWB-3 (FRONT) HWB-1 (REAR)
COMB AIR INTAKE, HWB-4 (FRONT) HWB-2 (REAR)
EXIST O.A.I. LOUVER TO REMAIN
STEEL GRATING
2
14"ø BOILER FLUE (TYP 4)
AREA WAY
G2 REMOVABLE INSULATED WALL PANEL SYSTEM
CONC PAD EXTENSION (TYP)
6"ø FLUE THRU WALL
14"ø FLUES THRU WALL (TYP 4)
6"ø COMBUSTION AIR INTAKE PIPE FOR DWH-1
14"ø COMBUSTION AIR INTAKE PIPE (TYP 4)
1
THE WORK SCOPE WITHIN THE OUTLINED AREA PERTAINS TO ADD/ALT #3 ONLY
HWB-4
HWB-3
HWB-2
HWB-1
F.F.

2 **SECTION B**
SCALE: 1/4"=1'-0"

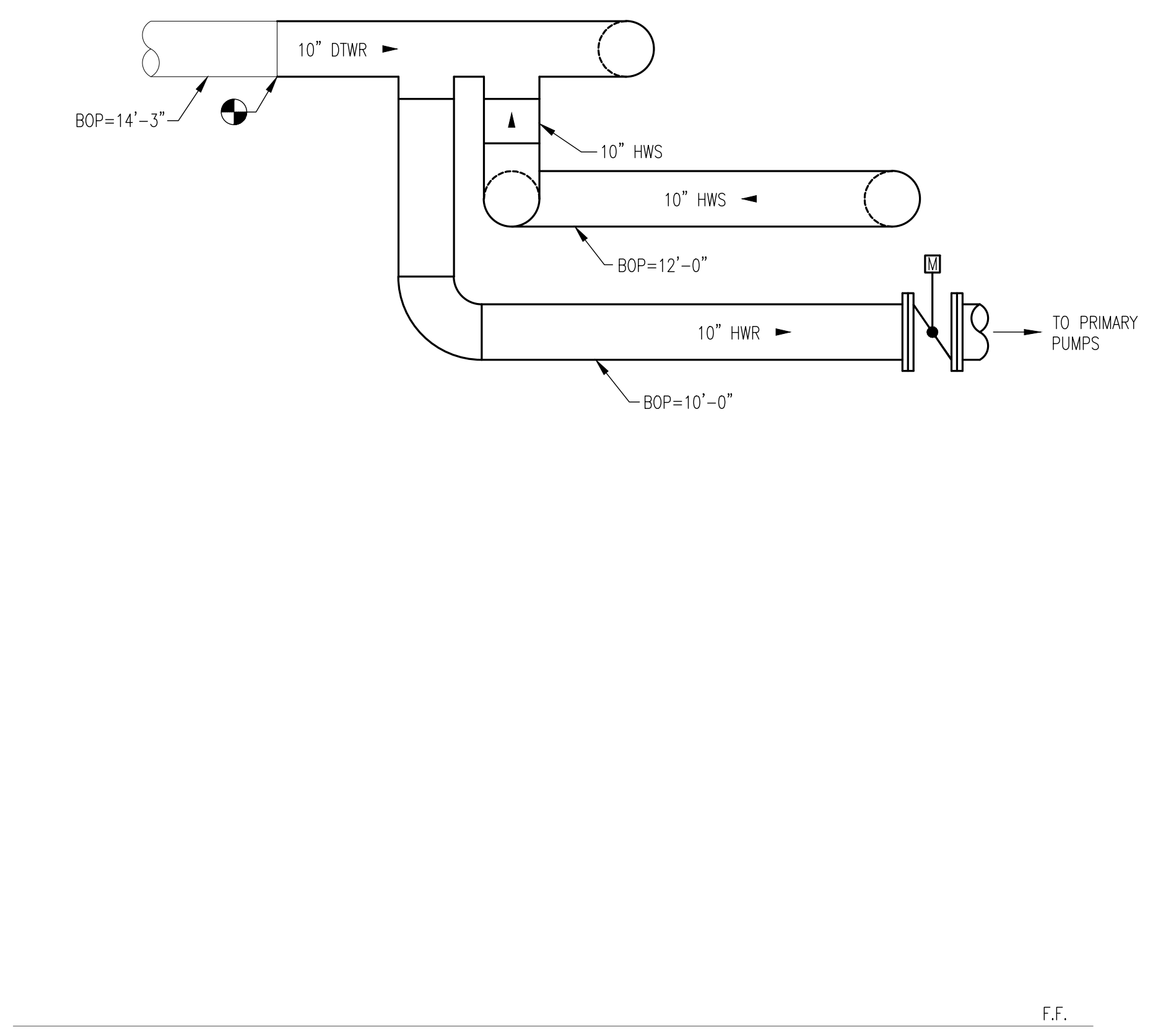
MECHANICAL NEW WORK NOTES

1. COMBUSTION AIR VENT SHALL BE 14" GALVANIZED DUCT. SEE SCHEDULE. PROVIDE SHOP DRAWINGS FOR APPROVAL AND SUPPORT AND SIESMIC DESIGN.
2. COMBUSTION AIR VENT SHALL HAVE A ELBOW DIRECTED DOWNWARD WITH A BIRD SCREEN.

GENERAL CONSTRUCTION NEW WORK NOTES

G1 REFER TO ARCHITECTURAL DRAWINGS FOR SEALING WALL PENETRATION THAT WILL NO LONGER BE USED. SEE PLAN VIEW DRAWING & COORDINATE WITH MECHANICAL CONTRACTOR.

G2 NEW REMOVABLE, INSULATED WALL PANEL SYSTEM. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.



3 **SECTION C**
SCALE: 1/2"=1'-0"

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Drawing Name
MECHANICAL - BOILER ROOMS ELEVATIONS & SECTIONS

Revisions

No.	Date	Description

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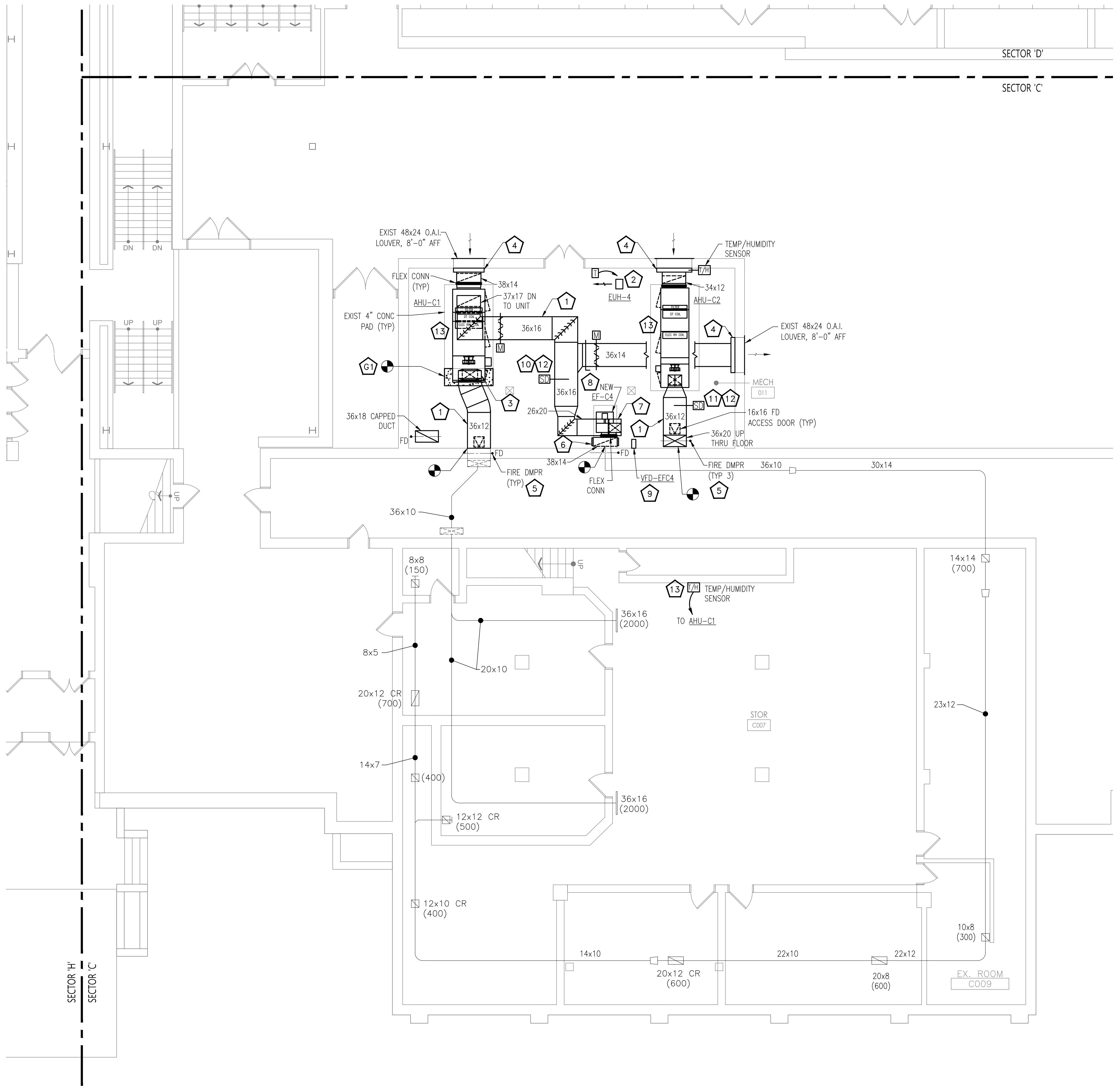
M-502



1 MECHANICAL - SECTOR 'C' GROUND FLOOR DUCTWORK NEW WORK PLAN - ADD/ALT #2
SCALE: 1/8"=1'-0"

MECHANICAL NEW WORK NOTES

1. INSTALL DUCT UP HIGH TO ALLOW FOR MAXIMUM HEAD ROOM.
2. ELECTRIC UNIT HEATER IS BEING INSTALLED BY ELECTRICAL CONTRACTOR.
3. TRANSITION SUPPLY DUCT TO 36x12 IN THE VERTICAL.
4. INSTALL A NEW, EXTERNALLY INSULATED, BACK BOX.
5. CLEAN EXISTING FIRE DAMPER & INSTALL A NEW 165 °F FUSIBLE LINK.
6. INSTALL 12x12 FIRE DAMPER ACCESS DOORS ON EITHER SIDE OF VERTICAL DUCT.
7. TRANSITION TO 26x20 IN THE VERTICAL.
8. MOUNT FAN TO EXISTING CONCRETE PAD USING 1" SPRING ISOLATORS.
9. CONTRACTOR SHALL PROVIDED & INSTALL A NEW VFD (SEE SPECIFICATION, THIS DWG). MOUNT NEW VFD ON WALL USING GALVANIZED UNISTRUT.
10. INSTALL A NEW SMOKE DAMPER IN RETURN AIR DUCT AS SHOWN.
11. INSTALL NEW SMOKE DETECTOR IN SUPPLY AIR DUCT AS SHOWN.
12. THE MECHANICAL CONTRACTOR SHALL INSTALL THE SMOKE DETECTOR. FIRE ALARM CONTRACTOR SHALL SUPPLY SMOKE DETECTOR. THE ELECTRICAL CONTRACTOR SHALL PROVIDE POWER TO THE DETECTOR AND SHALL WIRE THE DETECTOR TO THE EMERGENCY STOP CIRCUIT IN THE VFDS FOR THE AIR HANDLERS AND EXHAUST FAN. THE FIRE ALARM CONTRACTOR SHALL WIRE THE DETECTOR TO THE FACP.
13. BAS CONTRACTOR SHALL PROVIDE UNIT CONTROLLER, WIRING, PROGRAMMING & GRAPHICS. SEE CONTROL DIAGRAMS FOR ADDITIONAL INFORMATION.

GENERAL CONSTRUCTION NEW WORK NOTES

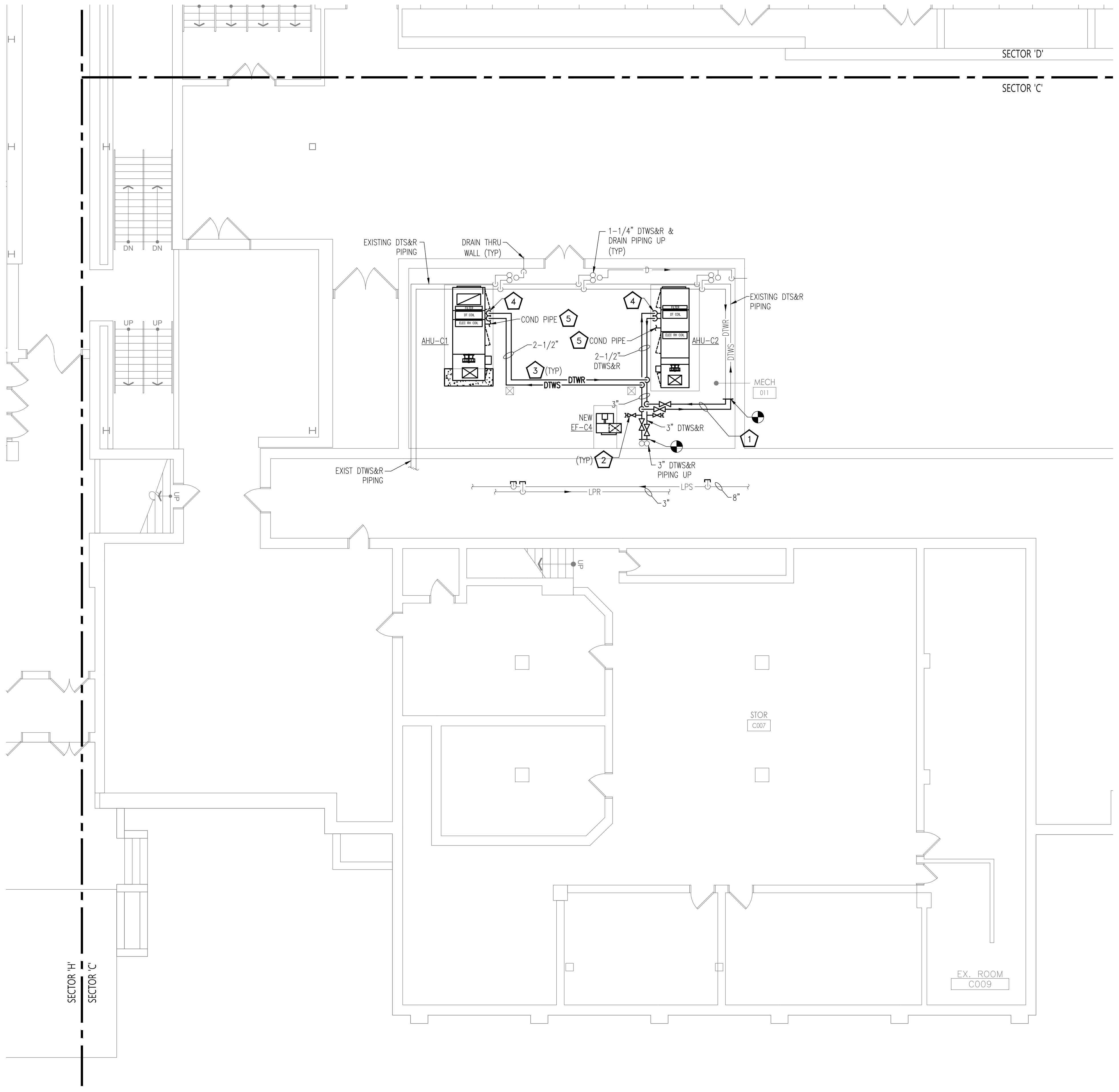
G1 EXISTING CONCRETE PAD SHALL BE EXTENDED SO THE PAD EXTENDS A MINIMUM OF 4" BEYOND THE FRONT, SIDES & BACK END OF NEW UNIT (APPROX. 30"). REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS. PAINT NEW PAD TO MATCH NEW PAINT OF EXISTING PAD.

GENERAL NEW WORK NOTES

1. CONTRACTOR SHALL PROVIDE A COORDINATED DUCTWORK & PIPING SHOP DRAWING FOR REVIEW AND APPROVAL. DRAWING SHALL BE 1/4"=1'-0" SCALE (OR LARGER). INCLUDE OVERALL DIMENSIONS OF APPROVED NEW MECHANICAL EQUIPMENT, DUCTWORK ELEVATIONS, TRANSITIONS, ELEVATION OF STRUCTURE, EXISTING STEEL DIMENSIONS & ELEVATION, DUCTWORK & PIPING SUPPORT TYPE & LOCATION, ETC.

VFD EFC4 SPECIFICATION

CONTRACTOR SHALL PROVIDE & INSTALL NEW VFD AS MANUFACTURED BY YASKAWA, SERIES: HV600, MODEL: H6CPD010PMTW. DRIVE SHALL BE RATED FOR 3 HP, 10.6 FLA @ 208V-3PH. DRIVE SHALL BE IN NEMA 1 ENCLOSURE, 6-PULSE DRIVE WITH 5% DC LINK CHOKE, INTEGRAL MAIN DISCONNECT BREAKER, 100 kA SHORT CIRCUIT RATING, ON-BOARD EMI/RMI FILTERS, ALPHA NUMERIC KEY PAD WITH H-O-A BUTTONS, ELECTRONIC GROUND FAULT PROTECTION, INPUT & OUTPUT PHASE LOSS PROTECTION, UL APPROVED ELECTRONIC THERMAL MOTOR OVERLOAD PROTECTION, AND SHALL HAVE A BACNET MS/TP COMMUNICATIONS CARD.



1 MECHANICAL - SECTOR 'C' GROUND FLOOR PIPING NEW WORK PLAN - ADD/ALT #2
SCALE: 1/8"=1'-0"

MECHANICAL NEW WORK NOTES

1. CONNECT TO EXISTING 3" DTS&R PIPING.
2. INSTALL 3/4" MANUAL AIR VENTS WITH HOSE END ON TOP OF PIPE (SUPPLY & RETURN).
3. INSTALL NEW PIPING AS HIGH AS POSSIBLE.
4. REFER TO DUAL TEMPERATURE COIL PIPING DETAIL.
5. REFER TO PARTIAL PLAN, THIS DRAWING, FOR COIL CONDENSATE PIPING INSTALLATION REQUIREMENTS.

GENERAL NEW WORK NOTES

1. CONTRACTOR SHALL PROVIDE A COORDINATED DUCTWORK & PIPING SHOP DRAWING FOR REVIEW AND APPROVAL. DRAWING SHALL BE 1/4"=1'-0" SCALE (OR LARGER). INCLUDE OVERALL DIMENSIONS OF APPROVED NEW MECHANICAL EQUIPMENT, DUCTWORK ELEVATIONS, TRANSITIONS, ELEVATION OF STRUCTURE, EXISTING STEEL DIMENSIONS & ELEVATION, DUCTWORK & PIPING SUPPORT TYPE & LOCATION, ETC.

PLUMBING NEW WORK NOTES

P1 PROVIDE & INSTALL A CONDENSATE PUMP AS MANUFACTURED BY LITTLE GIANT, MODEL: VCMA-20ULS (115V-1 PH). PROVIDE PUMP WITH BRASS CHECK VALVE & 6 FT POWER CORD. WIRE CONTACTS OF HIGH WATER LEVEL SWITCH TO ISSUE AN ALARM AT THE BAS.

P2 USE PLASTIC TUBING FROM PUMP DISCHARGE TO CHECK VALVE THEN TRANSITION TO 3/4" COPPER TUBING.

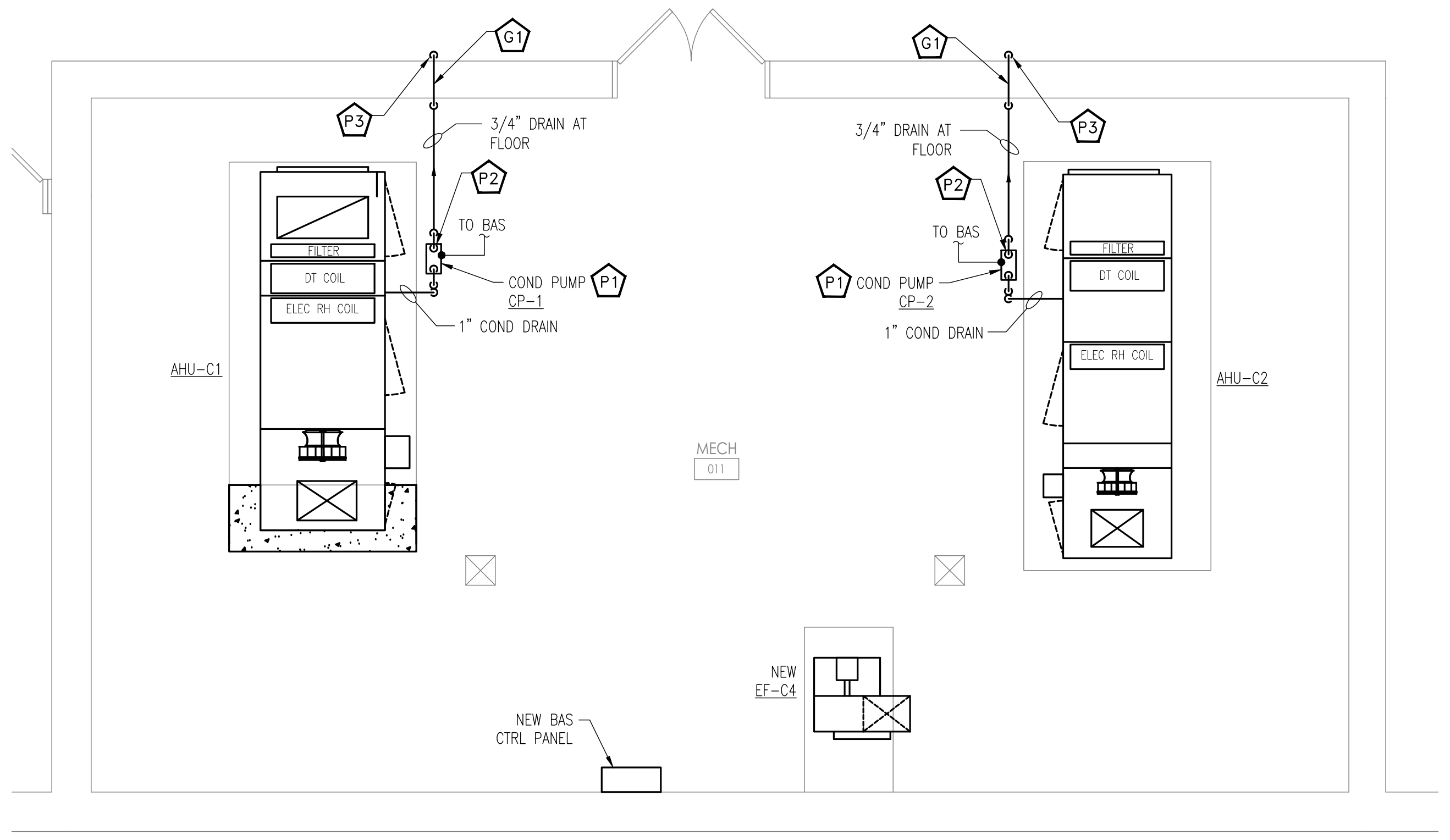
P3 PIPING SHALL EXIT WALL AT 6" ABOVE GRADE. INSTALL 45° ELBOW AT PIPE TERMINATION. COVER END OF PIPE WITH STAINLESS STEEL SCREEN.

GENERAL NEW WORK NOTES

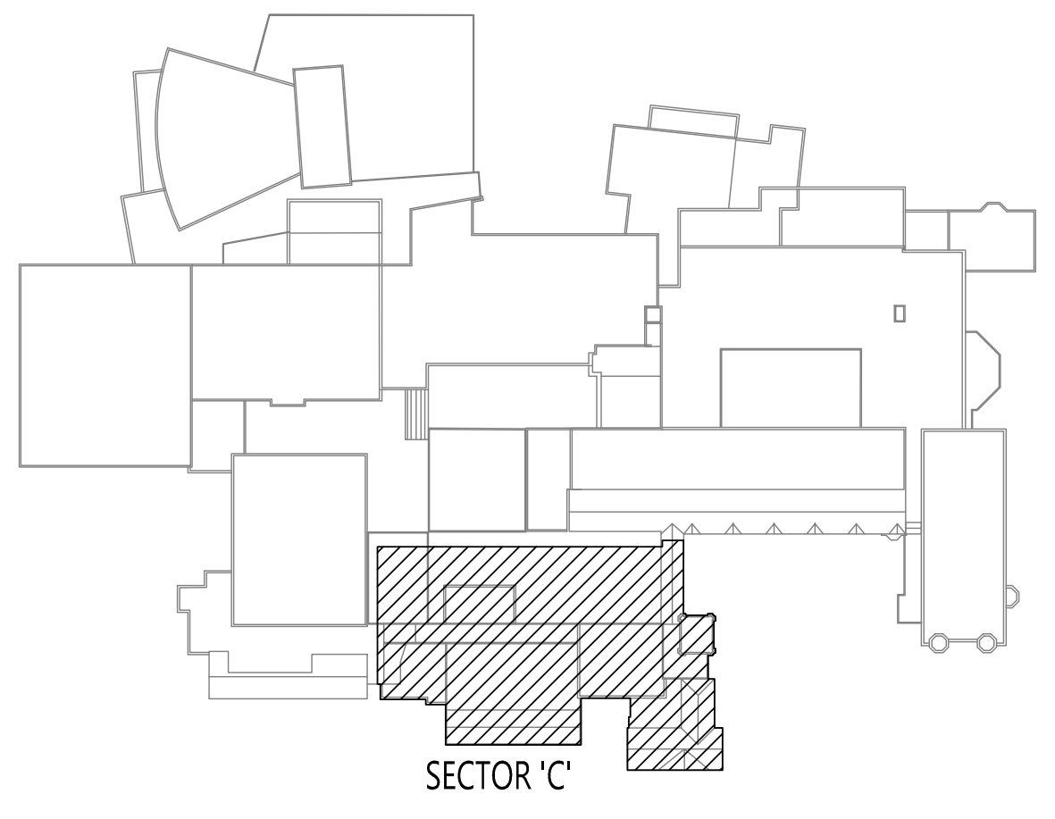
1. CONDENSATE DRAIN PIPING SHALL BE COPPER AS NOTED IN SCHEDULE. PVC PIPE SHALL NOT BE USED.

GENERAL CONSTRUCTION NEW WORK NOTES

G1 CORE DRILL WALL FOR NEW PIPE PENETRATION AT ELEVATION INDICATED.



3 MECHANICAL - PARTIAL PLAN, ADD/ALT #2
SCALE: 1/4"=1'-0"



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Project Date
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JTM

Drawn By
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Scale
AS NOTED

Drawing Name
MECHANICAL - GROUND FLOOR SECTOR C PARTIAL NEW WORK PLANS

Revisions

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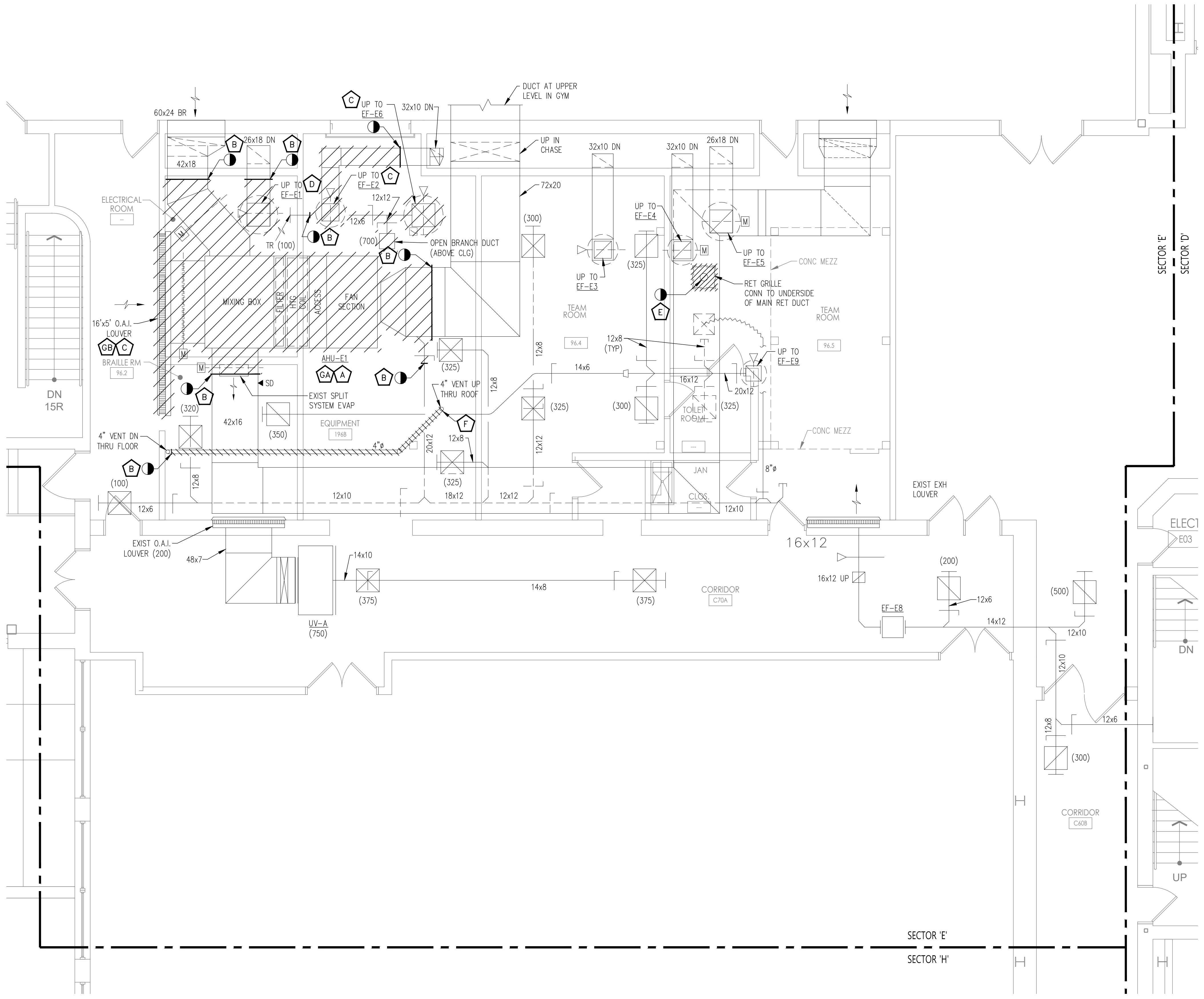


1 MECHANICAL - SECTOR 'E' GROUND FLOOR DUCTWORK DEMOLITON PLAN

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

MECHANICAL DEMOLITION NOTES

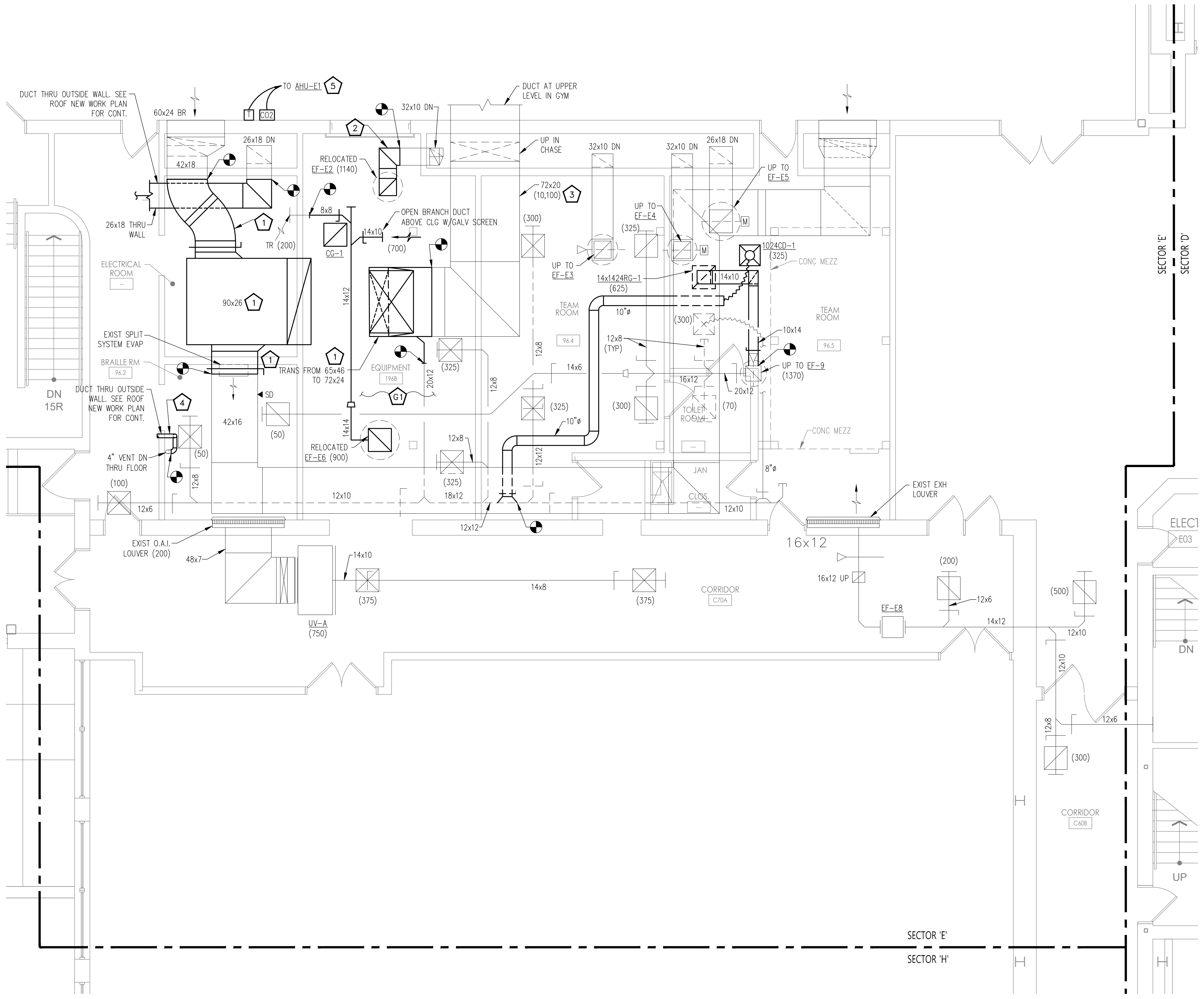
- A REMOVE EXISTING AIR HANDLER, CONDENSATE PIPING, SUPPORTS, HANGERS, ETC., IN THEIR ENTIRETY. EXISTING CONTROLS, PROGRAMMING & GRAPHICS SHALL BE REMOVED FROM EXISTING BUILDING AUTOMATION SYSTEM. REMOVE EXISTING THERMOSTATS, HUMIDISTATS, CO2 SENSORS, CONTROL WIRING, ASSOCIATED CONDUIT, ETC., IN THEIR ENTIRETY. REFER TO DRAWING MD-305 FOR DEMOLITION OF EXISTING PIPING.
- B REMOVE EXISTING DUCTWORK BACK TO LOCATION SHOWN.
- C REMOVE EXISTING EXHAUST DUCTWORK & BACK DRAFT DAMPER TO EXISTING EXHAUST FAN. THE EXHAUST FAN SHALL BE REMOVED & RELOCATED AS SHOWN ON THE NEW WORK ROOF PLAN.
- D REMOVE EXISTING EXHAUST DUCTWORK & BACK DRAFT DAMPER TO EXISTING EXHAUST FAN. THE EXHAUST FAN SHALL BE REMOVED. INSTALL NEW DUCTWORK & EXHAUST FAN AS SHOWN ON THE NEW WORK ROOF PLAN.
- E REMOVE EXISTING RETURN AIR GRILLE & BRANCH DUCT. CAP DUCT TAP IN RETURN AIR MAIN.
- F REMOVE EXISTING VENT UP THRU ROOF.

GENERAL DEMOLITION NOTES

1. WHERE EXISTING PIPING, DUCTWORK, EQUIPMENT, ETC., HAS BEEN NOTED TO BE REMOVED, THE ASSOCIATED HANGERS, SUPPORTS, FASTENERS, ETC. SHALL ALSO BE REMOVED.
2. REFER TO DEMOLITION DRAWING MD-305 FOR PIPING DEMOLITION SCOPE OF WORK.

GENERAL CONSTRUCTION DEMOLITION NOTES

- GA WHERE EXISTING EQUIPMENT & PIPING IS NOTED TO BE REMOVED, THE BRACKETS, HANGERS, SUPPORTS, ETC., SHALL BE REMOVED IN THEIR ENTIRETY. THE WALL, FLOOR, CEILING, ETC., SHALL BE REPAIRED & OPENINGS SHALL BE IN-FILLED TO MATCH MATCH EXISTING CONSTRUCTION. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.
- GB REMOVE EXISTING OUTDOOR AIR LOUVER & BACK BOX. REFER TO ARCHITECTURAL DRAWINGS FOR REPAIR OF OPENING.



2 MECHANICAL - SECTOR 'E' GROUND FLOOR DUCTWORK NEW WORK PLAN

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

MECHANICAL NEW WORK NOTES

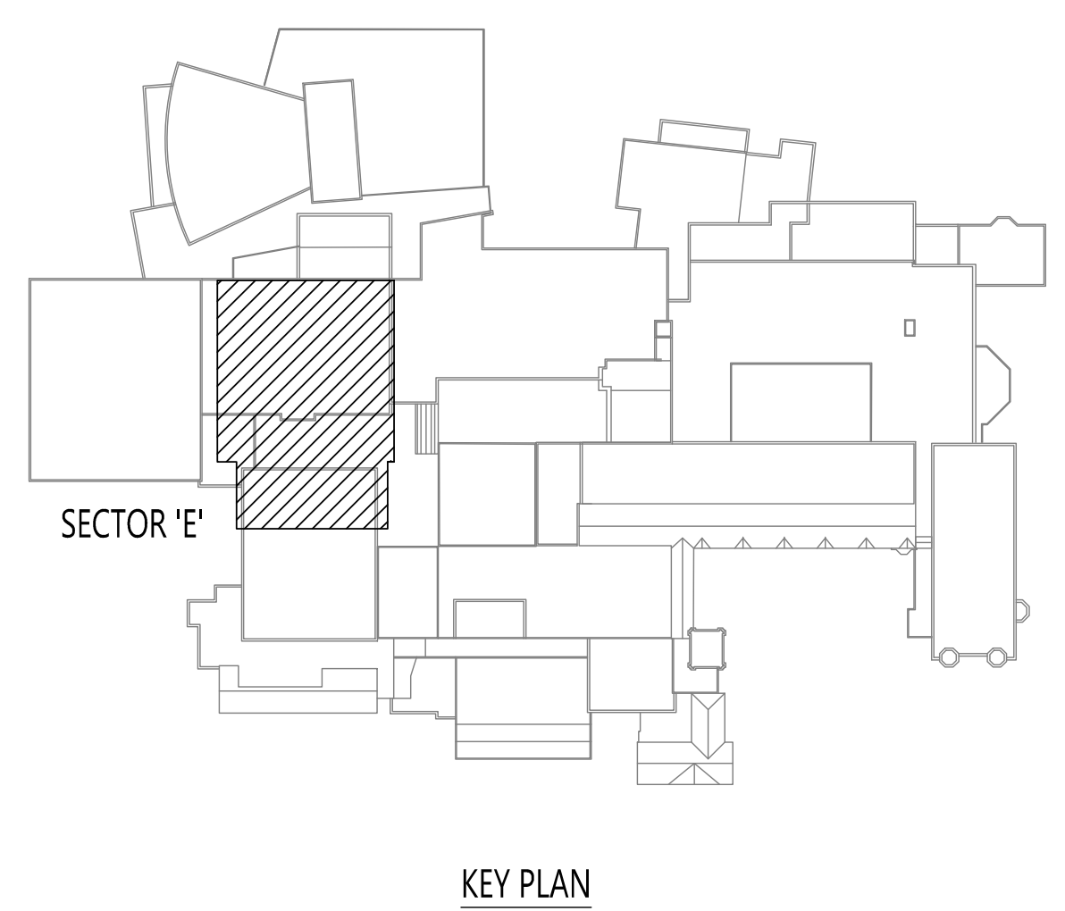
- 1 DUCTWORK INDICATED SHALL BE INSULATED WITH BOARD-TYPE INSULATION. SEE INSULATION SCHEDULE FOR REQUIREMENTS.
- 2 MATCH EXISTING DUCT SIZE. FIELD VERIFY.
- 3 USE THE BALANCING DAMPERS IN THE BRANCH DUCTS IN THE MAIN GYM TO BALANCE THE AIRFLOW. EACH OF THE TWELVE (12) DIFFUSERS SHALL BE BALANCED TO 1,010 CFM.
- 4 ROUTE NEW 4"ø VENT PIPE THRU EXTERIOR WALL. BOTTOM OF VENT SHALL BE 3FT ABOVE ROOF.
- 5 BAS CONTRACTOR SHALL MOUNT TEMP SENSOR & CARBON DIOXIDE SENSOR AT 48" AFF. BAS CONTRACTOR SHALL WIRE SENSORS BACK TO UNIT'S CONTROLLER. THE CONTROLLER SHALL BE CONNECTED TO THE EXISTING BAS NETWORK. SEE CONTROL DRAWINGS FOR SEQUENCE OF OPERATION & OTHER REQUIREMENTS. COORDINATE EXACT LOCATION OF SENSORS WITH OWNER.

GENERAL NEW WORK NOTES

1. BALANCE THE AIR DEVICES AND EXHAUST REGISTERS ASSOCIATED WITH AHU-E1 TO THE AIR QUANTITIES SHOWN.

GENERAL CONSTRUCTION NEW WORK NOTES

- G1 INSTALL NEW CEILING TILES AND CEILING GRID IN STORAGE ROOM AT SAME ELEVATION. SEE ARCHITECTURAL DRAWINGS FOR DETAILS.



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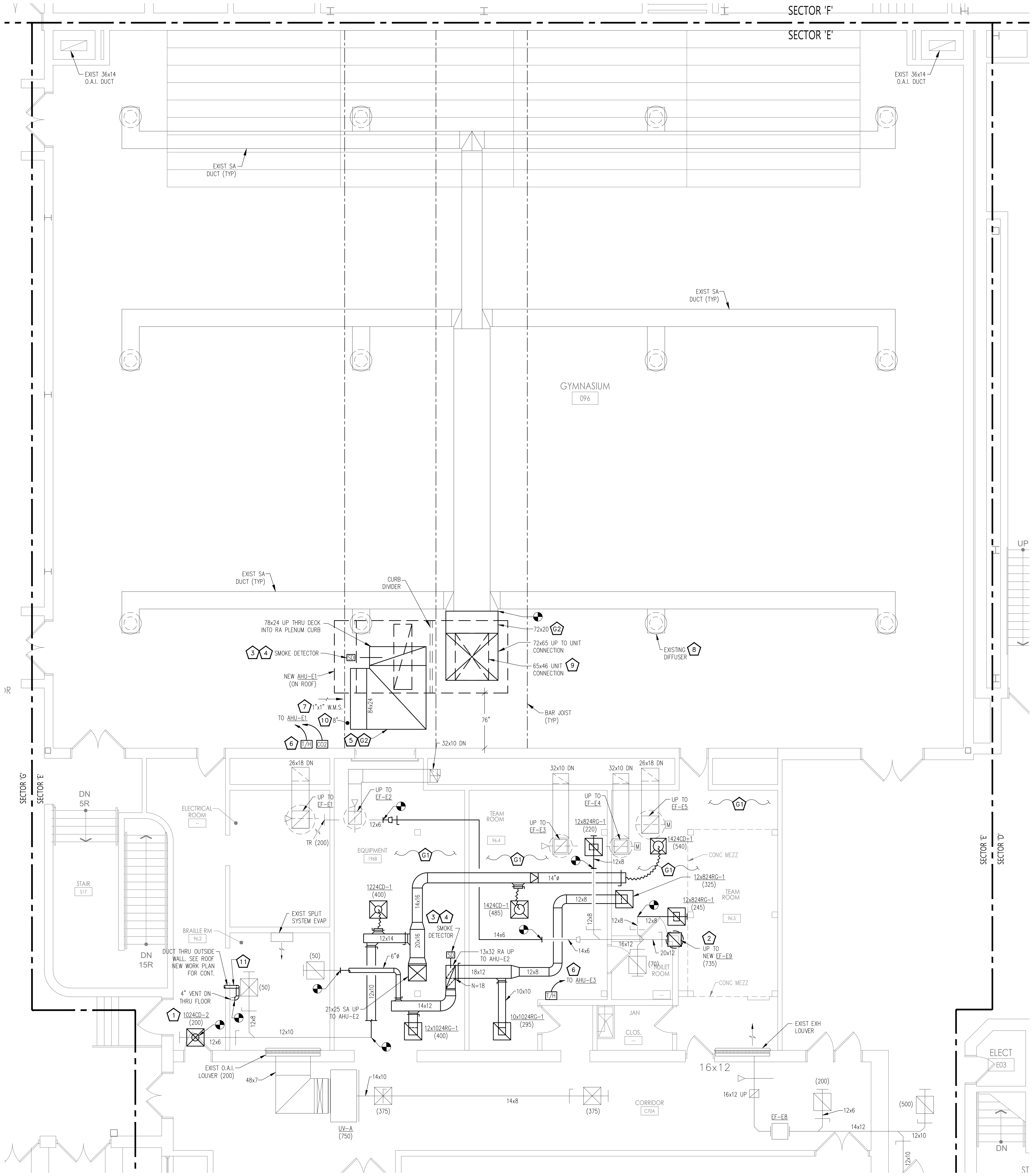
Drawn By	JD
Scale	AS NOTED
Drawing Name	MECHANICAL - GROUND FLOOR SECTOR E PARTIAL DUCTWORK DEMOLITION & NEW WORK PLANS

Revisions

No.	Date	Description

Drawing Number

M-504



1 MECHANICAL - SECTOR 'E' GROUND FLOOR DUCTWORK NEW WORK PLAN - ADD/ALT #1

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

MECHANICAL NEW WORK NOTES

1. INSTALL NEW AIR DEVICE WHERE EXISTING WAS REMOVED.
2. TRANSITION EXISTING VERTICAL DUCT UP TO NEW EXHAUST FAN.
3. INSTALL NEW SMOKE DETECTOR IN RETURN AIR DUCT AS SHOWN.
4. THE MECHANICAL CONTRACTOR SHALL PROVIDE AND INSTALL THE SMOKE DETECTOR. THE ELECTRICAL CONTRACTOR SHALL PROVIDE POWER TO THE DETECTOR AND SHALL WIRE THE DETECTOR TO THE EMERGENCY STOP CIRCUIT IN THE VFDS FOR THE AIR HANDLERS AND EXHAUST FAN. THE FIRE ALARM CONTRACTOR SHALL WIRE THE DETECTOR TO THE FACP.
5. RETURN AIR DUCTWORK SHALL BE LINED WITH 1" THICK ACOUSTICAL DUCT LINER AS MANUFACTURED BY JOHNS MANVILLE, MODEL: LINACOUSTIC RC. EXPOSED EDGES DUE TO FIELD CUTS SHALL BE SEALED WITH "SUPER SEAL" EDGE TREATMENT AS MANUFACTURED BY JOHNS MANVILLE.
6. BAS CONTRACTOR SHALL MOUNT TEMP/HUMIDITY & CARBON DIOXIDE SENSORS AT 48" AFF. BAS CONTRACTOR SHALL WIRE SENSORS BACK TO UNIT'S CONTROLLER. THE CONTROLLER SHALL BE CONNECTED TO THE EXISTING BAS NETWORK. SEE CONTROL DRAWINGS FOR SEQUENCE OF OPERATION & OTHER REQUIREMENTS. COORDINATE EXACT LOCATION OF SENSORS WITH OWNER.
7. WELD WIRE MESH SCREEN TO PERIMETER OF DUCT. WIRE MESH SCREEN SHALL HAVE A PRIMER COATING WITH A FINAL PAINT COLOR TO MATCH EXISTING DUCTWORK.
8. BALANCE EACH DIFFUSER TO 1,000 CFM (QTY 12).
9. INSTALL FLEX CONNECTOR AT UNIT CONNECTION.
10. EXTEND RETURN AIR DUCT TO 8" FROM EXISTING BAR JOIST.
11. ROUTE NEW 4"ø VENT PIPE THRU EXTERIOR WALL. BOTTOM OF VENT SHALL BE 3FT ABOVE ROOF.

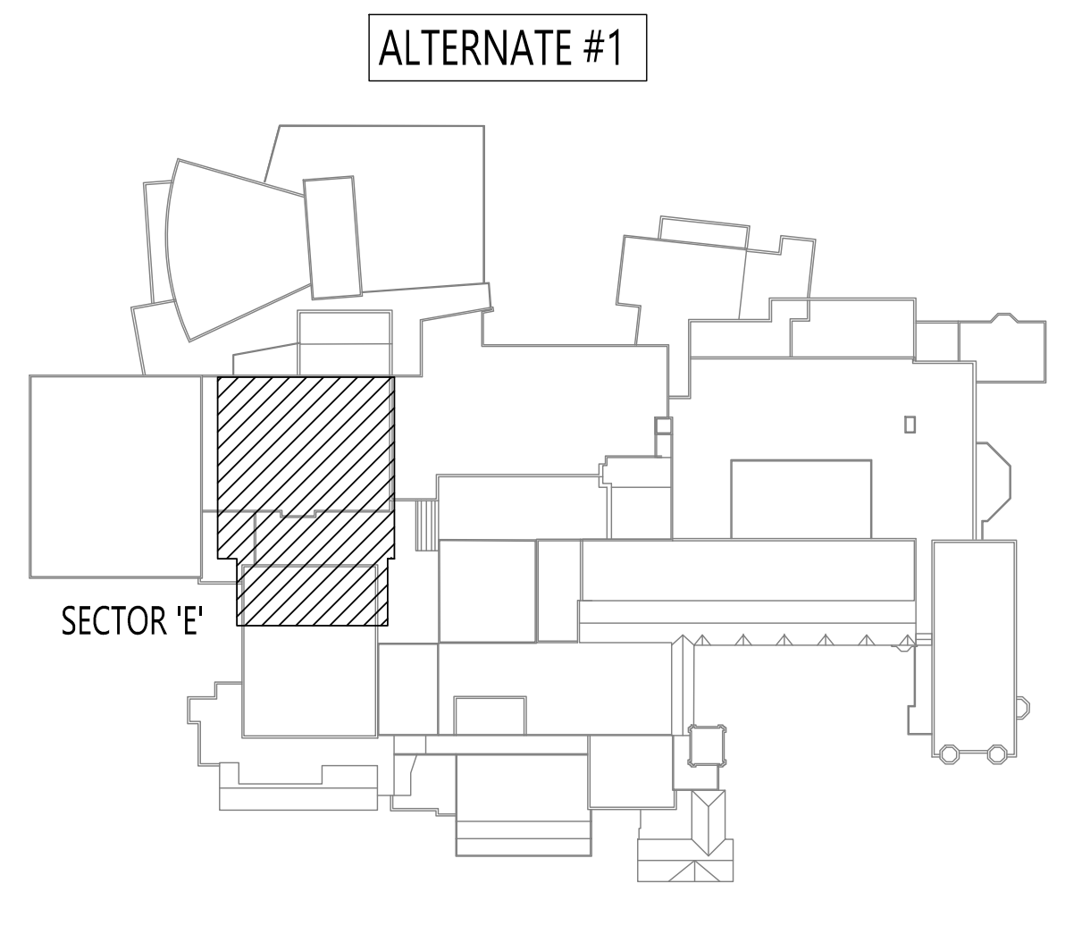
GENERAL NEW WORK NOTES

1. BALANCE THE AIR DEVICES AND EXHAUST REGISTERS ASSOCIATED WITH AHU-E1 & AHU-E3 TO THE AIR QUANTITIES SHOWN.

GENERAL CONSTRUCTION NEW WORK NOTES

- G1 INSTALL NEW CEILING TILES AND CEILING GRID IN STORAGE & BOTH TEAM ROOMS. SEE ARCHITECTURAL DRAWINGS FOR DETAILS.
- G2 NEW SUPPLY & RETURN AIR DUCTWORK SHALL BE PAINTED TO MATCH EXISTING SUPPLY AIR DUCT. REFER TO ARCHITECTURAL DRAWINGS FOR REQUIREMENTS.

ALTERNATE #1



KEY PLAN

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William D. Hopkins
Architect
01/29/26
Date

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Project Name
HVAC Renovations at Princeton High School

Project Owner Name
Princeton Public Schools

Project Location
151 Moore Street,
Princeton, NJ
08540

Project Number
5516E

Project Date
01.29. 2026

Checked By
JTM

Drawn By
JD

Scale
AS NOTED

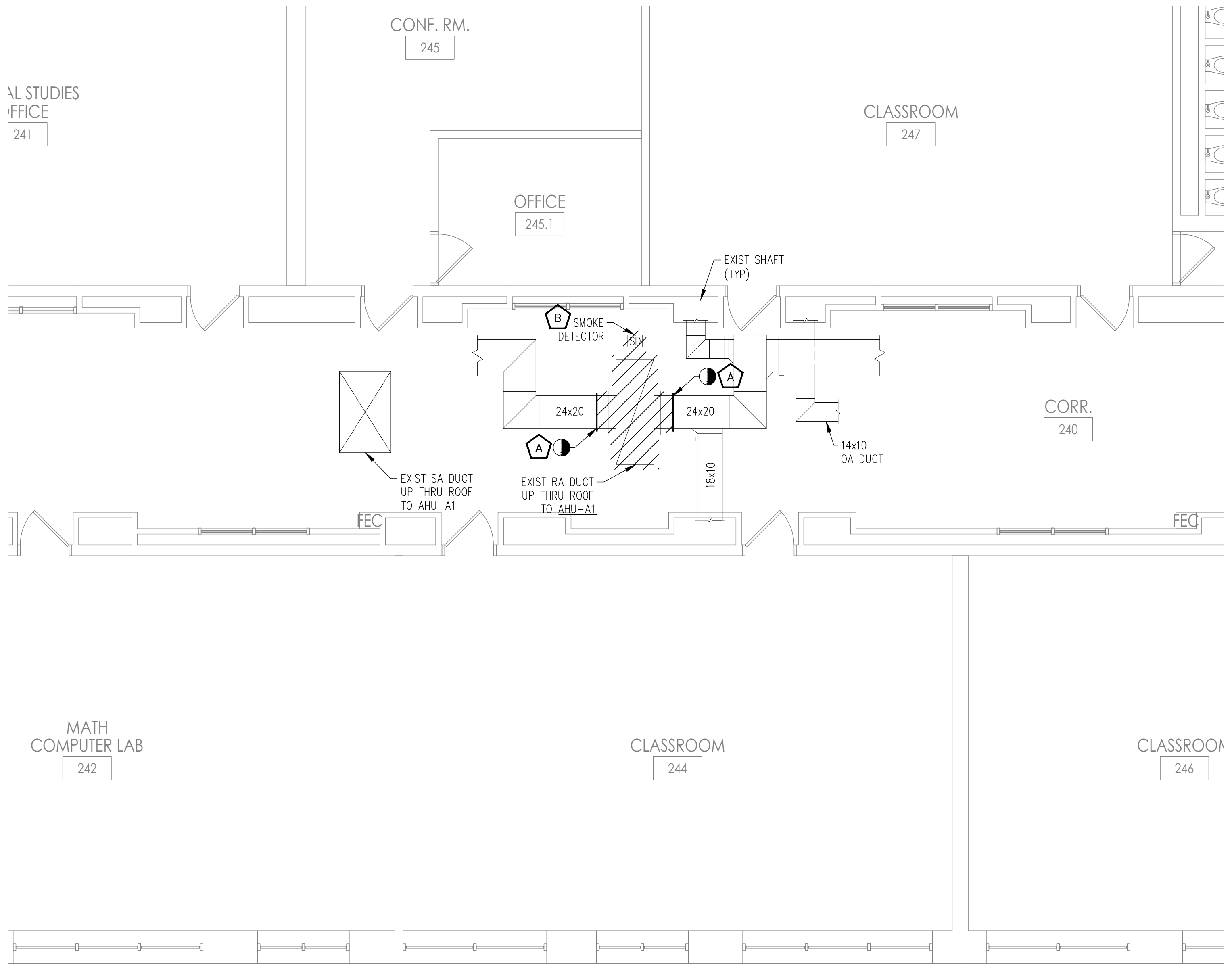
Drawing Name
MECHANICAL - GROUND FLOOR SECTOR E PARTIAL NEW WORK PLAN

ALTERNATE #1

Revisions

No.	Date	Description

Drawing Number
M-504-1



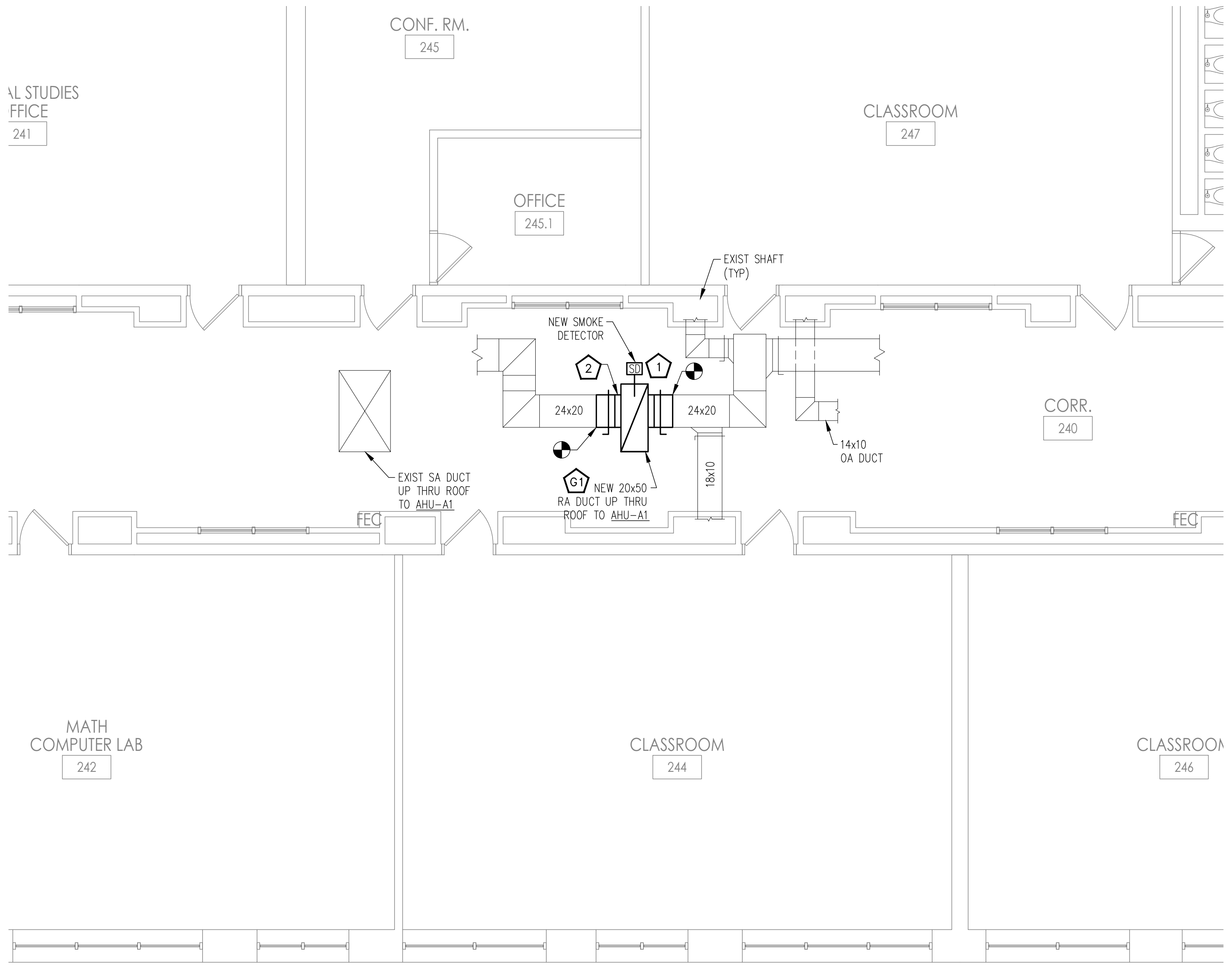
1 MECHANICAL - SECTOR 'A' 2ND FLOOR DUCTWORK DEMOLITION PLAN
SCALE: 3/16"=1'-0"

MECHANICAL DEMOLITION NOTES

- A REMOVE EXISTING DUCTWORK TO LOCATION SHOWN.
- B REMOVE EXISTING SMOKE DETECTOR & REPLACE WITH NEW. SEE NEW WORK PLAN.

GENERAL DEMOLITION NOTES

1. WHERE EXISTING PIPING, DUCTWORK, EQUIPMENT, ETC., HAS BEEN NOTED TO BE REMOVED, THE ASSOCIATED HANGERS, SUPPORTS, FASTENERS, ETC. SHALL ALSO BE REMOVED.



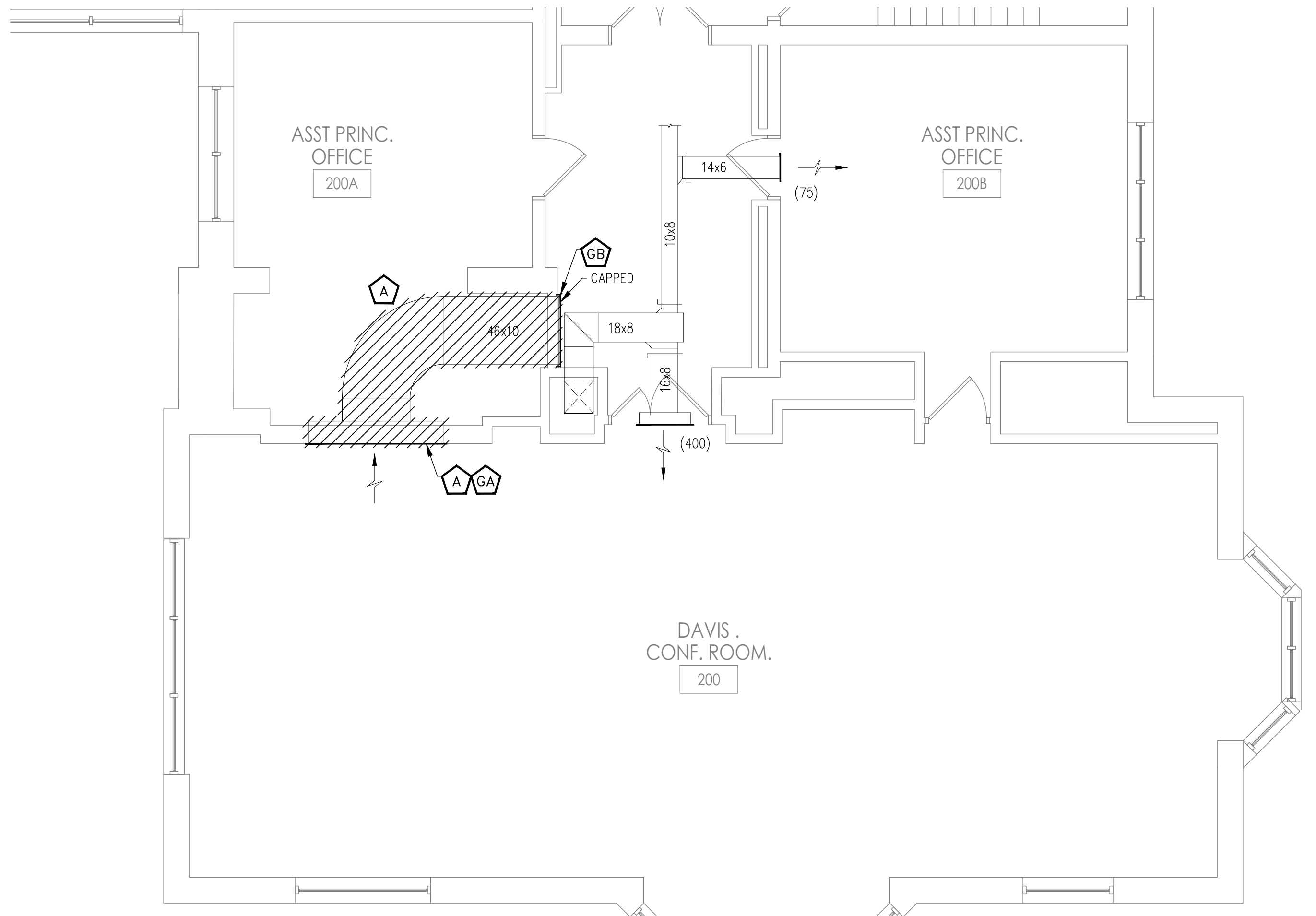
2 MECHANICAL - SECTOR 'A' 2ND FLOOR DUCTWORK NEW WORK PLAN
SCALE: 3/16"=1'-0"

MECHANICAL NEW WORK NOTES

- 1 INSTALL NEW SMOKE DETECTOR IN RETURN AIR DUCT. SEE FIRE ALARM PLANS.
- 2 INSTALL A 45-DEGREE DUCT TAP WHEN CONNECTING TO NEW VERTICAL RETURN AIR DUCT.

GENERAL CONSTRUCTION NEW WORK NOTES

- G1 MODIFY EXISTING ROOF DECK TO ACCOMMODATE NEW RETURN AIR DUCT.



3 MECHANICAL - SECTOR 'C' 2ND FLOOR DUCTWORK DEMOLITION PLAN
SCALE: 3/16"=1'-0"

MECHANICAL DEMOLITION NOTES

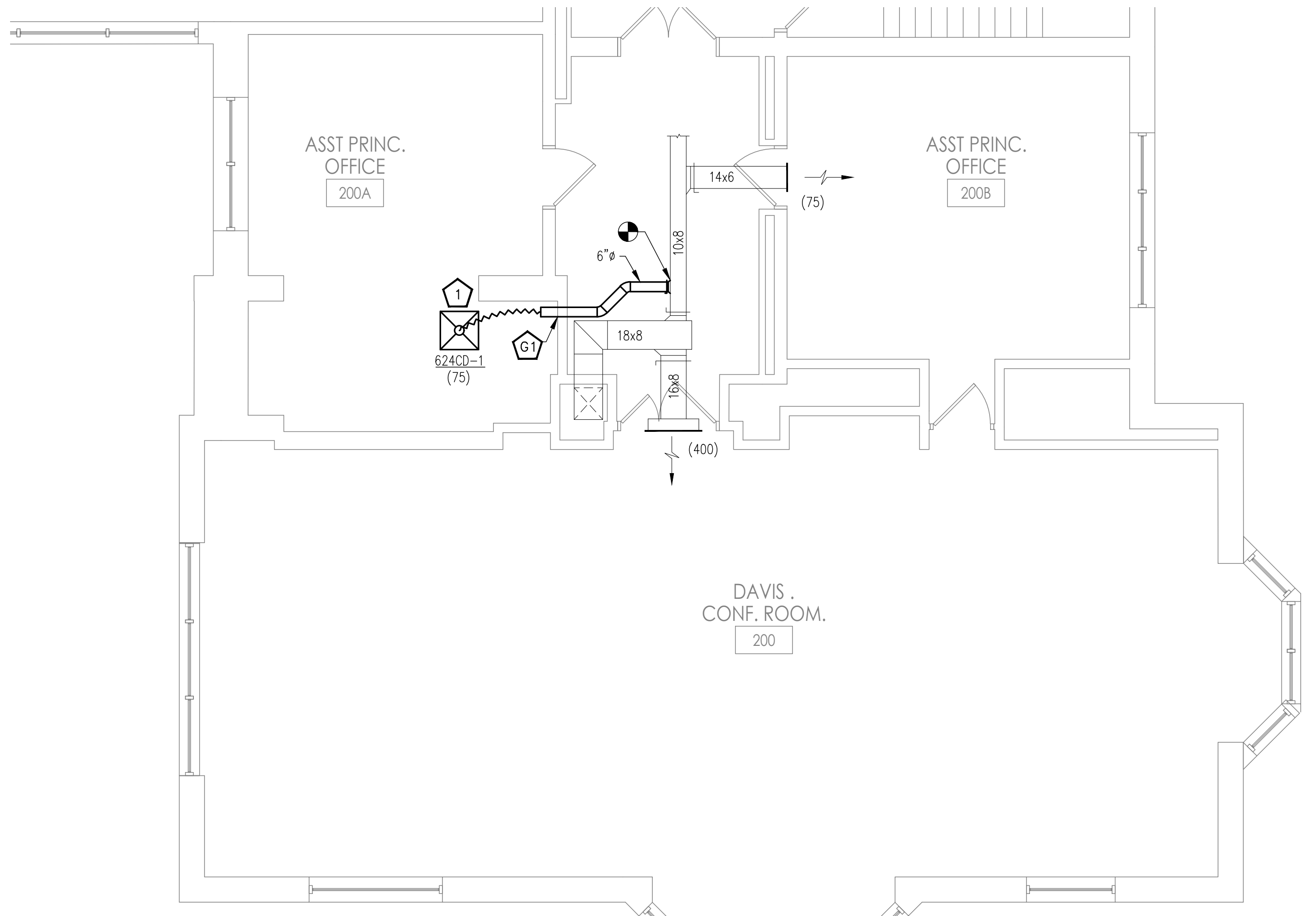
- A REMOVE EXISTING DUCTWORK & EXHAUST GRILLE.

GENERAL CONSTRUCTION DEMOLITION NOTES

- GA REPAIR SHEET ROCK OPENING IN WALL. SEE ARCHITECTURAL PLANS FOR DETAILS.
- GB REPAIR OPENING IN BRICK WALL. SEE ARCHITECTURAL PLANS FOR DETAILS.

GENERAL DEMOLITION NOTES

1. WHERE EXISTING PIPING, DUCTWORK, EQUIPMENT, ETC., HAS BEEN NOTED TO BE REMOVED, THE ASSOCIATED HANGERS, SUPPORTS, FASTENERS, ETC. SHALL ALSO BE REMOVED.



4 MECHANICAL - SECTOR 'C' 2ND FLOOR DUCTWORK NEW WORKN PLAN
SCALE: 3/16"=1'-0"

MECHANICAL NEW WORK NOTES

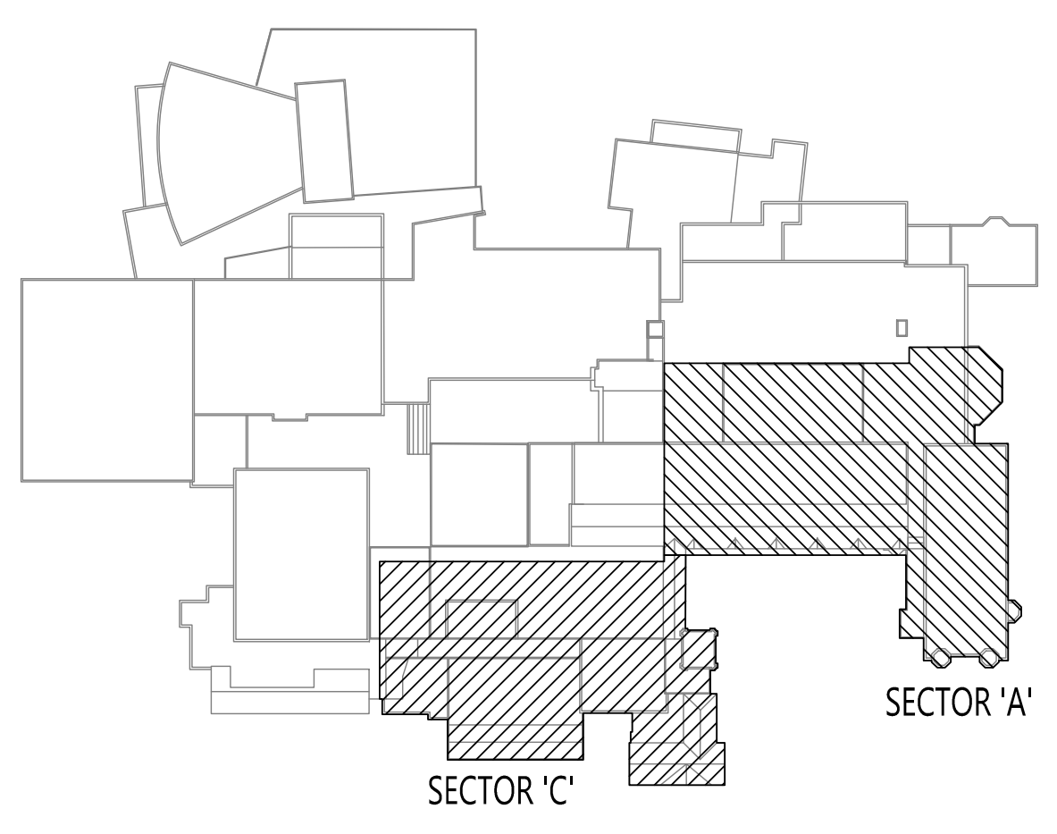
- 1 COORDINATE INSTALLATION OF DIFFUSER WITH EXISTING CEILING GRID, LIGHTS, ETC.

GENERAL CONSTRUCTION NEW WORK NOTES

- G1 SEAL OPENING AROUND DUCT. REFER TO ARCHITECTURAL DRAWINGS.

GENERAL NEW WORK NOTES

1. REFER TO CONTROL & AIRFLOW DIAGRAM (AHU-C2) FOR REQUIRED AIRFLOW RATES IN ALL ROOMS.



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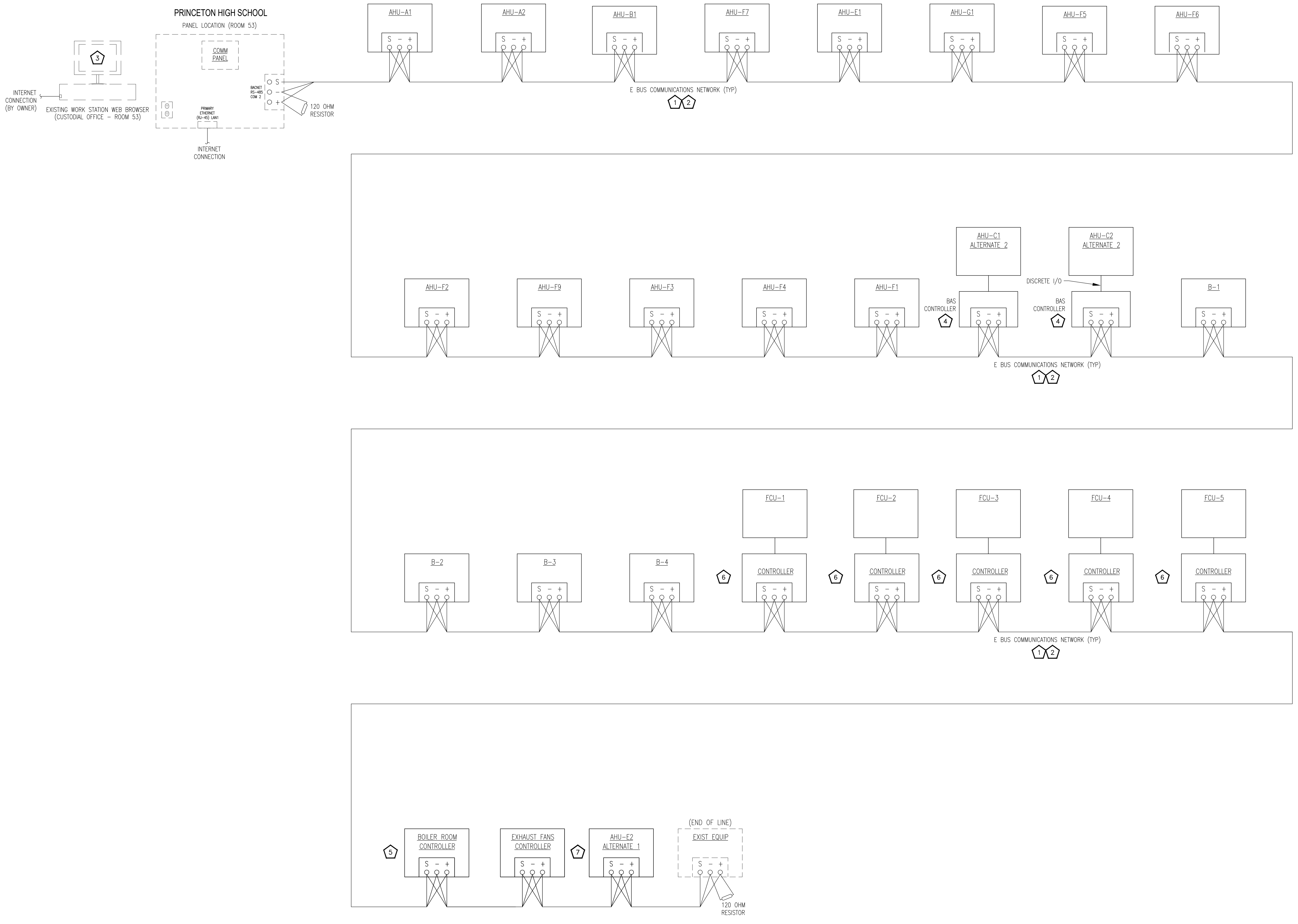
JTM
Drawn By
JD
Scale
AS NOTED

Drawing Name
MECHANICAL - SECTORS 'A' & 'C' 2ND FLOOR DUCTWORK DEMOLITION & NEW WORK PLANS

Revisions

No.	Date	Description

Drawing Number
M-505



1 CONTROL SYSTEM ARCHITECTURE

MECHANICAL NEW WORK NOTES

1. CONTROLS CONTRACTOR SHALL INTERFACE NEW EQUIPMENT INTO THE EXISTING BAS NETWORK. BACNET COMMUNICATIONS BUS WIRING TO BE DAISY CHAINED WITH OTHER DEVICES PER NETWORK DIAGRAM. COMMUNICATION CABLE SHALL BE 18 GAUGE, ARMORED SHIELDED TWISTED PAIR (STP). PROVIDE AN RS485 REPEATER AS REQUIRED BY THE MANUFACTURER'S SYSTEM REQUIREMENTS.
2. DO NOT RUN COMM BUS WITH ANY AC WIRING.
3. PROVIDE WORK STATION GRAPHICS AND HISTORY LOGS AT THE WORK STATION AS REQUIRED TO DEPICT THE NEW EQUIPMENT. BAS CONTRACTOR SHALL PROVIDE SAMPLE GRAPHIC FOR EACH TYPE OF EQUIPMENT DURING THE SUBMITTAL SUBMISSION.
4. BAS CONTRACTOR SHALL PROVIDE CONTROLLER, TRANSFORMER, WIRING, END DEVICES, PROGRAMMING AND START–UP. SEE SEQUENCE OF OPERATION AND CONTROL POINTS. THE CONTROLLER SHALL BE BACNET MSTP COMPLIANT AND CONNECTED TO THE EXISTING NETWORK.
5. TEMPERATURE SENSOR IN FIRE PUMP ROOM 073 SHALL BE INSTALLED AND CONNECTED TO BAS CONTROLLER IN BOILER ROOM. THIS CONTROLLER SHALL ALSO PROVIDE INPUT/OUTPUTS POINTS FOR THE HOT WATER PRIMARY PUMPS, BOILER PLANT ENABLE, EF–B10 (START/STOP, STATUS) FOR THE BOILER ROOM.
6. BAS CONTRACTOR SHALL PROVIDE CONTROLLER, TRANSFORMER, WIRING, END DEVICES, PROGRAMMING AND START–UP. SEE SEQUENCE OF OPERATION AND CONTROL POINTS. THE CONTROLLER SHALL BE BACNET MSTP COMPLIANT AND CONNECTED TO THE NETWORK.
7. BAS CONTRACTOR SHALL PROVIDE CONTROLLER FOR START/STOP AND STATUS FOR EXHAUST FANS (EF–E1 BASEMENT LOCKERROOM, EF–E2 BASEMENT LAUNDRY ROOM, EF–E6 STORAGE AND ELECTRICAL ROOM), EF–E9 (ALTERNATE 1)

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Checked By
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Drawn By
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Scale
AS NOTED

Drawing Name
MECHANICAL - NETWORK DIAGRAM

Revisions		
No.	Date	Description

Drawing Number
M-600

AHU-A1 POINTS LIST

POINT DESIGNATION	POINT DESCRIPTION	POINT TYPE	PART NO. AND/OR DESCRIPTION	NOTES
T/H OUTSIDE AIR	TEMPERATURE/HUMIDITY SENSOR	ANALOG INPUT	–	NOTE 1
SD	SMOKE DETECTOR	DIGITAL OUTPUT	COORDINATE W/ FA VENDOR	NOTES 2-4
T	SUPPLY AIR TEMPERATURE SENSOR	ANALOG INPUT	–	NOTE 1

POINTS LIST NOTES:

1. INSTALLED BY CONTROLS CONTRACTOR.
2. CONTRACTOR SHALL PROVIDE AND INSTALL ADDRESSABLE SMOKE DETECTOR AND SENSING TUBE TO FIRE ALARM SYSTEM. COORDINATE SMOKE DETECTOR MODE WITH FIRE ALARM CONTRACTOR.
3. ELECTRICAL CONTRACTOR SHALL WIRE SMOKE DETECTOR TO START CIRCUIT OF UNIT. SMOKE DETECTOR SHALL BE ADDRESSABLE TO FIRE ALARM SYSTEM AND PROVIDE ADDITIONAL CONTRACT FOR BMS.
4. FIRE ALARM CONTRACTOR SHALL WIRE FROM SMOKE DETECTOR TO FIRE ALARM PANEL. BMS CONTRACTOR TO WIRE TO BMS FOR STATUS.

GENERAL NOTES:

1. BMS CONTRACTOR SHALL MAP ALL POINTS FROM UNIT TO BMS SYSTEM. BMS CONTRACTOR SHALL PROVIDE WORKSTATION GRAPHICS. GRAPHIC SHALL INCLUDE SITE MAP OF FACILITY AND GRAPHIC OF EACH SYSTEM. GRAPHIC SHALL INCLUDE STATUS, TEMP, HUMIDITY, ALARMS, ETC. BMS CONTRACTOR SHALL ALSO PROVIDE HISTORY LOGS ON ALL CONTROL AND MONITORING POINTS AT 5 MINUTE INTERVALS.
2. BMS CONTRACTOR SHALL INCLUDE 24 HOURS FOR TRAINING AND ADDITIONAL 16 HOURS PER SYSTEM TO ASSIST WITH COMMISSIONING/TESTING OF SYSTEMS TO PROVE SEQUENCE OF OPERATIONS.

AHU-A1 CONTROL

SEQUENCE OF OPERATION

WHEN ENERGIZED IN THE OCCUPIED MODE THE UNIT SHALL BE CONTROLLED BY THE OUTSIDE AIR TEMPERATURE AND RELATIVE HUMIDITY SENSOR. THIS SENSOR SHALL PLACE THE UNIT IN HEATING, COOLING OR DEHUMIDIFICATION MODES. THE UNIT IN EACH MODE SHALL DELIVER A SUPPLY AIR TEMPERATURE OF 72°F (ADJUSTABLE) AT 55% RELATIVE HUMIDITY.

ENERGIZED/DE-ENERGIZE:

THE ROOFTOP UNIT SHALL BE ENERGIZED/DE-ENERGIZED THROUGH THE HONEYWELL CONTROL SYSTEM. THE ROOFTOP UNIT SHALL BE SCHEDULED FOR AUTOMATIC OPERATION ON A TIME OF DAY BASIS FOR OCCUPIED AND UNOCCUPIED MODES.

OCCUPIED: THE SYSTEM SHALL HAVE AN OPTIMAL START SEQUENCE. DURING THE OPTIMAL START, THE SUPPLY AIR FAN SHALL START AND THE DAMPERS SHALL BE POSITIONED FOR 100% RE-CIRCULATION. THE ROOFTOP UNIT SHALL OPERATE TO ACHIEVE THE OCCUPIED MODE DISCHARGE TEMPERATURE SET POINT 15 MINUTES PRIOR TO THE OCCUPIED MODE. THE OCCUPIED MODE TIMES SHALL BE PROVIDED BY THE OWNER. THE PROGRAM SHALL BE CAPABLE OF LEARNING THE OPTIMAL TIME TO START BASED ON THE OUTDOOR AIR TEMPERATURE AND SPACE TEMPERATURE.

ONCE THE OCCUPIED MODE TIME AND TEMPERATURE IS REACHED, THE OUTSIDE AIR DAMPER SHALL OPEN TO VENTILATION POSITION (FAIL-SAFE CLOSED) AND THE RETURN AIR DAMPER SHALL OPEN (FAIL-SAFE OPEN) TO ITS CORRESPONDING POSITION.

UN-OCCUPIED:

THE ROOFTOP UNIT SHALL DE-ENERGIZE AND ALL DAMPERS SHALL GO TO THEIR FAIL-SAFE POSITION.

UN-OCCUPIED SETBACK AND SETUP: THE SPACES SHALL BE MAINTAINED DURING THE UNOCCUPIED MODE BY THE FAN COIL UNITS. THIS UNIT SHALL BE DE-ENERGIZED DURING THE UN-OCCUPIED MODE.

SAFETIES:

THE SMOKE DETECTOR SHALL BE INTERLOCKED TO THE UNIT'S START CIRCUIT. THE SMOKE DETECTOR SHALL DE-ENERGIZE THE UNIT UPON ACTIVATION. THE AIR DAMPERS SHALL GO TO THEIR FAIL-SAFE POSITIONS.

THE FIRE ALARM CONTRACTOR SHALL PROVIDE, INSTALL AND MONITOR THE SMOKE DETECTOR. THE ELECTRICAL CONTRACTOR SHALL WIRE SMOKE DETECTOR TO UNIT'S START CIRCUIT.

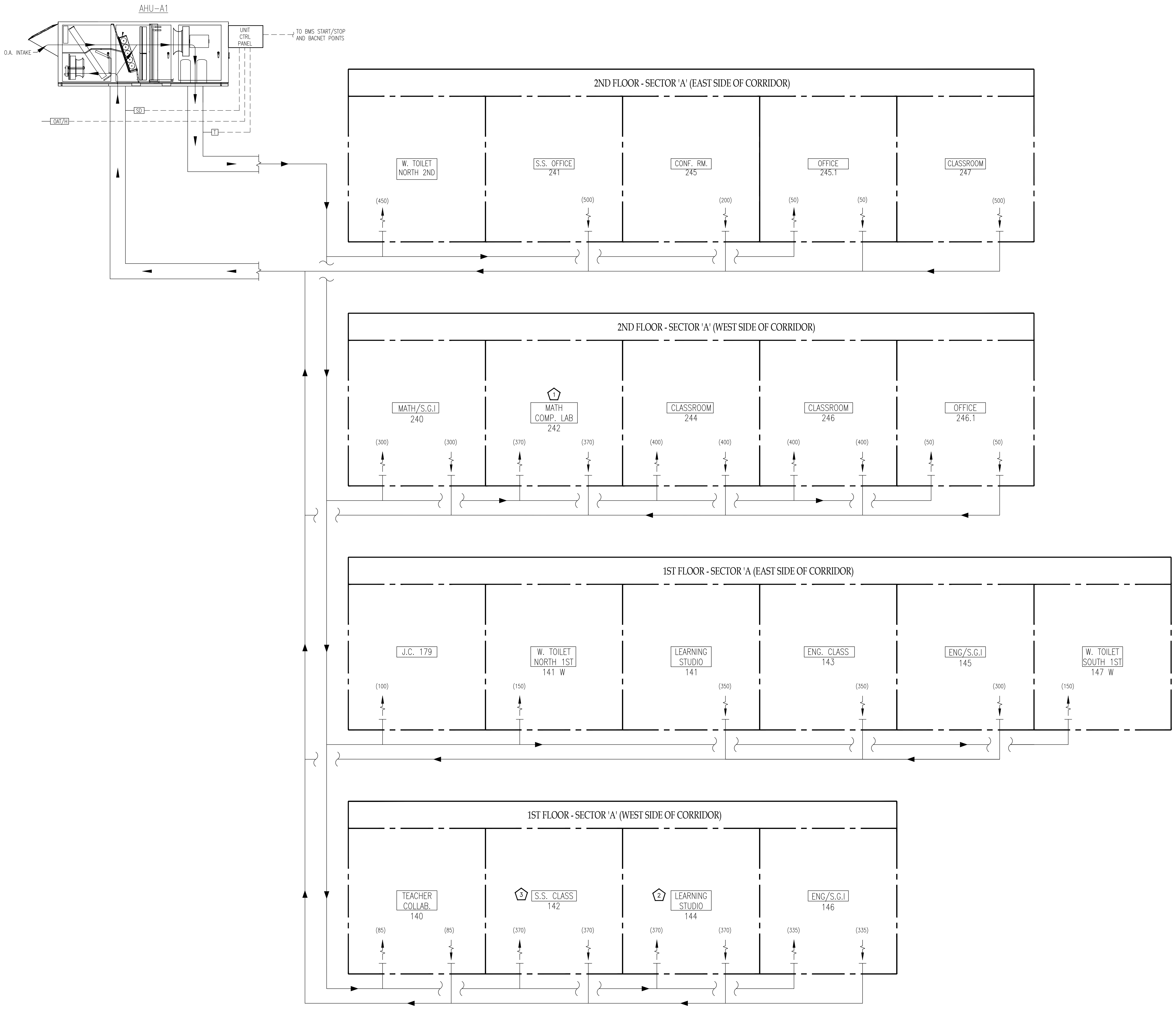
A CURRENT SWITCH ON THE SUPPLY AIR FAN SHALL CONFIRM IF THE FAN IS IN THE DESIRED STATE AND GENERATES AN ALARM IF STATUS DEVIATES FROM CONTROL START/STOP CONTROL.

ALARMS:

- THE ROOFTOP UNIT IS DE-ENERGIZED BY THE SMOKE DETECTOR ACTIVATION. IN ADDITION TO AN ALARM BEING ISSUED AT THE HONEYWELL SYSTEM, AN ALARM SHALL BE GENERATED AT THE FIRE ALARM CONTROL PANEL AS A SUPERVISORY ALARM.
- THE SUPPLY AIR TEMPERATURE DEVIATES 5 °F FROM SET POINT (ADJUST).
- THE SUPPLY AIR RELATIVE HUMIDITY IS GREATER THAN 5% GREATER THAN SET POINT.
- THE SUPPLY OR EXHAUST AIR FAN FAIL.
- REFRIGERANT LEAK

BACNET POINTS

THE CONTROLS CONTRACTOR SHALL MAP ALL AVAILABLE BACNET POINTS FROM THE MANUFACTURER TO THE HONEYWELL SYSTEM FOR MONITORING AND CONTROL.



1 AHU A1 - CONTROL & AIRFLOW DIAGRAM

SCALE: NONE

MECHANICAL DEMOLITION NOTES

1. THIS CLASSROOM HAS TWO SUPPLY AIR DIFFUSERS EACH SHALL BE BALANCED TO 185 CFM.
2. THIS CLASSROOM HAS TWO SUPPLY AIR DIFFUSERS EACH SHALL BE BALANCED TO 250 CFM.
3. THIS CLASSROOM HAS TWO SUPPLY AIR DIFFUSERS EACH SHALL BE BALANCED TO 185 CFM.

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Scale
AS NOTED

Drawing Name
MECHANICAL - AHU-A1 CONTROL & AIRFLOW DIAGRAM

Revisions

No.	Date	Description

Drawing Number
M-601

AHU-A2 POINTS LIST				
POINT DESIGNATION	POINT DESCRIPTION	POINT TYPE	PART NO. AND/OR DESCRIPTION	NOTES
T/H	SPACE TEMP/HUMIDITY SENSOR	ANALOG INPUT	–	NOTE 1
SD	SMOKE DETECTOR	DIGITAL CONTACT	COORDINATE W/ FA VENDOR	NOTES 2-4
CO2	SPACE CO2 SENSOR	ANALOG INPUT	–	NOTE 1

POINTS LIST NOTES:

1. PROVIDE BY MANUFACTURER & INSTALLED BY CONTROLS CONTRACTOR.
2. CONTRACTOR SHALL PROVIDE AND INSTALL ADDRESSABLE SMOKE DETECTOR AND SENSING TUBE TO FIRE ALARM SYSTEM. COORDINATE SMOKE DETECTOR MODE WITH FIRE ALARM CONTRACTOR.
3. ELECTRICAL CONTRACTOR SHALL WIRE SMOKE DETECTOR TO START CIRCUIT OF UNIT. SMOKE DETECTOR SHALL BE ADDRESSABLE TO FIRE ALARM SYSTEM AND PROVIDE ADDITIONAL CONTRACT FOR BMS.
4. FIRE ALARM CONTRACTOR SHALL WIRE FROM SMOKE DETECTOR TO FIRE ALARM PANEL. BMS CONTRACTOR TO WIRE TO BMS FOR STATUS.

GENERAL NOTES:

1. BMS CONTRACTOR SHALL MAP ALL POINTS FROM UNIT TO BMS SYSTEM. BMS CONTRACTOR SHALL PROVIDE WORKSTATION GRAPHICS. GRAPHIC SHALL INCLUDE SITE MAP OF FACILITY AND GRAPHIC OF EACH SYSTEM. GRAPHIC SHALL INCLUDE STATUS, TEMP, HUMIDITY, ALARMS, ETC. BMS CONTRACTOR SHALL ALSO PROVIDE HISTORY LOGS ON ALL CONTROL AND MONITORING POINTS AT 5 MINUTE INTERVALS.
2. BMS CONTRACTOR SHALL INCLUDE 24 HOURS FOR TRAINING AND ADDITIONAL 16 HOURS PER SYSTEM TO ASSIST WITH COMMISSIONING/TESTING OF SYSTEMS TO PROVE SEQUENCE OF OPERATIONS.
3. PROVIDE CALIBRATION SHEET FOR EACH DEVICE.

AHU-A2 CONTROL

ENERGIZED/DE-ENERGIZE:

THE ROOFTOP UNIT SHALL BE ENERGIZED/DE-ENERGIZED THROUGH THE HONEYWELL CONTROL SYSTEM. THE ROOFTOP UNIT SHALL BE SCHEDULED FOR AUTOMATIC OPERATION ON A TIME OF DAY BASIS FOR OCCUPIED AND UNOCCUPIED MODES AS SPECIFIED BY OWNER.

OCCUPIED: THE SYSTEM SHALL HAVE AN OPTIMAL START SEQUENCE. DURING THE OPTIMAL START, THE SUPPLY AIR FAN SHALL START AND THE DAMPERS SHALL BE POSITIONED FOR 100% RE-CIRCULATION. THE ROOFTOP UNIT SHALL OPERATE TO ACHIEVE THE OCCUPIED MODE TEMPERATURE SET POINT 15 MINUTES PRIOR TO THE OCCUPIED MODE. THE OCCUPIED MODE TIMES SHALL BE PROVIDED BY THE OWNER. THE PROGRAM SHALL BE CAPABLE OF LEARNING THE OPTIMAL TIME TO START BASED ON THE OUTDOOR AIR TEMPERATURE AND SPACE TEMPERATURE.

ONCE THE OCCUPIED MODE TIME AND TEMPERATURE IS REACHED, THE OUTSIDE AIR DAMPER SHALL OPEN TO ITS MINIMUM VENTILATION POSITION (FAIL-SAFE CLOSED) AND THE RETURN AIR DAMPER SHALL OPEN (FAIL-SAFE OPEN) TO ITS CORRESPONDING POSITION. THE SUPPLY AIR FAN SHALL THEN START.

UN-OCCUPIED:

THE ROOFTOP UNIT SHALL DE-ENERGIZE AND ALL DAMPERS SHALL GO TO THEIR FAIL-SAFE POSITION.

UN-OCCUPIED SETBACK: THE SYSTEM SHALL MAINTAIN THE SETBACK TEMPERATURE OF 63 °F (ADJUST). IF THE SPACE TEMPERATURE IS BELOW SET POINT, THE ROOFTOP UNIT SUPPLY FAN SHALL START, EXHAUST FAN SHALL BE OFF, AND THE DAMPERS POSITIONED FOR 100% RE-CIRCULATION. THE REHEAT VALVE SHALL BE COMMANDED TO 100% OPEN. THE UNIT SHALL REMAIN ENERGIZED UNTIL THE TEMPERATURE REACHES 3 °F (ADJUST) ABOVE ITS SET POINT AT WHICH POINT THE UNIT SHALL DE-ENERGIZE.

UN-OCCUPIED SETUP: THE SYSTEM SHALL MAINTAIN THE SETBACK TEMPERATURE OF 80 °F (ADJUST). IF THE SPACE TEMPERATURE IS ABOVE SET POINT, THE ROOFTOP UNIT SUPPLY FAN SHALL START, EXHAUST FAN SHALL BE OFF, AND THE DAMPERS POSITIONED FOR 100% RECIRCULATION. THE MECHANICAL COOLING CIRCUIT SHALL BE ENERGIZED AND THE REHEAT VALVE SHALL BE CLOSED. THE UNIT SHALL REMAIN ENERGIZED UNTIL THE SPACE TEMPERATURE REACHES 3 °F (ADJUST) BELOW ITS SET POINT AT WHICH POINT THE UNIT SHALL DE-ENERGIZE.

SPACE TEMPERATURE CONTROL

THE HONEYWELL SYSTEM SHALL MONITOR THE SPACE TEMPERATURE AND RELATIVE HUMIDITY SENSOR. THE TEMPERATURE AND HUMIDITY SET POINT SHALL BE 74°F+/-3°F (ADJUST) AT A RELATIVE HUMIDITY OF 55+5%RH. THE TEMPERATURE/HUMIDITY SENSOR SHALL PLACE THE UNIT IN HEATING, COOLING OR DEHUMIDIFICATION BASED ON THE TEMPERATURE AND RELATIVE HUMIDITY SENSED IN THE SPACE. THE HEATING TEMPERATURE SET POINT SHALL BE 2°F BELOW THE COOLING AND DEHUMIDIFICATION SET POINTS. THE DISCHARGE AIR TEMPERATURE LEAVING THE COOLING COIL SHALL BE 47°F WHEN THE UNIT IS IN THE DEHUMIDIFICATION MODE. IN THIS MODE THE HGRH SHALL HEAT THE AIR TO MEET SPACE TEMPERATURE SET POINT.

AIR-SIDE ECONOMIZER:

THE ROOFTOP UNIT SHALL HAVE AN AIR-SIDE DRY BULB CONTROLLED ECONOMIZER. WHEN THE OUTDOOR AIR TEMPERATURE IS EQUAL TO OR LESS THAN 55 °F (ADJUST), THE UNIT SHALL BE IN ECONOMIZER MODE. THE OUTSIDE AIR DAMPER SHALL BEGIN TO MODULATE OPEN, UTILIZING THE OUTDOOR AIR FOR FREE COOLING. AS THE OUTDOOR AIR DAMPER PASSES ITS MINIMUM VENTILATION POSITION, THE EXHAUST AIR FAN SHALL ENERGIZE. THE SPEED OF THE EXHAUST FAN SHALL INCREASE IN PROPORTION TO THE OUTDOOR AIR DAMPER POSITION. THE RETURN AIR DAMPER SHALL CLOSE IN PROPORTION TO THE OUTDOOR AIR DAMPER.

CARBON DIOXIDE VENTILATION DEMAND CONTROL

THE OUTSIDE AIR FLOW WILL BE RESET BASED ON THE CO2 SENSOR. THE VENTILATION AIR FLOW SHALL BE SET TO THE SPECIFIED AIR FLOW WHEN THE CO2 IS AT 800PPM OR GREATER. THE VENTILATION AIR FLOW CAN BE REDUCED TO 40% OF THE SPECIFIED AIR FLOW WHEN THE CO2 IS AT 600PPM OR LESS. THE AIR FLOW SHALL BE MEASURED BY THE OUTSIDE AIR FLOW STATION.

AIR FLOW TRACKING

THE EXHAUST FAN SPEED SHALL BE VARIED BASED ON THE SUPPLY AIR FLOW, EXHAUST AIR AND OUTSIDE AIR FLOW MEASUREMENT, THE UNIT SHALL BE EQUIPPED WITH SUPPLY AIR, EXHAUST AIR AND OUTSIDE AIR FLOW STATIONS.

SAFETIES:

THE SMOKE DETECTOR SHALL BE INTERLOCKED TO THE UNIT'S START CIRCUIT. THE SMOKE DETECTOR SHALL DE-ENERGIZE THE UNIT UPON ACTIVATION. THE AIR DAMPERS SHALL GO TO THEIR FAIL-SAFE POSITIONS.

THE FIRE ALARM CONTRACTOR SHALL PROVIDE, INSTALL AND MONITOR THE SMOKE DETECTOR. THE ELECTRICAL CONTRACTOR SHALL WIRE SMOKE DETECTOR TO UNIT'S START CIRCUIT. THE CONTROL CONTRACTOR SHALL MONITOR SMOKE DETECTOR ALARM.

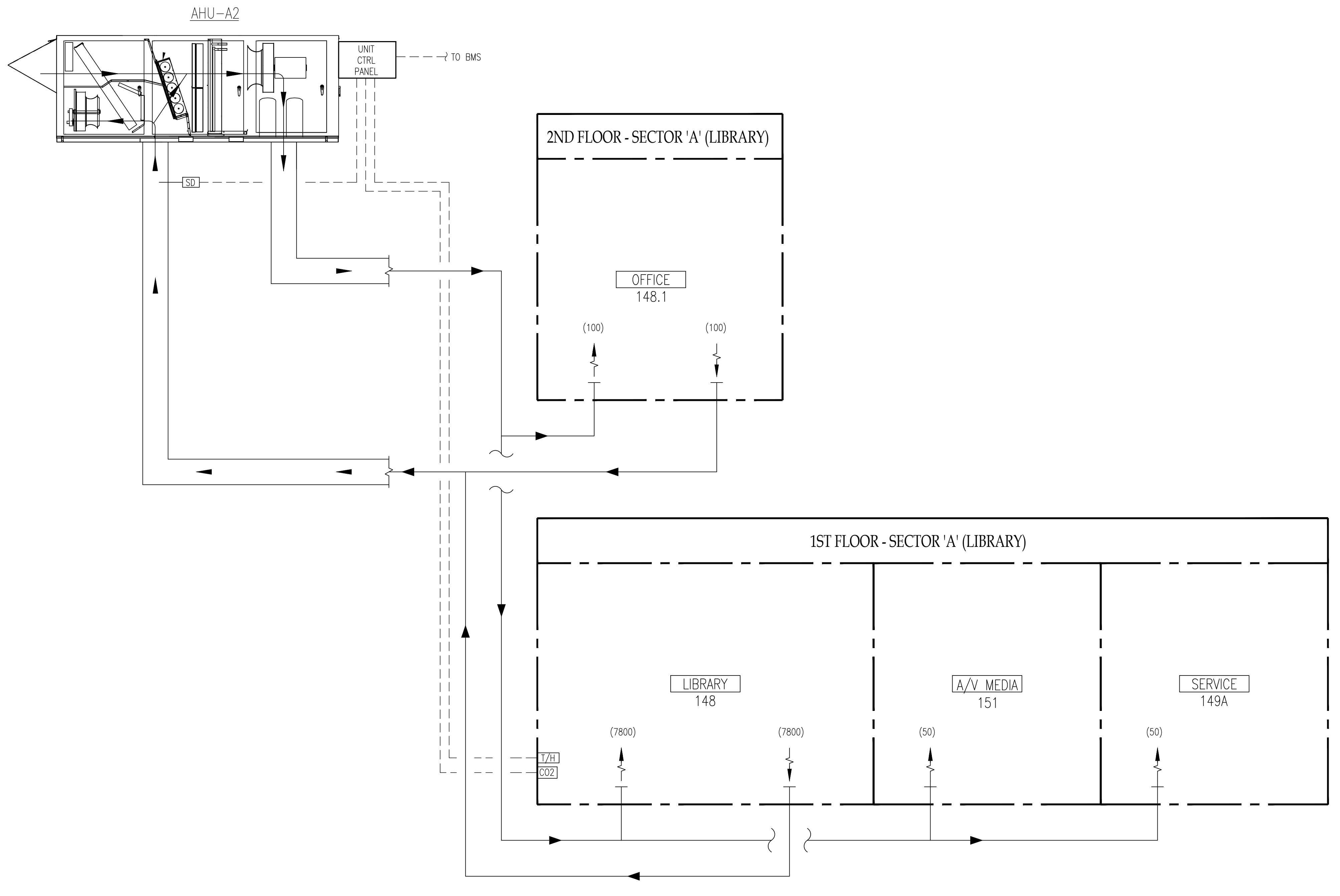
A CURRENT SWITCH ON THE SUPPLY AIR FAN SHALL CONFIRM IF THE FAN IS IN THE DESIRED STATE AND GENERATES AN ALARM IF STATUS DEVIATES FROM DDC START/STOP CONTROL.

ALARMS:

- THE ROOFTOP UNIT IS DE-ENERGIZED BY THE SMOKE DETECTOR ACTIVATION. IN ADDITION TO AN ALARM BEING ISSUED AT THE BMS, AN ALARM SHALL BE GENERATED AT THE FIRE ALARM CONTROL PANEL.
- THE SPACE TEMPERATURE DEVIATES 5 °F FROM SET POINT (ADJUST).
- THE SPACE HUMIDITY EXCEEDS 60% RELATIVE HUMIDITY.
- THE SUPPLY OR EXHAUST AIR FAN FAIL.
- REFRIGERANT LEAK.

BACNET POINTS

THE CONTROLS CONTRACTOR SHALL MAP ALL AVAILABLE BACNET POINTS FROM THE MANUFACTURER TO THE HONEYWELL SYSTEM FOR MONITORING AND CONTROL.



1 AHU A2 - CONTROL & AIRFLOW DIAGRAM

SCALE: NONE

FCU-1,2,3,4,5 POINTS LIST				
POINT DESIGNATION	POINT DESCRIPTION	POINT TYPE	PART NO. AND/OR DESCRIPTION	NOTES
TS	SPACE TEMP SENSOR	ANALOG INPUT	–	NOTE 1
HW/CHWV	DUAL TEMPERATURE CONTROL VALVE	ANALOG OUTPUT	B&G PICV	NOTE 2
COFS	CONDENSATE OVERFLOW SENSOR	DIGITAL INPUT	–	NOTE 1
LTS	LOW TEMPERATURE SENSOR	DIGITAL INPUT	–	NOTE 1

POINTS LIST NOTES:

1. PROVIDE AND INSTALLED BY MANUFACTURER.
2. BAS CONTRACTOR TO PROVIDE PICV AND MECH. CONTRACTOR TO INSTALL IN PIPING.

GENERAL NOTES:

1. BMS CONTRACTOR SHALL MAP ALL POINTS FROM UNIT TO BMS SYSTEM. BMS CONTRACTOR SHALL PROVIDE WORKSTATION GRAPHICS. GRAPHIC SHALL INCLUDE SITE MAP OF FACILITY AND GRAPHIC OF EACH SYSTEM. GRAPHIC SHALL INCLUDE STATUS, TEMP, HUMIDITY, ALARMS, ETC. BMS CONTRACTOR SHALL ALSO PROVIDE HISTORY LOGS ON ALL CONTROL AND MONITORING POINTS AT 5 MINUTE INTERVALS.
2. BMS CONTRACTOR SHALL INCLUDE 24 HOURS FOR TRAINING AND ADDITIONAL 4 HOURS FOR EACH FAN COIL TO ASSIST WITH TESTING OF SYSTEMS TO PROVE SEQUENCE OF OPERATIONS.
3. PROVIDE CALIBRATION CERTIFICATE FOR EACH DEVICE.

FCU-XX

ENERGIZED/DE-ENERGIZE:

THE FAN COIL SHALL BE ENERGIZED/DE-ENERGIZED THROUGH THE HONEYWELL CONTROL SYSTEM. THE AIR HANDLER SHALL BE SCHEDULED FOR AUTOMATIC OPERATION ON A TIME OF DAY BASIS FOR OCCUPIED AND UNOCCUPIED MODES AS SPECIFIED BY OWNER.

DUAL TEMPERATURE WATER TEMPERATURE

THE BAS SYSTEM SHALL MONITOR THE DUAL TEMPERATURE WATER TEMPERATURE AT THE SENSOR OF THE FAN COIL TO DETERMINE WHETHER THE DUAL TEMPERATURE SYSTEM IS IN THE HEATING OR COOLING MODE. IF THE UNIT IS CALLING FOR HEAT AND THE SENSOR INDICATES THAT THE DUAL TEMPERATURE SYSTEM IS IN THE COOLING MODE, AN ALARM WILL BE SENT TO THE BAS SYSTEM AND THE VALVE WILL REMAIN CLOSED. THE SAME SEQUENCE WILL BE EMPLOYED IF THE UNIT IS CALLING FOR HEAT BUT THE DUAL TEMPERATURE SYSTEM IS IN THE COOLING MODE.

SPACE TEMPERATURE CONTROL

THE HONEYWELL SYSTEM SHALL MONITOR THE SPACE TEMPERATURE. THE TEMPERATURE SET POINT SHALL BE 74°F+/-3°F (ADJUST). THE TEMPERATURE SENSOR SHALL PLACE THE UNIT IN HEATING OR COOLING BASED ON THE TEMPERATURE SENSED IN THE SPACE. THE HEATING TEMPERATURE SET POINT SHALL BE 2°F BELOW THE COOLING.

SAFETIES:

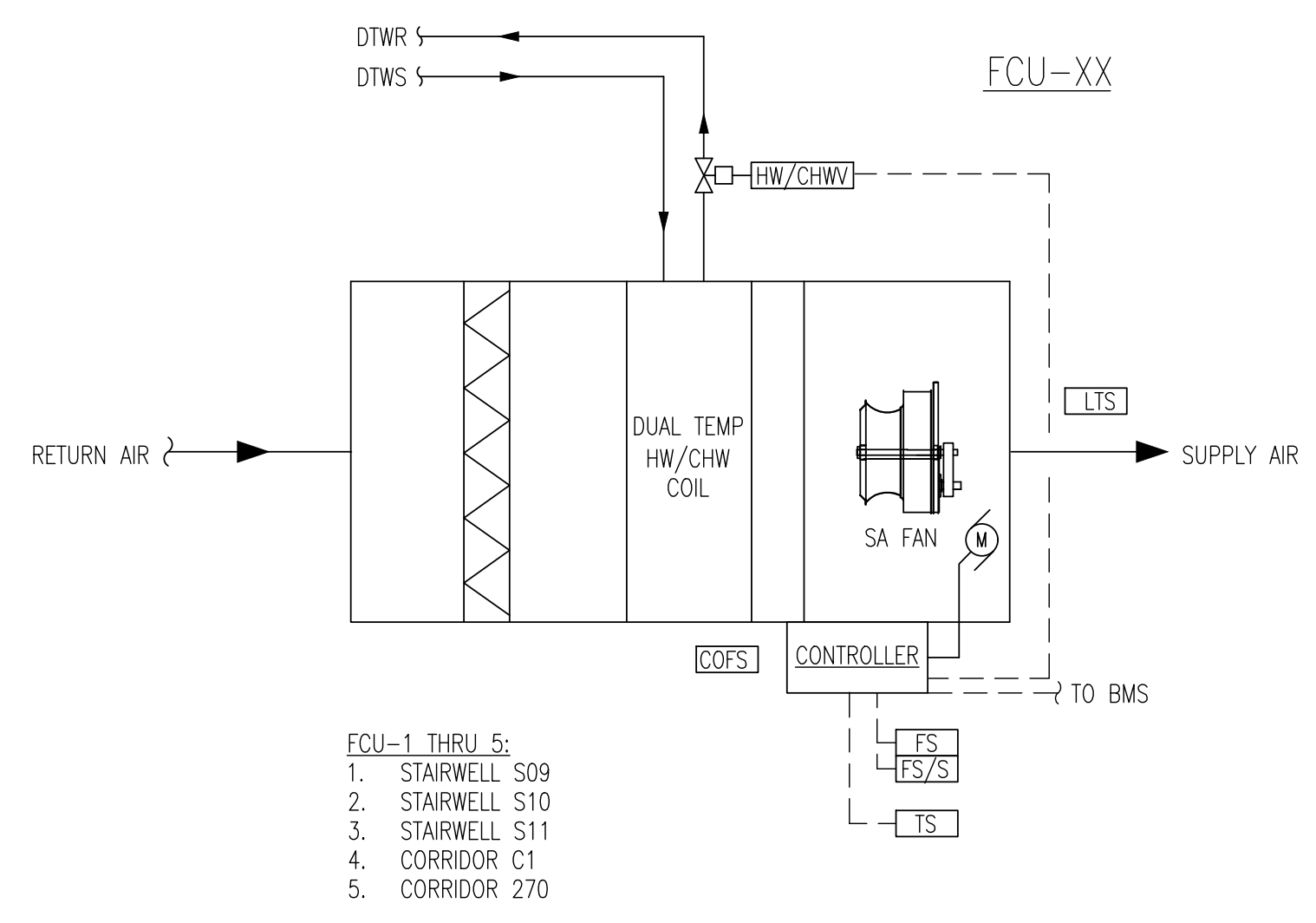
A CURRENT SWITCH ON THE SUPPLY AIR FAN SHALL CONFIRM IF THE FAN IS IN THE DESIRED STATE AND GENERATES AN ALARM IF STATUS DEVIATES FROM DDC START/STOP CONTROL.

ALARMS:

- TTHE SPACE TEMPERATURE DEVIATES 5 °F FROM SET POINT (ADJUST).
- THE SUPPLY AIR FAN FAIL.
- THE DUAL TEMPERATURE SYSTEM DOES NOT MATCH THE TEMPERATURE REQUIREMENTS OF THE AIR HANDLER.

BACNET POINTS

THE CONTROLS CONTRACTOR SHALL MAP ALL AVAILABLE BACNET POINTS FROM THE MANUFACTURER TO THE HONEYWELL SYSTEM FOR MONITORING AND CONTROL.



FCU-1 THRU 5:

1. STAIRWELL S09
2. STAIRWELL S10
3. STAIRWELL S11
4. CORRIDOR C1
5. CORRIDOR 270

2 FCU-1 THRU 5 - CONTROL & AIRFLOW DIAGRAM

SCALE: NONE

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Project Name
HVAC Renovations at Princeton High School

Project Owner Name
Princeton Public Schools

Project Location
151 Moore Street,
Princeton, NJ
08540

Project Number
5516E

Project Date
01.29. 2026

Checked By
JTM

Drawn By
JD

Scale
AS NOTED

Drawing Name
MECHANICAL - AHU-A2 CONTROL & AIRFLOW DIAGRAM

Revisions		
No.	Date	Description

Drawing Number
M-602

AHU–B1 POINTS LIST				
POINT DESIGNATION	POINT DESCRIPTION	POINT TYPE	PART NO. AND/OR DESCRIPTION	NOTES
T/H	SPACE TEMP/HUMIDITY SENSOR	ANALOG INPUT	–	NOTE 1
SD	SMOKE DETECTOR	DIGITAL CONTACT	COORDINATE W/ FA VENDOR	NOTES 2–4

POINTS LIST NOTES:

1. PROVIDE BY MANUFACTURER & INSTALLED BY CONTROLS CONTRACTOR.
2. CONTRACTOR SHALL PROVIDE AND INSTALL ADDRESSABLE SMOKE DETECTOR AND SENSING TUBE TO FIRE ALARM SYSTEM. COORDINATE SMOKE DETECTOR MODE WITH FIRE ALARM CONTRACTOR.
3. ELECTRICAL CONTRACTOR SHALL WIRE SMOKE DETECTOR TO START CIRCUIT OF UNIT. SMOKE DETECTOR SHALL BE ADDRESSABLE TO FIRE ALARM SYSTEM AND PROVIDE ADDITIONAL CONTRACT FOR BMS.
4. FIRE ALARM CONTRACTOR SHALL WIRE FROM SMOKE DETECTOR TO FIRE ALARM PANEL. BMS CONTRACTOR TO WIRE TO BMS FOR STATUS.

GENERAL NOTES:

1. BMS CONTRACTOR SHALL MAP ALL POINTS FROM UNIT TO BMS SYSTEM. BMS CONTRACTOR SHALL PROVIDE WORKSTATION GRAPHICS. GRAPHIC SHALL INCLUDE SITE MAP OF FACILITY AND GRAPHIC OF EACH SYSTEM. GRAPHIC SHALL INCLUDE STATUS, TEMP, HUMIDITY, ALARMS, ETC. BMS CONTRACTOR SHALL ALSO PROVIDE HISTORY LOGS ON ALL CONTROL AND MONITORING POINTS AT 5 MINUTE INTERVALS.
2. BMS CONTRACTOR SHALL INCLUDE 24 HOURS FOR TRAINING AND ADDITIONAL 16 HOURS PER SYSTEM TO ASSIST WITH TESTING OF SYSTEMS TO PROVE SEQUENCE OF OPERATIONS.
3. PROVIDE CALIBRATION CERTIFICATE FOR EACH DEVICE.

AHU–B1 CONTROL

ENERGIZED/DE–ENERGIZE:
THE ROOFTOP UNIT SHALL BE ENERGIZED/DE–ENERGIZED THROUGH THE HONEYWELL CONTROL SYSTEM. THE ROOFTOP UNIT SHALL BE SCHEDULED FOR AUTOMATIC OPERATION ON A TIME OF DAY BASIS FOR OCCUPIED AND UNOCCUPIED MODES AS SPECIFIED BY OWNER.

OCCUPIED: THE SYSTEM SHALL HAVE AN OPTIMAL START SEQUENCE. DURING THE OPTIMAL START, THE SUPPLY AIR FAN SHALL START AND THE DAMPERS SHALL BE POSITIONED FOR 100% RE–CIRCULATION. THE ROOFTOP UNIT SHALL OPERATE TO ACHIEVE THE OCCUPIED MODE TEMPERATURE SET POINT 15 MINUTES PRIOR TO THE OCCUPIED MODE. THE OCCUPIED MODE TIMES SHALL BE PROVIDED BY THE OWNER. THE PROGRAM SHALL BE CAPABLE OF LEARNING THE OPTIMAL TIME TO START BASED ON THE OUTDOOR AIR TEMPERATURE AND SPACE TEMPERATURE.

ONCE THE OCCUPIED MODE TIME AND TEMPERATURE IS REACHED, THE OUTSIDE AIR DAMPER SHALL OPEN TO ITS MINIMUM VENTILATION POSITION (FAIL–SAFE CLOSED) AND THE RETURN AIR DAMPER SHALL OPEN (FAIL–SAFE OPEN) TO ITS CORRESPONDING POSITION. THE SUPPLY AIR FAN SHALL THEN START.

UN–OCCUPIED:
THE ROOFTOP UNIT SHALL DE–ENERGIZE AND ALL DAMPERS SHALL GO TO THEIR FAIL–SAFE POSITION.

UN–OCCUPIED SETBACK: THE SYSTEM SHALL MAINTAIN THE SETBACK TEMPERATURE OF 63 °F (ADJUST). IF THE SPACE TEMPERATURE IS BELOW SET POINT, THE ROOFTOP UNIT SUPPLY FAN SHALL START, EXHAUST FAN SHALL BE OFF, AND THE DAMPERS POSITIONED FOR 100% RE–CIRCULATION. THE REHEAT VALVE SHALL BE COMMANDED TO 100% OPEN. THE UNIT SHALL REMAIN ENERGIZED UNTIL THE TEMPERATURE REACHES 3 °F (ADJUST) ABOVE ITS SET POINT AT WHICH POINT THE UNIT SHALL DE–ENERGIZE.

UN–OCCUPIED SETUP: THE SYSTEM SHALL MAINTAIN THE SETBACK TEMPERATURE OF 80 °F (ADJUST). IF THE SPACE TEMPERATURE IS ABOVE SET POINT, THE ROOFTOP UNIT SUPPLY FAN SHALL START, EXHAUST FAN SHALL BE OFF, AND THE DAMPERS POSITIONED FOR 100% RECIRCULATION. THE MECHANICAL COOLING CIRCUIT SHALL BE ENERGIZED AND THE REHEAT VALVE SHALL BE CLOSED. THE UNIT SHALL REMAIN ENERGIZED UNTIL THE SPACE TEMPERATURE REACHES 3 °F (ADJUST) BELOW ITS SET POINT AT WHICH POINT THE UNIT SHALL DE–ENERGIZE.

SPACE TEMPERATURE CONTROL
THE HONEYWELL SYSTEM SHALL MONITOR THE SPACE TEMPERATURE AND RELATIVE HUMIDITY SENSOR. THE TEMPERATURE AND HUMIDITY SET POINT SHALL BE 74°F+/–3°F (ADJUST) AT A RELATIVE HUMIDITY OF 55+5%RH. THE TEMPERATURE/HUMIDITY SENSOR SHALL PLACE THE UNIT IN HEATING, COOLING OR DEHUMIDIFICATION BASED ON THE TEMPERATURE AND RELATIVE HUMIDITY SENSED IN THE SPACE. THE HEATING TEMPERATURE SET POINT SHALL BE 2°F BELOW THE COOLING AND DEHUMIDIFICATION SET POINTS. THE DISCHARGE AIR TEMPERATURE LEAVING THE COOLING COIL SHALL BE 47°F WHEN THE UNIT IS IN THE DEHUMIDIFICATION MODE. IN THIS MODE THE HGRH SHALL HEAT THE AIR TO MEET SPACE TEMPERATURE SET POINT.

AHU–B1 CONTROL (CONT'D)

AIR–SIDE ECONOMIZER:
THE ROOFTOP UNIT SHALL HAVE AN AIR–SIDE DRY BULB CONTROLLED ECONOMIZER. WHEN THE OUTDOOR AIR TEMPERATURE IS EQUAL TO OR LESS THAN 55 °F (ADJUST), THE UNIT SHALL BE IN ECONOMIZER MODE. THE OUTSIDE AIR DAMPER SHALL BEGIN TO MODULATE OPEN, UTILIZING THE OUTDOOR AIR FOR FREE COOLING. AS THE OUTDOOR AIR DAMPER PASSES ITS MINIMUM VENTILATION POSITION, THE EXHAUST AIR FAN SHALL ENERGIZE. THE SPEED OF THE EXHAUST FAN SHALL INCREASE IN PROPORTION TO THE OUTDOOR AIR DAMPER POSITION. THE RETURN AIR DAMPER SHALL CLOSE IN PROPORTION TO THE OUTDOOR AIR DAMPER.

AIR FLOW TRACKING
THE EXHAUST FAN SPEED SHALL BE VARIED BASED ON THE SUPPLY AIR FLOW, EXHAUST AIR AND OUTSIDE AIR FLOW MEASUREMENT, THE UNIT SHALL BE EQUIPPED WITH SUPPLY AIR, EXHAUST AIR AND OUTSIDE AIR FLOW STATIONS.

SAFETIES:
THE SMOKE DETECTOR SHALL BE INTERLOCKED TO THE UNIT'S START CIRCUIT. THE SMOKE DETECTOR SHALL DE–ENERGIZE THE UNIT UPON ACTIVATION. THE AIR DAMPERS SHALL GO TO THEIR FAIL–SAFE POSITIONS.

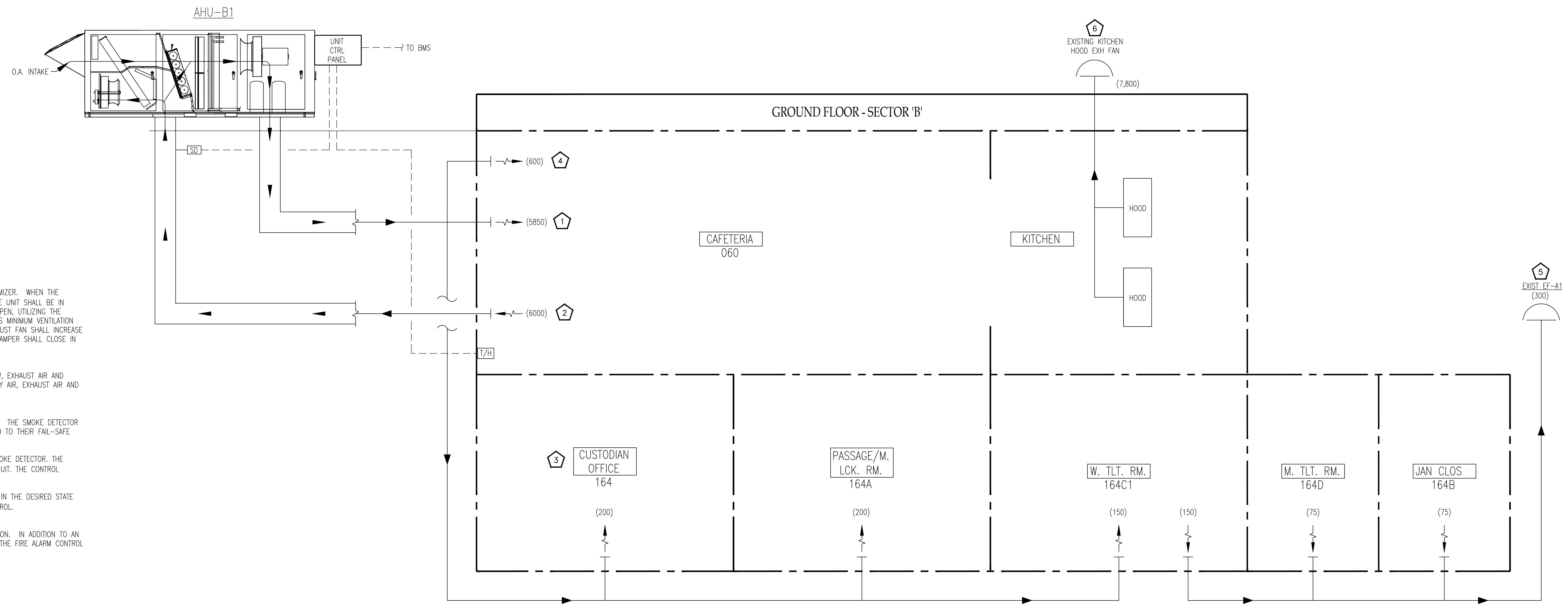
THE FIRE ALARM CONTRACTOR SHALL PROVIDE, INSTALL AND MONITOR THE SMOKE DETECTOR. THE ELECTRICAL CONTRACTOR SHALL WIRE SMOKE DETECTOR TO UNIT'S START CIRCUIT. THE CONTROL CONTRACTOR SHALL MONITOR SMOKE DETECTOR ALARM.

A CURRENT SWITCH ON THE SUPPLY AIR FAN SHALL CONFIRM IF THE FAN IS IN THE DESIRED STATE AND GENERATES AN ALARM IF STATUS DEVIATES FROM DDC START/STOP CONTROL.

ALARMS:

- THE ROOFTOP UNIT IS DE–ENERGIZED BY THE SMOKE DETECTOR ACTIVATION. IN ADDITION TO AN ALARM BEING ISSUED AT THE BMS, AN ALARM SHALL BE GENERATED AT THE FIRE ALARM CONTROL PANEL.
- THE SPACE TEMPERATURE DEVIATES 5 °F FROM SET POINT (ADJUST).
- THE SPACE HUMIDITY EXCEEDS 60% RELATIVE HUMIDITY.
- THE SUPPLY OR EXHAUST AIR FAN FAIL.
- REFRIGERANT LEAK

BACNET POINTS
THE CONTROLS CONTRACTOR SHALL MAP ALL AVAILABLE BACNET POINTS FROM THE MANUFACTURER TO THE HONEYWELL SYSTEM FOR MONITORING AND CONTROL.



① AHU B1 - CONTROL & AIRFLOW DIAGRAM
SCALE: NONE

MECHANICAL NOTES

① THERE ARE EIGHTEEN (18) SUPPLY AIR DIFFUSERS IN MAIN CAFETERIA. BALANCE EACH TO 270 CFM.

② THERE ARE FOUR (4) RETURN AIR REGISTERS. BALANCE EACH TO 1500 CFM.

③ BALANCE EACH DIFFUSER TO 100 CFM.

④ THERE ARE TO (2) SUPPLY AIR DIFFUSERS OVER SERVERY. BALANCE EACH TO 300 CFM.

MECHANICAL NOTES

⑤ REBALANCE EXISTING EXHAUST FAN TO 300 CFM. REPLACE BELTS AND SHEAVES AS REQUIRED.

⑥ BALANCE EXISTING KITCHEN HOOD EXHAUST FAN TO 7,800 CFM. REPLACE BELTS AND SHEAVES AS REQUIRED.

AHU–E1 POINTS LIST				
POINT DESIGNATION	POINT DESCRIPTION	POINT TYPE	PART NO. AND/OR DESCRIPTION	NOTES
T	SPACE TEMP SENSOR	ANALOG INPUT	–	NOTE 1
SD	SMOKE DETECTOR	DIGITAL CONTACT	COORDINATE W/ FA VENDOR	NOTES 2–4
CO2	SPACE CO2 SENSOR	ANALOG INPUT	–	NOTE 1
EF–E1 S/S	START/STOP	DIGITAL OUTPUT	–	–
EF–E1 STATUS	STATUS	DIGITAL INPUT	CURRENT SENSOR	–
EF–E2 S/S	START/STOP	DIGITAL OUTPUT	–	–
EF–E2 STATUS	STATUS	DIGITAL INPUT	CURRENT SENSOR	–
EF–E6 S/S	START/STOP	DIGITAL OUTPUT	–	–
EF–E6 STATUS	STATUS	DIGITAL INPUT	CURRENT SENSOR	–

POINTS LIST NOTES:

1. PROVIDE BY MANUFACTURER & INSTALLED BY CONTROLS CONTRACTOR.
2. CONTRACTOR SHALL PROVIDE AND INSTALL ADDRESSABLE SMOKE DETECTOR AND SENSING TUBE TO FIRE ALARM SYSTEM. COORDINATE SMOKE DETECTOR MODE WITH FIRE ALARM CONTRACTOR.
3. ELECTRICAL CONTRACTOR SHALL WIRE SMOKE DETECTOR TO START CIRCUIT OF UNIT. SMOKE DETECTOR SHALL BE ADDRESSABLE TO FIRE ALARM SYSTEM AND PROVIDE ADDITIONAL CONTRACT FOR BMS.
4. FIRE ALARM CONTRACTOR SHALL WIRE FROM SMOKE DETECTOR TO FIRE ALARM PANEL. BMS CONTRACTOR TO WIRE TO BMS FOR STATUS.

GENERAL NOTES:

1. BMS CONTRACTOR SHALL MAP ALL POINTS FROM UNIT TO BMS SYSTEM. BMS CONTRACTOR SHALL PROVIDE WORKSTATION GRAPHICS. GRAPHIC SHALL INCLUDE SITE MAP OF FACILITY AND GRAPHIC OF EACH SYSTEM. GRAPHIC SHALL INCLUDE STATUS, TEMP, HUMIDITY, ALARMS, ETC. BMS CONTRACTOR SHALL ALSO PROVIDE HISTORY LOGS ON ALL CONTROL AND MONITORING POINTS AT 5 MINUTE INTERVALS.
2. BMS CONTRACTOR SHALL INCLUDE 24 HOURS FOR TRAINING AND ADDITIONAL 16 HOURS PER SYSTEM TO ASSIST WITH COMMISSIONING/TESTING OF SYSTEMS TO PROVE SEQUENCE OF OPERATIONS.
3. PROVIDE CALIBRATION CERTIFICATE FOR EACH DEVICE.

AHU–E1 CONTROL

ENERGIZED/DE–ENERGIZE:
THE ROOFTOP H&V UNIT SHALL BE ENERGIZED/DE–ENERGIZED THROUGH THE HONEYWELL CONTROL SYSTEM. THE ROOFTOP UNIT SHALL BE SCHEDULED FOR AUTOMATIC OPERATION ON A TIME OF DAY BASIS FOR OCCUPIED AND UNOCCUPIED MODES AS SPECIFIED BY OWNER.

OCCUPIED: THE SYSTEM SHALL HAVE AN OPTIMAL START SEQUENCE. DURING THE OPTIMAL START, THE SUPPLY AIR FAN SHALL START AND THE DAMPERS SHALL BE POSITIONED FOR 100% RE–CIRCULATION. THE ROOFTOP UNIT SHALL OPERATE TO ACHIEVE THE OCCUPIED MODE TEMPERATURE SET POINT 15 MINUTES PRIOR TO THE OCCUPIED MODE. THE OCCUPIED MODE TIMES SHALL BE PROVIDED BY THE OWNER. THE PROGRAM SHALL BE CAPABLE OF LEARNING THE OPTIMAL TIME TO START BASED ON THE OUTDOOR AIR TEMPERATURE AND SPACE TEMPERATURE.

ONCE THE OCCUPIED MODE TIME AND TEMPERATURE IS REACHED, THE OUTSIDE AIR DAMPER SHALL OPEN TO ITS MINIMUM VENTILATION POSITION (FAIL–SAFE CLOSED) AND THE RETURN AIR DAMPER SHALL OPEN (FAIL–SAFE OPEN) TO ITS CORRESPONDING POSITION. THE SUPPLY AIR FAN SHALL THEN START.

UN–OCCUPIED:
THE ROOFTOP UNIT SHALL DE–ENERGIZE AND ALL DAMPERS SHALL GO TO THEIR FAIL–SAFE POSITION.

UN–OCCUPIED SETBACK: THE SYSTEM SHALL MAINTAIN THE SETBACK TEMPERATURE OF 63 °F (ADJUST). IF THE SPACE TEMPERATURE IS BELOW SET POINT, THE ROOFTOP UNIT SUPPLY FAN SHALL START, EXHAUST FAN SHALL BE OFF, AND THE DAMPERS POSITIONED FOR 100% RE–CIRCULATION. THE REHEAT VALVE SHALL BE COMMANDED TO 100% OPEN. THE UNIT SHALL REMAIN ENERGIZED UNTIL THE TEMPERATURE REACHES 3 °F (ADJUST) ABOVE ITS SET POINT AT WHICH POINT THE UNIT SHALL DE–ENERGIZE.

SPACE TEMPERATURE CONTROL
THE HONEYWELL SYSTEM SHALL MONITOR THE SPACE TEMPERATURE SENSOR. THE TEMPERATURE SET POINT SHALL BE 74°F+/–3°F (ADJUST). THE TEMPERATURE SENSOR SHALL PLACE THE UNIT IN HEATING AND/OR VENTILATION BASED ON THE TEMPERATURE SENSED IN THE SPACE.

AHU–E1 CONTROL

CARBON DIOXIDE VENTILATION DEMAND CONTROL
THE OUTSIDE AIR FLOW WILL BE RESET BASED ON THE CO2 SENSOR. THE VENTILATION AIR FLOW SHALL BE SET TO THE SPECIFIED AIR FLOW WHEN THE CO2 IS AT 800PPM OR GREATER. THE VENTILATION AIR FLOW CAN BE REDUCED TO 40% OF THE SPECIFIED AIR FLOW WHEN THE CO2 IS AT 600PPM OR LESS. THE AIR FLOW SHALL BE MEASURED BY THE OUTSIDE AIR FLOW STATION.

AIR FLOW TRACKING
THE EXHAUST FAN SPEED SHALL BE VARIED BASED ON THE SUPPLY AIR FLOW AND OUTSIDE AIR FLOW MEASUREMENT, THE UNIT SHALL BE EQUIPPED WITH SUPPLY AIR, AND OUTSIDE AIR FLOW STATIONS.

SAFETIES:
THE SMOKE DETECTOR SHALL BE INTERLOCKED TO THE UNIT'S START CIRCUIT. THE SMOKE DETECTOR SHALL DE–ENERGIZE THE UNIT UPON ACTIVATION. THE AIR DAMPERS SHALL GO TO THEIR FAIL–SAFE POSITIONS.

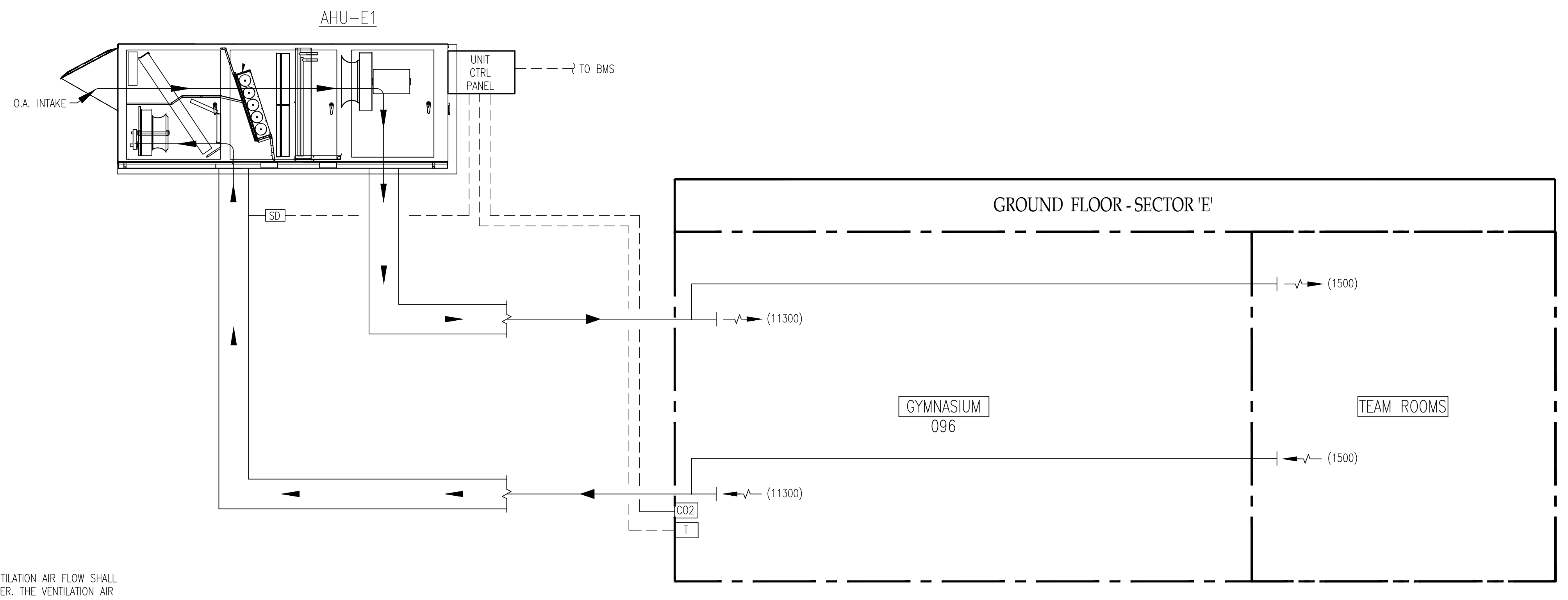
THE FIRE ALARM CONTRACTOR SHALL PROVIDE, INSTALL AND MONITOR THE SMOKE DETECTOR. THE ELECTRICAL CONTRACTOR SHALL WIRE SMOKE DETECTOR TO UNIT'S START CIRCUIT. THE CONTROL CONTRACTOR SHALL MONITOR SMOKE DETECTOR ALARM.

A CURRENT SWITCH ON THE SUPPLY AIR FAN AND EXHAUST FAN SHALL CONFIRM IF THE FAN IS IN THE DESIRED STATE AND GENERATES AN ALARM IF STATUS DEVIATES FROM DDC START/STOP CONTROL.

ALARMS:

- THE ROOFTOP UNIT IS DE–ENERGIZED BY THE SMOKE DETECTOR ACTIVATION. IN ADDITION TO AN ALARM BEING ISSUED AT THE BMS, AN ALARM SHALL BE GENERATED AT THE FIRE ALARM CONTROL PANEL.
- THE SPACE TEMPERATURE DEVIATES 5 °F FROM SET POINT (ADJUST).
- THE SUPPLY OR EXHAUST AIR FAN FAIL.
- REFRIGERANT LEAK

BACNET POINTS
THE CONTROLS CONTRACTOR SHALL MAP ALL AVAILABLE BACNET POINTS FROM THE MANUFACTURER TO THE HONEYWELL SYSTEM FOR MONITORING AND CONTROL.



① AHU E1 - CONTROL & AIRFLOW DIAGRAM
SCALE: NONE

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William D. Hopkins
Architect
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F V H D P C . C O M

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Project Name
HVAC Renovations at Princeton High School

Project Owner Name
Princeton Public Schools

Project Location
151 Moore Street,
Princeton, NJ
08540

Project Number
5516E
Project Date
01.29. 2026
Checked By
JTM
Drawn By
JD
Scale
AS NOTED

Drawing Name
MECHANICAL - AHU-B1 & E1 CONTROL & AIRFLOW DAGRAM

Revisions		
No.	Date	Description

Drawing Number
M-603

AHU-C1 POINTS LIST

POINT DESIGNATION	POINT DESCRIPTION	POINT TYPE	PART NO. AND/OR DESCRIPTION	NOTES
T/H	SPACE TEMP/HUMIDITY SENSOR	ANALOG INPUT	–	NOTE 1
SD	SMOKE DETECTOR	DIGITAL CONTACT	COORDINATE W/ FA VENDOR	NOTES 2–4
CST	COIL SUPPLY TEMPERATURE SENSOR	ANALOG INPUT	UNIT MOUNTED	–
SAT	SUPPLY AIR TEMPERATURE SENSOR	ANALOG INPUT	DUCT MOUNTED	–
OAT/H	OUTDOOR AIR TEMP/HUMIDITY SENSOR	ANALOG INPUT	DUCT MOUNTED	–
OA DMP	OUTDOOR AIR DAMPER	ANALOG OUTPUT	FAIL CLOSED	NOTE 5
RA DMP	RETURN AIR DAMPER	ANALOG OUTPUT	FAIL OPEN	NOTE 5
EA DMP	EXHAUST AIR DAMPER	ANALOG OUTPUT	FAIL CLOSED	NOTE 5
OA FS	OUTDOOR AIR FLOW STATION	ANALOG INTPUT	–	NOTE 5
SA FS	SUPPLY AIR FLOW STATION	ANALOG INTPUT	–	NOTE 5
HW/CHWV	HW/CHW CONTROL VALVE	ANALOG OUTPUT	–	NOTE 6
FDPS	FILTER DIFFERENTIAL PRESSURE SWITCH	DIGITAL INPUT	–	NOTE 7
SCR CTRL	SCR CONTROL	ANALOG INPUT	–	NOTE 8
FZ	FREEZE STAT	DIGITAL INPUT	–	THRU VFD
VFD1–FS	SUPPLY FAN STATUS	DIGITAL INPUT	–	THRU VFD
VFD1–FS/S	SUPPLY FAN START/STOP	DIGITAL OUTPUT	–	THRU VFD
VFD1–FHZ	SUPPLY FAN SPEED	ANALOG INPUT	–	THRU VFD
VFD2–FS	EXHAUST FAN STATUS	DIGITAL INPUT	–	THRU VFD
VFD2–FS/S	EXHAUST FAN START/STOP	DIGITAL OUTPUT	–	THRU VFD
VFD2–FHZ	EXHAUST FAN SPEED	ANALOG INPUT	–	THRU VFD
RAT/H	RETURN AIR TEMPERATURE AND HUMIDITY SENSOR	ANALOG INPUT	–	NOTE 9
COND–ALM	CONDENSATE PUMP ALARM	DIGITAL INPUT	–	–

POINTS LIST NOTES:

1. PROVIDE A VAISALA HMW92D ROOM TEMPERATURE/HUMIDITY SENSOR.
2. CONTRACTOR SHALL PROVIDE AND INSTALL ADDRESSABLE SMOKE DETECTOR AND SENSING TUBE TO FIRE ALARM SYSTEM. COORDINATE SMOKE DETECTOR MODE WITH FIRE ALARM CONTRACTOR.
3. ELECTRICAL CONTRACTOR SHALL WIRE SMOKE DETECTOR TO START CIRCUIT OF UNIT. SMOKE DETECTOR SHALL BE ADDRESSABLE TO FIRE ALARM SYSTEM AND PROVIDE ADDITIONAL CONTRACT FOR BMS.
4. FIRE ALARM CONTRACTOR SHALL WIRE FROM SMOKE DETECTOR TO FIRE ALARM PANEL. BMS CONTRACTOR TO WIRE TO BMS FOR STATUS.
5. PROVIDED & INSTALLED BY EQUIPMENT MANUFACTURER.
6. 1" PRESSURE INDEPENDENT CONTROL VALVE WITH A MAX WATER PRESSURE DROP OF 13.8 FT.
7. SET DIRTY FILTER ALARM AT 0.5" W.G. (ADJ) ABOVE CLEAN FILTER PRESSURE DROP.
8. FREEZE STAT SHALL BE TRIP AT 40F AND SHALL SHUT DOWN SUPPLY & EXHAUST FANS. STATUS SHALL BE BROUGHT TO BAS.
9. BAS CONTRACTOR SHALL PROVIDE AND INSTALL.

GENERAL NOTES:

1. BMS CONTRACTOR SHALL INTEGRATE ALL POINTS TO BMS SYSTEM. BMS CONTRACTOR SHALL PROVIDE WORKSTATION GRAPHICS. GRAPHIC SHALL INCLUDE SITE MAP OF FACILITY AND GRAPHIC OF EACH SYSTEM. GRAPHIC SHALL INCLUDE STATUS, TEMP, HUMIDITY, ALARMS, ETC. BMS CONTRACTOR SHALL ALSO PROVIDE HISTORY LOGS ON ALL CONTROL AND MONITORING POINTS AT 5 MINUTE INTERVALS.
2. BMS CONTRACTOR SHALL INCLUDE 24 HOURS FOR TRAINING AND ADDITIONAL 16 HOURS PER SYSTEM TO ASSIST WITH COMMISSIONING/TESTING OF SYSTEMS TO PROVE SEQUENCE OF OPERATIONS.
3. PROVIDE CALIBRATION CERTIFICATE FOR EACH DEVICE.

AHU-C1 AND EF-C4 CONTROL

ENERGIZED/DE-ENERGIZE:

THE AIR HANDLER AND EXHAUST FAN SHALL BE ENERGIZED/DE-ENERGIZED THROUGH THE HONEYWELL CONTROL SYSTEM. THE AIR HANDLER AND EXHAUST FAN SHALL BE SCHEDULED FOR AUTOMATIC OPERATION ON A TIME OF DAY BASIS FOR OCCUPIED AND UNOCCUPIED MODES AS SPECIFIED BY OWNER.

DUAL TEMPERATURE WATER TEMPERATURE

THE BAS SYSTEM SHALL MONITOR THE DUAL TEMPERATURE WATER TEMPERATURE AT THE SENSOR OF THE AIR HANDLER TO DETERMINE WHETHER THE DUAL TEMPERATURE SYSTEM IS IN THE HEATING OR COOLING MODE. IF THE AIR HANDLER IS CALLING FOR HEAT AND THE SENSOR INDICATES THAT THE DUAL TEMPERATURE SYSTEM IS IN THE COOLING MODE, AN ALARM WILL BE SENT TO THE BAS SYSTEM AND THE VALVE WILL REMAIN CLOSED. THE SAME SEQUENCE WILL BE EMPLOYED IF THE AIR HANDLER IS CALLING FOR COOLING BUT THE DUAL TEMPERATURE SYSTEM IS IN THE HEATING MODE. IF THE UNIT IS IN THE HEATING MODE BUT NO HOT WATER IS PRESENT THE BAS HAS ENERGIZE THE ELECTRIC REHEAT COIL.

OCCUPIED: THE SYSTEM SHALL HAVE AN OPTIMAL START SEQUENCE. DURING THE OPTIMAL START, THE SUPPLY AIR AND EXHAUST FANS SHALL START AND THE DAMPERS SHALL BE POSITIONED FOR 100% RE–CIRCULATION. THE AIR HANDLER SHALL OPERATE TO ACHIEVE THE OCCUPIED MODE TEMPERATURE SET POINT 15 MINUTES PRIOR TO THE OCCUPIED MODE. THE OCCUPIED MODE TIMES SHALL BE PROVIDED BY THE OWNER. THE PROGRAM SHALL BE CAPABLE OF LEARNING THE OPTIMAL TIME TO START BASED ON THE OUTDOOR AIR TEMPERATURE AND SPACE TEMPERATURE.

ONCE THE OCCUPIED MODE TIME AND TEMPERATURE IS REACHED, THE OUTSIDE AIR DAMPER SHALL OPEN TO ITS MINIMUM VENTILATION POSITION (FAIL–SAFE CLOSED) AND THE RETURN AIR DAMPER SHALL OPEN (FAIL–SAFE OPEN) TO ITS CORRESPONDING POSITION. THE SUPPLY AIR FAN SHALL THEN START.

UN–OCCUPIED:

THE AIR HANDLER AND EXHAUST FAN SHALL DE–ENERGIZE AND ALL DAMPERS SHALL GO TO THEIR FAIL–SAFE POSITION. THE DUAL TEMPERATURE SUPPLY WATER TEMPERATURE SHALL BE MONITORED TO DETERMINE WHETHER THE UNIT IS IN THE HEATING OR COOLING MODE. IF HOT WATER IS NOT AVAILABLE BUT THE AIR HANDLER IN IN THE HEATING MODE THE ELECTRIC HEATING COIL SHALL BE ENERGIZED.

UN–OCCUPIED SETBACK: THE SYSTEM SHALL MAINTAIN THE SETBACK TEMPERATURE OF 63 °F (ADJUST). IF THE SPACE TEMPERATURE IS BELOW SET POINT, THE ROOFTOP UNIT SUPPLY FAN SHALL START, EXHAUST FAN SHALL BE OFF, AND THE DAMPERS POSITIONED FOR 100% RE–CIRCULATION. THE ELECTRIC REHEAT COIL SHALL BE ENERGIZED TO 100% OPEN. THE UNIT SHALL REMAIN ENERGIZED UNTIL THE TEMPERATURE REACHES 3 °F (ADJUST) ABOVE ITS SET POINT AT WHICH POINT THE UNIT SHALL DE–ENERGIZE.

UN–OCCUPIED SETUP: THE SYSTEM SHALL MAINTAIN THE SETBACK TEMPERATURE OF 80 °F (ADJUST). IF THE SPACE TEMPERATURE IS ABOVE SET POINT, THE AIR HANDLER SUPPLY AND EXHAUST FANS SHALL START, AND THE DAMPERS POSITIONED FOR 100% RECIRCULATION. THE DUAL TEMPERATURE COOLING COIL SHALL BE ENERGIZED AND THE REHEAT VALVE SHALL BE CLOSED. THE UNIT SHALL REMAIN ENERGIZED UNTIL THE SPACE TEMPERATURE REACHES 3 °F (ADJUST) BELOW ITS SET POINT AT WHICH POINT THE UNIT SHALL DE–ENERGIZE.

SPACE TEMPERATURE CONTROL

THE HONEYWELL SYSTEM SHALL MONITOR THE SPACE TEMPERATURE AND RELATIVE HUMIDITY SENSOR. THE TEMPERATURE AND HUMIDITY SET POINT SHALL BE 74°F+/–3°F (ADJUST) AT A RELATIVE HUMIDITY OF 55+5%RH. THE TEMPERATURE/HUMIDITY SENSOR SHALL PLACE THE UNIT IN HEATING, COOLING OR DEHUMIDIFICATION BASED ON THE TEMPERATURE AND RELATIVE HUMIDITY SENSED IN THE SPACE. THE HEATING TEMPERATURE SET POINT SHALL BE 2°F BELOW THE COOLING AND DEHUMIDIFICATION SET POINTS. THE DISCHARGE AIR TEMPERATURE LEAVING THE COOLING COIL SHALL BE 54°F WHEN THE UNIT IS IN THE DEHUMIDIFICATION MODE. IN THIS MODE THE ELECTRIC REHEAT COIL SHALL HEAT THE AIR TO MEET SPACE TEMPERATURE SET POINT.

AIR–SIDE ECONOMIZER:

THE AIR HANDLER SHALL HAVE AN AIR–SIDE DRY BULB CONTROLLED ECONOMIZER. WHEN THE OUTDOOR AIR TEMPERATURE IS EQUAL TO OR LESS THAN 55 °F (ADJUST), THE UNIT SHALL BE IN ECONOMIZER MODE. THE OUTSIDE AIR DAMPER SHALL BEGIN TO MODULATE OPEN, UTILIZING THE OUTDOOR AIR FOR FREE COOLING. AS THE OUTDOOR AIR DAMPER PASSES ITS MINIMUM VENTILATION POSITION, THE RETURN AIR DAMPER SHALL CLOSE IN PROPORTION TO THE OUTDOOR AIR DAMPER.

AIR FLOW TRACKING

THE UNIT SHALL BE EQUIPPED WITH SUPPLY AIR, AND OUTSIDE AIR FLOW STATIONS FOR MONITORING PURPOSES.

SAFETIES:

THE SMOKE DETECTOR SHALL BE INTERLOCKED TO THE UNIT'S START CIRCUIT. THE SMOKE DETECTOR SHALL DE–ENERGIZE THE SUPPLY AND EXHAUST FANS UPON ACTIVATION. THE AIR DAMPERS SHALL GO TO THEIR FAIL–SAFE POSITIONS.

THE FIRE ALARM CONTRACTOR SHALL PROVIDE, INSTALL AND MONITOR THE SMOKE DETECTOR. THE ELECTRICAL CONTRACTOR SHALL WIRE SMOKE DETECTOR TO UNIT'S START CIRCUIT. THE CONTROL CONTRACTOR SHALL MONITOR SMOKE DETECTOR ALARM.

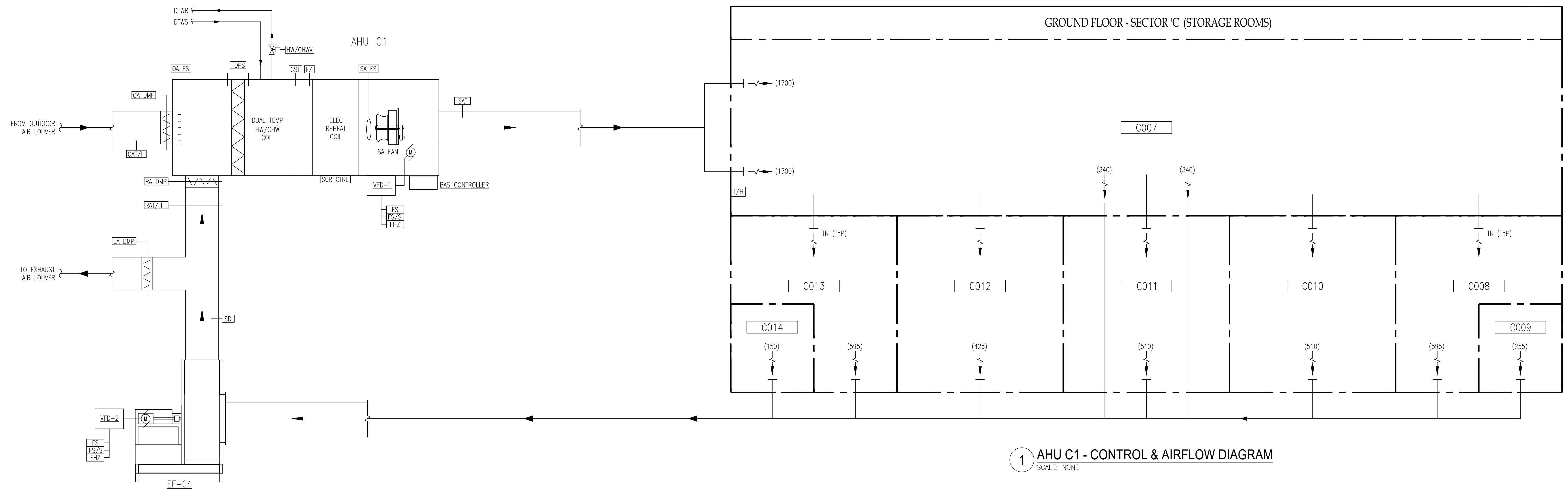
A CURRENT SWITCH ON THE SUPPLY AND EXHAUST AIR FANS SHALL CONFIRM IF THE FANS ARE IN THE DESIRED STATE AND GENERATES AN ALARM IF STATUS DEVIATES FROM DDC START/STOP CONTROL.

ALARMS:

- THE AIR HANDLER IS DE–ENERGIZED BY THE SMOKE DETECTOR ACTIVATION. IN ADDITION TO AN ALARM BEING ISSUED AT THE BMS, AN ALARM SHALL BE GENERATED AT THE FIRE ALARM CONTROL PANEL.
- THE SPACE TEMPERATURE DEVIATES 5 °F FROM SET POINT (ADJUST).
- THE SPACE HUMIDITY EXCEEDS 60% RELATIVE HUMIDITY.
- THE SUPPLY OR EXHAUST AIR FAN FAIL.
- THE DUAL TEMPERATURE SYSTEM DOES NOT MATCH THE TEMPERATURE REQUIREMENTS OF THE AIR HANDLER.
- CONDENSATE PUMP ALARM

BACNET POINTS

THE CONTROLS CONTRACTOR SHALL MAP ALL AVAILABLE BACNET POINTS FROM THE MANUFACTURER TO THE HONEYWELL SYSTEM FOR MONITORING AND CONTROL.



1 AHU C1 - CONTROL & AIRFLOW DIAGRAM

SCALE: NONE

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Project Name
HVAC Renovations at Princeton High School

Project Owner Name
Princeton Public Schools

Project Location
151 Moore Street,
Princeton, NJ
08540

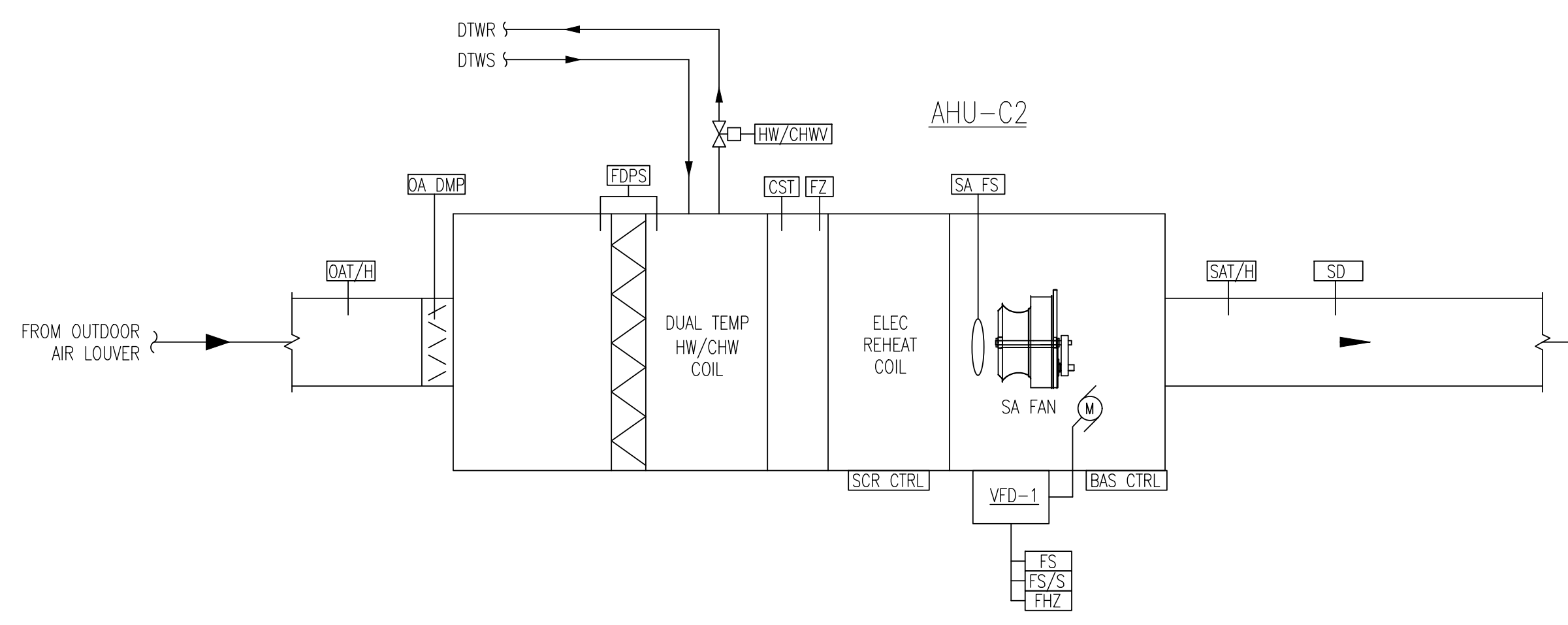
Project Number
5516E
Project Date
01.29. 2026
Checked By
JTM
Drawn By
JD
Scale
AS NOTED

Drawing Name
MECHANICAL - AHU-C1 CONTROL & AIRFLOW DIAGRAM

Revisions

No.	Date	Description

Drawing Number
M-604



AHU-C2 POINTS LIST

POINT DESIGNATION	POINT DESCRIPTION	POINT TYPE	PART NO. AND/OR DESCRIPTION	NOTES
SD	SMOKE DETECTOR	DIGITAL CONTACT		NOTES 2-4
CST	COIL AIR SUPPLY TEMPERATURE SENSOR	ANALOG INPUT	-	NOTE 5
SAT/H	SUPPLY AIR TEMPERATURE/RH SENSOR	ANALOG INPUT	DUCT MOUNTED	-
OAT/H	OUTDOOR AIR TEMP/HUMIDITY SENSOR	ANALOG INPUT	-	NOTE 5
OA DMP	OUTDOOR AIR DAMPER	ANALOG OUTPUT	FAIL CLOSED	NOTE 5
SA FS	SUPPLY AIR FLOW STATION	ANALOG INTPUT	-	NOTE 5
HW/CHWV	HW/CHW CONTROL VALVE	ANALOG OUTPUT	-	NOTE 6
FDPS	FILTER DIFFERENTIAL PRESSURE SWITCH	DIGITAL INPUT	-	NOTE 7
SCR CTRL	SCR CONTROL	ANALOG INPUT	-	NOTE 8
FZ	FREEZE STAT	DIGITAL INPUT	-	THRU VFD
VFD1-FS	SUPPLY FAN STATUS	DIGITAL INPUT	-	THRU VFD
VFD1-FS/S	SUPPLY FAN START/STOP	DIGITAL OUTPUT	-	THRU VFD
VFD1-FHZ	SUPPLY FAN SPEED	ANALOG INPUT	-	THRU VFD
COND-ALM	CONDENSATE PUMP ALARM	DIGITAL INPUT	-	-

POINTS LIST NOTES:
1. UNIT TO HAVE INDICATED SENSORS AND ACTUATORS MOUNTED BY THE MANUFACTURER. BAS CONTRACTOR SHALL PROVIDE UNIT CONTROLLER, WIRING TO CONTROLLER AND COMMUNICATION TO HONEYWELL SYSTEM, PROGRAMMING, GRAPHICS AND START-UP AND COMMISSIONING.
2. CONTRACTOR SHALL PROVIDE AND INSTALL ADDRESSABLE SMOKE DETECTOR AND SENSING TUBE TO FIRE ALARM SYSTEM. COORDINATE SMOKE DETECTOR MODE WITH FIRE ALARM CONTRACTOR.
3. ELECTRICAL CONTRACTOR SHALL WIRE SMOKE DETECTOR TO START CIRCUIT OF UNIT. SMOKE DETECTOR SHALL BE ADDRESSABLE TO FIRE ALARM SYSTEM AND PROVIDE ADDITIONAL CONTRACT FOR BMS.
4. FIRE ALARM CONTRACTOR SHALL WIRE FROM SMOKE DETECTOR TO FIRE ALARM PANEL. BMS CONTRACTOR TO WIRE TO BMS FOR STATUS.
5. PROVIDED & INSTALLED BY EQUIPMENT MANUFACTURER.
6. 1" PRESSURE INDEPENDENT CONTROL VALVE WITH A MAX WATER PRESSURE DROP OF 13.8 FT.
7. SET DIRTY FILTER ALARM AT 0.5" W.G. (ADJ) ABOVE CLEAN FILTER PRESSURE DROP.
8. FREEZE STAT SHALL BE TRIP AT 40F AND SHALL SHUT DOWN SUPPLY & EXHAUST FANS. STATUS SHALL BE BROUGHT TO BAS.

GENERAL NOTES:
1. BMS CONTRACTOR SHALL INTEGRATE ALL POINTS TO BMS SYSTEM. BMS CONTRACTOR SHALL PROVIDE WORKSTATION GRAPHICS. GRAPHIC SHALL INCLUDE SITE MAP OF FACILITY AND GRAPHIC OF EACH SYSTEM. GRAPHIC SHALL INCLUDE STATUS, TEMP, HUMIDITY, ALARMS, ETC. BMS CONTRACTOR SHALL ALSO PROVIDE HISTORY LOGS ON ALL CONTROL AND MONITORING POINTS AT 5 MINUTE INTERVALS.
2. BMS CONTRACTOR SHALL INCLUDE 24 HOURS FOR TRAINING AND ADDITIONAL 16 HOURS PER SYSTEM TO ASSIST WITH COMMISSIONING/TESTING OF SYSTEMS TO PROVE SEQUENCE OF OPERATIONS.
3. PROVIDE CALIBRATION CERTIFICATE FOR EACH DEVICE.

AHU-C2 CONTROL

SEQUENCE OF OPERATION
WHEN ENERGIZED IN THE OCCUPIED MODE THE UNIT SHALL BE CONTROLLED BY THE OUTSIDE AIR TEMPERATURE AND DEW POINT SENSORS. THIS SENSOR SHALL PLACE THE UNIT IN HEATING, COOLING OR DEHUMIDIFICATION MODES BASED ON OUTSIDE AIR CONDITIONS. THE UNIT IN EACH MODE SHALL DELIVER A SUPPLY AIR TEMPERATURE OF 74°F (ADJUSTABLE) AT 55% RELATIVE HUMIDITY.

DUAL TEMPERATURE WATER TEMPERATURE
THE BAS SYSTEM SHALL MONITOR THE DUAL TEMPERATURE WATER TEMPERATURE AT THE SENSOR OF THE AIR HANDLER TO DETERMINE WHETHER THE DUAL TEMPERATURE SYSTEM IS IN THE HEATING OR COOLING MODE. IF THE AIR HANDLER IS CALLING FOR HEAT AND THE SENSOR INDICATES THAT THE DUAL TEMPERATURE SYSTEM IS IN THE COOLING MODE, AN ALARM WILL BE SENT TO THE BAS SYSTEM AND THE VALVE WILL REMAIN CLOSED. THE SAME SEQUENCE WILL BE EMPLOYED IF THE AIR HANDLER IS CALLING FOR HEAT BUT THE DUAL TEMPERATURE SYSTEM IS IN THE COOLING MODE. IF THE UNIT IS IN THE HEATING MODE BUT NO HOT WATER IS PRESENT THE BAS SHALL ENERGIZE THE ELECTRIC REHEAT COIL.

ENERGIZED/DE-ENERGIZE:
THE AIR HANDLER SHALL BE ENERGIZED/DE-ENERGIZED THROUGH THE HONEYWELL CONTROL SYSTEM. THE AIR HANDLER SHALL BE SCHEDULED FOR AUTOMATIC OPERATION ON A TIME OF DAY BASIS FOR OCCUPIED AND UNOCCUPIED MODES. AS DICTATED BY THE OWNER.

OCCUPIED: THE OCCUPIED MODE TIMES SHALL BE PROVIDED BY THE OWNER. THE UNIT SHALL OPEN THE DUAL TEMPERATURE VALVE BEFORE THE FAN STARTS TO EITHER PREHEAT OR COOL THE DUAL TEMPERATURE COIL. ONCE THE SUPPLY AIR FAN ENERGIZES THE SYSTEM SHALL HEAT, COOL OR DEHUMIDIFY TO THE SUPPLY AIR TEMPERATURE AND HUMIDITY.

IN THE HEATING MODE THE DUAL TEMPERATURE COIL SHALL HEAT THE AIR TO MAINTAIN A SPACE TEMPERATURE OF 74°F (ADJUST). IF THE DUAL TEMPERATURE VALVE IS WIDE OPEN AND THE SET POINT IS NOT ACHIEVED THE ELECTRIC REHEAT COIL WILL ENERGIZE TO ACHIEVE SET POINT..

IN THE COOLING MODE THE DUAL TEMPERATURE COIL SHALL COOL THE AIR TO MAINTAIN A SPACE TEMPERATURE TO 74°F, UNLESS THE OUTSIDE AIR DEW POINT IS GREATER THAN 55°F. IF THE DEW POINT IS GREATER THAN 55°F THE SYSTEM WILL BE PLACED IN DEHUMIDIFICATION MODE AND THE COOLING COIL SHALL DISCHARGE AT 54°F. THE ELECTRIC REHEAT COIL WILL ENERGIZE TO MAINTAIN THE SPACE TEMPERATURE SET POINT LOCATED IN THE NURSE SUITE.

UN-OCCUPIED:
THE AIR HANDLER SHALL DE-ENERGIZE AND OUTSIDE DAMPER SHALL GO TO ITS FAIL-SAFE POSITION.

UN-OCCUPIED SETBACK AND SETUP: THE SPACES SHALL BE MAINTAINED DURING THE UNOCCUPIED MODE BY THE FAN COIL UNITS. THIS UNIT SHALL BE DE-ENERGIZED DURING THE UN-OCCUPIED MODE.

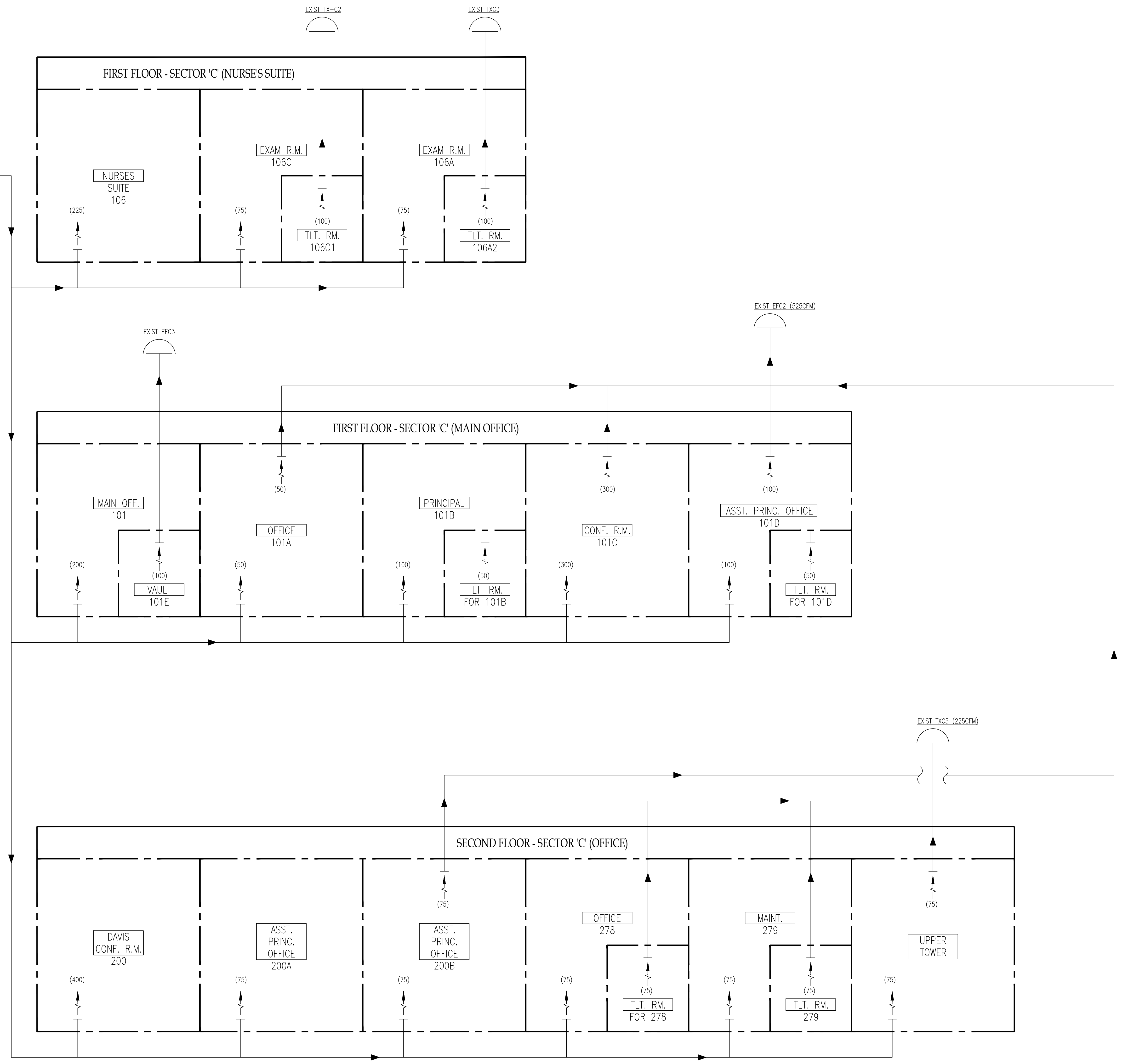
SAFETIES:
THE SMOKE DETECTOR SHALL BE INTERLOCKED TO THE UNIT'S START CIRCUIT. THE SMOKE DETECTOR SHALL DE-ENERGIZE THE UNIT UPON ACTIVATION. THE AIR DAMPERS SHALL GO TO THEIR FAIL-SAFE POSITIONS.

THE FIRE ALARM CONTRACTOR SHALL PROVIDE, INSTALL AND MONITOR THE SMOKE DETECTOR. THE ELECTRICAL CONTRACTOR SHALL WIRE SMOKE DETECTOR TO UNIT'S START CIRCUIT.

A CURRENT SWITCH ON THE SUPPLY AIR FAN SHALL CONFIRM IF THE FAN IS IN THE DESIRED STATE AND GENERATES AN ALARM IF STATUS DEVIATES FROM CONTROL START/STOP CONTROL.

ALARMS:
- THE AIR HANDLER IS DE-ENERGIZED BY THE SMOKE DETECTOR ACTIVATION. IN ADDITION TO AN ALARM BEING ISSUED AT THE HONEYWELL SYSTEM, AN ALARM SHALL BE GENERATED AT THE FIRE ALARM CONTROL PANEL AS A SUPERVISORY ALARM.
- THE SPACE TEMPERATURE DEVIATES 5 °F FROM SET POINT (ADJUST).
- THE SPACE RELATIVE HUMIDITY IS GREATER THAN 60%RH.
- THE SUPPLY AIR FAN FAIL.
- DUAL TEMPERATURE REQUIRED AT AIR HANDLER DOES NOT MATCH MODE OF AIR HANDLER.
- CONDENSATE PUMP ALARM

BACNET POINTS
THE CONTROLS CONTRACTOR SHALL MAP ALL AVAILABLE BACNET POINTS FROM THE MANUFACTURER TO THE HONEYWELL SYSTEM FOR MONITORING AND CONTROL.



1 **AHU C2 - CONTROL & AIRFLOW DIAGRAM**
SCALE: NONE

NOTES:
1. REFER TO PLAN VIEW DRAWINGS FOR LOCATION OF ROOMS.
2. VENTILATION AIR FLOWS SHOWN SHALL BE BALANCED TO FLOWS SHOWN FOR EACH ROOM.

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William D. Hopkins
Architect

01/29/26
Date

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Project Name
HVAC Renovations at Princeton High School

Project Owner Name
Princeton Public Schools

Project Location
151 Moore Street,
Princeton, NJ
08540

Project Number
5516E

Project Date
01.29. 2026

Checked By
JTM

Drawn By
JD

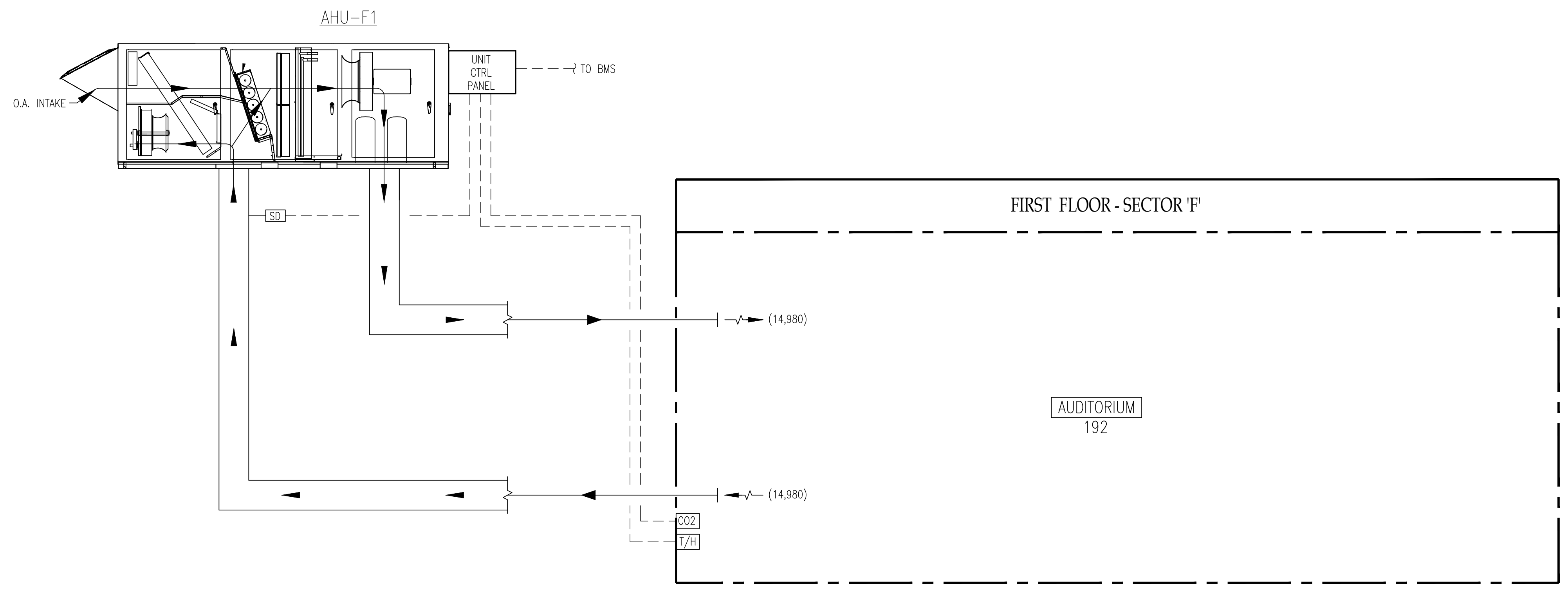
Scale
AS NOTED

Drawing Name
MECHANICAL - AHU-C2 CONTROL & AIRFLOW DIAGRAM

Revisions

No.	Date	Description

Drawing Number
M-605



1 AHU F1 - CONTROL & AIRFLOW DIAGRAM

SCALE: NONE

AHU-F1 POINTS LIST				
POINT DESIGNATION	POINT DESCRIPTION	POINT TYPE	PART NO. AND/OR DESCRIPTION	NOTES
T/H	SPACE TEMP/HUMIDITY SENSOR	ANALOG INPUT	–	NOTE 1
SD	SMOKE DETECTOR	DIGITAL CONTACT	COORDINATE W/ FA VENDOR	NOTES 2-4
CO2	SPACE CO2 SENSOR	ANALOG INPUT	–	NOTE 1

POINTS LIST NOTES:

1. PROVIDE BY MANUFACTURER & INSTALLED BY CONTROLS CONTRACTOR.
2. CONTRACTOR SHALL PROVIDE AND INSTALL ADDRESSABLE SMOKE DETECTOR AND SENSING TUBE TO FIRE ALARM SYSTEM. COORDINATE SMOKE DETECTOR MODE WITH FIRE ALARM CONTRACTOR.
3. ELECTRICAL CONTRACTOR SHALL WIRE SMOKE DETECTOR TO START CIRCUIT OF UNIT. SMOKE DETECTOR SHALL BE ADDRESSABLE TO FIRE ALARM SYSTEM AND PROVIDE ADDITIONAL CONTRACT FOR BMS.
4. FIRE ALARM CONTRACTOR SHALL WIRE FROM SMOKE DETECTOR TO FIRE ALARM PANEL. BMS CONTRACTOR TO WIRE TO BMS FOR STATUS.

GENERAL NOTES:

1. BMS CONTRACTOR SHALL MAP ALL POINTS FROM UNIT TO BMS SYSTEM. BMS CONTRACTOR SHALL PROVIDE WORKSTATION GRAPHICS. GRAPHIC SHALL INCLUDE SITE MAP OF FACILITY AND GRAPHIC OF EACH SYSTEM. GRAPHIC SHALL INCLUDE STATUS, TEMP, HUMIDITY, ALARMS, ETC. BMS CONTRACTOR SHALL ALSO PROVIDE HISTORY LOGS ON ALL CONTROL AND MONITORING POINTS AT 5 MINUTE INTERVALS.
2. BMS CONTRACTOR SHALL INCLUDE 24 HOURS FOR TRAINING AND ADDITIONAL 16 HOURS PER SYSTEM TO ASSIST WITH COMMISSIONING/TESTING OF SYSTEMS TO PROVE SEQUENCE OF OPERATIONS.
3. PROVIDE CALIBRATION CERTIFICATE FOR EACH DEVICE.

AHU-F1 CONTROL

ENERGIZED/DE-ENERGIZE:
THE ROOFTOP UNIT SHALL BE ENERGIZED/DE-ENERGIZED THROUGH THE HONEYWELL CONTROL SYSTEM. THE ROOFTOP UNIT SHALL BE SCHEDULED FOR AUTOMATIC OPERATION ON A TIME OF DAY BASIS FOR OCCUPIED AND UNOCCUPIED MODES AS SPECIFIED BY OWNER.

OCCUPIED: THE SYSTEM SHALL HAVE AN OPTIMAL START SEQUENCE. DURING THE OPTIMAL START, THE SUPPLY AIR FAN SHALL START AND THE DAMPERS SHALL BE POSITIONED FOR 100% RE-CIRCULATION. THE ROOFTOP UNIT SHALL OPERATE TO ACHIEVE THE OCCUPIED MODE TEMPERATURE SET POINT 15 MINUTES PRIOR TO THE OCCUPIED MODE. THE OCCUPIED MODE TIMES SHALL BE PROVIDED BY THE OWNER. THE PROGRAM SHALL BE CAPABLE OF LEARNING THE OPTIMAL TIME TO START BASED ON THE OUTDOOR AIR TEMPERATURE AND SPACE TEMPERATURE.

ONCE THE OCCUPIED MODE TIME AND TEMPERATURE IS REACHED, THE OUTSIDE AIR DAMPER SHALL OPEN TO ITS MINIMUM VENTILATION POSITION (FAIL-SAFE CLOSED) AND THE RETURN AIR DAMPER SHALL OPEN (FAIL-SAFE OPEN) TO ITS CORRESPONDING POSITION. THE SUPPLY AIR FAN SHALL THEN START.

UN-OCCUPIED:
THE ROOFTOP UNIT SHALL DE-ENERGIZE AND ALL DAMPERS SHALL GO TO THEIR FAIL-SAFE POSITION.

UN-OCCUPIED SETBACK: THE SYSTEM SHALL MAINTAIN THE SETBACK TEMPERATURE OF 63 °F (ADJUST). IF THE SPACE TEMPERATURE IS BELOW SET POINT, THE ROOFTOP UNIT SUPPLY FAN SHALL START, EXHAUST FAN SHALL BE OFF, AND THE DAMPERS POSITIONED FOR 100% RE-CIRCULATION. THE REHEAT VALVE SHALL BE COMMANDED TO 100% OPEN. THE UNIT SHALL REMAIN ENERGIZED UNTIL THE TEMPERATURE REACHES 3 °F (ADJUST) ABOVE ITS SET POINT AT WHICH POINT THE UNIT SHALL DE-ENERGIZE.

UN-OCCUPIED SETUP: THE SYSTEM SHALL MAINTAIN THE SETBACK TEMPERATURE OF 80 °F (ADJUST). IF THE SPACE TEMPERATURE IS ABOVE SET POINT, THE ROOFTOP UNIT SUPPLY FAN SHALL START, EXHAUST FAN SHALL BE OFF, AND THE DAMPERS POSITIONED FOR 100% RECIRCULATION. THE MECHANICAL COOLING CIRCUIT SHALL BE ENERGIZED AND THE REHEAT VALVE SHALL BE CLOSED. THE UNIT SHALL REMAIN ENERGIZED UNTIL THE SPACE TEMPERATURE REACHES 3 °F (ADJUST) BELOW ITS SET POINT AT WHICH POINT THE UNIT SHALL DE-ENERGIZE.

SPACE TEMPERATURE CONTROL
THE HONEYWELL SYSTEM SHALL MONITOR THE SPACE TEMPERATURE AND RELATIVE HUMIDITY SENSOR. THE TEMPERATURE AND HUMIDITY SET POINT SHALL BE 74°F+/-3°F (ADJUST) AT A RELATIVE HUMIDITY OF 55+5%RH. THE TEMPERATURE/HUMIDITY SENSOR SHALL PLACE THE UNIT IN HEATING, COOLING OR DEHUMIDIFICATION BASED ON THE TEMPERATURE AND RELATIVE HUMIDITY SENSED IN THE SPACE. THE HEATING TEMPERATURE SET POINT SHALL BE 2°FBELOW THE COOLING AND DEHUMIDIFICATION SET POINTS. THE DISCHARGE AIR TEMPERATURE LEAVING THE COOLING COIL SHALL BE 47°F WHEN THE UNIT IS IN THE DEHUMIDIFICATION MODE. IN THIS MODE THE HGRH SHALL HEAT THE AIR TO MEET SPACE TEMPERATURE SET POINT.

AIR-SIDE ECONOMIZER:
THE ROOFTOP UNIT SHALL HAVE AN AIR-SIDE DRY BULB CONTROLLED ECONOMIZER. WHEN THE OUTDOOR AIR TEMPERATURE IS EQUAL TO OR LESS THAN 55 °F (ADJUST), THE UNIT SHALL BE IN ECONOMIZER MODE. THE OUTSIDE AIR DAMPER SHALL BEGIN TO MODULATE OPEN, UTILIZING THE OUTDOOR AIR FOR FREE COOLING. AS THE OUTDOOR AIR DAMPER PASSES ITS MINIMUM VENTILATION POSITION, THE EXHAUST AIR FAN SHALL ENERGIZE. THE SPEED OF THE EXHAUST FAN SHALL INCREASE IN PROPORTION TO THE OUTDOOR AIR DAMPER POSITION. THE RETURN AIR DAMPER SHALL CLOSE IN PROPORTION TO THE OUTDOOR AIR DAMPER.

CARBON DIOXIDE VENTILATION DEMAND CONTROL
THE OUTSIDE AIR FLOW WILL BE RESET BASED ON THE CO2 SENSOR. THE VENTILATION AIR FLOW SHALL BE SET TO THE SPECIFIED AIR FLOW WHEN THE CO2 IS AT 800PPM OR GREATER. THE VENTILATION AIR FLOW CAN BE REDUCED TO 40% OF THE SPECIFIED AIR FLOW WHEN THE CO2 IS AT 600PPM OR LESS. THE AIR FLOW SHALL BE MEASURED BY THE OUTSIDE AIR FLOW STATION.

AIR FLOW TRACKING
THE EXHAUST FAN SPEED SHALL BE VARIED BASED ON THE SUPPLY AIR FLOW, EXHAUST AIR AND OUTSIDE AIR FLOW MEASUREMENT, THE UNIT SHALL BE EQUIPPED WITH SUPPLY AIR, EXHAUST AIR AND OUTSIDE AIR FLOW STATIONS.

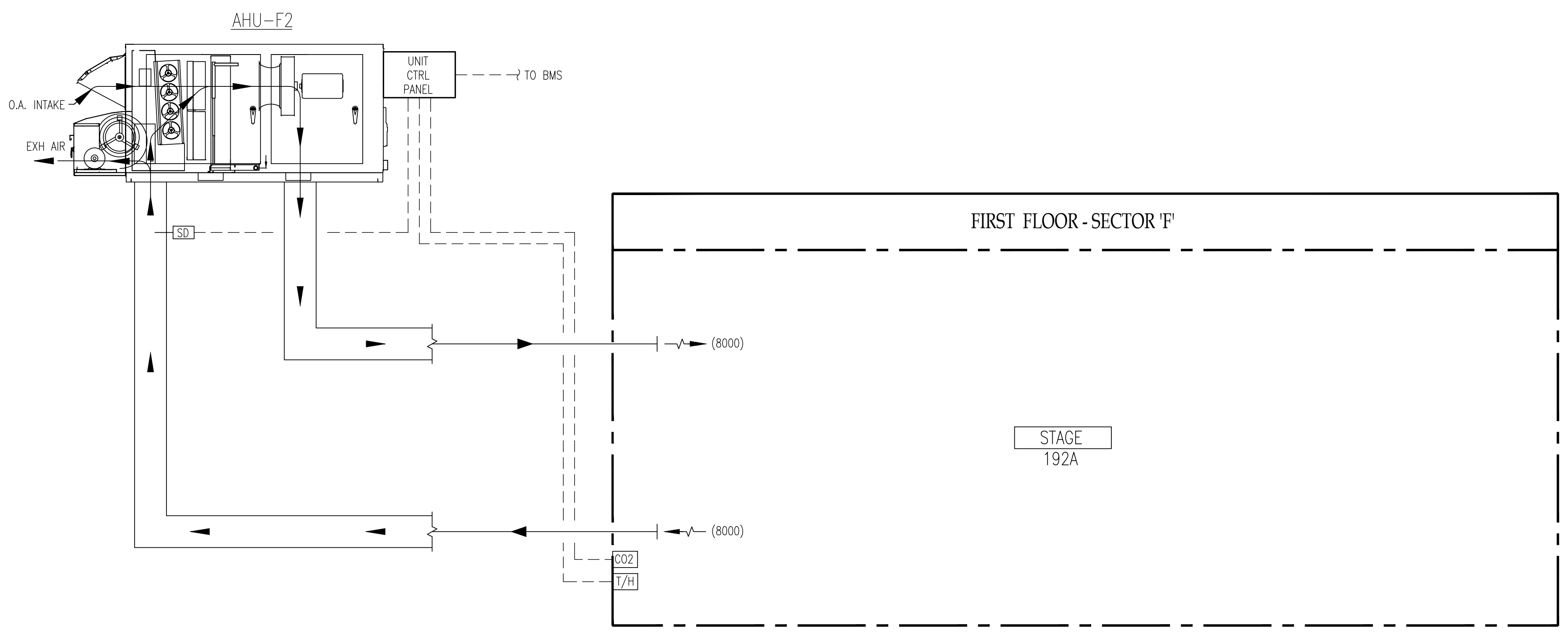
SAFETIES:
THE SMOKE DETECTOR SHALL BE INTERLOCKED TO THE UNIT'S START CIRCUIT. THE SMOKE DETECTOR SHALL DE-ENERGIZE THE UNIT UPON ACTIVATION. THE AIR DAMPERS SHALL GO TO THEIR FAIL-SAFE POSITIONS.

THE FIRE ALARM CONTRACTOR SHALL PROVIDE, INSTALL AND MONITOR THE SMOKE DETECTOR. THE ELECTRICAL CONTRACTOR SHALL WIRE SMOKE DETECTOR TO UNIT'S START CIRCUIT. THE CONTROL CONTRACTOR SHALL MONITOR SMOKE DETECTOR ALARM.

A CURRENT SWITCH ON THE SUPPLY AIR FAN SHALL CONFIRM IF THE FAN IS IN THE DESIRED STATE AND GENERATES AN ALARM IF STATUS DEVIATES FROM DDC START/STOP CONTROL.

ALARMS:
- THE ROOFTOP UNIT IS DE-ENERGIZED BY THE SMOKE DETECTOR ACTIVATION. IN ADDITION TO AN ALARM BEING ISSUED AT THE BMS, AN ALARM SHALL BE GENERATED AT THE FIRE ALARM CONTROL PANEL.
- THE SPACE TEMPERATURE DEVIATES 5 °F FROM SET POINT (ADJUST).
- THE SPACE HUMIDITY EXCEEDS 60% RELATIVE HUMIDITY.
- THE SUPPLY OR EXHAUST AIR FAN FAIL.
- REFRIGERANT LEAK.

BACNET POINTS
THE CONTROLS CONTRACTOR SHALL MAP ALL AVAILABLE BACNET POINTS FROM THE MANUFACTURER TO THE HONEYWELL SYSTEM FOR MONITORING AND CONTROL.



2 AHU F2 - CONTROL & AIRFLOW DIAGRAM

SCALE: NONE

AHU-F2 POINTS LIST				
POINT DESIGNATION	POINT DESCRIPTION	POINT TYPE	PART NO. AND/OR DESCRIPTION	NOTES
T/H	SPACE TEMP/HUMIDITY SENSOR	ANALOG INPUT	–	NOTE 1
SD	SMOKE DETECTOR	DIGITAL CONTACT	COORDINATE W/ FA VENDOR	NOTES 2-4
CO2	SPACE CO2 SENSOR	ANALOG INPUT	–	NOTE 1

POINTS LIST NOTES:

1. PROVIDE BY MANUFACTURER & INSTALLED BY CONTROLS CONTRACTOR.
2. CONTRACTOR SHALL PROVIDE AND INSTALL ADDRESSABLE SMOKE DETECTOR AND SENSING TUBE TO FIRE ALARM SYSTEM. COORDINATE SMOKE DETECTOR MODE WITH FIRE ALARM CONTRACTOR.
3. ELECTRICAL CONTRACTOR SHALL WIRE SMOKE DETECTOR TO START CIRCUIT OF UNIT. SMOKE DETECTOR SHALL BE ADDRESSABLE TO FIRE ALARM SYSTEM AND PROVIDE ADDITIONAL CONTRACT FOR BMS.
4. FIRE ALARM CONTRACTOR SHALL WIRE FROM SMOKE DETECTOR TO FIRE ALARM PANEL. BMS CONTRACTOR TO WIRE TO BMS FOR STATUS.

GENERAL NOTES:

1. BMS CONTRACTOR SHALL MAP ALL POINTS FROM UNIT TO BMS SYSTEM. BMS CONTRACTOR SHALL PROVIDE WORKSTATION GRAPHICS. GRAPHIC SHALL INCLUDE SITE MAP OF FACILITY AND GRAPHIC OF EACH SYSTEM. GRAPHIC SHALL INCLUDE STATUS, TEMP, HUMIDITY, ALARMS, ETC. BMS CONTRACTOR SHALL ALSO PROVIDE HISTORY LOGS ON ALL CONTROL AND MONITORING POINTS AT 5 MINUTE INTERVALS.
2. BMS CONTRACTOR SHALL INCLUDE 24 HOURS FOR TRAINING AND ADDITIONAL 16 HOURS PER SYSTEM TO ASSIST WITH COMMISSIONING/TESTING OF SYSTEMS TO PROVE SEQUENCE OF OPERATIONS.
3. PROVIDE CALIBRATION CERTIFICATE FOR EACH DEVICE.

AHU-F2 CONTROL

ENERGIZED/DE-ENERGIZE:
THE ROOFTOP UNIT SHALL BE ENERGIZED/DE-ENERGIZED THROUGH THE HONEYWELL CONTROL SYSTEM. THE ROOFTOP UNIT SHALL BE SCHEDULED FOR AUTOMATIC OPERATION ON A TIME OF DAY BASIS FOR OCCUPIED AND UNOCCUPIED MODES AS SPECIFIED BY OWNER.

OCCUPIED: THE SYSTEM SHALL HAVE AN OPTIMAL START SEQUENCE. DURING THE OPTIMAL START, THE SUPPLY AIR FAN SHALL START AND THE DAMPERS SHALL BE POSITIONED FOR 100% RE-CIRCULATION. THE ROOFTOP UNIT SHALL OPERATE TO ACHIEVE THE OCCUPIED MODE TEMPERATURE SET POINT 15 MINUTES PRIOR TO THE OCCUPIED MODE. THE OCCUPIED MODE TIMES SHALL BE PROVIDED BY THE OWNER. THE PROGRAM SHALL BE CAPABLE OF LEARNING THE OPTIMAL TIME TO START BASED ON THE OUTDOOR AIR TEMPERATURE AND SPACE TEMPERATURE.

ONCE THE OCCUPIED MODE TIME AND TEMPERATURE IS REACHED, THE OUTSIDE AIR DAMPER SHALL OPEN TO ITS MINIMUM VENTILATION POSITION (FAIL-SAFE CLOSED) AND THE RETURN AIR DAMPER SHALL OPEN (FAIL-SAFE OPEN) TO ITS CORRESPONDING POSITION. THE SUPPLY AIR FAN SHALL THEN START.

UN-OCCUPIED:
THE ROOFTOP UNIT SHALL DE-ENERGIZE AND ALL DAMPERS SHALL GO TO THEIR FAIL-SAFE POSITION.

UN-OCCUPIED SETBACK: THE SYSTEM SHALL MAINTAIN THE SETBACK TEMPERATURE OF 63 °F (ADJUST). IF THE SPACE TEMPERATURE IS BELOW SET POINT, THE ROOFTOP UNIT SUPPLY FAN SHALL START, EXHAUST FAN SHALL BE OFF, AND THE DAMPERS POSITIONED FOR 100% RE-CIRCULATION. THE REHEAT VALVE SHALL BE COMMANDED TO 100% OPEN. THE UNIT SHALL REMAIN ENERGIZED UNTIL THE TEMPERATURE REACHES 3 °F (ADJUST) ABOVE ITS SET POINT AT WHICH POINT THE UNIT SHALL DE-ENERGIZE.

UN-OCCUPIED SETUP: THE SYSTEM SHALL MAINTAIN THE SETBACK TEMPERATURE OF 80 °F (ADJUST). IF THE SPACE TEMPERATURE IS ABOVE SET POINT, THE ROOFTOP UNIT SUPPLY FAN SHALL START, EXHAUST FAN SHALL BE OFF, AND THE DAMPERS POSITIONED FOR 100% RECIRCULATION. THE MECHANICAL COOLING CIRCUIT SHALL BE ENERGIZED AND THE REHEAT VALVE SHALL BE CLOSED. THE UNIT SHALL REMAIN ENERGIZED UNTIL THE SPACE TEMPERATURE REACHES 3 °F (ADJUST) BELOW ITS SET POINT AT WHICH POINT THE UNIT SHALL DE-ENERGIZE.

SPACE TEMPERATURE CONTROL
THE HONEYWELL SYSTEM SHALL MONITOR THE SPACE TEMPERATURE AND RELATIVE HUMIDITY SENSOR. THE TEMPERATURE AND HUMIDITY SET POINT SHALL BE 74°F+/-3°F (ADJUST) AT A RELATIVE HUMIDITY OF 55+5%RH. THE TEMPERATURE/HUMIDITY SENSOR SHALL PLACE THE UNIT IN HEATING, COOLING OR DEHUMIDIFICATION BASED ON THE TEMPERATURE AND RELATIVE HUMIDITY SENSED IN THE SPACE. THE HEATING TEMPERATURE SET POINT SHALL BE 2°FBELOW THE COOLING AND DEHUMIDIFICATION SET POINTS. THE DISCHARGE AIR TEMPERATURE LEAVING THE COOLING COIL SHALL BE 47°F WHEN THE UNIT IS IN THE DEHUMIDIFICATION MODE. IN THIS MODE THE HGRH SHALL HEAT THE AIR TO MEET SPACE TEMPERATURE SET POINT.

AIR-SIDE ECONOMIZER:
THE ROOFTOP UNIT SHALL HAVE AN AIR-SIDE DRY BULB CONTROLLED ECONOMIZER. WHEN THE OUTDOOR AIR TEMPERATURE IS EQUAL TO OR LESS THAN 55 °F (ADJUST), THE UNIT SHALL BE IN ECONOMIZER MODE. THE OUTSIDE AIR DAMPER SHALL BEGIN TO MODULATE OPEN, UTILIZING THE OUTDOOR AIR FOR FREE COOLING. AS THE OUTDOOR AIR DAMPER PASSES ITS MINIMUM VENTILATION POSITION, THE EXHAUST AIR FAN SHALL ENERGIZE. THE SPEED OF THE EXHAUST FAN SHALL INCREASE IN PROPORTION TO THE OUTDOOR AIR DAMPER POSITION. THE RETURN AIR DAMPER SHALL CLOSE IN PROPORTION TO THE OUTDOOR AIR DAMPER.

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AIR FLOW TRACKING
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SAFETIES:
THE SMOKE DETECTOR SHALL BE INTERLOCKED TO THE UNIT'S START CIRCUIT. THE SMOKE DETECTOR SHALL DE-ENERGIZE THE UNIT UPON ACTIVATION. THE AIR DAMPERS SHALL GO TO THEIR FAIL-SAFE POSITIONS.

THE FIRE ALARM CONTRACTOR SHALL PROVIDE, INSTALL AND MONITOR THE SMOKE DETECTOR. THE ELECTRICAL CONTRACTOR SHALL WIRE SMOKE DETECTOR TO UNIT'S START CIRCUIT. THE CONTROL CONTRACTOR SHALL MONITOR SMOKE DETECTOR ALARM.

A CURRENT SWITCH ON THE SUPPLY AIR FAN SHALL CONFIRM IF THE FAN IS IN THE DESIRED STATE AND GENERATES AN ALARM IF STATUS DEVIATES FROM DDC START/STOP CONTROL.

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PRINCIPAL IN CHARGE: JOSEPH T. MISTRETTA, PE

N.J. PROFESSIONAL ENGINEER LICENSE NUMBER:
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William D. Hopkins 01/29/26
Architect
Date

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Pennsylvania: 820 Adams Ave., Suite 210 - Audubon - Pennsylvania 19403

Project Name
HVAC Renovations at Princeton High School

Project Owner Name
Princeton Public Schools

Project Location
151 Moore Street,
Princeton, NJ
08540

Project Number
5516E

Project Date
01.29. 2026

Checked By
JTM

Drawn By
JD

Scale
AS NOTED

Drawing Name
MECHANICAL - AHU-F1 & F2 CONTROL & AIRFLOW DAGRAM

Revisions		
No.	Date	Description

Drawing Number
M-606

AHU-F3 POINTS LIST				
POINT DESIGNATION	POINT DESCRIPTION	POINT TYPE	PART NO. AND/OR DESCRIPTION	NOTES
SAT	SUPPLY AIR TEMPERATURE SENSOR	ANALOG INPUT	DUCT MOUNTED	NOTE 1
SD	SMOKE DETECTOR	DIGITAL CONTACT	COORDINATE W/ FA VENDOR	NOTES 2-4
T/H	SPACE TEMPERATURE/HUMIDITY SENSOR	ANALOG INPUT	–	NOTE 1
CO2	CO2 SENSOR	ANALOG INPUT	–	NOTE 1

POINTS LIST NOTES:

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3. PROVIDE CALIBRATION CERTIFICATE FOR EACH DEVICE.

AHU-F1 CONTROL

ENERGIZED/DE-ENERGIZE:

THE ROOFTOP UNIT SHALL BE ENERGIZED/DE-ENERGIZED THROUGH THE HONEYWELL CONTROL SYSTEM. THE ROOFTOP UNIT SHALL BE SCHEDULED FOR AUTOMATIC OPERATION ON A TIME OF DAY BASIS FOR OCCUPIED AND UNOCCUPIED MODES AS SPECIFIED BY OWNER.

OCCUPIED: THE SYSTEM SHALL HAVE AN OPTIMAL START SEQUENCE. DURING THE OPTIMAL START, THE SUPPLY AIR FAN SHALL START AND THE DAMPERS SHALL BE POSITIONED FOR 100% RE-CIRCULATION. THE ROOFTOP UNIT SHALL OPERATE TO ACHIEVE THE OCCUPIED MODE TEMPERATURE SET POINT 15 MINUTES PRIOR TO THE OCCUPIED MODE. THE OCCUPIED MODE TIMES SHALL BE PROVIDED BY THE OWNER. THE PROGRAM SHALL BE CAPABLE OF LEARNING THE OPTIMAL TIME TO START BASED ON THE OUTDOOR AIR TEMPERATURE AND SPACE TEMPERATURE.

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THE OUTSIDE AIR FLOW WILL BE RESET BASED ON THE CO2 SENSOR. THE VENTILATION AIR FLOW SHALL BE SET TO THE SPECIFIED AIR FLOW WHEN THE CO2 IS AT 800PPM OR GREATER. THE VENTILATION AIR FLOW CAN BE REDUCED TO 40% OF THE SPECIFIED AIR FLOW WHEN THE CO2 IS AT 600PPM OR LESS. THE AIR FLOW SHALL BE MEASURED BY THE OUTSIDE AIR FLOW STATION.

AIR FLOW TRACKING

THE EXHAUST FAN SPEED SHALL BE VARIED BASED ON THE SUPPLY AIR FLOW, EXHAUST AIR AND OUTSIDE AIR FLOW MEASUREMENT, THE UNIT SHALL BE EQUIPPED WITH SUPPLY AIR, EXHAUST AIR AND OUTSIDE AIR FLOW STATIONS.

SAFETIES:

THE SMOKE DETECTOR SHALL BE INTERLOCKED TO THE UNIT'S START CIRCUIT. THE SMOKE DETECTOR SHALL DE-ENERGIZE THE UNIT UPON ACTIVATION. THE AIR DAMPERS SHALL GO TO THEIR FAIL-SAFE POSITIONS.

THE FIRE ALARM CONTRACTOR SHALL PROVIDE, INSTALL AND MONITOR THE SMOKE DETECTOR. THE ELECTRICAL CONTRACTOR SHALL WIRE SMOKE DETECTOR TO UNIT'S START CIRCUIT. THE CONTROL CONTRACTOR SHALL MONITOR SMOKE DETECTOR ALARM.

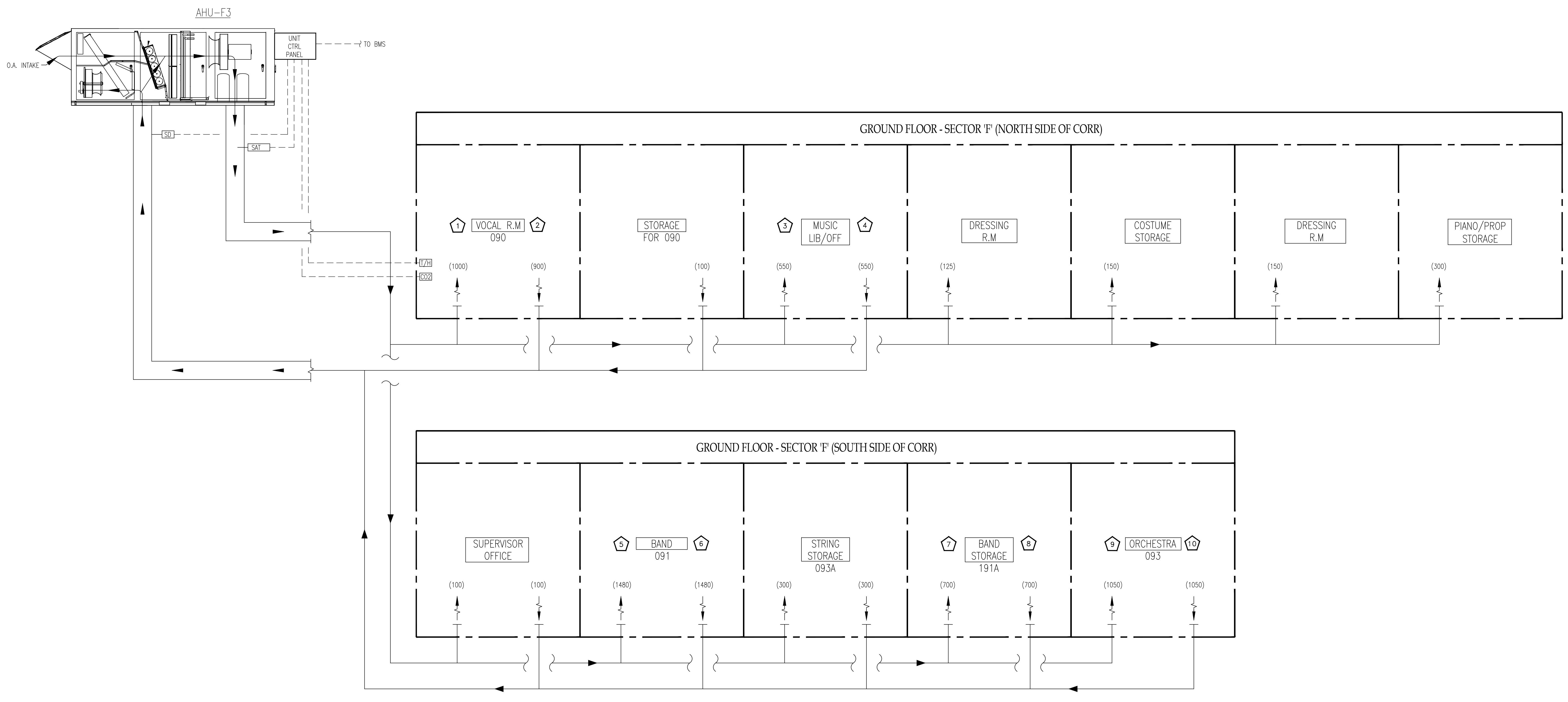
A CURRENT SWITCH ON THE SUPPLY AIR FAN SHALL CONFIRM IF THE FAN IS IN THE DESIRED STATE AND GENERATES AN ALARM IF STATUS DEVIATES FROM DDC START/STOP CONTROL.

ALARMS:

- THE ROOFTOP UNIT IS DE-ENERGIZED BY THE SMOKE DETECTOR ACTIVATION. IN ADDITION TO AN ALARM BEING ISSUED AT THE BMS, AN ALARM SHALL BE GENERATED AT THE FIRE ALARM CONTROL PANEL.
- THE SPACE TEMPERATURE DEVIATES 5 °F FROM SET POINT (ADJUST).
- THE SPACE HUMIDITY EXCEEDS 60% RELATIVE HUMIDITY.
- THE SUPPLY OR EXHAUST AIR FAN FAIL.
- REFRIGERANT LEAK.

BACNET POINTS

THE CONTROLS CONTRACTOR SHALL MAP ALL AVAILABLE BACNET POINTS FROM THE MANUFACTURER TO THE HONEYWELL SYSTEM FOR MONITORING AND CONTROL.



① AIRFLOW DIAGRAM - AHU F-3

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

MECHANICAL NOTES

1. THIS ROOM HAS FOUR SUPPLY AIR DIFFUSERS EACH SHALL BE BALANCED TO 250 CFM.
2. THIS ROOM HAS TWO RETURN AIR DIFFUSERS EACH SHALL BE BALANCED TO 450 CFM.
3. THIS ROOM HAS TWO SUPPLY AIR DIFFUSERS EACH SHALL BE BALANCED TO 275 CFM.
4. THIS ROOM HAS TWO RETURN AIR DIFFUSERS EACH SHALL BE BALANCED TO 275 CFM.
5. THIS ROOM HAS FOUR SUPPLY AIR DIFFUSERS EACH SHALL BE BALANCED TO 370 CFM.

MECHANICAL NOTES

6. THIS ROOM HAS TWO RETURN AIR DIFFUSERS EACH SHALL BE BALANCED TO 740 CFM.
7. THIS ROOM HAS TWO SUPPLY AIR DIFFUSERS EACH SHALL BE BALANCED TO 350 CFM.
8. THIS ROOM HAS TWO RETURN AIR DIFFUSERS EACH SHALL BE BALANCED TO 350 CFM.
9. THIS ROOM HAS SIX SUPPLY AIR DIFFUSERS EACH SHALL BE BALANCED TO 175 CFM.
10. THIS ROOM HAS TWO RETURN AIR DIFFUSERS EACH SHALL BE BALANCED TO 525 CFM.

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PRINCIPAL IN CHARGE: JOSEPH T. MISTRETTA, PE

N.J. PROFESSIONAL ENGINEER LICENSE NUMBER:
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William D. Hopkins
Architect

01/29/26
Date

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Corporate: 1515 Lower Ferry Road - Trenton - New Jersey 08618
Pennsylvania: 820 Adams Ave., Suite 210 - Audubon - Pennsylvania 19403

Project Name
HVAC Renovations at Princeton High School

Project Owner Name
Princeton Public Schools

Project Location
151 Moore Street,
Princeton, NJ
08540

Project Number
5516E

Project Date
01.29. 2026

Checked By
JTM

Drawn By
JD

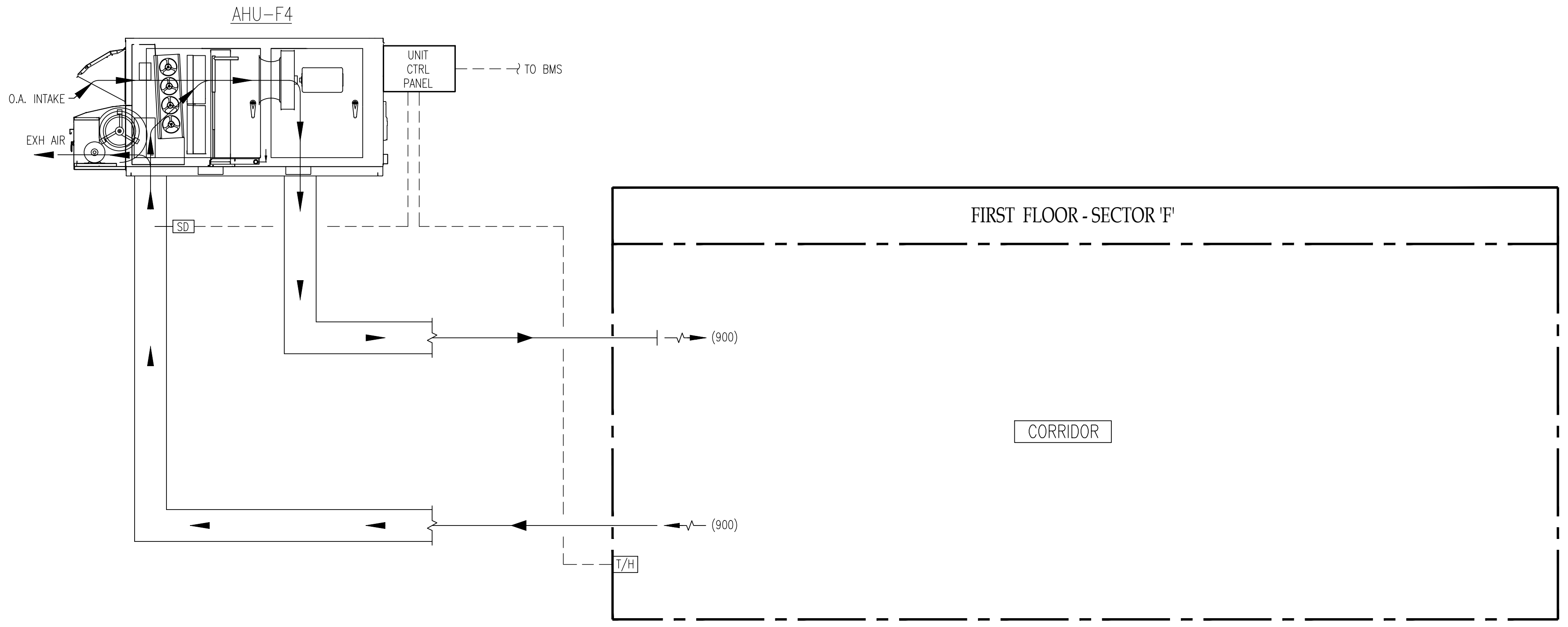
Scale
AS NOTED

Drawing Name
MECHANICAL - AHU-F3 CONTROL & AIRFLOW DIAGRAM

Revisions

No.	Date	Description

Drawing Number
M-607



1 **AHU F4 - CONTROL & AIRFLOW DIAGRAM**
SCALE: NONE

AHU-F4 POINTS LIST				
POINT DESIGNATION	POINT DESCRIPTION	POINT TYPE	PART NO. AND/OR DESCRIPTION	NOTES
T/H	SPACE TEMP/HUMIDITY SENSOR	ANALOG INPUT	–	NOTE 1
SD	SMOKE DETECTOR	DIGITAL CONTACT	COORDINATE W/ FA VENDOR	NOTES 2–4

POINTS LIST NOTES:

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3. PROVIDE CALIBRATION CERTIFICATE FOR EACH DEVICE.

AHU-F4 CONTROL

ENERGIZED/DE-ENERGIZE:
THE ROOFTOP UNIT SHALL BE ENERGIZED/DE-ENERGIZED THROUGH THE HONEYWELL CONTROL SYSTEM. THE ROOFTOP UNIT SHALL BE SCHEDULED FOR AUTOMATIC OPERATION ON A TIME OF DAY BASIS FOR OCCUPIED AND UNOCCUPIED MODES AS SPECIFIED BY OWNER.

OCCUPIED: THE SYSTEM SHALL HAVE AN OPTIMAL START SEQUENCE. DURING THE OPTIMAL START, THE SUPPLY AIR FAN SHALL START AND THE DAMPERS SHALL BE POSITIONED FOR 100% RE-CIRCULATION. THE ROOFTOP UNIT SHALL OPERATE TO ACHIEVE THE OCCUPIED MODE TEMPERATURE SET POINT 15 MINUTES PRIOR TO THE OCCUPIED MODE. THE OCCUPIED MODE TIMES SHALL BE PROVIDED BY THE OWNER. THE PROGRAM SHALL BE CAPABLE OF LEARNING THE OPTIMAL TIME TO START BASED ON THE OUTDOOR AIR TEMPERATURE AND SPACE TEMPERATURE.

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THE ROOFTOP UNIT SHALL DE-ENERGIZE AND ALL DAMPERS SHALL GO TO THEIR FAIL-SAFE POSITION.

UN-OCCUPIED SETBACK: THE SYSTEM SHALL MAINTAIN THE SETBACK TEMPERATURE OF 63 °F (ADJUST). IF THE SPACE TEMPERATURE IS BELOW SET POINT, THE ROOFTOP UNIT SUPPLY FAN SHALL START, EXHAUST FAN SHALL BE OFF, AND THE DAMPERS POSITIONED FOR 100% RE-CIRCULATION. THE REHEAT VALVE SHALL BE COMMANDED TO 100% OPEN. THE UNIT SHALL REMAIN ENERGIZED UNTIL THE TEMPERATURE REACHES 3 °F (ADJUST) ABOVE ITS SET POINT AT WHICH POINT THE UNIT SHALL DE-ENERGIZE.

UN-OCCUPIED SETUP: THE SYSTEM SHALL MAINTAIN THE SETBACK TEMPERATURE OF 80 °F (ADJUST). IF THE SPACE TEMPERATURE IS ABOVE SET POINT, THE ROOFTOP UNIT SUPPLY FAN SHALL START, EXHAUST FAN SHALL BE OFF, AND THE DAMPERS POSITIONED FOR 100% RECIRCULATION. THE MECHANICAL COOLING CIRCUIT SHALL BE ENERGIZED AND THE REHEAT VALVE SHALL BE CLOSED. THE UNIT SHALL REMAIN ENERGIZED UNTIL THE SPACE TEMPERATURE REACHES 3 °F (ADJUST) BELOW ITS SET POINT AT WHICH POINT THE UNIT SHALL DE-ENERGIZE.

SPACE TEMPERATURE CONTROL
THE HONEYWELL SYSTEM SHALL MONITOR THE SPACE TEMPERATURE AND RELATIVE HUMIDITY SENSOR. THE TEMPERATURE AND HUMIDITY SET POINT SHALL BE 74°F+/-3°F (ADJUST) AT A RELATIVE HUMIDITY OF 55+5%RH. THE TEMPERATURE/HUMIDITY SENSOR SHALL PLACE THE UNIT IN HEATING, COOLING OR DEHUMIDIFICATION BASED ON THE TEMPERATURE AND RELATIVE HUMIDITY SENSED IN THE SPACE. THE HEATING TEMPERATURE SET POINT SHALL BE 2°F BELOW THE COOLING AND DEHUMIDIFICATION SET POINTS. THE DISCHARGE AIR TEMPERATURE LEAVING THE COOLING COIL SHALL BE 47°F WHEN THE UNIT IS IN THE DEHUMIDIFICATION MODE. IN THIS MODE THE HGRH SHALL HEAT THE AIR TO MEET SPACE TEMPERATURE SET POINT.

AIR-SIDE ECONOMIZER:
THE ROOFTOP UNIT SHALL HAVE AN AIR-SIDE DRY BULB CONTROLLED ECONOMIZER. WHEN THE OUTDOOR AIR TEMPERATURE IS EQUAL TO OR LESS THAN 55 °F (ADJUST), THE UNIT SHALL BE IN ECONOMIZER MODE. THE OUTSIDE AIR DAMPER SHALL BEGIN TO MODULATE OPEN, UTILIZING THE OUTDOOR AIR FOR FREE COOLING. AS THE OUTDOOR AIR DAMPER PASSES ITS MINIMUM VENTILATION POSITION, THE EXHAUST AIR FAN SHALL ENERGIZE. THE SPEED OF THE EXHAUST FAN SHALL INCREASE IN PROPORTION TO THE OUTDOOR AIR DAMPER POSITION. THE RETURN AIR DAMPER SHALL CLOSE IN PROPORTION TO THE OUTDOOR AIR DAMPER.

AIR FLOW TRACKING
THE EXHAUST FAN SPEED SHALL BE VARIED BASED ON THE SUPPLY AIR FLOW, EXHAUST AIR AND OUTSIDE AIR FLOW MEASUREMENT, THE UNIT SHALL BE EQUIPPED WITH SUPPLY AIR, EXHAUST AIR AND OUTSIDE AIR FLOW STATIONS.

SAFETIES:
THE SMOKE DETECTOR SHALL BE INTERLOCKED TO THE UNIT'S START CIRCUIT. THE SMOKE DETECTOR SHALL DE-ENERGIZE THE UNIT UPON ACTIVATION. THE AIR DAMPERS SHALL GO TO THEIR FAIL-SAFE POSITIONS.

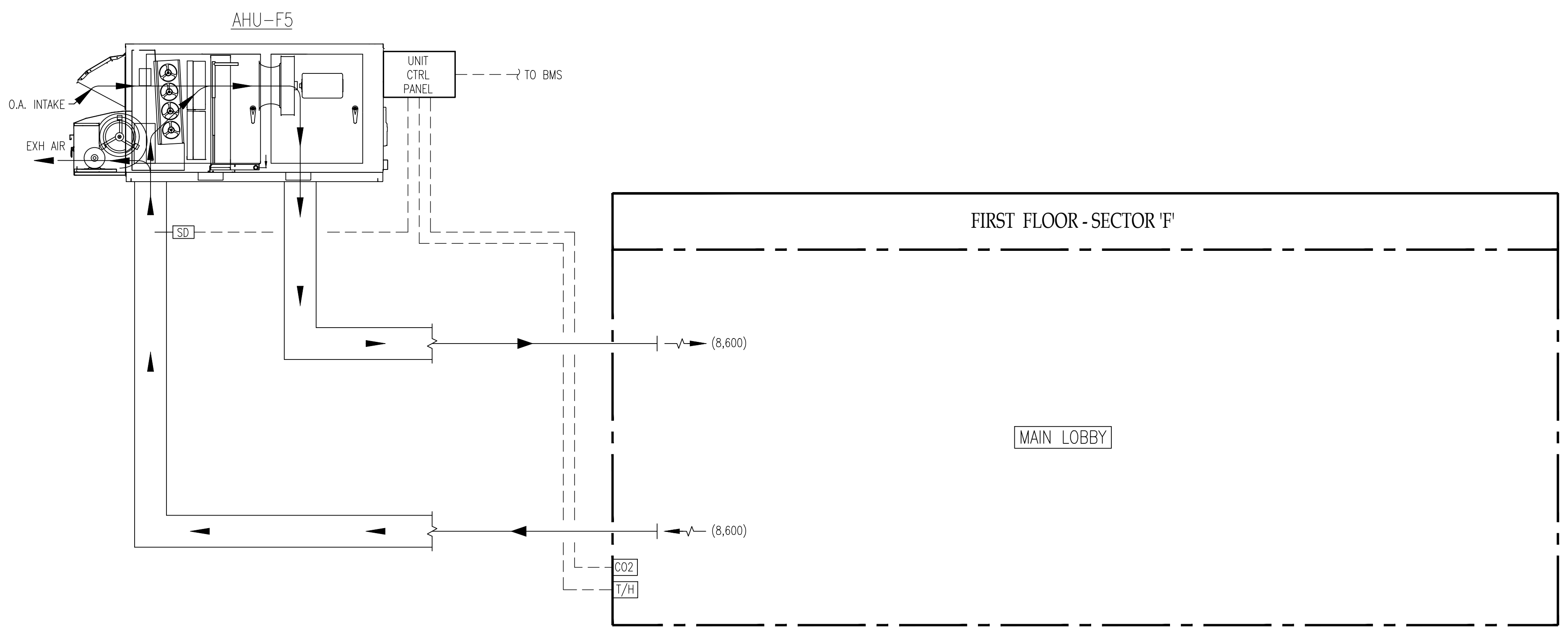
THE FIRE ALARM CONTRACTOR SHALL PROVIDE, INSTALL AND MONITOR THE SMOKE DETECTOR. THE ELECTRICAL CONTRACTOR SHALL WIRE SMOKE DETECTOR TO UNIT'S START CIRCUIT. THE CONTROL CONTRACTOR SHALL MONITOR SMOKE DETECTOR ALARM.

A CURRENT SWITCH ON THE SUPPLY AIR FAN SHALL CONFIRM IF THE FAN IS IN THE DESIRED STATE AND GENERATES AN ALARM IF STATUS DEVIATES FROM DDC START/STOP CONTROL.

ALARMS:

- THE ROOFTOP UNIT IS DE-ENERGIZED BY THE SMOKE DETECTOR ACTIVATION. IN ADDITION TO AN ALARM BEING ISSUED AT THE BMS, AN ALARM SHALL BE GENERATED AT THE FIRE ALARM CONTROL PANEL.
- THE SPACE TEMPERATURE DEVIATES 5 °F FROM SET POINT (ADJUST).
- THE SPACE HUMIDITY EXCEEDS 60% RELATIVE HUMIDITY.
- THE SUPPLY OR EXHAUST AIR FAN FAIL.
- REFRIGERANT LEAK.

BACNET POINTS
THE CONTROLS CONTRACTOR SHALL MAP ALL AVAILABLE BACNET POINTS FROM THE MANUFACTURER TO THE HONEYWELL SYSTEM FOR MONITORING AND CONTROL.



2 **AHU F5 - CONTROL & AIRFLOW DIAGRAM**
SCALE: NONE

AHU-F5 POINTS LIST				
POINT DESIGNATION	POINT DESCRIPTION	POINT TYPE	PART NO. AND/OR DESCRIPTION	NOTES
T/H	SPACE TEMP/HUMIDITY SENSOR	ANALOG INPUT	–	NOTE 1
SD	SMOKE DETECTOR	DIGITAL CONTACT	COORDINATE W/ FA VENDOR	NOTES 2–4
CO2	SPACE CO2 SENSOR	ANALOG INPUT	–	NOTE 1

POINTS LIST NOTES:

1. PROVIDE BY MANUFACTURER & INSTALLED BY CONTROLS CONTRACTOR.
2. CONTRACTOR SHALL PROVIDE AND INSTALL ADDRESSABLE SMOKE DETECTOR AND SENSING TUBE TO FIRE ALARM SYSTEM. COORDINATE SMOKE DETECTOR MODE WITH FIRE ALARM CONTRACTOR.
3. ELECTRICAL CONTRACTOR SHALL WIRE SMOKE DETECTOR TO START CIRCUIT OF UNIT. SMOKE DETECTOR SHALL BE ADDRESSABLE TO FIRE ALARM SYSTEM AND PROVIDE ADDITIONAL CONTRACT FOR BMS.
4. FIRE ALARM CONTRACTOR SHALL WIRE FROM SMOKE DETECTOR TO FIRE ALARM PANEL. BMS CONTRACTOR TO WIRE TO BMS FOR STATUS.

GENERAL NOTES:

5. BMS CONTRACTOR SHALL MAP ALL POINTS FROM UNIT TO BMS SYSTEM. BMS CONTRACTOR SHALL PROVIDE WORKSTATION GRAPHICS. GRAPHIC SHALL INCLUDE SITE MAP OF FACILITY AND GRAPHIC OF EACH SYSTEM. GRAPHIC SHALL INCLUDE STATUS, TEMP, HUMIDITY, ALARMS, ETC. BMS CONTRACTOR SHALL ALSO PROVIDE HISTORY LOGS ON ALL CONTROL AND MONITORING POINTS AT 5 MINUTE INTERVALS.
6. BMS CONTRACTOR SHALL INCLUDE 24 HOURS FOR TRAINING AND ADDITIONAL 16 HOURS TO ASSIST WITH COMMISSIONING/TESTING OF SYSTEMS TO PROVE SEQUENCE OF OPERATIONS.
7. PROVIDE CALIBRATION CERTIFICATE FOR EACH DEVICE.

AHU-F5 CONTROL

ENERGIZED/DE-ENERGIZE:
THE ROOFTOP UNIT SHALL BE ENERGIZED/DE-ENERGIZED THROUGH THE HONEYWELL CONTROL SYSTEM. THE ROOFTOP UNIT SHALL BE SCHEDULED FOR AUTOMATIC OPERATION ON A TIME OF DAY BASIS FOR OCCUPIED AND UNOCCUPIED MODES AS SPECIFIED BY OWNER.

OCCUPIED: THE SYSTEM SHALL HAVE AN OPTIMAL START SEQUENCE. DURING THE OPTIMAL START, THE SUPPLY AIR FAN SHALL START AND THE DAMPERS SHALL BE POSITIONED FOR 100% RE-CIRCULATION. THE ROOFTOP UNIT SHALL OPERATE TO ACHIEVE THE OCCUPIED MODE TEMPERATURE SET POINT 15 MINUTES PRIOR TO THE OCCUPIED MODE. THE OCCUPIED MODE TIMES SHALL BE PROVIDED BY THE OWNER. THE PROGRAM SHALL BE CAPABLE OF LEARNING THE OPTIMAL TIME TO START BASED ON THE OUTDOOR AIR TEMPERATURE AND SPACE TEMPERATURE.

ONCE THE OCCUPIED MODE TIME AND TEMPERATURE IS REACHED, THE OUTSIDE AIR DAMPER SHALL OPEN TO ITS MINIMUM VENTILATION POSITION (FAIL-SAFE CLOSED) AND THE RETURN AIR DAMPER SHALL OPEN (FAIL-SAFE OPEN) TO ITS CORRESPONDING POSITION. THE SUPPLY AIR FAN SHALL THEN START.

UN-OCCUPIED:
THE ROOFTOP UNIT SHALL DE-ENERGIZE AND ALL DAMPERS SHALL GO TO THEIR FAIL-SAFE POSITION.

UN-OCCUPIED SETBACK: THE SYSTEM SHALL MAINTAIN THE SETBACK TEMPERATURE OF 63 °F (ADJUST). IF THE SPACE TEMPERATURE IS BELOW SET POINT, THE ROOFTOP UNIT SUPPLY FAN SHALL START, EXHAUST FAN SHALL BE OFF, AND THE DAMPERS POSITIONED FOR 100% RE-CIRCULATION. THE REHEAT VALVE SHALL BE COMMANDED TO 100% OPEN. THE UNIT SHALL REMAIN ENERGIZED UNTIL THE TEMPERATURE REACHES 3 °F (ADJUST) ABOVE ITS SET POINT AT WHICH POINT THE UNIT SHALL DE-ENERGIZE.

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AIR FLOW TRACKING
THE EXHAUST FAN SPEED SHALL BE VARIED BASED ON THE SUPPLY AIR FLOW, EXHAUST AIR AND OUTSIDE AIR FLOW MEASUREMENT, THE UNIT SHALL BE EQUIPPED WITH SUPPLY AIR, EXHAUST AIR AND OUTSIDE AIR FLOW STATIONS.

SAFETIES:
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ALARMS:

- THE ROOFTOP UNIT IS DE-ENERGIZED BY THE SMOKE DETECTOR ACTIVATION. IN ADDITION TO AN ALARM BEING ISSUED AT THE BMS, AN ALARM SHALL BE GENERATED AT THE FIRE ALARM CONTROL PANEL.
- THE SPACE TEMPERATURE DEVIATES 5 °F FROM SET POINT (ADJUST).
- THE SPACE HUMIDITY EXCEEDS 60% RELATIVE HUMIDITY.
- THE SUPPLY OR EXHAUST AIR FAN FAIL.
- REFRIGERANT LEAK.

BACNET POINTS
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F V H D P C . C O M

Project Name
HVAC Renovations at Princeton High School

Project Owner Name
Princeton Public Schools

Project Location
151 Moore Street,
Princeton, NJ
08540

Project Number
5516E

Project Date
01.29. 2026

Checked By
JTM

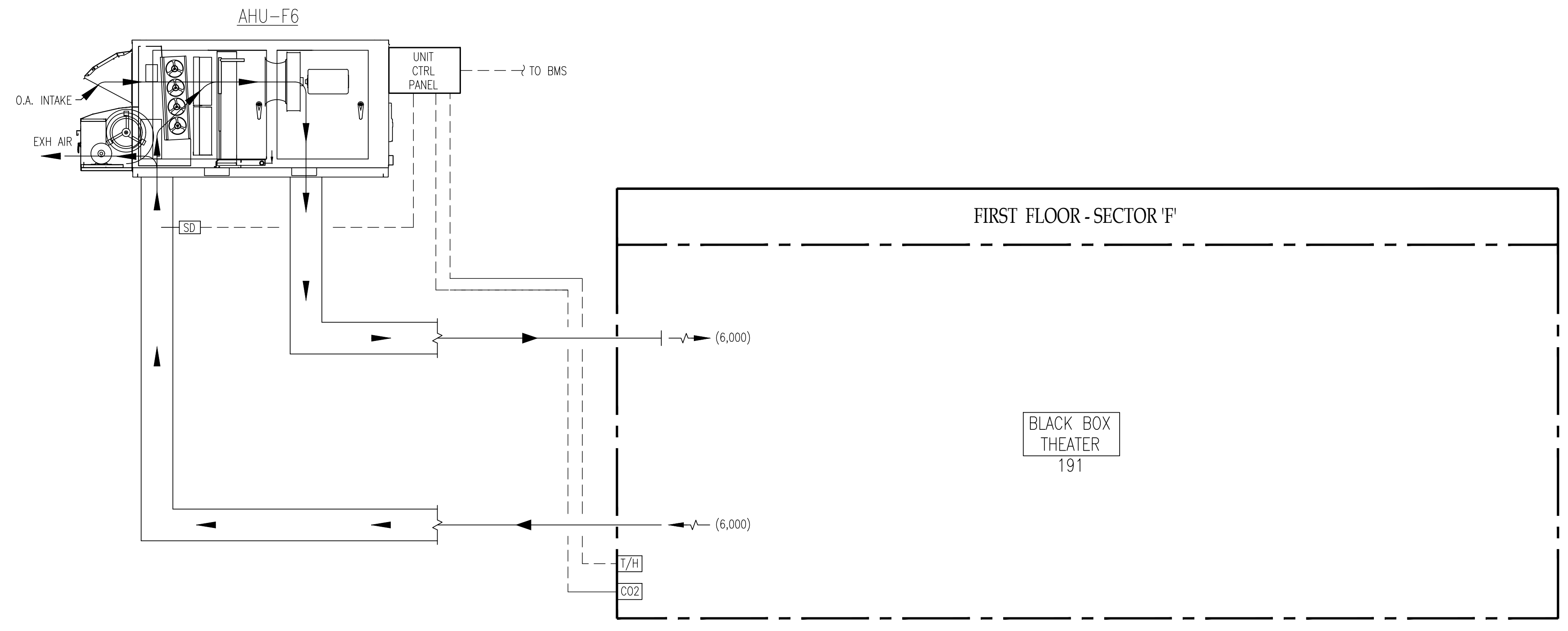
Drawn By
JD

Scale
AS NOTED

Drawing Name
MECHANICAL - AHU-F4 & F5 CONTROL & AIRFLOW DAGRAM

Revisions		
No.	Date	Description

Drawing Number
M-608



1 AHU F6 - CONTROL & AIRFLOW DIAGRAM
SCALE: NONE

AHU-F6 POINTS LIST				
POINT DESIGNATION	POINT DESCRIPTION	POINT TYPE	PART NO. AND/OR DESCRIPTION	NOTES
T/H	SPACE TEMP/HUMIDITY SENSOR	ANALOG INPUT	–	NOTE 1
SD	SMOKE DETECTOR	DIGITAL CONTACT	COORDINATE W/ FA VENDOR	NOTES 2–4
CO2	SPACE CO2 SENSOR	ANALOG INPUT	–	NOTE 1

POINTS LIST NOTES:
1. PROVIDE BY MANUFACTURER & INSTALLED BY CONTROLS CONTRACTOR.
2. CONTRACTOR SHALL PROVIDE AND INSTALL ADDRESSABLE SMOKE DETECTOR AND SENSING TUBE TO FIRE ALARM SYSTEM. COORDINATE SMOKE DETECTOR MODE WITH FIRE ALARM CONTRACTOR.
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4. FIRE ALARM CONTRACTOR SHALL WIRE FROM SMOKE DETECTOR TO FIRE ALARM PANEL. BMS CONTRACTOR TO WIRE TO BMS FOR STATUS.

GENERAL NOTES:
1. BMS CONTRACTOR SHALL MAP ALL POINTS FROM UNIT TO BMS SYSTEM. BMS CONTRACTOR SHALL PROVIDE WORKSTATION GRAPHICS. GRAPHIC SHALL INCLUDE SITE MAP OF FACILITY AND GRAPHIC OF EACH SYSTEM. GRAPHIC SHALL INCLUDE STATUS, TEMP, HUMIDITY, ALARMS, ETC. BMS CONTRACTOR SHALL ALSO PROVIDE HISTORY LOGS ON ALL CONTROL AND MONITORING POINTS AT 5 MINUTE INTERVALS.
2. BMS CONTRACTOR SHALL INCLUDE 24 HOURS FOR TRAINING AND ADDITIONAL 16 HOURS PER SYSTEM TO ASSIST WITH COMMISSIONING/TESTING OF SYSTEMS TO PROVE SEQUENCE OF OPERATIONS.
3. PROVIDE CALIBRATION CERTIFICATE FOR EACH DEVICE.

AHU-F6 CONTROL

ENERGIZED/DE-ENERGIZE:
THE ROOFTOP UNIT SHALL BE ENERGIZED/DE-ENERGIZED THROUGH THE HONEYWELL CONTROL SYSTEM. THE ROOFTOP UNIT SHALL BE SCHEDULED FOR AUTOMATIC OPERATION ON A TIME OF DAY BASIS FOR OCCUPIED AND UNOCCUPIED MODES AS SPECIFIED BY OWNER.

OCCUPIED: THE SYSTEM SHALL HAVE AN OPTIMAL START SEQUENCE. DURING THE OPTIMAL START, THE SUPPLY AIR FAN SHALL START AND THE DAMPERS SHALL BE POSITIONED FOR 100% RE-CIRCULATION. THE ROOFTOP UNIT SHALL OPERATE TO ACHIEVE THE OCCUPIED MODE TEMPERATURE SET POINT 15 MINUTES PRIOR TO THE OCCUPIED MODE. THE OCCUPIED MODE TIMES SHALL BE PROVIDED BY THE OWNER. THE PROGRAM SHALL BE CAPABLE OF LEARNING THE OPTIMAL TIME TO START BASED ON THE OUTDOOR AIR TEMPERATURE AND SPACE TEMPERATURE.

ONCE THE OCCUPIED MODE TIME AND TEMPERATURE IS REACHED, THE OUTSIDE AIR DAMPER SHALL OPEN TO ITS MINIMUM VENTILATION POSITION (FAIL-SAFE CLOSED) AND THE RETURN AIR DAMPER SHALL OPEN (FAIL-SAFE OPEN) TO ITS CORRESPONDING POSITION. THE SUPPLY AIR FAN SHALL THEN START.

UN-OCCUPIED:
THE ROOFTOP UNIT SHALL DE-ENERGIZE AND ALL DAMPERS SHALL GO TO THEIR FAIL-SAFE POSITION.

UN-OCCUPIED SETBACK: THE SYSTEM SHALL MAINTAIN THE SETBACK TEMPERATURE OF 63 °F (ADJUST). IF THE SPACE TEMPERATURE IS BELOW SET POINT, THE ROOFTOP UNIT SUPPLY FAN SHALL START, EXHAUST FAN SHALL BE OFF, AND THE DAMPERS POSITIONED FOR 100% RE-CIRCULATION. THE REHEAT VALVE SHALL BE COMMANDED TO 100% OPEN. THE UNIT SHALL REMAIN ENERGIZED UNTIL THE TEMPERATURE REACHES 3 °F (ADJUST) ABOVE ITS SET POINT AT WHICH POINT THE UNIT SHALL DE-ENERGIZE.

UN-OCCUPIED SETUP: THE SYSTEM SHALL MAINTAIN THE SETBACK TEMPERATURE OF 80 °F (ADJUST). IF THE SPACE TEMPERATURE IS ABOVE SET POINT, THE ROOFTOP UNIT SUPPLY FAN SHALL START, EXHAUST FAN SHALL BE OFF, AND THE DAMPERS POSITIONED FOR 100% RECIRCULATION. THE MECHANICAL COOLING CIRCUIT SHALL BE ENERGIZED AND THE REHEAT VALVE SHALL BE CLOSED. THE UNIT SHALL REMAIN ENERGIZED UNTIL THE SPACE TEMPERATURE REACHES 3 °F (ADJUST) BELOW ITS SET POINT AT WHICH POINT THE UNIT SHALL DE-ENERGIZE.

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AIR FLOW TRACKING
THE EXHAUST FAN SPEED SHALL BE VARIED BASED ON THE SUPPLY AIR FLOW, EXHAUST AIR AND OUTSIDE AIR FLOW MEASUREMENT, THE UNIT SHALL BE EQUIPPED WITH SUPPLY AIR, EXHAUST AIR AND OUTSIDE AIR FLOW STATIONS.

SAFETIES:
THE SMOKE DETECTOR SHALL BE INTERLOCKED TO THE UNIT'S START CIRCUIT. THE SMOKE DETECTOR SHALL DE-ENERGIZE THE UNIT UPON ACTIVATION. THE AIR DAMPERS SHALL GO TO THEIR FAIL-SAFE POSITIONS.

THE FIRE ALARM CONTRACTOR SHALL PROVIDE, INSTALL AND MONITOR THE SMOKE DETECTOR. THE ELECTRICAL CONTRACTOR SHALL WIRE SMOKE DETECTOR TO UNIT'S START CIRCUIT. THE CONTROL CONTRACTOR SHALL MONITOR SMOKE DETECTOR ALARM.

A CURRENT SWITCH ON THE SUPPLY AIR FAN SHALL CONFIRM IF THE FAN IS IN THE DESIRED STATE AND GENERATES AN ALARM IF STATUS DEVIATES FROM DDC START/STOP CONTROL.

ALARMS:
- THE ROOFTOP UNIT IS DE-ENERGIZED BY THE SMOKE DETECTOR ACTIVATION. IN ADDITION TO AN ALARM BEING ISSUED AT THE BMS, AN ALARM SHALL BE GENERATED AT THE FIRE ALARM CONTROL PANEL.
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- THE SPACE HUMIDITY EXCEEDS 60% RELATIVE HUMIDITY.
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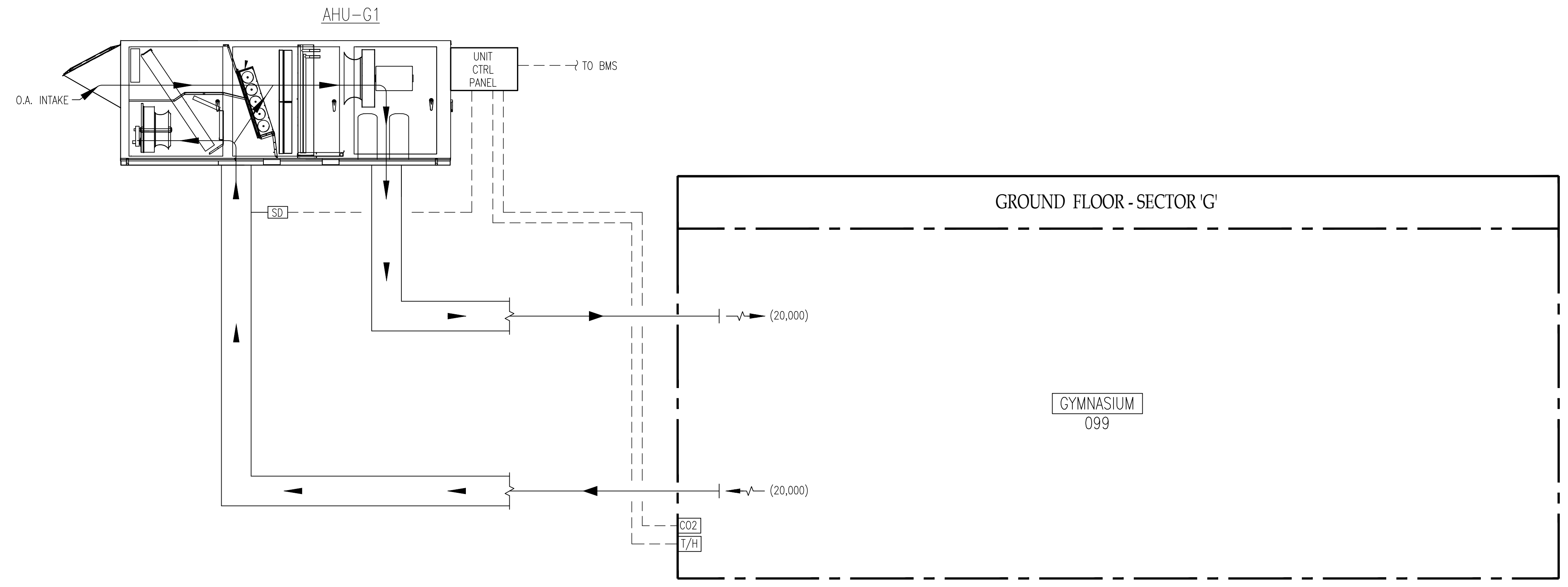
THE CONTROLS CONTRACTOR SHALL MAP ALL AVAILABLE BACNET POINTS FROM THE MANUFACTURER TO THE HONEYWELL SYSTEM FOR MONITORING AND CONTROL.



1 AHU G1 - CONTROL & AIRFLOW DIAGRAM
SCALE: NONE

AHU-G1 POINTS LIST				
POINT DESIGNATION	POINT DESCRIPTION	POINT TYPE	PART NO. AND/OR DESCRIPTION	NOTES
T/H	SPACE TEMP/HUMIDITY SENSOR	ANALOG INPUT	–	NOTE 1
SD	SMOKE DETECTOR	DIGITAL CONTACT	COORDINATE W/ FA VENDOR	NOTES 2–4
CO2	SPACE CO2 SENSOR	ANALOG INPUT	–	NOTE 1

POINTS LIST NOTES:
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1. BMS CONTRACTOR SHALL MAP ALL POINTS FROM UNIT TO BMS SYSTEM. BMS CONTRACTOR SHALL PROVIDE WORKSTATION GRAPHICS. GRAPHIC SHALL INCLUDE SITE MAP OF FACILITY AND GRAPHIC OF EACH SYSTEM. GRAPHIC SHALL INCLUDE STATUS, TEMP, HUMIDITY, ALARMS, ETC. BMS CONTRACTOR SHALL ALSO PROVIDE HISTORY LOGS ON ALL CONTROL AND MONITORING POINTS AT 5 MINUTE INTERVALS.
2. BMS CONTRACTOR SHALL INCLUDE 24 HOURS FOR TRAINING AND ADDITIONAL 16 HOURS PER SYSTEM TO ASSIST WITH COMMISSIONING/TESTING OF SYSTEMS TO PROVE SEQUENCE OF OPERATIONS.
3. PROVIDE CALIBRATION CERTIFICATE FOR EACH DEVICE.

AHU-G1 CONTROL

ENERGIZED/DE-ENERGIZE:
THE ROOFTOP UNIT SHALL BE ENERGIZED/DE-ENERGIZED THROUGH THE HONEYWELL CONTROL SYSTEM. THE ROOFTOP UNIT SHALL BE SCHEDULED FOR AUTOMATIC OPERATION ON A TIME OF DAY BASIS FOR OCCUPIED AND UNOCCUPIED MODES AS SPECIFIED BY OWNER.

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CARBON DIOXIDE VENTILATION DEMAND CONTROL
THE OUTSIDE AIR FLOW WILL BE RESET BASED ON THE CO2 SENSOR. THE VENTILATION AIR FLOW SHALL BE SET TO THE SPECIFIED AIR FLOW WHEN THE CO2 IS AT 800PPM OR GREATER. THE VENTILATION AIR FLOW CAN BE REDUCED TO 40% OF THE SPECIFIED AIR FLOW WHEN THE CO2 IS AT 600PPM OR LESS. THE AIR FLOW SHALL BE MEASURED BY THE OUTSIDE AIR FLOW STATION.

AIR FLOW TRACKING
THE EXHAUST FAN SPEED SHALL BE VARIED BASED ON THE SUPPLY AIR FLOW, EXHAUST AIR AND OUTSIDE AIR FLOW MEASUREMENT, THE UNIT SHALL BE EQUIPPED WITH SUPPLY AIR, EXHAUST AIR AND OUTSIDE AIR FLOW STATIONS.

SAFETIES:
THE SMOKE DETECTOR SHALL BE INTERLOCKED TO THE UNIT'S START CIRCUIT. THE SMOKE DETECTOR SHALL DE-ENERGIZE THE UNIT UPON ACTIVATION. THE AIR DAMPERS SHALL GO TO THEIR FAIL-SAFE POSITIONS.

THE FIRE ALARM CONTRACTOR SHALL PROVIDE, INSTALL AND MONITOR THE SMOKE DETECTOR. THE ELECTRICAL CONTRACTOR SHALL WIRE SMOKE DETECTOR TO UNIT'S START CIRCUIT. THE CONTROL CONTRACTOR SHALL MONITOR SMOKE DETECTOR ALARM.

A CURRENT SWITCH ON THE SUPPLY AIR FAN SHALL CONFIRM IF THE FAN IS IN THE DESIRED STATE AND GENERATES AN ALARM IF STATUS DEVIATES FROM DDC START/STOP CONTROL.

ALARMS:
- THE ROOFTOP UNIT IS DE-ENERGIZED BY THE SMOKE DETECTOR ACTIVATION. IN ADDITION TO AN ALARM BEING ISSUED AT THE BMS, AN ALARM SHALL BE GENERATED AT THE FIRE ALARM CONTROL PANEL.
- THE SPACE TEMPERATURE DEVIATES 5 °F FROM SET POINT (ADJUST).
- THE SPACE HUMIDITY EXCEEDS 60% RELATIVE HUMIDITY.
- THE SUPPLY OR EXHAUST AIR FAN FAIL.
- REFRIGERANT LEAK.

BACNET POINTS
THE CONTROLS CONTRACTOR SHALL MAP ALL AVAILABLE BACNET POINTS FROM THE MANUFACTURER TO THE HONEYWELL SYSTEM FOR MONITORING AND CONTROL.

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Project Name
HVAC Renovations at Princeton High School

Project Owner Name
Princeton Public Schools

Project Location
151 Moore Street,
Princeton, NJ
08540

Project Number
5516E
Project Date
01.29. 2026
Checked By
JTM
Drawn By
JD
Scale
AS NOTED

Drawing Name
MECHANICAL - AHU-F6 & G1 CONTROL & AIRFLOW DAGRAM

Revisions		
No.	Date	Description

Drawing Number
M-609

AHU-F7 POINTS LIST

POINT DESIGNATION	POINT DESCRIPTION	POINT TYPE	PART NO. AND/OR DESCRIPTION	NOTES
T/H	SPACE TEMP/HUMIDITY SENSOR	ANALOG INPUT	–	NOTE 1
SD	SMOKE DETECTOR	DIGITAL CONTACT	COORDINATE W/ FA VENDOR	NOTES 2–4

POINTS LIST NOTES:

1. PROVIDE BY MANUFACTURER & INSTALLED BY CONTROLS CONTRACTOR.
2. CONTRACTOR SHALL PROVIDE AND INSTALL ADDRESSABLE SMOKE DETECTOR AND SENSING TUBE TO FIRE ALARM SYSTEM. COORDINATE SMOKE DETECTOR MODE WITH FIRE ALARM CONTRACTOR.
3. ELECTRICAL CONTRACTOR SHALL WIRE SMOKE DETECTOR TO START CIRCUIT OF UNIT. SMOKE DETECTOR SHALL BE ADDRESSABLE TO FIRE ALARM SYSTEM AND PROVIDE ADDITIONAL CONTRACT FOR BMS.
4. FIRE ALARM CONTRACTOR SHALL WIRE FROM SMOKE DETECTOR TO FIRE ALARM PANEL. BMS CONTRACTOR TO WIRE TO BMS FOR STATUS.

GENERAL NOTES:

1. BMS CONTRACTOR SHALL MAP ALL POINTS FROM UNIT TO BMS SYSTEM. BMS CONTRACTOR SHALL PROVIDE WORKSTATION GRAPHICS. GRAPHIC SHALL INCLUDE SITE MAP OF FACILITY AND GRAPHIC OF EACH SYSTEM. GRAPHIC SHALL INCLUDE STATUS, TEMP, HUMIDITY, ALARMS, ETC. BMS CONTRACTOR SHALL ALSO PROVIDE HISTORY LOGS ON ALL CONTROL AND MONITORING POINTS AT 5 MINUTE INTERVALS.
2. BMS CONTRACTOR SHALL INCLUDE 24 HOURS FOR TRAINING AND ADDITIONAL 16 HOURS PER SYSTEM TO ASSIST WITH COMMISSIONING/TESTING OF SYSTEMS TO PROVE SEQUENCE OF OPERATIONS.
3. PROVIDE CALIBRATION CERTIFICATE FOR EACH DEVICE.

AHU-F7 CONTROL

ENERGIZED/DE-ENERGIZE:
THE ROOFTOP UNIT SHALL BE ENERGIZED/DE-ENERGIZED THROUGH THE HONEYWELL CONTROL SYSTEM. THE ROOFTOP UNIT SHALL BE SCHEDULED FOR AUTOMATIC OPERATION ON A TIME OF DAY BASIS FOR OCCUPIED AND UNOCCUPIED MODES AS SPECIFIED BY OWNER.

OCCUPIED: THE SYSTEM SHALL HAVE AN OPTIMAL START SEQUENCE. DURING THE OPTIMAL START, THE SUPPLY AIR FAN SHALL START AND THE DAMPERS SHALL BE POSITIONED FOR 100% RE-CIRCULATION. THE ROOFTOP UNIT SHALL OPERATE TO ACHIEVE THE OCCUPIED MODE TEMPERATURE SET POINT 15 MINUTES PRIOR TO THE OCCUPIED MODE. THE OCCUPIED MODE TIMES SHALL BE PROVIDED BY THE OWNER. THE PROGRAM SHALL BE CAPABLE OF LEARNING THE OPTIMAL TIME TO START BASED ON THE OUTDOOR AIR TEMPERATURE AND SPACE TEMPERATURE.

ONCE THE OCCUPIED MODE TIME AND TEMPERATURE IS REACHED, THE OUTSIDE AIR DAMPER SHALL OPEN TO ITS MINIMUM VENTILATION POSITION (FAIL-SAFE CLOSED) AND THE RETURN AIR DAMPER SHALL OPEN (FAIL-SAFE OPEN) TO ITS CORRESPONDING POSITION. THE SUPPLY AIR FAN SHALL THEN START.

UN-OCCUPIED:
THE ROOFTOP UNIT SHALL DE-ENERGIZE AND ALL DAMPERS SHALL GO TO THEIR FAIL-SAFE POSITION.

UN-OCCUPIED SETBACK: THE SYSTEM SHALL MAINTAIN THE SETBACK TEMPERATURE OF 63 °F (ADJUST). IF THE SPACE TEMPERATURE IS BELOW SET POINT, THE ROOFTOP UNIT SUPPLY FAN SHALL START, EXHAUST FAN SHALL BE OFF, AND THE DAMPERS POSITIONED FOR 100% RE-CIRCULATION. THE REHEAT VALVE SHALL BE COMMANDED TO 100% OPEN. THE UNIT SHALL REMAIN ENERGIZED UNTIL THE TEMPERATURE REACHES 3 °F (ADJUST) ABOVE ITS SET POINT AT WHICH POINT THE UNIT SHALL DE-ENERGIZE.

UN-OCCUPIED SETUP: THE SYSTEM SHALL MAINTAIN THE SETBACK TEMPERATURE OF 80 °F (ADJUST). IF THE SPACE TEMPERATURE IS ABOVE SET POINT, THE ROOFTOP UNIT SUPPLY FAN SHALL START, EXHAUST FAN SHALL BE OFF, AND THE DAMPERS POSITIONED FOR 100% RECIRCULATION. THE MECHANICAL COOLING CIRCUIT SHALL BE ENERGIZED AND THE REHEAT VALVE SHALL BE CLOSED. THE UNIT SHALL REMAIN ENERGIZED UNTIL THE SPACE TEMPERATURE REACHES 3 °F (ADJUST) BELOW ITS SET POINT AT WHICH POINT THE UNIT SHALL DE-ENERGIZE.

SPACE TEMPERATURE CONTROL
THE HONEYWELL SYSTEM SHALL MONITOR THE SPACE TEMPERATURE AND RELATIVE HUMIDITY SENSOR. THE TEMPERATURE AND HUMIDITY SET POINT SHALL BE 74°F+/-3°F (ADJUST) AT A RELATIVE HUMIDITY OF 55+5%RH. THE TEMPERATURE/HUMIDITY SENSOR SHALL PLACE THE UNIT IN HEATING, COOLING OR DEHUMIDIFICATION BASED ON THE TEMPERATURE AND RELATIVE HUMIDITY SENSED IN THE SPACE. THE HEATING TEMPERATURE SET POINT SHALL BE 2°F BELOW THE COOLING AND DEHUMIDIFICATION SET POINTS. THE DISCHARGE AIR TEMPERATURE LEAVING THE COOLING COIL SHALL BE 47°F WHEN THE UNIT IS IN THE DEHUMIDIFICATION MODE. IN THIS MODE THE HGRH SHALL HEAT THE AIR TO MEET SPACE TEMPERATURE SET POINT.

AIR-SIDE ECONOMIZER:
THE ROOFTOP UNIT SHALL HAVE AN AIR-SIDE DRY BULB CONTROLLED ECONOMIZER. WHEN THE OUTDOOR AIR TEMPERATURE IS EQUAL TO OR LESS THAN 55 °F (ADJUST), THE UNIT SHALL BE IN ECONOMIZER MODE. THE OUTSIDE AIR DAMPER SHALL BEGIN TO MODULATE OPEN, UTILIZING THE OUTDOOR AIR FOR FREE COOLING. AS THE OUTDOOR AIR DAMPER PASSES ITS MINIMUM VENTILATION POSITION, THE EXHAUST AIR FAN SHALL ENERGIZE. THE SPEED OF THE EXHAUST FAN SHALL INCREASE IN PROPORTION TO THE OUTDOOR AIR DAMPER POSITION. THE RETURN AIR DAMPER SHALL CLOSE IN PROPORTION TO THE OUTDOOR AIR DAMPER.

SAFETIES:
THE SMOKE DETECTOR SHALL BE INTERLOCKED TO THE UNIT'S START CIRCUIT. THE SMOKE DETECTOR SHALL DE-ENERGIZE THE UNIT UPON ACTIVATION. THE AIR DAMPERS SHALL GO TO THEIR FAIL-SAFE POSITIONS.

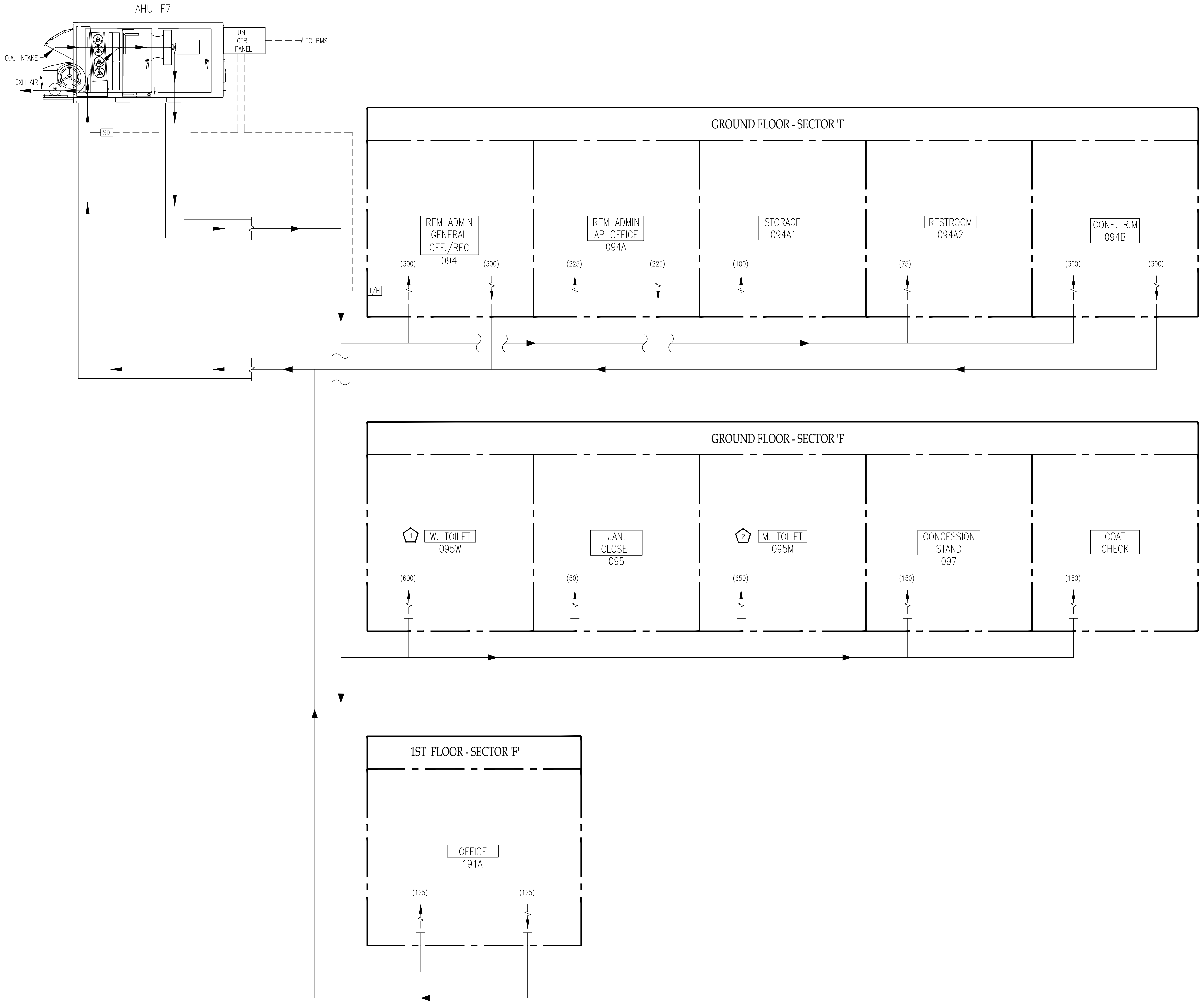
THE FIRE ALARM CONTRACTOR SHALL PROVIDE, INSTALL AND MONITOR THE SMOKE DETECTOR. THE ELECTRICAL CONTRACTOR SHALL WIRE SMOKE DETECTOR TO UNIT'S START CIRCUIT. THE CONTROL CONTRACTOR SHALL MONITOR SMOKE DETECTOR ALARM.

A CURRENT SWITCH ON THE SUPPLY AIR FAN SHALL CONFIRM IF THE FAN IS IN THE DESIRED STATE AND GENERATES AN ALARM IF STATUS DEVIATES FROM DDC START/STOP CONTROL.

ALARMS:

- THE ROOFTOP UNIT IS DE-ENERGIZED BY THE SMOKE DETECTOR ACTIVATION. IN ADDITION TO AN ALARM BEING ISSUED AT THE BMS, AN ALARM SHALL BE GENERATED AT THE FIRE ALARM CONTROL PANEL.
- THE SPACE TEMPERATURE DEVIATES 5 °F FROM SET POINT (ADJUST).
- THE SPACE HUMIDITY EXCEEDS 60% RELATIVE HUMIDITY.
- THE SUPPLY OR EXHAUST AIR FAN FAIL.
- REFRIGERANT LEAK.

BACNET POINTS
THE CONTROLS CONTRACTOR SHALL MAP ALL AVAILABLE BACNET POINTS FROM THE MANUFACTURER TO THE HONEYWELL SYSTEM FOR MONITORING AND CONTROL.



① AHU F7- CONTROL & AIRFLOW DIAGRAM

SCALE: NONE

MECHANICAL NOTES

1. THIS ROOM HAS TWO SUPPLY AIR DIFFUSERS EACH SHALL BE BALANCED TO 300 CFM.
2. THIS ROOM HAS TWO SUPPLY AIR DIFFUSERS EACH SHALL BE BALANCED TO 325 CFM.

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Project Name
HVAC Renovations at Princeton High School

Project Owner Name
Princeton Public Schools

Project Location
151 Moore Street,
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Project Number
5516E

Project Date
01.29. 2026

Checked By
JTM

Drawn By
JD

Scale
AS NOTED

Drawing Name
MECHANICAL - AHU-F7 CONTROL & AIRFLOW DIAGRAM

Revisions		
No.	Date	Description

Drawing Number
M-610

AHU-F9 POINTS LIST

POINT DESIGNATION	POINT DESCRIPTION	POINT TYPE	PART NO. AND/OR DESCRIPTION	NOTES
SAT	SUPPLY AIR TEMPERATURE	ANALOG INPUT	DUCT MOUNTED	NOTE 1
SD	SMOKE DETECTOR	DIGITAL CONTACT	COORDINATE W/ FA VENDOR	NOTES 2-4
SP	STATIC PRESSURE SENSOR	ANALOG INPUT	-	NOTE 1
CO2	CO2 SENSOR	ANALOG INPUT	-	NOTE 1
T/H	SPACE TEMPERATURE/HUMIDITY SENSOR	ANALOG INPUT	-	NOTE 1
REFRIG-DETECT	REFRIGERATION LEAK DETECTION	CONTACT	-	NOTE 5

POINTS LIST NOTES:

1. PROVIDE BY MANUFACTURER & INSTALLED BY CONTROLS CONTRACTOR.
2. CONTRACTOR SHALL PROVIDE AND INSTALL ADDRESSABLE SMOKE DETECTOR AND SENSING TUBE TO FIRE ALARM SYSTEM. COORDINATE SMOKE DETECTOR MODE WITH FIRE ALARM CONTRACTOR.
3. ELECTRICAL CONTRACTOR SHALL WIRE SMOKE DETECTOR TO START CIRCUIT OF UNIT. SMOKE DETECTOR SHALL BE ADDRESSABLE TO FIRE ALARM SYSTEM AND PROVIDE ADDITIONAL CONTRACT FOR BMS.
4. FIRE ALARM CONTRACTOR SHALL WIRE FROM SMOKE DETECTOR TO FIRE ALARM PANEL. BMS CONTRACTOR TO WIRE TO BMS FOR STATUS.
5. BAS CONTRACTOR SHALL WIRE THE REFRIGERATION DETECTION SYSTEM ON THE ROOFTOP UNIT TO OPEN ALL VAV BOXES WHEN REFRIGERANT IS DETECTED IN THE ALL SYSTEM.

GENERAL NOTES:

1. BMS CONTRACTOR SHALL MAP ALL POINTS FROM UNIT TO BMS SYSTEM. BMS CONTRACTOR SHALL PROVIDE WORKSTATION GRAPHICS. GRAPHIC SHALL INCLUDE SITE MAP OF FACILITY AND GRAPHIC OF EACH SYSTEM. GRAPHIC SHALL INCLUDE STATUS, TEMP, HUMIDITY, ALARMS, ETC. BMS CONTRACTOR SHALL ALSO PROVIDE HISTORY LOGS ON ALL CONTROL AND MONITORING POINTS AT 5 MINUTE INTERVALS.
2. BMS CONTRACTOR SHALL INCLUDE 24 HOURS FOR TRAINING AND ADDITIONAL 16 HOURS PER SYSTEM TO ASSIST WITH COMMISSIONING/TESTING OF SYSTEMS TO PROVE SEQUENCE OF OPERATIONS.
3. PROVIDE CALIBRATION CERTIFICATE FOR EACH DEVICE.

AHU-F9 CONTROL

ENERGIZED/DE-ENERGIZE:

THE ROOFTOP UNIT SHALL BE ENERGIZED/DE-ENERGIZED THROUGH THE HONEYWELL CONTROL SYSTEM. THE ROOFTOP UNIT SHALL BE SCHEDULED FOR AUTOMATIC OPERATION ON A TIME OF DAY BASIS FOR OCCUPIED AND UNOCCUPIED MODES AS SPECIFIED BY OWNER.

OCCUPIED: THE SYSTEM SHALL HAVE AN OPTIMAL START SEQUENCE. DURING THE OPTIMAL START, THE SUPPLY AIR FAN SHALL START AND THE DAMPERS SHALL BE POSITIONED FOR 100% RE-CIRCULATION. THE ROOFTOP UNIT SHALL OPERATE TO ACHIEVE THE OCCUPIED MODE TEMPERATURE SET POINT 15 MINUTES PRIOR TO THE OCCUPIED MODE. THE OCCUPIED MODE TIMES SHALL BE PROVIDED BY THE OWNER. THE PROGRAM SHALL BE CAPABLE OF LEARNING THE OPTIMAL TIME TO START BASED ON THE OUTDOOR AIR TEMPERATURE AND SPACE TEMPERATURE.

ONCE THE OCCUPIED MODE TIME AND TEMPERATURE IS REACHED, THE OUTSIDE AIR DAMPER SHALL OPEN TO ITS MINIMUM VENTILATION POSITION (FAIL-SAFE CLOSED) AND THE RETURN AIR DAMPER SHALL OPEN (FAIL-SAFE OPEN) TO ITS CORRESPONDING POSITION. THE SUPPLY AIR FAN SHALL THEN START.

UN-OCCUPIED:

THE ROOFTOP UNIT SHALL DE-ENERGIZE AND ALL DAMPERS SHALL GO TO THEIR FAIL-SAFE POSITION.

UN-OCCUPIED SETBACK: THE SYSTEM SHALL MAINTAIN THE SETBACK TEMPERATURE OF 63 °F (ADJUST). IF THE SPACE TEMPERATURE IS BELOW SET POINT, THE ROOFTOP UNIT SUPPLY FAN SHALL START, EXHAUST FAN SHALL BE OFF, AND THE DAMPERS POSITIONED FOR 100% RE-CIRCULATION. THE REHEAT VALVE SHALL BE COMMANDED TO 100% OPEN. THE UNIT SHALL REMAIN ENERGIZED UNTIL THE TEMPERATURE REACHES 3 °F (ADJUST) ABOVE ITS SET POINT AT WHICH POINT THE UNIT SHALL DE-ENERGIZE.

UN-OCCUPIED SETUP: THE SYSTEM SHALL MAINTAIN THE SETBACK TEMPERATURE OF 80 °F (ADJUST). IF THE SPACE TEMPERATURE IS ABOVE SET POINT, THE ROOFTOP UNIT SUPPLY FAN SHALL START, EXHAUST FAN SHALL BE OFF, AND THE DAMPERS POSITIONED FOR 100% RECIRCULATION. THE MECHANICAL COOLING CIRCUIT SHALL BE ENERGIZED AND THE REHEAT VALVE SHALL BE CLOSED. THE UNIT SHALL REMAIN ENERGIZED UNTIL THE SPACE TEMPERATURE REACHES 3 °F (ADJUST) BELOW ITS SET POINT AT WHICH POINT THE UNIT SHALL DE-ENERGIZE.

STATIC PRESSURE CONTROL

THE SUPPLY AIR FAN SPEED SHALL BE MODULATED BY THE STATIC PRESSURE SENSOR INSTALLED IN THE DUCTWORK, 3/4 DOWNSTREAM OF THE UNIT. THE STATIC PRESSURE SET POINT SHALL BE DETERMINED BY THE AIR BALANCER.

DISCHARGE TEMPERATURE CONTROL

THE UNIT SHALL MAINTAIN THE DISCHARGE AIR TEMPERATURE FROM 47°F TO 60°F WHILE THE UNIT IS IN OPERATION. THE DISCHARGE AIR TEMPERATURE DOWNSTREAM OF THE COOLING COIL SHALL BE RESET. IF ALL VAV BOXES ARE OPEN MORE THAN 80% (ADJ.) OR THE SPACE RELATIVE HUMIDITY REACHES 58%RH, THE DISCHARGE AIR TEMPERATURE SHALL BE RESET TO 47°F. THE DISCHARGE AIR TEMPERATURE SHALL BE RESET BASED ON VAV DAMPER POSITION THROUGH THE CONTROL SYSTEM HOWEVER THE SPACE RELATIVE HUMIDITY SHALL NEVER EXCEED 58%RH. THE DISCHARGE AIR TEMPERATURE SHALL BE RESET AS FOLLOWS:

DAT	VAV DAMPER POSITION OPEN
47°F	80-100%
SLIDING SCALE	79-21%
60°F	20% OR LESS

SPACE TEMPERATURE CONTROL

THE SPACE TEMPERATURE SHALL MODULATE ITS RESPECTIVE THE VAV DAMPER TO MAINTAIN SET OF 74°F (ADJ)

AIR-SIDE ECONOMIZER:

THE ROOFTOP UNIT SHALL HAVE AN AIR-SIDE DRY BULB CONTROLLED ECONOMIZER. WHEN THE OUTDOOR AIR TEMPERATURE IS EQUAL TO OR LESS THAN 55 °F (ADJUST), THE UNIT SHALL BE IN ECONOMIZER MODE. THE OUTSIDE AIR DAMPER SHALL BEGIN TO MODULATE OPEN, UTILIZING THE OUTDOOR AIR FOR FREE COOLING. AS THE OUTDOOR AIR DAMPER PASSES ITS MINIMUM VENTILATION POSITION, THE EXHAUST AIR FAN SHALL ENERGIZE. THE SPEED OF THE EXHAUST FAN SHALL INCREASE IN PROPORTION TO THE OUTDOOR AIR DAMPER POSITION. THE RETURN AIR DAMPER SHALL CLOSE IN PROPORTION TO THE OUTDOOR AIR DAMPER.

CARBON DIOXIDE VENTILATION DEMAND CONTROL

THE OUTSIDE AIR FLOW WILL BE RESET BASED ON THE CO2 SENSOR. THE VENTILATION AIR FLOW SHALL BE SET TO THE SPECIFIED AIR FLOW WHEN THE CO2 IS AT 800PPM OR GREATER. THE VENTILATION AIR FLOW CAN BE REDUCED TO 40% OF THE SPECIFIED AIR FLOW WHEN THE CO2 IS AT 600PPM OR LESS. THE AIR FLOW SHALL BE MEASURED BY THE OUTSIDE AIR FLOW STATION.

AIR FLOW TRACKING

THE EXHAUST FAN SPEED SHALL BE VARIED BASED ON THE SUPPLY AIR FLOW, EXHAUST AIR AND OUTSIDE AIR FLOW MEASUREMENT, THE UNIT SHALL BE EQUIPPED WITH SUPPLY AIR, EXHAUST AIR AND OUTSIDE AIR FLOW STATIONS.

SAFETIES:

THE SMOKE DETECTOR SHALL BE INTERLOCKED TO THE UNIT'S START CIRCUIT. THE SMOKE DETECTOR SHALL DE-ENERGIZE THE UNIT UPON ACTIVATION. THE AIR DAMPERS SHALL GO TO THEIR FAIL-SAFE POSITIONS.

THE FIRE ALARM CONTRACTOR SHALL PROVIDE, INSTALL AND MONITOR THE SMOKE DETECTOR. THE ELECTRICAL CONTRACTOR SHALL WIRE SMOKE DETECTOR TO UNIT'S START CIRCUIT. THE CONTROL CONTRACTOR SHALL MONITOR SMOKE DETECTOR ALARM.

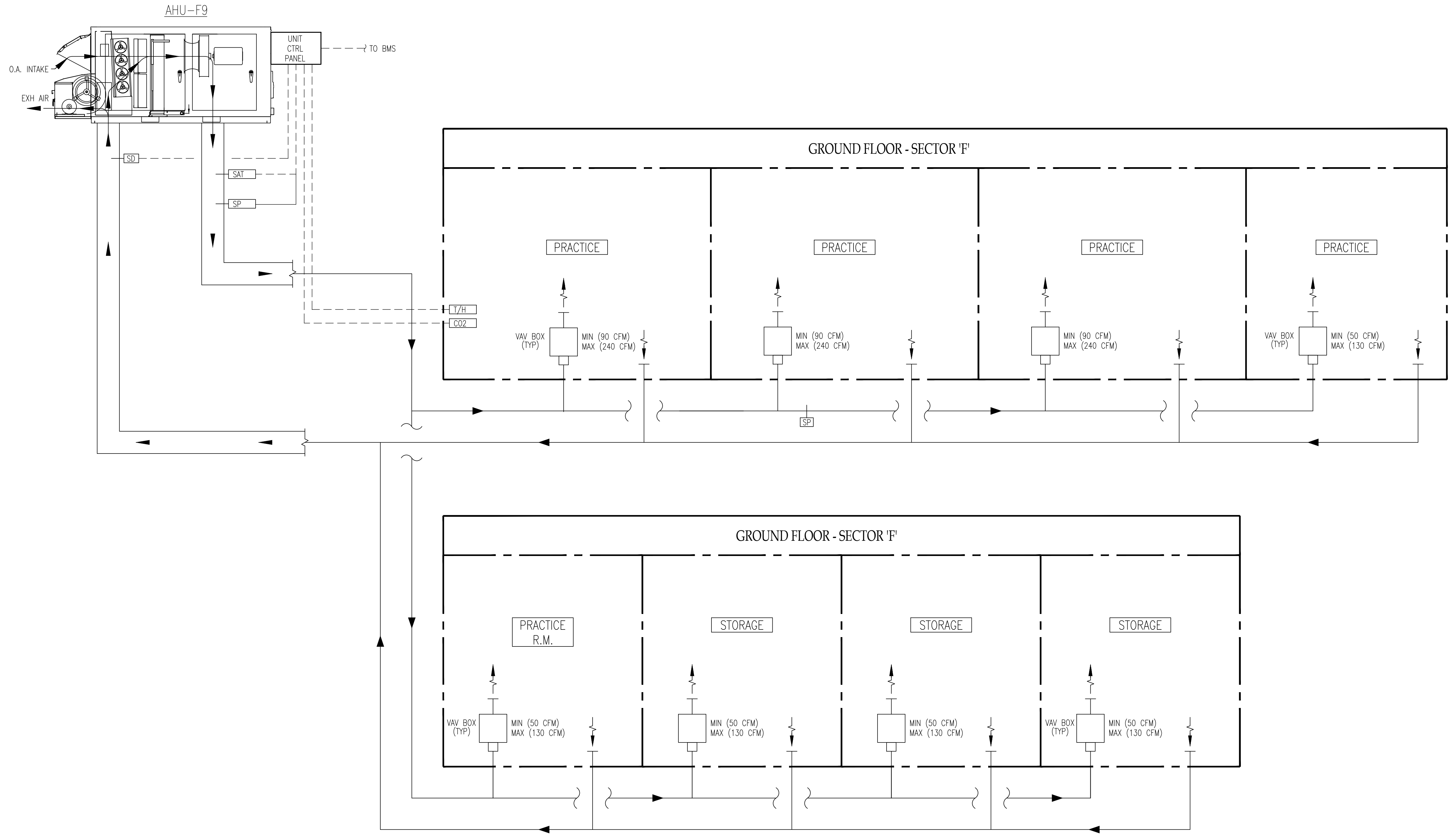
A CURRENT SWITCH ON THE SUPPLY AIR FAN SHALL CONFIRM IF THE FAN IS IN THE DESIRED STATE AND GENERATES AN ALARM IF STATUS DEVIATES FROM DDC START/STOP CONTROL.

ALARMS:

- THE ROOFTOP UNIT IS DE-ENERGIZED BY THE SMOKE DETECTOR ACTIVATION. IN ADDITION TO AN ALARM BEING ISSUED AT THE BMS, AN ALARM SHALL BE GENERATED AT THE FIRE ALARM CONTROL PANEL.
- THE SPACE TEMPERATURE DEVIATES 5 °F FROM SET POINT (ADJUST).
- THE SPACE HUMIDITY EXCEEDS 60% RELATIVE HUMIDITY.
- THE SUPPLY OR EXHAUST AIR FAN FAIL.
- REFRIGERANT LEAK.

BACNET POINTS

THE CONTROLS CONTRACTOR SHALL MAP ALL AVAILABLE BACNET POINTS FROM THE MANUFACTURER TO THE HONEYWELL SYSTEM FOR MONITORING AND CONTROL.


AHU-F9
O.A. INTAKE
EXH AIR
UNIT CTRL PANEL
TO BMS
SD
SAT
SP
T/H
CO2
GROUND FLOOR - SECTOR 'F'
PRACTICE
VAV BOX (TYP)
MIN (90 CFM) MAX (240 CFM)
PRACTICE
MIN (90 CFM) MAX (240 CFM)
SP
PRACTICE
MIN (90 CFM) MAX (240 CFM)
PRACTICE
VAV BOX (TYP)
MIN (50 CFM) MAX (130 CFM)
GROUND FLOOR - SECTOR 'F'
PRACTICE R.M.
VAV BOX (TYP)
MIN (50 CFM) MAX (130 CFM)
STORAGE
MIN (50 CFM) MAX (130 CFM)
STORAGE
MIN (50 CFM) MAX (130 CFM)
STORAGE
VAV BOX (TYP)
MIN (50 CFM) MAX (130 CFM)

① AHU F9 - CONTROL & AIRFLOW DIAGRAM

SCALE: NONE

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Project Name
HVAC Renovations at Princeton High School

Project Owner Name
Princeton Public Schools

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Project Number
5516E

Project Date
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Checked By
JTM

Drawn By
JD

Scale
AS NOTED

Drawing Name
MECHANICAL - AHU-F9 CONTROL & AIRFLOW DIAGRAM

Revisions

No.	Date	Description

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N.J. PROFESSIONAL ENGINEER LICENSE NUMBER:
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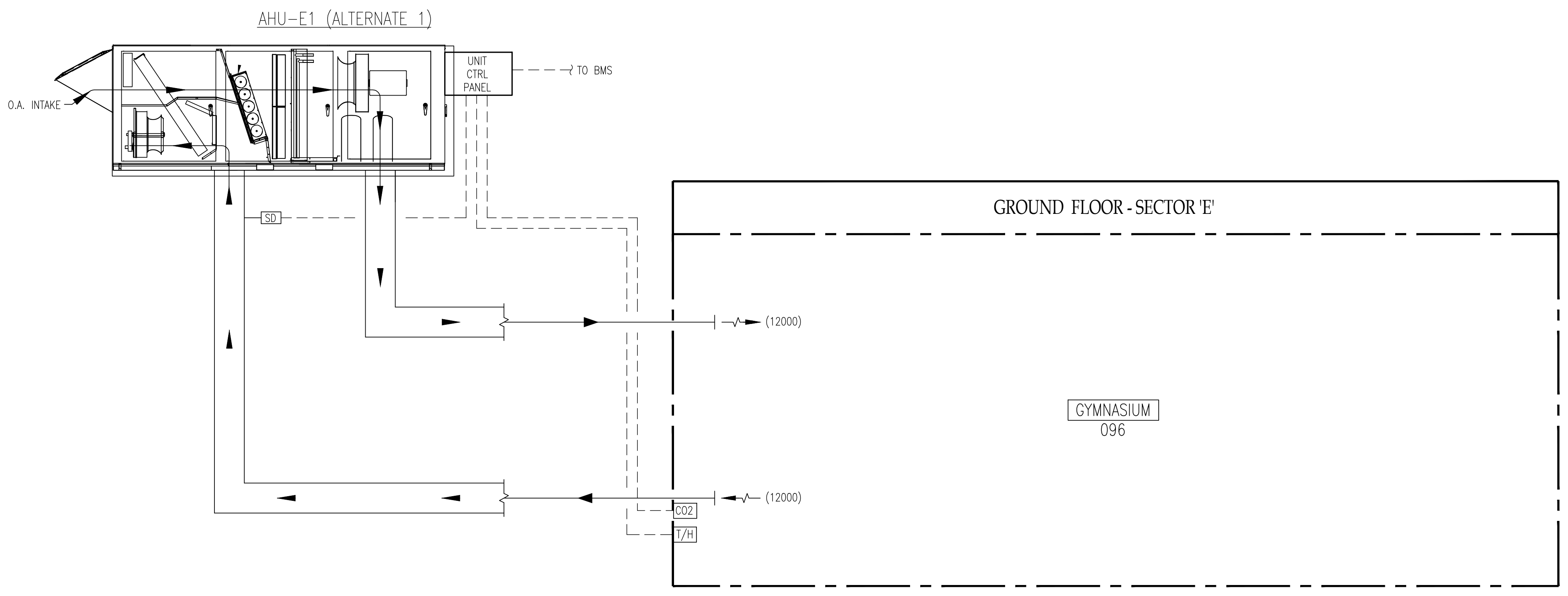
Drawing Number
M-611



1 AHU E1 ALTERNATE 1 - CONTROL & AIRFLOW DIAGRAM

SCALE: NONE

AHU-E1 (ALTERNATE 1) POINTS LIST				
POINT DESIGNATION	POINT DESCRIPTION	POINT TYPE	PART NO. AND/OR DESCRIPTION	NOTES
T/H	SPACE TEMP/HUMIDITY SENSOR	ANALOG INPUT	–	NOTE 1
SD	SMOKE DETECTOR	DIGITAL CONTACT	COORDINATE W/ FA VENDOR	NOTES 2–4
CO2	SPACE CO2 SENSOR	ANALOG INPUT	–	NOTE 1

POINTS LIST NOTES:

1. PROVIDE BY MANUFACTURER & INSTALLED BY CONTROLS CONTRACTOR.
2. CONTRACTOR SHALL PROVIDE AND INSTALL ADDRESSABLE SMOKE DETECTOR AND SENSING TUBE TO FIRE ALARM SYSTEM. COORDINATE SMOKE DETECTOR MODE WITH FIRE ALARM CONTRACTOR.
3. ELECTRICAL CONTRACTOR SHALL WIRE SMOKE DETECTOR TO START CIRCUIT OF UNIT. SMOKE DETECTOR SHALL BE ADDRESSABLE TO FIRE ALARM SYSTEM AND PROVIDE ADDITIONAL CONTRACT FOR BMS.
4. FIRE ALARM CONTRACTOR SHALL WIRE FROM SMOKE DETECTOR TO FIRE ALARM PANEL. BMS CONTRACTOR TO WIRE TO BMS FOR STATUS.

GENERAL NOTES:

1. BMS CONTRACTOR SHALL MAP ALL POINTS FROM UNIT TO BMS SYSTEM. BMS CONTRACTOR SHALL PROVIDE WORKSTATION GRAPHICS. GRAPHIC SHALL INCLUDE SITE MAP OF FACILITY AND GRAPHIC OF EACH SYSTEM. GRAPHIC SHALL INCLUDE STATUS, TEMP, HUMIDITY, ALARMS, ETC. BMS CONTRACTOR SHALL ALSO PROVIDE HISTORY LOGS ON ALL CONTROL AND MONITORING POINTS AT 5 MINUTE INTERVALS.
2. BMS CONTRACTOR SHALL INCLUDE 24 HOURS FOR TRAINING AND ADDITIONAL 80 HOURS TO ASSIST WITH TESTING OF SYSTEMS TO PROVE SEQUENCE OF OPERATIONS.
3. PROVIDE CALIBRATION CERTIFICATE FOR EACH DEVICE.

AHU-E1 CONTROL (ALTERNATE 1)

ENERGIZED/DE-ENERGIZE:
THE ROOFTOP UNIT SHALL BE ENERGIZED/DE-ENERGIZED THROUGH THE HONEYWELL CONTROL SYSTEM. THE ROOFTOP UNIT SHALL BE SCHEDULED FOR AUTOMATIC OPERATION ON A TIME OF DAY BASIS FOR OCCUPIED AND UNOCCUPIED MODES AS SPECIFIED BY OWNER.

OCCUPIED: THE SYSTEM SHALL HAVE AN OPTIMAL START SEQUENCE. DURING THE OPTIMAL START, THE SUPPLY AIR FAN SHALL START AND THE DAMPERS SHALL BE POSITIONED FOR 100% RE-CIRCULATION. THE ROOFTOP UNIT SHALL OPERATE TO ACHIEVE THE OCCUPIED MODE TEMPERATURE SET POINT 15 MINUTES PRIOR TO THE OCCUPIED MODE. THE OCCUPIED MODE TIMES SHALL BE PROVIDED BY THE OWNER. THE PROGRAM SHALL BE CAPABLE OF LEARNING THE OPTIMAL TIME TO START BASED ON THE OUTDOOR AIR TEMPERATURE AND SPACE TEMPERATURE.

ONCE THE OCCUPIED MODE TIME AND TEMPERATURE IS REACHED, THE OUTSIDE AIR DAMPER SHALL OPEN TO ITS MINIMUM VENTILATION POSITION (FAIL-SAFE CLOSED) AND THE RETURN AIR DAMPER SHALL OPEN (FAIL-SAFE OPEN) TO ITS CORRESPONDING POSITION. THE SUPPLY AIR FAN SHALL THEN START.

UN-OCCUPIED:
THE ROOFTOP UNIT SHALL DE-ENERGIZE AND ALL DAMPERS SHALL GO TO THEIR FAIL-SAFE POSITION.

UN-OCCUPIED SETBACK: THE SYSTEM SHALL MAINTAIN THE SETBACK TEMPERATURE OF 63 °F (ADJUST). IF THE SPACE TEMPERATURE IS BELOW SET POINT, THE ROOFTOP UNIT SUPPLY FAN SHALL START, EXHAUST FAN SHALL BE OFF, AND THE DAMPERS POSITIONED FOR 100% RE-CIRCULATION. THE REHEAT VALVE SHALL BE COMMANDED TO 100% OPEN. THE UNIT SHALL REMAIN ENERGIZED UNTIL THE TEMPERATURE REACHES 3 °F (ADJUST) ABOVE ITS SET POINT AT WHICH POINT THE UNIT SHALL DE-ENERGIZE.

UN-OCCUPIED SETUP: THE SYSTEM SHALL MAINTAIN THE SETBACK TEMPERATURE OF 80 °F (ADJUST). IF THE SPACE TEMPERATURE IS ABOVE SET POINT, THE ROOFTOP UNIT SUPPLY FAN SHALL START, EXHAUST FAN SHALL BE OFF, AND THE DAMPERS POSITIONED FOR 100% RECIRCULATION. THE MECHANICAL COOLING CIRCUIT SHALL BE ENERGIZED AND THE REHEAT VALVE SHALL BE CLOSED. THE UNIT SHALL REMAIN ENERGIZED UNTIL THE SPACE TEMPERATURE REACHES 3 °F (ADJUST) BELOW ITS SET POINT AT WHICH POINT THE UNIT SHALL DE-ENERGIZE.

SPACE TEMPERATURE CONTROL
THE HONEYWELL SYSTEM SHALL MONITOR THE SPACE TEMPERATURE AND RELATIVE HUMIDITY SENSOR. THE TEMPERATURE AND HUMIDITY SET POINT SHALL BE 74°F+/-3°F (ADJUST) AT A RELATIVE HUMIDITY OF 55+5%RH. THE TEMPERATURE/HUMIDITY SENSOR SHALL PLACE THE UNIT IN HEATING, COOLING OR DEHUMIDIFICATION BASED ON THE TEMPERATURE AND RELATIVE HUMIDITY SENSED IN THE SPACE. THE HEATING TEMPERATURE SET POINT SHALL BE 2°FBELOW THE COOLING AND DEHUMIDIFICATION SET POINTS. THE DISCHARGE AIR TEMPERATURE LEAVING THE COOLING COIL SHALL BE 47°F WHEN THE UNIT IS IN THE DEHUMIDIFICATION MODE. IN THIS MODE THE HGRH SHALL HEAT THE AIR TO MEET SPACE TEMPERATURE SET POINT.

AIR-SIDE ECONOMIZER:
THE ROOFTOP UNIT SHALL HAVE AN AIR-SIDE DRY BULB CONTROLLED ECONOMIZER. WHEN THE OUTDOOR AIR TEMPERATURE IS EQUAL TO OR LESS THAN 55 °F (ADJUST), THE UNIT SHALL BE IN ECONOMIZER MODE. THE OUTSIDE AIR DAMPER SHALL BEGIN TO MODULATE OPEN, UTILIZING THE OUTDOOR AIR FOR FREE COOLING. AS THE OUTDOOR AIR DAMPER PASSES ITS MINIMUM VENTILATION POSITION, THE EXHAUST AIR FAN SHALL ENERGIZE. THE SPEED OF THE EXHAUST FAN SHALL INCREASE IN PROPORTION TO THE OUTDOOR AIR DAMPER POSITION. THE RETURN AIR DAMPER SHALL CLOSE IN PROPORTION TO THE OUTDOOR AIR DAMPER.

CARBON DIOXIDE VENTILATION DEMAND CONTROL
THE OUTSIDE AIR FLOW WILL BE RESET BASED ON THE CO2 SENSOR. THE VENTILATION AIR FLOW SHALL BE SET TO THE SPECIFIED AIR FLOW WHEN THE CO2 IS AT 800PPM OR GREATER. THE VENTILATION AIR FLOW CAN BE REDUCED TO 40% OF THE SPECIFIED AIR FLOW WHEN THE CO2 IS AT 600PPM OR LESS. THE AIR FLOW SHALL BE MEASURED BY THE OUTSIDE AIR FLOW STATION.

AIR FLOW TRACKING
THE EXHAUST FAN SPEED SHALL BE VARIED BASED ON THE SUPPLY AIR FLOW, EXHAUST AIR AND OUTSIDE AIR FLOW MEASUREMENT, THE UNIT SHALL BE EQUIPPED WITH SUPPLY AIR, EXHAUST AIR AND OUTSIDE AIR FLOW STATIONS.

SAFETIES:
THE SMOKE DETECTOR SHALL BE INTERLOCKED TO THE UNIT'S START CIRCUIT. THE SMOKE DETECTOR SHALL DE-ENERGIZE THE UNIT UPON ACTIVATION. THE AIR DAMPERS SHALL GO TO THEIR FAIL-SAFE POSITIONS.

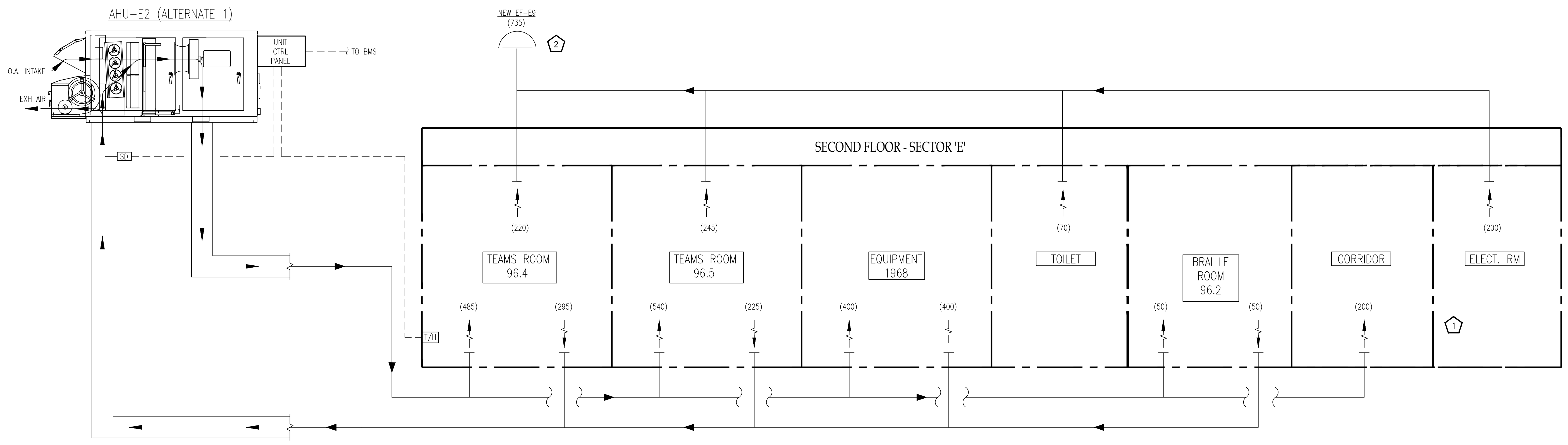
THE FIRE ALARM CONTRACTOR SHALL PROVIDE, INSTALL AND MONITOR THE SMOKE DETECTOR. THE ELECTRICAL CONTRACTOR SHALL WIRE SMOKE DETECTOR TO UNIT'S START CIRCUIT. THE CONTROL CONTRACTOR SHALL MONITOR SMOKE DETECTOR ALARM.

A CURRENT SWITCH ON THE SUPPLY AIR FAN SHALL CONFIRM IF THE FAN IS IN THE DESIRED STATE AND GENERATES AN ALARM IF STATUS DEVIATES FROM DDC START/STOP CONTROL.

ALARMS:

- THE ROOFTOP UNIT IS DE-ENERGIZED BY THE SMOKE DETECTOR ACTIVATION. IN ADDITION TO AN ALARM BEING ISSUED AT THE BMS, AN ALARM SHALL BE GENERATED AT THE FIRE ALARM CONTROL PANEL.
- THE SPACE TEMPERATURE DEVIATES 5 °F FROM SET POINT (ADJUST).
- THE SPACE HUMIDITY EXCEEDS 60% RELATIVE HUMIDITY.
- THE SUPPLY OR EXHAUST AIR FAN FAIL.
- REFRIGERANT LEAK.

BACNET POINTS
THE CONTROLS CONTRACTOR SHALL MAP ALL AVAILABLE BACNET POINTS FROM THE MANUFACTURER TO THE HONEYWELL SYSTEM FOR MONITORING AND CONTROL.



1 AHU-E2- CONTROL & AIRFLOW DIAGRAM ALTERNATE 1

SCALE: NONE

MECHANICAL NOTES

1. TRANSFER AIR 200 CFM FROM CORRIDOR.
2. PROVIDE NEW EXHAUST FAN.

AHU-E2 POINTS LIST				
POINT DESIGNATION	POINT DESCRIPTION	POINT TYPE	PART NO. AND/OR DESCRIPTION	NOTES
T/H	SPACE TEMP/HUMIDITY SENSOR	ANALOG INPUT	–	NOTE 1
SD	SMOKE DETECTOR	DIGITAL CONTACT	COORDINATE W/ FA VENDOR	NOTES 2–4
EF-E9 S/S	START/STOP	DIGITAL OUTPUT	–	–
EF-E9 STATUS	STATUS	DIGITAL INPUT	CURRENT SENSOR	–

POINTS LIST NOTES:

1. PROVIDE BY MANUFACTURER & INSTALLED BY CONTROLS CONTRACTOR.
2. CONTRACTOR SHALL PROVIDE AND INSTALL ADDRESSABLE SMOKE DETECTOR AND SENSING TUBE TO FIRE ALARM SYSTEM. COORDINATE SMOKE DETECTOR MODE WITH FIRE ALARM CONTRACTOR.
3. ELECTRICAL CONTRACTOR SHALL WIRE SMOKE DETECTOR TO START CIRCUIT OF UNIT. SMOKE DETECTOR SHALL BE ADDRESSABLE TO FIRE ALARM SYSTEM AND PROVIDE ADDITIONAL CONTRACT FOR BMS.
4. FIRE ALARM CONTRACTOR SHALL WIRE FROM SMOKE DETECTOR TO FIRE ALARM PANEL. BMS CONTRACTOR TO WIRE TO BMS FOR STATUS.

GENERAL NOTES:

1. BMS CONTRACTOR SHALL MAP ALL POINTS FROM UNIT TO BMS SYSTEM. BMS CONTRACTOR SHALL PROVIDE WORKSTATION GRAPHICS. GRAPHIC SHALL INCLUDE SITE MAP OF FACILITY AND GRAPHIC OF EACH SYSTEM. GRAPHIC SHALL INCLUDE STATUS, TEMP, HUMIDITY, ALARMS, ETC. BMS CONTRACTOR SHALL ALSO PROVIDE HISTORY LOGS ON ALL CONTROL AND MONITORING POINTS AT 5 MINUTE INTERVALS.
2. BMS CONTRACTOR SHALL INCLUDE 24 HOURS FOR TRAINING AND ADDITIONAL 80 HOURS TO ASSIST WITH TESTING OF SYSTEMS TO PROVE SEQUENCE OF OPERATIONS.
3. PROVIDE CALIBRATION CERTIFICATE FOR EACH DEVICE.

AHU-E2 CONTROL (ALTERNATE 1)

ENERGIZED/DE-ENERGIZE:
THE ROOFTOP UNIT SHALL BE ENERGIZED/DE-ENERGIZED THROUGH THE HONEYWELL CONTROL SYSTEM. THE ROOFTOP UNIT SHALL BE SCHEDULED FOR AUTOMATIC OPERATION ON A TIME OF DAY BASIS FOR OCCUPIED AND UNOCCUPIED MODES AS SPECIFIED BY OWNER.

OCCUPIED: THE SYSTEM SHALL HAVE AN OPTIMAL START SEQUENCE. DURING THE OPTIMAL START, THE SUPPLY AIR FAN AND EXHAUST AIR FAN SHALL START AND THE DAMPERS SHALL BE POSITIONED FOR 100% RE-CIRCULATION. THE ROOFTOP UNIT SHALL OPERATE TO ACHIEVE THE OCCUPIED MODE TEMPERATURE SET POINT 15 MINUTES PRIOR TO THE OCCUPIED MODE. THE OCCUPIED MODE TIMES SHALL BE PROVIDED BY THE OWNER. THE PROGRAM SHALL BE CAPABLE OF LEARNING THE OPTIMAL TIME TO START BASED ON THE OUTDOOR AIR TEMPERATURE AND SPACE TEMPERATURE.

ONCE THE OCCUPIED MODE TIME AND TEMPERATURE IS REACHED, THE OUTSIDE AIR DAMPER SHALL OPEN TO ITS MINIMUM VENTILATION POSITION (FAIL-SAFE CLOSED) AND THE RETURN AIR DAMPER SHALL OPEN (FAIL-SAFE OPEN) TO ITS CORRESPONDING POSITION. THE SUPPLY AIR FAN SHALL THEN START.

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William D. Hopkins 01/29/26
Architect Date

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Project Name
HVAC Renovations at Princeton High School

Project Owner Name
Princeton Public Schools

Project Location
151 Moore Street,
Princeton, NJ
08540

Project Number
5516E

Project Date
01.29. 2026

Checked By
JTM

Drawn By
JD

Scale
AS NOTED

Drawing Name
MECHANICAL - AHU-E1 & E2 CONTROL & AIRFLOW DIAGRAMS

ALTERNATE #1

Revisions		
No.	Date	Description

Drawing Number
M-612

ROOFTOP UNIT WITH HEAT RECOVERY SCHEDULE

				SUPPLY FAN SECTION							EXHAUST FAN SECTION						HR COOLING CAPACITY				HR HEATING CAPACITY				HR FILTER SECTION	OA/RA FILTER SECTION		DX COOLING COIL							HGRH COIL	GAS HEATER SECTION								ELECTRICAL SECTION					
UNIT NO.	MFR	MODEL	AREA SERVED	SUPPLY CFM	OA CFM	ESP (IN WG)	SPEED (RPM)	FANS (QTY)	MOTOR (BHP EA)	MOTOR (QTY/HP EA)	RETURN CFM	ESP (IN WG)	SPEED (RPM)	FANS (QTY)	MOTOR (BHP EA)	MOTOR (QTY/HP EA)	OA EAT DB/WB	SA LAT DB/WB	RA EAT DB/WB	EA EAT DB/WB	OA EAT DB/WB	SA LAT DB/WB	RA EAT DB/WB	EA EAT DB/WB	PRE-FILTER IN./MERV	PRE-FILTER IN./MERV	FINAL FILTER IN./MERV	TOTAL CAP (MBH)	SENS CAP (MBH)	ROWS	FINS/IN	LAT (DB/WB)	FACE VEL. (FPM)	REFRIG TYPE	REHEAT CAP (MBH)	HEATING MEDIUM	INPUT (MBH)	OUTPUT (MBH)	EAT (DB)	LAT (DB)	TURNDOWN (RATIO)	OPER PRESS RANGE (IN-IN)	UNIT DIMENSIONS (LxWxH)	FLA (AMPS)	MCA (AMPS)	MOP (AMPS)	POWER (V/PH/HZ)	WEIGHT (LBS)	NOTES
AHU-A1	AAON	RNA-016-C-A-3-HAB0A-CB1L0	CLASSROOMS	3580	3580	1.5	1448	1	4.9	7.5	4990	1.0	1435	1	4.1	10	94/75	77/66	72/61.4	85/69.4	10/9	56.6/50.3	72/61.4	36.1/36	MESH	MERV8	MERV13	180	116	6	12	49.8/49.7	199	R-454B	94.3	NAT. GAS	270	219	56.6	107	9:1	7-14"WC	110X59X59	55	62	80	460/3/60	3735	1, 6, 7, 8, 9
AHU-A2	TRANE	OADG030F3-DAA1HBJ00-N1AJE1AE3	LIBRARY	8000	1600	2.75	2264	1	8.65	10	8000	1.25	1285	1	1.5	7.5	94/75	76.6/64.9	72/61.4	89/72	10/9	57.7/51.8	72/61.4	25/24.8	MESH	MERV8	MERV13	352	229	6	12	47.4/46.5	460	R-454B	216	NAT. GAS	350	284	66.6	99.3	10:1	7-14"WC	183X95X68	78	83.5	100	460/3/60	4470	2, 6, 7
AHU-B1	AAON	RNA-030-C-A-3-HAB0C-CB3L0	CAFETERIA	7000	3875	3.0	1707	1	9.10	15	7000	1.5	1733	1	6.9	10	94/75	76/64.5	73/62.3	89/71.4	10/9	63.5/56	73/62.3	29.3/29.2	MESH	MERV8	MERV13	301	202	6	12	49.3/49.1	352	R-454B	171	NAT. GAS	540	437	63.5	120	18:1	7-14"WC	157X59X59	91	97	110	460/3/60	4065	3, 6, 7
AHU-E1	AAON	RNA-026-D-A-3-00000	OLD GYM	12800	4700	1.5	1534	1	16.38	20	12800	1.5	1309	2	4.16	7.5	94/75	73.5/62.7	76.2/64.9	89.6/72.1	10/9	63.5/58.3	59.1/52.4	24.6/24.5	MESH	MERV8	MERV13	–	–	–	–	–	–	–	–	NAT. GAS	600	486	67	101.9	10:1	7-14"WC	209X100X87	52	59	80	460/3/60	5258	6, 7, 10
AHU-F1	AAON	RZA-075-A-0-3-HAB0A-DB3L0	AUDITORIUM	14980	5900	1.75	1749	1	7.26	10	14980	1.5	802	1	6.05	10	94/75	74/62.6	72/61.4	89/72	10/9	64.9/56.8	72/61.4	18.4/18.3	MESH	MERV8	MERV13	695	467	6	14	45/45	274	R-454B	344	NAT. GAS	1080	875	64.9	118	18:1	7-14"WC	538X100X104	185	193	225	460/3/60	19774	4, 6, 7, 8
AHU-F3	AAON	RNA-030-C-A-3-HAB0C-CB1L0	MUSIC ROOMS	5905	2420	3.0	1674	1	11.62	15	5905	1.5	1548	1	5.04	7.5	94/75	74.5/63.5	72/61.4	88.8/71.6	10/9	64.2/56.3	72/61.4	26.7/26.6	MESH	MERV8	MERV13	284	184	6	12	45.6/45.5	297	R-454B	168	NAT. GAS	270	219	64	98	9:1	7-14"WC	157X59X59	85	92	110	460/3/60	4070	4, 6, 7, 8
AHU-G1	TRANE	OANG080C3-DAC1GBT00-T1BNG1BG3	NEW GYM	20000	7930	2.5	1921	2	16.3	20	20000	1.25	1814	2	2.5	3	94/75	81.6/66.6	72/60	85/68.3	10/9	43.5/39.5	70/58	35.6/34.4	MESH	MERV8	MERV13	798.8	587.8	6	14	48.6/48.1	584	R-454B	551.5	NAT. GAS	1000	810	59.5	98.6	20:1	7-14"WC	334X98X108	195.5	204	225	460/3/60	11820	5, 6, 7, 8

NOTES:

1. PROVIDE COMPRESSORS WITH HGBY ON LAST STAGE, SA AND EA FAN VFD, ECONOMIZER, ENERGY RECOVERY FILTERS, HGRH COIL, SINGLE POINT POWER CONNECTION WITH A NON-FUSED DISCONNECT SWITCH, PHASE PROTECTION, MAKEUP AIR CONTROLLER, BACNET MSTP, VFD CONDENSER FANS WITH HEAD PRESSURE CONTROL, CONVENIENT OUTLET, ENERGY WHEEL ROTATION DETECTION, DOUBLE WALL CONSTRUCTION WITH ACCESS DOORS, OA FLOW STATION AND SA AND EX FAN FLOW TRACKING, ENERGY RECOVERY SUPPLY AIR TEMPERATURE AND HUMIDITY SENSOR & DUCT MOUNTED SUPPLY AIR TEMP SENSOR.
2. PROVIDE VARIABLE SPEED COMPRESSORS, SA AND EX FAN VFD, ECONOMIZER, ENERGY RECOVERY WHEEL FILTERS, HGRH COIL, SINGLE POWER CONNECTION WITH A NON-FUSED DISCONNECT, PHASE PROTECTION, DISCHARGE AIR CONTROLLER, BACNET MSTP, VFD CONDENSER FANS WITH HEAD PRESSURE CONTROL, CONVENIENT OUTLET, ENERGY WHEEL ROTATION DETECTION, DOUBLE WALL CONSTRUCTION WITH ACCESS DOORS, SA, EA AND OA FLOW MEASUREMENT, CONDENSATE OVERFLOW SWITCH, SA AND EX FAN FLOW TRACKING, SPACE CO2 DEMAND CONTROL, SPACE TEMPERATURE AND HUMIDITY SENSOR.
3. PROVIDE COMPRESSORS WITH HGBY ON LAST STAGE, SA AND EA FAN VFD, ECONOMIZER, ENERGY RECOVERY FILTERS, HGRH COIL, SINGLE POINT POWER CONNECTION WITH A NON-FUSED DISCONNECT SWITCH, PHASE PROTECTION, MAKEUP AIR CONTROLLER, BACNET MSTP, VFD CONDENSER FANS WITH HEAD PRESSURE CONTROL, CONVENIENT OUTLET, ENERGY WHEEL ROTATION DETECTION, DOUBLE WALL CONSTRUCTION WITH ACCESS DOORS, OA FLOW STATION AND SA AND EX FAN FLOW TRACKING AND SPACE TEMPERATURE AND HUMIDITY SENSOR.
4. PROVIDE COMPRESSORS WITH HGBY ON LAST STAGE, SA AND EX FAN VFD, ECONOMIZER, ENERGY RECOVERY FILTERS, HGRH COIL, SINGLE POWER CONNECTION WITH A NON-FUSED DISCONNECT, PHASE PROTECTION, DISCHARGE AIR CONTROLLER, BACNET MSTP, VFD CONDENSER FANS WITH HEAD PRESSURE CONTROL, CONVENIENT OUTLET, ENERGY WHEEL ROTATION DETECTION, DOUBLE WALL CONSTRUCTION WITH ACCESS DOORS, SA, EA AND OA FLOW MEASUREMENT, CONDENSATE OVERFLOW SWITCH, SA AND EX FAN FLOW TRACKING, SPACE CO2 DEMAND CONTROL, SPACE TEMPERATURE AND HUMIDITY SENSOR.
5. PROVIDE COMPRESSORS WITH HGBY ON LAST STAGE, SA AND EX FANS WITH VFD, ECONOMIZER, ENERGY RECOVERY FILTERS, HGRH COIL, SINGLE POWER CONNECTION WITH A NON-FUSED DISCONNECT, PHASE PROTECTION, DISCHARGE AIR CONTROLLER, BACNET MSTP, VFD CONDENSER FANS WITH LOW AMBIENT HEAD PRESSURE CONTROL, CONVENIENT OUTLET, HAIL GUARD, CONDENSATE OVERFLOW SWITCH,
6. DOUBLE WALL CONSTRUCTION WITH ACCESS DOORS, SA, EA AND OA FLOW MEASUREMENT, CONDENSATE OVERFLOW SWITCH, SA AND EX FAN FLOW STATIONS FOR TRACKING, SPACE CO2 DEMAND CONTROL, SPACE TEMPERATURE AND HUMIDITY SENSOR.
7. PROVIDE A TWO (2) YEAR WARRANTY, PARTS & LABOR & EXTENDED 3 YEAR COMPRESSOR WARRANTY (PARTS ONLY) AND FACTORY START-UP.
8. WEIGHT OF UNIT DOES NOT INCLUDE WEIGHT OF SUPPORT CURB. SEE CURB SCHEDULE FOR WEIGHTS.
9. OUTSIDE AND EXHAUST HOODS SUPPLIED BY MANUFACTURER AND INSTALLED BY CONTRACTOR.
10. PROVIDE SA AND EX FAN WITH VFD, ENERGY RECOVERY FILTER, SINGLE POWER CONNECTION WITH NON-FUSED DISCONNECT, PHASE PROTECTION, BACNET MSTP, DOUBLE WALL CONSTRUCTION WITH ACCESS DOORS, OA FLOW MEASUREMENT, CONVENIENCE OUTLET, ECONOMIZER, TEMPERATURE SENSOR AND CO2 SENSOR.

ROOFTOP UNIT SCHEDULE

				SUPPLY FAN SECTION						EXHAUST FAN SECTION					FILTER	DX COOLING COIL								HGRH COIL	GAS HEATER SECTION							HOT WATER HEATER SECTION								ELECTRICAL							
UNIT NO.	MFR	MODEL	AREA SERVED	SUPPLY CFM	O.A. CFM	ESP (IN WG)	NO OF SA FANS	SPEED (RPM)	HP (EA)	RETURN CFM	ESP (IN WG)	NO OF EA FANS	SPEED (RPM)	HP (EA)	PRE-FILTER IN./MERV	TOTAL CAP (MBH)	SENS CAP (MBH)	ROWS	FINS/IN	EAT (DB/WB)	LAT (DB/WB)	FACE VEL. (FPM)	REFRIG TYPE	OUTPUT (MBH)	HEATING MEDIUM	INPUT (MBH)	OUTPUT (MBH)	EAT (DB)	LAT (DB)	TURNDOWN (RATIO)	OPER PRESS RANGE (IN-IN)	CAPACITY (MBH)	EAT (DB)	LAT (DB)	EWT (F)	LWT (F)	WPD (FT)	FLOW (GPM)	UNIT DIMENSIONS (LxWxH)	VOLTS	PHASE	HERTZ	FLA	MCA	MOCP	WEIGHT (LBS)	REMARKS
AHU-F2	TRANE	YCH330D4M-4D2G3DAB-D	STAGE	8000	1530	2.25	1	818	10	8000	.5	1	1140	1	4"/14	328	227	5	15	75.8/63.9	53.2/51	291	R-454B	164	NAT.GAS	350	284	50.4	90.4	10;1	7-14'WC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	180X90X71	460	3	60	77.3	83	100	6000	1, 4, 5
AHU-F4	AAON	RQA-004-A-A-3-GJB0A-A01NA	CORRIDOR	900	100	1.5	1	1752	1	900	.5	1	926	1	2"/8 4"/13	43.3	28.5	6	12	75.7/64.0	46.2/46.2	180	R-454B	24.9	N/A	–	25.1	64	122	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	82X44X50	460	3	60	30	35	35	835	2 4, 5
AHU-F5	TRANE	YCH360D4P-4D3R3DAD-D	MAIN LOBBY	8600	1250	2.25	1	836	15	8600	.5	1	1140	1	4"/14	373	256	5	15	77.3/65.2	50.8/50.7	300	R-454B	183	NAT.GAS	600	486	55	105	10;1	7-14"WC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	207X90X70	460	3	60	84.1	90	100	6200	1, 4, 5
AHU-F6	AAON	RNA-030-C-A-3-HAB0C-CB1L0	BLACK BOX THEATER	6000	1250	2.5	1	1537	10	6000	1.0	1	1348	5	2"/8 4"/13	290	195	6	12	77.4/64.7	47.1/46.9	302	R-454B	160	NAT.GAS	270	219	59.8	93.1	9:1	7-14"WC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	110X59X59	460	3	60	74	81	100	3245	1, 4, 5
AHU-F7	AAON	RNA-016-C-A-3-HAB0A-J0SR0	ADMIN	2725	1575	3.0	1	1463	7.5	625	N/A	N/A	N/A	N/A	2"/8 4"/13	179.7	113	6	12	89.7/72.2	50.2/50.2	137	R-454B	62	N/A	N/A	N/A	N/A	N/A	N/A	N/A	228.8	25	93	140	120	1.2	25	110X59X59	460	3	60	44	51	70	2845	3, 4, 5, 6
AHU-F9	AAON	RQA-005-A-A-3-HJB0A-A02NB	PRACTICE ROOMS	1370	345	1.5	1	2105	2	1370	.5	1	1711	1	2"/8 4"/13	55.1	38.7	6	12	77.5/65.2	51.3/511	274	R-454B	30.5	ELECT	N/A	28.4	53.9	116	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	82X44X50	460	3	60	44	52	60	965	2, 4, 5

NOTES:

1. PROVIDE VARIABLE SPEED COMPRESSORS, SA AND EX FAN VFD, ECONOMIZER, HGRH COIL, SINGLE POWER CONNECTION WITH A NON-FUSED DISCONNECT, PHASE PROTECTION, DISCHARGE AIR CONTROLLER, BACNET MSTP, VFD CONDENSER FANS WITH HEAD PRESSURE CONTROL, CONVENIENT OUTLET, DOUBLE WALL CONSTRUCTION WITH ACCESS DOORS, SA, EA AND OA FLOW MEASUREMENT, CONDENSATE OVERFLOW SWITCH, SA AND EX FAN FLOW TRACKING, SPACE CO2 DEMAND CONTROL, SPACE TEMPERATURE AND HUMIDITY SENSOR.
2. PROVIDE VARIABLE SPEED COMPRESSORS, HEAT PUMP WITH AUXILIARY ELECTRIC COIL 20KW, SA VFD, EX FAN WITH ECM MOTOR, ECONOMIZER, HGRH COIL, SINGLE POWER CONNECTION WITH A NON-FUSED DISCONNECT, PHASE PROTECTION, DISCHARGE AIR CONTROLLER, BACNET MSTP, ECM CONDENSER FANS WITH HEAD PRESSURE CONTROL, CONVENIENT OUTLET, DOUBLE WALL CONSTRUCTION WITH ACCESS DOORS, SA AND EX FAN FLOW TRACKING, SPACE TEMPERATURE AND HUMIDITY SENSOR.
3. PROVIDE COMPRESSORS WITH HGBY ON LAST STAGE, SA FAN VFD, ECONOMIZER, HGRH COIL, SINGLE POINT POWER CONNECTION WITH A NON-FUSED DISCONNECT SWITCH, PHASE PROTECTION, VAV AIR CONTROLLER, BACNET MSTP, VFD CONDENSER FANS WITH HEAD PRESSURE CONTROL, CONVENIENT OUTLET, DOUBLE WALL CONSTRUCTION WITH ACCESS DOORS, OA FLOW STATION AND SA FAN FLOW TRACKING AND SPACE TEMPERATURE AND HUMIDITY SENSOR.
4. PROVIDE TWO (2) YEAR WARRANTY ON ALL PARTS AND LABOR AND 3 YEAR EXTENDED WARRANTY (PARTS ONLY) ON COMPRESSOR PARTS. PROVIDE START-UP AND COMMISSIONING BY MANUFACTURER REPRESENTATIVE. INCLUDE START-UP IN COOLING AND HEATING SEASONS. PROVIDE 16HRS OF TRAINING FOR OWNER.
5. WEIGHT OF UNIT DOES NOT INCLUDE WEIGHT OF SEISMIC SUPPORT CURB. SEE CURB SCHEDULE FOR WEIGHTS.
6. MANUFACTURER TO PROVIDE PIPING SPECIALTIES, STRAINER, CONTROL VALVE, ISOLATION VALVES, CIRCUIT SETTER. CONTRACTOR SHALL INSTALL AND THE BAS CONTRACTOR SHALL WIRE CONTROL VALVE.

EQUIPMENT CURB SCHEDULE

UNIT NO.	CURB MFR	MODEL	SEISMIC	VIBRATION ISOLATION	DESCRIPTION	WEIGHT (LBS)	REMARKS
AHU-A1	CURBPLUS	AAON CPC-3	NO	NO	20" CLEAR HEIGHT INSULATED RETURN AIR PLENUM	725	3
AHU-F1	CURBPLUS	AAON CPC-3	YES	YES	20" HIGH VIBRATION CURB	1525	3
AHU-F2	THYCURB	TRANE BAYCURB 035	YES	YES	14" VIBROCURB III UNINSULATED TOP DUCT SUPPORT	720	–
AHU-F3	CURBPLUS	AAON C-BOX CPISO-1	YES	YES	35" HIGH INSULATED SUPPLY AND RETURN AIR PLENUM	1005	3
AHU-F4	CURBPLUS	AAON CPC-3	YES	NO	24" HIGH INSULATED RETURN AIR PLENUM, DUCTED SUPPLY	275	3
AHU-F5	THYCURB	TRANE BAYCURB 036	YES	YES	VIBROCURB III INSULATED SUPPLY AND RETURN AIR PLENUM	876	1
AHU-F6	CURBPLUS	AAON CPC-3	YES	NO	40" HIGH 2" INSULATED SUPPLY AND RETURN AIR PLENUM	585	2
AHU-F7	CURBPLUS	AAON CPC-3	YES	NO	36" HIGH 2" INSULATED SUPPLY AND RETURN AIR PLENUM	485	2
AHU-F9	CURBPLUS	AAON CPC-3	YES	NO	24" HIGH INSULATED RETURN AIR PLENUM, DUCTED SUPPLY	275	3
AHU-G1	KCC	KCC-OANG-ER-CC1-FWP-30-KSRI	YES	YES	30" HIGH VIR INSULATED SUPPLY AND RETURN AIR PLENUM	1355	4
AHU-E1	CURBPLUS	AAON CPC-3	YES	NO	24"HIGH INSULATED RETURN AIR PLENUM, DUCTED SUPPLY	800	3

NOTES:
1. PLENUM INSIDE SHALL BE 24" CLEAR HEIGHT.
2. HORIZONTAL CONNECTIONS, 14GA GALV. CONSTRUCTION, HOLD DOWN CLIPS AND 2" DUCT-LINER.
3. 14GA GALV. CONSTRUCTION, 1 $\frac{1}{2}$" 3# INSULATION AND HOLD DOWN CLIPS.
4, 12GA GALV. CURB 18GA PAN, 1 $\frac{1}{2}$" 3# INSULATION AND HOLD DOWN CLIPS."
5. CONTRACTORS SHALL VERIFY SLOPE OF ROOF FOR EACH CURB TO ENSURE CURB
ORDERED WITH THE CORRECT PITCH SO THAT THE UNIT WILL BE LEVEL. THE SLOPE SHOULD BE VERIFIED BEFORE
ISSUEING SUBMITTAL FOR REVIEW.

HOT/CHILLED WATER FAN COIL UNIT SCHEDULE

								HEATING							COOLING								ELECTRIC					
UNIT NO.	MANUF.	MODEL	LOCATION	LENGTH (IN)	WIDTH (IN)	HEIGHT (IN)	AIRFLOW (CFM)	EAT (F)	LAT (F)	CAPACITY (MBH)	EWT (F)	LWT (F)	GPM	WATER PD (FT)	EAT (DB/WB)	LAT (DB/WB)	CAPACITY (MBH)	EWT (F)	LWT (F)	GPM	WATER PD (FT)	ROWS	MOCP	VOLTS	PH	HZ	DRY WT (LBS)	REMARKS
FCU-1	TRANE	FCBB-060	STAIRWELL S09	47.8	9.9	25.2	500	60	116	30.3	140	115	2.6	11.0	80/67	60.2/59.6	11.9	45	55	2.6	11.0	4	15	120	1	60	139	SEE NOTES
FCU-2	TRANE	FCBB-060	STAIRWELL S11	47.8	9.9	25.2	500	60	116	30.3	140	115	2.6	11.0	80/67	60.2/59.6	11.9	45	55	2.6	11.0	4	15	120	1	60	139	SEE NOTES
FCU-3	TRANE	FCBB-060	STAIRWELL S10	47.8	9.9	25.2	500	60	116	30.3	140	115	2.6	11.0	80/67	60.2/59.6	11.9	45	55	2.6	11.0	4	15	120	1	60	139	SEE NOTES
FCU-4	TRANE	FCBB-060	CORRIDOR C1	47.8	9.9	25.2	500	60	116	30.3	140	115	2.6	11.0	80/67	60.2/59.6	11.9	45	55	2.6	11.0	4	15	120	1	60	139	SEE NOTES
FCU-5	TRANE	FCBB-060	CORRIDOR 270	47.8	9.9	25.2	500	60	116	30.3	140	115	2.6	11.0	80/67	60.2/59.6	11.9	45	55	2.6	11.0	4	15	120	1	60	139	SEE NOTES

NOTES:

1. CAPACITY BASED ON 30% PROPYLENE GLYCOL.
2. PROVIDE WITH FRONT RETURN GRILLE AT BASE AND TOP DISCHARGE AIR GRILLE.
3. PROVIDE WITH UNIT MOUNTED DISCONNECT SWITCH, ECM MOTOR, AND 1" MERV 8 THROW AWAY FILTERS.
4. MANUFACTURER SHALL PROVIDE WITH UNIT MOUNTED CONTROLLER BACNET MSTP PROTOCOL, REMOTE WALL TEMPERATURE SENSOR (SET AT 72F) WITH VARIABLE SPEED CONTROL, CONDENSATE OVERFLOW SENSOR, CHANGEOVER SENSOR. CONTROL VALVE AND FACTORY WIRED LOW LIMIT AIR TEMPERATURE SENSOR. PROVIDE DELUXE PIPING PACKAGE (I.E. ISOLATION VALVES, 2-WAY MODULATING CONTROL VALVE, AUTO FLOW VALVE, STRAINER & P/T PORTS) FOR FIELD INSTALLATION AND WIRING OF THE VALVE AND SENSORS.
5. CONTRACTOR TO VERIFY LEFT/RIGHT HAND PIPING CONNECTION.
6. MANUFACTURER SHALL PROVIDE THE NECESSARY CONTROL WIRING, PROGRAMMING, STARTUP AND TRAINING. BAS CONTRACTOR SHALL PROVIDE COMMUNICATION WIRING AND MAP BACNET POINTS BAS SYSTEM.
7. MANUFACTURER SHALL PROVIDE TWO YEAR WARRANTY ON PARTS AND LABOR.

ROOFTOP UNITS FOR OLD GYM AND TEAMS (ALTERNATE 1)

				SUPPLY FAN SECTION							EXHAUST FAN SECTION						HR COOLING CAPACITY				HR HEATING CAPACITY				HR FILTER SECTION	OA/RA FILTER SECTION		DX COOLING COIL							HGRH COIL	GAS HEATER SECTION								ELECTRICAL SECTION					
UNIT NO.	MFR	MODEL	AREA SERVED	SUPPLY CFM	OA CFM	ESP (IN WG)	SPEED (RPM)	FANS (QTY)	MOTOR (BHP EA)	MOTOR (QTY/HP EA)	RETURN CFM	ESP (IN WG)	SPEED (RPM)	FANS (QTY)	MOTOR (BHP EA)	MOTOR (QTY/HP EA)	OA EAT DB/WB	SA LAT DB/WB	RA EAT DB/WB	EA EAT DB/WB	OA EAT DB/WB	SA LAT DB/WB	RA EAT DB/WB	EA EAT DB/WB	PRE-FILTER IN./MERV	PRE-FILTER IN./MERV	FINAL FILTER IN./MERV	TOTAL CAP (MBH)	SENS CAP (MBH)	ROWS	FINS/IN	LAT (DB/WB)	FACE VEL. (FPM)	REFRIG TYPE	REHEAT CAP (MBH)	HEATING MEDIUM	INPUT (MBH)	OUTPUT (MBH)	EAT (DB)	LAT (DB)	TURNDOWN (RATIO)	OPER PRESS RANGE (IN-IN)	UNIT DIMENSIONS (LxWxH)	FLA (AMPS)	MCA (AMPS)	MOP (AMPS)	POWER (V/PH/HZ)	WEIGHT (LBS)	NOTES
AHU-E1	AAON	RNA-040-D-A-3-GAA0B-CB2L0	OLD GYM	12000	4050	3.0	1436	1	14.4	20	12000	1.5	1253	2	3.67	5	94/75	78.9/64.5	72/62	90.9/72.1	10/9	60.0/52.7	72/61.4	25.1/25	MESH	MERV8	MERV13	495.2	359.6	4	14	48.7/48.3	267	R-454B	314.6	NAT. GAS	600	486	69.2	106	10:1	7-14"WC	209X100X102	117	124	150	460/3/60	7740	1, 3, 4, 5
AHU-E2	AAON	RNA-007-A-A-3-HAB0A-CB2L0	TEAMS	1675	605	1.75	1721	1	1.38	2	1070	.55	677	1	.57	1.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	MERV8	MERV13	78.8	52.7	6	14	51.2/51.2	196.7	R-454B	37.0	NAT. GAS	150	121.5	47.4	114	8:1	7-14"WC	97X79X40	19	23	30	460/3/60	1330	2, 3, 4, 5

1. PROVIDE VARIABLE SPEED COMPRESSORS, SA AND EX FAN VFD, ECONOMIZER, ENERGY RECOVERY WHEEL FILTERS, HGRH COIL, SINGLE POWER CONNECTION WITH A NON-FUSED DISCONNECT, PHASE PROTECTION, DISCHARGE AIR CONTROLLER, BACNET MSTP, VFD CONDENSER FANS WITH HEAD PRESSURE CONTROL, CONVENIENT OUTLET, ENERGY WHEEL ROTATION DETECTION, DOUBLE WALL CONSTRUCTION WITH ACCESS DOORS, SA, EA AND OA FLOW MEASUREMENT, CONDENSATE OVERFLOW SWITCH, SA AND EX FAN FLOW TRACKING, SPACE CO2 DEMAND CONTROL, SPACE TEMPERATURE AND HUMIDITY SENSOR.
2. PROVIDE VARIABLE SPEED COMPRESSORS, SA AND EX FAN VFD, ECONOMIZER, HGRH COIL, SINGLE POWER CONNECTION WITH A NON-FUSED DISCONNECT, PHASE PROTECTION, DISCHARGE AIR CONTROLLER, BACNET MSTP, VFD CONDENSER FANS WITH HEAD PRESSURE CONTROL, CONVENIENT OUTLET, DOUBLE WALL CONSTRUCTION WITH ACCESS DOORS, SA, EA AND OA FLOW MEASUREMENT, CONDENSATE OVERFLOW SWITCH, SA AND EX FAN FLOW TRACKING, SPACE CO2 DEMAND CONTROL, SPACE TEMPERATURE AND HUMIDITY SENSOR.2.
3. PROVIDE A TWO (2) YEAR WARRANTY, PARTS & LABOR & EXTENDED 3 YEAR COMPRESSOR WARRANTY (PARTS ONLY) AND FACTORY START-UP.
4. WEIGHT OF UNIT DOES NOT INCLUDE WEIGHT OF SUPPORT CURB. SEE CURB SCHEDULE FOR WEIGHTS.
5. OUTSIDE AND EXHAUST HOODS SUPPLIED BY MANUFACTURER AND INSTALLED BY CONTRACTOR.

AHU-E1 AND E2 CURB SCHEDULE (ALTERNATE 1)

UNIT NO.	CURB MFR	MODEL	SEISMIC	VIBRATION ISOLATION	DESCRIPTION	WEIGHT (LBS)	REMARKS
AHU-E1	CURBPLUS	AAON CPISO-2	YES	YES	24" CLEAR HGHT INSULATED RETURN AIR PLENUM, DUCTED SUPPLY	1425	1, 3
AHU-E2	CURBPLUS	AAON CPC-4	YES	NO	14" HIGH UNINSULATED CURB	175	2, 3

NOTES:
1. 14GA GALV. CONSTRUCTION, 12GA GALV. TOP RAIL, 2" DEFLECTION ISOLATORS, FLEX CONNECTORS AROUND
PLENUMS, BASE CURB/RAIL FULLY INSULATED WITH 1 $\frac{1}{2}$" 3# INSULATION AND HOLD DOWN CLIPS.
2. 14GA GALV. CONSTRUCTION, WOOD NAILER, UNINSULATED CURB.
3. CONTRACTORS SHALL VERIFY SLOPE OF ROOF FOR EACH CURB TO ENSURE CURB
ORDERED WITH THE CORRECT PITCH SO THAT THE UNIT WILL BE LEVEL. THE SLOPE SHOULD BE VERIFIED BEFORE
ISSUEING SUBMITTAL FOR REVIEW.

AIR HANDLER SCHEDULE- AHU-C1 AND AHU-C2 (ALTERNATE 2)

				SUPPLY FAN SECTION						DUAL TEMP HOT WATER COIL PERFORMANCE							DUAL TEMP CHILLED WATER COIL PERFORMANCE								ELEC REHEAT SECTION				OA FILTER SECTION			ELECTRICAL							
UNIT NO.	MFR	MODEL	AREA SERVED	SUPPLY CFM	O.A. CFM	ESP (IN WG)	NO OF SA FANS	SPEED (RPM)	HP (EA)	CAPACITY (MBH)	EAT (DB)	LAT (DB)	EWT (F)	LWT (F)	WPD (FT)	FLUID	TOTAL CAPACITY (MBH)	SEN. CAPACITY (MBH)	EAT (DB/WB)	LAT (DB/WB)	EWT (F)	LWT (F)	WPD (FT)	FLOW (GPM)	CAPACITY (KW)	EAT (DB)	LAT (DB)	CONTROL	PRE-FILTER IN./MERV	FINAL-FILTER IN./MERV	UNIT DIMENSIONS (LxWxH)	VOLTS	PHASE	HERTZ	FLA	MCA	MOCP	WEIGHT (LBS)	REMARKS
AHU-C1	TRANE	CSAA008	STORAGE	3400	1700	2.0	1	2345	5	251	36	103	130	110	26	10.3	171.9	116.6	83/68.4	52/51.9	45	54	6.98	41.3	22	52	72.5	SCR	2"/8	2"/13	145X50.5X37.8	460	3	60	36	45	50	2020	1, 3
AHU-C2	TRANE	CSAA006	NURSE/ADMIN	1900	1900	1.5	1	2136	10	216	0	102	130	110	22.8	8.0	149.3	90.8	94/75	52/51.9	45	54	7.5	36	12.5	52	72.3	SCR	2"/8	4"/13	155X44X35	460	3	60	24	30	35	1685	2, 3

NOTES:

1. UNIT SHALL BE SHIPPED IN FOUR (4) SEPARATE SECTIONS & ASSEMBLED IN THE FIELD. PROVIDE WITH SUPPLY AIR PLENUM FAN AND VFD WITH BYPASS, DUAL TEMPERATURE HEATING AND COOLING COIL, PERFORMANCE BASED ON 35%PG, DOUBLE WALL CONSTRUCTION WITH THERMAL BREAK AND R13 INSULATION, SS DRAIN PAN, SINGLE POINT CONNECTION WITH DISCONNECT, VARIABLE SPEED SUPPLY AIR FAN AND ELECTRIC REHEAT WITH SCR CONTROL. PROVIDE DDC OPTION WITH OUTSIDE AIR AND SUPPLY AIR FLOW STATIONS, WITH SENSORS AND DAMPER ACTUATORS PROVIDED BY MANUFACTUER. CONTROL CONTRACTOR TO PROVIDE WIRING, BACNET CONTROLLER AND START-UP.
2. UNIT SHALL BE SHIPPED IN THREE (3) SEPARATE SECTIONS & ASSEMBLED IN THE FIELD. PROVIDE WITH SUPPLY AIR IMPELLER FAN WITH ECM MOTOR, DUAL TEMPERATURE HEATING AND COOLING COIL, PERFORMANCE BASED ON 35%PG, DOUBLE WALL CONSTRUCTION WITH THERMAL BREAK AND R13 INSULATION, SS DRAIN PAN, SINGLE POINT CONNECTION WITH DISCONNECT, VARIABLE SPEED SUPPLY AIR FAN AND ELECTRIC REHEAT WITH SCR CONTROL. PROVIDE DDC OPTION WITH SUPPLY AIR FLOW STATION, SENSORS, OUTSIDE AIR TEMPERATURE AND HUMIDITY SENSOR AND DAMPER ACTUATORS PROVIDED BY MANUFACTUER. CONTROL CONTRACTOR TO PROVIDE WIRING, BACNET CONTROLLER AND START-UP.
3. PROVIDE TWO (2) YEAR WARRANTY ON ALL PARTS AND LABOR AND START-UP FOR MECHANICAL AND CONTROLS.

EXHAUST FAN SCHEDULE

													ELECTRICAL							
UNIT NO.	MFR	MODEL	LOCATION	TYPE	AIRFLOW (CFM)	E.S.P. (IN W.G.)	FAN RPM	WHEEL TYPE	CLASS	ARRG'T	ROTATION	DISCH POSITION	MCA	MOCP	VOLTS	PHASE	HERTZ	HP	WEIGHT (LBS)	REMARKS
EF-E1	GREENHECK	USF-18	ROOF	DIRECT DRIVE	4,150	1.5"	1,538	AF	I	4	CW	UB	6	15	480	3	60	3	313	NOTES 1, 2, 5, 6
EF-C4	GREENHECK	USF-18	MECH RM	DIRECT DRIVE	3,400	3.0"	1,710	AF	I	4	CW	UB	6	15	480	3	60	3	250	NOTES 1, 2, 5, 6
EF-E9 (ALT #2)	GREENHECK	G-099-VG	ROOF	DIRECT DRIVE	735	0.75"	1,523	BI	I	N/A	N/A	N/A	2	15	277	1	60	1/4	41	NOTES 3, 5, 6
EF-B10	GREENHECK	SQ-100-VG	BOILER RM	DIRECT DRIVE	860	0.4"	1,323	BI	I	N/A	N/A	N/A	3	15	277	1	60	1/4	52	NOTES 4-6

NOTES:

1. PROVIDE FAN WITH PERMA-LOCK CONSTRUCTION, STEEL SCROLL, ALUMINUM WHEEL, STEEL INLET CONE, ODP MOTOR, VFD RATED PREMIUM EFFICIENCY MOTOR (CLASS F INSULATION) WITH SHAFT GROUNDING PROTECTION, ISOLATION BASE WITH FACTORY MOUNTED ISOLATION SPRINGS, L-10 BEARINGS, POLISHED STEEL SHAFT, INLET & OUTLET PUNCHED FLANGES, MOTOR COVER, SHAFT GUARD.
2. FAN & ACCESSORIES SHALL HAVE A PERMATECTOR, CONCRETE GRAY COATING.
3. PROVIDE DIRECT DRIVE FAN WITH VARI-GREEN MOTOR, DIAL ON MOTOR FOR AIR BALANCING, WIRED DISCONNECT SWITCH, ALUMINUM WHEEL, GALVANIZED BIRD SCREEN & 14" HIGH ROOF CURB WITH DAMPER TRAY AND BACK DRAFT DAMPER.
4. PROVIDE DIRECT DRIVE FAN WITH VARI-GREEN MOTOR, PRE-WIRED DIAL ON FAN HOUSING FOR AIR BALANCING, ALUMINUM WHEEL & WIRED DISCONNECT SWITCH.
5. FAN MANUFACTURER SHALL PROVIDE PRE-INSPECTION, STARTUP, AND ASSISTANCE DURING THE BALANCING & COMMISSIONING PHASES OF THE PROJECT.
6. PROVIDE TWO (2) YEARS WARRANTY, PARTS & LABOR.

DUCT SERVICE SCHEDULE

SERVICE	DUCT MATERIAL	PRESSURE CLASS / CONNECTION	REMARKS
SUPPLY	GALVANIZED STEEL (SEE NOTE)	4" PRESSURE CLASS – FLANGED AND GASKETED FITTINGS	SEE NOTE 2
RETURN/EXHAUST	GALVANIZED STEEL (SEE NOTE)	4" PRESSURE CLASS – FLANGED AND GASKETED FITTINGS	SEE NOTE 2
ROUND SUPPLY & EXHAUST	GALVANIZED STEEL (SEE NOTE)	4" PRESSURE CLASS SPIRAL SEAM CONST. W/FLANGED AND GASKETED FITTINGS	SEE NOTE 2
SUPPLY & RETURN	DOUBLE-WALL GALVANIZED STEEL WITH 2" INTERNAL INSULATION	4" PRESSURE CLASS – FLANGED AND GASKETED FITTINGS	SEE NOTE 1

NOTES:
1. DOUBLE-WALL DUCT ONLY APPLIES TO SUPPLY & RETURN DUCTWORK FOR AHU-A1, AHU-B1, F6.
R-VALUE OF INSTALLED CONDITION SHALL BE 12 (MIN).
2. ALL INTERIOR DUCTWORK THAT IS EXPOSED SHALL BE CONSTRUCTED OF PAINTED GALVALUME SHEETMETAL. REFER TO
ARCHITECTURAL DRAWINGS FOR PAINTING SPECIFICATIONS AND COLOR.

DAMPER SCHEDULE

UNIT	TYPE	FUNCTION	MAUNFACTURER	MODEL	NOTES
VD-1	MANUAL VOLUME DAMPER	CONTROL	GREENHECK	VCD-23	1
VD-2	MANUAL VOLUME DAMPER	CONTROL	GREENHECK	VCDRM-53	2

NOTES:
1. PROVIDE WITH GALVANIZED CONSTRUCTION WITH TPE BLADE SEALS AND 304SS JAM
SEALS. RECTANGULAR DAMPER SHALL BE RATED FOR 5" W.G.
2. PROVIDE WITH GALVANIZED CONSTRUCTION WITH BLADE AND JAM SEALS. ROUND DAMPER
SHALL BE RATED FOR 5"W.G.

DUCT INSULATION

LOCATION	INSULATION MATERIAL	JACKET	REMARKS
SUPPLY & RETURN DUCTWORK INTERIOR – ABOVE CEILING	2" FIBERGLASS INSULATION – DUCT WRAP	FOIL AND PAPER JACKET WITH VAPOR BARRIER	NOTE 1
SUPPLY & RETURN DUCTWORK INTERIOR – EXPOSED	1-1/2" FIBERGLASS BOARD INSULATION	WITH VAPOR BARRIER AND METALLIC SURFACE	NOTE 2&3
SUPPLY & RETURN DUCTWORK EXTERIOR	2" BOARD COVERED BY FLEXCLAD 400	45 MILS ALUMINUM JACKET WITH EMBOSSED FINISH	NOTE 4

NOTES:
1. JOHNS MANVILLE MICROLITE FSK, TYPE 100 (1.0 PCF) OR EQUAL. R-VALUE OF INSTALLED CONDITION SHALL BE 6.0 (MIN).
2. JOHNS MANVILLE 800 SERIES SPIN-GLAS, TYPE 814 (3.0 PCF) OR EQUAL. R-VALUE OF INSTALLED CONDITION SHALL BE 6.0 (MIN). SECURE INSULATION USING 10 GA WELD PINS. ADHESIVE PINS ARE NOT ALLOWED.
3. DUCT BOARD SHALL BE INSTALLED ON DUCTS HAVING A WIDTH OR HEIGHT EQUAL TO 30" OR GREATER.
4. JOHNS MANVILLE XSPECT ISOFOAM APF BOARD (CLOSED CELL). R-VALUE OF INSTALLED CONDITION SHALL BE 12.0 (MIN). SECURE INSULATION USING 10 GA WELD PINS. ADHESIVE PINS ARE NOT ALLOWED.

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N.J. PROFESSIONAL ENGINEER LICENSE NUMBER:
24GE02823800

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Project Name
HVAC Renovations at Princeton High School

Project Owner Name
Princeton Public Schools

Project Location
151 Moore Street,
Princeton, NJ
08540

Project Number
5516E
Project Date
01.29. 2026
Checked By
JTM
Drawn By
JD
Scale
AS NOTED

Drawing Name
MECHANICAL - SCHEDULES SHEET 1

Revisions		
No.	Date	Description

Drawing Number
M-701

HOT WATER BOILER SCHEDULE

TAG	QTY	MFR	LOCATION	MODEL	TYPE	INPUT (MBH)	OUTPUT (MBH)	EFF. (%)	TD RATIO	EWT (F)	LWT (F)	FLOW (GPM)	PD (FT.HD)	WTR VOL (GAL)	WORK PRESS (PSIG)	SRV PRESS (PSIG)	WTR CONN. (IN)	FUEL	MIN. INLET PRESS (IN-WG)	MAX. OUTLET PRESS (IN-WG)	GAS LINE SIZE (IN)	AIR INTAKE SIZE (IN)	VENT SIZE (IN)	ELECTRICAL VOLTS	ELECTRICAL PHASE	ELECTRICAL HERTZ	ELECTRICAL (FLA)	ELECTRICAL (MCA)	SHIP WT. (LBS)	OPER. WT. (LBS)	DIMENSIONS HxWxD (IN)	REMARKS
HWB-1, 2, 3, & 4	4	LOCHINVAR	BOILER	FBC6000	CONDENSING	6000	5415	96.0	20:1	120	160	310	9.4	304	160	50	6	NAT GAS	4	14	3.0	14	14	460	3	60	7	8.8	6707	9239	78x50x102.75	SEE NOTES

NOTES:

1. PROVIDE BOILER PLANT CONTROLS BASED ON LOCHINVAR "SMART SYSTEM". BOILER CONTROLS MUST BE CAPABLE OF CONTROLLING THE SEQUENCING OF THE BOILERS AND PRIMARY PUMPS. BOILER MANUFACTURER SHALL PROVIDE A FLOW SWITCH FOR EACH BOILER, TWO (2) SUPPLY MAIN TEMPERATURE SENSORS AND TWO (2) OUTSIDE AIR TEMPERATURE SENSORS TO BE WIRED TO HWB-1 AND HWB-2. THESE SENSORS SHALL BE INSTALLED BY THE MECHANICAL CONTRACTOR AND BAS TO WIRE TO THE BOILERS. BOILERS SHALL BE FM COMPLIANT, INCLUDE NIGHTTIME SET-BACK CONTROL, 10" CREST HELLCAT TOUCH SCREEN COLOR GRAPHIC FOR CUSTOMER INTERFACE, REALTIME CONTINEOUS O2 MONITORING AND TRIM WITH THREE METHODS OF INDEPENDANT ADJUSTMENT AND FEED FORWARD AIR TEMPERATURE AND PRESSURE SENSORS AND BACNET PROTOCOL.
2. PROVIDE CONDENSATION NEUTRALIZATION KITS, LOW LOSS MAGNETIC Y-STRAINER, SAFETY RELIEF VALVE, FLOW SWITCH AND 2ND LWCO SWITCH PER BOILER, SHIPPED LOOSE AND TO BE INSTALLED BY CONTRACTOR.
3. MANUFACTURER TO PROVIDE ONE LOCHINVAR GAS PRESSURE REGULATOR (100320062) VALVE PER BOILER, CONTRACTOR SHALL INSTALL 10 FT FROM THE BOILERS.
4. MANUFACTURER SHALL PROVIDE PRE-INSPECTION, STARTUP, ASSISTANCE DURING COMMISSIONING, AND TRAINING.
5. PROVIDE TWO YEAR PARTS AND LABOR WARRANTY.
6. OUTPUT CAPACITY IS BASED ON 30% PG/WATER MIXTURE FOR DUAL TEMPERATURE LOOP.

PRIMARY HOT WATER PUMP SCHEDULE

TAG	QTY	SERVICE	LOCATION	MANUFACTURER	MODEL	TYPE	IMPELLER (IN)	GPM	HEAD (FT)	INLET (IN)	OUTLET (IN)	PT EFF (%)	NPSH (IFT HD)	RPM	ELECTRICAL VOLTS	ELECTRICAL PHASE	ELECTRICAL HERTZ	ELECTRICAL BHP	ELECTRICAL HP	WORK PRESS (PSI)	WEIGHT (LBS)	REMARKS
HWP-1, 2, 3 & 4	4	BOILER	MER	B&G	4EB E-1532	BASE	11	500	36	5	4	80.6	6.89	1170	460	3	60	5.56	7.5	175	465	SEE NOTES

NOTE:

1. PROVIDE PREMIUM EFFICIENCY MOTOR, SUCTION DIFFUSER, 304SS IMPELLER, SHAFT SLEEVE, IMPELLER KEY, VOLUTE WEAR RING, AND EXTERNAL FLUSH LINE, HEAVY DUTY BASEPLATE, STUFFING BOX, EPOXY COATED CAST IRON COMPONENTS, AND GALV. LEAK DRIP PAN. PROVIDE REMOVABLE AND REUSABLE FLEXIBLE INSULATION COVER BY ADVANCE THERMAL CORP.

DUAL TEMPERATURE FILTER SYSTEM

UNIT NO.	MANUF.	MODEL	FLOWRATE (GPM)	SYSTEM VOL (GAL)	INLET (IN)	OUTLET (IN)	DIMENSIONS (L x W x H)	PARTICLE REMOVAL (MICRONS)	MAX WORKING TEMP (F)	MAX WORKING PRESSURE (PSI)	MOTOR (RPM)	ELECTRICAL VOLTS	ELECTRICAL PHASE	ELECTRICAL HERTZ	ELECTRICAL FLA	ELECTRICAL HP	DRY WT (LBS)	REMARKS
FLT-1	PUROFLUX	PF63-015	80	8	2	1.5	35 x 28 x 41.25	25	200	150	3,450	480	3	60	5	3	372	SEE NOTES

NOTES:

1. RECOVERY VESSEL SHALL BE 304 ST. STEEL WITH HINGED EYEBOLT COVER, SHALL HAVE A ST. STEEL SUPPORT BASKET W/ 25 MICRON BAG, PRESSURE DIFFERENTIAL INDICATOR WITH A DRY CONTACT FOR REMOTE DIRTY BAG ALARM, AUTOMATIC FLOW CONTROLLER AND ISOLATION BALL VALES.
2. SEPARATOR SHALL BE A FUSION BONDED POLYESTER COATED VESSEL WITH A 1/4" MANUAL AIR BLEED VALVE, AND INLET/OUTLET PRESSURE GAUGES.
3. PUMP SHALL BE A CLOSE COUPLED, END SUCTION CENTRIFUGAL PUMP WITH CAST IRON PRE-STRAINER WITH REMOVABLE ST. STEEL BASKET. MOTOR SHALL HAVE A TEFC ENCLOSURE.
4. FILTER ASSEMBLY SHALL BE CONSTRUCTED ON A SINGLE SKID CONSTRUCTED OF FUSION BONDED POLYESTER COATED CARBON STEEL.
5. PROVIDE A NEMA 4X FIBERGLASS ENCLOSURE WITH MOTOR OVERLOAD/SHORT CIRCUIT PROTECTION AND PUMP HAND-OFF-AUTO SWITCH.
6. INTERCONNECTING PIPING SHALL BE COPPER OR BLACK IRON.
7. PROVIDE A TWO YEAR PARTS & LABOR WARRANTY.
8. MANUFACTURER SHALL PROVIDE PRE-INSPECTION, STARTUP, ASSISTANCE DURING COMMISSIONING, AND TRAINING.

EXPANSION TANK SCHEDULE

UNIT DESIGNATION	TANK TYPE	TANK VOL (GAL)	MAX ACCEPT FACTOR (GAL)	HEIGHT (INCH)	DIAMETER (INCH)	SHIP WT. (LBS)	BASIS OF DESIGN MANUFACTURER	BASIS OF DESIGN MODEL	REMARKS
ET-1	BLADDER	211	211	64	30	543	AMTROL	800L	SEE NOTES 1&2

NOTES:

1. TANK SHALL BE ASME, SECTION VIII (DIV 1) 125 PSIG.
2. PRE-CHARGE AIR PRESSURE TO 25 PSI.

AIR DEVICE SCHEDULE

UNIT NO.	MFR	MODEL	DESCRIPTION	MATERIAL	COLOR	MOUNTING	REMARKS
CD-1	TITUS	TDC	LOUVERED DIFFISER	STEEL	WHITE	LAY-IN	NOTE 1
CD-2	TITUS	TDC	LOUVERED DIFFISER	STEEL	WHITE	SURFACE	NOTE 1
GG-1	TITUS	25RL	CEILING RETURN GRILLE	STEEL	WHITE	LAY-IN	NOTE 2
RG-1	TITUS	25RL	CEILING RETURN GRILLE	STEEL	WHITE	LAY-IN	NOTE 3

NOTES:

1. 24x24 MODULE, 18x18 FACE WITH ROUND NECK.
2. 24X24 GRILLE, OPEN TO PLENUM SPACE.
3. 24x24 GRILLE. INSTALL A SQUARE BACK BOX WITH NECK SIZE AS NOTED ON FLOOR PLANS.

HYDRONIC HORIZONTAL UNIT HEATER SCHEDULE

UNIT NO.	MFR	MODEL	WIDTH	HEIGHT	DEPTH	CAPACITY (MBH)	FLOW (GPM)	AIRFLOW (CFM)	EWT (F)	LWT (F)	EAT (F)	LAT (F)	WPD	ELECTRICAL HP	ELECTRICAL VOLTS	ELECTRICAL PHASE	ELECTRICAL HERTZ	WEIGHT (LBS)	REMARKS
UH-1	MODINE	HCH-67	29.0	22.5	19.7	64.2	6.8	1150	140	120	60	113	2.6 FT	1/6	115	1	60	80	SEE NOTES
UH-2	MODINE	HCH-104	33.0	26.7	18.2	100.0	10.4	1830	140	120	60	110	4.8 FT	1/6	115	1	60	93	SEE NOTES

NOTE:

1. PROVIDE FINGER-PROOF FAN GUARD LINE VOLTAGE THERMOSTAT (HONEYWELL: T451A3005 – RATED 9.8A @ 115V).
2. CAPACITY BASED ON 30% P.G.
3. SET THERMOSTAT TO 60°F.

PIPE SERVICE SCHEDULE

SERVICE	PIPE MATERIAL	FITTINGS
DUAL TEMP WATER <4"ø	TYPE "L" COPPER PIPING	TYPE "L" COPPER/BRONZE FITTINGS, PRO-PRESS FITTINGS
DUAL TEMP WATER >4"ø	SCHEDULE 40 BLACK STEEL PIPING	FLANGED OR WELDED CONNECTIONS
MAKEUP WATER & DRAIN PIPING	TYPE "L" COPPER PIPING	TYPE "L" COPPER/BRONZE FITTINGS, PRO-PRESS FITTINGS
BOILER CONDENSATE	CPVC, SCH 80 ASTM F441/F441M	SOLVENT WELDED SOCKET FITTINGS
HOT WATER WATER <4"ø	TYPE "L" COPPER PIPING	TYPE "L" COPPER/BRONZE FITTINGS, PRO-PRESS FITTINGS
COIL CONDENSATE	TYPE "L" COPPER PIPING	TYPE "L" COPPER/BRONZE FITTINGS, PRO-PRESS FITTINGS

INSULATION SERVICE SCHEDULE

SERVICE	LOCATION	NOMINAL PIPE SIZE (IN)	INSULATION MATERIAL	JACKET
DUAL TEMP WATER	INDOOR	<1-1/2"	1-1/2" FIBERGLASS INSULATION	VAPOR BARRIER AND ASK JACKET – PVC JACKET FOR FITTINGS
DUAL TEMP WATER	INDOOR	≥1-1/2"	2" FIBERGLASS INSULATION	VAPOR BARRIER AND ASK JACKET – PVC JACKET FOR FITTINGS
COLD WATER MAKEUP	INDOOR	≤1"	1/2" FIBERGLASS INSULATION	VAPOR BARRIER AND ASK JACKET – PVC JACKET FOR FITTINGS
COIL CONDENSATE	INDOOR	<1-1/2"	1/2" FIBERGLASS INSULATION	VAPOR BARRIER AND ASK JACKET – PVC JACKET FOR FITTINGS

NOTES:

1. PROVIDE PRE-FORMED INSULATION & JACKETS FOR ALL TYPES OF FITTINGS INCLUDING UNIONS, FLANGES, VALVES, ETC.
2. CRIMP-WRAP BY CERTAINTEED, K=0.24.

VALVE SCHEDULE

SERVICE	FUNCTION	VALVE SIZE (IN)	VALVE TYPE	MAUNFACTURER/ MODEL NUMBER	DESCRIPTION	RATING
DUAL TEMP/HW	ISOLATION	UP TO 2-1/2"	BALL VALVE	NIBCO / 585-70	CLASS 300, 2-PIECE BODY, FULL PORT, REINFORCED TFE SEATS	RATED FOR 200 PSIG AT 300 F, NOTE 1
DUAL TEMP/HW	ISOLATION	3" TO 10"	BUTTERFLY VALVE	NIBCO / LD2100	LUG STYLE, DUCTILE IRON BODY, ALUM & BRONZE DISC, SS STEM, EPDM SEAT, LEVER LOCK OPERATOR	RATED FOR 200 PSIG AT 300 F, NOTE 1
DUAL TEMP/HW	BAL VALVE	6"	CALIBRATED CIRCUIT SETTER	B&G / CB-6F	BRASS BODY, 304 SS BALL EPDM O-RING, CALIBRATED NAMEPLATE	RATED FOR 250 PSIG AT 225 F
DUAL TEMP/HW	CHECK VALVE	3" TO 10"	CHECK VALVE	NIBCO/F-918-B	CLASS 125, BRONZE BODY, SS HINGED PIN PTFE DISC	RATED FOR 125 PSIG AT 450 F

NOTES:

1. PROVIDE EXTENDED OPERATOR/STEM TO ALLOW FOR THICKNESS OF INSULATION. ALL VALVES SHALL BE INSULATED WITH REMOVABLE COVERS BY ADVANCED THERMAL CORP OR EQUAL.

BOILER FLUE AND INTAKE DUCTWORK SCHEDULE

SERVICE	DUCT MATERIAL	PRESSURE CLASS / CONNECTION	REMARKS
BOILER FLUE	–	–	NOTE 1
INTAKE COMBUSTION AIR	GALVANIZED STEEL	4" PRESSURE CLASS – FLANGED AND GASKETED FITTINGS	–

NOTES:

1. THE SPECIAL GAS VENT, MODEL CM+2 BY BLUE FLAME., SHALL BE MANUFACTURED FROM VP1738 STAINLESS STEEL SPECIFICALLY DESIGNED FOR EXTREME RESISTANCE TO CHLORINE ION PITTING, CREVICE CORROSION, AND STRESS CORROSION INDUCED BY THE GENERATION OF CORROSIVE CONDENSATES BY PARTIALLY OR FULLY CONDENSING NATURAL GAS FIRED HEATING APPLIANCES. SEE SPECIFCATION ON DRAWINGS.

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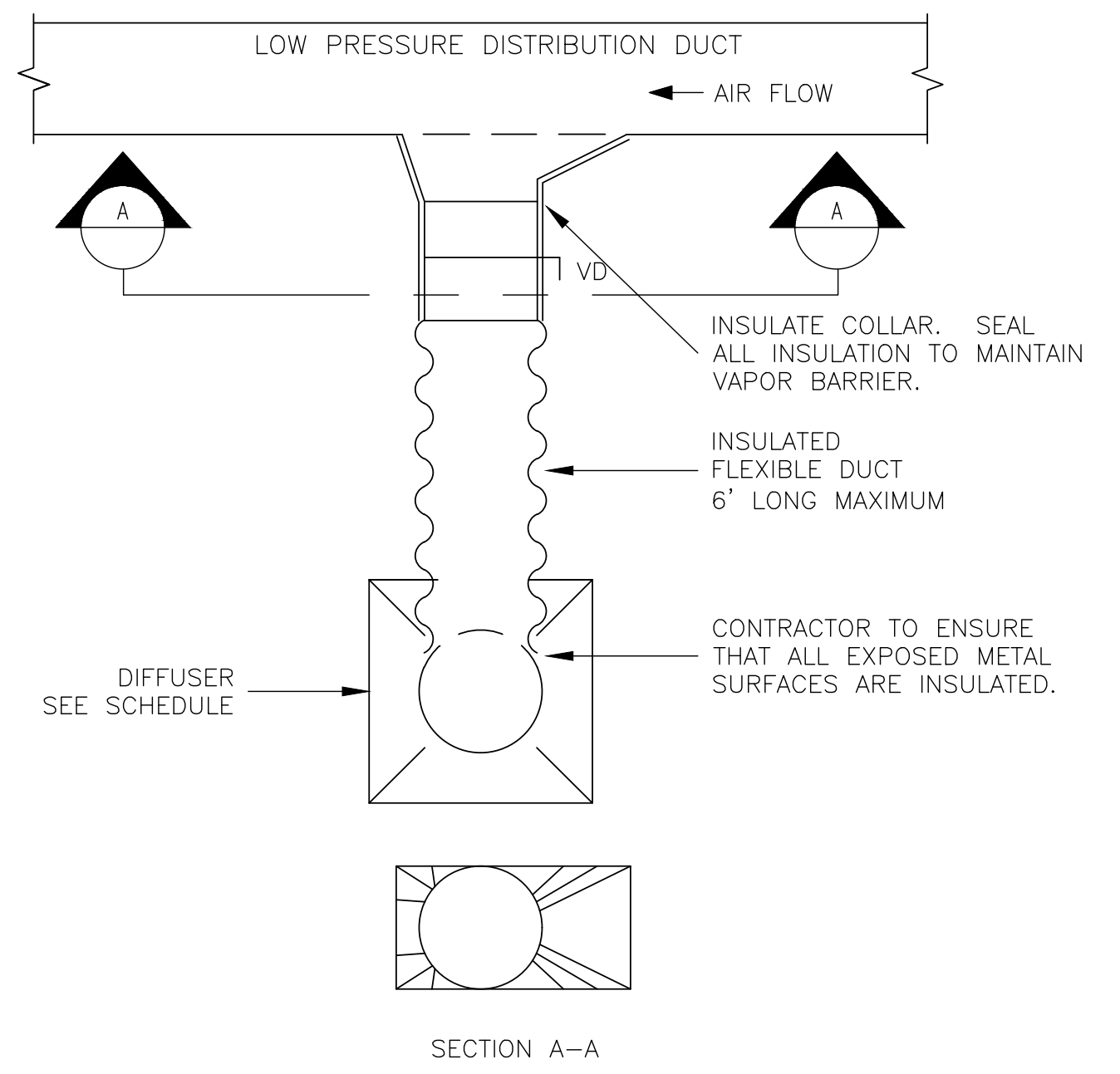
Drawing Name
MECHANICAL - SCHEDULES SHEET 2

Revisions

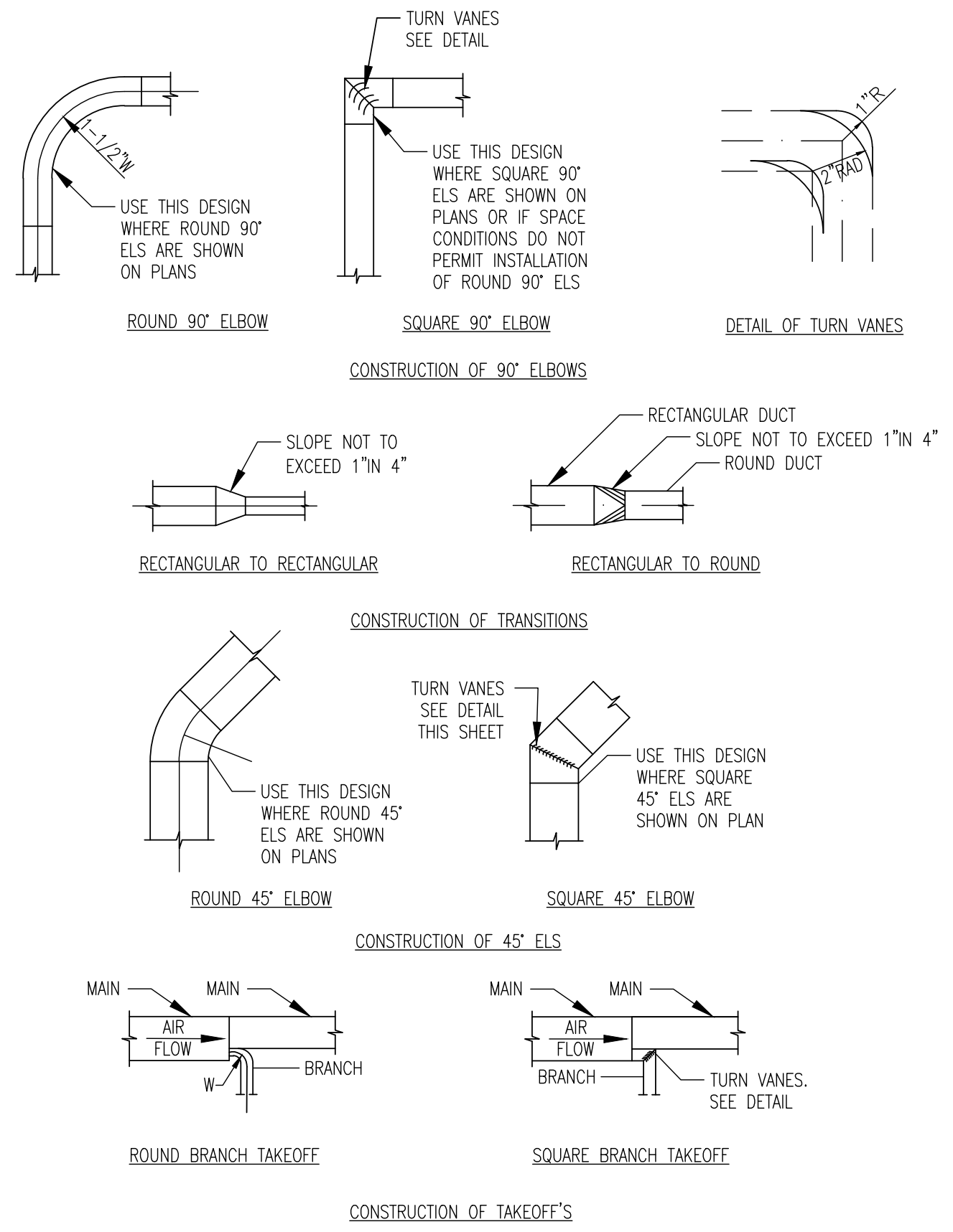
No.	Date	Description

Drawing Number
M-702


LOW PRESSURE DISTRIBUTION DUCT
AIR FLOW
A
A
VD
INSULATE COLLAR. SEAL ALL INSULATION TO MAINTAIN VAPOR BARRIER.
INSULATED FLEXIBLE DUCT 6' LONG MAXIMUM
CONTRACTOR TO ENSURE THAT ALL EXPOSED METAL SURFACES ARE INSULATED.
DIFFUSER SEE SCHEDULE
SECTION A–A

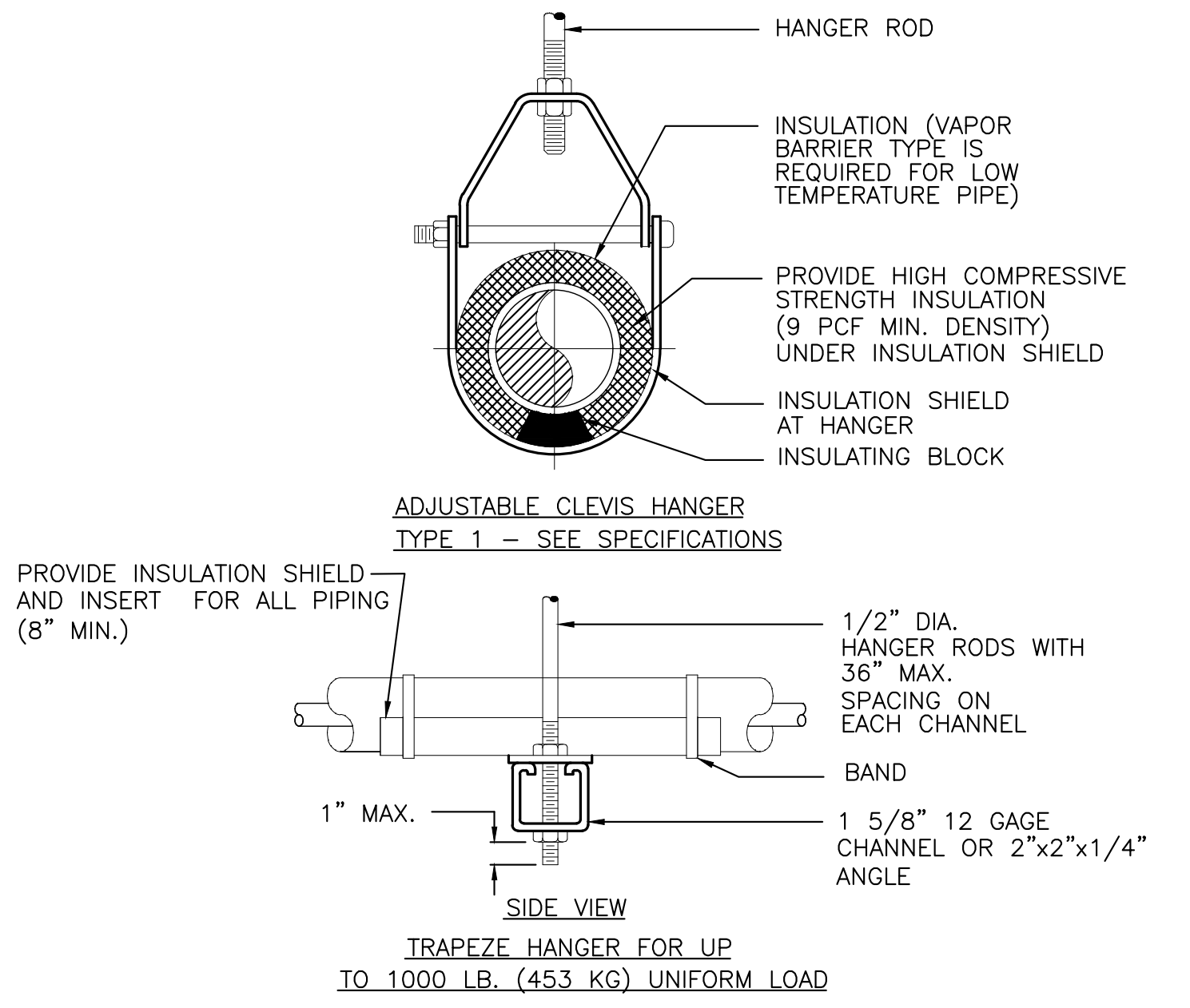
1 CEILING DIFFUSER WITH FLEX DUCT DETAIL

SCALE: NONE


TURN VANES SEE DETAIL
1-1/2"W
USE THIS DESIGN WHERE ROUND 90° ELS ARE SHOWN ON PLANS
USE THIS DESIGN WHERE SQUARE 90° ELS ARE SHOWN ON PLANS OR IF SPACE CONDITIONS DO NOT PERMIT INSTALLATION OF ROUND 90° ELS
1"R
2"RAD
ROUND 90° ELBOW
SQUARE 90° ELBOW
DETAIL OF TURN VANES
CONSTRUCTION OF 90° ELBOWS
SLOPE NOT TO EXCEED 1"IN 4"
RECTANGULAR DUCT
SLOPE NOT TO EXCEED 1"IN 4"
ROUND DUCT
RECTANGULAR TO RECTANGULAR
RECTANGULAR TO ROUND
CONSTRUCTION OF TRANSITIONS
USE THIS DESIGN WHERE ROUND 45° ELS ARE SHOWN ON PLANS
TURN VANES SEE DETAIL THIS SHEET
USE THIS DESIGN WHERE SQUARE 45° ELS ARE SHOWN ON PLAN
ROUND 45° ELBOW
SQUARE 45° ELBOW
CONSTRUCTION OF 45° ELS
MAIN
MAIN
AIR FLOW
W
BRANCH
MAIN
MAIN
AIR FLOW
BRANCH
TURN VANES. SEE DETAIL
ROUND BRANCH TAKEOFF
SQUARE BRANCH TAKEOFF
CONSTRUCTION OF TAKEOFF'S

2 LOW PRESSURE DUCT DETAILS

Scale: NTS

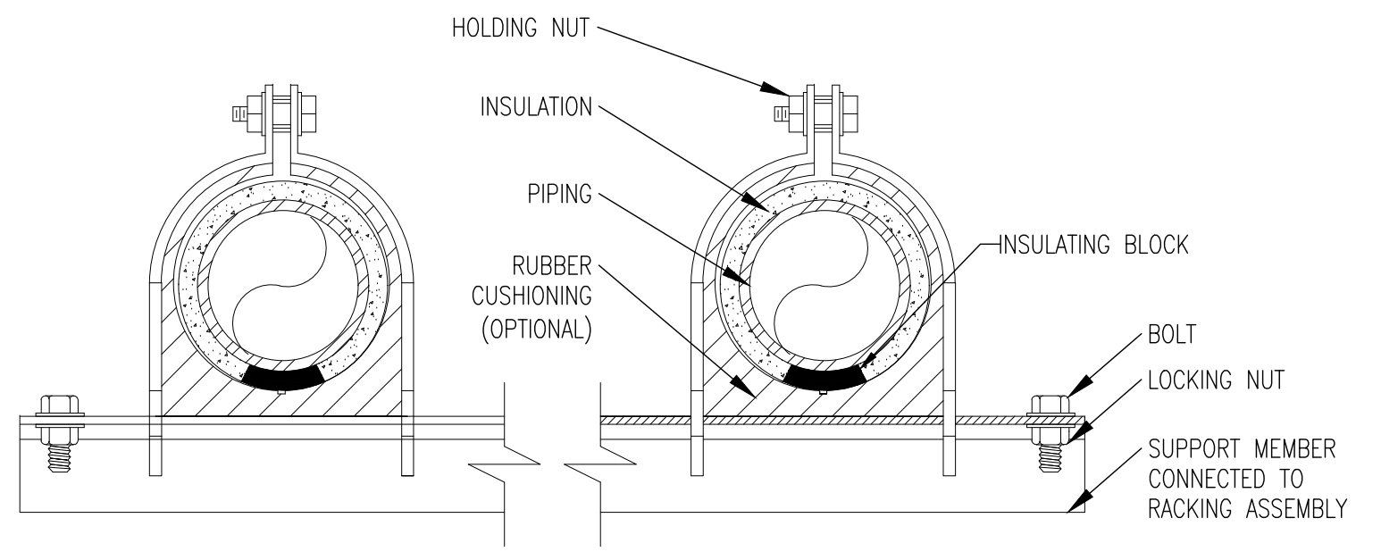

HANGER ROD
INSULATION (VAPOR BARRIER TYPE IS REQUIRED FOR LOW TEMPERATURE PIPE)
PROVIDE HIGH COMPRESSIVE STRENGTH INSULATION (9 PCF MIN. DENSITY) UNDER INSULATION SHIELD
INSULATION SHIELD AT HANGER
INSULATING BLOCK
ADJUSTABLE CLEVIS HANGER
TYPE 1 – SEE SPECIFICATIONS
PROVIDE INSULATION SHIELD AND INSERT FOR ALL PIPING (8" MIN.)
1/2" DIA. HANGER RODS WITH 36" MAX. SPACING ON EACH CHANNEL
BAND
1" MAX.
1 5/8" 12 GAGE CHANNEL OR 2"x2"x1/4" ANGLE
SIDE VIEW
TRAPEZE HANGER FOR UP TO 1000 LB. (453 KG) UNIFORM LOAD

MAXIMUM PIPE/TUBING SUPPORT SPACING (FT)											
NOM. SIZE	IN.	THRU 3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6
PIPE	FT.	7	7	7	9	10	11	12	14	16	17
TUBING	FT.	5	6	7	8	8	9	10	12	13	14

NOTE: FOR TRAPEZE HANGER TAKE SPACING OF SMALLEST SIZE ON TRAPEZE.

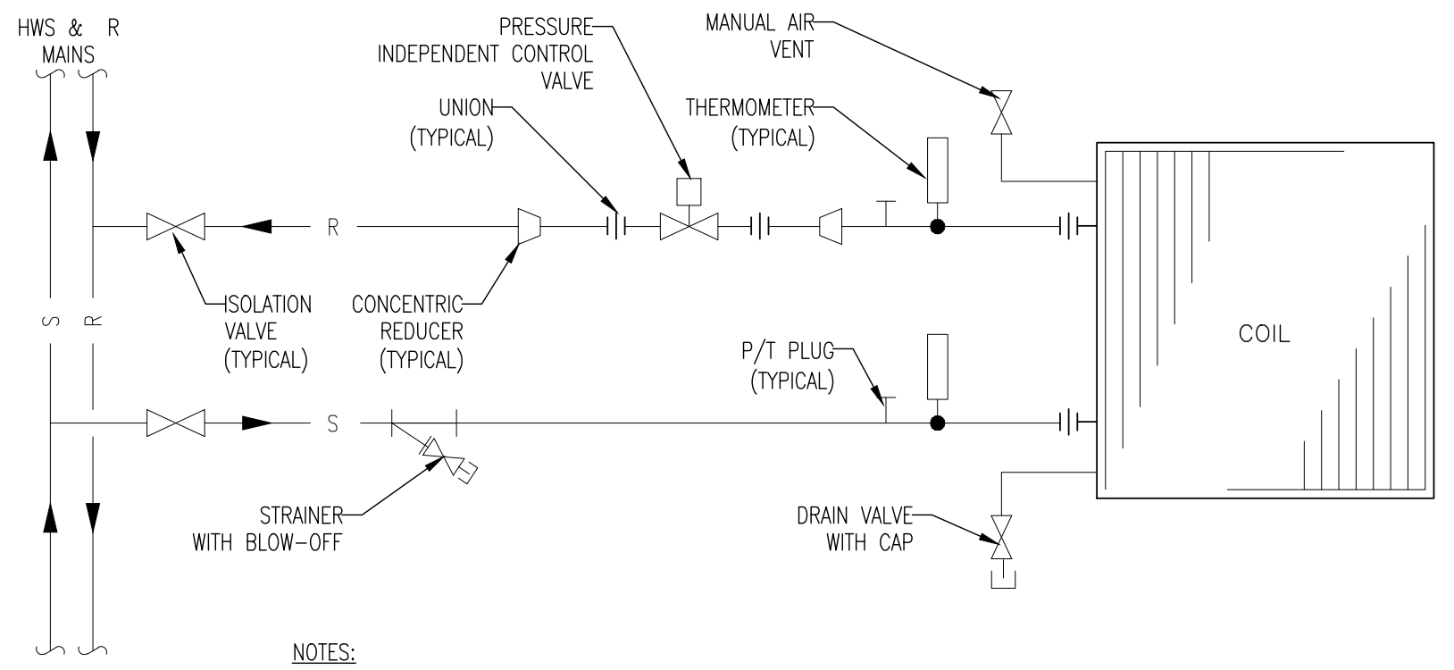
3 TYPICAL PIPE HANGER DETAIL

Scale: NTS


HOLDING NUT
INSULATION
PIPING
RUBBER CUSHIONING (OPTIONAL)
INSULATING BLOCK
BOLT
LOCKING NUT
SUPPORT MEMBER CONNECTED TO RACKING ASSEMBLY

4 UNISTRUT PIPE/TUBING CLAMP ASSEMBLY

SCALE: NONE

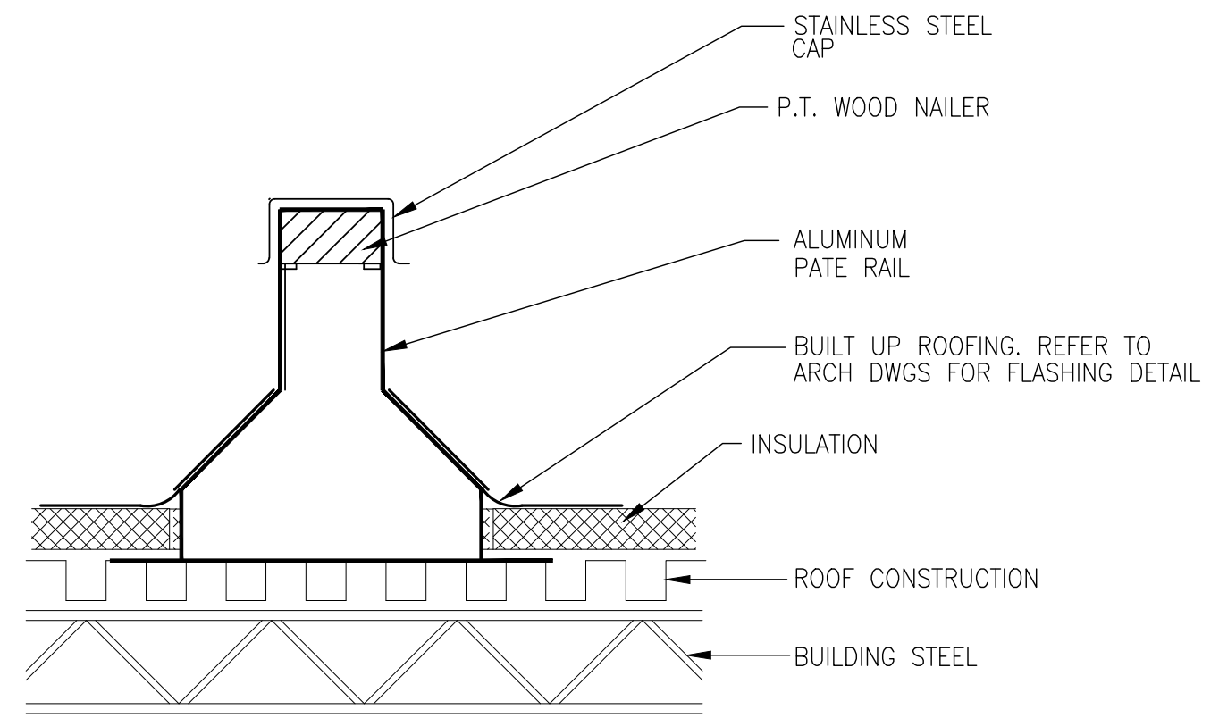


NOTES:

1. REFER TO COIL DETAILS FOR PIPING CONNECTION SIZES AND LOCATION.
2. INSTALL PIPING TO MAINTAIN ACCESS TO COIL.
3. CONTROL VALVE SHALL BE SIZED FOR A 3–5 PSI DROP AT THE DESIGN FLOW RATE.

5 TYPICAL HYDRONIC COIL PIPING DETAIL

Scale: NTS

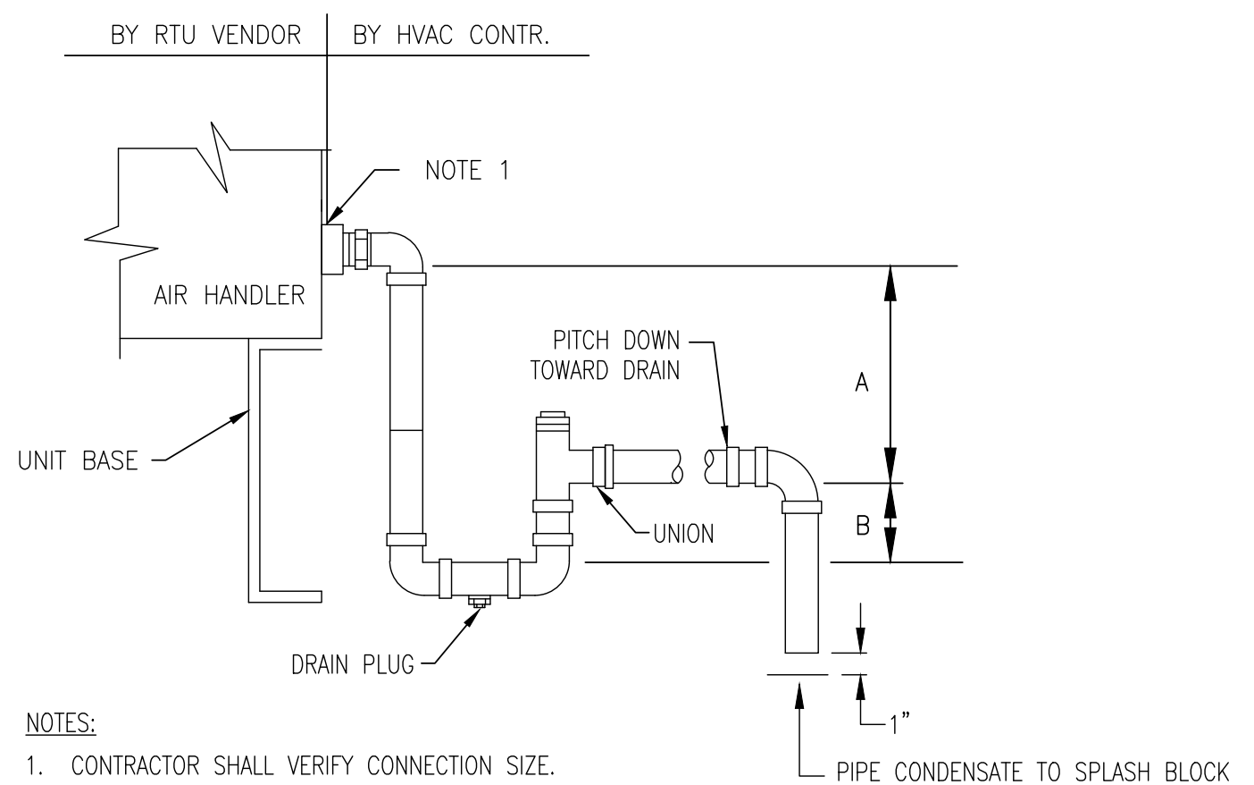


NOTES:

1. CONTRACTOR SHALL VERIFY LENGTH BASED ON STRUCTURAL SUPPORTS.
2. PROVIDE A MINIMUM OF TWO SUPPORT RAILS FOR EACH CONDENSING UNIT. FASTEN CONDENSING UNIT TO SUPPORTS AS PER MANUFACTURER REQUIREMENTS.

6 CONDENSING UNIT SUPPORT RAIL DETAIL

Scale: NTS



NOTES:

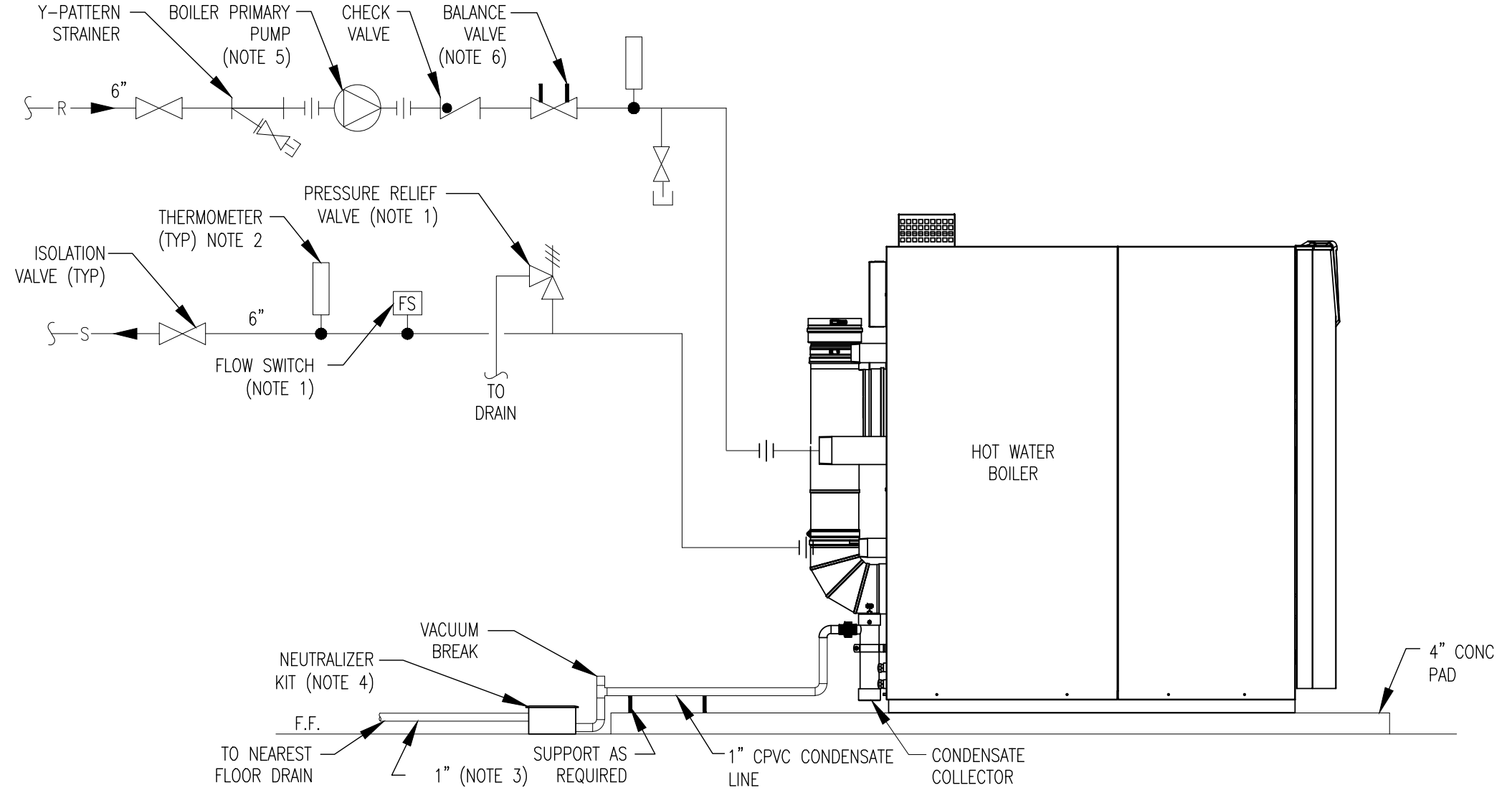
1. CONTRACTOR SHALL VERIFY CONNECTION SIZE.
2. DRAIN LINE SHALL BE AT LEAST THE SAME SIZE AS THE NIPPLE ON THE DRAIN PAN. ALL DRAIN PIPING SHALL BE COPPER. PVC PIPING IS NOT ALLOWED
3. INSTALL UNION WHERE SHOWN SO PIPING CAN BE PULLED APART AND CLEANED.

UNIT ID	A	B
AHU-A1	5"	2"
AHU-A2	5"	2"
AHU-B1	5"	2"
AHU-C2	5"	2"
AHU-C1	5"	2"
AHU-F1	5"	2"
AHU-F2	5"	2"

UNIT ID	A	B
AHU-F3	5"	2"
AHU-F4	5"	2"
AHU-F5	5"	2"
AHU-F6	5"	2"
AHU-F7	5"	2"
AHU-F9	5"	2"
AHU-G1	5"	2"
AHU-E1	5"	2"
AHU-E2	5"	2"

7 CONDENSATE TRAP DETAIL

Scale: NTS

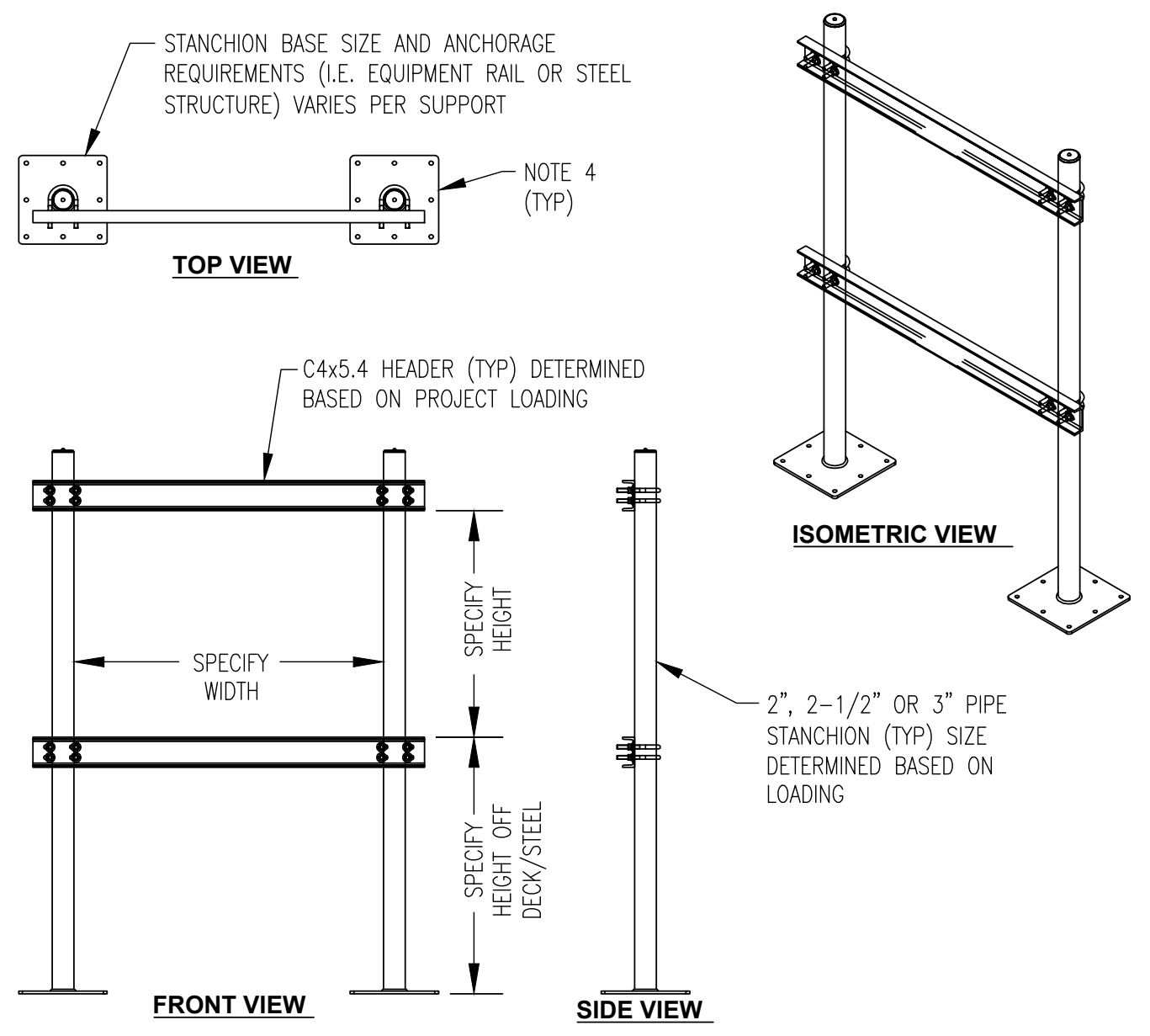


NOTES:

1. PRESSURE RELIEF VALVE & FLOW SWITCH SHALL BE PROVIDED BY BOILER MANUFACTURER AND INSTALLED BY CONTRACTOR.
2. INSTALL THERMOMETERS AS OUTLINED IN MECHANICAL SPECIFICATIONS.
3. SLOPE IN DIRECTION OF FLOW.
4. PROVIDE LOCHINVAR NEUTRALIZER KIT MODEL CN6T.
5. CALIBRATED BALANCE VALVE SHALL BE AS MANUFACTURED BY B&G MODEL: CB 6
6. BOILER HOT WATER PUMPS ARE BASED MOUNTED ON HOUSEKEEPING PAD. SEE SCHEDULE.

8 HOT WATER BOILER PIPING DETAIL

SCALE: NONE

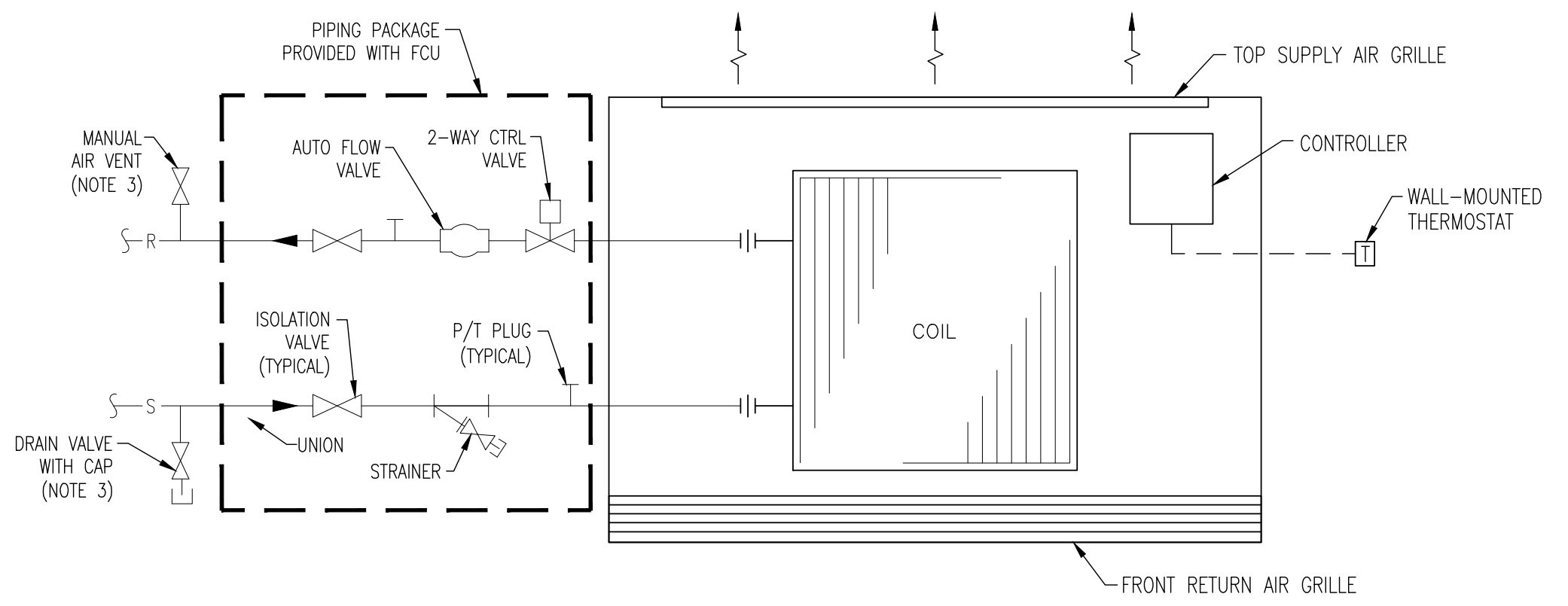

STANCHION BASE SIZE AND ANCHORAGE REQUIREMENTS (I.E. EQUIPMENT RAIL OR STEEL STRUCTURE) VARIES PER SUPPORT
NOTE 4 (TYP)
TOP VIEW
C4x5.4 HEADER (TYP) DETERMINED BASED ON PROJECT LOADING
SPECIFY WIDTH
SPECIFY HEIGHT
SPECIFY HEIGHT OFF DECK/STEEL
2", 2-1/2" OR 3" PIPE STANCHION (TYP) SIZE DETERMINED BASED ON LOADING
FRONT VIEW
SIDE VIEW
ISOMETRIC VIEW

9 DUCT SUPPORT DETAIL

SCALE: NTS

NOTES:

1. BASIS OF DESIGN: MIRO INDUSTRIES, ENCLOSED DUCT SUPPORT MODEL: DS.
2. CONTRACTOR SHALL PROVIDE MIRO INDUSTRIES AN APPROVED DUCTWORK SHOP DRAWING FOR THEIR REVIEW AND DETERMINATION OF THE SPECIFIC DUCTWORK SUPPORT REQUIRED AT EACH LOCATION.
3. CONTRACTOR SHALL PROVIDE MIRO INDUSTRIES THE WIDTH & HEIGHTS NOTED IN THE DETAIL ABOVE.
4. INSTALL A RUBBER PAD BENEATH EACH NON PENETRATING BASE. COLOR OF PAD SHALL MATCH THAT OF ROOF. PAD SHALL EXTEND 4" (MIN) BEYOND EDGE OF SUPPORT. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL PAD INFORMATION.



10 FAN COIL UNIT PIPING DETAIL

SCALE: NTS

NOTES:

1. WIRING OF THERMOSTAT BY BAS CONTRACTOR.
2. PIPING PACKAGE COMES INSULATED FROM THE FACTORY. CONTRACTOR TO MAKE SURE PIPING & COMPONENTS ARE INSULATED.
3. CONTRACTOR SHALL INSTALL 3/4" MANUAL VENT & DRAIN.

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151 Moore Street,
Princeton, NJ
08540

Project Number
5516E

Project Date
01.29. 2026

Checked By
JTM

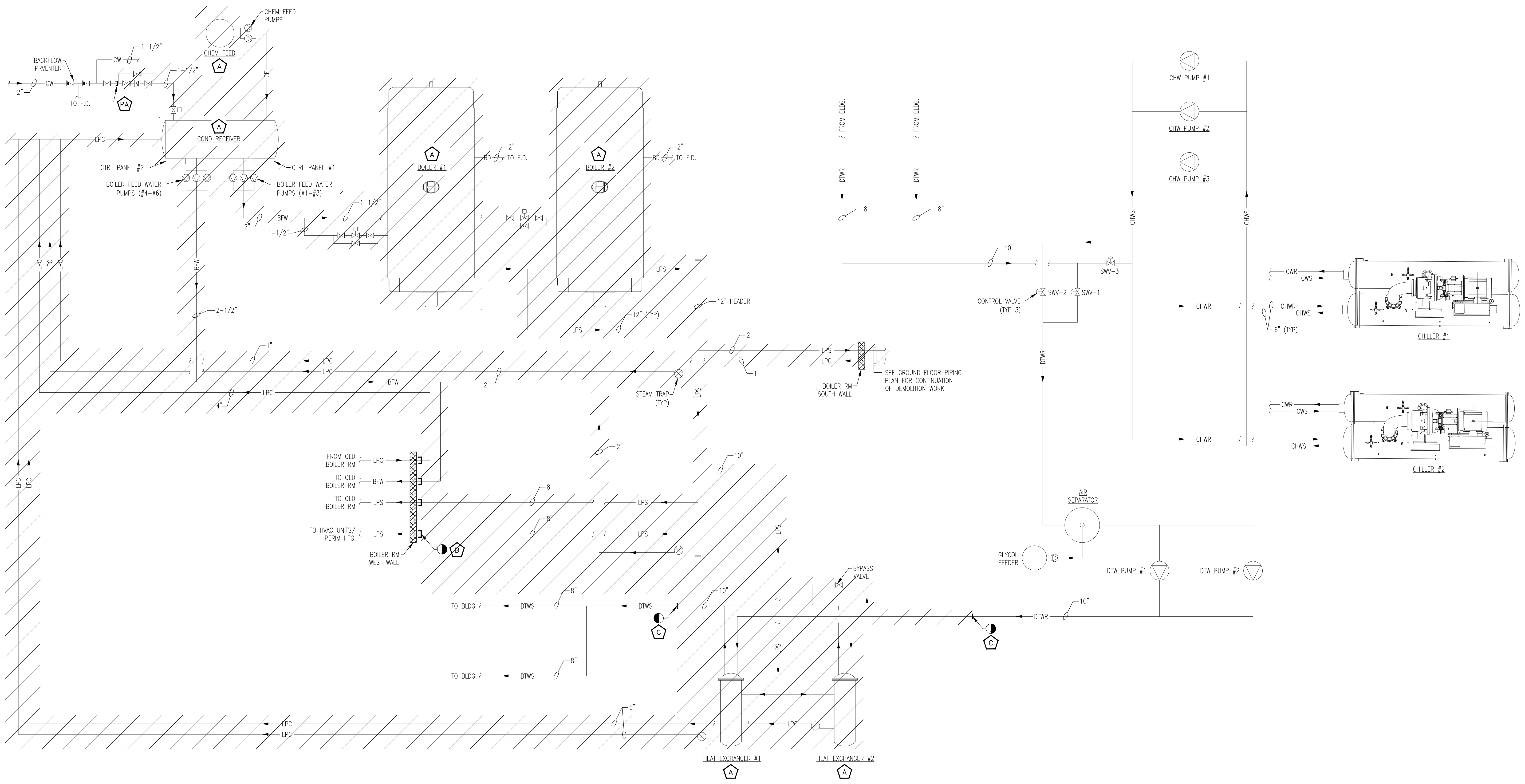
Drawn By
JD

Scale
AS NOTED

Drawing Name
MECHANICAL - DETAILS

Revisions		
No.	Date	Description

Drawing Number
M-801



1 MECHANICAL - BOILER ROOM PIPING DIAGRAM, DEMOLITION PLAN
SCALE: 1/4"=1'-0"

MECHANICAL DEMOLITION NOTES

A REMOVE EXISTING STEAM BOILERS, CONDENSATE RECEIVER TANK WITH PUMPS, HEAT EXCHANGERS, GAS VENTS, CHEMICAL FEED SYSTEM, ASSOCIATED STEAM & CONDENSATE PIPING, CONTROLS FOR EACH PIECE OF EQUIPMENT, CONTROL WIRING, CONDUITS, ETC., IN THEIR ENTIRETY.

B REMOVE STEAM, STEAM CONDENSATE AND BOILER FEED WATER PIPING TO LOCATION SHOWN & CAP.

C REMOVE DUAL TEMPERATURE PIPING TO LOCATION SHOWN.

PLUMBING DEMOLITION NOTES

PA REMOVE EXISTING PIPING TO LOCATION SHOWN & CAP. REMOVE WATER METER, CONTROL VALVE, CONTROL WIRING AND CONDUITS, ETC.

GENERAL DEMOLITION NOTES

1. USE THIS PIPING DIAGRAM IN CONJUNCTION WITH BOILER ROOM DEMOLITION PLAN FOR FULL WORK SCOPE.
2. REMOVE ALL CONTROLS ASSOCIATED WITH EQUIPMENT BEING REMOVED. EXISTING PROGRAMMING ASSOCIATED WITH THIS EQUIPMENT SHALL BE REMOVED FROM THE BUILDING AUTOMATION CONTROL SYSTEM, INCLUDING THE GRAPHICS.

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Project Name
HVAC Renovations at Princeton High School

Project Owner Name
Princeton Public Schools

Project Location
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Princeton, NJ
08540

Project Number
5516E

Project Date
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Drawing Name
MECHANICAL - BOILER PIPING DIAGRAM DEMOLITION PLAN

Revisions

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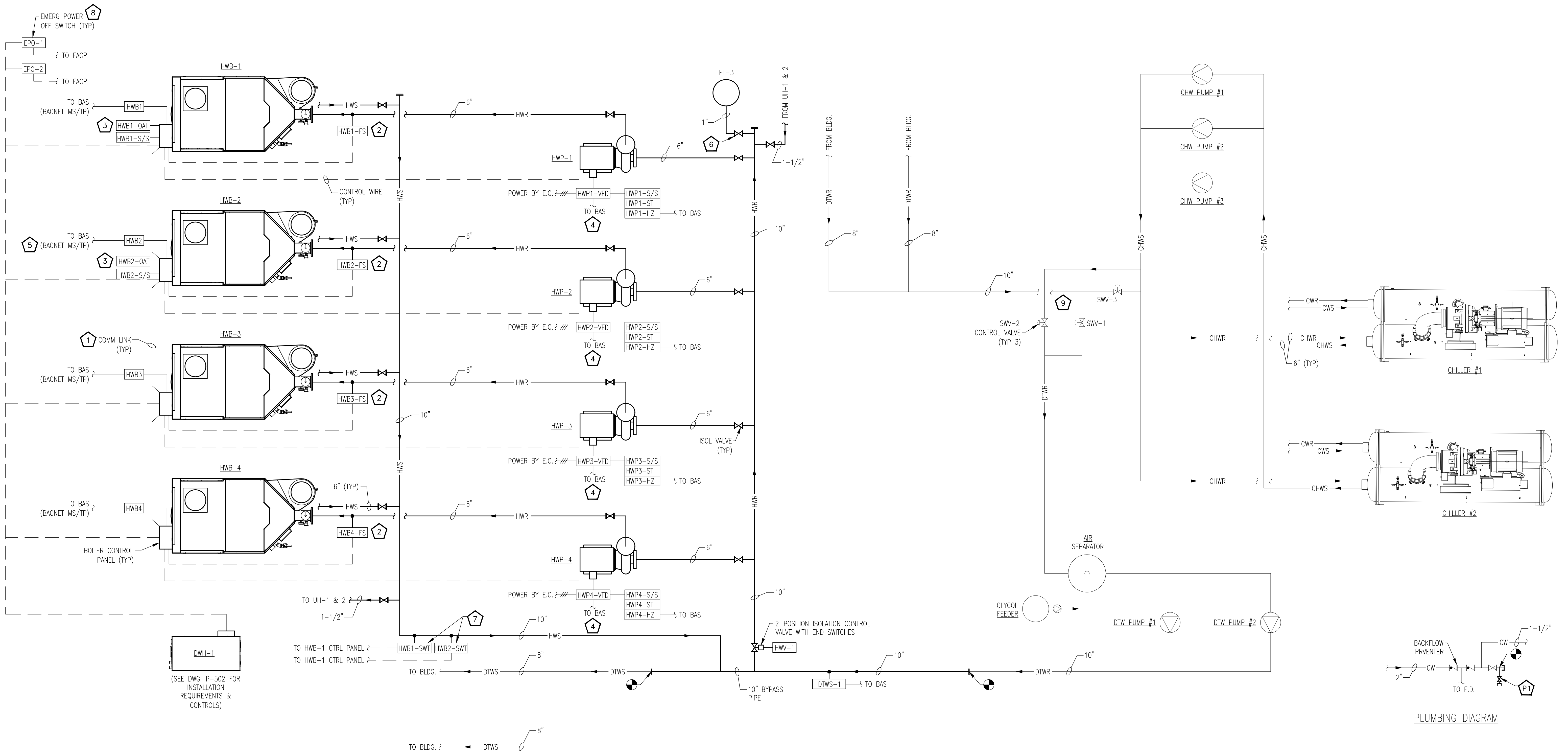

PLUMBING DIAGRAM

1 MECHANICAL - BOILER ROOM PIPING & CONTROL DIAGRAM, NEW WORK PLAN
SCALE: 1/4"=1'-0"

MECHANICAL NEW WORK NOTES

1. INSTALL 24GA TWISTED SHIELDED PAIR COMMUNICATION WIRE BETWEEN EACH BOILER CONTROL PANEL AND FROM EACH BOILER CONTROLLER TO THE BAS SYSTEM. REFER TO MANUFACTURER IOM MANUAL FOR ADDITIONAL COMMUNICATION WIRE REQUIREMENTS.
2. FLOW SWITCH PROVIDED BY BOILER MANUFACTURER AND INSTALLED BY MECHANICAL CONTRACTOR FOR EACH BOILER. CONTROLS CONTRACTOR SHALL WIRE TO BOILER CONTROL PANEL.
3. OUTDOOR AIR TEMPERATURE SENSOR PROVIDED BY BOILER MANUFACTURER AND INSTALLED BY CONTROLS CONTRACTOR. THIS INSTALLATION IS ONLY FOR HWB-1 & HWB-2 WHICH WILL BE DESIGNATED AS THE MASTER CONTROLLERS. IN ADDITION THE START/STOP SHALL BE WIRED FROM THE BAS TO BOTH BOILERS TO ENERGIZE AND DE-ENERGIZE THE HOT WATER PLANT.
4. PUMP VFD SHALL BE ENERGIZED THROUGH THE BOILER CONTROLLER. THE STATUS, SPEED AND FAULT SHALL BE MONITORED AND CONTROLLED BY THE BAS SYSTEM.
5. EACH BOILER CONTROLLER SHALL BE TIED INTO THE BAS VIA BACNET MSTP COMMUNICATION PROTOCOL.
6. VALVE SHALL BE PUT IN THE "OPEN" POSITION. INSTALL A LOCKING VALVE COVER OVER BALL VALVE.
7. SUPPLY WATER TEMPERATURE SENSOR PROVIDED BY BOILER MANUFACTURER AND INSTALLED BY MECHANICAL CONTRACTOR. CONTROLS CONTRACTOR SHALL WIRE SENSORS TO HWB-1 & HWB-2 CONTROL PANELS WHICH WILL BE DESIGNATED AS MASTER CONTROLLERS.
8. REFER TO BOILER ROOM DRAWING FOR LOCATION OF SWITCHES.
9. EXISTING AUTOMATIC VALVES ON THE DUAL TEMPERATURE SYSTEM SHALL BE LABELED TO AS SHOWN ON THE DRAWINGS. THIS SHOULD AGREE WITH THE PROGRAMMING NAME. iF NOT IT SHOULD BE CHANGES TO AGREE WITH FIELD LABEL.

PLUMBING NEW WORK NOTES

P1 INSTALL A NEW 3/4" VALVE WITH HOSE END.

GENERAL NEW WORK NOTES

1. USE THIS PIPING DIAGRAM IN CONJUNCTION WITH BOILER ROOM DEMOLITION PLAN FOR FULL WORK SCOPE.

POINTS LIST

POINT DESIGNATION	POINT DESCRIPTION	POINT TYPE	PART NO. AND/OR DESCRIPTION	NOTES
HWP1-ST THRU HWP4-ST	PUMP STATUS	DIGITAL INPUT	–	THRU VFD
HWP1-S/S THRU HWP4-S/S	PUMP START / STOP	DIGITAL OUTPUT	–	THRU VFD (NOTE 1)
HWP1-HZ THRU HWP4-HZ	PUMP SPEED	ANALOG OUTPUT	–	THRU VFD (NOTE 2)
HWB-1 THRU HWB-4	BOILER STATUS	BACNET	–	NOTE 3
HWB1-SWT & HWB2-SWT	HOT WATER SUPPLY TEMPERATURE	ANALOG INPUT	–	NOTE 6
HWB1-OAT & HWB2-OAT	OUTDOOR AIR TEMPERATURE	ANALOG INPUT	–	NOTE 6
HWB1-FS THRU HWBH-FS	BOILER FLOW SWITCH	–	–	NOTE 5
HWV-1	2-POSITION CONTROL VALVE	DIGITAL OUTPUT	–	NOTE 4
HWV-1-OPEN	VALVE END SWITCH OPEN	DIGITAL INPUT	–	PROVIDE WITH VALVE
HWV-1-CLOSED	VALVE END SWITCH CLOSE	DIGITAL INPUT	–	PROVIDE WITH VALVE
DTWS-1	DUAL TEMPERATURE SUPPLY WATER TEMPERATURE	ANALOG INPUT	–	–
EPO-1	EMERG POWER OFF SWITCH (INDOOR SWITCH)	DIGITAL INPUT	–	NOTE 7
EPO-2	EMERG POWER OFF SWITCH (OUTDOOR SWITCH)	DIGITAL INPUT	–	NOTE 7
HWB1-S/S	START/STOP COMMAND FOR BOILER PLANT	DIGITAL OUTPUT	–	NOTE 8
HWB2-S/S	START/STOP COMMAND FOR BOILER PLANT	DIGITAL OUTPUT	–	NOTE 8
EF-B10 S/S	START/STOP	DIGITAL OUTPUT	–	NOTE 9
EF-B10 STATUS	STATUS	DIGITAL INPUT	CURRENT SENSOR	NOTE 9

POINTS LIST NOTES

1. START SIGNAL IS SENT FROM BOILER CONTROL PANEL TO VFD VIA RELAY CLOSURE FOR EACH BOILER.
2. PUMP SPEED SHALL BE MONITORED AND CONTROLLED BY THE BAS. THE SPEED SET POINT FOR EACH BOILER PRIMARY PUMP SHALL BE SET UP BASED ON THE TAB CONTRACTOR MEASUREMENTS.
3. MAP ALL AVAILABLE BOILER POINTS TO THE BAS VIA BACNET MSTP.
4. PROVIDE A BRAY, SERIES 31 CONTROL VALVE. VALVE SHALL HAVE BUBBLE TIGHT SHUT OFF UP TO 175 PSI, STAINLESS STEEL STEM & DISC & BUNA-N SEAT MATERIAL. PROVIDE AN ELECTRONIC ACTUATOR WITH END SWITCHES & OVERRIDE HAND WHEEL.
5. PROVIDE BY BOILER MANUFACTURER FOR EACH BOILER. INSTALLED BY MECHANICAL CONTRACTOR AND WIRED BY BAS CONTRACTOR.
6. PROVIDE BY BOILER MANUFACTURER. INSTALLED AND WIRED BY BAS CONTRACTOR.
7. EMERGENCY POWER OFF (EPO) SWITCH SHALL BE AS MANUFACTURED BY KENTEK, MODEL: ETG-EPO-FC. SWITCH SHALL BE RATED FOR OUTDOOR USE WITH POLYMER FLIP COVER. WIRE PER MANUFACTURER'S INSTRUCTIONS.
8. BAS SHALL START/STOP BOILER PLANT BY HARD WIRING TO HWB-1 AND HWB-2 MASTER CONTROLLERS. COORDINATE WITH MANUFACTURER FOR WIRING DETAIL.
9. BAS SHALL PROVIDE START/STOP AND STATUS HARD WIRING.

HEATING HOT WATER BOILER POINTS

POINT DESCRIPTION	POINT TYPE
BOILER ENABLE	BV
MANUAL RESET HIGH LIMIT	BI
GAS PRESSURE SWITCH	BI
BLOCKED DRAIN SWITCH	BI
FLAME 1	BI
FAN PROVING SWITCH	BI
INTERNAL LWCO	BI
GAS PRESSURE SWITCH #2	BI
FLAME 2	BI
TANK THERMOSTAT	BI
RUN TIME CONTACTS	BI
BOILER PUMP	BI
MAIN FAN	BI
EXTERNAL SPARK	BI
AIR VALVE TRIGGER	BI
AIR VALVE PROVING SWTCH	BI
SYSTEM / CASCADE SETPOINT	AI
CASCADE TOTAL POWER	AI
CASCADE CURRENT POWER	AI
OUTLET SETPOINT	AI
OUTLET TEMPERATURE	AI
INLET TEMPERATURE	AI
FLUE TEMPERATURE	AI

HEATING HOT WATER BOILER POINTS

POINT DESCRIPTION	POINT TYPE
FIRING RATE	AI
BOILER STATUS CODE	AI
BOILER BLOCKING CODE	AI
BOILER LOCKOUT CODE	AI
FAN SPEED TARGET	AI
O2 SENSOR STATUS	AI
CURRENT TRIM FACTOR	AI
BAROMETER	AI
LOCKOUT ERROR LEADER	AI
FLAME 1	AI
FLAME 2	AI
CORRECTED O2 READING	AI
CONFIGURATION	AV
COILS	AV
RATE COMMAND/SETPOINT COMMAND	AV
TANK SETPOINT	AV
TANK TEMPERATURE	AV
OUTDOOR TEMPERATURE	AV
SYSTEM SUPPLY TEMPERATURE	AV
SYSTEM RETURN TEMPERATURE	AV

MAPPED POINTS LIST NOTES

1. DISPLAY ALL READINGS IN "IMPERIAL" UNITS (I.E. FAHRENHEIT, PSI, ETC.). CONFIGURE DIP SWITCHES FOR BACNET MSTP AS PER MANUFACTUER'S REQUIREMENTS. THESE POINTS SHALL BE DISPLAYED FOR EACH BOILER. THE POINTS SHOWN ON THE FLOW DIAGRAM SHALL BE DISPLAYED ON THE BAS GRAPHICS. THE REMAINING POINTS SHALL BE SHOWN IN TABULAR FORM FOR EACH BOILER. A BUTTON ON THE GRAPHIC WHEN SELECTED WILL NAVIGATE THE USER TO THE INFORMATION ON THE TABLE.

HOT WATER HEATING BOILER PLANT – SEQUENCE OF OPERATION

(NOTE: COMMUNICATION CABLE SHALL BE INSTALLED BETWEEN THE BOILERS SO THEY OPERATE AS ONE HEATING PLANT) HWB-1 AND HWB-2 CONTROLLERS SHALL BE THE MASTER CONTROLLERS FOR THE SYSTEM. IF ONE OF THE MASTER CONTROLLERS FAIL, THE OTHER CONTROLLER WILL BECOME THE MASTER.

ENERGIZING BOILER PLANT

THE BOILER PLANT SHALL INDEXED TO OPERATE FROM THE BUILDING AUTOMATION SYSTEM. WHEN THE HOT WATER BOILER PLANT IS ENERGIZED THE SYSTEM VALVES SHALL BE POSITIONED AS FOLLOWS: (HWV-1 AND SWV-1 SHALL BE OPENED, SWV-2 AND SWV-3 SHALL BE CLOSED)

ENERGIZING CHILLER PLANT

WHEN THE HOT WATER PLANT IS DE-ENERGIZED, THE SYSTEM VALVE SHALL BE POSITIONED AS FOLLOWS: (HWV-1 AND SWV-2 AND SWV-3 SHALL REMAIN CLOSED, SWV-1 SHALL REMAIN OPEN UNTIL THE SUPPLY WATER TEMPERATURE (DTWS-1) IS BELOW 70°F. ONCE THE TEMPERATURE REACHES THIS SET POINT THE VALVE CAN BE POSITIONED FOR THE COOLING MODE. (SWV-1 CLOSES, HWV-1 REMAINS CLOSED, SWV-2 AND SWV-3 SHALL OPEN. THE CHILLED WATER PLANT SHALL FOLLOW THE EXISTING SEQUENCE.

HOT WATER SUPPLY WATER TEMPERATURE

THE SUPPLY WATER TEMPERATURE (ST-1) SHALL BE MONITORED BY THE MASTER BOILER CONTROLLER. THE SET POINT SHALL BE MAINTAINED AT 140 °F (ADJ). IF THE SUPPLY WATER DROPS BELOW THE SET POINT, THE FIRST BOILER, OR LEAD BOILER (HWB-1) SHALL ENERGIZE ITS ASSOCIATED HOT WATER PUMP (HWP-1) THRU A RELAY IN THE BOILER CONTROL PANEL. THE GAS VALVE SHALL MODULATE AS NECESSARY TO MAINTAIN THE SET POINT TEMPERATURE. IF AFTER A PERIOD OF TIME (AS DETERMINED BY THE BOILER CONTROLLER) THE LEAD BOILER CANNOT REACH THE SET POINT TEMPERATURE, THE SECOND BOILER (HWB-2) AND ITS ASSOCIATED PUMP (HWP-2) SHALL ENERGIZE. THIS CYCLE SHALL CONTINUE UNTIL THE SUPPLY WATER TEMPERATURE SET POINT IS SATISFIED. THE BOILERS SHALL DE-ENERGIZE IN REVERSE ORDER AS THE DEMAND FOR HEATING DECREASES.

LEAD BOILER OPERATION

THE LEAD BOILER (HWB-1) SHALL BE THE FIRST TO ENERGIZE WHEN A NEED FOR HEATING ARISES. THE SECOND BOILER, HWB-2, SHALL BE THE NEXT TO ENERGIZE, AND SO ON. AFTER A PERIOD OF 30 DAYS (ADJ), HWB-2 SHALL BECOME THE LEAD BOILER WITH THE SAME TIME PERIOD FOR BOILERS 3 & 4. THE MASTER CONTROLLER SHALL EQUALIZE RUN TIME WITH EACH BOILER. THE LEAD BOILER CHANGEOVER SHALL OCCUR AT 9:00 AM TUESDAY MORNING OR AS DICTATED BY OWNER.

HOT WATER TEMPERATURE SET POINT

THE SUPPLY WATER TEMPERATURE SHALL BE RESET BASED UPON THE OUTDOOR AIR TEMPERATURE. WHEN THE OUTDOOR AIR TEMPERATURE IS AT OR BELOW 40 °F (ADJ), THE SUPPLY WATER TEMPERATURE SHALL BE 140 °F. WHEN OUTDOOR AIR TEMPERATURE IS 75 °F (ADJ), THE SUPPLY WATER TEMPERATURE SHALL BE 120 °F (ADJ). FOR OUTDOOR AIR TEMPERATURES BETWEEN THE GIVEN VALUES, THE SUPPLY TEMPERATURE SHALL BE RESET LINEARLY.

BOILER FAILURE SEQUENCE

HWB-1 & 2 HAS THE ABILITY TO BE MASTER CONTROLLER OF THE HEATING PLANT. EACH HAS A DEDICATED OUTDOOR AIR TEMPERATURE SENSOR AND A SUPPLY WATER TEMPERATURE SENSOR.

HOT WATER BOILER #1 (HWB-1) SHALL BE PROGRAMMED DURING STARTUP TO BE THE MASTER CONTROLLER OF THE HEATING PLANT. THIS BOILER SHALL ENERGIZE / DE-ENERGIZE THE REMAINING BOILERS AS NEEDED TO MAINTAIN THE HOT WATER SUPPLY TEMPERATURE SET POINT AS WELL AS EQUALIZED RUN TIME. SHOULD THERE BE A FAILURE WITH BOILER #1, BOILER #2 SHALL AUTOMATICALLY TAKE OVER AS THE MASTER CONTROLLER, MAINTAINING NORMAL OPERATION OF THE HEATING PLANT.

NORMAL HOT WATER BOILER & PUMP OPERATION

THE HOT WATER PLANT SHALL UTILIZE ALL FOUR (4) BOILERS TO MAINTAIN THE HEATING LOAD IN THE BUILDING. EACH BOILER HAS A DEDICATED HOT WATER PUMP. WHEN THE MASTER CONTROLLER ENERGIZES A BOILER, THE ASSOCIATED HOT WATER PUMP SHALL ENERGIZE. THE FLOW SWITCH SHALL CLOSE & THE BOILER SHALL FIRE. THE WATER FLOW RATE THROUGH EACH BOILER SHALL BE MAINTAINED AT 375 GPM. THIS FLOW RATE SHALL BE SET UP THRU THE PUMP'S VFD DURING THE STARTUP & BALANCING OF THE SYSTEM.

FAILED BOILER OR PUMP OPERATION

IF THERE IS A FAILURE WITH EITHER A BOILER OR THE ASSOCIATED BOILER PUMP, THE HOT WATER PLANT SHALL OPERATE USING THE REMAINING THREE (3) BOILERS & PUMPS. THE WATER FLOW RATE THROUGH EACH BOILER SHALL BE ADJUSTED TO MAINTAIN A FLOW RATE OF 500 GPM. THIS FAILED CONDITION FLOW RATE SHALL BE SET UP THRU THE PUMP'S VFD DURING THE STARTUP & BALANCING OF THE SYSTEM.

HOT WATER BOILER SAFETIES

IN ADDITIONAL TO THE ONBOARD SAFETIES PROVIDED BY THE BOILER MANUFACTURER, EACH HEATING CIRCUIT SHALL BE PROVIDED WITH A FLOW SWITCH WHICH SHALL PROHIBIT THE BOILER FROM FIRING IF NO FLOW IS DETECTED.

ALARMS

- IF THE SUPPLY WATER TEMPERATURE IS 5 °F ABOVE THE SET POINT (ADJUSTABLE), A "HIGH SUPPLY WATER TEMPERATURE" ALARM SHALL BE ISSUED AT THE CONTROL SYSTEM FRONT END.
- IF THE SUPPLY WATER TEMPERATURE IS 5 °F BELOW THE SET POINT (ADJUSTABLE), A "LOW SUPPLY WATER TEMPERATURE" ALARM SHALL BE ISSUED AT THE CONTROL SYSTEM FRONT END.
- IF A GENERAL FAULT IS DETECTED BY THE BOILER, A "BOILER FAILURE ALARM" SHALL BE ISSUED AT THE CONTROL SYSTEM FRONT END IDENTIFYING WHICH BOILER HAS FAILED.
- THE STATUS OF EACH PUMP SHALL BE MONITORED THROUGH ITS VFD. IF A PUMP FAILURE OCCURS, A "PUMP FAILURE" ALARM SHALL BE ISSUED AT THE CONTROL SYSTEM FRONT END IDENTIFYING WHICH PUMP HAS FAILED.
- IF THE V-4 REMAINS CLOSED WHEN THE VALVE IS COMMANDED TO OPEN.

EPO SWITCH OPERATION

IF EITHER OF THE EMERGENCY POWER OFF SWITCHES (EPO-1 & 2) ARE DEPRESSED, ALL FOUR (4) BOILERS & THE DOMESTIC WATER HEATER SHALL DE-ENERGIZE. A SUPERVISORY ALARM SHALL BE ISSUED AT THE FIRE ALARM CONTROL PANEL.

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HVAC Renovations at Princeton High School

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MECHANICAL - BOILER PIPING DIAGRAM & CONTROLS NEW WORK PLAN

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MECHANICAL SPECIFICATION

WORK INCLUDED

A. INCLUDE ALL LABOR, MATERIALS, APPLIANCES, TOOLS, TRANSPORTATION, STORAGE, CERTIFICATES, DRAWINGS, TEMPORARY WORK, CLEANING, START-UP, COMMISSIONING AND ALL OTHER CONTRACTOR SERVICES REQUIRED TO MAKE THE INSTALLATION COMPLETE IN EVERY RESPECT, GUARANTEED TO BE SAFE AND READY FOR USE AND OPERATION IN A MANNER SATISFACTORY TO THE OWNER AND ALL THE MECHANICAL WORK SHOWN ON THE DRAWINGS AND AS SPECIFIED HEREIN.
B. WHERE THERE IS CONFLICT BETWEEN THE SPECIFICATIONS ON THE DRAWINGS AND THE ISSUED BOOK SPECIFICATIONS FOR THE PROJECT, THE SPECIFICATIONS ON THE DRAWINGS SHALL BE FOLLOWED BY THE CONTRACTOR.

LAWS AND ORDINANCES

A. ALL LOCAL AND STATE LAWS AND REGULATIONS AND RECOMMENDATIONS OF THE NATIONAL FIRE PROTECTION ASSOCIATION AND INTERNATIONAL BUILDING MECHANICAL CODE GOVERNING OR RELATING TO ANY PORTION OF THIS WORK ARE HEREBY MADE PART OF THESE SPECIFICATIONS. RESPONSIBILITY FOR COMPLIANCE TO THEIR PROVISIONS IS INCLUDED.

B. INFORM THE ENGINEER OF ANY WORK OR MATERIALS, WHICH OBVIOUSLY VIOLATES ANY OF THE APPLICABLE CODES AND REGULATIONS BEFORE PROCEEDING WITH THE WORK. FAILURE TO DO SO INDICATES ACCEPTANCE OF THE WORK AS SHOWN BY THE ENGINEER, AND RESPONSIBILITY FOR CORRECTING SUCH WORK SHALL BE MADE BY THE CONTRACTOR AT NO COST TO THE OWNER.

C. ALL WORK SHALL MEET OR EXCEED THE LATEST REQUIREMENTS OF ALL NATIONAL, STATE, COUNTY, LOCAL OR MUNICIPAL, AND OTHER RECOGNIZED AUTHORITIES EXERCISING OR ASSERTING JURISDICTION OVER THE CONSTRUCTION WORK AT THE PROJECT.

STANDARDS

A. MATERIALS SPECIFIED BY REFERENCE TO A SPECIFIC STANDARD SUCH AS THE AMERICAN SOCIETY OF TESTING MATERIALS, UNDERWRITERS LABORATORIES, AMERICAN NATIONAL STANDARDS INSTITUTE, FEDERAL SPECIFICATIONS, A TRADE STANDARD OR OTHER SIMILAR STANDARD SHALL COMPLY WITH THE LATEST REVISION THEREOF IN EFFECT AT THE TIME OF BIDDING, EXCEPT AS MODIFIED BY TYPE, CLASS OR GRADE OR MODIFIED BY SUCH REFERENCE.

B. WHERE COMPLIANCE WITH TWO OR MORE STANDARDS IS SPECIFIED, AND THEY ESTABLISH DIFFERENT OR CONFLICTING REQUIREMENTS FOR MINIMUM QUANTITIES OR QUALITY LEVELS, THE MORE STRINGENT REQUIREMENTS WILL BE ENFORCED UNLESS THE CONTRACT DOCUMENTS INDICATE OTHERWISE.

C. REFER REQUIREMENTS THAT ARE DIFFERENT, BUT APPARENTLY EQUAL, AND UNCERTAINTIES AS TO WHICH QUALITY LEVEL IS MORE STRINGENT TO THE ENGINEER BEFORE PROCEEDING.

INTENT OF THE DRAWINGS AND SPECIFICATIONS

A. IT IS THE INTENT OF THESE SPECIFICATIONS TO PROVIDE COMPLETE SYSTEMS IN GOOD WORKING ORDER, READY FOR OPERATION, INCLUDING ALL ACCESSORIES AND ITEMS REQUIRED FOR PROPER OPERATION.

B. IT SHALL BE UNDERSTOOD THAT THE MECHANICAL DRAWINGS SHOW THE GENERAL RUN OF PIPING, DUCTWORK AND THE APPROXIMATE LOCATION OF ALL EQUIPMENT. DO NOT SCALE THE DRAWINGS TO DETERMINE EXACT POSITIONS AND CLEARANCES. OBTAIN FROM THE ARCHITECT ANY DIMENSIONS NOT SHOWN.

C. METHODS OF CONSTRUCTION AND DETAILS OF WORKMANSHIP WHERE NOT SPECIFICALLY DESCRIBED HEREIN OR INDICATED ON THE DRAWINGS ARE SUBJECT TO THE OWNER'S APPROVAL.

D. MAKE A THOROUGH EXAMINATION OF ALL SURFACES RECEIVING THE WORK OF THIS SECTION, AND BEFORE STARTING THE INSTALLATION, NOTIFY THE ENGINEER IN WRITING OF ANY DEFECT WHICH WILL AFFECT THE SATISFACTORY COMPLETION OF ANY WORK.

E. CONTRACTOR SHALL CONFORM TO THE OWNER'S SITE STANDARDS FOR QUALITY, WORKMANSHIP, MATERIALS, EQUIPMENT, ETC. IF THERE IS A DISCREPANCY BETWEEN THE SITE STANDARD AND INFORMATION SHOWN ON THE DRAWINGS OR SPECIFICATIONS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER. THE ENGINEER WILL CONFER WITH THE OWNER AND THE CONTRACTOR WILL BE INSTRUCTED ON HOW TO PROCEED.

PERMITS AND CERTIFICATES

A. THIS CONTRACTOR SHALL OBTAIN ALL NECESSARY NOTICES, FILE DRAWINGS AND SPECIFICATIONS WITH THE DEPARTMENTS OR AUTHORITIES ASSERTING OR HAVING JURISDICTION, OBTAIN PERMITS OR LICENSES NECESSARY TO CARRY OUT THE WORK. CONTRACTOR SHALL PAY FOR PERMIT FEES, SPECIAL TESTING, ETC AS REQUIRED BY THIS PROJECT.

B. THE CONTRACTOR SHALL ARRANGE FOR INSPECTIONS AND TESTS OF ANY OR PART OF THE WORK IF SO REQUIRED BY AUTHORITIES OR LOCAL UTILITY OR SERVICE COMPANIES HAVING JURISDICTION. NOTIFY OWNER AND ENGINEER 72 HOURS IN ADVANCE OF ALL INSPECTIONS.

C. THE CONTRACTOR SHALL OBTAIN ALL CERTIFICATES NECESSARY AS EVIDENCE THAT THE WORK INSTALLED CONFORMS TO ALL REGULATIONS WHERE THEY APPLY TO THIS WORK.

D. THE CONTRACTOR SHALL NOTIFY THE OWNER IN A TIMELY MANNER THAT INSPECTIONS ARE REQUIRED, SO AS NOT TO HOLD UP THE PROGRESS OF THE WORK.

RELATIONS WITH OTHER TRADES

A. CONFER WITH OTHERS ENGAGED IN THE CONSTRUCTION OF THE BUILDING WHOSE WORK MIGHT AFFECT THE INSTALLATION, AND ARRANGE ALL PARTS OF THE WORK AND EQUIPMENT IN PROPER RELATION TO THE WORK AND EQUIPMENT OF OTHERS, WITH THE BUILDING CONSTRUCTION AND WITH THE ARCHITECTURAL FINISH SO THAT IT WILL HARMONIZE IN SERVICE AND APPEARANCE. SPECIAL CARE SHALL BE TAKEN IN THE INSTALLATION OF EQUIPMENT AND PIPING WHERE CONCEALED TO ASSURE THAT IT DOES NOT PROJECT BEYOND FINISHED LINES OF FLOORS, CEILINGS, WALLS AND CABINETS.

B. WHERE, DUE TO UNION REGULATIONS OR OTHER TRADE AGREEMENTS, ANY OF THE WORK SHOWN ON THE DRAWINGS OR SPECIFIED HEREIN IS CONSIDERED OTHER TRADES, SUBCONTRACT THE WORK IN QUESTION AND ASSUME FULL RESPONSIBILITY FOR THE COMPLETE INSTALLATION.

APPROVED MATERIALS

A. ALL MATERIAL AND EQUIPMENT SHALL BE NEW (EXCEPT WHERE FURNISHED OR DIRECTED FOR RE-USE BY OWNER),OF MAKES AND KINDS SPECIFIED HEREIN, OR AS INCLUDED IN THE DRAWINGS, WITHOUT EXCEPTION. WHERE ONE BRAND, MAKE OR DEVICE IS SHOWN OR SPECIFIED, THE PRODUCTS OF OTHER MANUFACTURERS SHALL BE REGARDED AS ACCEPTABLE WHEN, IN THE OPINION OF THE ENGINEER, IT IS A RECOGNIZED EQUAL CONSIDERING QUALITY, WORKMANSHIP, ECONOMY OF OPERATION AND SUITABILITY FOR THE PURPOSE INTENDED.

B. WHERE SUCH APPROVED SUBSTITUTION OR DEVIATION REQUIRES A DIFFERENT QUANTITY OR ARRANGEMENT OF PIPING, WIRING, SUPPORTS, FOUNDATIONS, DUCTWORK, AND ANY OTHER EQUIPMENT OR ACCESSORIES NORMAL TO THIS EQUIPMENT, FURNISH SAID CHANGES AND ADDITIONS, AND PAY ALL COSTS FOR ALL CHANGES TO THIS WORK AND THE WORK OF OTHER TRADES AFFECTED BY THE SUBSTITUTION OR DEVIATION.

SUBMITTALS, SCHEDULE AND SHOP DRAWINGS

A. EQUIPMENT AND MATERIALS MUST BE INACCORDANCE WITH DRAWINGS AND SPECIFICATIONS. NO SUBSTITUTIONS ARE ALLOWED UNLESS DENOTED BY CONTRACTOR AND APPROVED BY ENGINEER. PROVIDE WITH AN INDEX OF SUBMITTALS. ALL SUBMITTALS MUST BE IDENTIFIED WITH THE SAME NAME USED ON THE DRAWINGS. PROVIDE ALL SUBMITTALS IN ELECTRONIC FORM.

B. PROVIDE A CONSTRUCTION SCHEDULE USING MICROSOFT PROJECT MANAGER INCLUDING LEAD TIMES FOR EQUIPMENT, PHASING, ETC. SUBMIT SCHEDULE WITHIN ONE WEEK OF CONTRACT AWARD. SCHEDULE SHALL BE UPDATED EVERY WEEK.

C. SUBMIT SHOP DRAWINGS AND OBTAIN WRITTEN APPROVAL OF SAME BEFORE ORDERING OR INSTALLING ANY OF THE EQUIPMENT OR MATERIAL. EQUIPMENT OR MATERIAL ORDERED OR INSTALLED WITHOUT WRITTEN APPROVAL WILL NOT BE ACCEPTED. SHOP DRAWINGS SHALL BE PRESENTED IN AUTOCAD VERSION 2004 OR LATER. SHOP DRAWING SCALE SHALL BE NO SMALLER THAN $\frac{1}{2}$ INCHES EQUALS 1 FOOT. IF THE ENGINEER'S DESIGN DRAWING IS SUBMITTED AS THE SHOP DRAWING, IT WILL BE RETURNED WITH NO COMMENTS.

D. THE CHECKING OF SHOP DRAWING AND SAMPLES AND THE USE OF THE APPROVAL STAMP WILL BE ONLY FOR CONFORMANCE WITH THE DESIGN CONCEPT. THE STAMP OF APPROVAL DOES NOT INDICATE APPROVAL OF EVERY DETAIL OF THE DRAWINGS NOR OF THE WORK AND METHODS INDICATED THEREON.

HANGER, SUPPORTS AND SEISMIC RESTRAINTS

A. CONTRACTOR TO OBTAIN THE DESIGN AND PREPARATION OF SHOP DRAWINGS FOR PIPE, DUCTWORK AND EQUIPMENT SUPPORTS AND SEISMIC RESTRAINTS AS SPECIFIED IN THE INTERNATIONAL BUILDING CODE FROM A QUALIFIED PROFESSIONAL ENGINEER. ALL DRAWINGS SHALL BE SEALED AND SIGNED BY A QUALIFIED PROFESSIONAL ENGINEER. UNLESS OTHERWISE SPECIFIED THE SEISMIC DESIGN CATEGORY IS B.

CUTTING AND PATCHING

A. CONTRACTOR SHALL BE RESPONSIBLE FOR THE CUTTING, PATCHING AND FIRE STOPPING (FM APPROVED MATERIAL) OF ALL HOLES/HANGERS REQUIRED TO INSTALL MATERIALS AND EQUIPMENT THEY SUPPLY.

B. NO STRUCTURAL ELEMENTS SHALL BE CUT OR DRILLED.

RECORD DRAWINGS

FURNISH FOR RECORD DRAWINGS AS PART OF THIS WORK, CONSISTING OF A COMPLETE SET OF AUTOCAD VERSION 2004 COMPATIBLE DRAWINGS ON CD AND INDICATING IN A NEAT AND ACCURATE MANNER A COMPLETE RECORD OF ALL REVISIONS OF THE ORIGINAL DESIGN OF THE WORK. THIS SHALL INCLUDE CHANGES AND ADDENDUM OF THIS SECTION WHICH EXISTS IN THE COMPLETED WORK. DURING CONSTRUCTION KEEP AN ACCURATE RECORD ON A SET OF CONTRACT DRAWINGS, ALL DEVIATIONS BETWEEN THE WORK SHOWN AND THE WORK INSTALLED. ELECTRONIC FILES SHALL BEAR THE NOTATION "RECORD DRAWINGS OF WORK AS-BUILT", AND MUST BE DELIVERED TO THE ENGINEER AT THE COMPLETION OF THE WORK. INCLUDE IN THE BID AND BEAR THE COST OF THESE ELECTRONIC FILES.

DEMOLITION NOTES:

1. THE EXISTING DUCTWORK, PIPING, EQUIPMENT ETC. SHALL BE DEMOLISHED AND REMOVED FROM THE SITE BY THE CONTRACTOR.

2. CONTRACTOR SHALL DEVELOP DETAILED WRITTEN PLAN TO COORDINATE ALL DEMOLITION AND NEW WORK IN ORDER TO MINIMIZE DOWNTIME OF THE AIR HANDLING SYSTEM. THIS PLAN SHALL BE COMPLETED AND APPROVED BY THE OWNER. THE PLAN SHALL BE COMPLETED AND SUBMITTED WITHIN 2 WEEKS OF CONTRACTOR SELECTION. OWNER APPROVAL IS REQUIRED BEFORE ANY WORK CAN COMMENCE.

3. THE CONTRACTOR SHALL RESTORE TO ITS ORIGINAL CONDITION WITHOUT EXTRA PAYMENT, ANY OF THE OWNERS PROPERTY OR PROPERTY OR WORK BY OTHER CONTRACTORS THAT SHALL BECOME DAMAGED DUE TO THE NEGLIGENCE OF EMPLOYEES OR AGENTS OF THE CONTRACTOR. SUCH REPAIRS SHALL MEET THE APPROVAL OF THE OWNER. PARTICULAR CARE SHALL BE EXERCISED TO PROTECT FIRE ALARM WIRING.

4. CONTRACTOR SHALL TAKE PROPER CARE AND PROTECT ALL PORTIONS OF THE WORK UNTIL ITS ACCEPTANCE. ANY AND ALL PORTIONS OF THE WORK LIABLE TO DAMAGE UNDER THIS OR OTHER SECTIONS, BY FREEZING OR INCLEMENT WEATHER MUST BE THOROUGHLY AND COMPLETELY PROTECTED BY ANY SUBSTANTIAL MEANS UNTIL IT IS REQUIRED. TEMPORARY HEAT SHALL BE REMOVED FROM THE PREMISES ONLY WHEN ITS REMOVAL IS APPROVED BY THE ENGINEER.

5. THE CONTRACTOR SHALL HAVE A COMPETENT FOREMAN IN RESPONSIBLE CHARGE OF THE WORK WHO SHALL BE ON THE SITE DURING THE DEMOLITION OF THE SYSTEM.

6. SAFE OPEN ENDS OF DUCTWORK TO BE REUSED DURING DEMOLITION TO MINIMIZE DEBRIS FROM ENTERING DUCTS DURING DEMOLITION. CONTRACTOR SHALL BLANK-OFF THE EXISTING SUPPLY AIR AND RETURN AIR OPENINGS IN THE AIR SHAFT BEFORE DEMOLITION CAN BEGIN.

7. PROTECT ALL WORK AND EQUIPMENT AGAINST DAMAGE OR THEFT UNTIL FINAL INSPECTION, TESTED AND ACCEPTED. CAREFULLY STORE AND PROTECT MATERIALS AND EQUIPMENT RECEIVED ON SITE WHICH ARE NOT IMMEDIATELY INSTALLED. CLOSE OPEN ENDS OF WORK WITH TEMPORARY PLUGS OR COVERS DURING CONSTRUCTION TO PREVENT ENTRY DEBRIS.

8. PERFORM WORK IN EXISTING BUILDING WHEN AND AS DIRECTED. ALL WORK IS TO BE PERFORMED SO AS TO CAUSE THE LEAST POSSIBLE INCONVENIENCE AND DISTURBANCE TO THE OCCUPANTS.

9. SHIFT WORK AND STAGING WILL BE REQUIRED AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR SHALL PROVIDE SCHEDULE AND PREMIUM TIME FOR ALL DEMOLITION AND REMOVAL OF MATERIALS IN THEIR PROPOSAL.

10. WHEN THE DEMOLITION OR INSTALLATION OF WORK REQUIRES THE SHUTDOWN OF AN EXISTING OPERATING SYSTEM, A MINIMUM OF 72 HOURS WRITTEN NOTICE SHALL BE GIVEN TO THE OWNER BEFORE WORK IS STARTED.

11. PROVIDE DETAILS OF DISPOSAL OF CLEANING AGENTS AND FLUSHING SOLUTIONS FOR OWNER APPROVAL.

12. CONTRACTOR SHALL MARK IN YELLOW PAINT ALL DEMO ITEMS AND SCHEDULE A WALK THRU WITH OWNER AND ARCHITECT/ENGINEER PRIOR TO ANY DEMOLITION WORK.

13. REPAIR DAMAGE TO WALLS, FLOORS AND CEILING LEFT FROM REMOVING EXISTING EQUIPMENT, HANGERS, SUPPORTS, ETC. TO MATCH ADJACENT AREAS IN MATERIAL, FIRE RATING (WITH FM APPROVED MATERIALS) AND FINISH.

DAMAGE TO PROPERTY

A. RESTORE TO ITS ORIGINAL CONDITION WITHOUT EXTRA PAYMENT, ANY OF THE OWNERS PROPERTY OR PROPERTY OR WORK BY/OF OTHER CONTRACTORS THAT SHALL BECOME DAMAGED DUE TO THE NEGLIGENCE OF EMPLOYEES OR AGENTS OF THE CONTRACTOR. SUCH REPAIRS SHALL MEET THE APPROVAL OF THE OWNER. PARTICULAR CARE SHALL BE EXERCISED WITHIN ROOMS OF SPECIAL CONSTRUCTION, SUCH AS CLEAN AND STERILE ROOMS, FROM SCRATCHING OR OTHER IMPERFECTIONS CAUSED BY INSTALLATION OF WORK UNDER THIS CONTRACT.

B. TAKE PROPER CARE AND PROTECT ALL PORTIONS OF THE WORK UNTIL ITS ACCEPTANCE. ANY AND ALL PORTIONS OF THE WORK LIABLE TO DAMAGE UNDER THIS OR OTHER SECTIONS, BY FREEZING OR INCLEMENT WEATHER MUST BE THOROUGHLY AND COMPLETELY PROTECTED BY ANY SUBSTANTIAL MEANS UNTIL NOT FURTHER REQUIRED. IT SHALL BE REMOVED FROM THE PREMISES ONLY WHEN ITS REMOVAL IS APPROVED BY THE ENGINEER.

C. PROTECT PLATED AND POLISHED MATERIAL AND TRIMMINGS AGAINST DAMAGE.

REPLACEMENT OF DEFECTIVE WORK

WHEN, IN THE OPINION OF THE OWNER OR CONSTRUCTION MANAGER ANY MATERIAL INSTALLED IS SUBSTANDARD IN APPEARANCE OR FUNCTION, OR DOES NOT MEET GENERALLY ACCEPTED STANDARDS OF WORKMANSHIP, ALL SUCH MATERIALS SHALL BE REPLACED TO THE SATISFACTION OF THE ENGINEER AT NO COST TO THE OWNER.

SUPERVISION

THE CONTRACTOR SHALL HAVE A COMPETENT FOREMAN IN RESPONSIBLE CHARGE OF THE WORK WHO SHALL BE ON THE SITE DURING THE INSTALLATION OF THE MATERIAL FURNISHED UNDER THIS SPECIFICATION, UNTIL SAME HAS BEEN PUT IN COMPLETE OPERATING CONDITION AND ACCEPTED BY THE OWNER.

DIVISION OF WORK

NO REASSIGNMENT OF THE DIVISION OF RESPONSIBILITY FOR ANY WORK HEREIN SPECIFIED FOR ANY RESPECTIVE TRADE SHALL BE MADE WITHOUT THE PRIOR WRITTEN ACCEPTANCE OF THE OWNER AND ENGINEER.

RUBBISH

A. AT LEAST ONCE A DAY, OR AS REQUIRED BY THE OWNER, GATHER ALL RUBBISH, INCLUDING CARTONS, CRATES AND PACKAGING MATERIALS, DEBRIS AND OTHER WASTE MATERIALS. WASTE TO BE PLACED IN TRASH BINS OR DUMPSTERS.

B. WHEN WORK IS PERFORMED IN OCCUPIED AREAS, TRASH REMOVAL SHOULD BE CONTINUOUS TO PREVENT HEALTH AND SAFETY ISSUES.

ASBESTOS

A. CONTRACTOR SHALL NOTIFY OWNER ANY SUSPECTED ASBESTOS IN AREA OF WORK.

B. OWNER SHALL BE RESPONSIBLE FOR ALL TESTING AND REMEDIATION PRIOR TO ANY WORK IN THAT AREA. WORK SHALL BE PERFORMED BY A LICENSED ASBESTOS ABATEMENT CONTRACTOR.

PROTECTION

PROTECT ALL WORK AND EQUIPMENT AGAINST DAMAGE OR THEFT UNTIL FINALLY INSPECTED, TESTED AND ACCEPTED. CAREFULLY STORE AND PROTECT MATERIALS AND EQUIPMENT RECEIVED ON SITE WHICH ARE NOT IMMEDIATELY INSTALLED. CLOSE OPEN ENDS OF WORK WITH TEMPORARY PLUGS OR COVERS DURING CONSTRUCTION TO PREVENT ENTRY DEBRIS.

GUARANTEES

A. ALL WORK SHALL BE GUARANTEED TO BE FREE FROM DEFECTS IN WORKMANSHIP AND MATERIALS.

B. DURING THE GUARANTEE PERIOD ANY DEFECTS IN WORKMANSHIP, MATERIAL OR EQUIPMENT WILL BE CORRECTED AT THE CONTRACTORS' EXPENSE. ANY DAMAGE OR LOSS, EXCLUSIVE OF BUILDING'S CONTENTS, DUE TO SUCH DEFECTS, WILL ALSO BE MADE GOOD AT CONTRACTOR'S EXPENSE. DEFECTS WILL BE REMEDIED WITHIN A REASONABLE TIME, AS SPECIFIED IN NOTICE FROM THE ENGINEER. AFTER THE SPECIFIED TIME, OWNER MAY HAVE DEFECTS AND DAMAGES REMEDIED AT THE CONTRACTOR'S EXPENSE.

C. GUARANTEE PERIOD SHALL BE TWO (2) YEARS AND AN ADDITIONAL FOUR (4) YEARS ON COMPRESSORS & COMPRESSOR PARTS.

D. GUARANTEE PERIOD SHALL START WHEN THE WORK INCLUDED IN CONTRACT DOCUMENTS IS ACCEPTED BY THE OWNER AND/OR RECEIPT OF THE CERTIFICATE OF OCCUPANCY.

WORK IN EXISTING AREAS

A. PERFORM WORK IN EXISTING BUILDING WHEN AND AS DIRECTED. ALL WORK IS TO BE PERFORMED SO AS TO CAUSE THE LEAST POSSIBLE INCONVENIENCE AND DISTURBANCE TO THE OCCUPANTS.

B. SHIFT WORK AND STAGING WILL BE REQUIRED AT NO ADDITIONAL COST TO THE OWNER.

C. SCRAP AND DEBRIS, EXCEPT AS OTHERWISE SPECIFIED, SHALL BE REMOVED FROM THE CONSTRUCTION SITE AND DISPOSED OF. WHEN REQUESTED BY OWNER, MOVE EQUIPMENT REMOVED TO A STORAGE PLACE ON THE PREMISES AND LEAVE AS PROPERTY OF THE OWNER.

D. WHEN INSTALLATION OF THE NEW WORK REQUIRES THE SHUTDOWN OF AN EXISTING OPERATING SYSTEM, A MINIMUM OF 72 HOURS WRITTEN NOTICE SHALL BE GIVEN TO THE OWNER BEFORE WORK IS STARTED.

CLEANING AND FLUSHING

A. REMOVE DEBRIS FROM INSIDE AND OUTSIDE OF PIPING AND EQUIPMENT.

B. FLUSH OUT PIPING AFTER INSTALLATION AND BEFORE FINAL CONNECTIONS ARE MADE, AT LEAST TWICE, IN A MANNER AS DIRECTED AND/OR ACCEPTED BY THE OWNER. MAKE ALL TEMPORARY CONNECTIONS AND PROVIDE ALL EQUIPMENT REQUIRED FOR THE CLEANING AT NO EXTRA EXPENSE TO THE OWNER.

C. FILL SYSTEM WITH FRESH WATER AND ADD LIQUID ALKALINE COMPOUND WITH EMULSIFYING AGENTS AND DETERGENTS (SUCH AS 1% TRISODIUM PHOSPHATE SOLUTION) TO REMOVE GREASE AND PETROLEUM PRODUCTS FROM PIPING. CIRCULATE SOLUTION FOR A MINIMUM OF 24HRS. DRAIN SYSTEM, FLUSH/CIRCULATE WITH CLEAN WATER FOR ANOTHER 12 HOURS, DRAIN, AND CLEAN STRAINER SCREENS. REFILL WITH 30% PROPYLENE GLYCOL SOLUTION.

D. PROVIDE DETAILS OF DISPOSAL OF CLEANING AGENTS AND FLUSHING SOLUTIONS.

E. PROVIDE FOOD GRADE PROPYLENE GLYCOL AFTER WATER CHEMISTRY IS WITHIN THE GUIDELINES PROVIDED BY THE GLYCOL MANUFACTURER. FILL SYSTEM TO ACHIEVE A PERCENT SOLUTION OF 30% FOOD GRADE PROPYLENE GLYCOL UNLESS OTHERWISE SPECIFIED.

METAL CASE LIQUID THERMOMETERS AND PRESSURE GAGES

A. PROVIDE TRERICE OR EQUAL CHROME-PLATED BRASS 9" LONG CASE WITH SATIN-FACED NONREFLECTIVE ALUMINUM WITH PERMANENTLY ETCHED SCALE MARKINGS TUBE WITH GLASS WINDOW. CONNECTOR SHALL BE ADJUSTABLE TYPE, 180° IN VERTICAL PLANE AND 360° IN HORIZONTAL PLANE. THE STEM SHALL BE BRASS FOR THERMOWELL INSTALLATION AND OF LENGTH TO SUIT INSTALLATION. THE ACCURACY SHALL BE +/-1% OF RANGE.

B. PROVIDE TRERICE OR EQUAL DIRECT-MOUNTING, DIAL TYPE PRESSURE GAGE. CASE SHALL BE DRY TYPE DRAWN STEEL 4.5" DIAMETER DIAL WITH BOURDON TUBE PRESSURE ELEMENT. DAIL SHALL BE SATIN-FACED NONREFLECTIVE ALUMINIUM WITH PERMANENTLY ETCHED SCALE MARKINGS WITH GLASS WINDOW. DESIGN PRESSURE OF GAGE SHALL BE TWO TIMES MAXIMUM OPERATING PRESSURE. THE ACCURACY SHALL BE GRADE A +/- 1% OF MIDDLE HALF. PRESSURE GAGE FITTINGS; VALVES NPS 1/4" BRASS NEEDLE TYPE, SYPHONS; NPS 1/4" COIL OF BRASS TUBING WITH THREADED ENDS, SNUBBERS; ASME B40.5, NPS 1/4" BRASS BUSHING WITH CORROSION-RESISTANT, POROUS-METAL DISC OF MATERIAL SUITABLE FOR THE SYSTEM FLUID AND WORKING PRESSURE.

SAFETY

A. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF ALL PERSONS PERFORMING THE WORK OF THIS CONTRACT.

B. THIS CONTRACTOR SHALL OBTAIN AND READ ALL SITE, JOB AND CORPORATE SAFETY AND SECURITY RULES AND REGULATIONS FROM THE OWNER, AND SIGN OFF ON THEM IF REQUIRED. THIS CONTRACTOR SHALL ADEQUATELY INFORM AND INSTRUCT ALL EMPLOYEES, AND OTHERS PERFORMING WORK FOR HIM, OF SUCH RULES AND REGULATIONS. THESE INSTRUCTIONS ARE THE MINIMUM THAT WILL BE ACCEPTED ON THIS PROJECT.

C. ALL OF THE ABOVE RULES AND REGULATIONS ARE NOT MEANT TO REPLACE OR ELIMINATE INDIVIDUAL CONTRACTORS SAFETY PROGRAMS OR CHANGE ANY LOCAL, STATE OR FEDERAL RULES AND REGULATIONS, BUT RATHER TO AUGMENT THEM AS REQUIRED FOR THE INDIVIDUAL PREMISES ON WHICH THIS WORK IS BEING PERFORMED.

CONTROL WIRING

A. THE BAS CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONTROL, LOW VOLTAGE AND COMMUNICATION WIRING.

B. ALL CONTROL, LOW VOLTAGE AND COMMUNICATION WIRING SHALL BE INSTALLED IN EMT CONDUIT.

C. THE BAS CONTRACTOR SHALL PROVIDE THE POWER REQUIREMENTS TO ALL CONTROL PANELS. COORDINATE POWER SOURCE WITH ENGINEER.

DUCTWORK

A. FIRE DAMPERS: DUCTS OR RETURN AIR OPENINGS PENETRATING RATED PARTITIONS, FLOORS ETC. SHALL HAVE FIRE DAMPERS WITH ACCESS PROVISIONS. FIRE DAMPERS SHALL BE OUT OF THE AIR STREAM TYPE AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. ALL PERIMETER CLEARANCE OPENINGS AT FIRE WALL PENETRATIONS SHALL BE THOROUGHLY FIRE STOPPED USING "THERMAFIBER" SAFING INSULATION OR APPROVED EQUAL. MINIMUM SIZE ACCESS DOOR IN DUCT FOR FIRE DAMPERS TO BE 12"X12", OR 2" LESS THAN DUCT WIDTH BY 12" LONG, WHICHEVER IS LARGER; ARCHITECTURAL ACCESS DOORS SHALL BE PROVIDED BY OTHERS WITHIN NON-ACCESSIBLE CEILING AS REQUIRED. FIRE DAMPERS SHALL BEAR THE LABEL OF AN APPROVED TESTING AGENCY, BE CLASSIFIED AND IDENTIFIED IN ACCORDANCE WITH UL 555 AND FM APPROVED.

B. DUCT CONSTRUCTION
SEE DRAWING SCHEDULES. ALL DUCTWORK SHALL BE FABRICATED IN ACCORDANCE WITH SMACNA STANDARDS FOR THE LISTED OR GREATER PRESSURE CLASS.

C. DUCT SEALING
ALL JOINTS AND SEAMS SHALL BE SEALED WITH HARDCAST PRESSURE SENSITIVE ADHESIVE TAPE OR WATER BASED DUCT SEALANT. SMACNA SEAL CLASS A. SEALANT MSD SHEETS SHALL BE PROVIDED TO THE OWNER FOR APPROVAL.

D. DUCT AIR LEAKAGE TESTING
ALL NEW DUCTWORK SHALL BE TESTED IN ACCORDANCE TO SMACNA HVAC AIR DUCT LEAKAGE TEST MANUAL. LEAKAGE CLASS 6 SHALL BE MET FOR RECTANGULAR METAL DUCTWORK. LEAKAGE CLASS 3 SHALL BE MET FOR ROUND AND OVAL METAL DUCTWORK.

E. MANUAL BALANCING DAMPERS MEETING THE FOLLOWING SPECIFICATIONS SHALL BE FURNISHED AND INSTALLED WHERE SHOWN ON PLANS AND/OR AS DESCRIBED IN SCHEDULES.

RECTANGULAR DAMPERS SHALL CONSIST OF:
A 16 GA. (1.5MM) GALVANIZED STEEL HAT CHANNEL FRAME WITH 5 IN. (127MM) DEPTH; TRIPLE V TYPE BLADES FABRICATED FROM 16 GA. (1.5MM) GALVANIZED STEEL; 1/2 IN. (12MM) DIA PLATED STEEL AXLES; EXTERNAL (OUT OF THE AIRSTREAM) BLADE-TO-BLADE LINKAGE. DAMPER MANUFACTURER'S PRINTED APPLICATION AND PERFORMANCE DATA INCLUDING PRESSURE, VELOCITY AND TEMPERATURE LIMITATIONS SHALL BE SUBMITTED FOR APPROVAL SHOWING DAMPER SUITABLE FOR PRESSURES TO 4.0 IN. W.G. (1 KPA), VELOCITIES TO 2000 FPM (10.2M/S) AND TEMPERATURES TO 180°F (82OC). TESTING AND RATINGS TO BE IN ACCORDANCE WITH AMCA STANDARD 500-D. 11/2 IN. (38MM) STANDOFF BRACKET IS STANDARD. IT IS USED TO EXTEND THE MANUAL QUADRANT AWAY FROM THE DUCTWORK TO ACCOMMODATE EXTERNAL INSULATION.

ROUND MANUAL BALANCING DAMPERS MEETING THE FOLLOWING SPECIFICATIONS: SHALL BE FURNISHED AND INSTALLED WHERE SHOWN ON PLANS AND/OR AS DESCRIBED IN SCHEDULES. DAMPERS SHALL CONSIST OF: A 20 GA. (1MM) GALVANIZED STEEL FRAME WITH 6 3/8 IN. (162MM) DEPTH; BLADES FABRICATED FROM 20 GA. (1MM) GALVANIZED STEEL; 3/8 IN. (10MM) SQUARE PLATED STEEL AXLES, ACETAL BEARINGS. DAMPER MANUFACTURER'S PRINTED APPLICATION AND PERFORMANCE DATA INCLUDING PRESSURE, VELOCITY AND TEMPERATURE LIMITATIONS SHALL BE SUBMITTED FOR APPROVAL SHOWING DAMPER SUITABLE FOR PRESSURES TO 1.0 IN. WG (.25 KPA), VELOCITIES TO 2000 FPM (10.2 M/S) AND TEMPERATURES TO 180°F (82OC). TESTING AND RATINGS TO BE IN ACCORDANCE WITH AMCA STANDARD 500-D. 11/2 IN. (38MM) STANDOFF BRACKET (WITH EXTENDED PIN) TO ACCOMMODATE FOR THE THICKNESS OF EXTERNAL DUCT INSULATION.

BASIS OF DESIGN IS GREENHECK MODEL MBD-15 FOR RECTANGULAR DUCTWORK AND MBDR-50 FOR ROUND DUCTWORK.

PROVIDE ACCESS DOOR FOR EACH DAMPER, TURNING VANE, REHEAT COIL, ETC. USE DUCTMATE SANDWICH MODEL DI(SIZE)GA FOR RECTANGULAR DUCT AND MODEL DRI(SIZE)GA FOR CIRCULAR DUCT OR EQUIVALENT MODELS. SIZE ACCESS DOOR TO DUCT SIZE.

DUCT INSULATION

A. DUCTWORK: SEE DRAWING SCHEDULE
1. INTERIOR DUCTWORK SUPPLY/RETURN CONCEALED TO BE FIBERGLASS WRAP, FSK 2" 1.5 PCF DENSITY, R-6 MINIMUM WITH VAPOR FACE TAPED AND WIRED TIED. SEAL ALL JOINTS WITH MATCHING VAPOR BARRIER TAPE.
2. INTERIOR DUCTWORK SUPPLY/RETURN EXPOSED TO BE 2" 6 PCF DENSITY, R-6 MINIMUM FIBERGLASS ASJ BOARD. SECURE INSULATION WITH WELD PINS & SEAL ALL JOINTS WITH MATCHING VAPOR BARRIER TAPE.
3. EXTERIOR DUCTWORK SUPPLY/RETURN TO BE 2" 6 PCF DENSITY, R-8 MINIMUM FIBERGLASS ASJ BOARD WITH VAPOR BARRIER TAPE. EXTERIOR SHALL BE DOUBLE WALL DUCT OR FLEXCLAD-400 45MILS THICK OR EQUAL. INSTALL TO MANUFACTURER'S REQUIREMENTS. FLEXCLAD SHALL BE PITCHED ON TOP OF DUCTS FOR DRAINAGE.

NATURAL GAS PIPING

A. NATURAL GAS PIPING SHALL BE SCH. 40 BLACK STEEL. MATERIALS SHALL COMPLY WITH A.S.T.M. A-53, A-105, A-47 AND ANSI B-16.9. ALL SIZES 2 1/2" AND LARGER SHALL BE BUTT-WELDED AND CONFORM TO A.S.M.E. CODE B31.9. ALL SIZES 2" AND SMALLER SHALL BE THREADED AND CONFORM TO A.NSI B1.20.1.

B. PROVIDE A GAS COCK, DIRT LEG AND UNION AT THE POINT OF CONNECTION TO EACH PIECE OF EQUIPMENT.

C. CONTRACTOR SHALL COORDINATE WITH EQUIPMENT MANUFACTURER AND PROVIDE APPROPRIATE PRESSURE REGULATOR IF REQUIRED.

D. TEST GAS PIPING IN ACCORDANCE WITH INTERNATIONAL GAS CODE AND PLUMBING INSPECTOR'S REQUIREMENTS BUT NOT LESS THAN 10 PSI. THE TEST DURATION SHALL BE $\frac{1}{2}$ HOUR PER 500CF OF SYSTEM VOLUME BUT NOT LESS THAN (2) HOURS WITHOUT DROP IN PRESSURE OR LEAKAGE. TESTING MEDIUM SHALL BE NITROGEN OR AN INERT GAS.

E. GAS PIPING INSTALLED ON THE ROOF OF A BUILDING SHALL BE SUPPORTED AS INDICATED IN BUILDING HVAC AND PLUMBING PLANS AND DETAILS. EXTERIOR GAS PIPING SHALL BE PAINTED "SAFETY YELLOW". PAINT SHALL BE BENJAMIN MOORE AND COMPANY INDUSTRIAL MAINTENANCE COATINGS M22 URETHANE ALKYD GLOSS ENAMEL.

F. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE INTERNATIONAL FUEL GAS CODE, THE NJ UNIFORM CONSTRUCTION CODE AND THE REQUIREMENTS OF THE LOCAL UTILITY AUTHORITY.

ACCESS PROVISIONS:

A. FURNISH ACCESS DOORS FOR ALL PIPE VALVES, DUCT DAMPERS, ETC. THAT ARE INSTALLED IN AREAS WHERE THEY WILL BE HIDDEN BY CONSTRUCTION. GENERAL CONTRACTOR SHALL INSTALL THESE ACCESS DOORS.

B. INSTALL PIPE AND DUCT EXPANSION JOINTS AT LOCATION OF ALL BUILDING EXPANSION JOINTS.

C. PROCESS AND UTILITY PIPING SHALL BE IDENTIFIED AS TO CONTENT AND FLOW DIRECTION USING APPROPRIATE MARKERS. LOCATIONS TO BE DETERMINED AT TIME OF INSTALLATION.

EQUIPMENT START-UP

ALL EQUIPMENT START-UP SHALL BE CONDUCTED BY MANUFACTURER'S REPRESENTATIVE. START-UP CHECKLISTS SHALL BE COMPLETED AND PROVIDED TO THE OWNER.

PIPING GENERAL NOTES:

PIPING SHALL BE SUPPORTED SO THAT NO STRESS IS TRANSFERRED TO EQUIPMENT CONNECTIONS AND CONSTRAINED TO PREVENT MOVEMENT DURING STARTING AND/OR SURGING CONDITIONS. MANUAL AIR VENTS AND DRAIN VALVES SHALL BE PROVIDED AT ALL HIGH AND LOW POINTS RESPECTIVELY. ALL PIPING TO BE BLOWN CLEAN OR FLUSHED AND LEAK TESTED UNDER SYSTEM OPERATING PRESSURES.

1. STEAM – SCHEDULE 40 BLACK STEEL, BUTTWELDED $2\frac{1}{2}$" AND LARGER, 2" AND SMALLER SHALL BE THREADED AND CONFORM TO ANSI B1.20.1.

2. CHILLED WATER, CONDENSER WATER, HOT WATER – 4" AND SMALLER – ALL COPPER TUBING SHALL BE OF WEIGHT AS REQUIRED FOR SERVICE SPECIFIED, IN CONFORMANCE WITH ASTM DESIGNATION B-88-47 FOR TYPES "L" TUBING AS MANUFACTURED BY CHASE, ANACONDA, REVERE OR APPROVED EQUAL. TUBING AND FITTINGS SHALL BE THOROUGHLY CLEANED WITH SAND CLOTH AND TREATED WITH AN APPROVED FLUX BEFORE SOLDER IS APPLIED.

3. CHILLED WATER, CONDENSER WATER, HOT WATER – LARGER THAN 4" –SCHEDULE 40 BLACK STEEL, BUTTWELDED

4. REFRIGERANT PIPING SHALL BE TYPE "L" ACR COPPER PIPING WITH TYPE "L" COPPER/BRONZE FITTINGS, BRAZED JOINTS

5. JOINING (REFER TO PIPING SCHEDULE)
A. SOLDERED JOINTS: MATERIALS SHALL COMPLY WITH ASTM A-53, A-105, A-47 AND A.N.S.I. B-16.9. COPPER TUBING JOINTS SHALL BE MADE UP WITH SILVER SOLDER OR 95-5 SOLDER.
B. BRAZED JOINTS: COPPER TO COPPER JOINTS SHALL BE BRAZED WITH A COPPER-PHOSPHOROUS BRAZING ALLOY CONTAINING A MINIMUM OF 15% SILVER AND CONFORMING TO AWS A5.8, BCuP5.
B. THREADED JOINTS: CONFORM TO A.N.S.I. B1.20.1, TAPERED PIPE THREADS FOR FIELD CUT THREADS.
C. WELDED JOINTS: COMPLY WITH THE REQUIREMENT IN ASME CODE B31.9 BUILDING SERVICES PIPING.
D. FLANGED JOINTS: ALIGN FLANGED SURFACES PARALLEL. ASSEMBLE JOINTS BY SEQUENCED BOLT TIGHTENING TO MAKE INITIAL CONTACT OF FLANGES AND GASKETS AS FLAT & PARALLEL AS POSSIBLE. USE SUITABLE LUBRICANTS ON BOLT THREADS. TIGHTEN BOLTS GRADUALLY AND UNIFORMLY USING TORQUE WRENCH.
E. PROPRESS: FITTINGS SHALL COMPLY WITH ASTM B16.18 OR ASME B16.22 AND PERFOMANCE CRITERIA OF IAPMO PS 117. SEALING ELEMENTS FOR PRESS FITTINGS SHALL BE EPDM. SEALING ELEMENTS SHALL BE FACTORY INSTALLED OR AN ALTERNATIVE SUPPLIED BY THE MANUFACTURER. USE TOOLS AND METHODS AS RECOMMENDED BY MANUFACTURER.

6. REFER TO VALVE & PIPING SCHEDULE FOR SPECIFICATIONS. ALL VALVES SHALL BE CAPABLE OF LOCKING & TAGGING OUT.

7. ALL VALVES 6'-0" AFF SHALL HAVE CHAIN OPERATORS.

8. ALL VALVES SHALL HAVE EXTENDED OPERATORS ALLOWING FOR PIPE TO BE INSULATED.

PIPING INSULATION

A. PIPING: INSUATION THICKNESS SHALL CONFORM TO IECC. SEE DRAWING SCHEDULE:
1. INTERIOR PIPING SHALL BE JOHNS MANVILLE PRE-MOLDED FIBERGLASS PIPE COVERING WITH WHITE ALL SERVICE JACKET (ASJ). ALL FITTINGS INCLUDING UNIONS, FLANGES, SPECIALTIES, AND VALVES SHALL BE INSULATED WITH FIBERGLASS WRAP INSERTS COVERED WITH ZESTON 2000 PVC INSULATION COVERS INSTALLED TO MANUFACTURER'S REQUIREMENTS.
2. EXTERIOR PIPING SHALL BE JOHNS MANVILLE PRE-MOLDED FIBERGLASS PIPE COVERING WITH ASJ AND ALUMINUM JACKET FOR PIPING AND FITTINGS. ALUMINUM JACKET SHALL HAVE A MINIMUM OF .024" THICKNESS.
3. ANY FITTING OR VALVES THAT CANNOT BE COVERED BY PRE-MOLDED COVERING SHALL BE COVERED WITH INSULATION WRAPS AS MANUFACTURED BY THERMAXX OR EQUAL.
4. INSULATION TO BE FLAME RATED FOR 25 AND SMOKE RATED FOR 50.
5. REFRIGERANT PIPING SHALL BE AP ARMAFLEX INSULATION PLENUM RATED, UV PROTECTION. ALL FITTINGS TO BE INSULATED WITH PRE MOLDED REMOVABLE AND REPLACEABLE PVC FOR FITTINGS, FLANGES, SPECIALTIES, AND VALVES. EXTERIOR – AP ARMAFLEX SHALL HAVE ARMAFLEX WB FINISH APPLIED. INSTALL IN ACCORDANCE WITH "INSTALLATION OF ARMAFLEX INSULATIONS" BROCHURE.
6. ALL CHILLED WATER PUMPS SHALL BE COVERED WITH INSULATED BOX CONSTRUCTED OF 2" INSULATION WITH EMBOSSED 10 GAGE ALUMINUM SHELL. THE INSULATED BOX SHALL BE CAPABLE OF ALLOWING ACCESS TO PUMPS FOR MAINTENANCE. PROVIDE LATCHING MECHANISM TO SECURE BOX SECTIONS. FOR BELOW AMBIENT SERVICES INSTALL VAPOR BARRIER AT SEAMS, JOINTS AND PENETRATIONS. SEAL BETWEEN FLANGES WITH REPLACEABLE GASKET MATERIAL TO FORM VAPOR BARRIER.

PIPING SUPPORTS

A. PIPING ON WALL ABOVE THE FLOOR SHALL BE SUPPORTED BY MANUFACTURED SUPPORTS SIMILAR TO "UNISTRUT". OTHER SUPPORTS SHALL BE SUBMITTED BY CONTRACTOR FOR APPROVAL. ALL UNISTRUT OR OTHER APPROVED SUPPORTS SHALL HAVE PLASTIC END CAPS.
B. PIPE SUPPORTS ARE TO BE ATTACHED BY APPROPRIATE BEAM CLAMPS TO THE BOTTOM FLANGE OF BEAMS OR JOISTS. INTERMEDIATE SUPPORT SPACING PER SPECIFICATIONS. NO HANGING FROM THE ROOF DECK IS PERMITTED.
C. SEISMIC RESTRAINT SUPPORTS: PROVIDE SEISMIC RESTRAINTS FOR PIPING AND EQUIPMENT IN ACCORDANCE WITH SECTION 1600 OF THE INTERNATIONAL BUILDING.

PIPE, VALVE AND EQUIPMENT LABELING

PIPE, VALVE AND EQUIPMENT SHALL BE IDENTIFIED TO SITE STANDARDS AND OWNER INDENTIFICATION CONVENTION. FOLLOW SPECIFICATION BELOW AND ANSI A13.1 STANDARD IF THERE IS NO SITE STANDARD.

PIPE MARKER SHALL BE PLACED A MINIMUM OF EVERY 15' AND AT EVERY VALVE AND BRANCHLINE LOCATION.
A. GENERAL REQUIREMENTS FOR MANUFACTURED PIPE LABELS: PREPRINTED, COLOR-CODED, WITH LETTERING INDICATING SERVICE, AND SHOWING FLOW DIRECTION.
1. PRE-TENSIONED PIPE LABELS: PRECOILED, SEMIRIGID PLASTIC FORMED TO COVER FULL CIRCUMFERENCE OF PIPE AND TO ATTACH TO PIPE WITHOUT FASTENERS OR ADHESIVE. PIPE LABEL CONTENTS: INCLUDE IDENTIFICATION OF PIPING SERVICE USING SAME DESIGNATIONS OR ABBREVIATIONS AS USED ON DRAWINGS, PIPE SIZE, AND AN ARROW INDICATING FLOW DIRECTION.
B. FLOW-DIRECTION ARROWS: INTEGRAL WITH PIPING SYSTEM SERVICE LETTERING TO ACCOMODATE BOTH DIRECTIONS, OR AS SEPARATE UNIT ON EACH PIPE LABEL TO INDICATE FLOW DIRECTION.
1. LETTERING SIZE: REFER TO ANSI A13.1
2. COLOR SHALL BE AS DEFINED IN ANSI A13.1.
3. PROVIDE PIPE LABELS AT ALL VALVES AND BRANCH CONNECTIONS.

VALVES MARKER SHALL BE PLACED ON ALL VALVES
A. TAGS: 1-1/2" ROUND BRASS TAGS WITH EMBOSSED LABEL SHALL BE PROVIDED WITH SERVICE AND DESIGNATION. A VALVE SCHEDULE SHALL BE PROVIDED BY THE CONTRACTOR AND GIVEN TO THE OWNER

EQUIPMENT LABELS SHALL BE PLACED ON ALL NEW EQUIPMENT.
A. LABELS: 3" BLACK BAKALITE WITH PERMANENT ADHESIVE BACKING PLAQUES EMBOSSED WITH 2" HIGH WHITE LETTERS AND NUMBERS.

PIPE INSTALLATION

A. THE WORD "PIPING" IN THIS SPECIFICATION SHALL MEAN PIPE, FITTING, FLANGES, NIPPLES, AND VALVES.
B. CHECK THE DRAWINGS FOR SPACE LIMITATIONS PERMITTED FOR THE INSTALLATION OF PIPING SUCH AS SHAFTS, CHASES, AND FURRED CEILINGS.
C. INSTALL PIPING CLOSE AND PARALLEL TO THE STRUCTURAL MEMBERS AND TIGHT TO THE UNDERSIDE OF THE FLOOR CONSTRUCTION TO GIVE MAXIMUM HEADROOM AND CREATE THE LEAST POSSIBLE FURRING WHERE FURRED BEAMS OR CEILINGS ARE INDICATED.
D. INSTALL PIPING SO AS TO BE READILY ACCESSIBLE FOR OPERATION, MAINTENANCE, REPAIR, OR REPLACEMENT.
E. REAM OR FILE SCREWED PIPE OF TUBING TO ORIGINAL BORE AND REMOVE BURRS.
F. DILECTRIC UNIONS SHALL BE INSTALLED WHEN JOINING DISIMILIAR METALS. DILECTRIC UNIONS SHALL BE SUPPORTED AS PER MANUFACTURERS RECOMMENDATIONS

INSTALLATION OF HANGERS AND SUPPORTS

A. WHERE NO INSERTS HAVE BEEN PROVIDED, PIPES SHALL BE SUPPORTED FROM HEAVY DUTY ADHESIVE ANCHORS SIMILAR TO HILTI HVA, USING ONLY HAS RODS AND HFA INSERTS FOR PIPING OVER 2' IN SIZE AND HAS RODS FOR PIPING 2" AND SMALLER. ALLOW A MINIMUM OF ONE-HOUR SETTING TIME BEFORE DISTURBING THE INSERT IN ANY MANNER. MANUFACTURERS INSTALLATION INSTRUCTIONS SHALL BE STRICTLY ADHERED TO. FOR LIGHTWEIGHT PIPING AND WHERE APPROVED BY ENGINEER, ATTACH THE ROD AND HANGER TO A 2 INCH X 2-INCH ANGLE FASTENED TO THE SLAB BY TWO STAR NO 7000 DOUBLE EXPANSION SHIELDS NO SMALLER THAN 3/8" INCH SIZE. THE RODS ON ALL HANGERS SHALL BE OF ADEQUATE SIZE TO SUPPORT THE LOADS WHICH THEY CARRY.
B. REGARDLESS OF THE TYPE OF CONSTRUCTION (I.E., CONCRETE, CONCRETE-DECK-STEEL OR VARIATIONS THERETO), PARTICULAR CARE SHALL BE TAKEN TO SUPPORT ALL MAIN LINES AND ALL LARGE AND HEAVY PIPES IN A SATISFACTORY MANNER, INCLUDING THE FURNISHING AND INSTALLATION OF SUPPLEMENTARY STEEL, IF REQUIRED.
C. THIS SECTION SHALL COORDINATE WITH THE OTHER SECTIONS THAT USE COMMON MEANS OF SUPPORT. SUBMIT FOR APPROVAL ALL PERTINENT DESIGN DATA RELATING TO THE SUPPORT AS WELL AS VERIFICATION OF THE RESPONSIBILITY FOR THE SUPPORT.
D. DO NOT HANG PIPING FROM THE DUCTWORK OF OTHER PIPING. HANGER SHALL NOT BE FASTENED BY MEANS OF VERTICAL EXPANSION BOLTS.

PIPING TESTS

A. TESTS WILL BE REQUIRED TO DEMONSTRATE THE INTEGRITY OF THE NEWLY INSTALLED PIPING INFRASTRUCTURE. THE MECHANICAL CONTRACTOR WILL PERFORM ALL TESTS SPECIFIED AND/OR REQUIRED UNDER LAWS, RULES AND REGULATIONS OF ALL AUTHORITIES HAVING JURISDICTION.
B. NOTIFY THE OWNER AND ENGINEER AT LEAST 72 HOURS IN ADVANCE OF ALL TESTS. FURNISH ALL NECESSARY INSTRUMENTS, GAUGES AND OTHER EQUIPMENT REQUIRED FOR THESE TESTS. IF TESTS CANNOT BE COMPLETED AS SCHEDULED, PAY ALL EXPENSES INCURRED BY THE ENGINEER OR HIS AUTHORIZED REPRESENTATIVES REQUIRED TO BE PRESENT. EXPENSES SHALL INCLUDE THE COST OF TRAVELING, LODGING AND MEALS. TO AVOID SUCH OCCURRENCES, MAKE PRELIMINARY TESTS PRIOR TO GIVING NOTICE AND CONDUCTING FINAL TESTS.
C. REFRIGERANT PIPING: THE SYSTEM SHALL BE TESTED AT A PRESSURE NO LOWER THAN THE LOW SIDE DESIGN PRESSURE, OR AT THE SETTING OF THE PRESSURE RELEASE DEVICE. THE SYSTEM SHALL BE TESTED USING DRY NITROGEN. CONTRACTOR SHALL PERFORM TESTING BEFORE INSULATION, EVACUATION, AND CHARGING OF THE SYSTEM.
D. MECHANICAL PIPING SHALL BE TESTED TO 1.5 TIMES THE MAXIMUM SYSTEM OPERATING PRESSURE (E.G. PUMP SHUT-OFF PRESSURE) FOR ONE HOUR WITH NO DROP IN PRESSURE OR LEAKS. TESTING MEDIUM SHALL BE CLEAN WATER.
E. COMPRESSED AIR PIPING SHALL BE TESTED AT A PRESSURE OF 150 PSIG FOR A PERIOD OF FOUR HOURS WITH NO DROP OF PRESSURE PERMITTED.

A. CONTROL SYSTEM PERFORMANCE SPECIFICATION

DESIGN AND SUBMITTALS

THE BAS CONTRACTOR WILL BE RESPONSIBLE FOR THE DESIGN AND INSTALLATION OF THE MECHANICAL DDC CONTROL SYSTEM. BAS CONTRACTOR SHALL REVIEW EQUIPMENT SUBMITTALS TO ENSURE WHAT FUNCTIONS ARE CONTROLLED BY THE EQUIPMENT AND WHAT FUNCTIONS SHALL BE CONTROLLED BY THE TRIDUIM SYSTEM. THE BAS CONTRACTOR IN EITHER CASE WILL INTERGRATE ALL FUNCTION INTO THE TRIDIUM SYSTEM. BAS CONTRACTOR SHALL DEVELOP FLOW WIRING, SEQUENCE OF OPERATIONS, GRAPHICS, ALARM MATRIX, HISTORY LOGS, ETC. TO DEPICT THE SYSTEM FOR REVIEW PRIOR TO INSTALLATION. INCLUDE MANUFACTURER'S TECHNICAL LITERATURE FOR EACH CONTROL DEVICE. THE BAS CONTRACTOR SHALL MATCH SITE STANDARDS FOR PROGRAMMING, WORKSTATION GRAPHIC, HISTORICAL LOGS AND ALARMING. OWNER SHALL CHOOSE THE INFORMATION TO MAP FROM ALL COMMUNICATION PROTOCOLS SUCH AS BACNET MSTP, MODBUS, ETC. TO THE BAS SYSTEM.

SEQUENCE OF OPERATION

SEE M-06, M-07 AND M-08.

BAS CONTRACTOR TESTS AND VERIFICATION

SEE BELOW IN COMMISSIONING SPECIFICATION

COMMISSIONING SPECIFICATION

GENERAL DEFINITION

COMMISSIONING IS THE ENGINEERED APPROACH TO THE DOCUMENTATION AND ADJUSTMENT OF MECHANICAL RELATED SYSTEMS, IN AN EFFORT TO ENSURE THAT THE SYSTEM MEETS THE OWNER'S REQUIREMENTS.

PARTIES IN RESPONSIBLE CHARGE

A. THE MECHANICAL CONTRACTOR
THE MECHANICAL CONTRACTOR SHALL DESIGNATE A SINGLE REPRESENTATIVE THAT WILL BE THE POINT OF CONTACT FOR THE OWNER AND ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE TO PREPARE THE PLAN, COORDINATE ALL TESTS BY THE CONTRACTORS, EXECUTE THE FIELD INSTALLATION VERIFICATION WORK SHEETS, SUPERVISE/ EXECUTE AIR AND HYDRONIC BALANCING, EXECUTE OPERATIONAL PERFORMANCE TESTS (SUPERVISE OR EXECUTE START-UP), AND EXECUTE FUNCTIONAL PERFORMANCE TESTS, AND PROVIDE ALL DOCUMENTATION OF TEST RESULTS TO OWNER AND ENGINEER.

B. OWNER
THE OWNER SHALL COORDINATE WITH CONTRACTOR FOR SCHEDULING OF TESTS.

WRITTEN PLAN

PRIOR TO EXECUTION OF THE COMMISSIONING ASSIGNMENT, AN OUTLINE SHALL BE PREPARED AND SUBMITTED TO THE OWNER, WHICH DETAILS THE BASIC AND SPECIFIC TESTS OF THE COMMISSIONING ASSIGNMENT. THIS MUST INCLUDE THE APPROPRIATE METHODS OF EXECUTION, AND RESPONSIBILITIES OF EACH MEMBER OF THE MECHANICAL CONTRACTOR TEAM, INCLUDING REQUIRED SUPPORT FROM OTHER MEMBERS/ SUBCONTRACTORS NOT DIRECTLY UNDER THE MECHANICAL CONTRACTOR AUTHORITY'S SUPERVISION.

LEAKAGE TESTS

A. TESTS WILL BE REQUIRED TO DEMONSTRATE THE INTEGRITY OF THE NEWLY INSTALLED PIPING AND DUCTWORK INFRASTRUCTURE. THE MECHANICAL CONTRACTOR WILL PERFORM ALL TESTS SPECIFIED AND/OR REQUIRED UNDER LAWS, RULES AND REGULATIONS OF ALL AUTHORITIES HAVING JURISDICTION.
B. NOTIFY THE OWNER AND ENGINEER AT LEAST 72 HOURS IN ADVANCE OF ALL TESTS. FURNISH ALL NECESSARY INSTRUMENTS, GAUGES AND OTHER EQUIPMENT REQUIRED FOR THESE TESTS. IF TESTS CANNOT BE COMPLETED AS SCHEDULED, PAY ALL EXPENSES INCURRED BY THE ENGINEER OR HIS AUTHORIZED REPRESENTATIVES REQUIRED TO BE PRESENT. EXPENSES SHALL INCLUDE THE COST OF TRAVELING, LODGING AND MEALS. TO AVOID SUCH OCCURRENCES, MAKE PRELIMINARY TESTS PRIOR TO GIVING NOTICE AND CONDUCTING FINAL TESTS.
C. NEW AND ALTERED PIPING SHALL BE HYDROSTATICALLY TESTED TO POINT OF CONNECTION WITH EXISTING PIPING AT 1.5 TIMES THE SYSTEM MAXIMUM OPERATING PRESSURE FOR ONE HOUR WITH NO LEAKS PERMITTED. FOLLOW ASME B31.9 TESTING PROCEDURE.
D. NEW AND ALTERED PIPING AND DUCTWORK SHALL BE TESTED TO POINT OF CONNECTION WITH EXISTING PIPING AND OR EQUIPMENT.

AIR AND HYDRONIC BALANCING

A. AIR AND HYDRONIC BALANCING SHALL BE REQUIRED TO ENSURE THAT ALL NEW AND MODIFIED SYSTEMS ARE DELIVERING THE SPECIFIED DESIGN QUANTITIES WITHIN 10% (+/-). ALL PARTS OF THE WORK SHALL BE TESTED AND ADJUSTED TO WORK PROPERLY AND BE LEFT IN PROPER OPERATING CONDITION UPON COMPLETION OF THE WORK. CORRECT DEFECTS DISCLOSED BY THESE TESTS WITHOUT ADDITIONAL COST TO THE OWNER. REPEAT TESTS ON REPAIRED OR REPLACED WORK IF DEEMED NECESSARY BY THE ENGINEER.
B. ALL BALANCING ACTIVITIES SHALL BE PERFORMED BY AN NEBB CERTIFIED BALANCER. BALANCING SHALL BE PERFORMED AND DOCUMENTED ACCORDING TO THE PROCEDURAL STANDARDS OF THE NATIONAL ENVIRONMENTAL BALANCING BUREAU (NEBB).

FIELD INSTALLATION VERIFICATION (FIV)

DOCUMENTATION WILL BE PROVIDED TO ENSURE THAT ALL MODIFIED OR NEW SYSTEMS AND THEIR COMPONENTS HAVE BEEN PROVIDED AND INSTALLED IN ACCORDANCE WITH ENGINEERING PLANS, SPECIFICATIONS, AND MANUFACTURER'S RECOMMENDATIONS.

OPERATIONAL PERFORMANCE TEST (OPT)

DOCUMENTATION WILL BE PROVIDED TO ENSURE THAT ALL MODIFIED OR NEW SYSTEMS AND THEIR COMPONENTS HAVE BEEN STARTED-UP PROPERLY. BY THE MANUFACTURER REPRESENTATIVE. ALL START-UP SHEETS SHALL BE FILLED OUT WITH NO EXCEPTIONS AND DOCUMENTATION PROVIDED TO THE OWNER AND ENGINEER ONCE SUCCESSFULLY COMPLETED.

TIONFUNCTIONAL PERFORMANCE TEST (FPT)

DOCUMENTATION WILL BE PROVIDED TO VERIFY THAT ALL MODIFIED OR NEW SYSTEMS AND THEIR COMPONENTS ARE CONFORMING TO PERFORMANCE DATA OUTLINED IN THE ENGINEERING PLANS AND SPECIFICATIONS AND ACCORDING TO THE SEQUENCE OF OPERATIONS. AND WORKSTATION GRAPHIC.

COMMISSIONING REPORT

A CONTRACTOR TO PROVIDE THREE (3) SETS OF (IOM) INSTALLATION, OPERATING, AND MAINTENANCE MANUALS FOR THE PROJECT. IOM SHALL ALSO BE SUBMITTED IN ELECTRONIC PDF FORMAT. SUBMIT IOM FOR APPROVAL BEFORE MAKING HARD COPIES OR ELECTRONIC FORMAT. FINAL REPORT WILL BE PROVIDED BY THE MECHANICAL CONTRACTOR THAT WILL INCLUDE ALL INFORMATION AS DESCRIBED ABOVE IN A NEAT AND ORGANIZED FORMAT. AT A MINIMUM, THIS FINAL REPORT WILL INCLUDE THE FOLLOWING SECTIONS:

A. COVER/ TITLE SHEET/ PROJECT NAME
B. TABLE OF CONTENTS/ INDEX
C. NAME AND ADDRESS OF CONTRACTOR
D. ENGINEERS AND ARCHITECT NAME AND ADDRESS
E. APPROVED SUBMITTALS AND IOM FOR ALL EQUIPMENT AND SYSTEMS
F. NEBB CERTIFIED AIR AND WATER BALANCING REPORTS
G. START-UP, TESTING AND CHECK-OUT SHEETS
H. PIPING AND DUCTWORK LEAK TESTING REPORTS
I. VERIFICATION OF SEQUENCE OF OPERATION FOR EACH SYSTEM BY BAS CONTRACTOR
J. SCREEN SHOT FOR ALL WORKSTATION GRAPHICS
K. CONTROL POINT TO POINT CHECK OUT SHEETS BY BAS CONTRACTOR
L. TESTING OF SMOKE DETECTORS AND REFRIGERANT DETECTION SYSTEMS
M. TESTING OF SPECIFIED ALARMS ON CONTROL SYSTEM BY BAS CONTRACTOR
N. 72 HOUR HISTORY LOGS OF OPERATION OF SYSTEMS BY BAS CONTRACTOR
O. PIPING AND DUCTWORK APPROVED SHOP DRAWINGS
P. RED-LINED DRAWINGS SHOWING FIELD CHANGES
Q. WARRANTY CERTIFICATES FOR ALL EQUIPMENT AND SYSTEMS
R. BAS CONFIGURATION OF ROOFTOP UNITS, AIR HANDLERS, FAN COIL UNITS, BOILERS, DOMESTIC HOT WATER HEATER, ETC.
S. FACTORY ACCEPTANCE TEST (FAT), IF APPLICABLE
T. ALIGNMENT RESULTS FOR PUMPS, FANS, ETC.
U. TRAINING LOG

INSTRUMENTATION

ALL INSTRUMENTATION USED DURING THE COMMISSIONING PROCESS SHALL HAVE DOCUMENTATION ATTESTING TO CALIBRATION WITHIN THE LAST YEAR. ALL FIELD INSTALLED INSTRUMENTATION SHALL BE PROVIDED WITH FACTORY CALIBRATION SHEETS.

TRAINING

CONTRACTOR TO PROVIDE NECESSARY TRAINING TO OWNER SO THAT OWNER MAY PROPERLY OPERATE AND MAINTAIN THE SYSTEMS PROVIDED. TRAINING SHALL BE PREFORMED USING A MANUFACTURER'S TRAINED REPRESENTATIVE. A TRANING AGENDA SHALL BE PREPARED FOR THE REVIEW BY OWNER BEFORE INSTRUCTION BEGINS.

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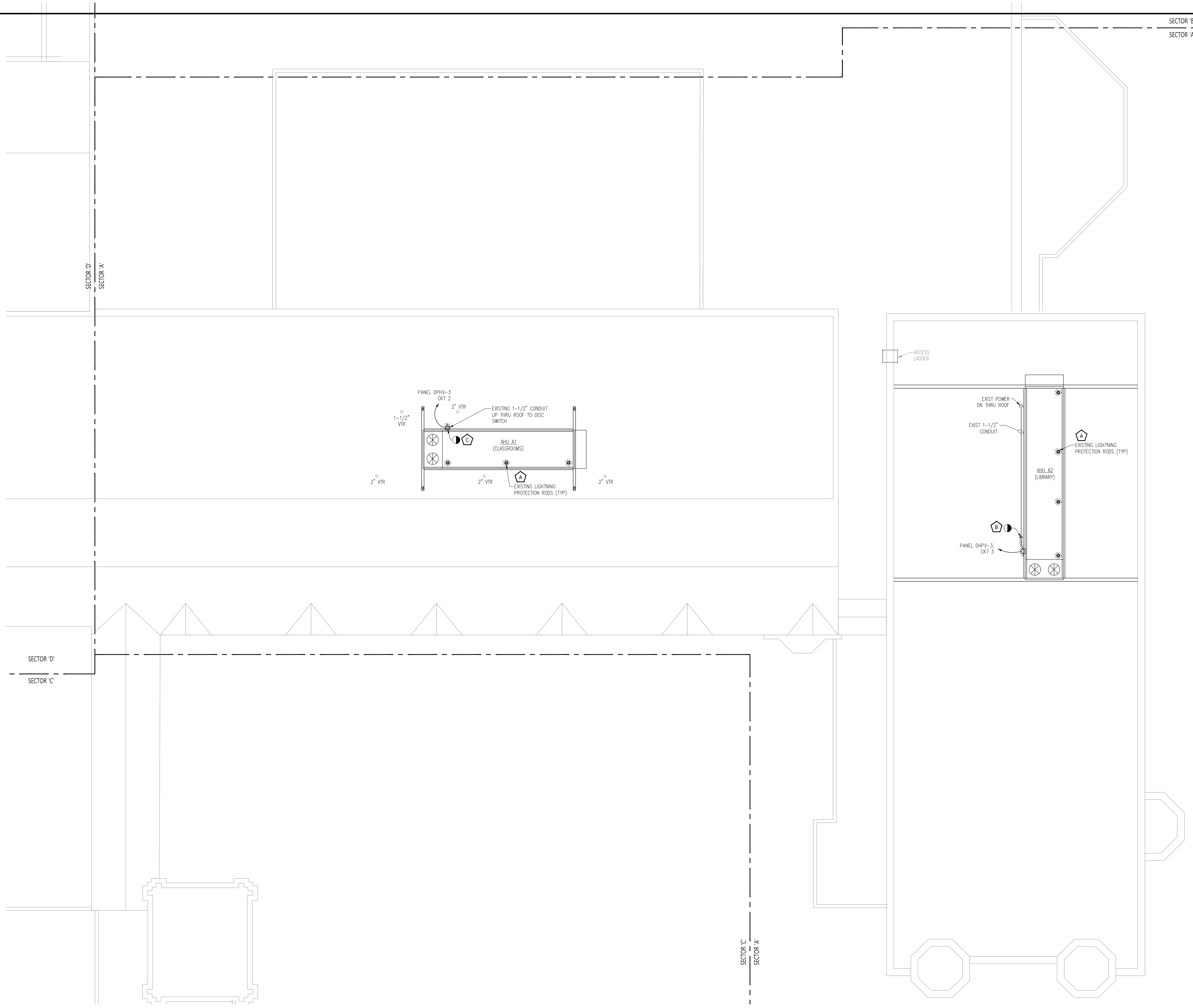
William D. Hopkins
Architect
01/29/26
Date

Project Name	HVAC Renovations at Princeton High School
Project Owner Name	Princeton Public Schools
Project Location	151 Moore Street, Princeton, NJ 08540
Project Number	5516E
Project Date	01.29.2026
Checked By	JTM
Drawn By	JD
Scale	AS NOTED
Drawing Name	MECHANICAL - SPECIFICATIONS

Revisions

No.	Date	Description

Drawing Number
M-901



① ELECTRICAL - SECTOR 'A' ROOF DEMOLITON PLAN

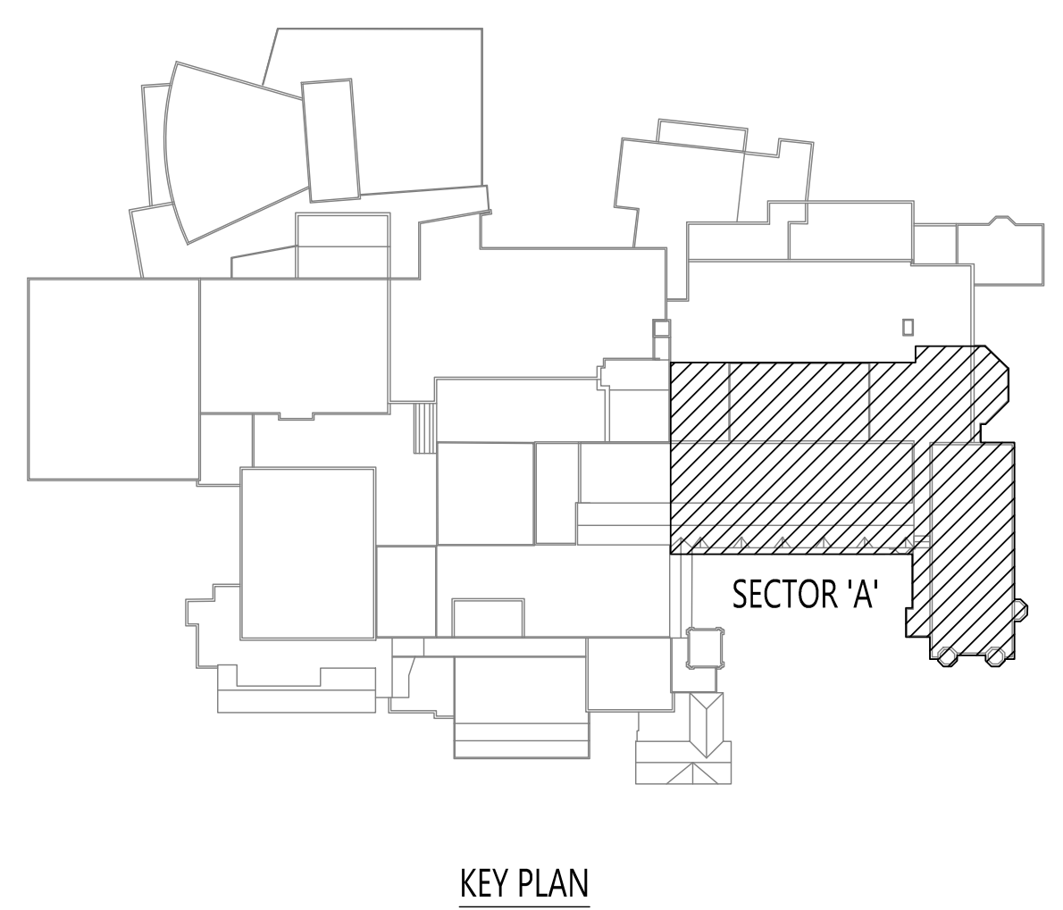
SCALE: 1/8"=1'-0"

ELECTRICAL DEMOLITION NOTES

- ⬠A REMOVE EXISTING LIGHTING PROTECTION CABLES & ASSOCIATED RODS FROM EXISTING ROOFTOP EQUIPMENT. THE LIGHTING PROTECTION SYSTEM SHALL BE RECONNECTED TO THE NEW ROOFTOP EQUIPMENT. SEE NEW WORK PLAN. REFER TO ARCHITECTURAL DRAWINGS FOR REMOVAL & ATTACHMENT OF LIGHTNING PROTECTION CABLE TO ROOF.
- ⬠B REMOVE EXISTING DISCONNECT SWITCH & CONDUIT BACK TO LOCATION SHOWN. THE EXISTING CONDUCTORS AND GROUND WIRE SHALL BE PULLED BACK TO FUSED SWITCH.
- ⬠C REMOVE EXISTING DISCONNECT SWITCH, CONDUIT & CONDUCTORS TO 16" ABOVE ROOF. EXISTING CIRCUIT SHALL BE USED TO POWER NEW AHU-A1.

GENERAL DEMOLITION NOTES

1. CONTRACTOR SHALL TRACE POWER CIRCUITS FOR ALL EXISTING MECHANICAL EQUIPMENT TO BE REMOVED TO ENSURE POWER IS ORIGINATING FROM POWER PANELS & CIRCUIT/BREAKER INDICATED. IF THERE IS A DISCREPANCY, NOTIFY ENGINEER IMMEDIATELY. WORK SHALL NOT PROCEED UNTIL ISSUE HAS BEEN RESOLVED.
2. WHERE EXISTING POWER AND CONTROL WIRING IS BEEN NOTED TO BE REMOVED, THE ASSOCIATED CONDUITS, HANGERS, SUPPORTS, FASTENERS, ETC. SHALL ALSO BE REMOVED. OPENINGS LEFT IN WALL, ROOF, FLOOR, ETC., SHALL BE REPAIRED & PAINTED WITH MATERIALS MATCHING EXISTING CONSTRUCTION & COLOR.
3. WHERE EXISTING POWER CIRCUITS ARE NOTED TO BE REMOVED, REUSED, ETC., CONTRACTOR SHALL PROVIDE SOURCE PANEL, BREAKER SIZE, BREAKER SHORT CIRCUIT RATING, CONDUIT SIZE & WIRE SIZE. THIS INFORMATION SHALL BE DOCUMENTED AND PROVIDED TO THE ENGINEER. THIS INFORMATION SHALL BE OBTAINED WITHIN FOUR (4) WEEKS OR CONTRACT AWARD.



KEY PLAN

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Project Name
HVAC Renovations at Princeton High School

Project Owner Name
Princeton Public Schools

Project Location
151 Moore Street,
Princeton, NJ
08540

Project Number
5516E

Project Date
01.29. 2026

Checked By
JTM

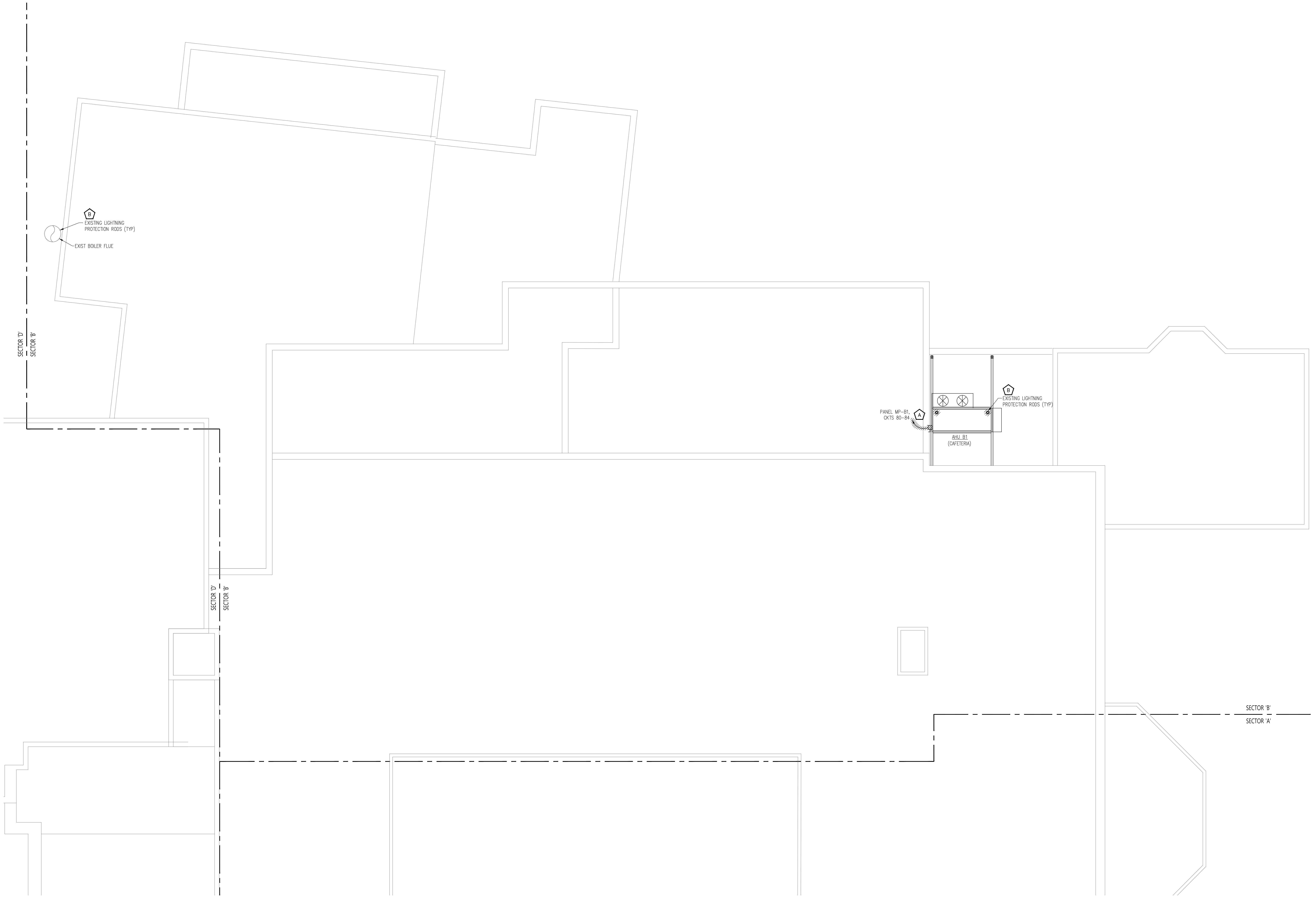
Drawn By
JD

Scale
AS NOTED

Drawing Name
ELECTRICAL - ROOF
SECTOR A
DEMOLITION PLAN

Revisions		
No.	Date	Description

Drawing Number
ED-431



1 ELECTRICAL - SECTOR 'B' ROOF DEMOLITON PLAN

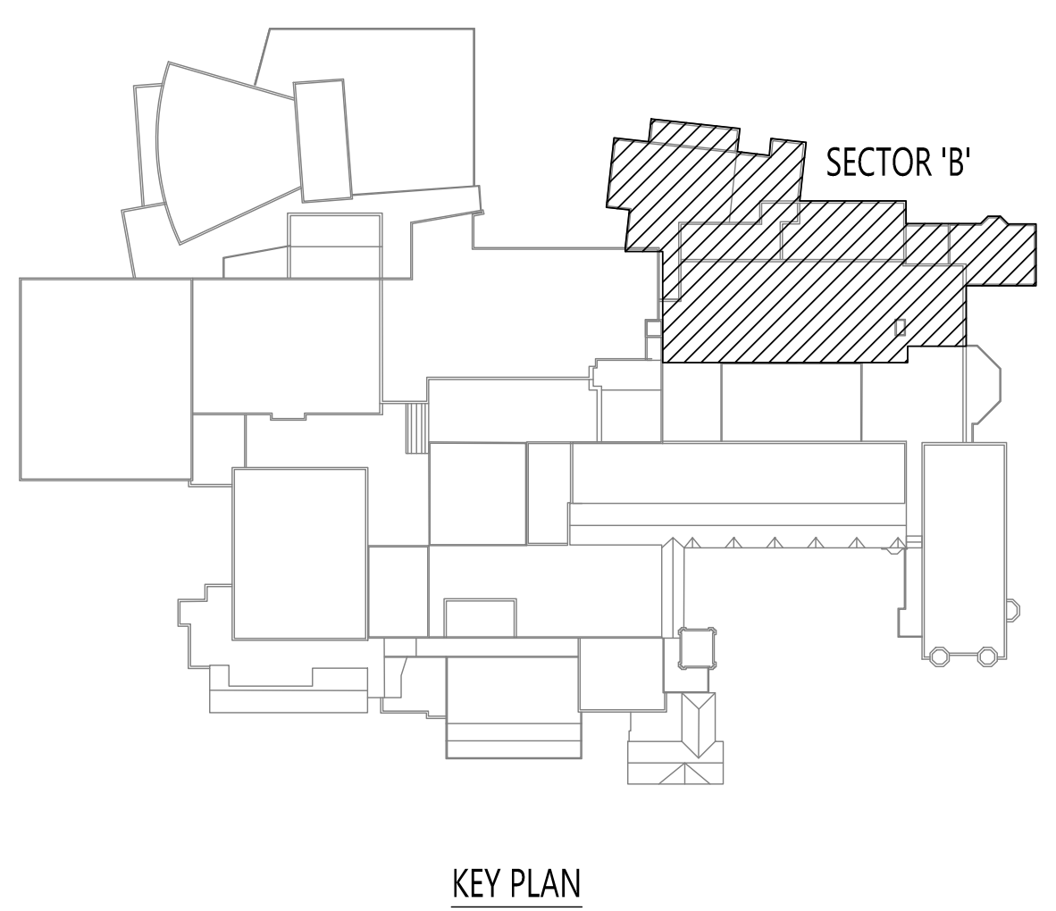
SCALE: 1/8"=1'–0"

ELECTRICAL DEMOLITION NOTES

- A REMOVE POWER & DISCONNECT SWITCH FROM EXISTING EQUIPMENT BACK TO SOURCE. REMOVE CONDUCTORS FROM BREAKER AND LABEL AS SPARE. UPDATE PANEL SCHEDULE ACCORDINGLY.
- B REMOVE EXISTING LIGHTING PROTECTION CABLES & ASSOCIATED RODS FROM EXISTING ROOFTOP EQUIPMENT & FLUE. THE LIGHTING PROTECTION SYSTEM SHALL BE RECONNECTED TO THE NEW ROOFTOP EQUIPMENT & FLUES. SEE NEW WORK PLAN. REFER TO ARCHITECTURAL DRAWINGS FOR REMOVAL & ATTACHMENT OF LIGHTNING PROTECTION CABLE TO ROOF.

GENERAL DEMOLITION NOTES

1. CONTRACTOR SHALL TRACE POWER CIRCUITS FOR ALL EXISTING MECHANICAL EQUIPMENT TO BE REMOVED TO ENSURE POWER IS ORIGINATING FROM POWER PANELS & CIRCUIT/BREAKER INDICATED. IF THERE IS A DISCREPANCY, NOTIFY ENGINEER IMMEDIATELY. WORK SHALL NOT PROCEED UNTIL ISSUE HAS BEEN RESOLVED.
2. WHERE EXISTING POWER AND CONTROL WIRING IS BEEN NOTED TO BE REMOVED, THE ASSOCIATED CONDUITS, HANGERS, SUPPORTS, FASTENERS, ETC. SHALL ALSO BE REMOVED. OPENINGS LEFT IN WALL, ROOF, FLOOR, ETC., SHALL BE REPAIRED & PAINTED WITH MATERIALS MATCHING EXISTING CONSTRUCTION & COLOR.
3. WHERE EXISTING POWER CIRCUITS ARE NOTED TO BE REMOVED, REUSED, ETC., CONTRACTOR SHALL PROVIDE SOURCE PANEL, BREAKER SIZE, BREAKER SHORT CIRCUIT RATING, CONDUIT SIZE & WIRE SIZE. THIS INFORMATION SHALL BE DOCUMENTED AND PROVIDED TO THE ENGINEER. THIS INFORMATION SHALL BE OBTAINED WITHIN FOUR (4) WEEKS OR CONTRACT AWARD.



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Project Name
HVAC Renovations at Princeton High School

Project Owner Name
Princeton Public Schools

Project Location
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08540

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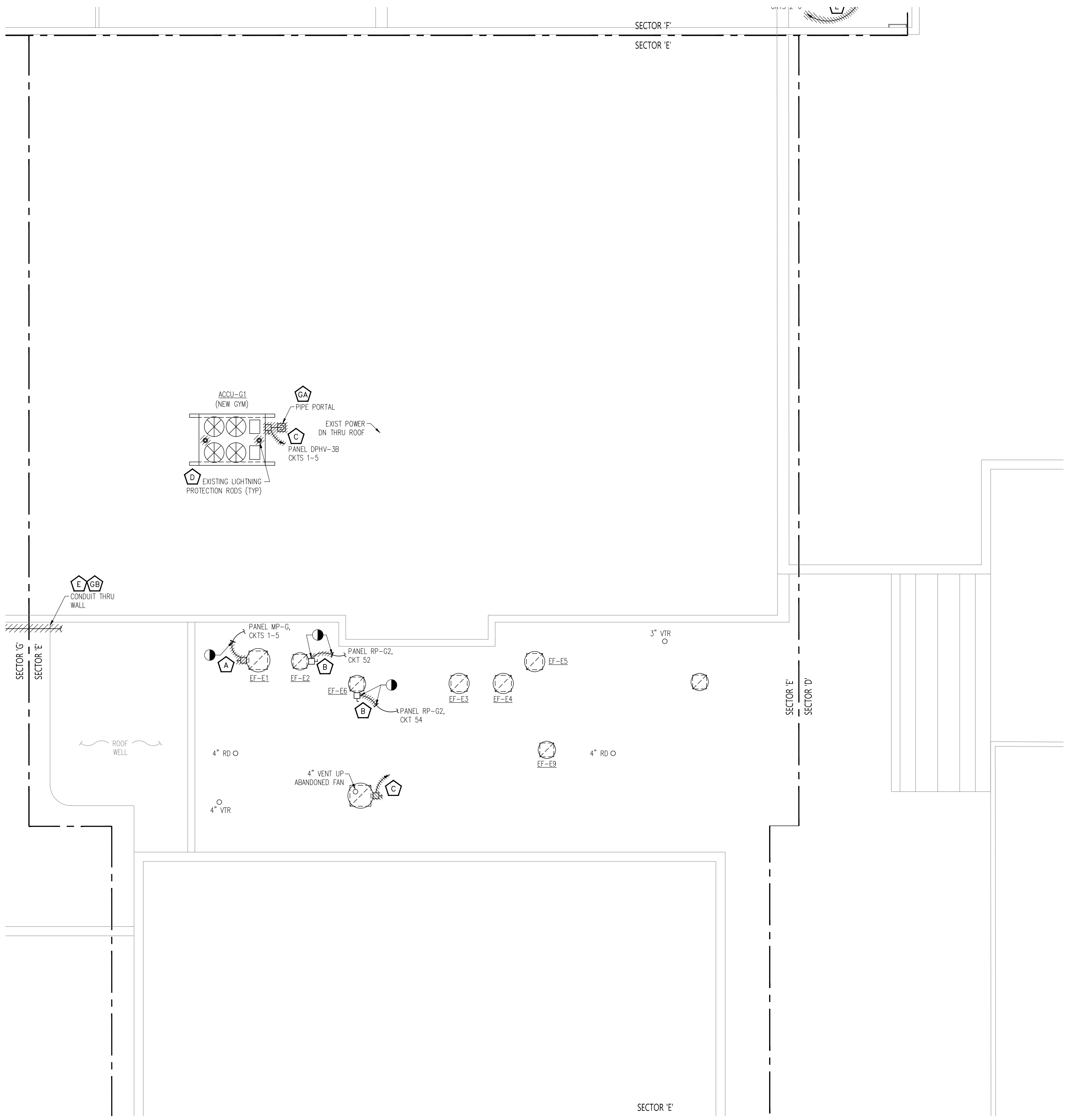
Drawing Name
ELECTRICAL - ROOF
SECTOR B
DEMOLITION PLAN

Revisions

No.	Date	Description

Drawing Number
ED-432



1 ELECTRICAL - SECTOR 'E' ROOF DEMOLITON PLAN

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

MECHANICAL DEMOLITION NOTES

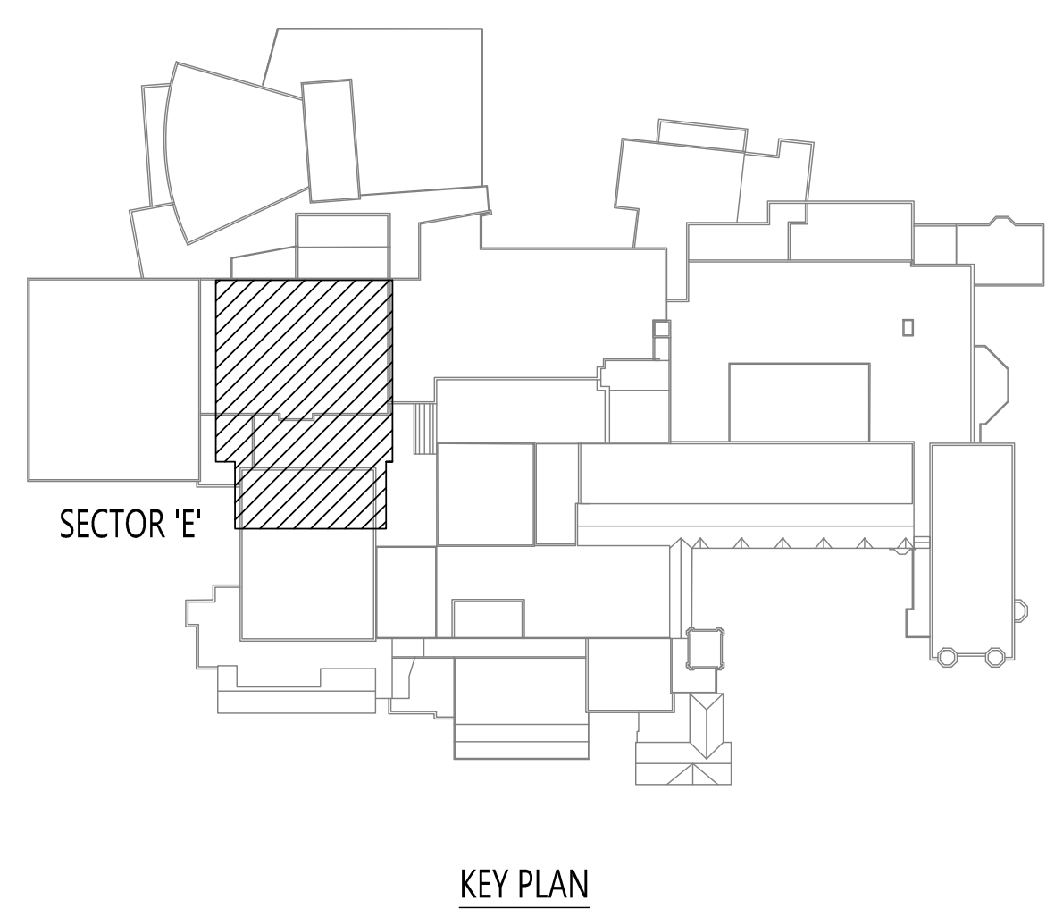
- A REMOVE EXISTING DISCONNECT SWITCH, CONDUIT & CONDUCTORS BACK TO A LOCATION THAT FACILITATES THE INSTALLATION OF A NEW J-BOX AT UNDERSIDE OF ROOF DECK. EXISTING CIRCUIT WILL POWER NEW EXHAUST FAN EF-E1. SEE NEW WORK PLANS.
- B REMOVE CONDUIT & CONDUCTORS BACK TO A LOCATION THAT FACILITATES THE INSTALLATION OF A NEW J-BOX AT UNDERSIDE OF ROOF DECK. EXISTING EXHAUST FAN, INCLUDING DISCONNECT SWITCH, SHALL BE RELOCATED. SEE NEW WORK PLANS.
- C REMOVE POWER & DISCONNECT SWITCH FROM EXISTING EQUIPMENT BACK TO SOURCE. REMOVE CONDUCTORS & CONDUIT BACK TO BREAKER.
- D REMOVE EXISTING LIGHTING PROTECTION CABLES & ASSOCIATED RODS FROM EXISTING ROOFTOP EQUIPMENT. THE LIGHTING PROTECTION SYSTEM SHALL BE RECONNECTED TO THE NEW ROOFTOP EQUIPMENT. SEE NEW WORK PLAN. REFER TO ARCHITECTURAL DRAWINGS FOR REMOVAL & ATTACHMENT OF LIGHTNING PROTECTION CABLE TO ROOF.
- E REMOVE EXISTING CONDUIT & CONDUCTORS THRU WALL.

GENERAL CONSTRUCTION DEMOLITION NOTES

- GA EXISTING PIPE PORTAL SHALL BE REMOVED. ROOF SHALL BE REPAIRED TO MATCH EXISTING. SEE ARCHITECTURAL PLANS.
- GB EXISTING WALL PENETRATION SHALL BE REPAIRED. SEE ARCHITECTURAL DRAWINGS FOR DETAILS.

GENERAL DEMOLITION NOTES

1. CONTRACTOR SHALL TRACE POWER CIRCUITS FOR ALL EXISTING MECHANICAL EQUIPMENT TO BE REMOVED TO ENSURE POWER IS ORIGINATING FROM POWER PANELS & CIRCUIT/BREAKER INDICATED. IF THERE IS A DISCREPANCY, NOTIFY ENGINEER IMMEDIATELY. WORK SHALL NOT PROCEED UNTIL ISSUE HAS BEEN RESOLVED.
2. WHERE EXISTING POWER AND CONTROL WIRING IS BEEN NOTED TO BE REMOVED, THE ASSOCIATED CONDUITS, HANGERS, SUPPORTS, FASTENERS, ETC. SHALL ALSO BE REMOVED. OPENINGS LEFT IN WALL, ROOF, FLOOR, ETC., SHALL BE REPAIRED & PAINTED WITH MATERIALS MATCHING EXISTING CONSTRUCTION & COLOR.
3. WHERE EXISTING POWER CIRCUITS ARE NOTED TO BE REMOVED, REUSED, ETC., CONTRACTOR SHALL PROVIDE SOURCE PANEL, BREAKER SIZE, BREAKER SHORT CIRCUIT RATING, CONDUIT SIZE & WIRE SIZE. THIS INFORMATION SHALL BE DOCUMENTED AND PROVIDED TO THE ENGINEER. THIS INFORMATION SHALL BE OBTAINED WITHIN FOUR (4) WEEKS OR CONTRACT AWARD.



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Project Name
HVAC Renovations at Princeton High School

Project Owner Name
Princeton Public Schools

Project Location
151 Moore Street,
Princeton, NJ
08540

Project Number
5516E

Project Date
01.29. 2026

Checked By
JTM

Drawn By
JD

Scale
AS NOTED

Drawing Name
ELECTRICAL - ROOF
SECTOR E
DEMOLITION PLAN

Revisions

No.	Date	Description

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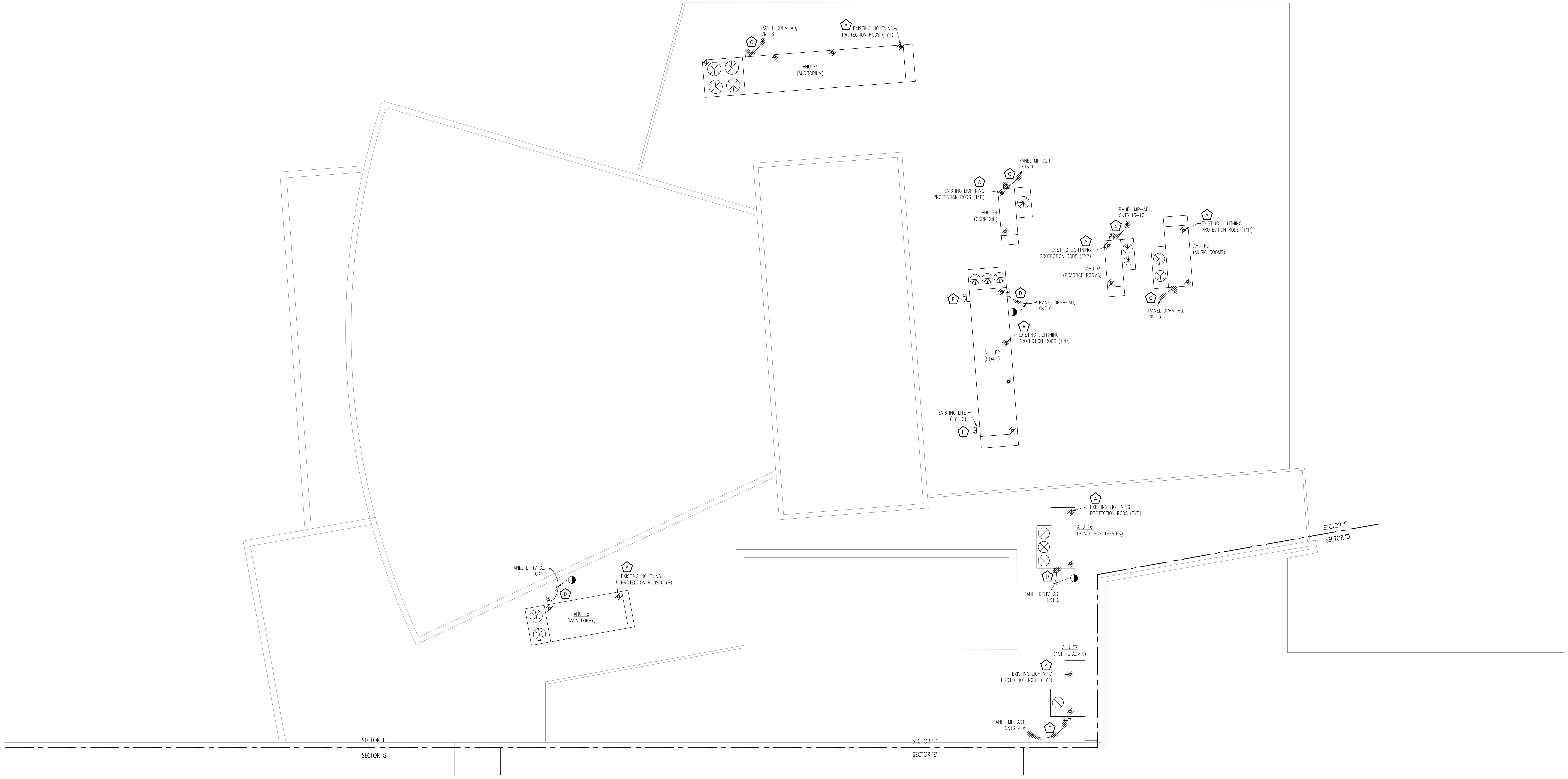
ED-435



1 ELECTRICAL - SECTOR 'F' ROOF DEMOLITON PLAN
SCALE: 1/8"=1'-0"

MECHANICAL DEMOLITION NOTES

A REMOVE EXISTING LIGHTING PROTECTION CABLES & ALL ASSOCIATED RODS FROM EXISTING ROOFTOP EQUIPMENT. THE LIGHTING PROTECTION SYSTEM SHALL BE RECONNECTED TO THE NEW ROOFTOP EQUIPMENT. SEE NEW WORK PLAN. REFER TO ARCHITECTURAL DRAWINGS FOR REMOVAL & ATTACHMENT OF LIGHTNING PROTECTION CABLE TO ROOF.

B REMOVE EXISTING DISCONNECT SWITCH, CONDUIT & CONDUCTORS BACK TO A LOCATION THAT FACILITATES THE INSTALLATION OF A NEW J-BOX AT UNDERSIDE OF ROOF DECK. EXISTING CIRCUIT WILL POWER NEW ROOFTOP UNIT. SEE NEW WORK PLANS.

C REMOVE EXISTING DISCONNECT SWITCH, CONDUIT & CONDUCTORS BACK TO SOURCE. EXISTING BREAKER LOCATION WILL BE REUSED FOR NEW EQUIPMENT.

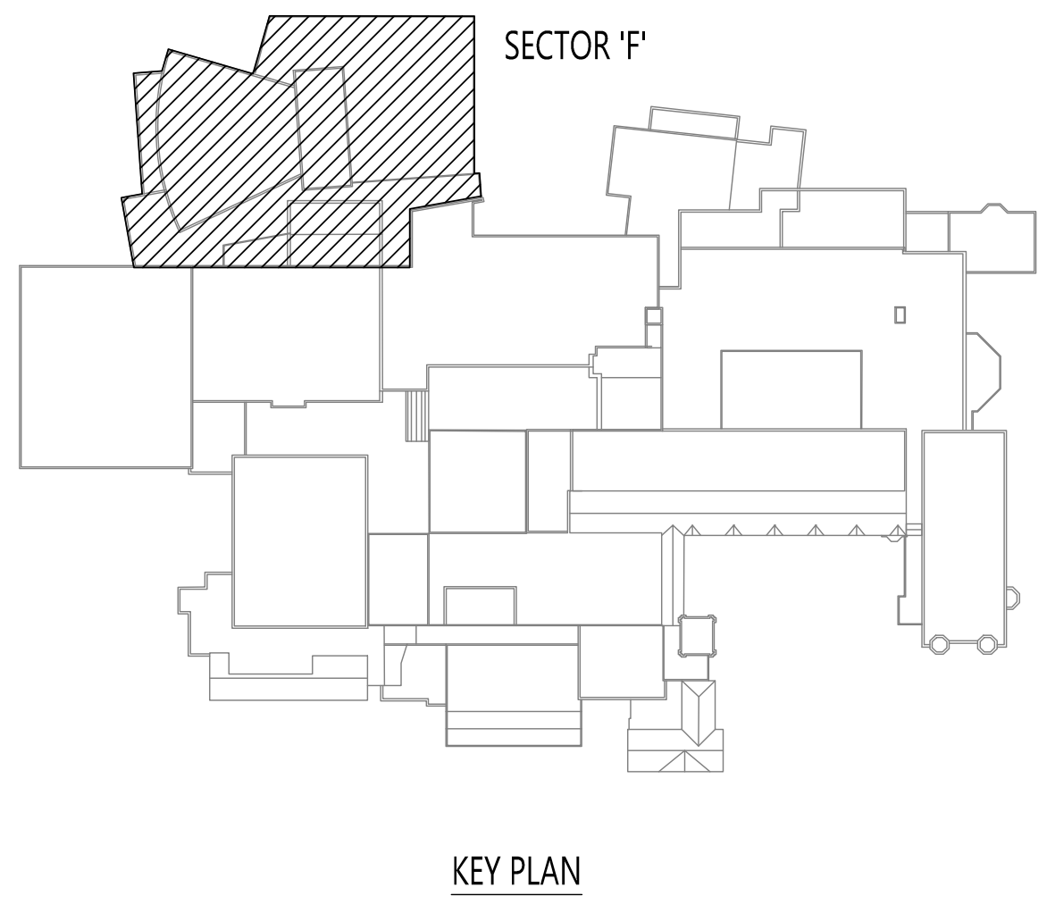
D REMOVE EXISTING DISCONNECT SWITCH, CONDUIT & CONDUCTORS BACK TO A LOCATION THAT FACILITATES THE INSTALLATION OF A NEW J-BOX AT UNDERSIDE OF ROOF DECK. THE EXISTING CONDUCTORS SHALL BE REMOVED BACK TO SOURCE & A NEW SET OF CONDUCTORS PULLED IN THE SAME CONDUIT. SEE NEW WORK PLANS.

E REMOVE EXISTING DISCONNECT SWITCH, CONDUIT & CONDUCTORS BACK TO SOURCE.

F REMOVE EXISTING LIGHT FIXTURE AND RETAIN FOR REINSTALLATION.

GENERAL DEMOLITION NOTES

1. CONTRACTOR SHALL TRACE POWER CIRCUITS FOR ALL EXISTING MECHANICAL EQUIPMENT TO BE REMOVED TO ENSURE POWER IS ORIGINATING FROM POWER PANELS & CIRCUIT/BREAKER INDICATED. IF THERE IS A DISCREPANCY, NOTIFY ENGINEER IMMEDIATELY. WORK SHALL NOT PROCEED UNTIL ISSUE HAS BEEN RESOLVED.
2. WHERE EXISTING POWER AND CONTROL WIRING IS BEEN NOTED TO BE REMOVED, THE ASSOCIATED CONDUITS, HANGERS, SUPPORTS, FASTENERS, ETC. SHALL ALSO BE REMOVED. OPENINGS LEFT IN WALL, ROOF, FLOOR, ETC., SHALL BE REPAIRED & PAINTED WITH MATERIALS MATCHING EXISTING CONSTRUCTION & COLOR.
3. WHERE EXISTING POWER CIRCUITS ARE NOTED TO BE REMOVED, REUSED, ETC., CONTRACTOR SHALL PROVIDE SOURCE PANEL, BREAKER SIZE, BREAKER SHORT CIRCUIT RATING, CONDUIT SIZE & WIRE SIZE. THIS INFORMATION SHALL BE DOCUMENTED AND PROVIDED TO THE ENGINEER. THIS INFORMATION SHALL BE OBTAINED WITHIN FOUR (4) WEEKS OR CONTRACT AWARD.



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F V H D P C . C O M

Project Name
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Project Owner Name
Princeton Public Schools

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Project Number
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Project Date
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JTM
Drawn By
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Scale
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Drawing Name
ELECTRICAL - ROOF
SECTOR F
DEMOLITION PLAN

Revisions

No.	Date	Description

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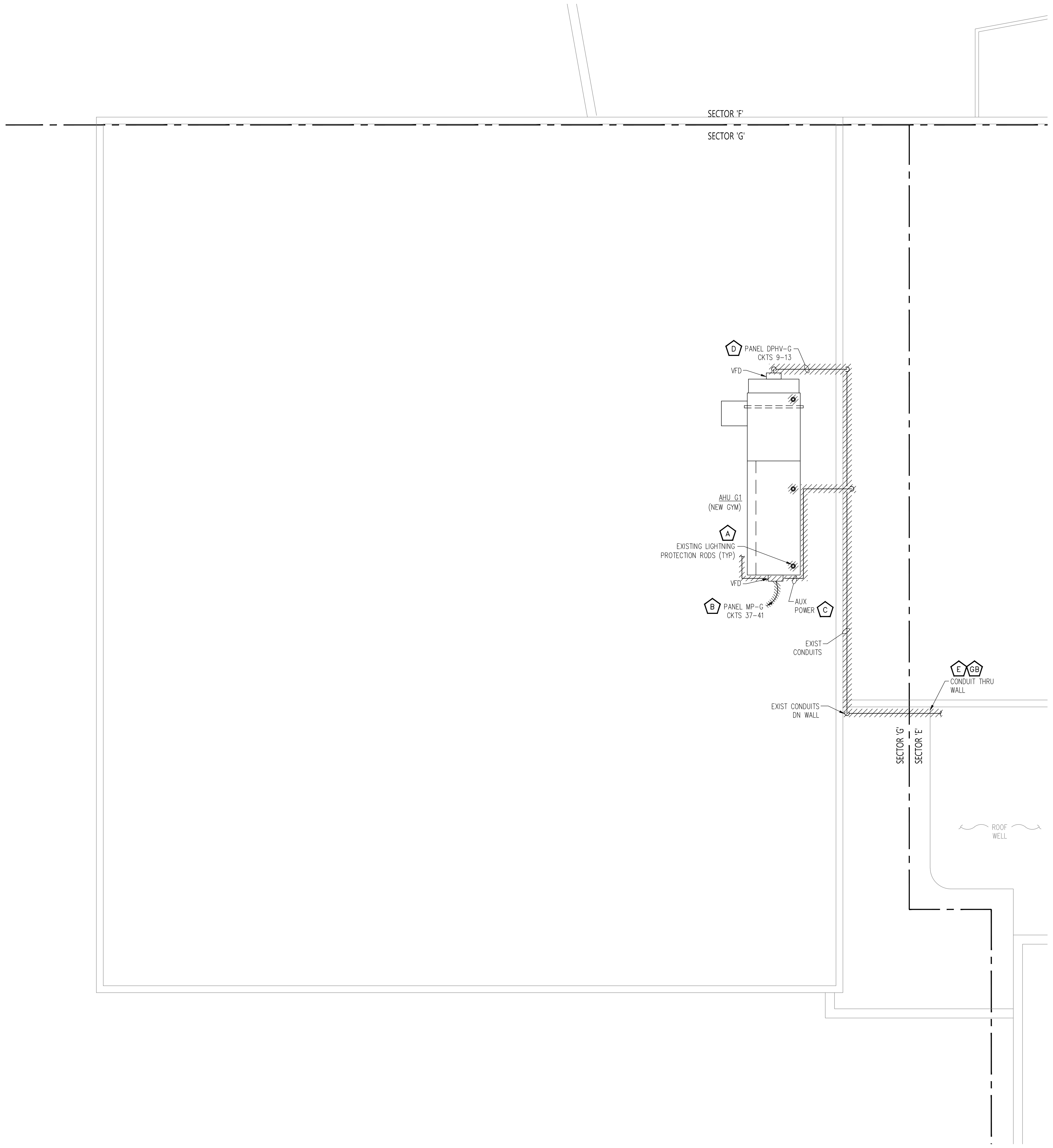
ED-436



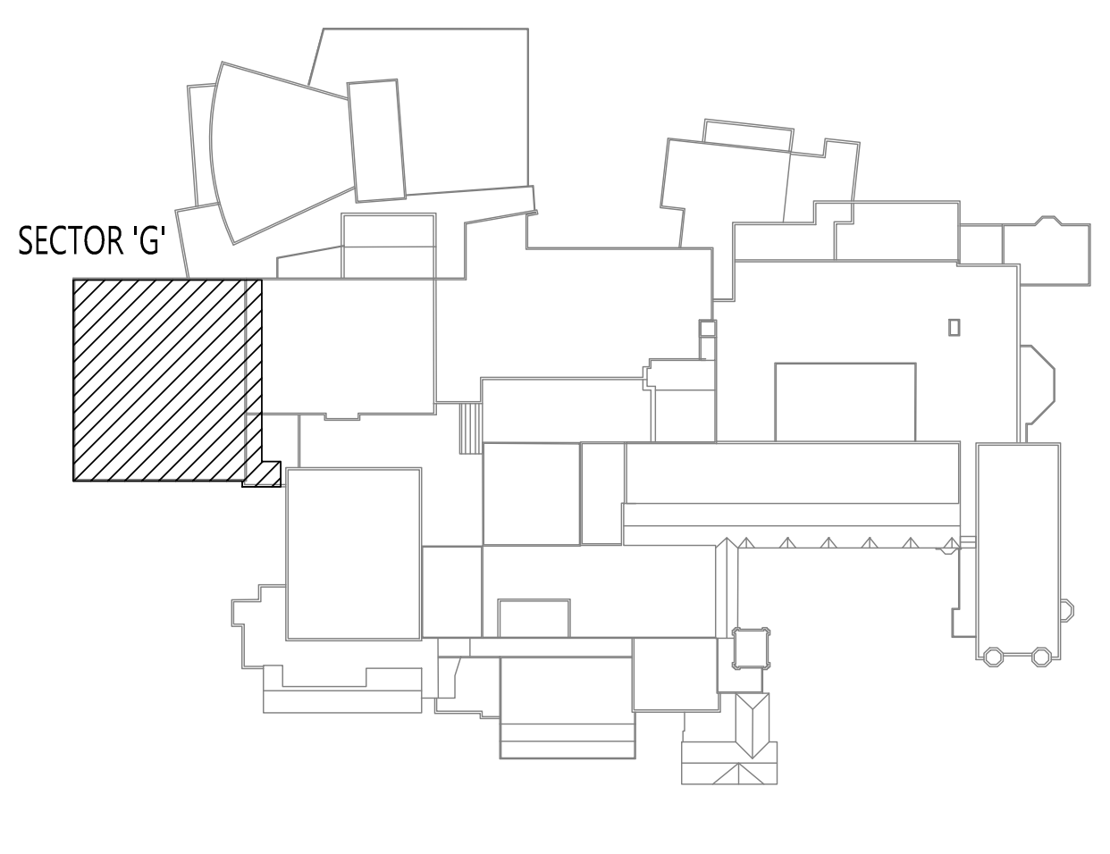
1 ELECTRICAL - SECTOR 'G' ROOF DEMOLITON PLAN
SCALE: 1/8"=1'-0"

MECHANICAL DEMOLITION NOTES

- A REMOVE EXISTING LIGHTING PROTECTION CABLES & ASSOCIATED RODS FROM EXISTING ROOFTOP EQUIPMENT. THE LIGHTING PROTECTION SYSTEM SHALL BE RECONNECTED TO THE NEW ROOFTOP EQUIPMENT. SEE NEW WORK PLAN. REFER TO ARCHITECTURAL DRAWINGS FOR REMOVAL & ATTACHMENT OF LIGHTNING PROTECTION CABLE TO ROOF.
- B REMOVE POWER FROM UNIT VFD BACK TO SOURCE. REMOVE CONDUCTORS FROM BREAKER AND LABEL AS "SPARE". UPDATE PANEL SCHEDULE ACCORDINGLY.
- C REMOVE ALL AUXILIARY POWER SERVING AHU-G1, AS WELL AS ASSOCIATED CONDENSING UNIT. REMOVE CONDUCTORS FROM BREAKER AND LABEL AS SPARE. UPDATE PANEL SCHEDULE ACCORDINGLY.
REMOVE POWER FROM UNIT VFD BACK TO SOURCE. EXISTING BREAKER LOCATION WILL BE REUSED FOR NEW AHU-G1.

GENERAL DEMOLITION NOTES

1. ONTRACTOR SHALL TRACE POWER CIRCUITS FOR ALL EXISTING MECHANICAL EQUIPMENT TO BE REMOVED TO ENSURE POWER IS ORIGINATING FROM POWER PANELS & CIRCUIT/BREAKER INDICATED. IF THERE IS A DISCREPANCY, NOTIFY ENGINEER IMMEDIATELY. WORK SHALL NOT PROCEED UNTIL ISSUE HAS BEEN RESOLVED.
2. WHERE EXISTING POWER AND CONTROL WIRING IS BEEN NOTED TO BE REMOVED, THE ASSOCIATED CONDUITS, HANGERS, SUPPORTS, FASTENERS, ETC. SHALL ALSO BE REMOVED. OPENINGS LEFT IN WALL, ROOF, FLOOR, ETC., SHALL BE REPAIRED & PAINTED WITH MATERIALS MATCHING EXISTING CONSTRUCTION & COLOR.
3. WHERE EXISTING POWER CIRCUITS ARE NOTED TO BE REMOVED, REUSED, ETC., CONTRACTOR SHALL PROVIDE SOURCE PANEL, BREAKER SIZE, BREAKER SHORT CIRCUIT RATING, CONDUIT SIZE & WIRE SIZE. THIS INFORMATION SHALL BE DOCUMENTED AND PROVIDED TO THE ENGINEER. THIS INFORMATION SHALL BE OBTAINED WITHIN FOUR (4) WEEKS OR CONTRACT AWARD.



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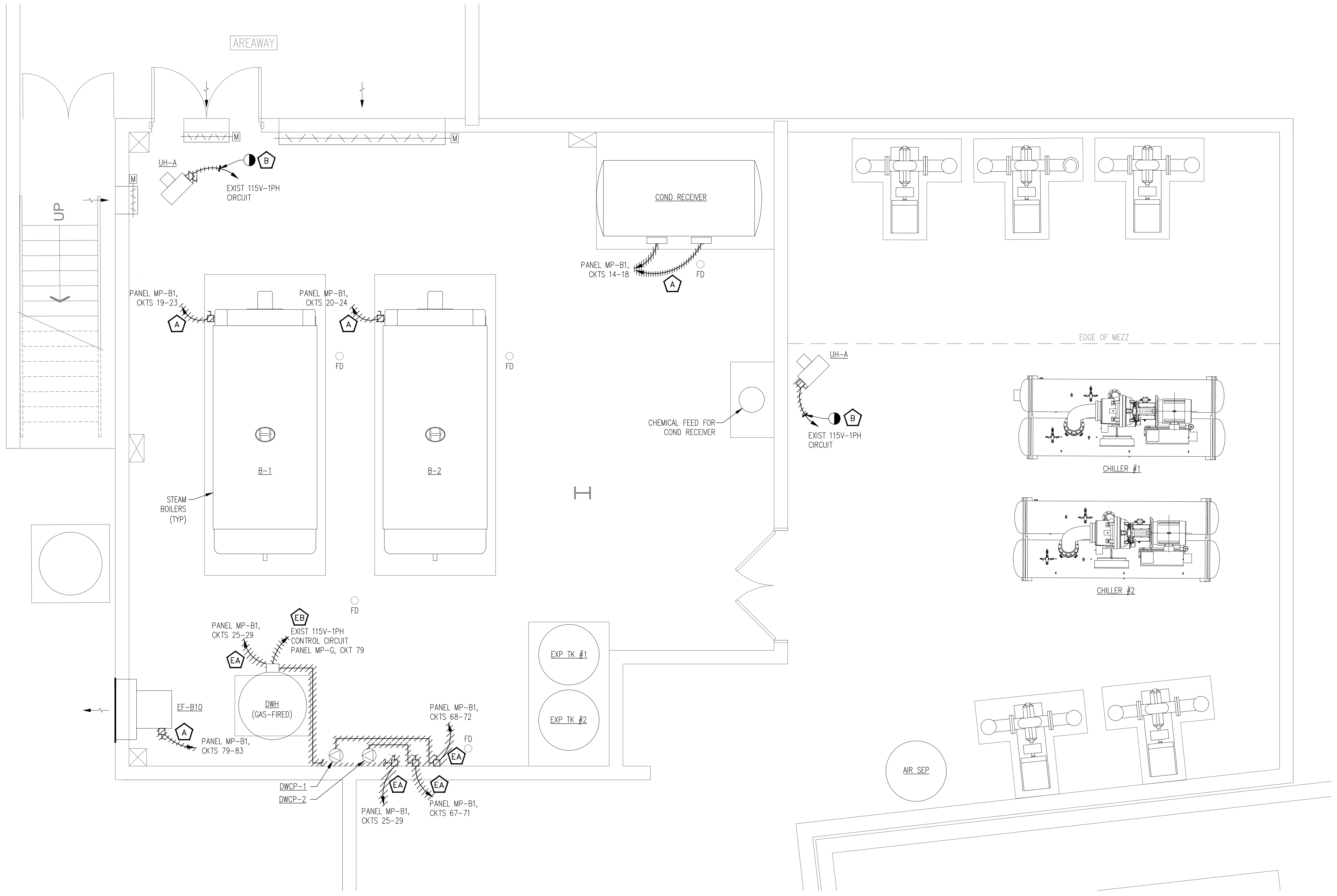
Drawing Name
ELECTRICAL - ROOF SECTOR G DEMOLITION PLAN

Revisions

No.	Date	Description

Drawing Number
ED-437



1 ELECTRICAL - MAIN BOILER ROOM POWER DEMOLITION PLAN
SCALE: 1/4"=1'-0"

ELECTRICAL DEMOLITION NOTES-BASE BID

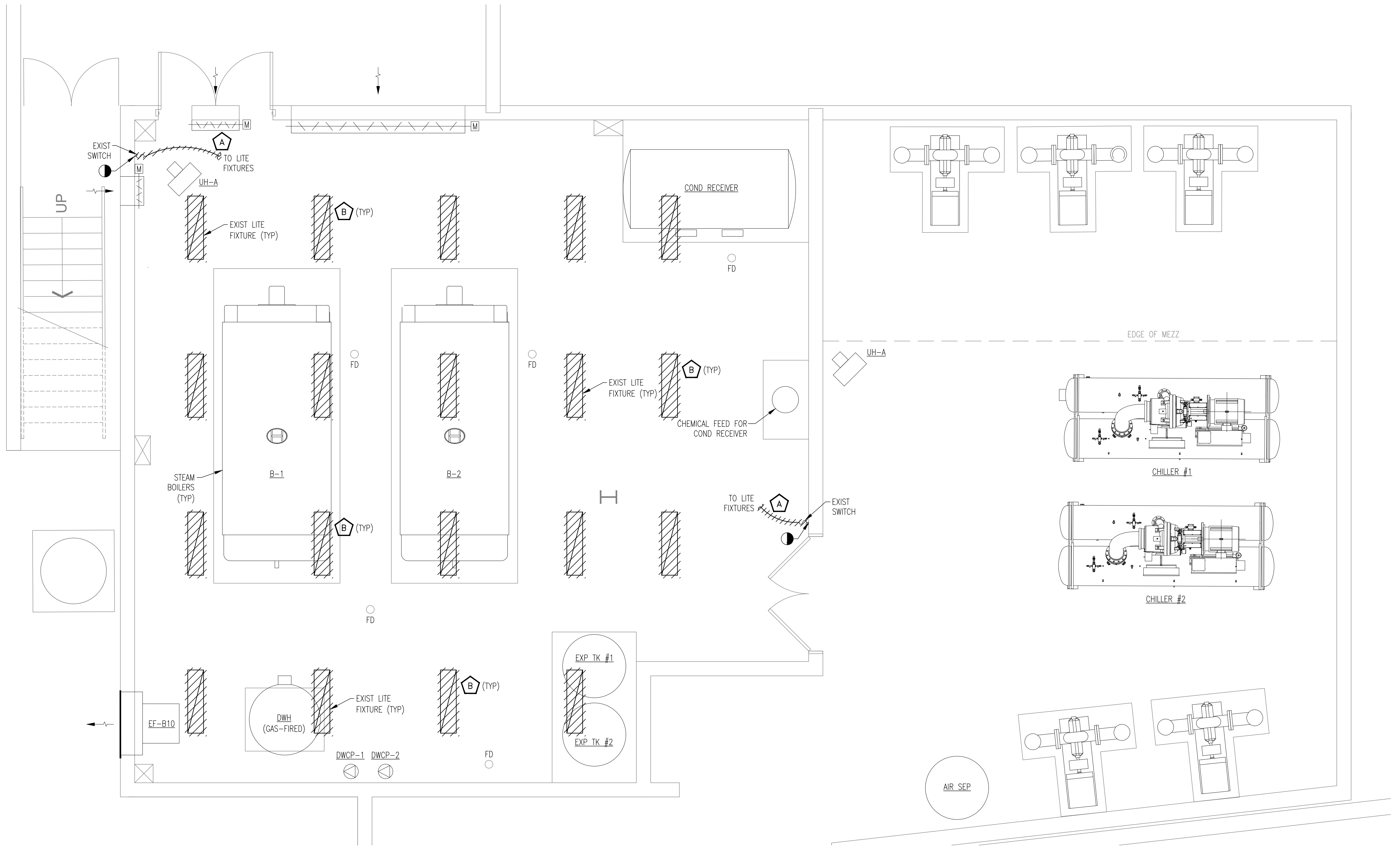
- ⬠A REMOVE EXISTING DISCONNECT SWITCH & POWER WIRING BACK TO SOURCE. LABEL BREAKER AS "SPARE".
- ⬠B REMOVE EXISTING DISCONNECT SWITCH & POWER BACK TO A POINT TO INSTALL A NEW J-BOX. CIRCUIT SHALL BE REUSED TO POWER NEW UNIT HEATER.

ELECTRICAL DEMOLITION NOTES-ADD/ALT #3

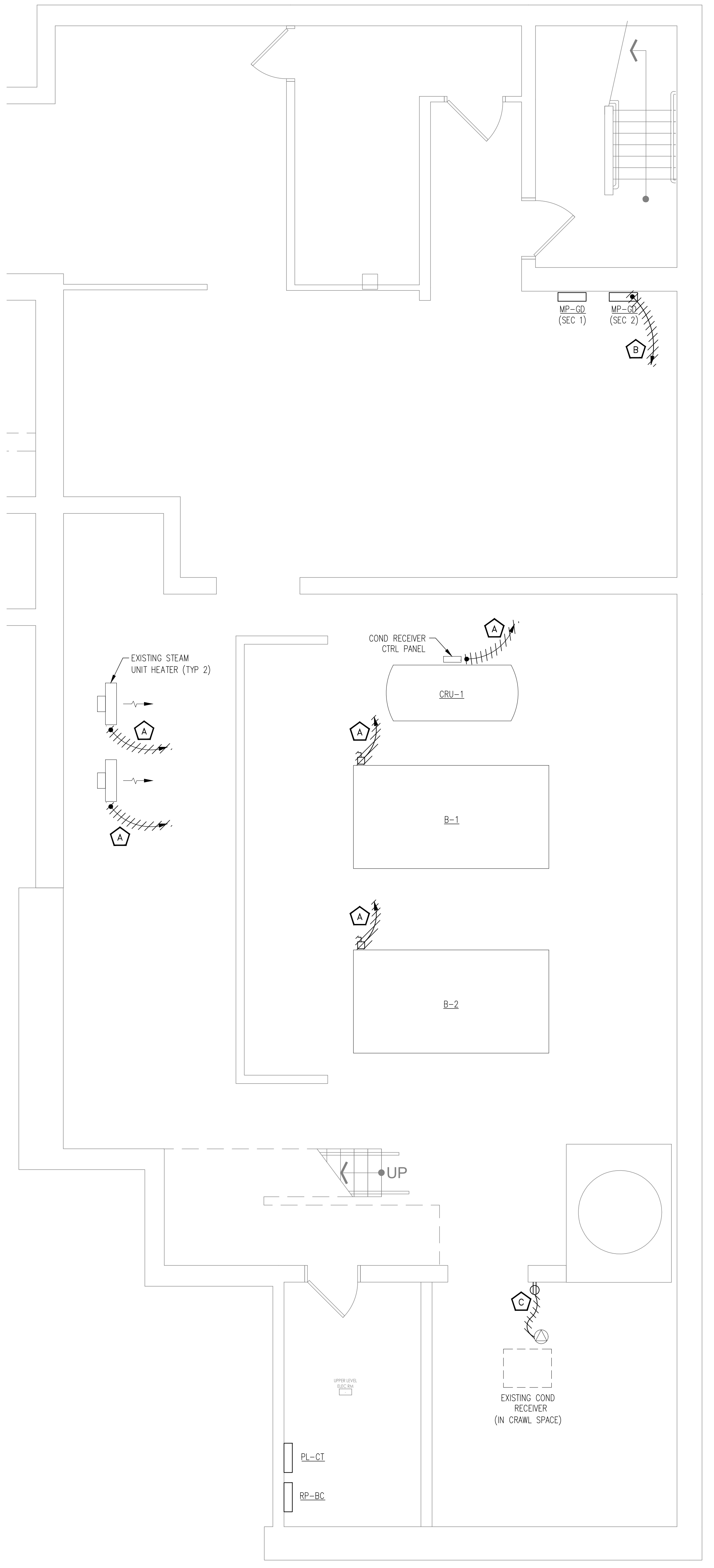
- ⬠EA REMOVE EXISTING DISCONNECT SWITCH & POWER WIRING BACK TO SOURCE. LABEL BREAKER AS "SPARE".
- ⬠EB REMOVE EXISTING CONTROL POWER CIRCUIT BACK TO SOURCE. LABEL BREAKER AS "SPARE".

ELECTRICAL GENERAL DEMOLITION NOTES-BASE BID & ALT BIDS

1. WHERE POWER WIRING IS TO BE REMOVED BACK TO SOURCE, THE CONTRACTOR SHALL REMOVE DISCONNECT SWITCH, CONDUIT, HANGERS, BRACKETS, FASTENERS, ETC., IN THEIR ENTIRETY.
2. WHERE EXISTING POWER CIRCUITS ARE NOTED TO BE REMOVED, REUSED, ETC., CONTRACTOR SHALL PROVIDE SOURCE PANEL, BREAKER SIZE, BREAKER SHORT CIRCUIT RATING, CONDUIT SIZE & WIRE SIZE. THIS INFORMATION SHALL BE DOCUMENTED AND PROVIDED TO THE ENGINEER. THIS INFORMATION SHALL BE OBTAINED WITHIN FOUR (4) WEEKS OR CONTRACT AWARD.



4 ELECTRICAL - BOILER ROOM LIGHTING DEMOLITION PARTIAL PLAN
SCALE: 1/4"=1'-0"


MP-GD (SEC 1)
MP-GD (SEC 2)
EXISTING STEAM UNIT HEATER (TYP 2)
COND RECEIVER CTRL PANEL
CRU-1
B-1
B-2
UP
EXISTING COND RECEIVER (IN CRAWL SPACE)
PL-CT
RP-BC

2 ELECTRICAL - ORIGINAL BOILER ROOM DEMOLITION PLAN
SCALE: 1/4"=1'-0"

ELECTRICAL DEMOLITION NOTES

- ⬠A REMOVE POWER & DISCONNECT SWITCH FROM EXISTING EQUIPMENT BACK TO SOURCE. REMOVE CONDUCTORS FROM BREAKER AND LABEL AS SPARE. UPDATE PANEL SCHEDULE ACCORDINGLY.
- ⬠B REMOVE EXISTING CONDUIT & CONDUCTORS FROM AIR COMPRESSOR BACK TO PANEL. REMOVE EXISTING BREAKER. LOCATION SHALL BE USED TO POWER NEW ECUH-4.
- ⬠C REMOVE PLUG FROM RECEPTACLE FOR CONDENSATE PUMP. COIL UP EXISTING POWER CORD & INSTALL APPROVED LOCK-OUT/TAG OUT DEVICE OVER PLUG.

ELECTRICAL GENERAL DEMOLITION NOTES

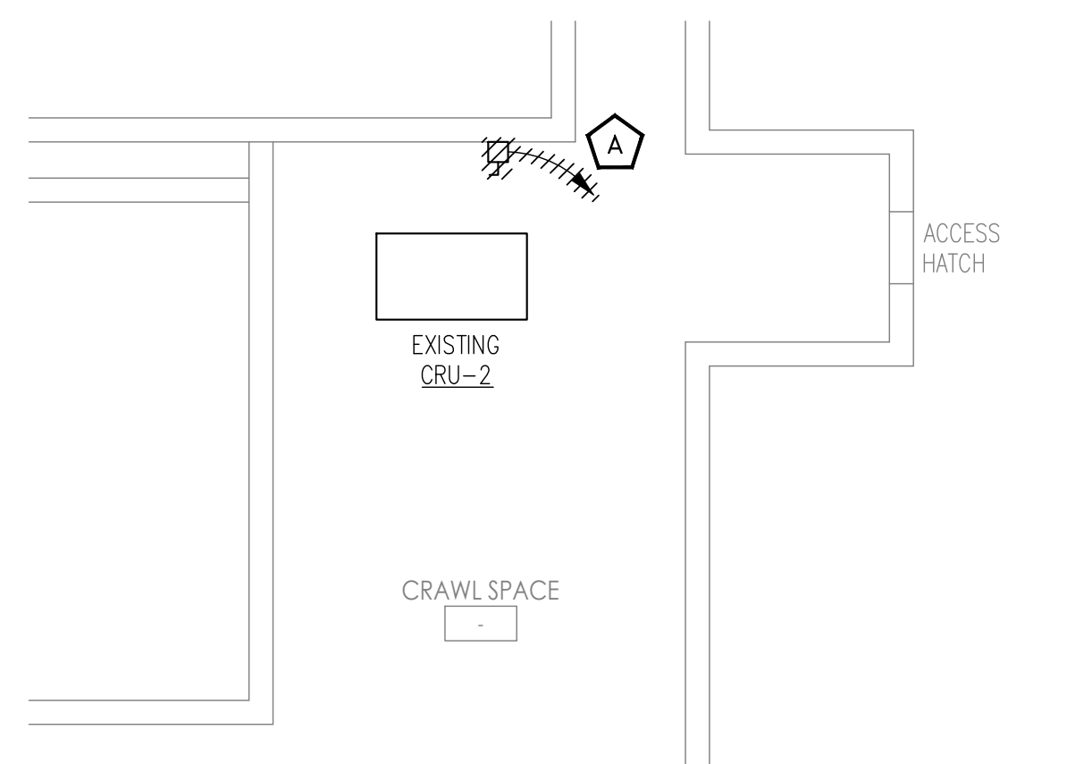
1. WHERE POWER WIRING IS TO BE REMOVED BACK TO SOURCE, THE CONTRACTOR SHALL REMOVE DISCONNECT SWITCH, CONDUIT, HANGERS, BRACKETS, FASTENERS, ETC., IN THEIR ENTIRETY.
2. WHERE EXISTING POWER CIRCUITS ARE NOTED TO BE REMOVED, REUSED, ETC., CONTRACTOR SHALL PROVIDE SOURCE PANEL, BREAKER SIZE, BREAKER SHORT CIRCUIT RATING, CONDUIT SIZE & WIRE SIZE. THIS INFORMATION SHALL BE DOCUMENTED AND PROVIDED TO THE ENGINEER. THIS INFORMATION SHALL BE OBTAINED WITHIN FOUR (4) WEEKS OR CONTRACT AWARD.

ELECTRICAL LIGHTING DEMOLITION NOTES

- ⬠A REMOVE EXISTING 3-WAY LIGHT SWITCH & POWER WIRING TO ALL EXISTING LIGHT FIXTURES. REMOVE ALL CONDUIT & POWER WIRING, CONDUIT SUPPORTS, BRACKETS, HANGERS, ETC., IN THEIR ENTIRETY.
- ⬠B REMOVE EXISTING LIGHT FIXTURES INCLUDING SUPPORTS, BRACKETS, HANGERS, ETC., IN THEIR ENTIRETY.

GENERAL DEMOLITION NOTES

1. WHERE EXISTING POWER AND CONTROL WIRING & LIGHTS ARE BEEN NOTED TO BE REMOVED, THE ASSOCIATED CONDUITS, HANGERS, SUPPORTS, FASTENERS, ETC. SHALL ALSO BE REMOVED. OPENINGS LEFT IN WALL SHALL BE REPAIRED & PAINTED WITH MATERIALS MATCHING EXISTING CONSTRUCTION & COLOR.



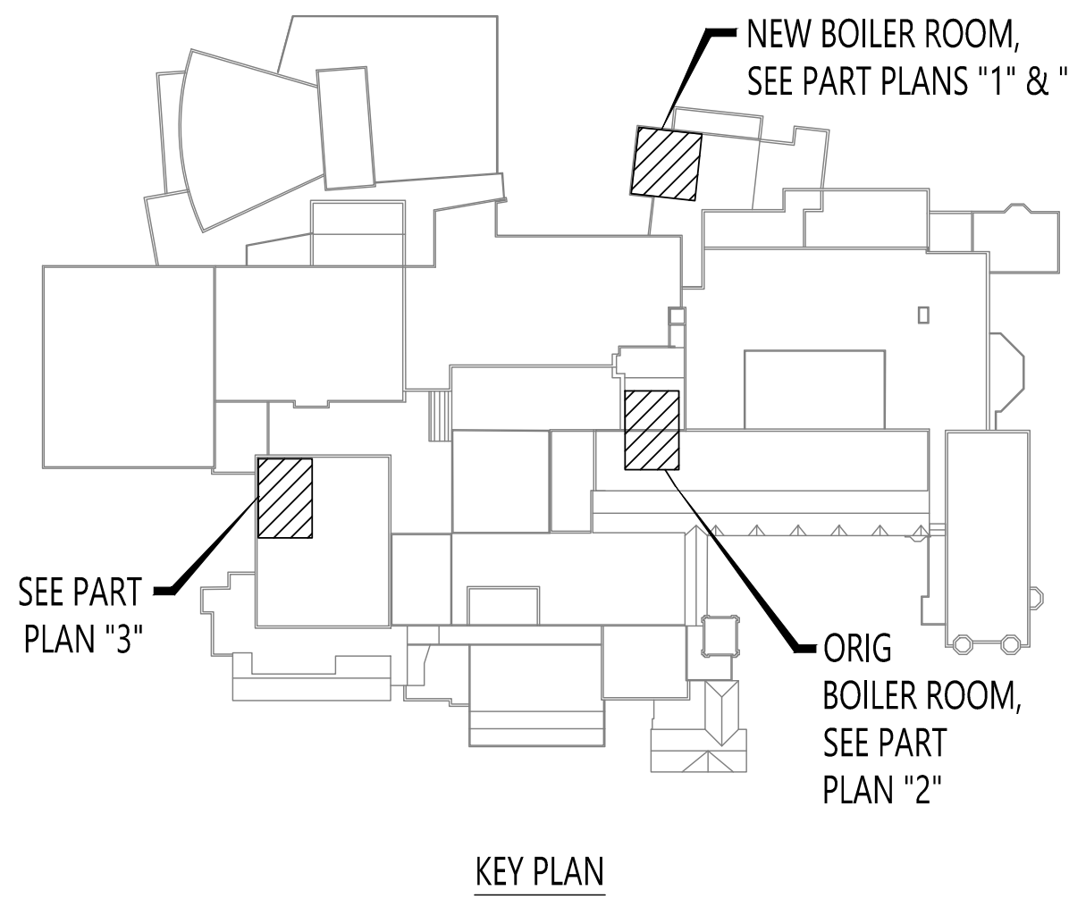
3 ELECTRICAL - SECTOR 'H' BASEMENT DEMOLITION PARTIAL PLAN
SCALE: 1/8"=1'-0"

ELECTRICAL DEMOITION NOTES

- ⬠A REMOVE POWER & DISCONNECT SWITCH FROM EXISTING EQUIPMENT BACK TO SOURCE. REMOVE CONDUCTORS FROM BREAKER AND LABEL AS "SPARE". UPDATE PANEL SCHEDULE ACCORDINGLY.

ELECTRICAL GENERAL DEMOLITION NOTES

1. WHERE EXISTING POWER AND CONTROL WIRING IS BEEN NOTED TO BE REMOVED, THE ASSOCIATED CONDUITS, HANGERS, SUPPORTS, FASTENERS, ETC. SHALL ALSO BE REMOVED. OPENINGS LEFT IN WALL SHALL BE REPAIRED & PAINTED WITH MATERIALS MATCHING EXISTING CONSTRUCTION & COLOR.
2. WHERE NEW POWER/CONTROL WIRING & CONDUITS ARE BEING REMOVED OR INSTALLED, THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO REMOVE & REPLACE ANY DAMAGED OR MARKED-UP CEILING TILES. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TILE SPECIFICATION. WHERE HARD CEILINGS EXIST, THE GENERAL CONTRACTOR SHALL REMOVE SECTION OF CEILING TO FACILITATE THE WORK & REPAIR THE CEILING AFTER THE INSTALLATION HAS BEEN COMPLETED. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.


NEW BOILER ROOM, SEE PART PLANS "1" & "4"
SEE PART PLAN "3"
ORIG BOILER ROOM, SEE PART PLAN "2"

KEY PLAN

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Scale
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Drawing Name
ELECTRICAL - BASEMENT PARTIAL DEMOLITION PLANS

Revisions

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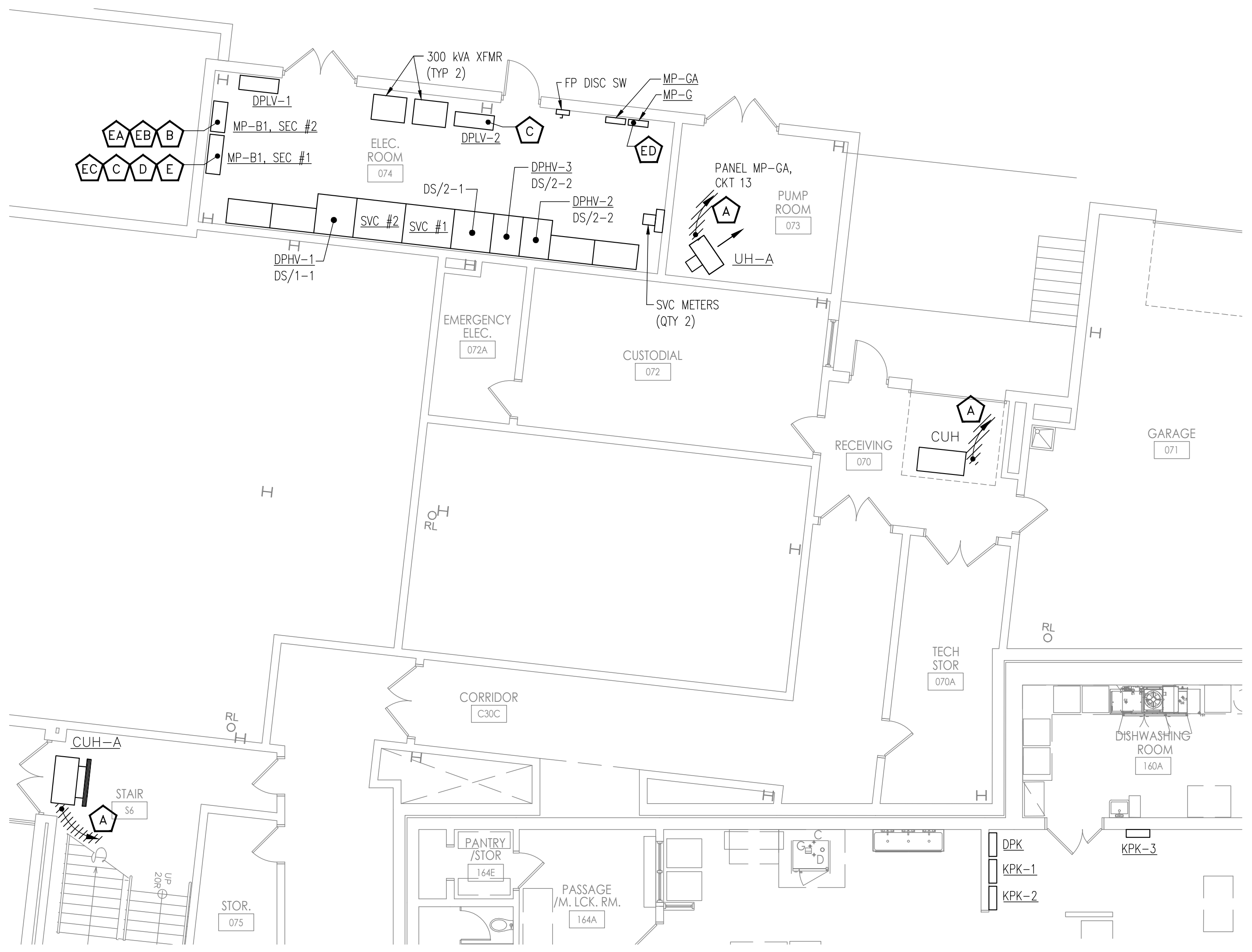


1 ELECTRICAL - SECTOR 'B' GROUND FLOOR DEMOLITION PARTIAL PLAN
SCALE: 1/8"=1'-0"

ELECTRICAL DEMOLITION NOTES–BASE BID

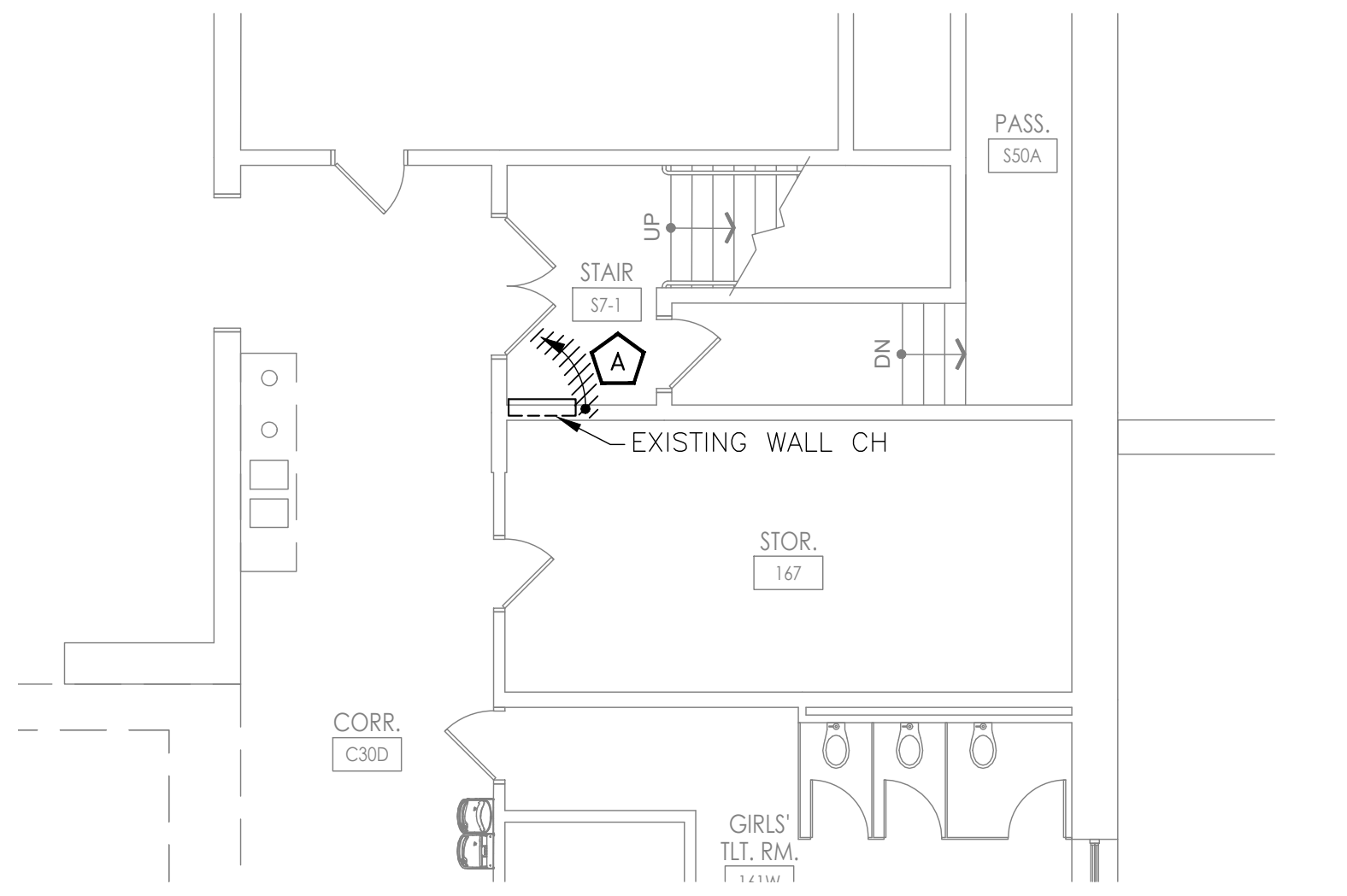
- (A) REMOVE POWER & DISCONNECT SWITCH FROM EXISTING EQUIPMENT BACK TO SOURCE. REMOVE CONDUCTORS FROM BREAKER AND LABEL AS "SPARE". UPDATE PANEL SCHEDULE ACCORDINGLY.
- (B) REMOVE EXISTING 70A, 3–P BREAKER (CKTS 80–84) FOR EXISTING AHU–B1. SPACE SHALL BE REUSED TO POWER NEW AHU–B1.
- (C) WITHIN 3 WEEKS OF CONTRACT AWARD, CONTRACTOR SHALL INSTALL A METER ON EXISTING INCOMING CONDUCTORS FOR A PERIOD OF ONE (1) WEEK TO RECORD AMPS READINGS AT 15 MINUTE INTERVALS. SUBMIT RESULTS TO ENGINEER IN GRAPHICAL FORMAT FOR REVIEW.
- (D) REMOVE EXISTING CONDUCTORS FROM EXISTING 60A BREAKER (CKTS 19–23) FEEDING BOILER #1. LABEL BREAKER AS "SPARE".
- (E) REMOVE EXISTING CONDUCTORS & EXISTING 60A BREAKER (CKTS 20–24) FEEDING BOILER #2. CIRCUITS SHALL BE REUSED FOR NEW BREAKER TO FEED NEW SUB–PANEL MP–BLR.

ELECTRICAL DEMOLITION NOTES–ADD/ALT #3

- (EA) REMOVE EXISTING CONDUCTORS FROM EXISTING 15A BREAKER (CKTS 68–72) FEEDING DWCP–1. LABEL BREAKER AS "SPARE".
- (EB) REMOVE EXISTING CONDUCTORS FROM EXISTING 15A BREAKER (CKTS 67–71) FEEDING DWCP–2. LABEL BREAKER AS "SPARE".
- (EC) REMOVE EXISTING CONDUCTORS FROM EXISTING 15A BREAKER (CKTS 25–29) FEEDING DWH–1. LABEL BREAKER AS "SPARE".

ELECTRICAL GENERAL DEMOLITION NOTES–BASE BID & ALT BIDS

1. WHERE EXISTING POWER AND CONTROL WIRING IS BEEN NOTED TO BE REMOVED, THE ASSOCIATED CONDUITS, HANGERS, SUPPORTS, FASTENERS, ETC. SHALL ALSO BE REMOVED. OPENINGS LEFT IN WALL SHALL BE REPAIRED & PAINTED WITH MATERIALS MATCHING EXISTING CONSTRUCTION & COLOR.
2. WHERE NEW POWER/CONTROL WIRING & CONDUITS ARE BEING REMOVED OR INSTALLED, THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO REMOVE & REPLACE ANY DAMAGED OR MARKED–UP CEILING TILES. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TILE SPECIFICATION. WHERE HARD CEILINGS EXIST, THE GENERAL CONTRACTOR SHALL REMOVE SECTION OF CEILING TO FACILITATE THE WORK & REPAIR THE CEILING AFTER THE INSTALLATION HAS BEEN COMPLETED. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.



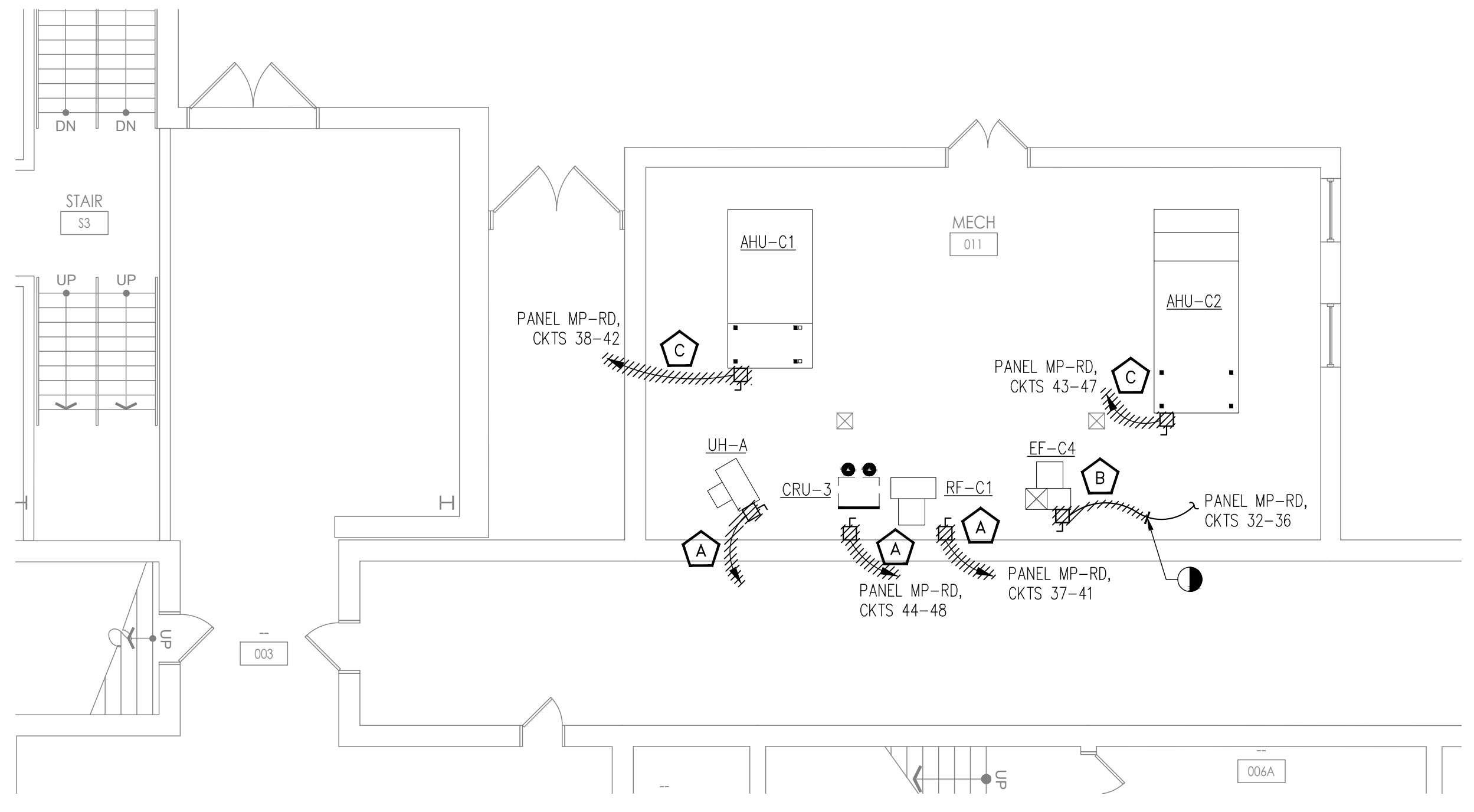
2 ELECTRICAL - SECTOR 'B' GROUND FLOOR DEMOLITION PARTIAL PLAN
SCALE: 1/8"=1'-0"

ELECTRICAL DEMOITION NOTES

- (A) REMOVE POWER & DISCONNECT SWITCH FROM EXISTING EQUIPMENT BACK TO SOURCE. REMOVE CONDUCTORS FROM BREAKER AND LABEL AS "SPARE". UPDATE PANEL SCHEDULE ACCORDINGLY.

ELECTRICAL GENERAL DEMOLITION NOTES

1. WHERE EXISTING POWER AND CONTROL WIRING IS BEEN NOTED TO BE REMOVED, THE ASSOCIATED CONDUITS, HANGERS, SUPPORTS, FASTENERS, ETC. SHALL ALSO BE REMOVED. OPENINGS LEFT IN WALL SHALL BE REPAIRED & PAINTED WITH MATERIALS MATCHING EXISTING CONSTRUCTION & COLOR.
2. WHERE NEW POWER/CONTROL WIRING & CONDUITS ARE BEING REMOVED OR INSTALLED, THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO REMOVE & REPLACE ANY DAMAGED OR MARKED–UP CEILING TILES. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TILE SPECIFICATION. WHERE HARD CEILINGS EXIST, THE GENERAL CONTRACTOR SHALL REMOVE SECTION OF CEILING TO FACILITATE THE WORK & REPAIR THE CEILING AFTER THE INSTALLATION HAS BEEN COMPLETED. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.



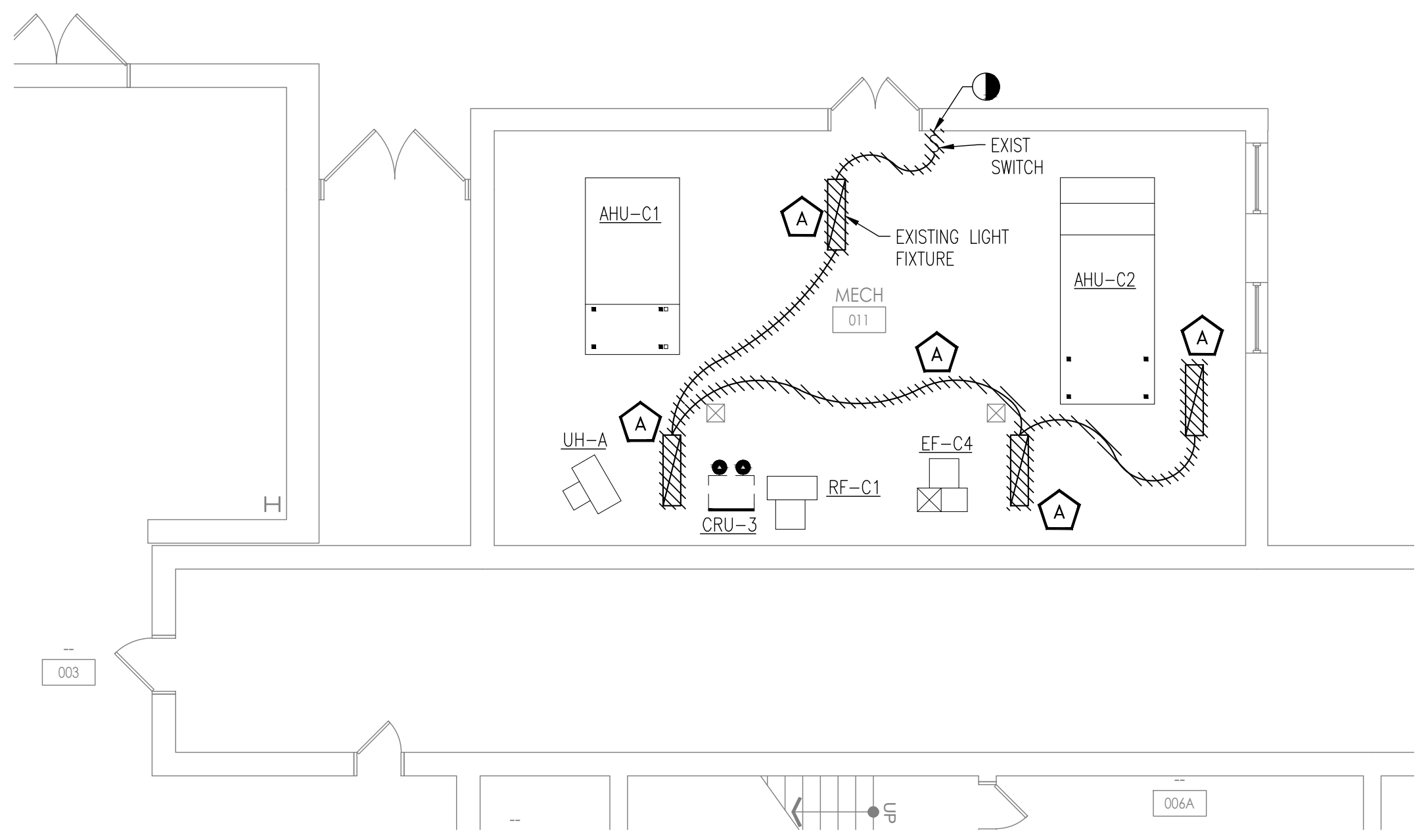
3 ELECTRICAL - SECTOR 'C' GROUND FLOOR DEMOLITION PARTIAL PLAN - ADD/ALT #2
SCALE: 1/8"=1'-0"

ELECTRICAL DEMOLITION NOTES–ADD/ALT #2

- (A) REMOVE POWER & DISCONNECT SWITCH FROM EXISTING EQUIPMENT BACK TO SOURCE. REMOVE CONDUCTORS FROM BREAKER AND LABEL AS "SPARE". UPDATE PANEL SCHEDULE ACCORDINGLY.
- (B) REMOVE EXISTING DISCONNECT SWITCH, CONDUIT & CONDUCTORS BACK TO A LOCATION THAT FACILITATES THE INSTALLATION OF A NEW J–BOX. SEE NEW WORK PLANS.
- (C) REMOVE EXISTING DISCONNECT SWITCH, CONDUIT & CONDUCTORS BACK TO A LOCATION THAT FACILITATES THE INSTALLATION OF A NEW J–BOX AT UNDERSIDE OF DECK. THE EXISTING CONDUCTORS SHALL BE REMOVED BACK TO SOURCE & A NEW SET OF CONDUCTORS PULLED IN THE SAME CONDUIT. SEE NEW WORK PLANS.

GENERAL DEMOLITION NOTES–ADD/ALT #2

1. WHERE EXISTING POWER AND CONTROL WIRING IS BEEN NOTED TO BE REMOVED, THE ASSOCIATED CONDUITS, HANGERS, SUPPORTS, FASTENERS, ETC. SHALL ALSO BE REMOVED. OPENINGS LEFT IN WALL SHALL BE REPAIRED & PAINTED WITH MATERIALS MATCHING EXISTING CONSTRUCTION & COLOR.
2. WHERE NEW POWER/CONTROL WIRING & CONDUITS ARE BEING REMOVED OR INSTALLED, THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO REMOVE & REPLACE ANY DAMAGED OR MARKED–UP CEILING TILES. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TILE SPECIFICATION. WHERE HARD CEILINGS EXIST, THE GENERAL CONTRACTOR SHALL REMOVE SECTION OF CEILING TO FACILITATE THE WORK & REPAIR THE CEILING AFTER THE INSTALLATION HAS BEEN COMPLETED. REFER TO ARCHITECTURAL DRAWINGS FOR DETAIL.



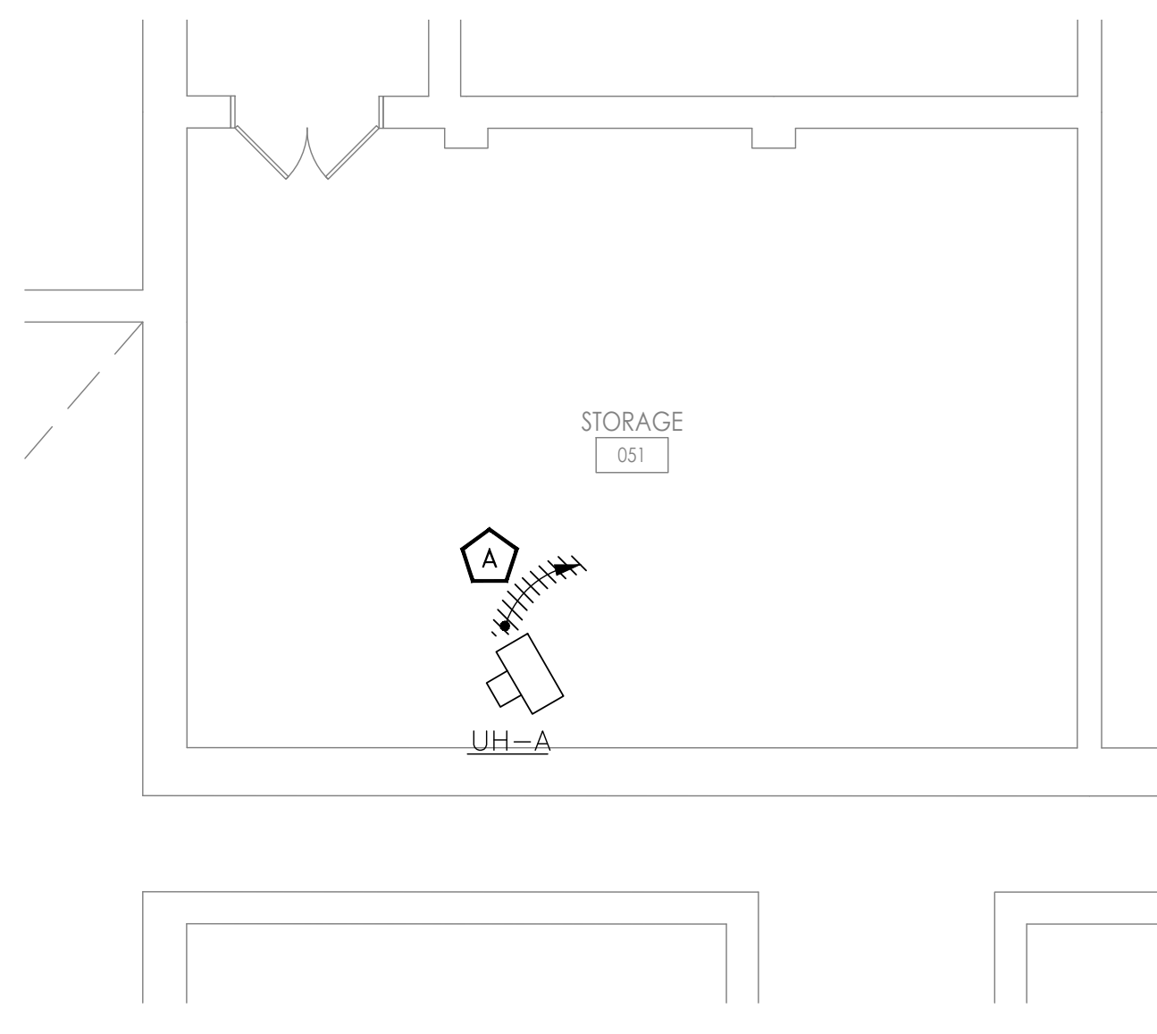
4 ELECTRICAL - SECTOR 'C' GROUND FLOOR LIGHTING DEMOLITION PARTIAL PLAN - ADD/ALT #2
SCALE: 1/8"=1'-0"

ELECTRICAL DEMOLITION NOTES

- (A) REMOVE EXISTING LIGHT FIXTURES, CONDUIT, CONDUCTORS & EXISTING LIGHT SWITCH AS SHOWN.

GENERAL DEMOLITION NOTES

1. WHERE EXISTING POWER AND CONTROL WIRING IS BEEN NOTED TO BE REMOVED, THE ASSOCIATED CONDUITS, HANGERS, SUPPORTS, FASTENERS, ETC. SHALL ALSO BE REMOVED. OPENINGS LEFT IN WALL SHALL BE REPAIRED & PAINTED WITH MATERIALS MATCHING EXISTING CONSTRUCTION & COLOR.



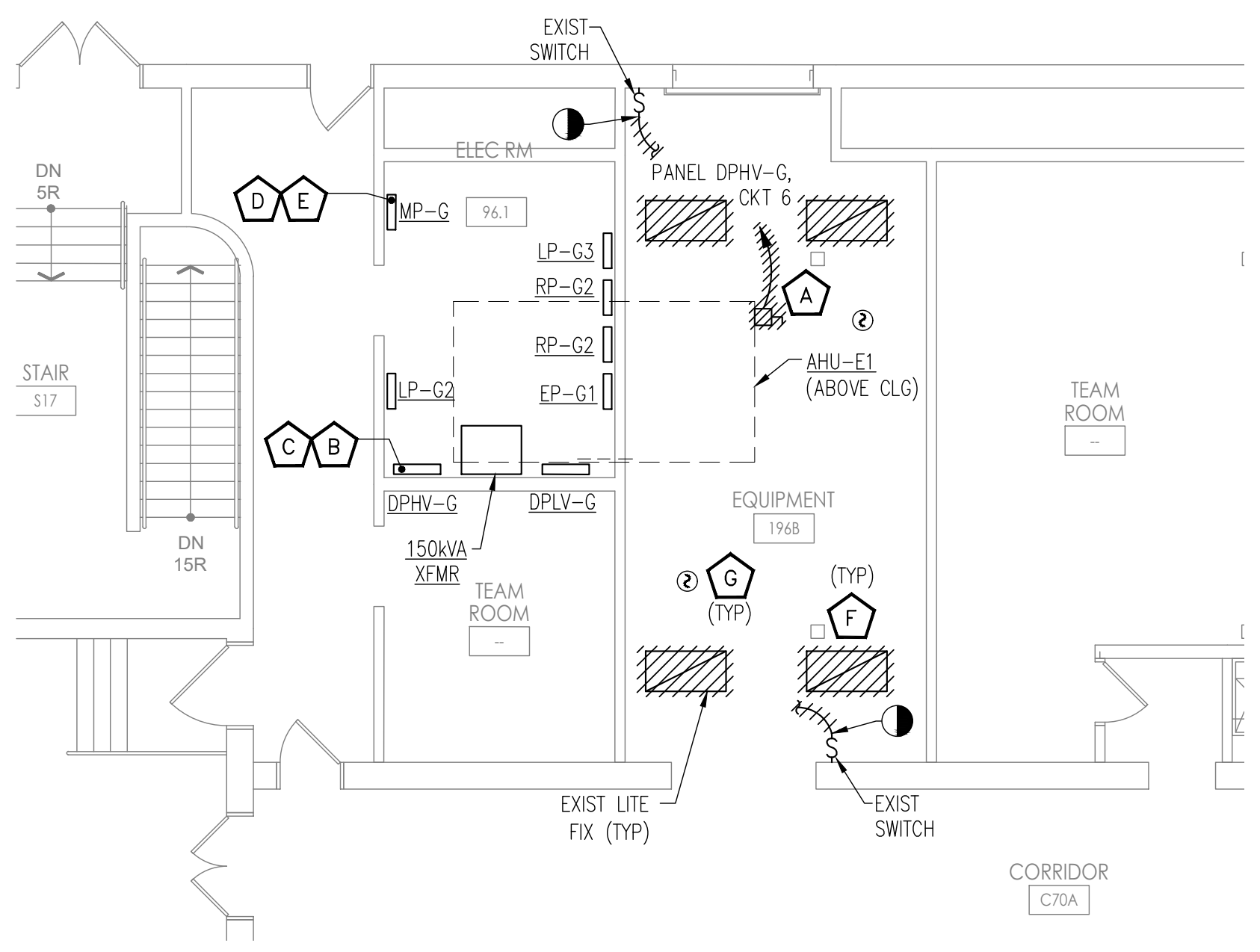
8 ELECTRICAL - SECTOR 'A' GROUND FLOOR DEMOLITION PARTIAL PLAN
SCALE: 1/8"=1'-0"

ELECTRICAL DEMOITION NOTES

- (A) REMOVE POWER & DISCONNECT SWITCH FROM EXISTING EQUIPMENT BACK TO SOURCE. REMOVE CONDUCTORS FROM BREAKER AND LABEL AS "SPARE". UPDATE PANEL SCHEDULE ACCORDINGLY.

ELECTRICAL GENERAL DEMOLITION NOTES

1. WHERE EXISTING POWER AND CONTROL WIRING IS BEEN NOTED TO BE REMOVED, THE ASSOCIATED CONDUITS, HANGERS, SUPPORTS, FASTENERS, ETC. SHALL ALSO BE REMOVED. OPENINGS LEFT IN WALL SHALL BE REPAIRED & PAINTED WITH MATERIALS MATCHING EXISTING CONSTRUCTION & COLOR.
2. WHERE NEW POWER/CONTROL WIRING & CONDUITS ARE BEING REMOVED OR INSTALLED, THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO REMOVE & REPLACE ANY DAMAGED OR MARKED–UP CEILING TILES. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TILE SPECIFICATION. WHERE HARD CEILINGS EXIST, THE GENERAL CONTRACTOR SHALL REMOVE SECTION OF CEILING TO FACILITATE THE WORK & REPAIR THE CEILING AFTER THE INSTALLATION HAS BEEN COMPLETED. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.



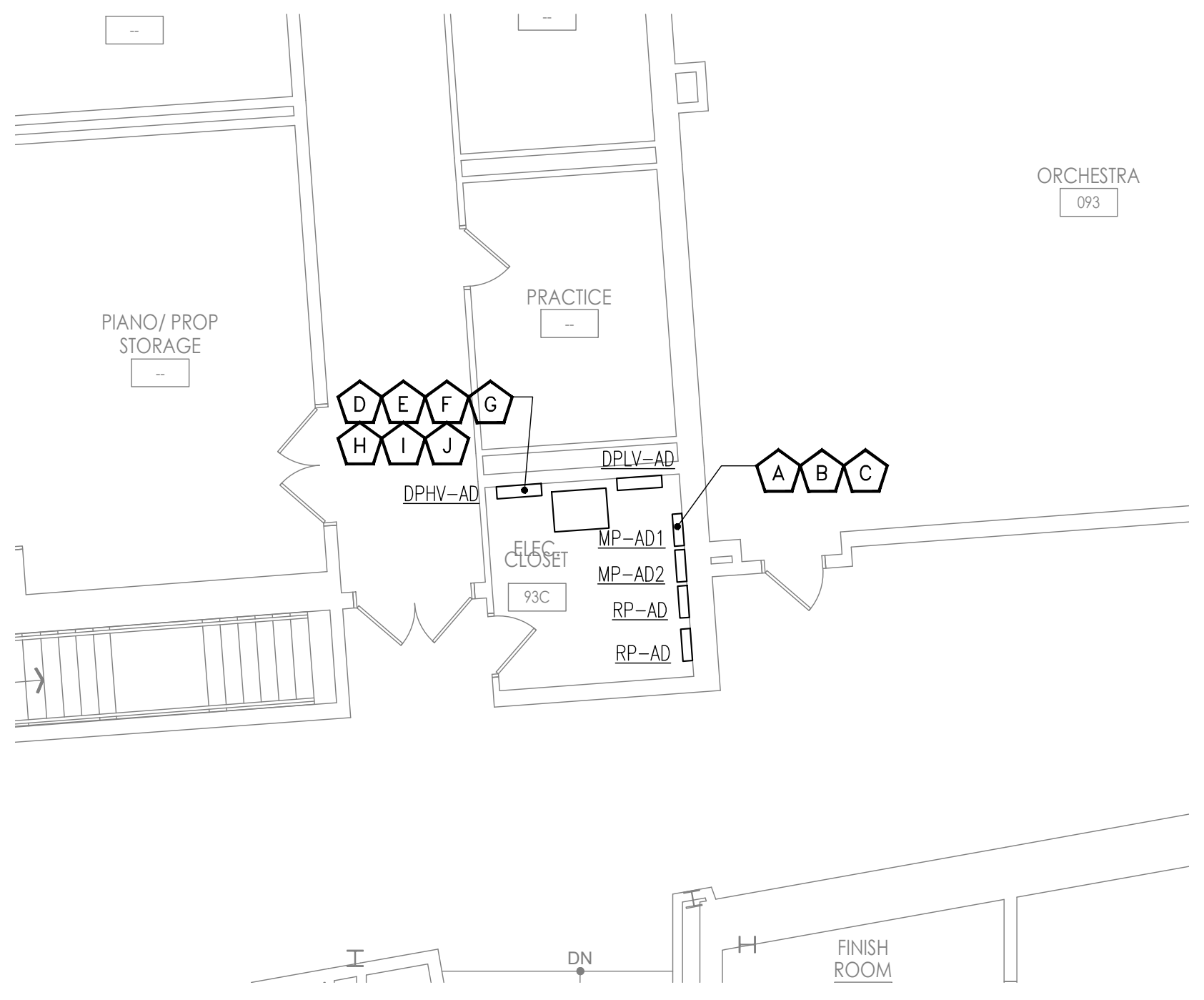
5 ELECTRICAL - SECTOR 'E' GROUND FLOOR DEMOLITION PARTIAL PLAN
SCALE: 1/8"=1'-0"

ELECTRICAL DEMOLITION NOTES

- (A) REMOVE POWER & DISCONNECT SWITCH FROM EXISTING EQUIPMENT BACK TO SOURCE. REMOVE CONDUCTORS BACK TO BREAKER.
- (B) REMOVE EXISTING 40A, 3–P BREAKER (CKT #4) FOR EXISTING AHU–E1. SPACE WILL BE REUSED TO POWER THE NEW AHU–E1.
- (C) REMOVE EXISTING 50 A, 3–P BREAKER (CKTS 9–13) POWERING THE VFD FOR AHU–G1. REMOVE CONDUCTORS FROM BREAKER AND LABEL AS "SPARE".
- (D) REMOVE EXISTING 30 A, 3–P BREAKER (CKTS 37–41) POWERING THE VFD FOR AHU–G1. REMOVE CONDUCTORS FROM BREAKER AND LABEL AS "SPARE". IF ALT #1 IS ACCEPTED FOR THE INSTALLATION OF A NEW ROOFTOP UNIT FOR THE LOCKER ROOMS (AHU–E2), THE EXISTING 30A BREAKER SHALL REMAIN TO POWER THE NEW UNIT.
- (E) THERE IS ANOTHER BREAKER SHOWN (CKTS 35–39) TO POWER AHU–G1. CONTRACTOR SHALL TRACE CIRCUIT AND SHALL REMOVE BREAKER, CONDUIT, POWER WIRING ETC., IF POWERING THE ROOFTOP UNIT.
- (F) REMOVE EXISTING LITE FIXTURE AND POWER WIRING FROM SWITCH TO EACH LITE FIXTURE.
- (G) REMOVE EXISTING SMOKE DETECTOR AND RETAIN FOR REINSTALLATION.

GENERAL DEMOLITION NOTES

1. WHERE EXISTING POWER AND CONTROL WIRING IS BEEN NOTED TO BE REMOVED, THE ASSOCIATED CONDUITS, HANGERS, SUPPORTS, FASTENERS, ETC. SHALL ALSO BE REMOVED. OPENINGS LEFT IN WALL SHALL BE REPAIRED & PAINTED WITH MATERIALS MATCHING EXISTING CONSTRUCTION & COLOR.
2. WHERE NEW POWER/CONTROL WIRING & CONDUITS ARE BEING REMOVED OR INSTALLED, THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO REMOVE & REPLACE ANY DAMAGED OR MARKED–UP CEILING TILES. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TILE SPECIFICATION. WHERE HARD CEILINGS EXIST, THE GENERAL CONTRACTOR SHALL REMOVE SECTION OF CEILING TO FACILITATE THE WORK & REPAIR THE CEILING AFTER THE INSTALLATION HAS BEEN COMPLETED. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.



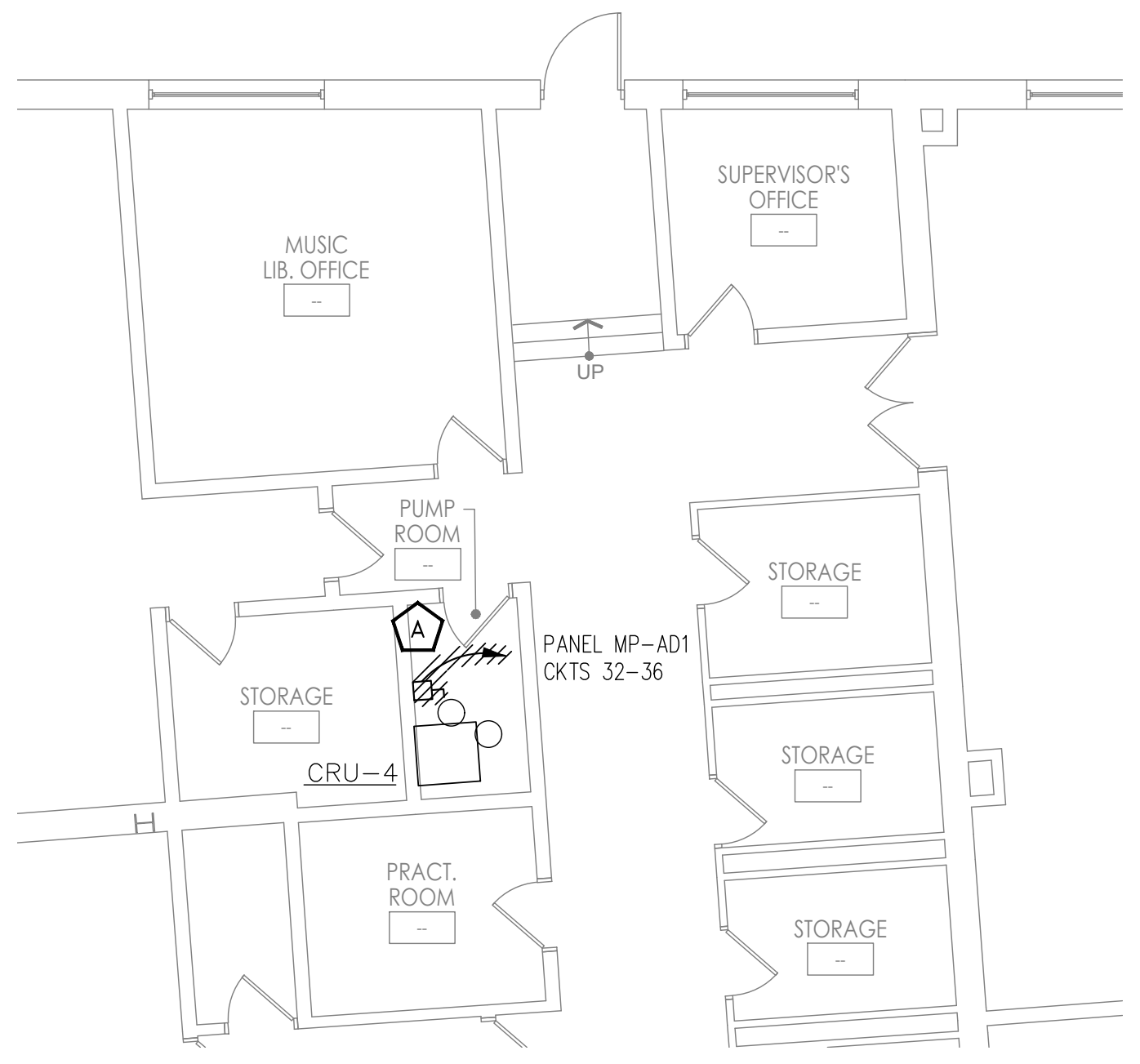
6 ELECTRICAL - SECTOR 'F' GROUND FLOOR DEMOLITION PARTIAL PLAN
SCALE: 1/8"=1'-0"

ELECTRICAL DEMOLITION NOTES

- (A) REMOVE EXISTING 15A, 3–P BREAKER (CKTS 1–5) FOR EXISTING AHU–F4. LABEL BREAKER AS "SPARE".
- (B) REMOVE EXISTING POWER WIRING & CONDUIT FROM EXISTING 15A, 3–P BREAKER (CKTS 13–17) SERVING AHU–F9. SPACE WILL BE REUSED TO POWER THE NEW AHU–F9.
- (C) REMOVE EXISTING POWER WIRING & CONDUIT FROM EXISTING 40A, 3–P BREAKER (CKTS 2–6) SERVING AHU–F7. LABEL BREAKER AS "SPARE".
- (D) REMOVE EXISTING 40A BREAKER FROM CKT #2. THIS CIRCUIT WILL BE REFED FROM THE NEW PANEL 'MP–2F'.
- (E) REMOVE EXISTING 90A BREAKER FROM CKT #3 POWERING EXISTING AHU–F6. THIS CIRCUIT WILL BE REFED FROM THE NEW PANEL 'MP–2F'.
- (F) REMOVE EXISTING 70A BREAKER FROM CKT #4 POWERING EXISTING AHU–F3. THIS CIRCUIT WILL BE REFED FROM THE NEW PANEL 'MP–2F'.
- (G) REMOVE EXISTING 100A BREAKER FROM CKT #5 POWERING EXISTING PANEL 'LPAD'. THIS CIRCUIT WILL BE REFED FROM THE NEW PANEL 'MP–2F'.
- (H) REMOVE EXISTING 100A BREAKER FROM CKT #6 POWERING EXISTING AHU–F2. THIS CIRCUIT WILL BE REFED FROM THE NEW PANEL 'MP–2F'.
- (I) REMOVE EXISTING 110A BREAKER FROM CKT #8 POWERING EXISTING AHU–F5. SPACE WILL BE REUSED TO POWER THE NEW AHU–F5.
- (J) REMOVE EXISTING 150A BREAKER FROM CKT #9 POWERING EXISTING AHU–F1. SPACE WILL BE REUSED TO POWER THE NEW AHU–F3.

GENERAL DEMOLITION NOTES

1. WHERE EXISTING POWER AND CONTROL WIRING IS BEEN NOTED TO BE REMOVED, THE ASSOCIATED CONDUITS, HANGERS, SUPPORTS, FASTENERS, ETC. SHALL ALSO BE REMOVED. OPENINGS LEFT IN WALL SHALL BE REPAIRED & PAINTED WITH MATERIALS MATCHING EXISTING CONSTRUCTION & COLOR.
2. WHERE NEW POWER/CONTROL WIRING & CONDUITS ARE BEING REMOVED OR INSTALLED, THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO REMOVE & REPLACE ANY DAMAGED OR MARKED–UP CEILING TILES. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TILE SPECIFICATION. WHERE HARD CEILINGS EXIST, THE GENERAL CONTRACTOR SHALL REMOVE SECTION OF CEILING TO FACILITATE THE WORK & REPAIR THE CEILING AFTER THE INSTALLATION HAS BEEN COMPLETED. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.



7 ELECTRICAL - SECTOR 'F' GROUND FLOOR DEMOLITION PARTIAL PLAN
SCALE: 1/8"=1'-0"

ELECTRICAL DEMOLITION NOTES

- (A) REMOVE POWER & DISCONNECT SWITCH FROM EXISTING EQUIPMENT BACK TO SOURCE. REMOVE CONDUCTORS FROM BREAKER AND LABEL AS "SPARE". UPDATE PANEL SCHEDULE ACCORDINGLY.

GENERAL DEMOLITION NOTES

1. WHERE EXISTING POWER AND CONTROL WIRING IS BEEN NOTED TO BE REMOVED, THE ASSOCIATED CONDUITS, HANGERS, SUPPORTS, FASTENERS, ETC. SHALL ALSO BE REMOVED. OPENINGS LEFT IN WALL SHALL BE REPAIRED & PAINTED WITH MATERIALS MATCHING EXISTING CONSTRUCTION & COLOR.
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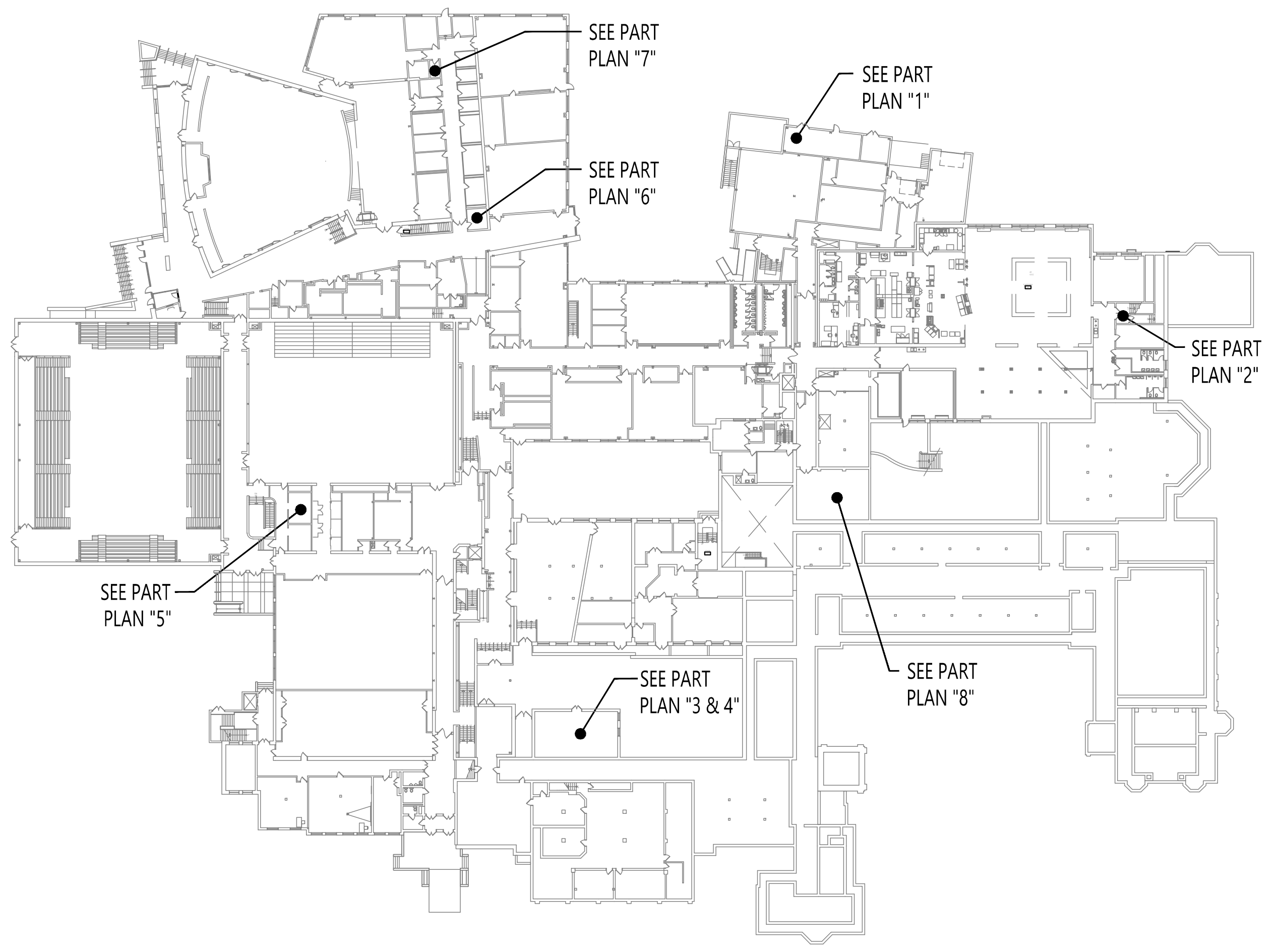

KEY PLAN

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William D. Hopkins
Architect

01/29/26
Date

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Project Name
HVAC Renovations at Princeton High School

Project Owner Name
Princeton Public Schools

Project Location
151 Moore Street,
Princeton, NJ
08540

Project Number
5516E

Project Date
01.29. 2026

Checked By
JTM

Drawn By
JD

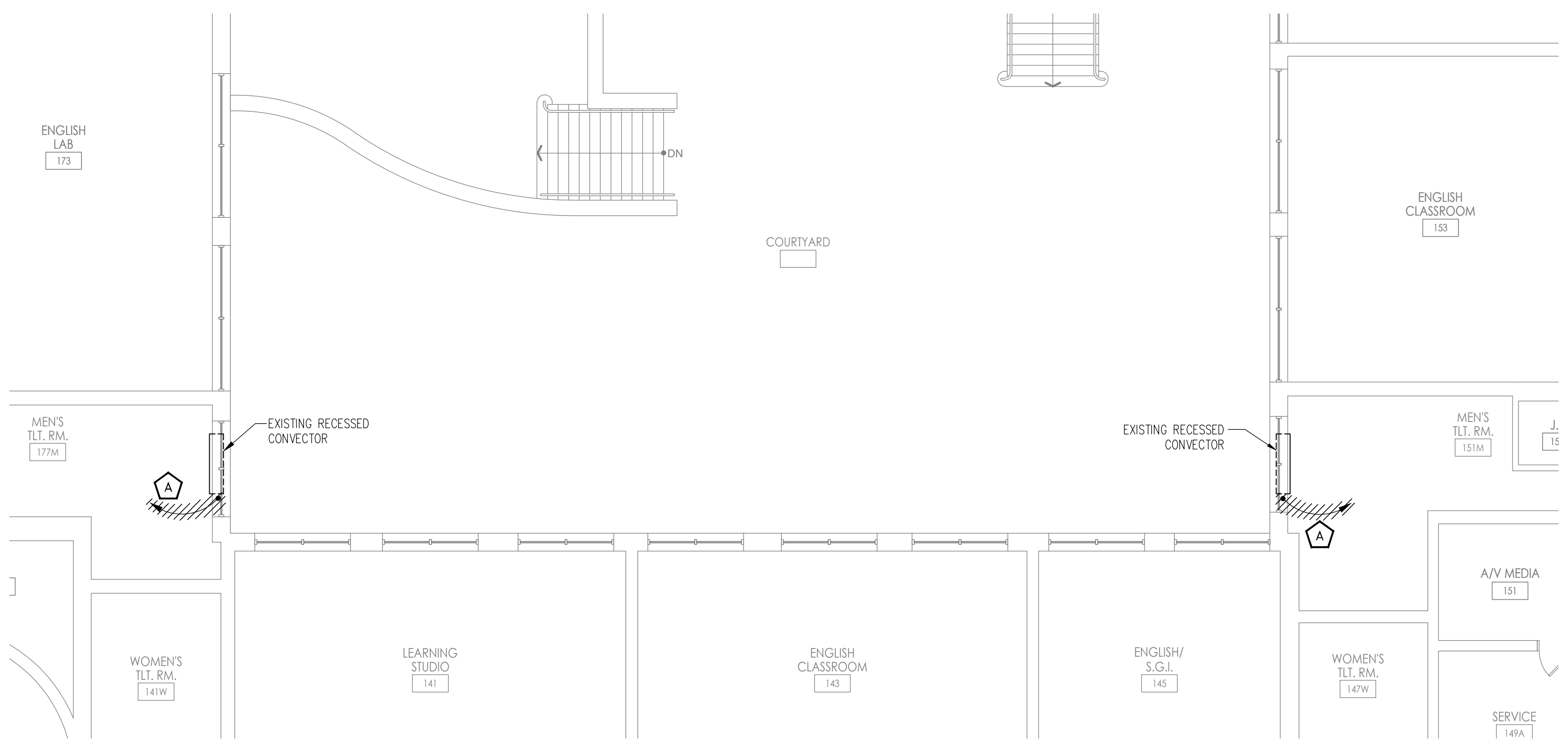
Scale
AS NOTED

Drawing Name
ELECTRICAL - GROUND FLOOR PARTIAL DEMOLITION PLANS

Revisions

No.	Date	Description

Drawing Number
ED-502



1 ELECTRICAL - SECTOR 'A' 1ST FLOOR DEMOLITION PARTIAL PLAN

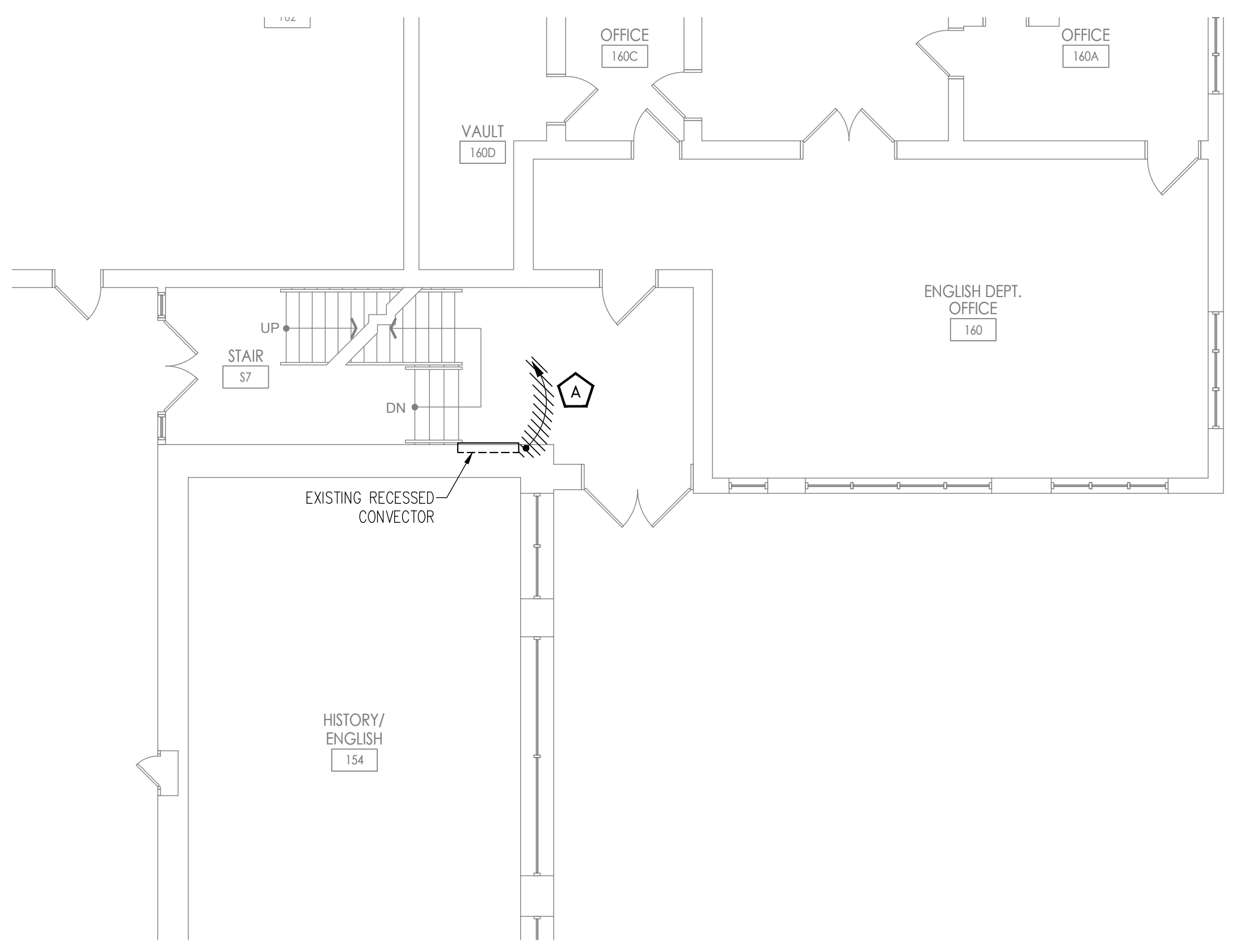
SCALE: 1/8"=1'-0"

ELECTRICAL DEMOITION NOTES

(A) REMOVE POWER & DISCONNECT SWITCH FROM EXISTING EQUIPMENT BACK TO SOURCE. REMOVE CONDUCTORS FROM BREAKER AND LABEL AS "SPARE". UPDATE PANEL SCHEDULE ACCORDINGLY.

ELECTRICAL GENERAL DEMOLITION NOTES

1. WHERE EXISTING POWER AND CONTROL WIRING IS BEEN NOTED TO BE REMOVED, THE ASSOCIATED CONDUITS, HANGERS, SUPPORTS, FASTENERS, ETC. SHALL ALSO BE REMOVED. OPENINGS LEFT IN WALL SHALL BE REPAIRED & PAINTED WITH MATERIALS MATCHING EXISTING CONSTRUCTION & COLOR.
2. WHERE NEW POWER/CONTROL WIRING & CONDUITS ARE BEING REMOVED OR INSTALLED, THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO REMOVE & REPLACE ANY DAMAGED OR MARKED-UP CEILING TILES. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TILE SPECIFICATION. WHERE HARD CEILINGS EXIST, THE GENERAL CONTRACTOR SHALL REMOVE SECTION OF CEILING TO FACILITATE THE WORK & REPAIR THE CEILING AFTER THE INSTALLATION HAS BEEN COMPLETED. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.



2 ELECTRICAL - SECTOR 'B' 1ST FLOOR DEMOLITION PARTIAL PLAN

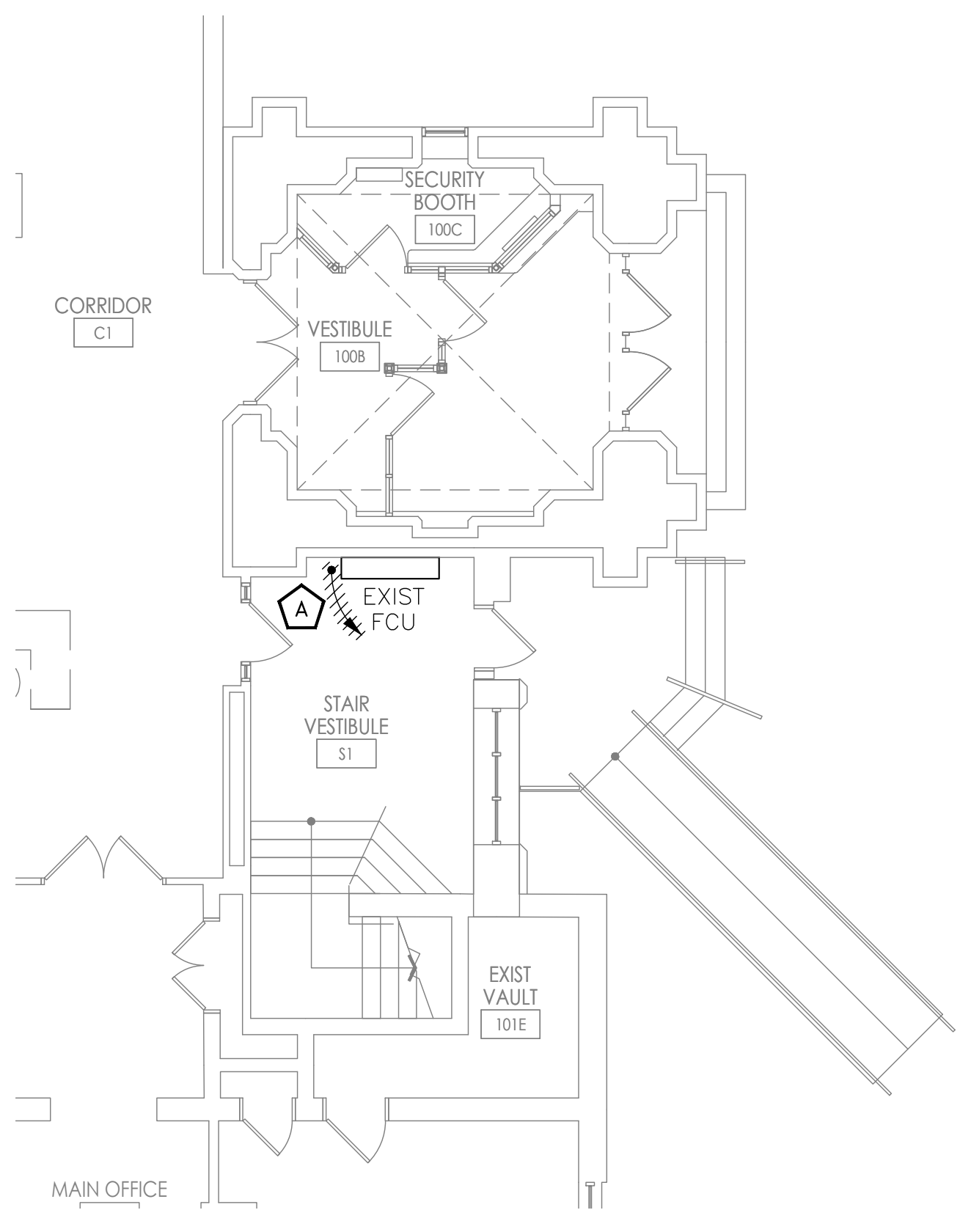
SCALE: 1/8"=1'-0"

ELECTRICAL DEMOITION NOTES

(A) REMOVE POWER & DISCONNECT SWITCH FROM EXISTING EQUIPMENT BACK TO SOURCE. REMOVE CONDUCTORS FROM BREAKER AND LABEL AS "SPARE". UPDATE PANEL SCHEDULE ACCORDINGLY.

ELECTRICAL GENERAL DEMOLITION NOTES

1. WHERE EXISTING POWER AND CONTROL WIRING IS BEEN NOTED TO BE REMOVED, THE ASSOCIATED CONDUITS, HANGERS, SUPPORTS, FASTENERS, ETC. SHALL ALSO BE REMOVED. OPENINGS LEFT IN WALL SHALL BE REPAIRED & PAINTED WITH MATERIALS MATCHING EXISTING CONSTRUCTION & COLOR.
2. WHERE NEW POWER/CONTROL WIRING & CONDUITS ARE BEING REMOVED OR INSTALLED, THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO REMOVE & REPLACE ANY DAMAGED OR MARKED-UP CEILING TILES. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TILE SPECIFICATION. WHERE HARD CEILINGS EXIST, THE GENERAL CONTRACTOR SHALL REMOVE SECTION OF CEILING TO FACILITATE THE WORK & REPAIR THE CEILING AFTER THE INSTALLATION HAS BEEN COMPLETED. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.



3 ELECTRICAL - SECTOR 'C' 1ST FLOOR DEMOLITION PARTIAL PLAN

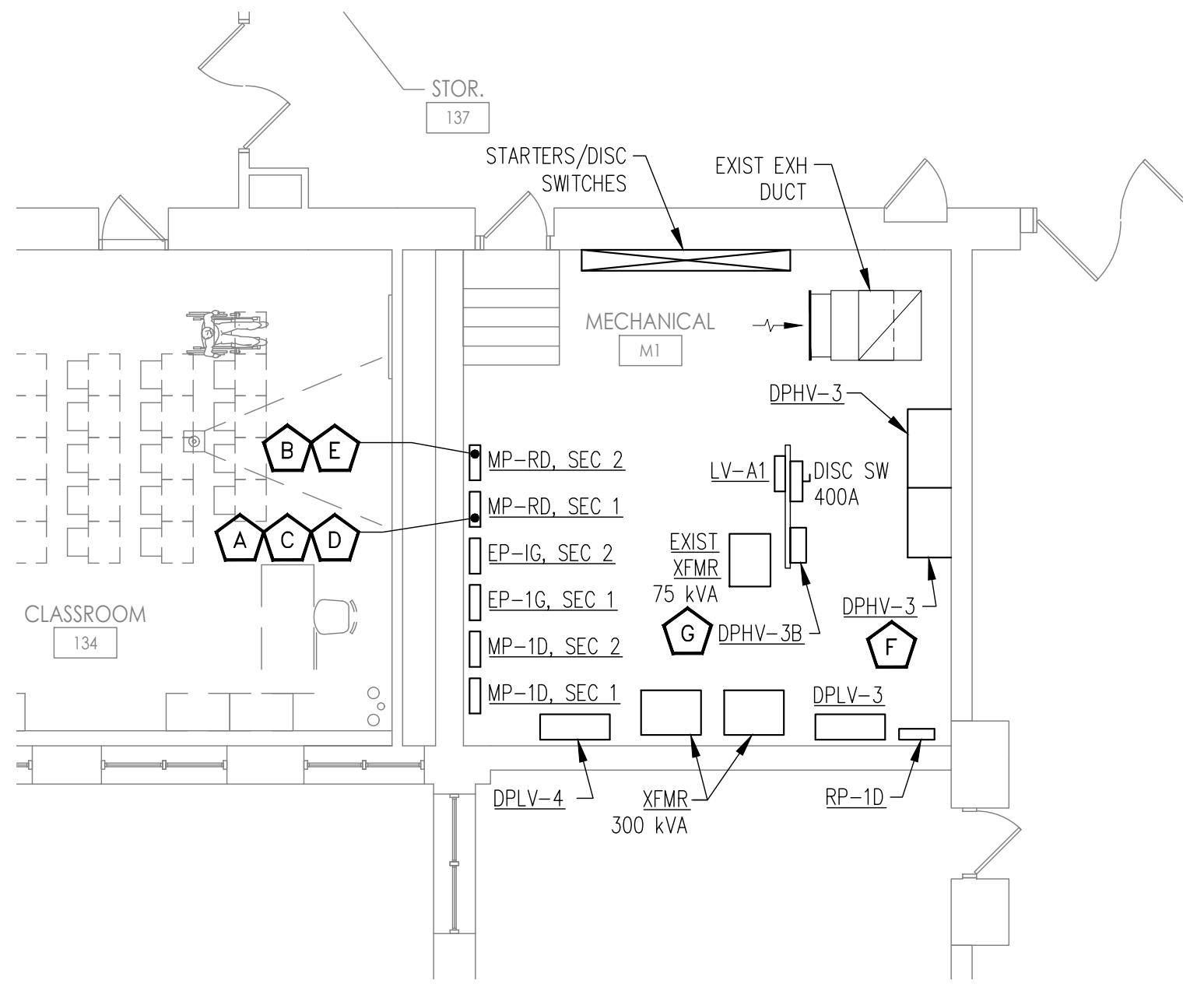
SCALE: 1/8"=1'-0"

ELECTRICAL DEMOITION NOTES

(A) REMOVE POWER & DISCONNECT SWITCH FROM EXISTING EQUIPMENT BACK TO SOURCE. REMOVE CONDUCTORS FROM BREAKER AND LABEL AS "SPARE". UPDATE PANEL SCHEDULE ACCORDINGLY.

ELECTRICAL GENERAL DEMOLITION NOTES

1. WHERE EXISTING POWER AND CONTROL WIRING IS BEEN NOTED TO BE REMOVED, THE ASSOCIATED CONDUITS, HANGERS, SUPPORTS, FASTENERS, ETC. SHALL ALSO BE REMOVED. OPENINGS LEFT IN WALL SHALL BE REPAIRED & PAINTED WITH MATERIALS MATCHING EXISTING CONSTRUCTION & COLOR.
2. WHERE NEW POWER/CONTROL WIRING & CONDUITS ARE BEING REMOVED OR INSTALLED, THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO REMOVE & REPLACE ANY DAMAGED OR MARKED-UP CEILING TILES. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TILE SPECIFICATION. WHERE HARD CEILINGS EXIST, THE GENERAL CONTRACTOR SHALL REMOVE SECTION OF CEILING TO FACILITATE THE WORK & REPAIR THE CEILING AFTER THE INSTALLATION HAS BEEN COMPLETED. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.



4 ELECTRICAL - SECTOR 'D' 1ST FLOOR DEMOLITION PARTIAL PLAN

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

ELECTRICAL DEMOITION NOTES

(A) REMOVE EXISTING EXISTING CONDUCTORS FROM 3-P, 15A BREAKER (CKTS 37-41) FOR EXISTING RF-C1. LABEL BREAKER AS "SPARE".

(B) REMOVE EXISTING EXISTING 20A BREAKER (CKTS 43-47) & CONDUCTORS FROM 3-P BREAKER FOR EXISTING AHU-C2. SPACE SHALL BE USED FOR NEW BREAKER. SEE NEW WORK PLAN.

(C) EXISTING 15A BREAKER (CKTS 32-36) & CONDUCTORS FOR EXISTING EF-C4 SHALL REMAIN TO POWER THE NEW EF-C4.

(D) REMOVE EXISTING EXISTING 20A BREAKER (CKTS 38-42) & CONDUCTORS FROM 3-P BREAKER FOR EXISTING AHU-C1. SPACE SHALL BE USED FOR NEW BREAKER. SEE NEW WORK PLAN.

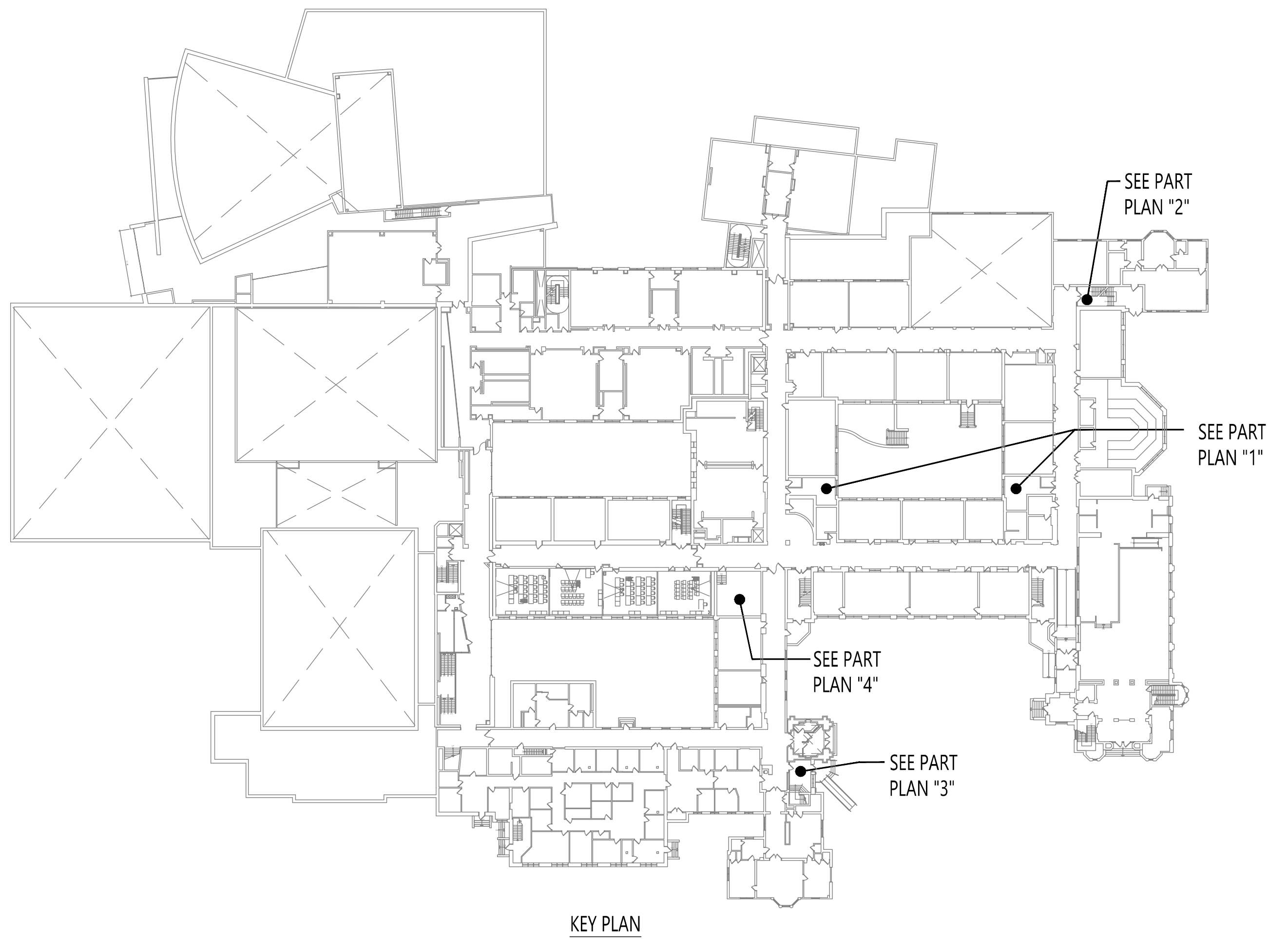
(E) REMOVE EXISTING EXISTING 15A BREAKER (CKTS 44-48) & CONDUCTORS FROM 3-P BREAKER FOR EXISTING CRU-3. SPACE SHALL BE USED TO POWER NEW UH-4. SEE NEW WORK PLAN.

(F) EXISTING CONDUCTORS & GROUND WIRE POWERING THE EXISTING AHU-A2 (CKT #3) SHALL BE REMOVED UP TO UNIT. CONDUIT SHALL REMAIN.

(G) EXISTING CONDUIT & WIRING UP TO ACCU-G1 (CKTS 1-5) SHALL BE REMOVED. EXISTING BREAKER WILL BE REUSED FOR NEW LOAD.

ELECTRICAL GENERAL DEMOLITION NOTES

1. WHERE EXISTING POWER AND CONTROL WIRING IS BEEN NOTED TO BE REMOVED, THE ASSOCIATED CONDUITS, HANGERS, SUPPORTS, FASTENERS, ETC. SHALL ALSO BE REMOVED. OPENINGS LEFT IN WALL SHALL BE REPAIRED & PAINTED WITH MATERIALS MATCHING EXISTING CONSTRUCTION & COLOR.
2. WHERE NEW POWER/CONTROL WIRING & CONDUITS ARE BEING REMOVED OR INSTALLED, THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO REMOVE & REPLACE ANY DAMAGED OR MARKED-UP CEILING TILES. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TILE SPECIFICATION. WHERE HARD CEILINGS EXIST, THE GENERAL CONTRACTOR SHALL REMOVE SECTION OF CEILING TO FACILITATE THE WORK & REPAIR THE CEILING AFTER THE INSTALLATION HAS BEEN COMPLETED. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.



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William D. Hopkins 01/29/26
Architect Date

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Pennsylvania: 820 Adams Ave., Suite 210 - Audubon - Pennsylvania 19403
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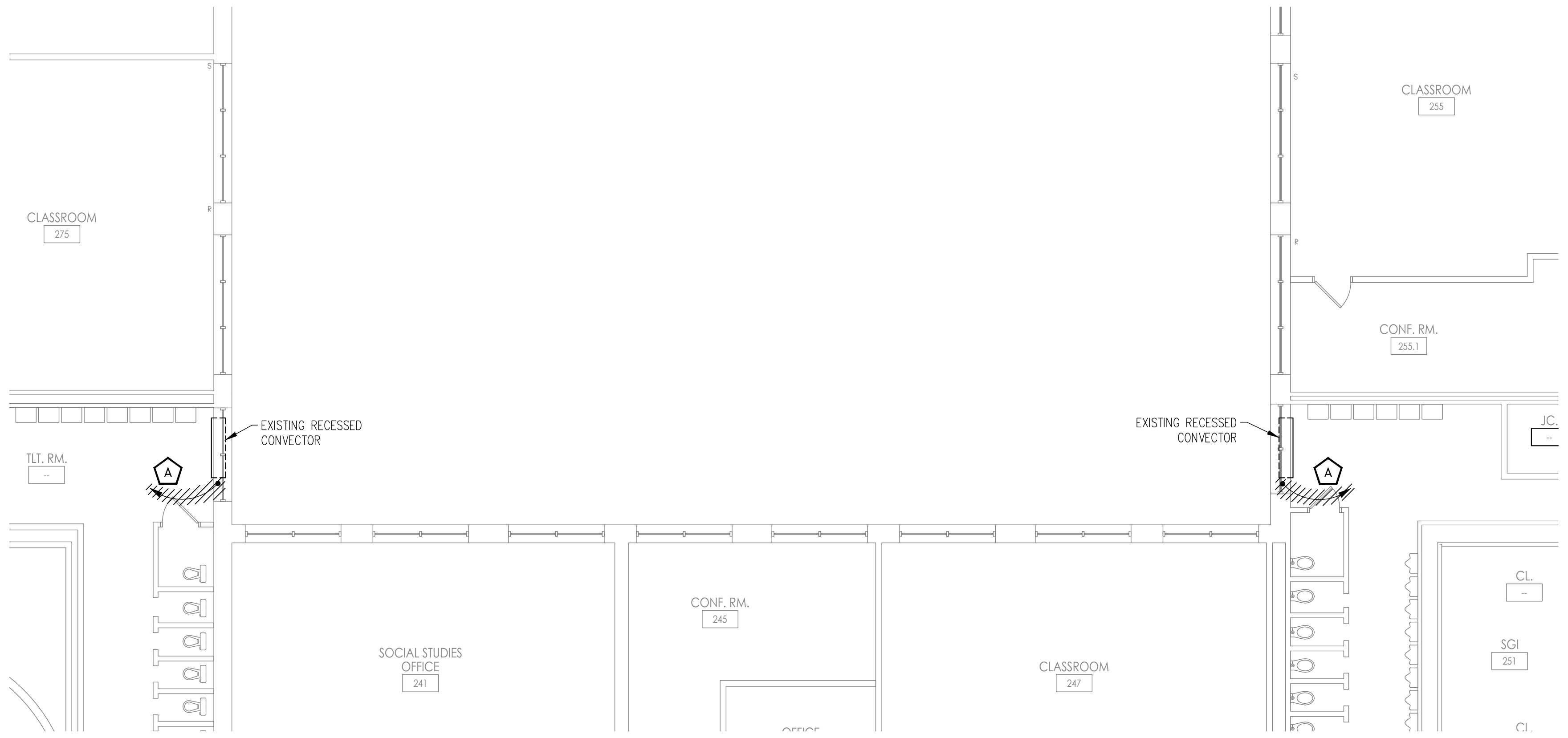
Project Name	HVAC Renovations at Princeton High School
Project Owner Name	Princeton Public Schools
Project Location	151 Moore Street, Princeton, NJ 08540
Project Number	5516E
Project Date	01.29. 2026
Checked By	JTM
Drawn By	JD
Scale	AS NOTED
Drawing Name	ELECTRICAL - FIRST FLOOR PARTIAL DEMOLITION PLANS

Revisions

No.	Date	Description

Drawing Number
ED-503



1 ELECTRICAL - SECTOR 'A' 2ND FLOOR DEMOLITION PARTIAL PLAN

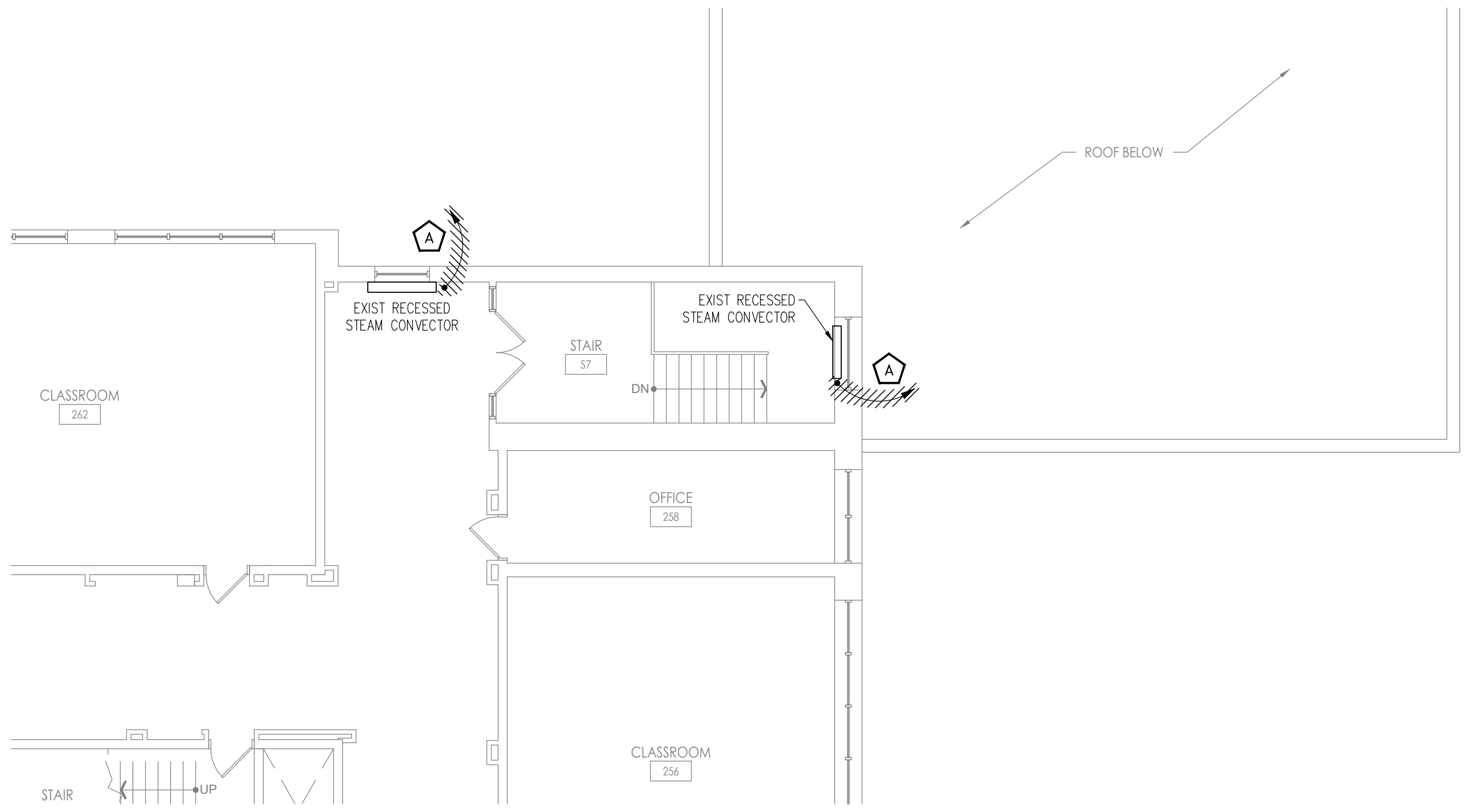
SCALE: 1/8"=1'-0"

ELECTRICAL DEMOITION NOTES

Ⓐ REMOVE POWER & DISCONNECT SWITCH FROM EXISTING EQUIPMENT BACK TO SOURCE. REMOVE CONDUCTORS FROM BREAKER AND LABEL AS "SPARE". UPDATE PANEL SCHEDULE ACCORDINGLY.

ELECTRICAL GENERAL DEMOLITION NOTES

1. WHERE EXISTING POWER AND CONTROL WIRING IS BEEN NOTED TO BE REMOVED, THE ASSOCIATED CONDUITS, HANGERS, SUPPORTS, FASTENERS, ETC. SHALL ALSO BE REMOVED. OPENINGS LEFT IN WALL SHALL BE REPAIRED & PAINTED WITH MATERIALS MATCHING EXISTING CONSTRUCTION & COLOR.
2. WHERE NEW POWER/CONTROL WIRING & CONDUITS ARE BEING REMOVED OR INSTALLED, THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO REMOVE & REPLACE ANY DAMAGED OR MARKED-UP CEILING TILES. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TILE SPECIFICATION. WHERE HARD CEILINGS EXIST, THE GENERAL CONTRACTOR SHALL REMOVE SECTION OF CEILING TO FACILITATE THE WORK & REPAIR THE CEILING AFTER THE INSTALLATION HAS BEEN COMPLETED. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.


ROOF BELOW
A
EXIST RECESSED STEAM CONVECTOR
EXIST RECESSED STEAM CONVECTOR
CLASSROOM
262
STAIR
S7
DN
OFFICE
258
STAIR
UP
CLASSROOM
256

2 ELECTRICAL - SECTOR 'B' 2ND FLOOR DEMOLITION PARTIAL PLAN

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

ELECTRICAL DEMOITION NOTES

Ⓐ REMOVE POWER & DISCONNECT SWITCH FROM EXISTING EQUIPMENT BACK TO SOURCE. REMOVE CONDUCTORS FROM BREAKER AND LABEL AS "SPARE". UPDATE PANEL SCHEDULE ACCORDINGLY.

ELECTRICAL GENERAL DEMOLITION NOTES

1. WHERE EXISTING POWER AND CONTROL WIRING IS BEEN NOTED TO BE REMOVED, THE ASSOCIATED CONDUITS, HANGERS, SUPPORTS, FASTENERS, ETC. SHALL ALSO BE REMOVED. OPENINGS LEFT IN WALL SHALL BE REPAIRED & PAINTED WITH MATERIALS MATCHING EXISTING CONSTRUCTION & COLOR.
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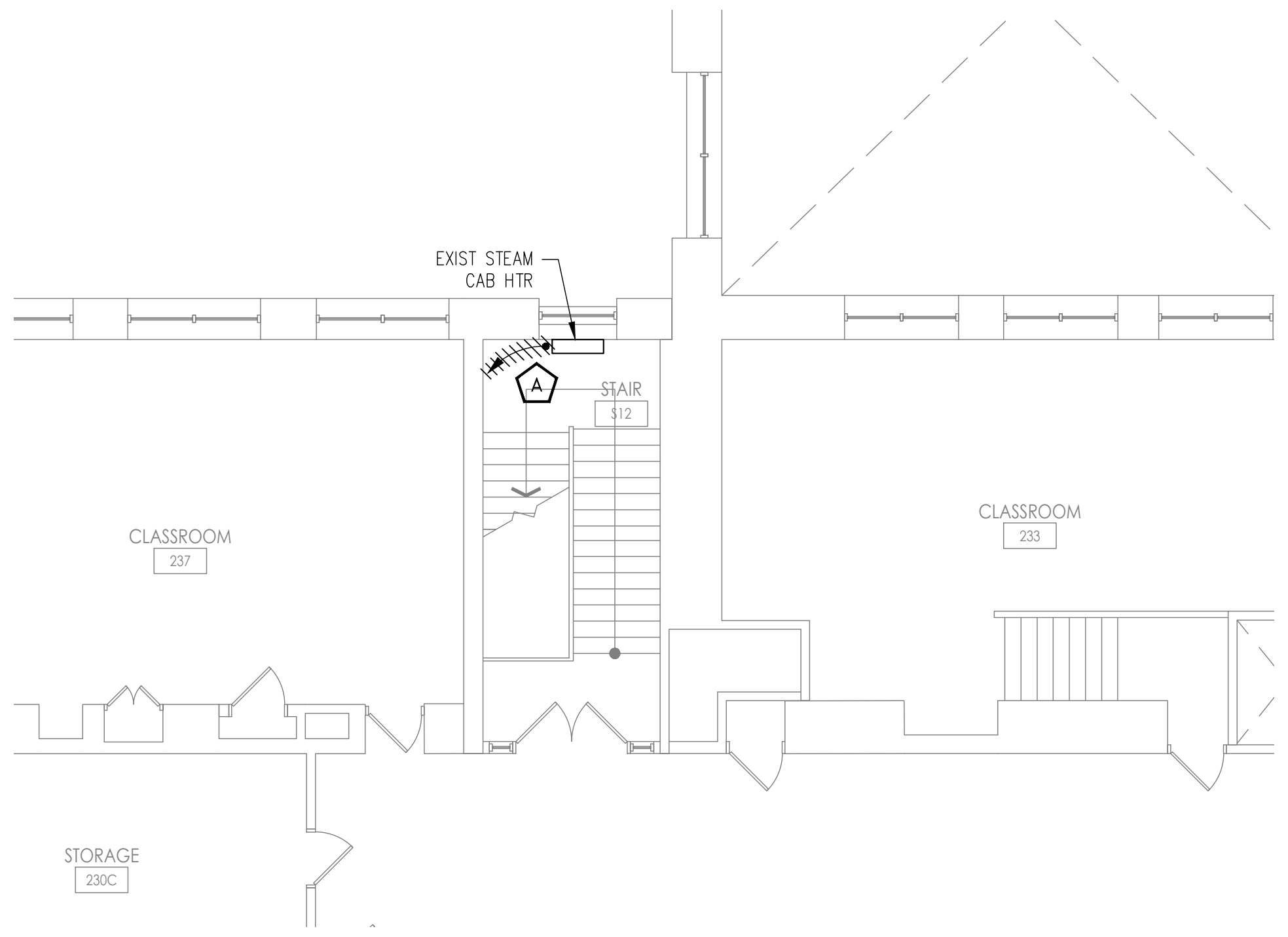


3 ELECTRICAL - SECTOR 'D' 2ND FLOOR DEMOLITION PARTIAL PLAN

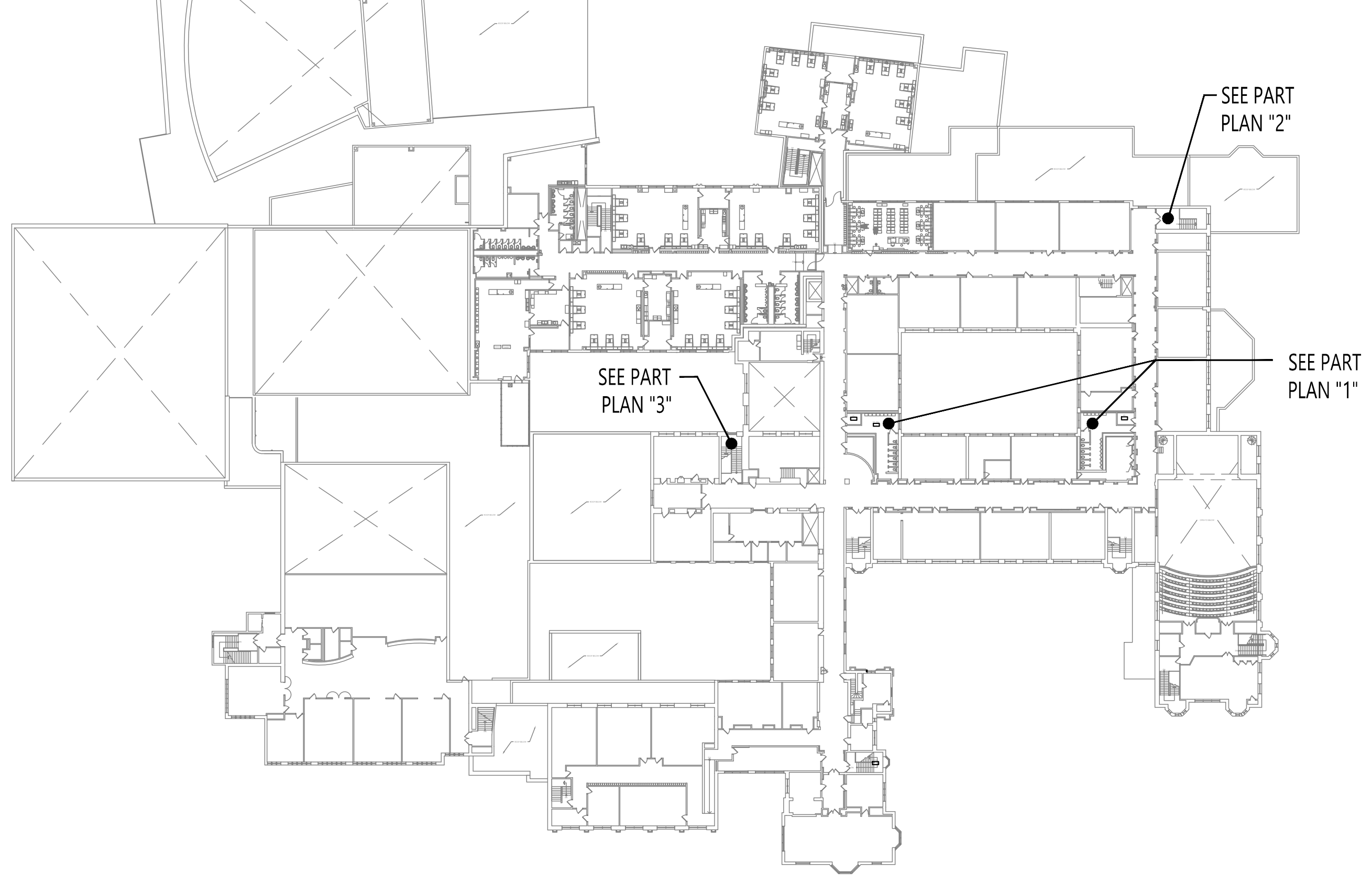
SCALE: 1/8"=1'-0"

ELECTRICAL DEMOITION NOTES

Ⓐ REMOVE POWER & DISCONNECT SWITCH FROM EXISTING EQUIPMENT BACK TO SOURCE. REMOVE CONDUCTORS FROM BREAKER AND LABEL AS "SPARE". UPDATE PANEL SCHEDULE ACCORDINGLY.

ELECTRICAL GENERAL DEMOLITION NOTES

1. WHERE EXISTING POWER AND CONTROL WIRING IS BEEN NOTED TO BE REMOVED, THE ASSOCIATED CONDUITS, HANGERS, SUPPORTS, FASTENERS, ETC. SHALL ALSO BE REMOVED. OPENINGS LEFT IN WALL SHALL BE REPAIRED & PAINTED WITH MATERIALS MATCHING EXISTING CONSTRUCTION & COLOR.
2. WHERE NEW POWER/CONTROL WIRING & CONDUITS ARE BEING REMOVED OR INSTALLED, THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO REMOVE & REPLACE ANY DAMAGED OR MARKED-UP CEILING TILES. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TILE SPECIFICATION. WHERE HARD CEILINGS EXIST, THE GENERAL CONTRACTOR SHALL REMOVE SECTION OF CEILING TO FACILITATE THE WORK & REPAIR THE CEILING AFTER THE INSTALLATION HAS BEEN COMPLETED. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.



KEY PLAN

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William D. Hopkins
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Project Name
HVAC Renovations at Princeton High School

Project Owner Name
Princeton Public Schools

Project Location
151 Moore Street,
Princeton, NJ
08540

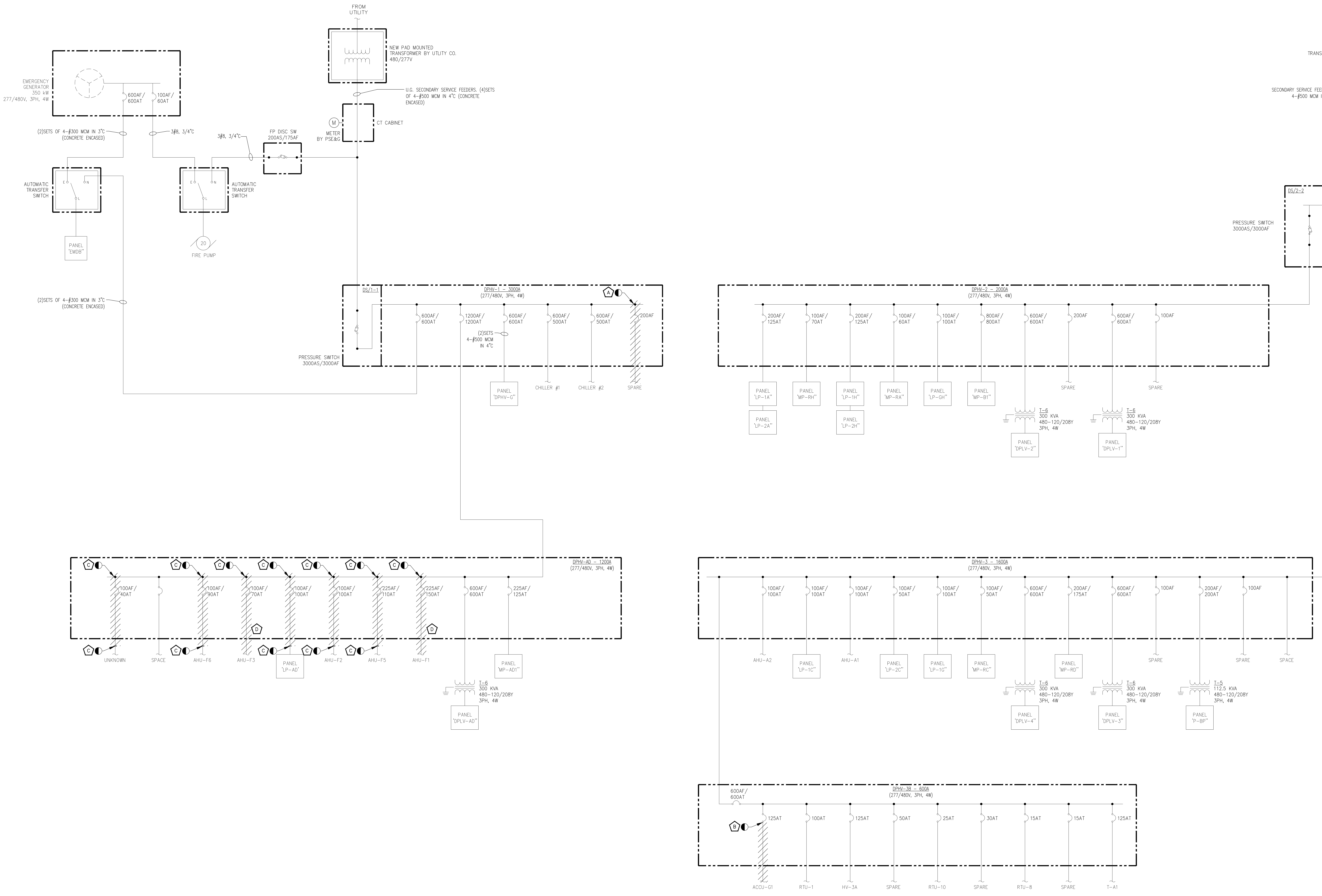
Project Number
5516E
Project Date
01.29. 2026
Checked By
JTM
Drawn By
JD
Scale
AS NOTED

Drawing Name
ELECTRICAL - SECOND FLOOR PARTIAL DEMOLITION PLANS

Revisions

No.	Date	Description

Drawing Number
ED-504



1 ELECTRICAL - PARTIAL SINGLE LINE DIAGRAM, DEMOLITION PLAN

SCALE: N.T.S.

ELECTRICAL DEMOLITION NOTES

- A REMOVE EXISTING 200A SPARE FUSED BREAKER. A NEW 800A FUSED DISCONNECT SWITCH WILL BE INSTALLED IN ITS LOCATION. SEE SINGLE LINE NEW WORK PLAN.
- B REMOVE EXISTING CONDUIT & CONDUCTORS POWERING ACCU-G1. BREAKER SHALL REMAIN.
- C REMOVE EXISTING BREAKER. CIRCUITS SHALL BE MODIFIED AS SHOWN ON SINGLE LINE NEW WORK PLAN.
- D REMOVE EXISTING CONDUIT & CONDUCTORS.

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Project Name
HVAC Renovations at Princeton High School

Project Owner Name
Princeton Public Schools

Project Location
151 Moore Street,
Princeton, NJ
08540

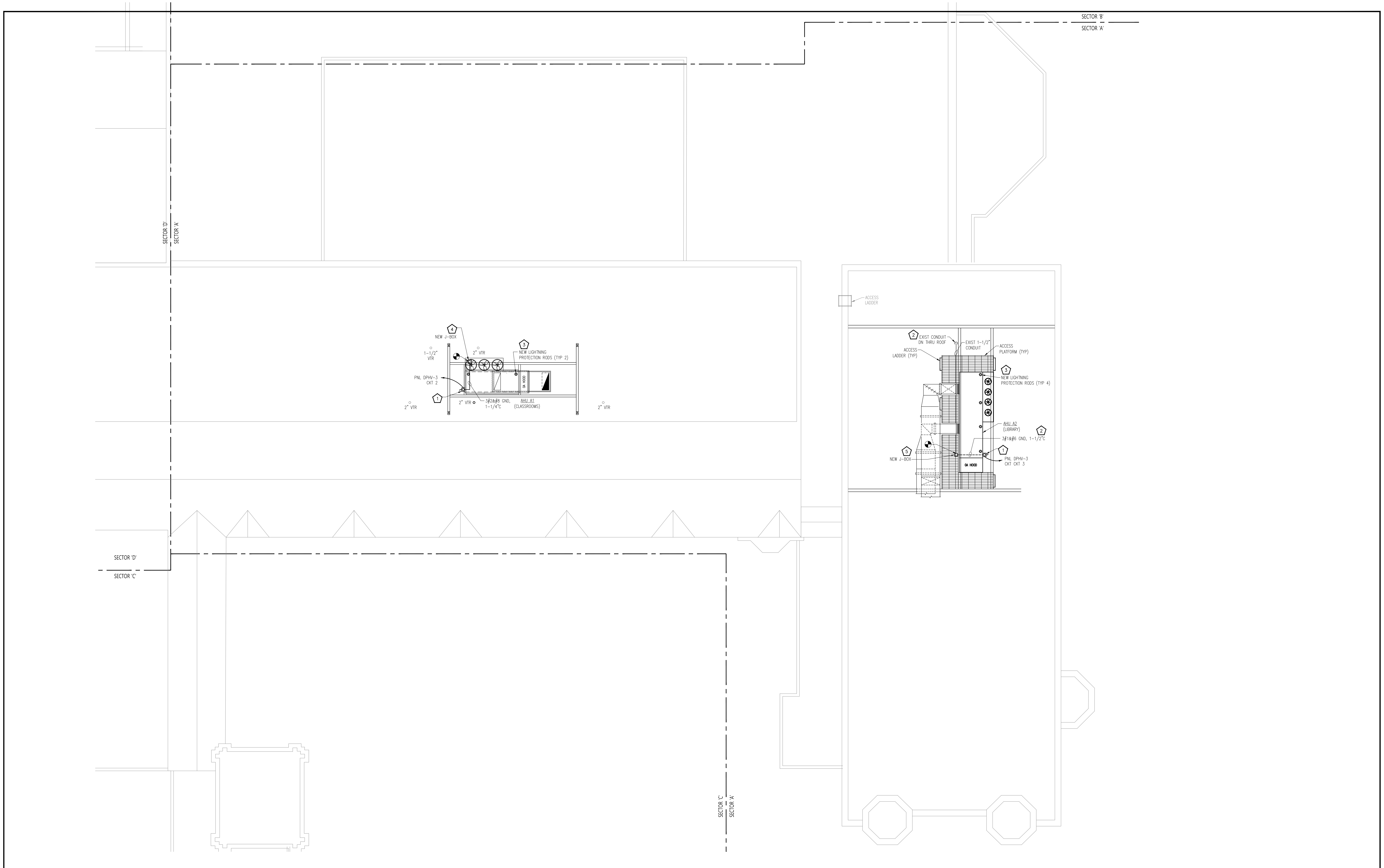
Project Number
5516E
Project Date
01.29. 2026
Checked By
JTM
Drawn By
JD
Scale
AS NOTED

Drawing Name
ELECTRICAL - PARTIAL SINGLE LINE DIAGRAM DEMOLITION PLAN

Revisions

No.	Date	Description

Drawing Number
ED-601



① ELECTRICAL - SECTOR 'A' ROOF NEW WORK PLAN

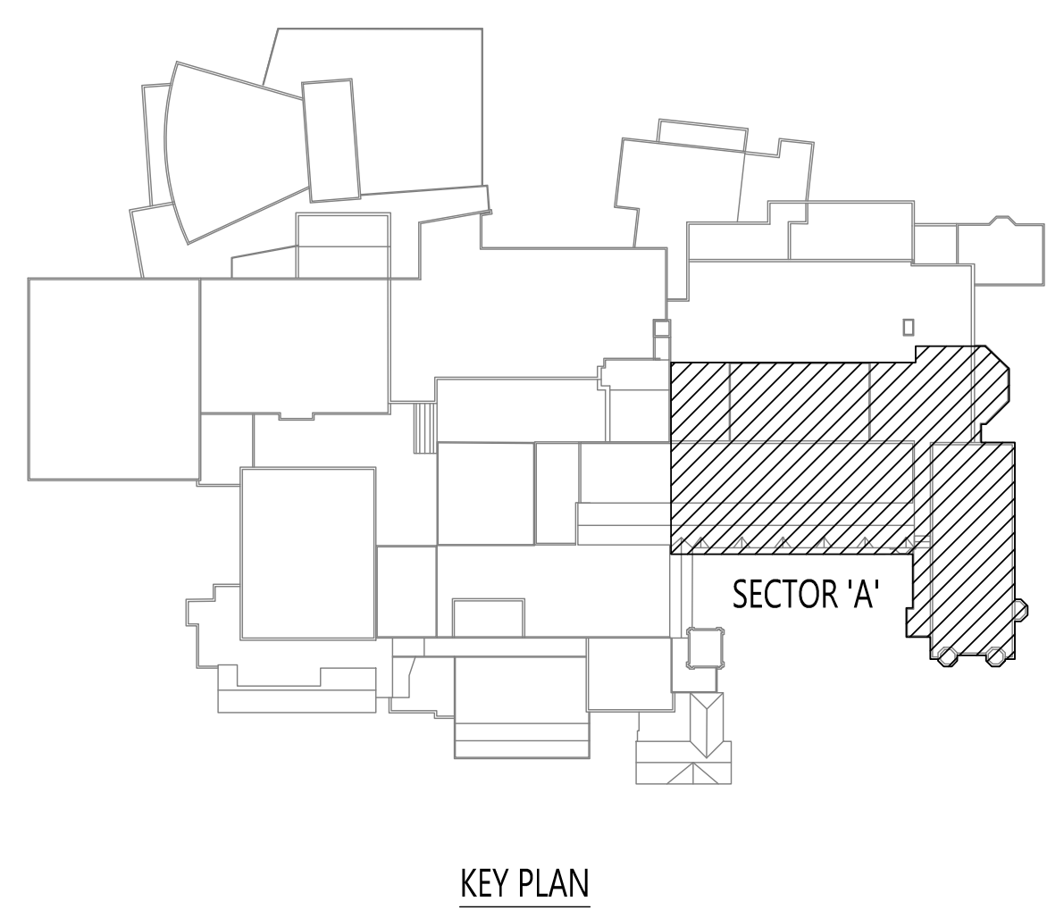
SCALE: 1/8"=1'-0"

ELECTRICAL NEW WORK NOTES

1. DISCONNECT SWITCH PROVIDED & PRE-WIRED TO UNIT COMPONENTS BY EQUIPMENT MANUFACTURER.
2. INSTALL NEW CONDUCTORS & GROUND WIRE IN EXISTING CONDUIT FROM FUSED SWITCH TO UNIT DISCONNECT SWITCH.
3. INSTALL NEW LIGHTING PROTECTION RODS ON TOP OF EQUIPMENT WHERE SHOWN. EXTEND EXISTING LIGHTING PROTECTION CABLES TO NEW RODS. NEW RODS SHALL MATCH THE MATERIAL, DIAMETER & LENGTH OF EXISTING RODS. INTERCONNECTING CABLE SHALL MATCH EXISTING MATERIAL, DIAMETER & CONNECTOR TYPE. REFER TO ARCHITECTURAL DRAWINGS FOR REMOVAL & ATTACHMENT OF LIGHTNING PROTECTION CABLE TO ROOF.
4. INSTALL NEW, NEMA 3R JUNCTION BOX & EXTEND EXISTING POWER WIRING TO NEW UNIT DISCONNECT SWITCH.
5. INSTALL NEW NEMA 3R JUNCTION BOX.

GENERAL NEW WORK NOTES

1. POWER & CONTROL WIRING FOR ROOFTOP EQUIPMENT SHALL BE BROUGHT UP THRU THE CURB. USE FLEXIBLE CONDUIT WHEN MAKING TERMINATION TO UNIT.
2. CONDUCTOR & GROUND SIZES BASED ON COPPER WIRING.
3. PROVIDE A SHOP DRAWING SHALL OF THE LIGHTNING PROTECTION SYSTEM MODIFICATIONS, SIGNED & SIGNED BY A NJ LICENSED PROFESSIONAL ENGINEER.
4. PROVIDE A DELEGATED DESIGN FOR THE MODIFICATION OF THE EXISTING UL-LISTED LIGHTNING PROTECTION SYSTEM. INSTALLER SHALL BE NRTL LISTED OR CERTIFIED BY LPI AS A MASTER INSTALLER & DESIGNER. DESIGN AND INSTALLATION SHALL COMPLY WITH THE LATEST EDITION OF NFPA 780, UL 96A, UL 96 CODES. CONTRACTORS SHALL INTERCONNECT AIR TERMINALS, CONDUCTORS, BONDING, AND GROUNDING TO THE EXISTING SYSTEM WITHOUT DEGRADING PERFORMANCE. PROVIDE ENGINEERING CALCULATIONS, SHOP DRAWINGS, AND DETAILS FOR DELEGATED DESIGN. UPON COMPLETION, OBTAIN UL MASTER LABEL RE-LISTING, INCLUDING INSPECTION, TESTING, AND DOCUMENTATION CONFIRMING CONTINUED SYSTEM COMPLIANCE.
5. NEW JUNCTION BOXES SHALL MEET THE SIZING REQUIREMENTS IN ACCORDANCE WITH THE NEC. CONTRACTOR SHALL PROVIDE CALCULATIONS FOR SIZING PULL BOXES.
6. NEW SMOKE DETECTORS SHALL BE INSTALLED FOR EACH ROOFTOP UNIT BY THE MECHANICAL CONTRACTOR. ELECTRICAL CONTRACTOR SHALL HARD WIRE SMOKE DETECTOR TO THE FAN STARTER/VFD TO DE-ENERGIZE UNIT WHEN SMOKE DETECTOR IS ACTIVATED. FIRE ALARM CONTRACTOR SHALL MONITOR THE SMOKE DETECTOR. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH MECHANICAL & FIRE ALARM CONTRACTOR.
7. VERTICAL CONDUITS SHALL BE SUPPORTED FROM WALL EVERY 4 FT (MAX).
8. WHERE EXISTING POWER CIRCUITS ARE NOTED TO BE REMOVED, REUSED, ETC., CONTRACTOR SHALL PROVIDE SOURCE PANEL, BREAKER SIZE, BREAKER SHORT CIRCUIT RATING, CONDUIT SIZE & WIRE SIZE. THIS INFORMATION SHALL BE DOCUMENTED AND PROVIDED TO THE ENGINEER. THIS INFORMATION SHALL BE OBTAINED WITHIN FOUR (4) WEEKS OR CONTRACT AWARD.
9. EXPOSED CONDUIT ON THE ROOF SHALL BE GALVANIZED EMT WITH WEATHER-PROOF CONNECTORS & FITTINGS.
10. THE LOCATION OF ROOF MOUNTED CONDUIT SUPPORTS (I.E. FREE STANDING SUPPORTS & ROOFED-IN SUPPORTS) ARE DIAGRAMMATICALLY SHOWN. THE ELECTRICAL CONTRACTOR SHALL SHALL PERFORM CALCULATIONS TO DETERMINE THE EXPANSION OF THE CONDUIT & WIRE, WHERE THE TYPE OF SUPPORTS SHOULD BE LOCATED, AND EXPANSION JOINT LOCATIONS AND INSTALLATION DETAILS. THE TYPE & DIMENSIONED LOCATION OF EACH SUPPORT SHALL BE SHOWN ON A SHOP DRAWING. THE SHOP DRAWING, ALONG WITH THE ASSOCIATED CALCULATIONS, SHALL BE SIGNED AND SEALED BY A NJ LICENSED PROFESSIONAL ENGINEER. SUBMIT SHOP DRAWINGS AND CALCULATIONS FOR REVIEW & APPROVAL.
11. REFER TO PLUMBING DRAWING P-430, IF NEEDED, FOR OVERALL SCALING OF DISTANCES FOR PRICING PURPOSES.



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Project Name	HVAC Renovations at Princeton High School
Project Owner Name	Princeton Public Schools
Project Location	151 Moore Street, Princeton, NJ 08540
Project Number	5516E
Project Date	01.29. 2026
Checked By	JTM
Drawn By	JD
Scale	AS NOTED
Drawing Name	ELECTRICAL - ROOF SECTOR A NEW WORK PLAN

Revisions

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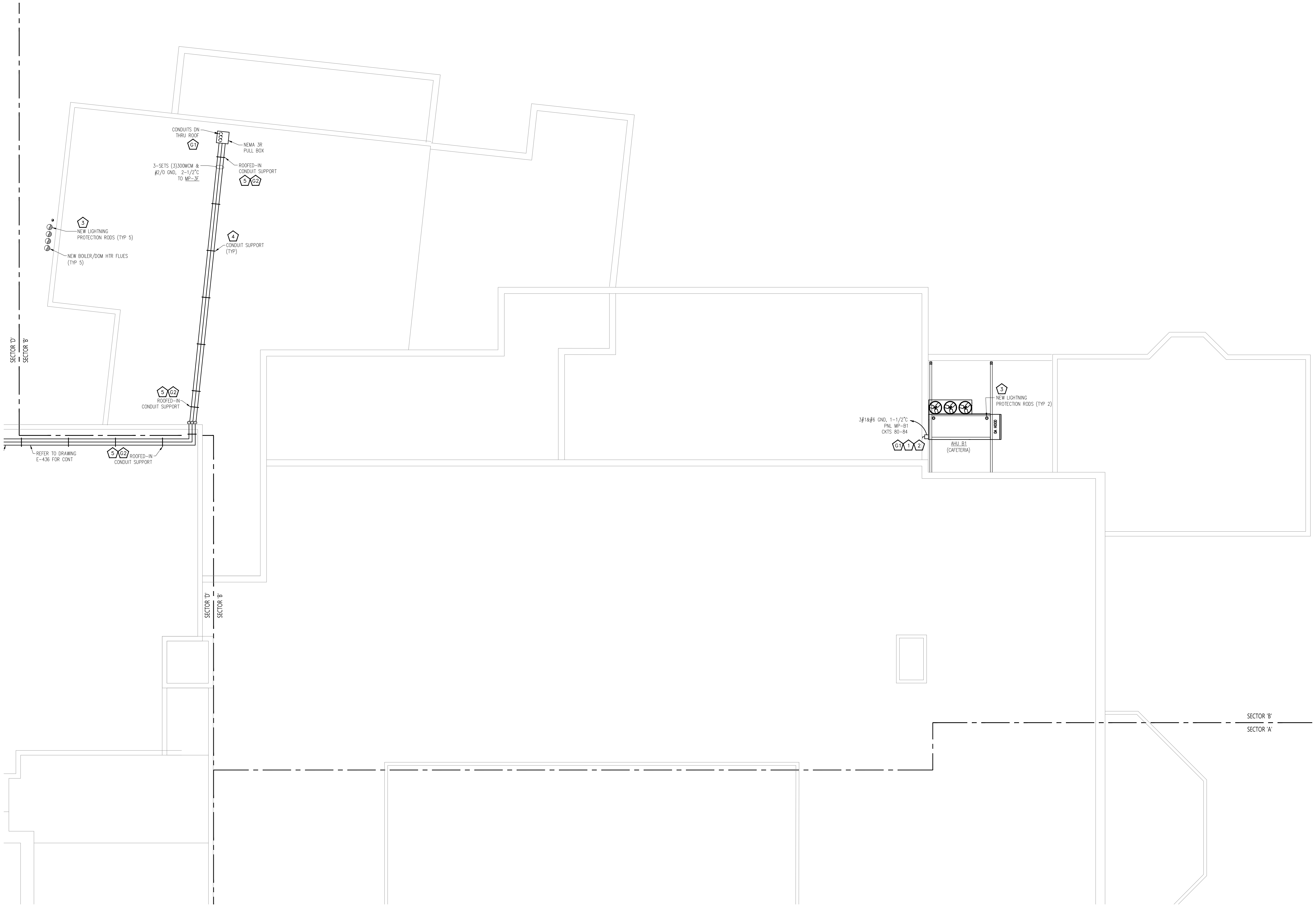
Drawing Number

E-431



① ELECTRICAL - SECTOR 'B' ROOF NEW WORK PLAN

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

ELECTRICAL NEW WORK NOTES

1. DISCONNECT SWITCH PROVIDED & PRE-WIRED TO UNIT COMPONENTS BY EQUIPMENT MANUFACTURER.
2. POWER WIRING FOR ROOFTOP UNIT SHALL BE BROUGHT UP THRU THE ROOF USING A ROOFED-IN PIPE PORTAL.
3. INSTALL NEW LIGHTING PROTECTION RODS ON TOP OF EQUIPMENT & FLUES WHERE SHOWN. EXTEND EXISTING LIGHTING PROTECTION CABLES TO NEW RODS. NEW RODS SHALL MATCH THE MATERIAL, DIAMETER & LENGTH OF EXISTING RODS. INTERCONNECTING CABLE SHALL MATCH EXISTING MATERIAL, DIAMETER & CONNECTOR TYPE. REFER TO ARCHITECTURAL DRAWINGS FOR REMOVAL & ATTACHMENT OF LIGHTNING PROTECTION CABLE TO ROOF.
4. INSTALL DURABLOK, MODEL: DB2924DS CONDUIT SUPPORTS EVERY 10 FT. INSTALL A $\frac{1}{2}$" THICK, WHITE RUBBER PAD BENEATH EACH SUPPORT. SUPPORT SPACING SHALL BE 10 FT (MAX).
5. SUPPORTS SHALL BE ROOFED IN WHERE NOTED. RPS MODEL: ER-4A STYLE EQUIPMENT ROOF RAIL TO BE USED FOR THESE SUPPORTS. SUPPORT SPACING SHALL BE 10 FT (MAX). SEE SUPPORT DETAILS.

GENERAL CONSTRUCTION NEW WORK NOTES

G1 CREATE OPENING IN ROOF DECK FOR NEW CONDUIT PENETRATION. PIPE PORTAL SHALL BE ROOFED-IN. SEE ARCHITECTURAL DRAWINGS FOR DETAILS.

G2 REFER TO ARCHITECTURAL DRAWINGS FOR DETAIL OF ATTACHING & ROOFING IN EQUIPMENT RAIL.

GENERAL NEW WORK NOTES

1. POWER & CONTROL WIRING FOR ROOFTOP EQUIPMENT SHALL BE BROUGHT UP THRU THE CURB. USE FLEXIBLE CONDUIT WHEN MAKING TERMINATION TO UNIT.
2. CONDUCTOR & GROUND SIZES BASED ON COPPER WIRING.
3. PROVIDE A SHOP DRAWING SHALL OF THE LIGHTNING PROTECTION SYSTEM MODIFICATIONS, SIGNED & SIGNED BY A NJ LICENSED PROFESSIONAL ENGINEER.
4. PROVIDE A DELEGATED DESIGN FOR THE MODIFICATION OF THE EXISTING UL-LISTED LIGHTNING PROTECTION SYSTEM. INSTALLER SHALL BE NRTL LISTED OR CERTIFIED BY LPI AS A MASTER INSTALLER & DESIGNER. DESIGN AND INSTALLATION SHALL COMPLY WITH THE LATEST EDITION OF NFPA 780, UL 96A, UL 96 CODES. CONTRACTORS SHALL INTERCONNECT AIR TERMINALS, CONDUCTORS, BONDING, AND GROUNDING TO THE EXISTING SYSTEM WITHOUT DEGRADING PERFORMANCE. PROVIDE ENGINEERING CALCULATIONS, SHOP DRAWINGS, AND DETAILS FOR DELEGATED DESIGN. UPON COMPLETION, OBTAIN UL MASTER LABEL RE-LISTING, INCLUDING INSPECTION, TESTING, AND DOCUMENTATION CONFIRMING CONTINUED SYSTEM COMPLIANCE.
5. NEW JUNCTION BOXES SHALL MEET THE SIZING REQUIREMENTS IN ACCORDANCE WITH THE NEC. CONTRACTOR SHALL PROVIDE CALCULATIONS FOR SIZING PULL BOXES.
6. NEW SMOKE DETECTORS SHALL BE INSTALLED FOR EACH ROOFTOP UNIT BY THE MECHANICAL CONTRACTOR. ELECTRICAL CONTRACTOR SHALL HARD WIRE SMOKE DETECTOR TO THE FAN STARTER/VFD TO DE-ENERGIZE UNIT WHEN SMOKE DETECTOR IS ACTIVATED. FIRE ALARM CONTRACTOR SHALL MONITOR THE SMOKE DETECTOR. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH MECHANICAL & FIRE ALARM CONTRACTOR.
7. VERTICAL CONDUITS SHALL BE SUPPORTED FROM WALL EVERY 4 FT (MAX).
8. WHERE EXISTING POWER CIRCUITS ARE NOTED TO BE REMOVED, REUSED, ETC., CONTRACTOR SHALL PROVIDE SOURCE PANEL, BREAKER SIZE, BREAKER SHORT CIRCUIT RATING, CONDUIT SIZE & WIRE SIZE. THIS INFORMATION SHALL BE DOCUMENTED AND PROVIDED TO THE ENGINEER. THIS INFORMATION SHALL BE OBTAINED WITHIN FOUR (4) WEEKS OR CONTRACT AWARD.
9. EXPOSED CONDUIT ON THE ROOF SHALL BE GALVANIZED EMT WITH WEATHER-PROOF CONNECTORS & FITTINGS.
10. THE LOCATION OF ROOF MOUNTED CONDUIT SUPPORTS (I.E. FREE STANDING SUPPORTS & ROOFED-IN SUPPORTS) ARE DIAGRAMMATICALLY SHOWN. THE ELECTRICAL CONTRACTOR SHALL SHALL PERFORM CALCULATIONS TO DETERMINE THE EXPANSION OF THE CONDUIT & WIRE, WHERE THE TYPE OF SUPPORTS SHOULD BE LOCATED, AND EXPANSION JOINT LOCATIONS AND INSTALLATION DETAILS. THE TYPE & DIMENSIONED LOCATION OF EACH SUPPORT SHALL BE SHOWN ON A SHOP DRAWING. THE SHOP DRAWING, ALONG WITH THE ASSOCIATED CALCULATIONS, SHALL BE SIGNED AND SEALED BY A NJ LICENSED PROFESSIONAL ENGINEER. SUBMIT SHOP DRAWINGS AND CALCULATIONS FOR REVIEW & APPROVAL.
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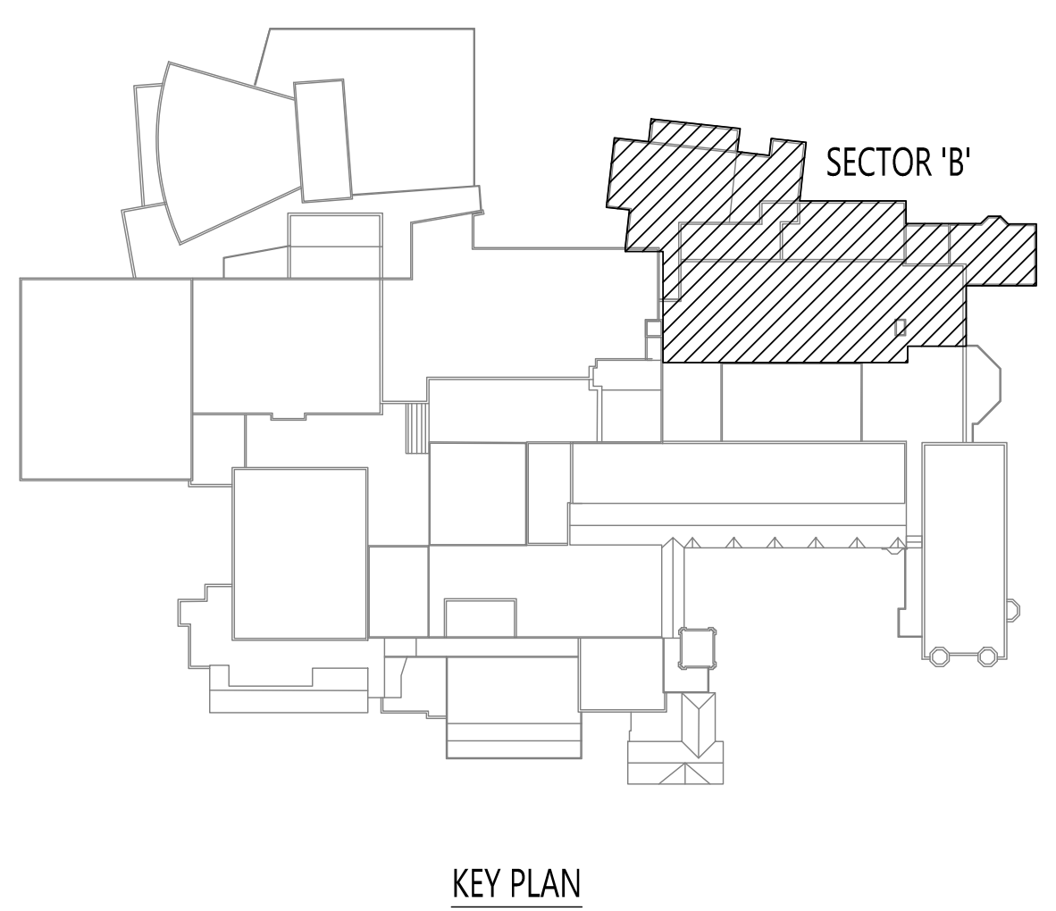

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Checked By
JTM

Drawn By
JD

Scale
AS NOTED

Drawing Name
ELECTRICAL -
ROOF
SECTOR B
NEW WORK PLAN

Revisions

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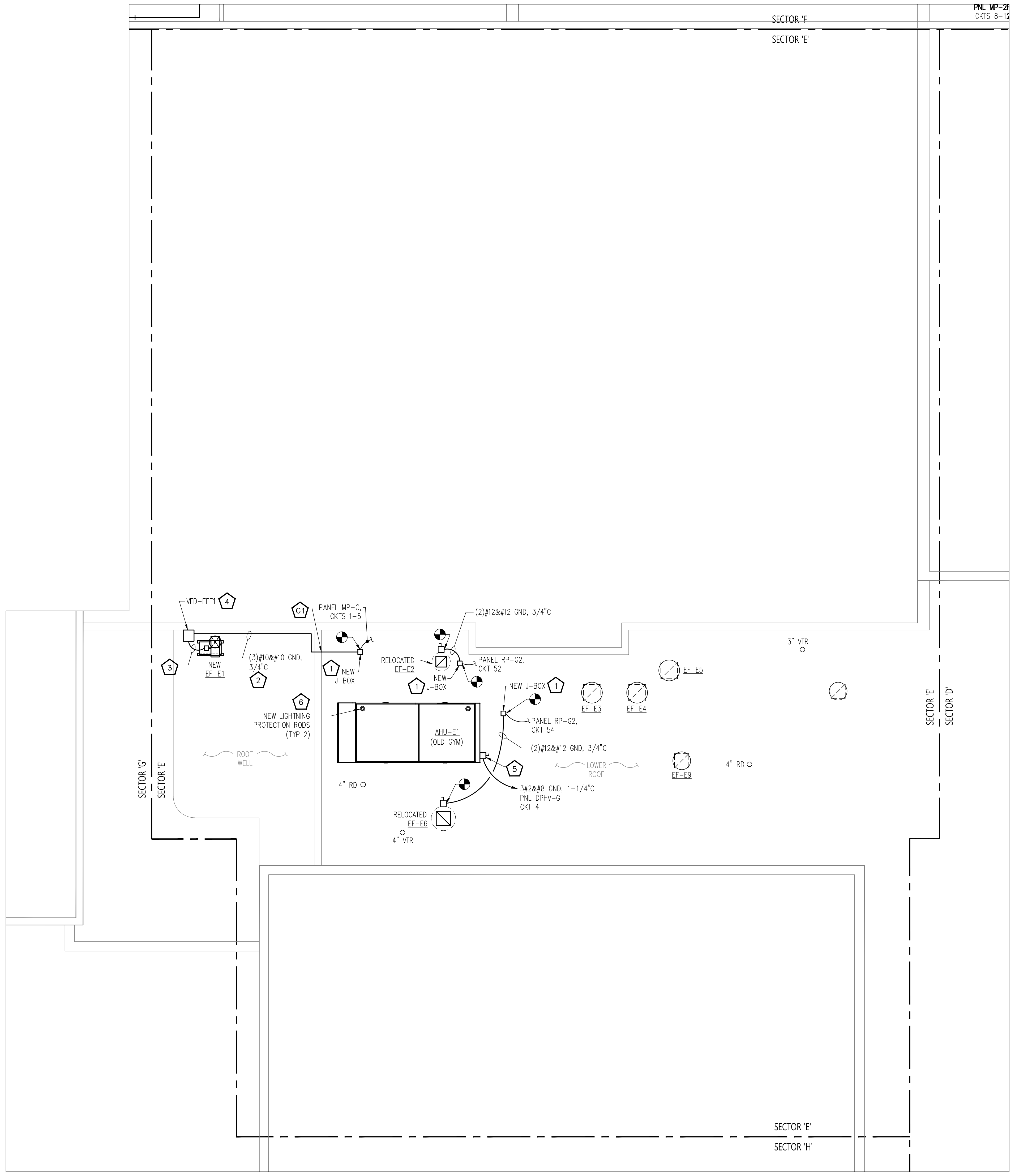
Drawing Number
E-432



1 ELECTRICAL - SECTOR 'E' ROOF NEW WORK PLAN
SCALE: 1/8"=1'-0"

ELECTRICAL NEW WORK NOTES

1 INSTALL A NEMA 1 JUNCTION BOX BELOW ROOF DECK WHERE SPACE PERMITS. EXTEND EXISTING POWER CIRCUIT TO NEW AND/OR RELOCATED EQUIPMENT.

2 ROUTE NEW CONDUIT ALONG WALL AT 12" (MIN) ABOVE ROOF LINE. ATTACH TO WALL EVERY 8 FT USING GALVANIZED UNISTRUT & FASTENERS.

3 INSTALL NEW VFD CABLE, 300% GND, FROM VFD TO MOTOR. CABLE SHALL BE AS MANUFACTURED BY BELDEN, CABLE NO: 29502. CABLE SHALL BE (3)#12 TINNED COPPER CONDUCTORS WITH XPLE INSULATION, #12 PVC INSULATED GND & #12AWG TINNED COPPER DRAIN. CABLE SHALL HAVE A BLACK PVC OUTER JACKET & AND SHALL BE SUITABLE FOR WET/DRY APPLICATIONS.

4 VFD IS BEING PROVIDED & INSTALLED BY MECHANICAL CONTRACTOR.

5 DISCONNECT SWITCH PROVIDED & PRE-WIRED TO UNIT COMPONENTS BY EQUIPMENT MANUFACTURER.

6 INSTALL NEW LIGHTING PROTECTION RODS ON TOP OF EQUIPMENT WHERE SHOWN. EXTEND EXISTING LIGHTING PROTECTION CABLES TO NEW RODS. NEW RODS SHALL MATCH THE MATERIAL, DIAMETER & LENGTH OF EXISTING RODS. INTERCONNECTING CABLE SHALL MATCH EXISTING MATERIAL, DIAMETER & CONNECTOR TYPE. REFER TO ARCHITECTURAL DRAWINGS FOR REMOVAL & ATTACHMENT OF LIGHTNING PROTECTION CABLE TO ROOF.

GENERAL CONSTRUCTION NEW WORK NOTES

G1 CREATE OPENING IN WALL FOR NEW CONDUIT PENETRATION. SEE ARCHITECTURAL DRAWINGS FOR DETAILS.

GENERAL NEW WORK NOTES

1. POWER & CONTROL WIRING FOR ROOFTOP EQUIPMENT SHALL BE BROUGHT UP THRU THE CURB. USE FLEXIBLE CONDUIT WHEN MAKING TERMINATION TO UNIT.
2. CONDUCTOR & GROUND SIZES BASED ON COPPER WIRING.
3. PROVIDE A SHOP DRAWING SHALL OF THE LIGHTNING PROTECTION SYSTEM MODIFICATIONS, SIGNED & SIGNED BY A NJ LICENSED PROFESSIONAL ENGINEER.
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5. NEW JUNCTION BOXES SHALL MEET THE SIZING REQUIREMENTS IN ACCORDANCE WITH THE NEC. CONTRACTOR SHALL PROVIDE CALCULATIONS FOR SIZING PULL BOXES.
6. NEW SMOKE DETECTORS SHALL BE INSTALLED FOR EACH ROOFTOP UNIT BY THE MECHANICAL CONTRACTOR. ELECTRICAL CONTRACTOR SHALL HARD WIRE SMOKE DETECTOR TO THE FAN STARTER/VFD TO DE-ENERGIZE UNIT WHEN SMOKE DETECTOR IS ACTIVATED. FIRE ALARM CONTRACTOR SHALL MONITOR THE SMOKE DETECTOR. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH MECHANICAL & FIRE ALARM CONTRACTOR.
7. VERTICAL CONDUITS SHALL BE SUPPORTED FROM WALL EVERY 4 FT (MAX).
8. WHERE EXISTING POWER CIRCUITS ARE NOTED TO BE REMOVED, REUSED, ETC., CONTRACTOR SHALL PROVIDE SOURCE PANEL, BREAKER SIZE, BREAKER SHORT CIRCUIT RATING, CONDUIT SIZE & WIRE SIZE. THIS INFORMATION SHALL BE DOCUMENTED AND PROVIDED TO THE ENGINEER. THIS INFORMATION SHALL BE OBTAINED WITHIN FOUR (4) WEEKS OR CONTRACT AWARD.
9. EXPOSED CONDUIT ON THE ROOF SHALL BE GALVANIZED EMT WITH WEATHER-PROOF CONNECTORS & FITTINGS.
10. THE LOCATION OF ROOF MOUNTED CONDUIT SUPPORTS (I.E. FREE STANDING SUPPORTS & ROOFED-IN SUPPORTS) ARE DIAGRAMMATICALLY SHOWN. THE ELECTRICAL CONTRACTOR SHALL SHALL PERFORM CALCULATIONS TO DETERMINE THE EXPANSION OF THE CONDUIT & WIRE, WHERE THE TYPE OF SUPPORTS SHOULD BE LOCATED, AND EXPANSION JOINT LOCATIONS AND INSTALLATION DETAILS. THE TYPE & DIMENSIONED LOCATION OF EACH SUPPORT SHALL BE SHOWN ON A SHOP DRAWING. THE SHOP DRAWING, ALONG WITH THE ASSOCIATED CALCULATIONS, SHALL BE SIGNED AND SEALED BY A NJ LICENSED PROFESSIONAL ENGINEER. SUBMIT SHOP DRAWINGS AND CALCULATIONS FOR REVIEW & APPROVAL.
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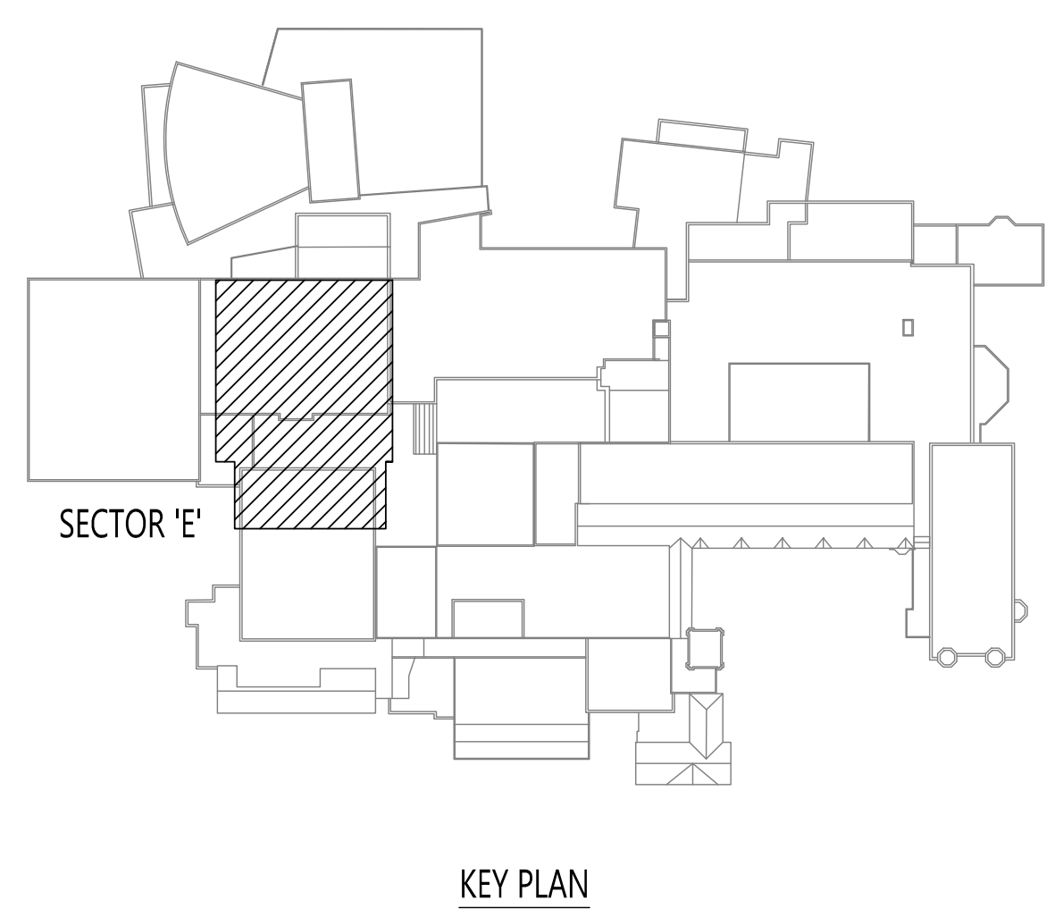

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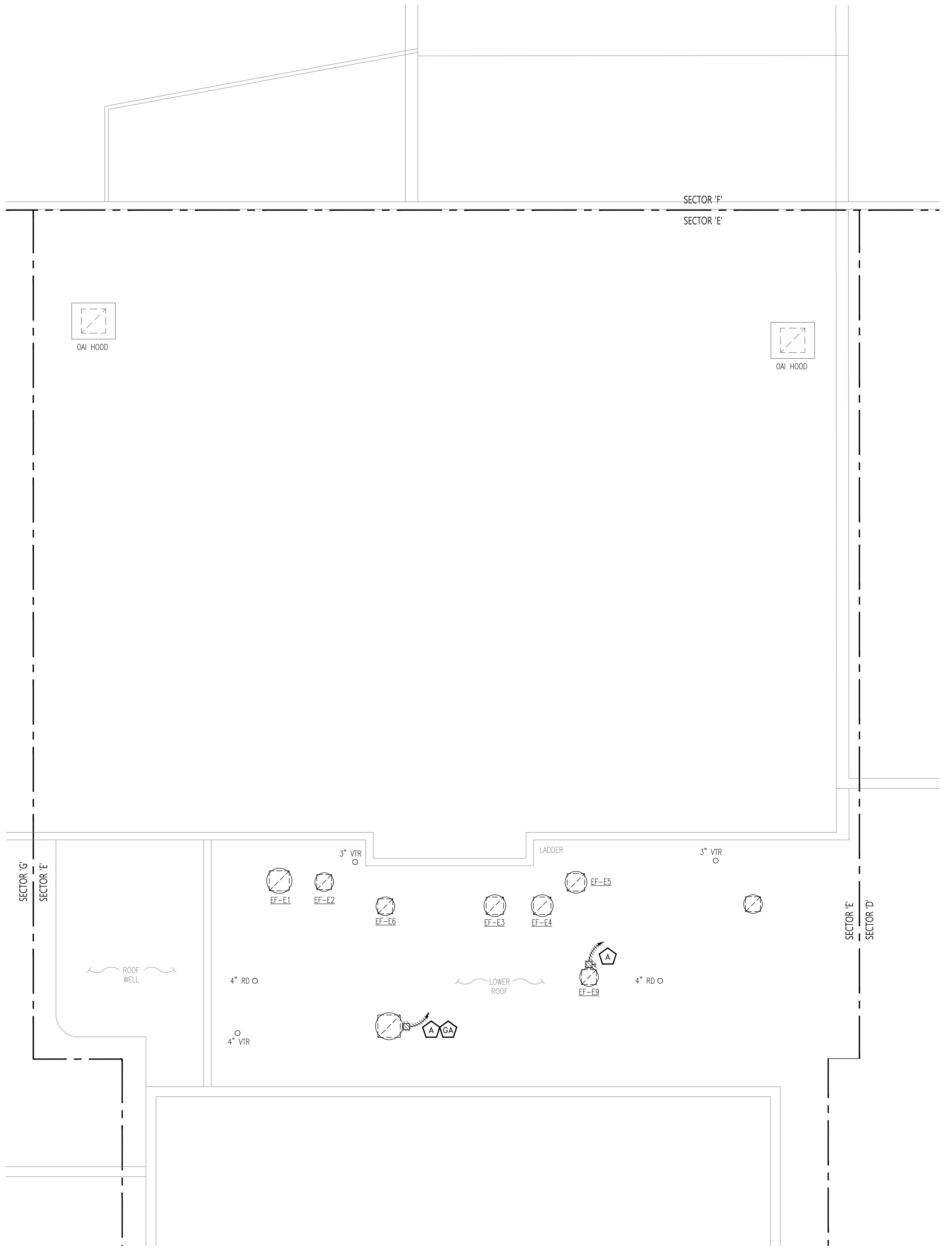
Drawing Name
ELECTRICAL -
ROOF
SECTOR E
NEW WORK PLAN

Revisions

No.	Date	Description

Drawing Number
E-435



① ELECTRICAL - SECTOR 'E' ROOF DEMOLITON PLAN (ALT #1)

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

ELECTRICAL DEMOLITION NOTES

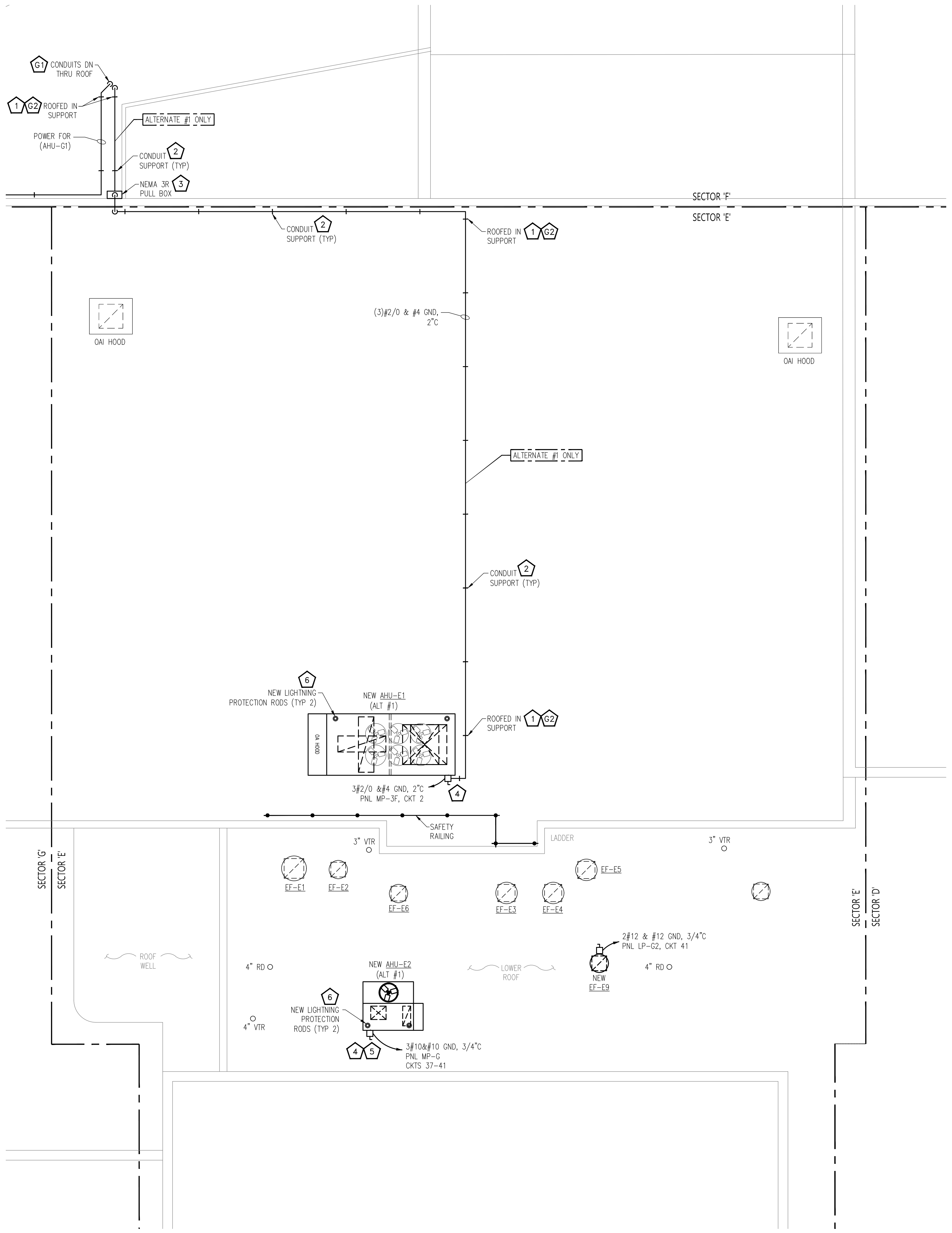
Ⓐ REMOVE EXISTING DISCONNECT SWITCH, CONDUIT & CONDUCTORS BACK TO SOURCE. UPDATE PANEL SCHEDULE.

GENERAL CONSTRUCTION DEMOLITION NOTES

GA EXISTING ROOF PENETRATIONS SHALL BE REPAIRED. SEE ARCHITECTURAL DRAWINGS FOR DETAILS.

GENERAL DEMOLITION NOTES

1. CONTRACTOR SHALL TRACE POWER CIRCUITS FOR ALL EXISTING MECHANICAL EQUIPMENT TO BE REMOVED TO ENSURE POWER IS ORIGINATING FROM POWER PANELS & CIRCUIT/BREAKER INDICATED. IF THERE IS A DISCREPANCY, NOTIFY ENGINEER IMMEDIATELY. WORK SHALL NOT PROCEED UNTIL ISSUE HAS BEEN RESOLVED.
2. WHERE EXISTING POWER AND CONTROL WIRING IS BEEN NOTED TO BE REMOVED, THE ASSOCIATED CONDUITS, HANGERS, SUPPORTS, FASTENERS, ETC. SHALL ALSO BE REMOVED. OPENINGS LEFT IN WALL, ROOF, FLOOR, ETC., SHALL BE REPAIRED & PAINTED WITH MATERIALS MATCHING EXISTING CONSTRUCTION & COLOR.
3. WHERE EXISTING POWER CIRCUITS ARE NOTED TO BE REMOVED, REUSED, ETC., CONTRACTOR SHALL PROVIDE SOURCE PANEL, BREAKER SIZE, BREAKER SHORT CIRCUIT RATING, CONDUIT SIZE & WIRE SIZE. THIS INFORMATION SHALL BE DOCUMENTED AND PROVIDED TO THE ENGINEER. THIS INFORMATION SHALL BE OBTAINED WITHIN FOUR (4) WEEKS OR CONTRACT AWARD.



② ELECTRICAL - SECTOR 'E' ROOF NEW WORK PLAN (ALT #1)

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

ELECTRICAL NEW WORK NOTES

1 SUPPORTS SHALL BE ROOFED IN WHERE NOTED. RPS MODEL: ER-4A STYLE EQUIPMENT ROOF RAIL TO BE USED FOR THESE SUPPORTS. SUPPORT SPACING SHALL BE 10 FT (MAX). SEE SUPPORT DETAILS.

2 INSTALL DURABLOK, MODEL: DBE 10-12 CONDUIT SUPPORTS EVERY 10 FT. INSTALL A $\frac{1}{2}$" THICK, WHITE RUBBER PAD BENEATH EACH SUPPORT. SUPPORT SPACING SHALL BE 10 FT (MAX).

3 ATTACHED PULL BOX TO WALL USING GALVANIZED UNISTRUT.

4 DISCONNECT SWITCH PROVIDED & PRE-WIRED TO UNIT COMPONENTS BY EQUIPMENT MANUFACTURER.

5 POWER WIRING FOR ROOFTOP EQUIPMENT SHALL BE BROUGHT UP THRU THE CURB. USE FLEXIBLE CONDUIT WHEN MAKING TERMINATION TO UNIT.

6 INSTALL NEW LIGHTING PROTECTION RODS ON TOP OF EQUIPMENT WHERE SHOWN. EXTEND EXISTING LIGHTING PROTECTION CABLES TO NEW RODS. NEW RODS SHALL MATCH THE MATERIAL, DIAMETER & LENGTH OF EXISTING RODS. INTERCONNECTING CABLE SHALL MATCH EXISTING MATERIAL, DIAMETER & CONNECTOR TYPE. REFER TO ARCHITECTURAL DRAWINGS FOR REMOVAL & ATTACHMENT OF LIGHTNING PROTECTION CABLE TO ROOF.

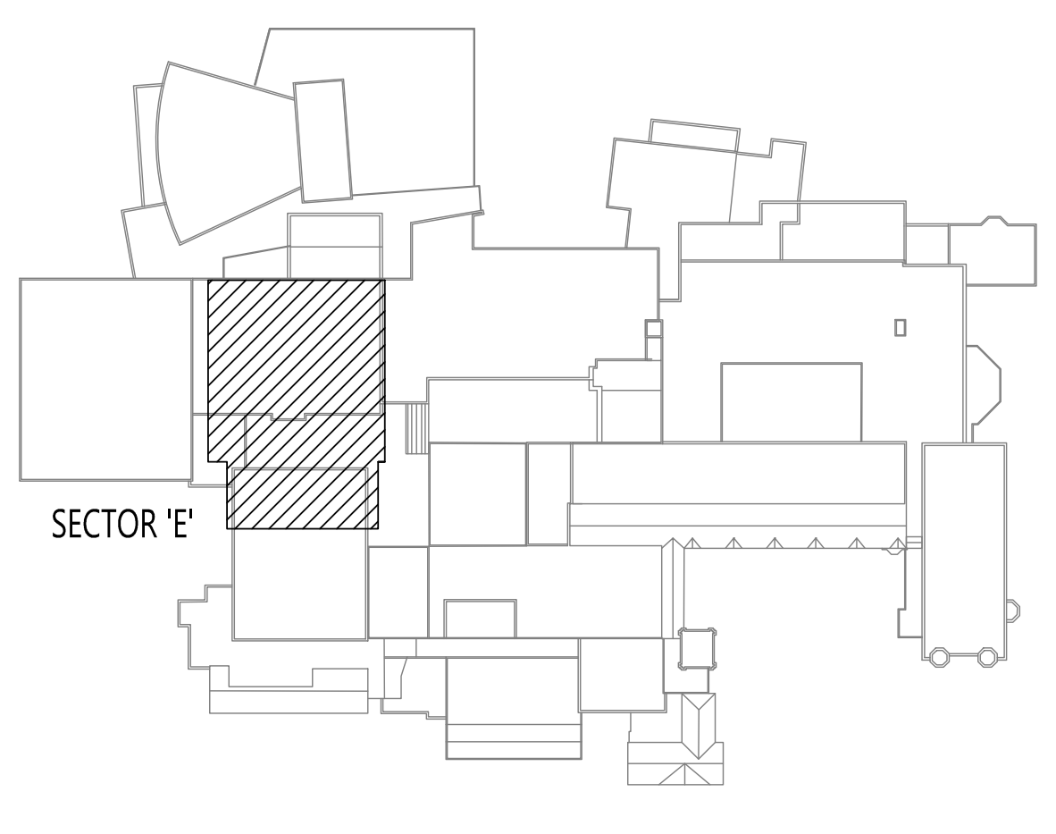
GENERAL CONSTRUCTION NEW WORK NOTES

G1 CREATE OPENING IN ROOF DECK FOR NEW CONDUIT PENETRATION. PIPE PORTAL SHALL BE ROOFED-IN. SEE ARCHITECTURAL DRAWINGS FOR DETAILS.

G2 REFER TO ARCHITECTURAL DRAWINGS FOR DETAIL OF ATTACHING & ROOFING-IN EQUIPMENT RAIL.

GENERAL NEW WORK NOTES

1. POWER & CONTROL WIRING FOR ROOFTOP EQUIPMENT SHALL BE BROUGHT UP THRU THE CURB. USE FLEXIBLE CONDUIT WHEN MAKING TERMINATION TO UNIT.
2. CONDUCTOR & GROUND SIZES BASED ON COPPER WIRING.
3. PROVIDE A SHOP DRAWING SHALL OF THE LIGHTNING PROTECTION SYSTEM MODIFICATIONS, SIGNED & SIGNED BY A NJ LICENSED PROFESSIONAL ENGINEER.
4. PROVIDE A DELEGATED DESIGN FOR THE MODIFICATION OF THE EXISTING UL-LISTED LIGHTNING PROTECTION SYSTEM. INSTALLER SHALL BE NRTL LISTED OR CERTIFIED BY LPI AS A MASTER INSTALLER & DESIGNER. DESIGN AND INSTALLATION SHALL COMPLY WITH THE LATEST EDITION OF NFPA 780, UL 96A, UL 96 CODES. CONTRACTORS SHALL INTERCONNECT AIR TERMINALS, CONDUCTORS, BONDING, AND GROUNDING TO THE EXISTING SYSTEM WITHOUT DEGRADING PERFORMANCE. PROVIDE ENGINEERING CALCULATIONS, SHOP DRAWINGS, AND DETAILS FOR DELEGATED DESIGN. UPON COMPLETION, OBTAIN UL MASTER LABEL RE-LISTING, INCLUDING INSPECTION, TESTING, AND DOCUMENTATION CONFIRMING CONTINUED SYSTEM COMPLIANCE. NEW JUNCTION BOXES SHALL MEET THE SIZING REQUIREMENTS IN ACCORDANCE WITH THE NEC. CONTRACTOR SHALL PROVIDE CALCULATIONS FOR SIZING PULL BOXES.
5. NEW SMOKE DETECTORS SHALL BE INSTALLED FOR EACH ROOFTOP UNIT BY THE MECHANICAL CONTRACTOR. ELECTRICAL CONTRACTOR SHALL HARD WIRE SMOKE DETECTOR TO THE FAN STARTER/VFD TO DE-ENERGIZE UNIT WHEN SMOKE DETECTOR IS ACTIVATED. FIRE ALARM CONTRACTOR SHALL MONITOR THE SMOKE DETECTOR. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH MECHANICAL & FIRE ALARM CONTRACTOR.
6. VERTICAL CONDUITS SHALL BE SUPPORTED FROM WALL EVERY 4 FT (MAX).
7. WHERE EXISTING POWER CIRCUITS ARE NOTED TO BE REMOVED, REUSED, ETC., CONTRACTOR SHALL PROVIDE SOURCE PANEL, BREAKER SIZE, BREAKER SHORT CIRCUIT RATING, CONDUIT SIZE & WIRE SIZE. THIS INFORMATION SHALL BE DOCUMENTED AND PROVIDED TO THE ENGINEER. THIS INFORMATION SHALL BE OBTAINED WITHIN FOUR (4) WEEKS OR CONTRACT AWARD.
8. EXPOSED CONDUIT ON THE ROOF SHALL BE GALVANIZED EMT WITH WEATHER-PROOF CONNECTORS & FITTINGS.
9. THE LOCATION OF ROOF MOUNTED CONDUIT SUPPORTS (I.E. FREE STANDING SUPPORTS & ROOFED-IN SUPPORTS) ARE DIAGRAMMATICALLY SHOWN. THE ELECTRICAL CONTRACTOR SHALL SHALL PERFORM CALCULATIONS TO DETERMINE THE EXPANSION OF THE CONDUIT & WIRE, WHERE THE TYPE OF SUPPORTS SHOULD BE LOCATED, AND EXPANSION JOINT LOCATIONS AND INSTALLATION DETAILS. THE TYPE & DIMENSIONED LOCATION OF EACH SUPPORT SHALL BE SHOWN ON A SHOP DRAWING. THE SHOP DRAWING, ALONG WITH THE ASSOCIATED CALCULATIONS, SHALL BE SIGNED AND SEALED BY A NJ LICENSED PROFESSIONAL ENGINEER. SUBMIT SHOP DRAWINGS AND CALCULATIONS FOR REVIEW & APPROVAL.
10. REFER TO PLUMBING DRAWING P-430, IF NEEDED, FOR OVERALL SCALING OF DISTANCES FOR PRICING PURPOSES.



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Project Name
HVAC Renovations at Princeton High School

Project Owner Name
Princeton Public Schools

Project Location
151 Moore Street,
Princeton, NJ
08540

Project Number
5516E

Project Date
01.29. 2026

Checked By
JTM

Drawn By
JD

Scale
AS NOTED

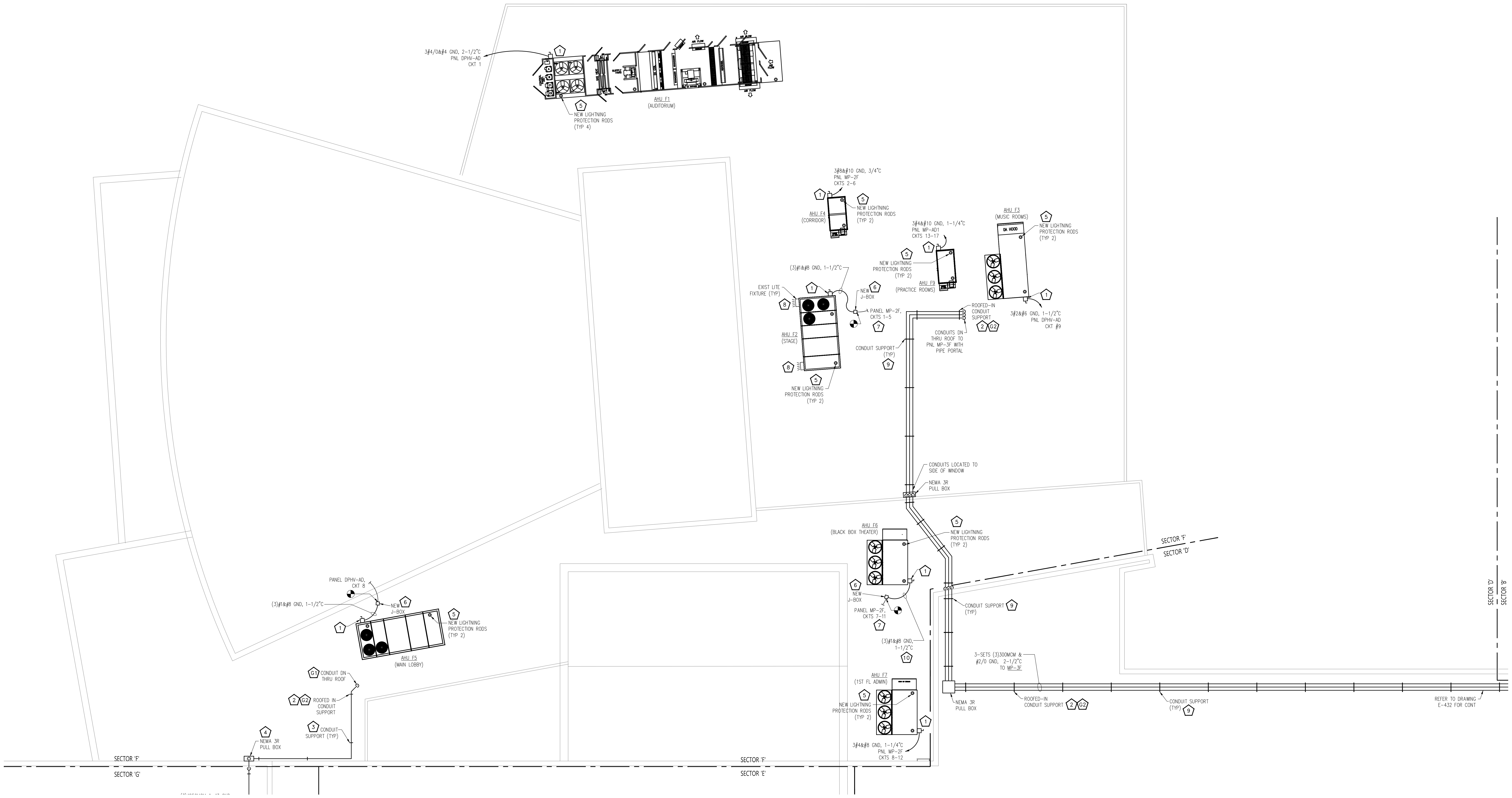
Drawing Name
ELECTRICAL - ROOF SECTOR E DEMOLITION & NEW WORK PLAN

ALTERNATE #1

Revisions

No.	Date	Description

Drawing Number
E-435-1



① ELECTRICAL - SECTOR 'F' ROOF NEW WORK PLAN

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

ELECTRICAL NEW WORK NOTES

1. DISCONNECT SWITCH PROVIDED & PRE-WIRED TO UNIT COMPONENTS BY EQUIPMENT MANUFACTURER.
2. SUPPORTS SHALL BE ROOFED IN WHERE NOTED. RPS MODEL: ER-4A STYLE EQUIPMENT ROOF RAIL TO BE USED FOR THESE SUPPORTS. SUPPORT SPACING SHALL BE 10 FT (MAX). SEE SUPPORT DETAILS.
3. INSTALL DURABLOK, MODEL: DBE 10-12 CONDUIT SUPPORTS EVERY 10 FT. INSTALL A $\frac{1}{2}$" THICK, WHITE RUBBER PAD BENEATH EACH SUPPORT. SUPPORT SPACING SHALL BE 10 FT (MAX).
4. ATTACH PULL BOX TO WALL USING GALVANIZED UNISTRUT.
5. INSTALL NEW LIGHTING PROTECTION RODS ON TOP OF EQUIPMENT WHERE SHOWN. EXTEND EXISTING LIGHTING PROTECTION CABLES TO NEW RODS. NEW RODS SHALL MATCH THE MATERIAL, DIAMETER & LENGTH OF EXISTING RODS. INTERCONNECTING CABLE SHALL MATCH EXISTING MATERIAL, DIAMETER & CONNECTOR TYPE. REFER TO ARCHITECTURAL DRAWINGS FOR REMOVAL & ATTACHMENT OF LIGHTNING PROTECTION CABLE TO ROOF.
6. INSTALL A NEMA 1 JUNCTION BOX BELOW ROOF DECK WHERE SPACE PERMITS. EXTEND EXISTING POWER CIRCUIT TO NEW EQUIPMENT.
7. PULL NEW CONDUCTORS & GROUND WIRE IN EXISTING CONDUIT.
8. REINSTALL EXISTING LIGHT FIXTURE. USE GALVANIZED SUPPORTS TO SECURE FIXTURE & DIRECT LIGHT UP ALONG SIDE OF BUILDING. SUPPORTS SHALL NOT INTERFERE WITH ACCESS TO UNIT COMPARTMENTS. MODIFY EXISTING POWER CONDUIT AS REQUIRED.
9. INSTALL DURABLOK, MODEL: DB2924DS CONDUIT SUPPORTS EVERY 10 FT. INSTALL A $\frac{1}{2}$" THICK, WHITE RUBBER PAD BENEATH EACH SUPPORT. SUPPORT SPACING SHALL BE 10 FT (MAX).

GENERAL CONSTRUCTION NEW WORK NOTES

G1 CREATE OPENING IN ROOF DECK FOR NEW CONDUIT PENETRATION. PIPE PORTAL SHALL BE ROOFED-IN. SEE ARCHITECTURAL DRAWINGS FOR DETAILS.

G2 REFER TO ARCHITECTURAL DRAWINGS FOR DETAIL OF ATTACHING & ROOFING IN EQUIPMENT RAIL.

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1. POWER & CONTROL WIRING FOR ROOFTOP EQUIPMENT SHALL BE BROUGHT UP THRU THE CURB. USE FLEXIBLE CONDUIT WHEN MAKING TERMINATION TO UNIT.
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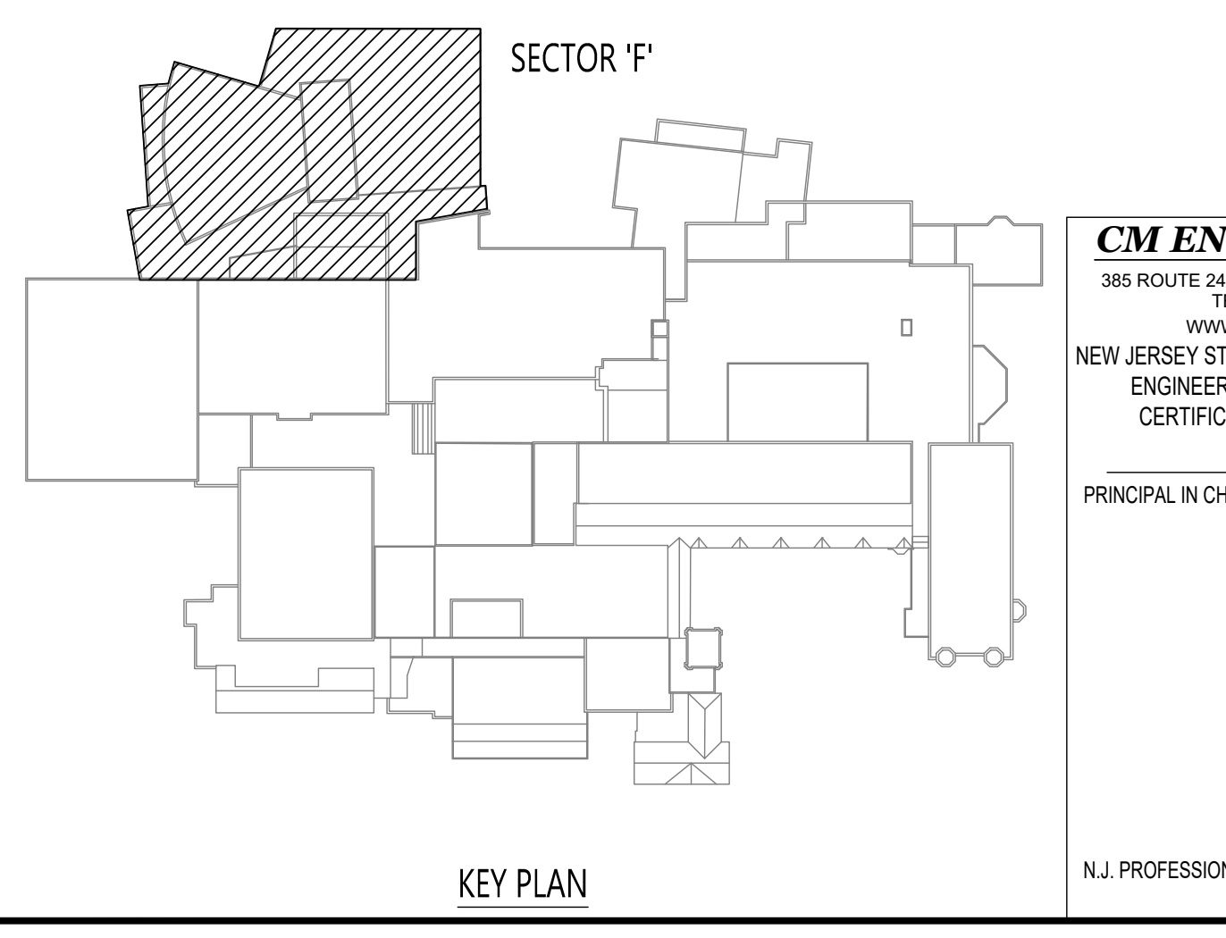

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Project Name
HVAC Renovations at Princeton High School

Project Owner Name
Princeton Public Schools

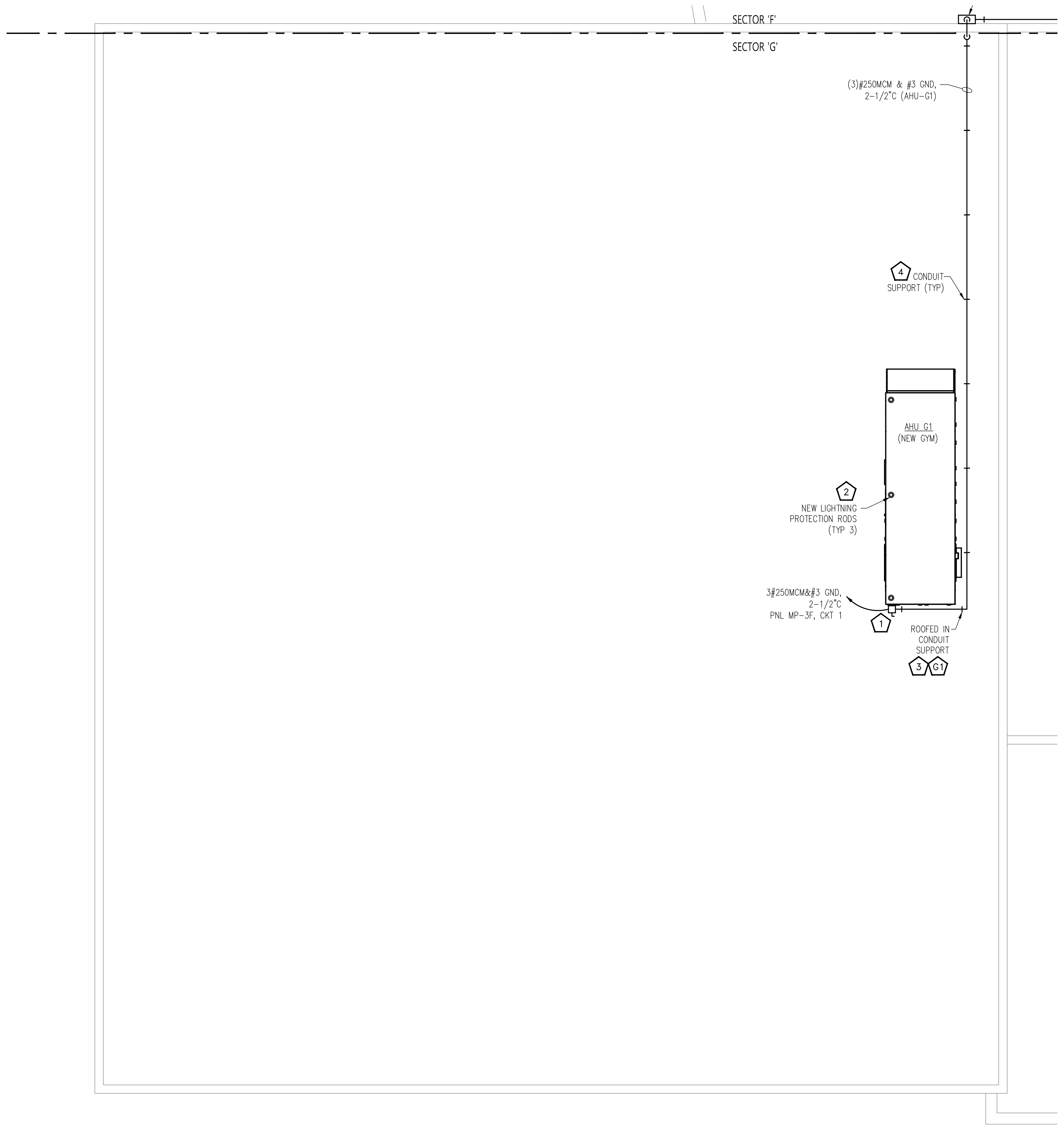
Project Location
151 Moore Street,
Princeton, NJ
08540

Project Number
5516E
Project Date
01.29. 2026
Checked By
JTM
Drawn By
JD
Scale
AS NOTED

Drawing Name
ELECTRICAL -
ROOF
SECTOR F
NEW WORK PLAN

Revisions		
No.	Date	Description

Drawing Number
E-436


SECTOR 'F'
SECTOR 'G'
(3)#250MCM & #3 GND, 2-1/2"C (AHU-G1)
4 CONDUIT SUPPORT (TYP)
AHU G1 (NEW GYM)
2 NEW LIGHTNING PROTECTION RODS (TYP 3)
3#250MCM&#3 GND, 2-1/2"C PNL MP-3F, CKT 1
1
ROOFED IN CONDUIT SUPPORT
3 G1

1 ELECTRICAL - SECTOR 'G' ROOF NEW WORK PLAN

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

ELECTRICAL NEW WORK NOTES

1. DISCONNECT SWITCH PROVIDED & PRE-WIRED TO UNIT COMPONENTS BY EQUIPMENT MANUFACTURER.
2. INSTALL NEW LIGHTING PROTECTION RODS ON TOP OF EQUIPMENT WHERE SHOWN. EXTEND EXISTING LIGHTING PROTECTION CABLES TO NEW RODS. NEW RODS SHALL MATCH THE MATERIAL, DIAMETER & LENGTH OF EXISTING RODS. INTERCONNECTING CABLE SHALL MATCH EXISTING MATERIAL, DIAMETER & CONNECTOR TYPE. REFER TO ARCHITECTURAL DRAWINGS FOR REMOVAL & ATTACHMENT OF LIGHTNING PROTECTION CABLE TO ROOF.
3. INSTALL 4" EQUIPMENT WIDE EQUIPMENT RAIL FOR CONDUIT SUPPORT. RAIL SHALL BE ATTACHED TO DECK & ROOFED IN.
4. INSTALL DURABLOK, MODEL: DBE 10-12 CONDUIT SUPPORTS EVERY 10 FT. INSTALL A $\frac{1}{2}$" THICK, WHITE RUBBER PAD BENEATH EACH SUPPORT. SUPPORT SPACING SHALL BE 10 FT (MAX).

GENERAL CONSTRUCTION NEW WORK NOTES

G1. REFER TO ARCHITECTURAL DRAWINGS FOR DETAIL OF ATTACHING & ROOFING IN EQUIPMENT RAIL.

GENERAL NEW WORK NOTES

1. POWER & CONTROL WIRING FOR ROOFTOP EQUIPMENT SHALL BE BROUGHT UP THRU THE CURB. USE FLEXIBLE CONDUIT WHEN MAKING TERMINATION TO UNIT.
2. CONDUCTOR & GROUND SIZES BASED ON COPPER WIRING.
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5. NEW JUNCTION BOXES SHALL MEET THE SIZING REQUIREMENTS IN ACCORDANCE WITH THE NEC. CONTRACTOR SHALL PROVIDE CALCULATIONS FOR SIZING PULL BOXES.
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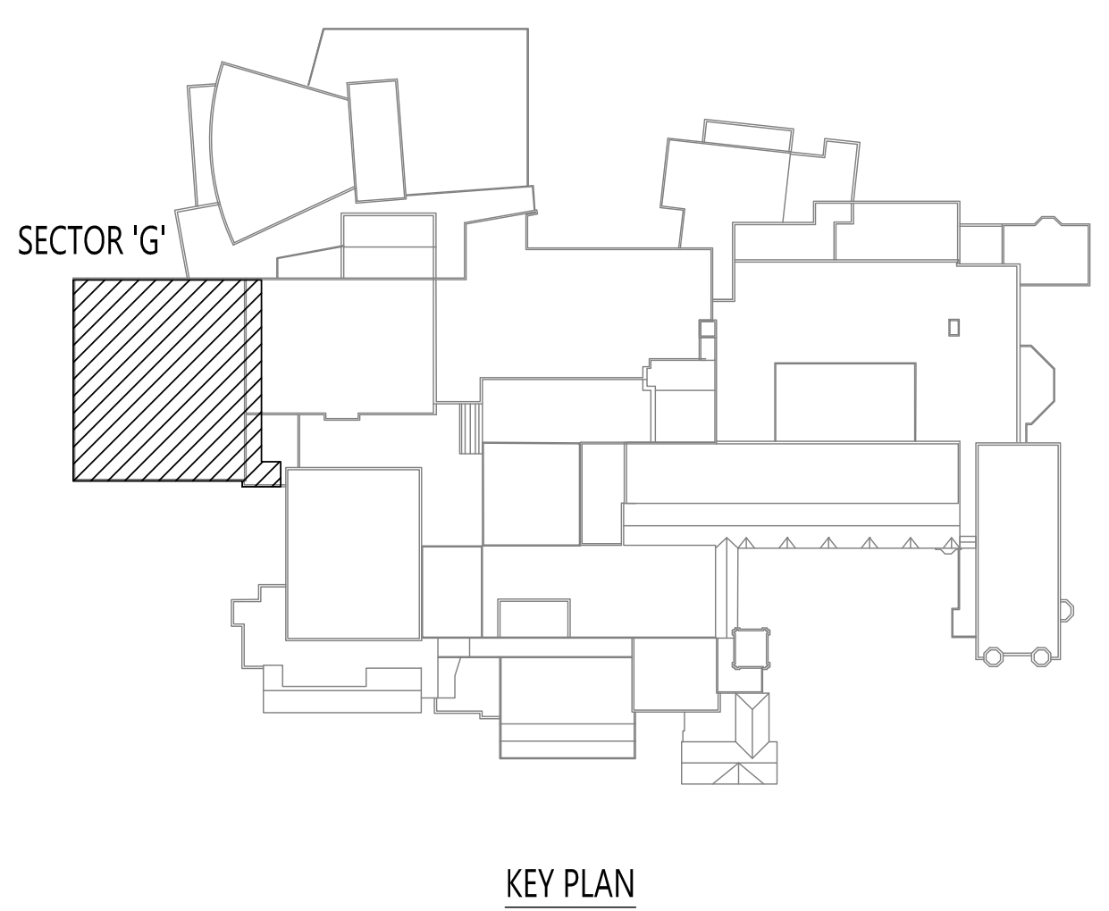
11. REFER TO PLUMBING DRAWING P-430, IF NEEDED, FOR OVERALL SCALING OF DISTANCES FOR PRICING PURPOSES.



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William D. Hopkins
Architect

01/29/26
Date

Project Name
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Checked By
JTM

Drawn By
JD

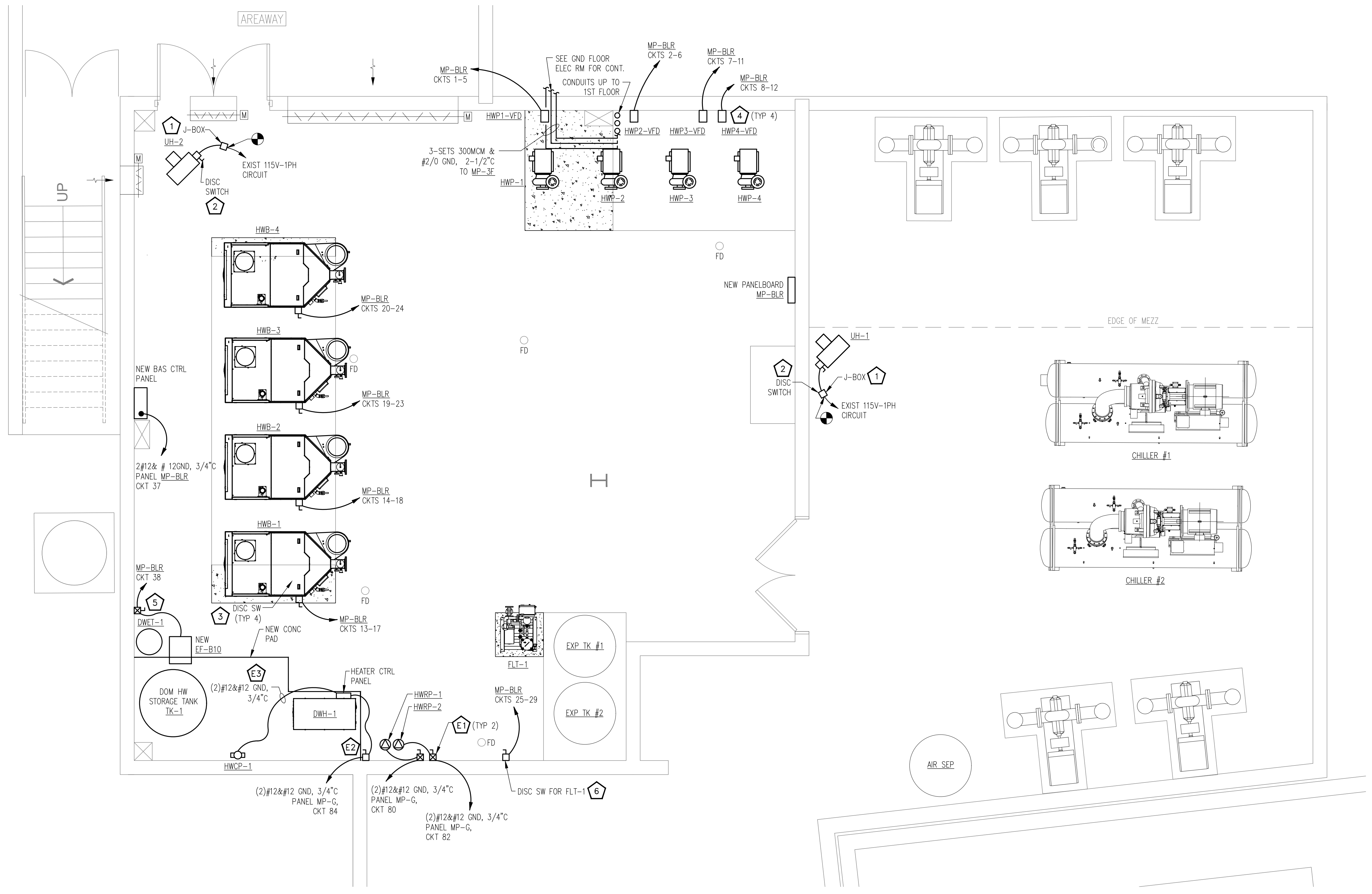
Scale
AS NOTED

Drawing Name
ELECTRICAL - - ROOF SECTOR G NEW WORK PLAN

Revisions

No.	Date	Description

Drawing Number
E-437



① ELECTRICAL - MAIN BOILER ROOM POWER NEW WORK PLAN

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

ELECTRICAL NEW WORK NOTES-BASE BID

1. INSTALL NEW J-BOX AND EXTEND EXISTING POWER WIRING TO UNIT DISCONNECT SWITCH USING 2#12 & #12 GND IN 3/4" C.
2. INSTALL A NEMA 1, 20A, 115V-1PH DISCONNECT SWITCH.
3. INSTALL A NEMA 1, 20A, 480V-3PH DISCONNECT SWITCH.
4. POWER WIRING FROM VFD TO PUMP MOTOR SHALL BE VFD CABLE AS MANUFACTURED BY BELDEN (#29502-CLASSIC 300%). CONDUCTOR SIZE SHALL BE #12 WITH GROUND AND DRAIN WIRE. CONDUCTOR MATERIAL SHALL BE TINNED COPPER, INSULATION SHALL BE VFD-GRADE XPLE, DUOFOIL SHIELDING WITH INDUSTRIAL GRADE PVC JACKET.
5. PROVIDE & INSTALL A NEMA 1, 120V-20A COMBINATION STARTER/DISCONNECT SWITCH.
6. PROVIDE & INSTALL A NEMA 1, 480V-3 PH, 20A DISCONNECT SWITCH.

ELECTRICAL NEW WORK NOTES-ADD ALT #3

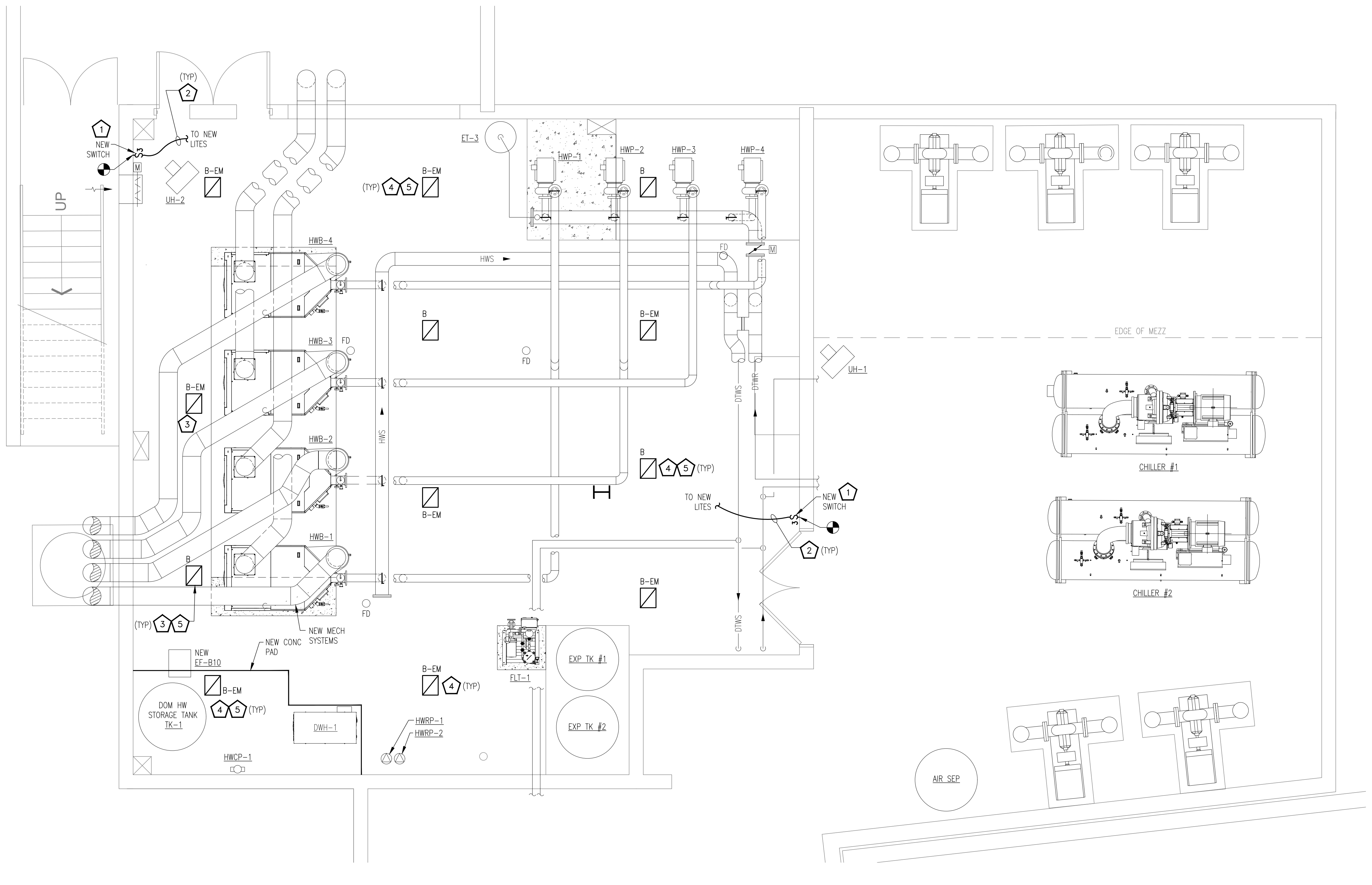
E1 PROVIDE & INSTALL A NEMA 1, 120V-20A COMBINATION STARTER/DISCONNECT SWITCH.

E2 PROVIDE & INSTALL A NEMA 1, 120V-20A DISCONNECT SWITCH.

E3 WIRE HOT WATER CIRCULATION PUMP TO CONTACTS IN HEATER CONTROL PANEL. CONSULT MANUFACTURER FOR TERMINAL POINTS TO LAND POWER WIRING.

ELECTRICAL GENERAL NEW WORK NOTES-BASE BID & ALT BIDS

1. TERMINATE POWER TO EQUIPMENT USING FLEXIBLE CONDUIT.



③ ELECTRICAL - BOILER ROOM LIGHTING NEW WORK PARTIAL PLAN

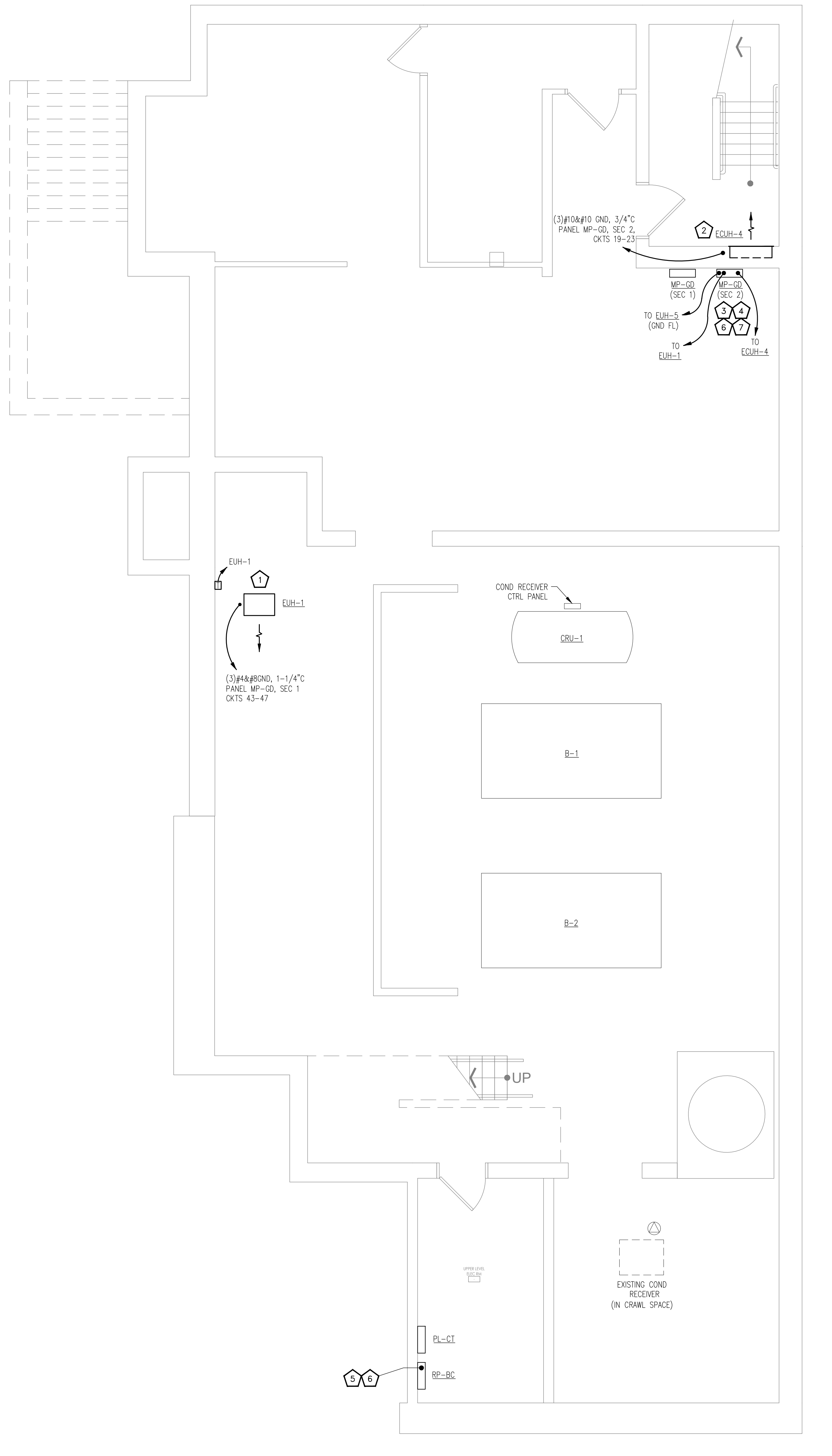
SCALE: 1/4"=1'-0"

ELECTRICAL LIGHTING NEW WORK NOTES

1. INSTALL NEW 3-WAY LIGHT SWITCH & COVER PLATE WHERE EXISTING EXISTING WAS REMOVED.
2. POWER CIRCUIT FOR NEW LIGHTING SHALL BE (2)#12 & #12 GND IN 3/4"C.
3. BOTTOM OF LIGHT FIXTURE SHALL BE INSTALLED AT AN ELEVATION EQUAL TO THE BOTTOM OF THE FLUE PIPE (13-0" AFF±).
4. BOTTOM OF LIGHT FIXTURE SHALL BE INSTALLED AT 17 FT (±) AFF.
5. CONTRACTOR SHALL PROVIDE NORMAL & EMERGENCY LIGHTING PHOTOMETRICS FOR REVIEW AND APPROVAL WHEN LIGHTING FIXTURE SUBMITTAL IS SUBMITTED FOR APPROVAL.

GENERAL NEW WORK NOTES

1. SOME PIPING & EQUIPMENT HAS NOT BEEN SHOWN FOR CLARITY PURPOSES.
2. COORDINATE WITH APPROVED SHOP MECHANICAL DRAWING FOR ACTUAL PLACEMENT & HEIGHT OF LIGHT FIXTURES.


(3)#10&#10 GND, 3/4"C PANEL MP-GD, SEC 2, CKTS 19-23
② ECUH-4
MP-GD (SEC 1)
MP-GD (SEC 2)
③④⑥⑦
TO EUH-5 (GND FL)
TO EUH-1
TO ECUH-4
EUH-1
①
EUH-1
(3)#4&#8GND, 1-1/4"C PANEL MP-GD, SEC 1 CKTS 43-47
COND RECEIVER CTRL PANEL
CRU-1
B-1
B-2
UP
EXISTING COND RECEIVER (IN CRAWL SPACE)
PL-CT
⑤⑥
RP-BC

② ELECTRICAL - ORIGINAL BOILER ROOM NEW WORK PLAN

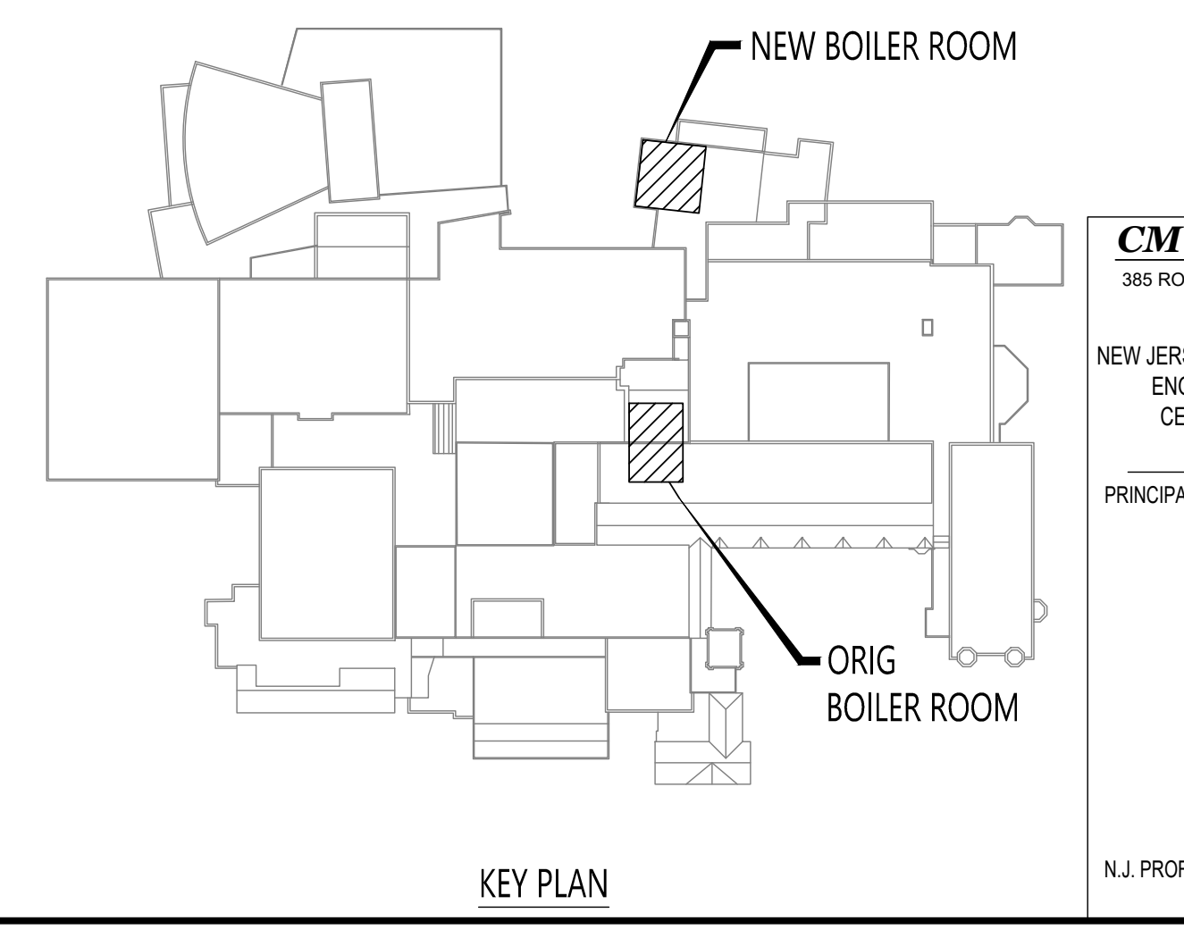
SCALE: 1/4"=1'-0"

ELECTRICAL NEW WORK NOTES

1. INSTALL NEW ELECTRIC UNIT HEATER WHERE SHOWN AT 10 FT AFF. INSTALL USING 3/8" GALVANIZED THREADED ROD WITH NEOPRENE ISOLATORS. INSTALL NEW THERMOSTAT ON WALL AT 48" AFF AND WIRE TO UNIT HEATER.
2. INSTALL NEW RECESSED ELECTRIC CABINET HEATER CENTERED ON THE WALL. INSTALL TRIM KIT AROUND WALL OPENING FOR A FINISHED LOOK.
3. INSTALL A NEW 208V-3PH, 25A BREAKER (CKTS 19-23) TO POWER NEW ECUH-4. BREAKER TYPE SHALL MATCH EXISTING. SCCR RATING SHALL BE 22KA.
4. INSTALL A NEW 208V-3PH, 70A BREAKER IN SPACE PROVIDED (CKTS 43-47) TO POWER NEW EUH-1. MODIFY PANEL COVER AS REQUIRED. BREAKER TYPE SHALL MATCH EXISTING. SCCR RATING SHALL BE 22KA.
5. INSTALL A NEW 2-P, 50A BREAKER (CKTS 40&42) FOR ECUH-3 (STAIRWELL S12). BREAKER TYPE & SCCR RATING SHALL MATCH EXISTING BREAKERS.
6. WITHIN 3 WEEKS OF CONTRACT AWARD, CONTRACTOR SHALL INSTALL A METER ON EXISTING INCOMING CONDUCTORS FOR A PERIOD OF ONE (1) WEEK TO RECORD AMPS READINGS AT 15 MINUTE INTERVALS. SUBMIT RESULTS TO ENGINEER IN GRAPHICAL FORMAT FOR REVIEW.
7. INSTALL A NEW 208V-3PH, 20A BREAKER IN SPACE PROVIDED (CKTS 44-48) TO POWER NEW EUH-5. MODIFY PANEL COVER AS REQUIRED. BREAKER TYPE SHALL MATCH EXISTING. SCCR RATING SHALL BE 22KA.

ELECTRICAL GENERAL NEW WORK NOTES

1. TERMINATE POWER TO EQUIPMENT USING FLEXIBLE CONDUIT.



KEY PLAN

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24GA28121800

PRINCIPAL IN CHARGE: JOSEPH T. MISTRETTA, PE

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F V H D P C . C O M

Project Name
HVAC Renovations
at Princeton High
School

Project Owner Name
Princeton Public
Schools

Project Location
151 Moore Street,
Princeton, NJ
08540

Project Number
5516E

Project Date
01.29. 2026

Checked By
JTM

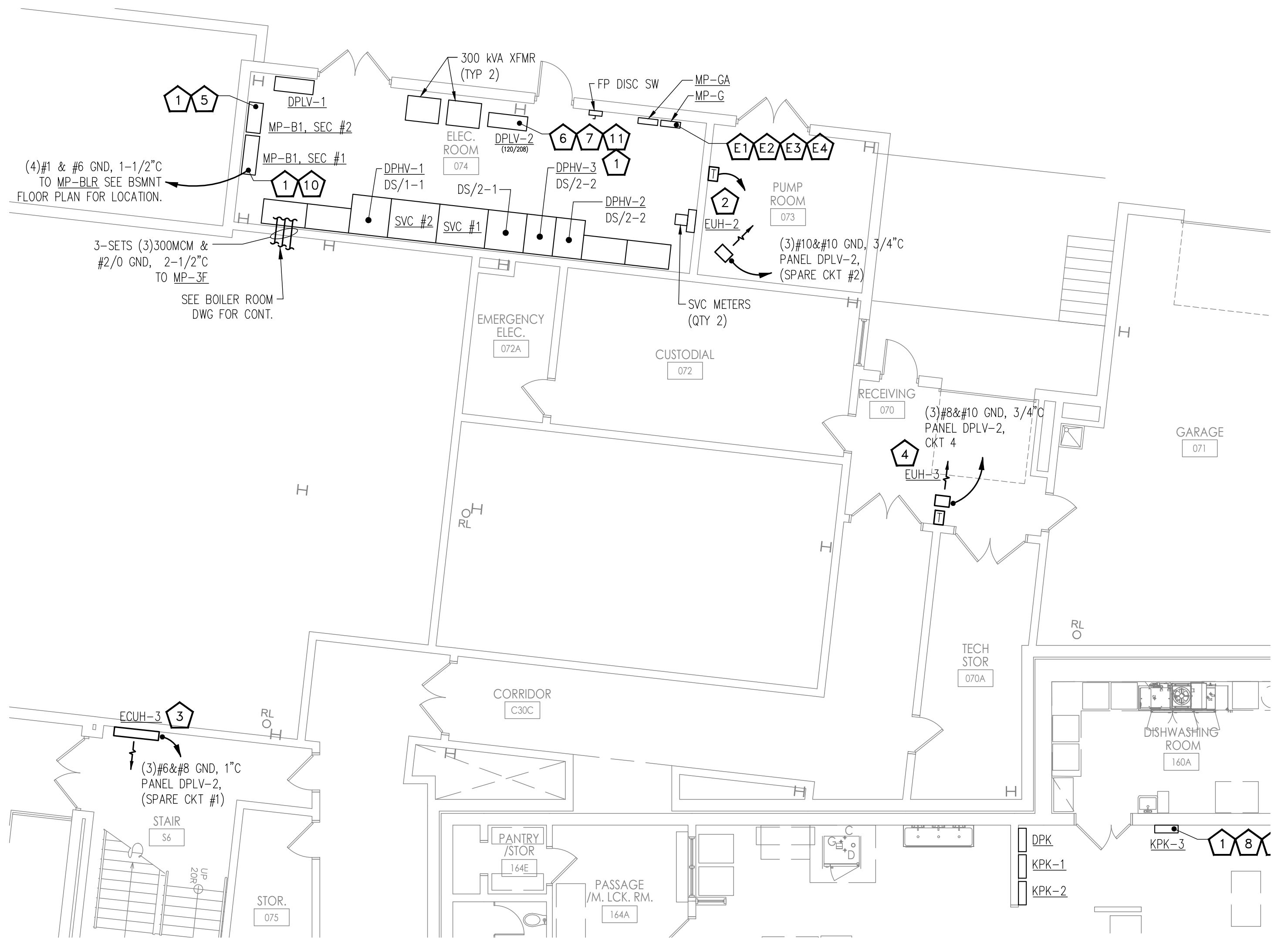
Drawn By
JD

Scale
AS NOTED

Drawing Name
ELECTRICAL -
BASEMENT
PARTIAL
NEW WORK PLANS

Revisions		
No.	Date	Description

Drawing Number
E-501


300 kVA XFMR (TYP 2)
FP DISC SW
MP-GA
MP-G
DPLV-1
MP-B1, SEC #2
MP-B1, SEC #1
(4)#1 & #6 GND, 1-1/2"C TO MP-BLR SEE BSMNT FLOOR PLAN FOR LOCATION.
3-SETS (3)300MCM & #2/0 GND, 2-1/2"C TO MP-3F
SEE BOILER ROOM DWG FOR CONT.
PUMP ROOM
(3)#10&#10 GND, 3/4"C PANEL DPLV-2, (SPARE CKT #2)
SVC METERS (QTY 2)
EMERGENCY ELEC.
CUSTODIAL
RECEIVING
GARAGE
(3)#8&#10 GND, 3/4"C PANEL DPLV-2, CKT 4
EUH-3
CORRIDOR
TECH STOR
ECUH-3
(3)#6&#8 GND, 1"C PANEL DPLV-2, (SPARE CKT #1)
STAIR
STOR
PANTRY STOR
PASSAGE (M. LCK. RM.)
DISHWASHING ROOM
DPK
KPK-1
KPK-2
KPK-3

1 ELECTRICAL - SECTOR 'B' GROUND FLOOR NEW WORK PARTIAL PLAN

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

ELECTRICAL NEW WORK NOTES–BASE BID

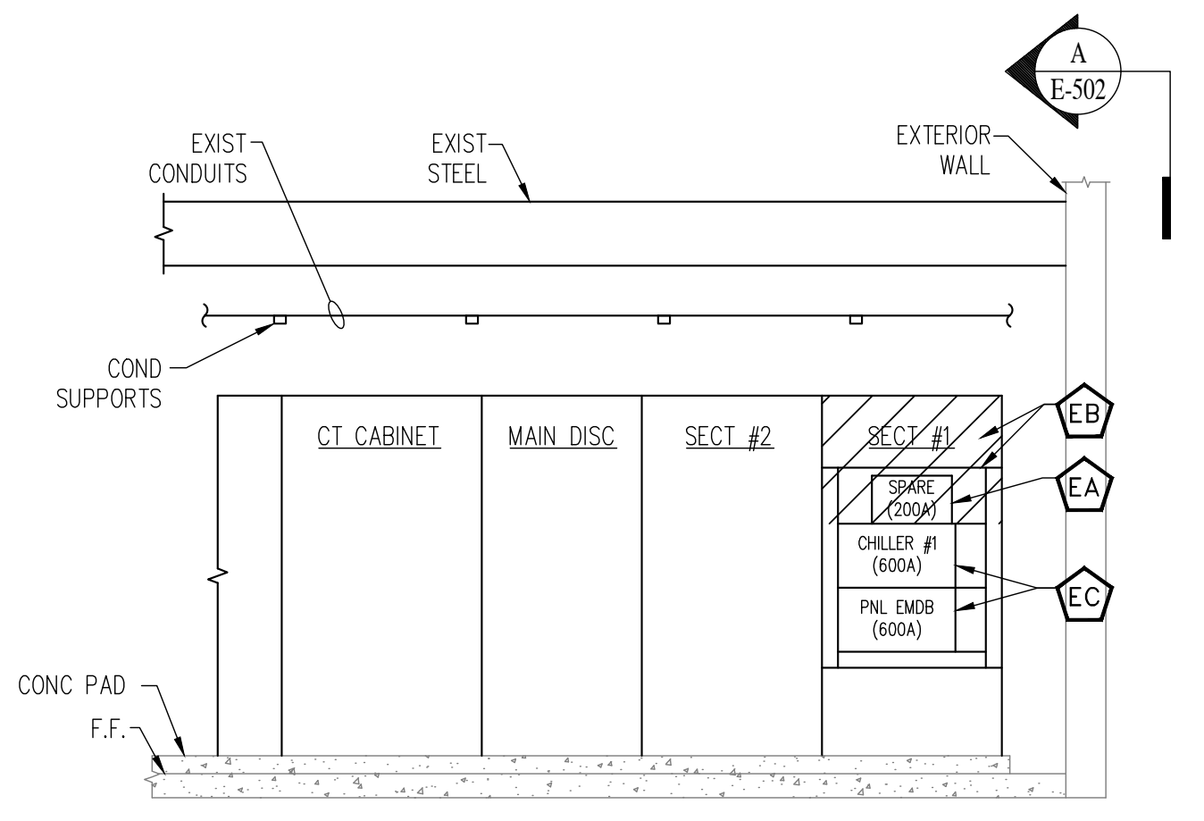
1. WITHIN 3 WEEKS OF CONTRACT AWARD, CONTRACTOR SHALL INSTALL A METER ON EXISTING INCOMING CONDUCTORS FOR A PERIOD OF ONE (1) WEEK TO RECORD AMPS READINGS AT 15 MINUTE INTERVALS. SUBMIT RESULTS TO ENGINEER IN GRAPHICAL FORMAT FOR REVIEW.
2. INSTALL TOP OF NEW ELECTRIC UNIT HEATER AT BOTTOM OF DUCT ELEVATION. INSTALL USING 3/8" GALVANIZED THREADED ROD WITH NEOPRENE ISOLATORS. MOUNT THERMOSTAT AT 48" AFF.
3. INSTALL NEW ELECTRIC CABINET UNIT HEATER WHERE SHOWN.
4. INSTALL NEW ELECTRIC UNIT HEATER WHERE SHOWN AT 9 FT AFF. INSTALL USING 3/8" GALVANIZED THREADED ROD WITH NEOPRENE ISOLATORS. MOUNT THERMOSTAT AT 48" AFF.
5. INSTALL A NEW GE SPECTRA 3-P BREAKER (CKTS 80-84) MODEL: SFLA36AT0250 WITH A 110A TRIP PLUG FOR AHU-B1. REFER TO ROOF PLAN FOR NEW CONDUIT & CONDUCTOR SIZES. SCCR RATING SHALL BE 65kA.
6. INSTALL A NEW 3-P, 40A BREAKER (CKT 4) FOR EUH-3. BREAKER TYPE SHALL MATCH EXISTING. SCCR RATING SHALL BE 42kA.
7. INSTALL A NEW 3-P, 50A BREAKER (SPARE CKT #1) FOR ECUH-3 (STAIRWELL S6). BREAKER TYPE SHALL MATCH EXISTING. SCCR RATING SHALL BE 42KA.
8. INSTALL A NEW 2-P, 20A BREAKER (CKTS 40&42) FOR EBB-4 (STAIRWELL S7). BREAKER TYPE & SCCR RATING SHALL MATCH EXISTING BREAKERS.
9. INSTALL A NEW 2-P, 20A BREAKER (CKTS 39&41) FOR EBB-3 (RESTROOM 065B). BREAKER TYPE & SCCR RATING SHALL MATCH EXISTING BREAKERS.
10. INSTALL A NEW 3-P, 125A BREAKER (CKTS 20-24) FOR NEW SUB-PANEL MP-BLR. REFER TO FLOOR PLANS FOR NEW CONDUIT & CONDUCTOR SIZES. BREAKER TYPE SHALL MATCH EXISTING. SCCR RATING SHALL BE 65KA.
11. INSTALL A NEW 3-P, 30A BREAKER (SPARE CKT #2) FOR EUH-2. BREAKER TYPE SHALL MATCH EXISTING. SCCR RATING SHALL BE 42KA.

ELECTRICAL NEW WORK NOTES–ADD/ALT #3

- E1 REMOVE EXISTING 20A BREAKER AND INSTALL A NEW 15A-1P BREAKER (CKT #84) TO POWER NEW DWH-1. BREAKER TYPE & SCCR RATING SHALL MATCH EXISTING BREAKERS IN PANEL.
- E2 REMOVE EXISTING 15A BREAKER AND INSTALL A NEW 15A-1P BREAKER (CKT #80) TO POWER NEW HWRP-1. BREAKER TYPE & SCCR RATING SHALL MATCH EXISTING BREAKERS IN PANEL.
- E3 REMOVE EXISTING 15A BREAKER AND INSTALL A NEW 15A-1P BREAKER (CKT #82) TO POWER NEW HWRP-2. BREAKER TYPE & SCCR RATING SHALL MATCH EXISTING BREAKERS IN PANEL.
- E4 WITHIN 3 WEEKS OF CONTRACT AWARD, CONTRACTOR SHALL INSTALL A METER ON EXISTING INCOMING CONDUCTORS FOR A PERIOD OF ONE (1) WEEK TO RECORD AMPS READINGS AT 15 MINUTE INTERVALS. SUBMIT RESULTS TO ENGINEER IN GRAPHICAL FORMAT FOR REVIEW.

ELECTRICAL GENERAL NEW WORK NOTES–BASE BID & ALT BIDS

1. ALL EXPOSED POWER WIRING TO BASEBOARD SHALL BE CONCEALED IN SURFACE RACEWAY AS MANUFACTURED BY WIREMOLD, PART NO. PN10L. PROVIDE COVER CLIP (PN10F06) TO CONCEAL SEAMS WHERE TWO SECTIONS MEET. INSTALL USING #8 PAN HEAD FASTENERS EVERY 2 FT (MAX). DOUBLE-SIDED TAPE, SELF-STICK FASTENERS, ETC., SHALL NOT BE USED.
2. ALL NEW THERMOSTATS IN PUBLIC AREAS/STAIRWELLS SHALL BE INSTALLED IN A HEAVY DUTY METAL THERMOSTAT LOCK BOX AS MANUFACTURED BY HONEYWELL, MODEL: TG511D1004. CONTRACTOR SHALL VERIFY THAT COVER HAS ADEQUATE SPACE FOR THERMOSTAT INSTALLATION. PROVIDE OWNER WITH 5 SETS OF KEYS.
3. ELECTRICAL CONTRACTOR SHALL PROVIDE A COORDINATION STUDY, INCLUDING BREAKER SETTINGS, & SHORT CIRCUIT ANALYSIS FOR ALL NEW ELECTRICAL PANELS AND EXISTING PANELS WHERE LOAD IS BEING ADDED IN THE BUILDING.
4. WHERE NEW POWER/CONTROL WIRING & CONDUITS ARE BEING REMOVED OR INSTALLED, THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO REMOVE & REPLACE ANY DAMAGED OR MARKED-UP CEILING TILES. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TILE SPECIFICATION. WHERE HARD CEILINGS EXIST, THE GENERAL CONTRACTOR SHALL REMOVE SECTION OF CEILING TO FACILITATE THE WORK & REPAIR THE CEILING AFTER THE INSTALLATION HAS BEEN COMPLETED. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.

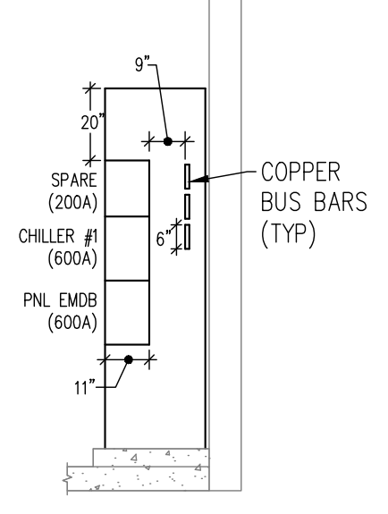


A ELECTRICAL - MAIN SWITCHBOARD DEMOLITION PLAN

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

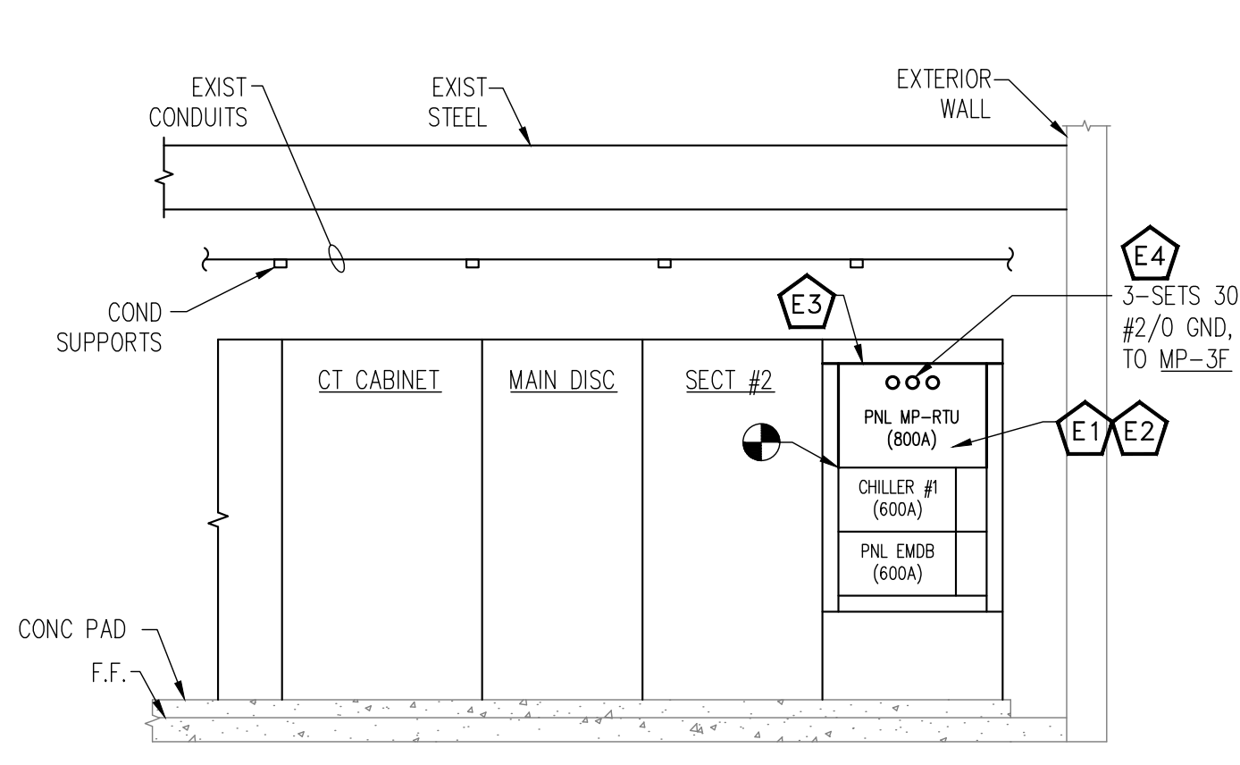
ELECTRICAL DEMOLITION NOTES

- EA REMOVE EXISTING 200A SPARE SWITCH.
- EB REMOVE UPPER BLANK COVER AND MODIFY ENCLOSURE TO ACCOMMODATE TE INSTALLATION OF A NEW 800A SWITCH.
- EC EXISTING 600A SWITCHES SHALL REMAIN.



- SECTION 'A'

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



B ELECTRICAL - MAIN SWITCHBOARD NEW WORK PLAN

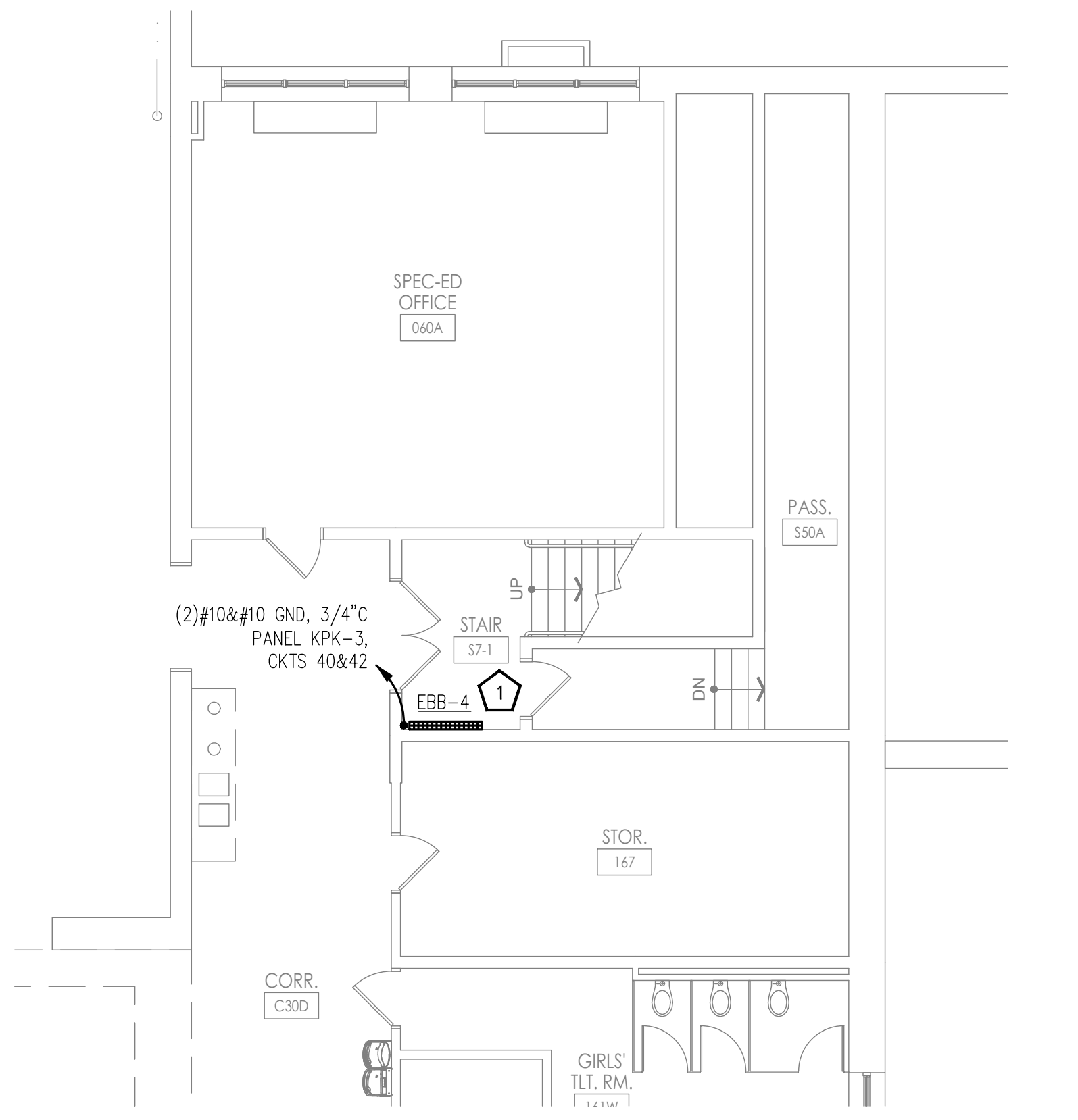
SCALE: 1/4"=1'-0"

ELECTRICAL NEW WORK NOTES

- E1 INSTALL A NEW 800A FUSED SWITCH TO FEED NEW POWER PANEL, MP-3F. SWITCH SHALL HAVE A SHORT CIRCUIT CURRENT RATING OF 100kA.
- E2 MODIFY EXISTING BUS BARS AS REQUIRED TO ACCOMMODATE NEW SWITCH. BUS BARS, BUS BRACING & INSULATORS SHALL HAVE A WITHSTAND RATING OF 100kA.
- E3 MODIFY EXISTING ENCLOSURE TO MATE UP WITH NEW SWITCH.
- E4 NEW CONDUITS & CONDUCTORS SHALL EXIST THE ENCLOSURE THRU THE REAR OF THE ENCLOSURE TO AVOID THE OVERHEAD STEEL IN THE ADJACENT BOILER ROOM.

ELECTRICAL GENERAL NOTES

1. NEW SWITCH SHALL BE LABELED.
2. PROVIDE A DETAILED & DIMENSIONED SHOP DRAWING FOR REVIEW AND APPROVAL. INCLUDE ALL MATERIALS, MATERIAL THICKNESS, SWITCH MOUNTING DETAIL, FASTENERS, ETC., FOR REVIEW AND APPROVAL.
3. REFER TO ELECTRICAL SPECIFICATION ARTICLE 262300 FOR ADDITIONAL INFORMATION & REQUIREMENTS.
4. CONTRACTOR SHALL PROVIDE A DETAILED SHOP DRAWING FOR APPROVAL OF THE MODIFICATIONS TO THE MAIN SWITCHBOARD INCLUDING DIMENSIONS, MATERIALS, FASTENING METHODS, NEW FUSED SWITCH, FUSES, ETC.



2 ELECTRICAL - SECTOR 'B' GROUND FLOOR NEW WORK PARTIAL PLAN

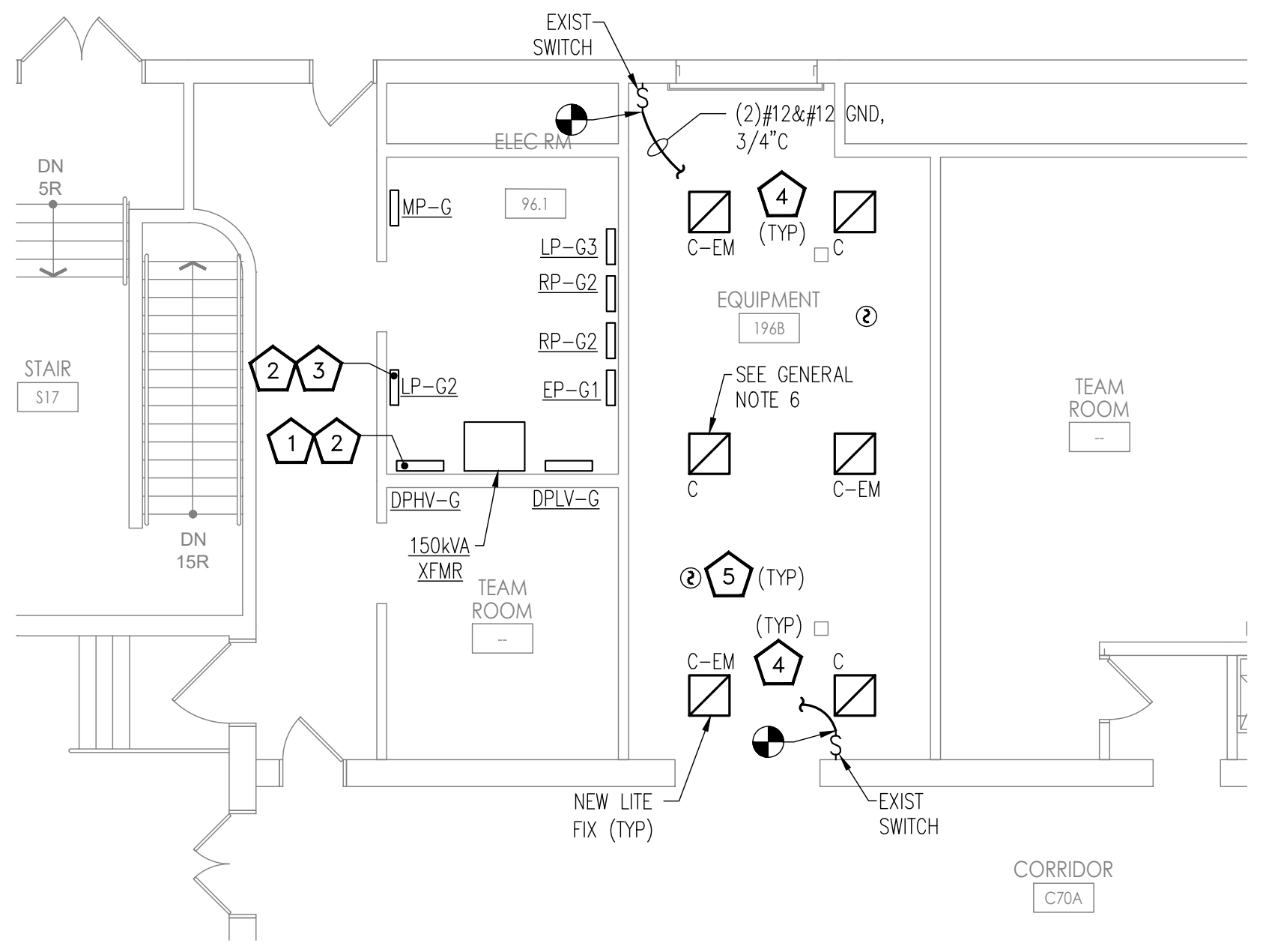
SCALE: 1/8"=1'-0"

ELECTRICAL NEW WORK NOTES

1. INSTALL NEW ELECTRIC BASEBOARD WHERE SHOWN.

ELECTRICAL GENERAL NEW WORK NOTES

1. ALL EXPOSED POWER WIRING TO BASEBOARD SHALL BE CONCEALED IN SURFACE RACEWAY AS MANUFACTURED BY WIREMOLD, PART NO. PN10L. PROVIDE COVER CLIP (PN10F06) TO CONCEAL SEAMS WHERE TWO SECTIONS MEET. INSTALL USING #8 PAN HEAD FASTENERS EVERY 2 FT (MAX). DOUBLE-SIDED TAPE, SELF-STICK FASTENERS, ETC., SHALL NOT BE USED.
2. ALL NEW THERMOSTATS IN PUBLIC AREAS/STAIRWELLS SHALL BE INSTALLED IN A HEAVY DUTY METAL THERMOSTAT LOCK BOX AS MANUFACTURED BY HONEYWELL, MODEL: TG511D1004. CONTRACTOR SHALL VERIFY THAT COVER HAS ADEQUATE SPACE FOR THERMOSTAT INSTALLATION. PROVIDE OWNER WITH 5 SETS OF KEYS.



5 ELECTRICAL - SECTOR 'E' GROUND FLOOR NEW WORK PARTIAL PLAN

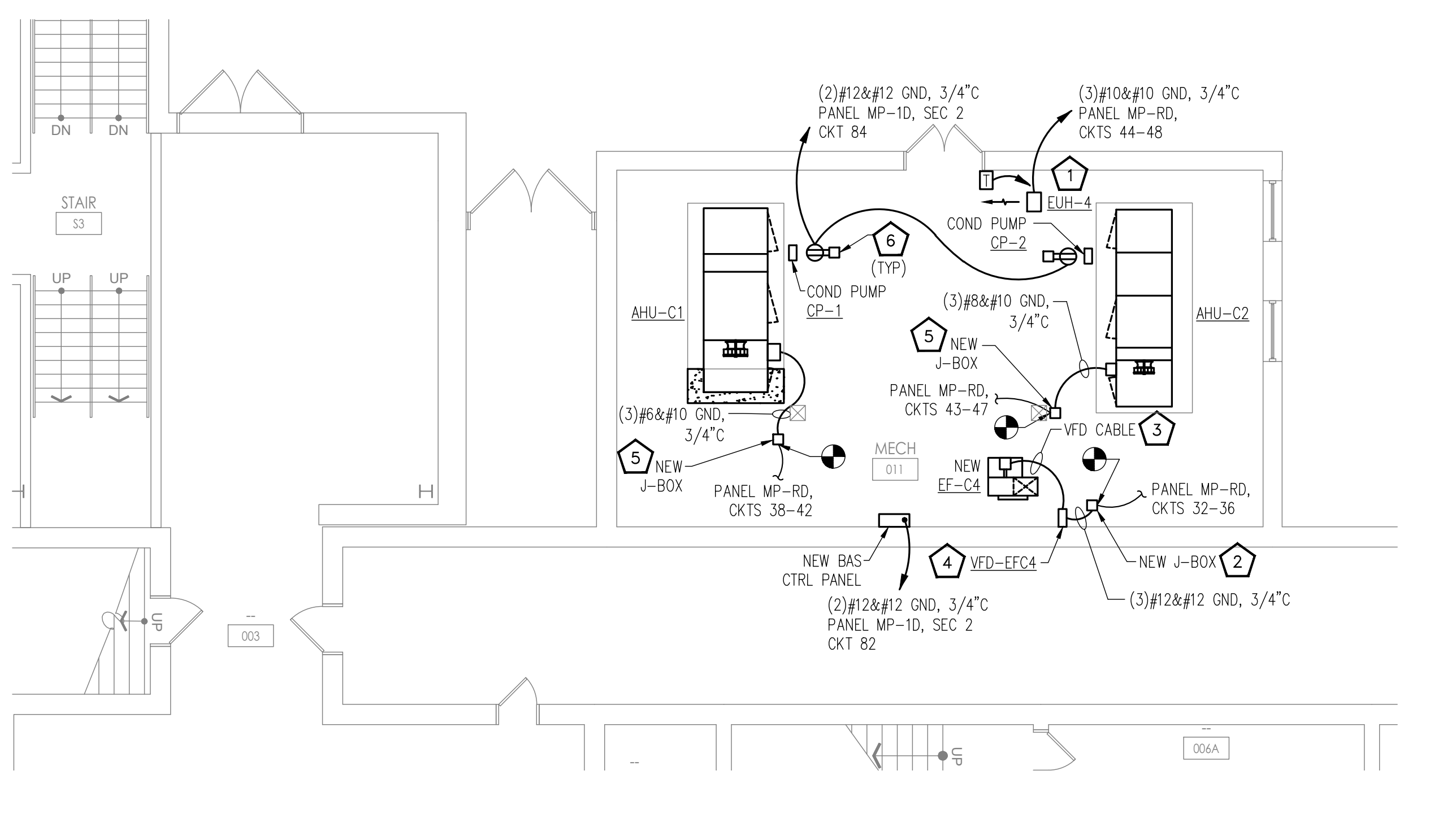
SCALE: 1/8"=1'-0"

ELECTRICAL NEW WORK NOTES

1. INSTALL A NEW 3-P, 80A BREAKER (CKT 4) FOR AHU-E1. REFER TO ROOF PLAN FOR NEW CONDUIT & CONDUCTOR SIZES. BREAKER TYPE & SCCR RATING SHALL MATCH EXISTING BREAKERS.
2. WITHIN 3 WEEKS OF CONTRACT AWARD, CONTRACTOR SHALL INSTALL A METER ON EXISTING INCOMING CONDUCTORS FOR A PERIOD OF ONE (1) WEEK TO RECORD AMPS READINGS AT 15 MINUTE INTERVALS. SUBMIT RESULTS TO ENGINEER IN GRAPHICAL FORMAT FOR REVIEW.
3. REMOVE EXISTING 20A, 1-P BREAKER IN CIRCUIT #41 & INSTALL A NEW 15A, 1-P BREAKER FOR EF-E9. BREAKER TYPE & SCCR RATING SHALL MATCH EXISTING BREAKERS. REFER TO ROOF PLAN FOR CONDUCTOR & GROUND SIZE.
4. INSTALL NEW LIGHT FIXTURES AND NEW POWER WIRING TO EACH FIXTURE. COORDINATE LOCATION WITH NEW AIR DEVICES.
5. REINSTALL EXISTING SMOKE DETECTOR. CENTER IN CEILING TILE.

ELECTRICAL GENERAL NEW WORK NOTES

1. ALL EXPOSED POWER WIRING TO BASEBOARD SHALL BE CONCEALED IN SURFACE RACEWAY AS MANUFACTURED BY WIREMOLD, PART NO. PN10L. PROVIDE COVER CLIP (PN10F06) TO CONCEAL SEAMS WHERE TWO SECTIONS MEET. INSTALL USING #8 PAN HEAD FASTENERS EVERY 2 FT (MAX). DOUBLE-SIDED TAPE, SELF-STICK FASTENERS, ETC., SHALL NOT BE USED.
2. ALL NEW THERMOSTATS IN PUBLIC AREAS/STAIRWELLS SHALL BE INSTALLED IN A HEAVY DUTY METAL THERMOSTAT LOCK BOX AS MANUFACTURED BY HONEYWELL, MODEL: TG511D1004. CONTRACTOR SHALL VERIFY THAT COVER HAS ADEQUATE SPACE FOR THERMOSTAT INSTALLATION. PROVIDE OWNER WITH 5 SETS OF KEYS.
3. ELECTRICAL CONTRACTOR SHALL PROVIDE A COORDINATION STUDY, INCLUDING BREAKER SETTINGS, & SHORT CIRCUIT ANALYSIS FOR ALL NEW ELECTRICAL PANELS AND EXISTING PANELS WHERE LOAD IS BEING ADDED IN THE BUILDING.
4. WHERE NEW POWER/CONTROL WIRING & CONDUITS ARE BEING REMOVED OR INSTALLED, THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO REMOVE & REPLACE ANY DAMAGED OR MARKED-UP CEILING TILES. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TILE SPECIFICATION. WHERE HARD CEILINGS EXIST, THE GENERAL CONTRACTOR SHALL REMOVE SECTION OF CEILING TO FACILITATE THE WORK & REPAIR THE CEILING AFTER THE INSTALLATION HAS BEEN COMPLETED. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.
5. THE LIGHT FIXTURE REPLACEMENT IN 'EQUIPMENT ROOM 196B' IS INCLUDED FOR BOTH THE BASE BID AND ALTERNATE #1 BID.



3 ELECTRICAL - SECTOR 'C' GROUND FLOOR NEW WORK PARTIAL PLAN - ADD/ALT #2

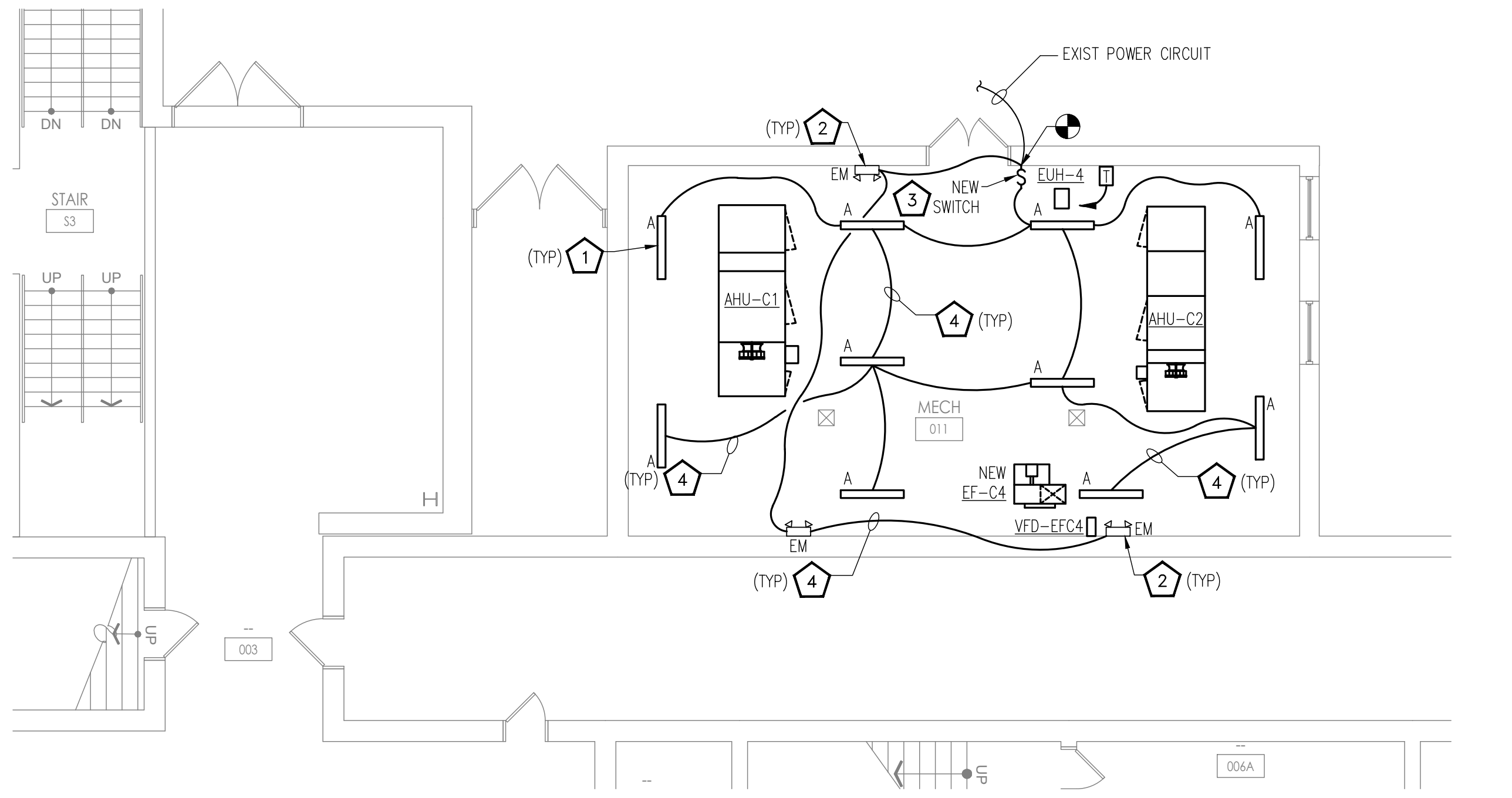
SCALE: 1/8"=1'-0"

ELECTRICAL NEW WORK NOTES

1. INSTALL NEW UNIT HEATER USING 3/8" THREADED ROD WITH NEOPRENE ISOLATORS. TOP OF UNIT HEATER SHALL BE 12" FROM DECK ABOVE. WIRE TO NEW THERMOSTAT. MOUNT THERMOSTAT AT 48" AFF.
2. INSTALL A NEMA 1 JUNCTION BOX WHERE SPACE PERMITS. EXTEND EXISTING POWER CIRCUIT TO NEW VFD.
3. INSTALL NEW VFD CABLE, 300% GND, FROM VFD TO MOTOR. CABLE SHALL BE AS MANUFACTURED BY BELDEN, CABLE NO: 29502. CABLE SHALL BE (3)#12 TINNED COPPER CONDUCTORS WITH XPLE INSULATION, #12 PVC INSULATED GND & #12AWG TINNED COPPER DRAIN. CABLE SHALL HAVE A BLACK PVC OUTER JACKET & AND SHALL BE SUITABLE FOR WET/DRY APPLICATIONS.
4. VFD IS BEING PROVIDED & INSTALLED BY MECHANICAL CONTRACTOR.
5. INSTALL A NEMA 1 JUNCTION BOX BELOW ROOF DECK WHERE SPACE PERMITS. INSTALL NEW CONDUCTORS IN EXISTING CONDUIT.
6. BRING POWER DOWN FROM DECK UTILIZING A SECTION OF GALVANIZED UNISTRUT & ANCHOR TO FLOOR. INSTALL A 20A GFI RECEPTACLE FOR CONDENSATE PUMP.

ELECTRICAL GENERAL NEW WORK NOTES

1. ALL EXPOSED POWER WIRING TO BASEBOARD SHALL BE CONCEALED IN SURFACE RACEWAY AS MANUFACTURED BY WIREMOLD, PART NO. PN10L. PROVIDE COVER CLIP (PN10F06) TO CONCEAL SEAMS WHERE TWO SECTIONS MEET. INSTALL USING #8 PAN HEAD FASTENERS EVERY 2 FT (MAX). DOUBLE-SIDED TAPE, SELF-STICK FASTENERS, ETC., SHALL NOT BE USED.
2. ALL NEW THERMOSTATS IN PUBLIC AREAS/STAIRWELLS SHALL BE INSTALLED IN A HEAVY DUTY METAL THERMOSTAT LOCK BOX AS MANUFACTURED BY HONEYWELL, MODEL: TG511D1004. CONTRACTOR SHALL VERIFY THAT COVER HAS ADEQUATE SPACE FOR THERMOSTAT INSTALLATION. PROVIDE OWNER WITH 5 SETS OF KEYS.
3. ELECTRICAL CONNECTION TO NEW EXHAUST FAN & UNIT HEATER SHALL BE MADE WITH FLEXIBLE CONDUIT.
4. ALL POWER & CONTROL CIRCUITS IN MECH ROOM SHALL BE IN EMT CONDUIT.
5. ELECTRICAL CONTRACTOR SHALL PROVIDE A COORDINATION STUDY, INCLUDING BREAKER SETTINGS, & SHORT CIRCUIT ANALYSIS FOR ALL NEW ELECTRICAL PANELS AND EXISTING PANELS WHERE LOAD IS BEING ADDED IN THE BUILDING.
6. WHERE NEW POWER/CONTROL WIRING & CONDUITS ARE BEING REMOVED OR INSTALLED, THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO REMOVE & REPLACE ANY DAMAGED OR MARKED-UP CEILING TILES. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TILE SPECIFICATION. WHERE HARD CEILINGS EXIST, THE GENERAL CONTRACTOR SHALL REMOVE SECTION OF CEILING TO FACILITATE THE WORK & REPAIR THE CEILING AFTER THE INSTALLATION HAS BEEN COMPLETED. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.



4 ELECTRICAL - SECTOR 'C' GROUND FLOOR LIGHTING NEW WORK PARTIAL PLAN - ADD/ALT #2

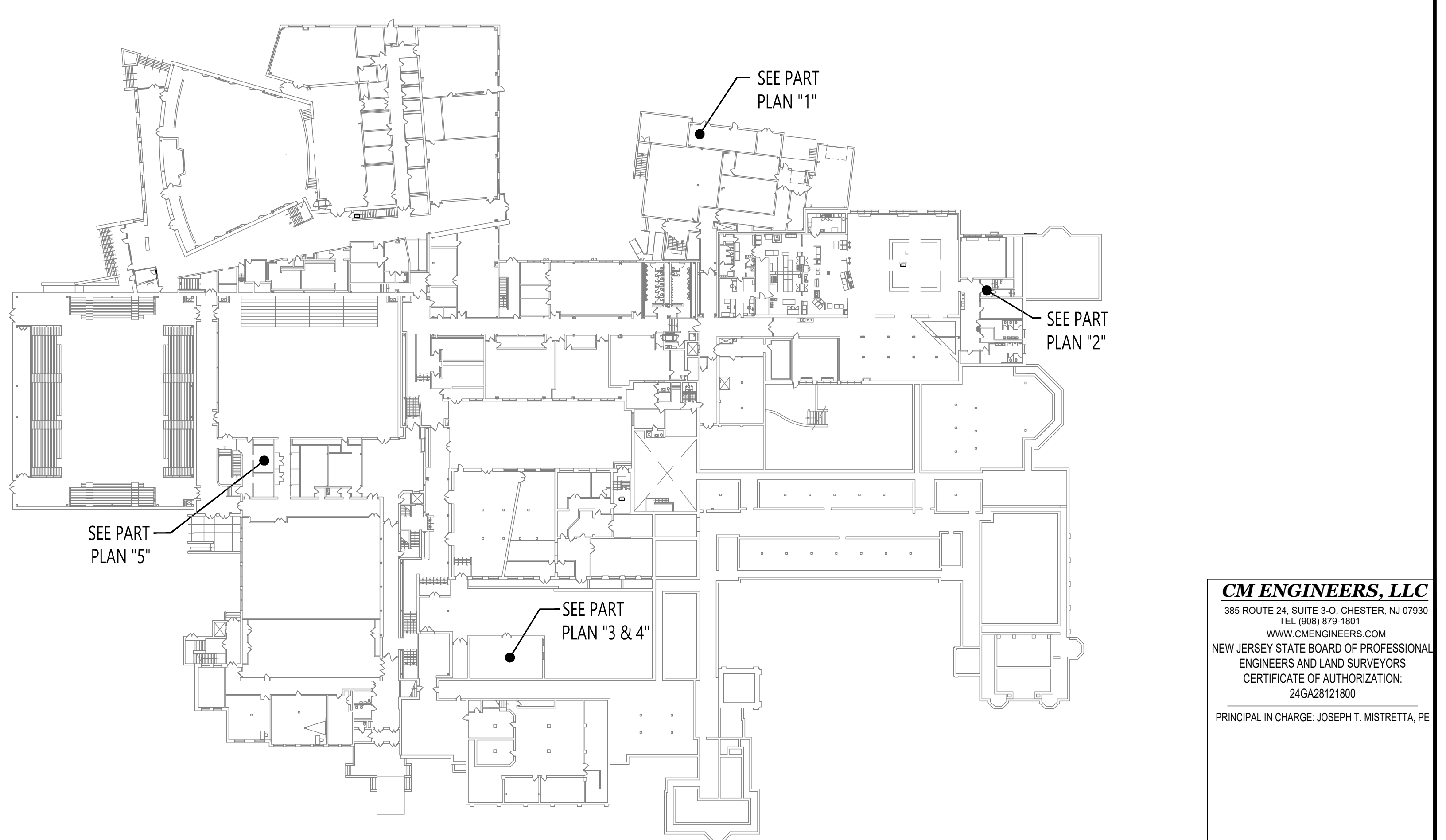
SCALE: 1/8"=1'-0"

ELECTRICAL NEW WORK NOTES

1. INSTALL NEW LITE FIXTURES AT 12" BELOW DECK USING 1/8" DIAMETER, STAINLESS STEEL AIRCRAFT CABLE.
2. INSTALL EMERGENCY LITE FIXTURES AT 78" AFF. FIXTURES SHALL BE POWERED OFF OF UNSWITCHED LEG OF POWER CIRCUIT.
3. INSTALL NEW LIGHT SWITCH & COVER PLATE.
4. POWER CIRCUIT FOR NEW LIGHTING SHALL BE (2)#12 & #12 GND IN 3/4"C.

ELECTRICAL GENERAL NEW WORK NOTES

1. NEW LITE FIXTURES SHALL BE COORDINATED WITH NEW DUCTWORK & PIPING. COORDINATE WITH MECHANICAL CONTRACTOR WHEN INSTALLING NEW FIXTURES.
2. ALL POWER & CONTROL CIRCUITS IN MECH ROOM SHALL BE IN EMT CONDUIT.



KEY PLAN

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PRINCIPAL IN CHARGE: JOSEPH T. MISTRETTA, PE

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William D. Hopkins 01/29/26
Architect Date

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F V H D P C . C O M

Project Name
HVAC Renovations at Princeton High School

Project Owner Name
Princeton Public Schools

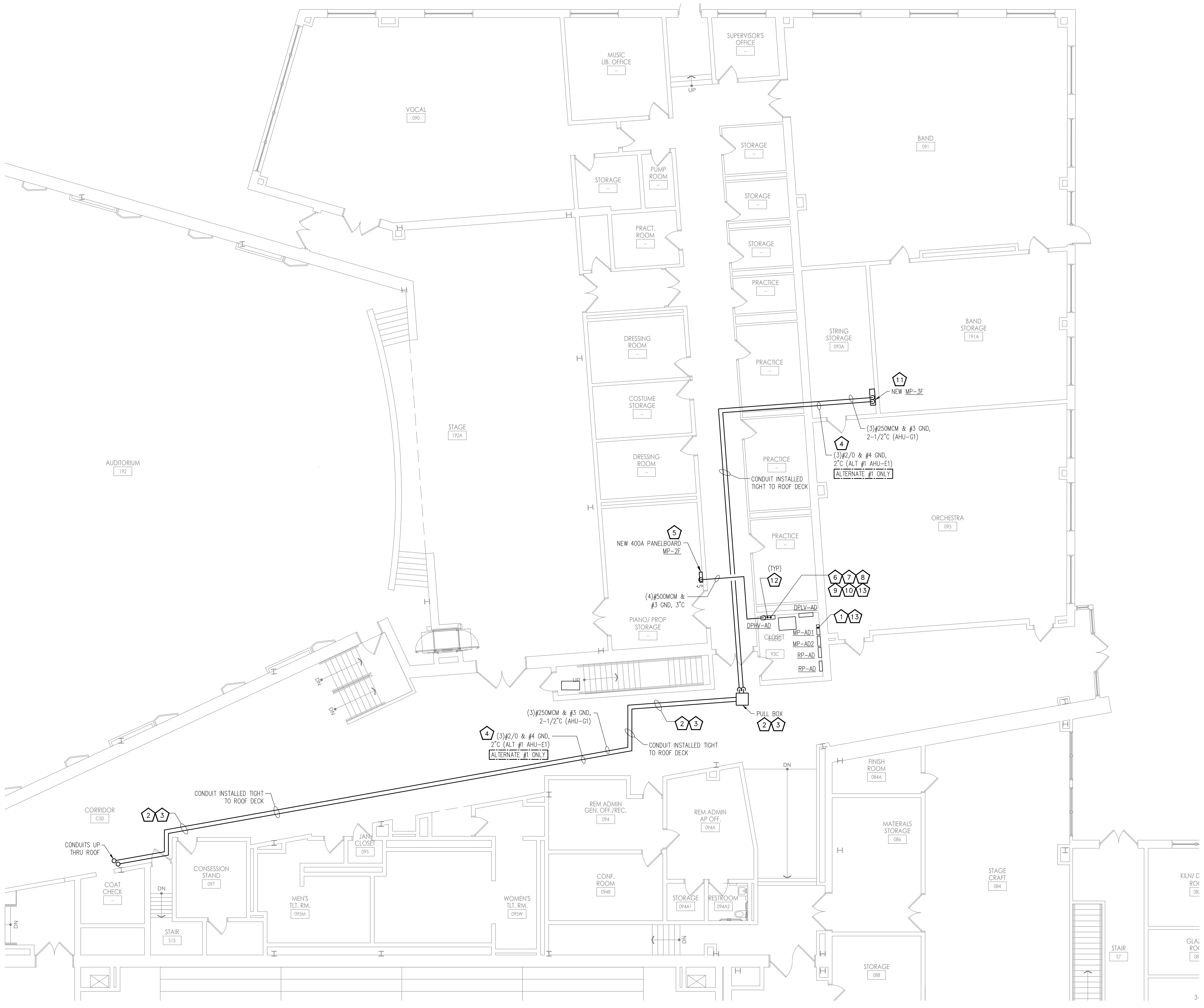
Project Location
151 Moore Street,
Princeton, NJ
08540

Project Number
5516E
Project Date
01.29. 2026
Checked By
JTM
Drawn By
JD
Scale
AS NOTED

Drawing Name
ELECTRICAL - GROUND FLOOR PARTIAL NEW WORK PLANS SHEET 1

Revisions		
No.	Date	Description

Drawing Number
E-502



① ELECTRICAL - SECTOR 'F' GROUND FLOOR NEW WORK PARTIAL PLAN

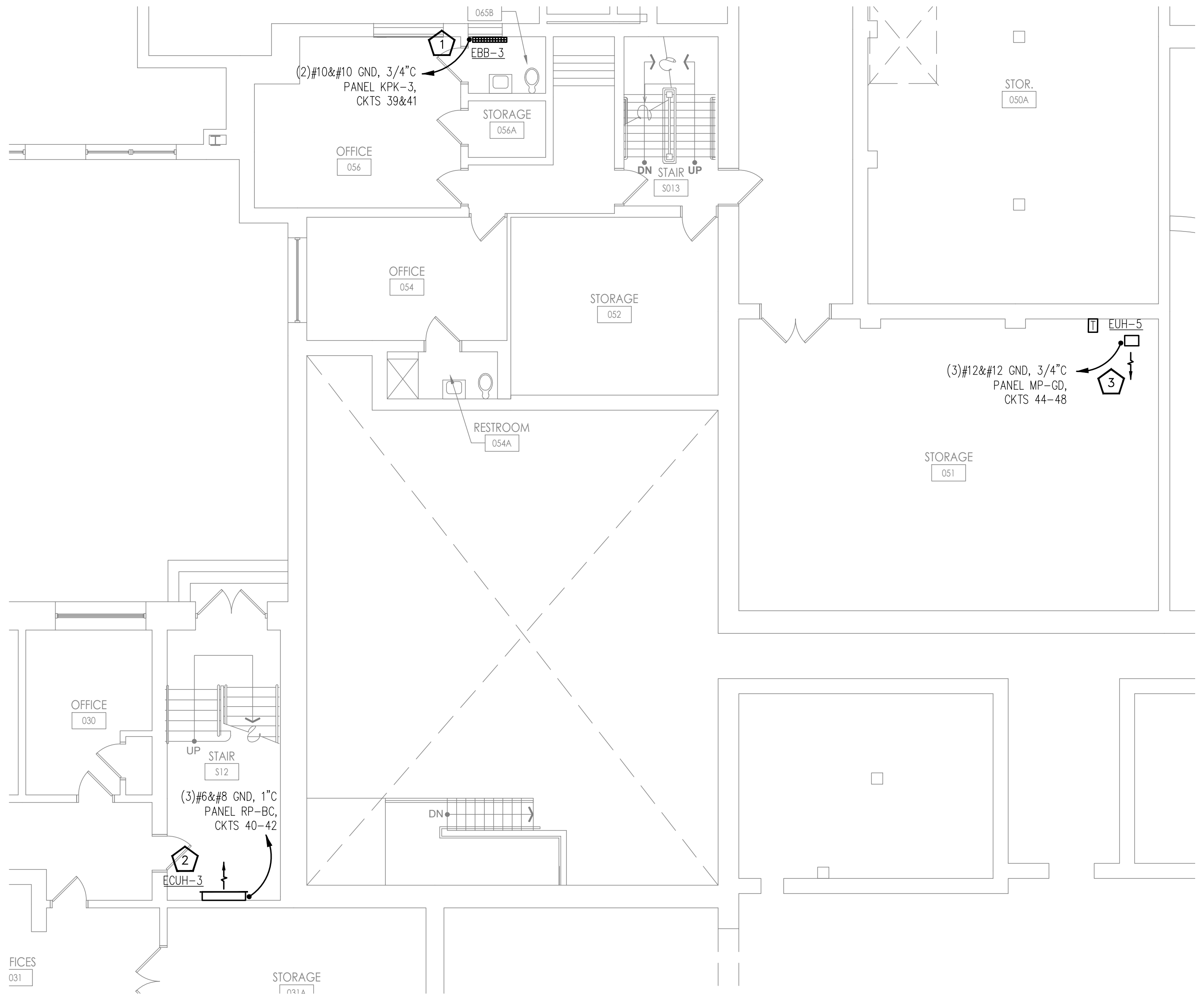
SCALE: 1/8"=1'-0"

ELECTRICAL NEW WORK NOTES

1. INSTALL A NEW 3-P, 60A BREAKER (CKTS 13-17) FOR NEW AHU-F9. REFER TO ROOF PLAN FOR NEW CONDUIT & CONDUCTOR SIZES. BREAKER TYPE & SCCR RATING SHALL MATCH EXISTING BREAKERS.
2. CONDUIT ROUTING IS DIAGRAMMATIC. CONTRACTOR SHALL PROVIDE A SHOP DRAWING FOR APPROVAL SHOWING EXACT ROUTING AND ELEVATIONS OF CONDUITS & PLACEMENT OF PULL BOXES. INSTALL ADDITIONAL PULL BOXES AS NEEDED AND AS REQUIRED BY THE NEC.
3. CONDUITS, PULL BOXES, HANGERS, SUPPORTS, ETC., SHALL BE INSTALLED AS HIGH AS POSSIBLE. EACH SHALL BE PAINTED TO MATCH THE DECK ABOVE.
4. ALT #1 - IF THE ALTERNATE IS ACCEPTED BY THE OWNER TO AIR CONDITION THE OLD GYMNASIUM, THE CONTRACTOR SHALL INSTALL THE CONDUIT AND POWER WIRING FOR ALTERNATE UNIT, AHU-E1.
5. INSTALL PANELBAORD ON WALL TO THE LEFT OF THE LIGHT SWITCH AND VOLUME CONTROL KNOB.
6. INSTALL A NEW 3-P, 100A BREAKER (CKT 8) FOR NEW AHU-F5. REFER TO ROOF PLAN FOR NEW CONDUIT & CONDUCTOR SIZES. BREAKER SCCR SHALL BE 65kA.
7. INSTALL A NEW 3-P, 110A BREAKER (CKT 9) FOR NEW AHU-F3. REFER TO ROOF PLAN FOR NEW CONDUIT & CONDUCTOR SIZES. BREAKER SCCR SHALL BE 65KA.
8. CONTRACTOR SHALL INSTALL J-BOXES AS REQUIRED TO EXTEND EXISTING POWER CIRCUITS TO NEW PANEL 'MP-2F' FOR UNKNOWN LOAD (EXIST CKT #2) & PANEL 'LPAD' (CKT #5). REFER TO PANEL SCHEDULE FOR CONDUCTOR & CONDUIT SIZES.
9. CONTRACTOR SHALL INSTALL A NEW 225A, LSI STYLE BREAKER TO POWER THE NEW AHU-F1. BREAKER SHALL BE GE SPECTRA RMS SFPA36AT0250 WITH RATING PLUG SRPF250A225. SET BREAKER FOR 225A TRIP. BREAKER SCCR SHALL BE 65KA. USE MOUNTING KIT AMCB3FJFP BOLT ON STRAP/FILLER KIT.
10. CONTRACTOR SHALL INSTALL A NEW 400A, LSI STYLE BREAKER TO POWER THE NEW PANELBOARD 'MP-2F'. BREAKER SHALL BE GE SPECTRA SGPA36AT0400 WITH RATING PLUG SRPG600A400. SET BREAKER FOR 400A TRIP. BREAKER SCCR SHALL BE 65KA. USE MOUNTING KIT AMCB3GMFP BOLT ON STRAP/FILLER KIT.
11. INSTALL PANELBOARD ON WALL WHERE SHOWN.
12. WHERE POWER CIRCUITS ARE BEING RELOCATED TO NEW PANEL 'MP-2F' OR BEING RELOCATED IN EXISTING PANEL 'DPHV-AD', INSTALL NEW NEMA 1 J-BOX AND EXTEND/RELOCATE EXISTING POWER WIRING AS REQUIRED.
13. WITHIN 3 WEEKS OF CONTRACT AWARD, CONTRACTOR SHALL INSTALL A METER ON EXISTING INCOMING CONDUCTORS FOR A PERIOD OF ONE (1) WEEK TO RECORD AMPS READINGS AT 15 MINUTE INTERVALS. SUBMIT RESULTS TO ENGINEER IN GRAPHICAL FORMAT FOR REVIEW.

ELECTRICAL GENERAL NEW WORK NOTES

1. ALL EXPOSED POWER WIRING TO BASEBOARD SHALL BE CONCEALED IN SURFACE RACEWAY AS MANUFACTURED BY WIREMOLD, PART NO. PN10L. PROVIDE COVER CLIP (PN10F06) TO CONCEAL SEAMS WHERE TWO SECTIONS MEET. INSTALL USING #8 PAN HEAD FASTENERS EVERY 2 FT (MAX). DOUBLE-SIDED TAPE, SELF-STICK FASTENERS, ETC., SHALL NOT BE USED.
2. ALL NEW THERMOSTATS IN PUBLIC AREAS/STAIRWELLS SHALL BE INSTALLED IN A HEAVY DUTY METAL THERMOSTAT LOCK BOX AS MANUFACTURED BY HONEYWELL, MODEL: TG511D1004. CONTRACTOR SHALL VERIFY THAT COVER HAS ADEQUATE SPACE FOR THERMOSTAT INSTALLATION. PROVIDE OWNER WITH 5 SETS OF KEYS.
3. USE INSULATED MECHANICAL CONNECTORS WHEN SPLICING CONDUCTORS.
4. WHERE NEW POWER/CONTROL WIRING & CONDUITS ARE BEING REMOVED OR INSTALLED, THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO REMOVE & REPLACE ANY DAMAGED OR MARKED-UP CEILING TILES. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TILE SPECIFICATION. WHERE HARD CEILINGS EXIST, THE GENERAL CONTRACTOR SHALL REMOVE SECTION OF CEILING TO FACILITATE THE WORK & REPAIR THE CEILING AFTER THE INSTALLATION HAS BEEN COMPLETED. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.



② ELECTRICAL - SECTOR 'D' GROUND FLOOR NEW WORK PARTIAL PLAN

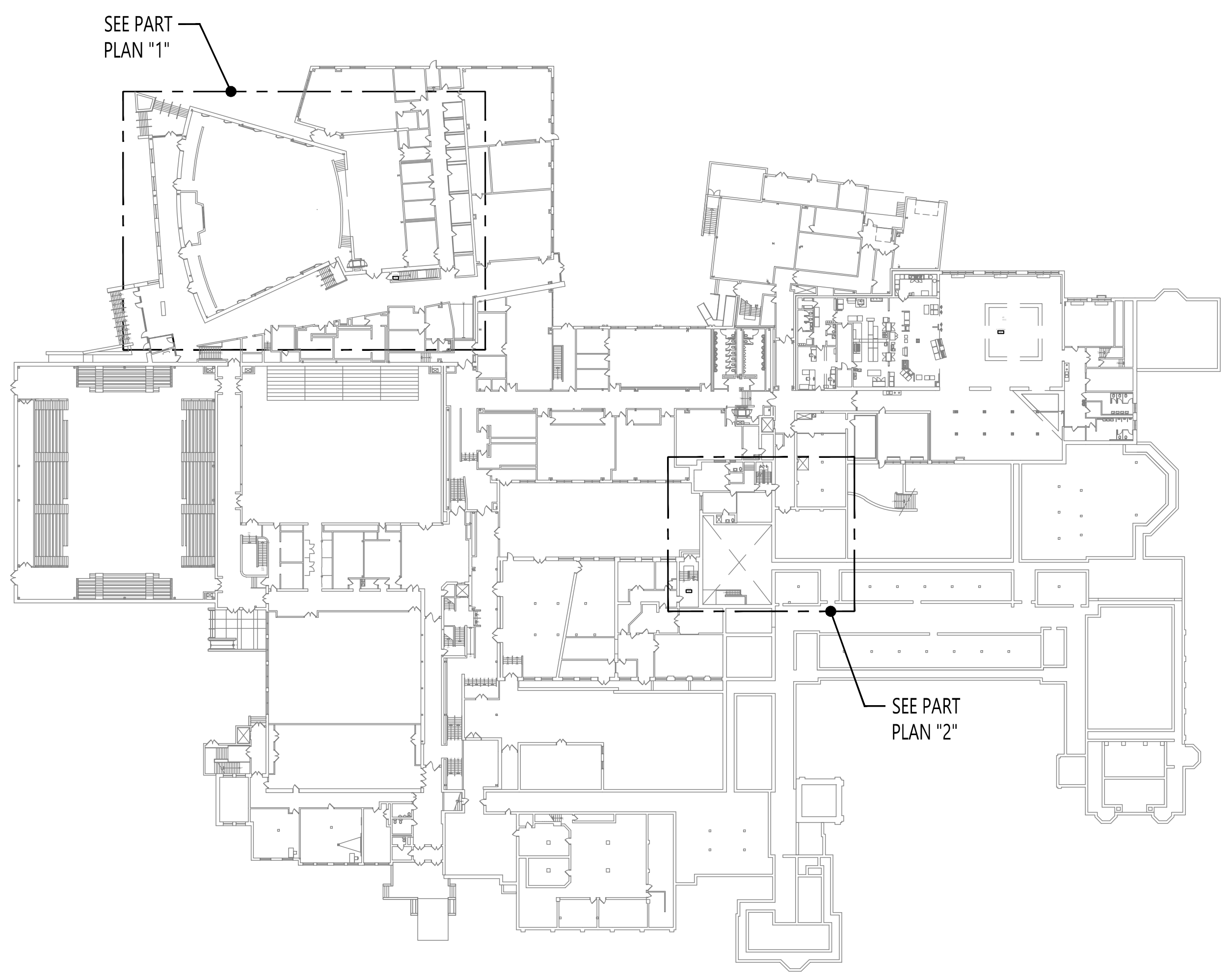
SCALE: 1/8"=1'-0"

ELECTRICAL NEW WORK NOTES

1. INSTALL NEW ELECTRIC BASEBOARD WHERE SHOWN.
2. INSTALL NEW ELECTRIC CABINET UNIT HEATER CENTERED ON WALL.
3. INSTALL NEW ELECTRIC UNIT HEATER WHERE SHOWN AT 9 FT AFF. VERIFY LOCATION WITH OWNER PRIOR TO INSTALLATION. INSTALL USING 3/8" GALVANIZED THREADED ROD WITH NEOPRENE ISOLATORS. MOUNT THERMOSTAT AT 48" AFF.

ELECTRICAL GENERAL NEW WORK NOTES

1. ALL EXPOSED POWER WIRING TO BASEBOARD SHALL BE CONCEALED IN SURFACE RACEWAY AS MANUFACTURED BY WIREMOLD, PART NO. PN10L. PROVIDE COVER CLIP (PN10F06) TO CONCEAL SEAMS WHERE TWO SECTIONS MEET. INSTALL USING #8 PAN HEAD FASTENERS EVERY 2 FT (MAX). DOUBLE-SIDED TAPE, SELF-STICK FASTENERS, ETC., SHALL NOT BE USED.
2. ALL NEW THERMOSTATS IN PUBLIC AREAS/STAIRWELLS SHALL BE INSTALLED IN A HEAVY DUTY METAL THERMOSTAT LOCK BOX AS MANUFACTURED BY HONEYWELL, MODEL: TG511D1004. CONTRACTOR SHALL VERIFY THAT COVER HAS ADEQUATE SPACE FOR THERMOSTAT INSTALLATION. PROVIDE OWNER WITH 5 SETS OF KEYS.
3. ELECTRICAL CONTRACTOR SHALL PROVIDE A COORDINATION STUDY, INCLUDING BREAKER SETTINGS, & SHORT CIRCUIT ANALYSIS FOR ALL NEW ELECTRICAL PANELS AND EXISTING PANELS WHERE LOAD IS BEING ADDED IN THE BUILDING.
4. WHERE NEW POWER/CONTROL WIRING & CONDUITS ARE BEING REMOVED OR INSTALLED, THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO REMOVE & REPLACE ANY DAMAGED OR MARKED-UP CEILING TILES. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TILE SPECIFICATION. WHERE HARD CEILINGS EXIST, THE GENERAL CONTRACTOR SHALL REMOVE SECTION OF CEILING TO FACILITATE THE WORK & REPAIR THE CEILING AFTER THE INSTALLATION HAS BEEN COMPLETED. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.



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Project Name
HVAC Renovations at Princeton High School

Project Owner Name
Princeton Public Schools

Project Location
151 Moore Street,
Princeton, NJ
08540

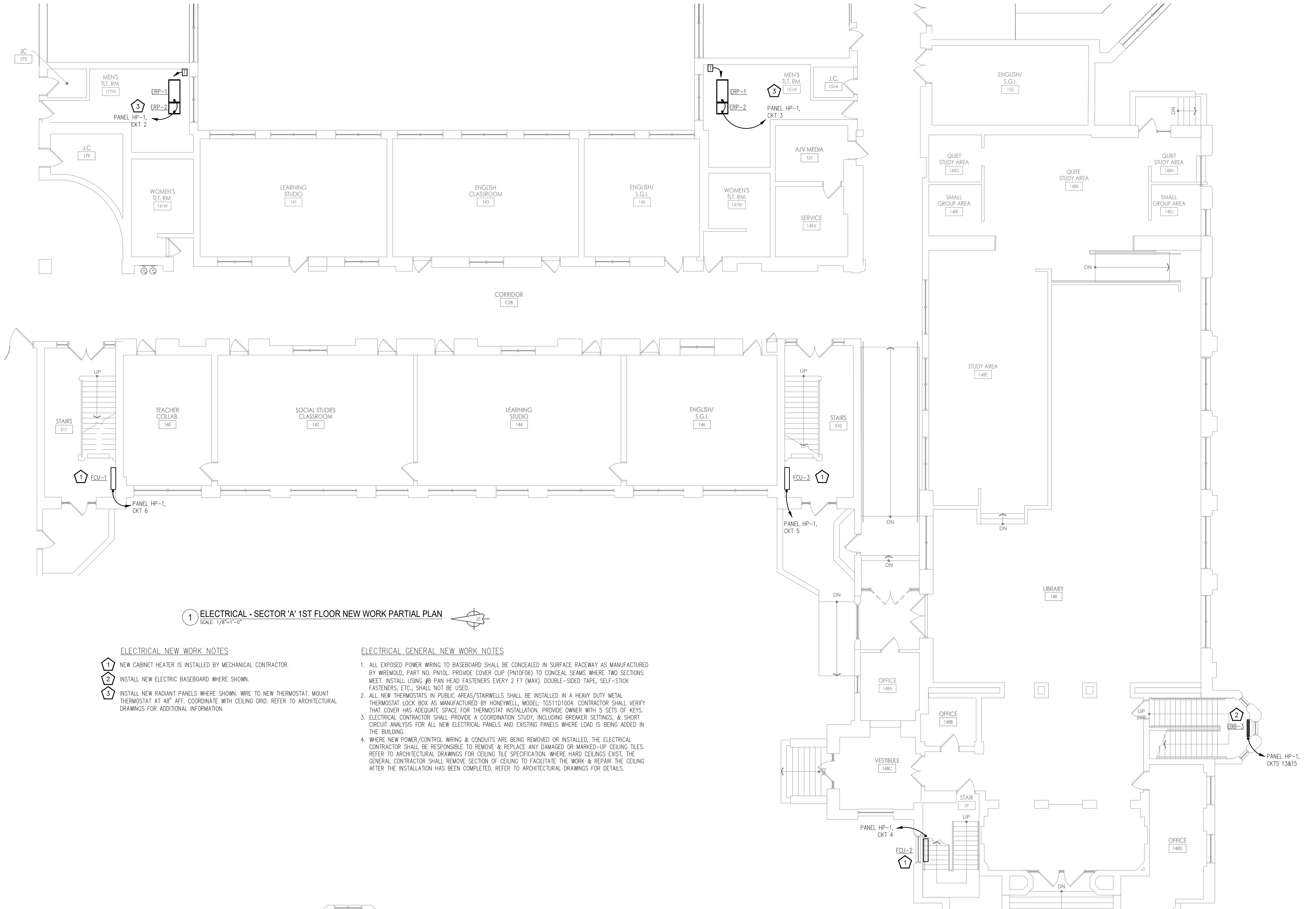
Project Number
5516E
Project Date
01.29. 2026
Checked By
JTM
Drawn By
JD
Scale
AS NOTED

Drawing Name
ELECTRICAL - GROUND FLOOR PARTIAL NEW WORK PLANS SHEET 2

Revisions

No.	Date	Description

Drawing Number
E-503



1 ELECTRICAL - SECTOR 'A' 1ST FLOOR NEW WORK PARTIAL PLAN

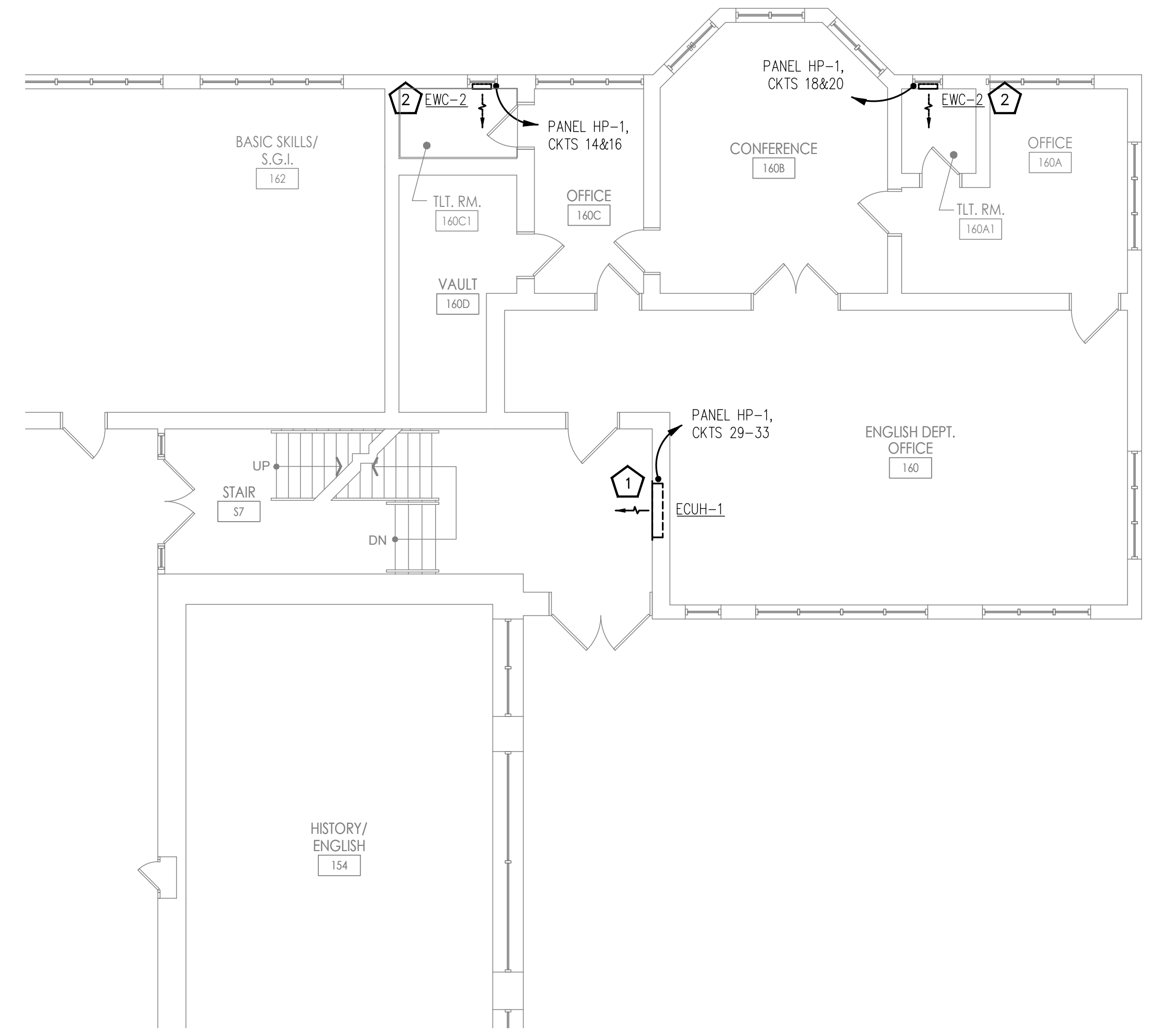
SCALE: 1/8"=1'-0"

ELECTRICAL NEW WORK NOTES

1. NEW CABINET HEATER IS INSTALLED BY MECHANICAL CONTRACTOR.
2. INSTALL NEW ELECTRIC BASEBOARD WHERE SHOWN.
3. INSTALL NEW RADIANT PANELS WHERE SHOWN. WIRE TO NEW THERMOSTAT. MOUNT THERMOSTAT AT 48" AFF. COORDINATE WITH CEILING GRID. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.

ELECTRICAL GENERAL NEW WORK NOTES

1. ALL EXPOSED POWER WIRING TO BASEBOARD SHALL BE CONCEALED IN SURFACE RACEWAY AS MANUFACTURED BY WIREMOLD, PART NO. PN10L. PROVIDE COVER CLIP (PN10F06) TO CONCEAL SEAMS WHERE TWO SECTIONS MEET. INSTALL USING #8 PAN HEAD FASTENERS EVERY 2 FT (MAX). DOUBLE-SIDED TAPE, SELF-STICK FASTENERS, ETC., SHALL NOT BE USED.
2. ALL NEW THERMOSTATS IN PUBLIC AREAS/STAIRWELLS SHALL BE INSTALLED IN A HEAVY DUTY METAL THERMOSTAT LOCK BOX AS MANUFACTURED BY HONEYWELL, MODEL: TG511D1004. CONTRACTOR SHALL VERIFY THAT COVER HAS ADEQUATE SPACE FOR THERMOSTAT INSTALLATION. PROVIDE OWNER WITH 5 SETS OF KEYS.
3. ELECTRICAL CONTRACTOR SHALL PROVIDE A COORDINATION STUDY, INCLUDING BREAKER SETTINGS, & SHORT CIRCUIT ANALYSIS FOR ALL NEW ELECTRICAL PANELS AND EXISTING PANELS WHERE LOAD IS BEING ADDED IN THE BUILDING.
4. WHERE NEW POWER/CONTROL WIRING & CONDUITS ARE BEING REMOVED OR INSTALLED, THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO REMOVE & REPLACE ANY DAMAGED OR MARKED-UP CEILING TILES. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TILE SPECIFICATION. WHERE HARD CEILINGS EXIST, THE GENERAL CONTRACTOR SHALL REMOVE SECTION OF CEILING TO FACILITATE THE WORK & REPAIR THE CEILING AFTER THE INSTALLATION HAS BEEN COMPLETED. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.



2 ELECTRICAL - SECTOR 'B' 1ST FLOOR NEW WORK PARTIAL PLAN

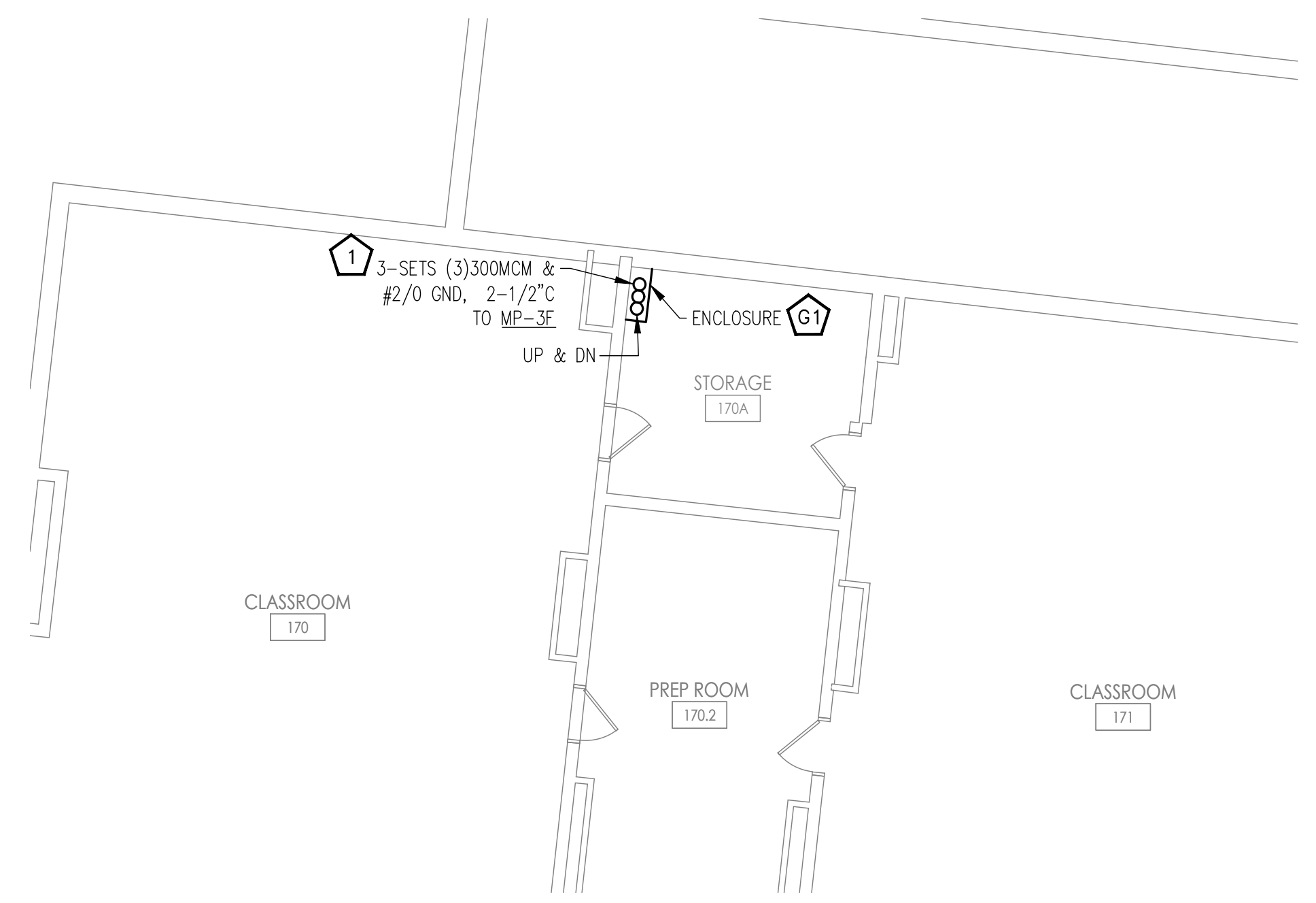
SCALE: 1/8"=1'-0"

ELECTRICAL NEW WORK NOTES

1. INSTALL NEW RECESSED ELECTRIC CABINET HEATER CENTERED ON THE WALL. INSTALL TRIM KIT AROUND WALL OPENING FOR A FINISHED LOOK.
2. INSTALL RECESSED ELECTRIC CONVECTOR CENTERED BENEATH WINDOW.

ELECTRICAL GENERAL NEW WORK NOTES

1. ALL EXPOSED POWER WIRING TO BASEBOARD SHALL BE CONCEALED IN SURFACE RACEWAY AS MANUFACTURED BY WIREMOLD, PART NO. PN10L. PROVIDE COVER CLIP (PN10F06) TO CONCEAL SEAMS WHERE TWO SECTIONS MEET. INSTALL USING #8 PAN HEAD FASTENERS EVERY 2 FT (MAX). DOUBLE-SIDED TAPE, SELF-STICK FASTENERS, ETC., SHALL NOT BE USED.
2. ALL NEW THERMOSTATS IN PUBLIC AREAS/STAIRWELLS SHALL BE INSTALLED IN A HEAVY DUTY METAL THERMOSTAT LOCK BOX AS MANUFACTURED BY HONEYWELL, MODEL: TG511D1004. CONTRACTOR SHALL VERIFY THAT COVER HAS ADEQUATE SPACE FOR THERMOSTAT INSTALLATION. PROVIDE OWNER WITH 5 SETS OF KEYS.
3. CONDUIT ROUTING IS DIAGRAMMATIC. CONTRACTOR SHALL PROVIDE A SHOP DRAWING FOR APPROVAL SHOWING EXACT ROUTING AND ELEVATIONS OF CONDUITS & PLACEMENT OF PULL BOXES. INSTALL ADDITIONAL PULL BOXES AS NEEDED AND AS REQUIRED BY THE NEC.
4. ELECTRICAL CONTRACTOR SHALL PROVIDE A COORDINATION STUDY, INCLUDING BREAKER SETTINGS, & SHORT CIRCUIT ANALYSIS FOR ALL NEW ELECTRICAL PANELS AND EXISTING PANELS WHERE LOAD IS BEING ADDED IN THE BUILDING.
5. WHERE NEW POWER/CONTROL WIRING & CONDUITS ARE BEING REMOVED OR INSTALLED, THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO REMOVE & REPLACE ANY DAMAGED OR MARKED-UP CEILING TILES. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TILE SPECIFICATION. WHERE HARD CEILINGS EXIST, THE GENERAL CONTRACTOR SHALL REMOVE SECTION OF CEILING TO FACILITATE THE WORK & REPAIR THE CEILING AFTER THE INSTALLATION HAS BEEN COMPLETED. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.



3 ELECTRICAL - SECTOR 'B' 1ST FLOOR NEW WORK PARTIAL PLAN

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

ELECTRICAL NEW WORK NOTES

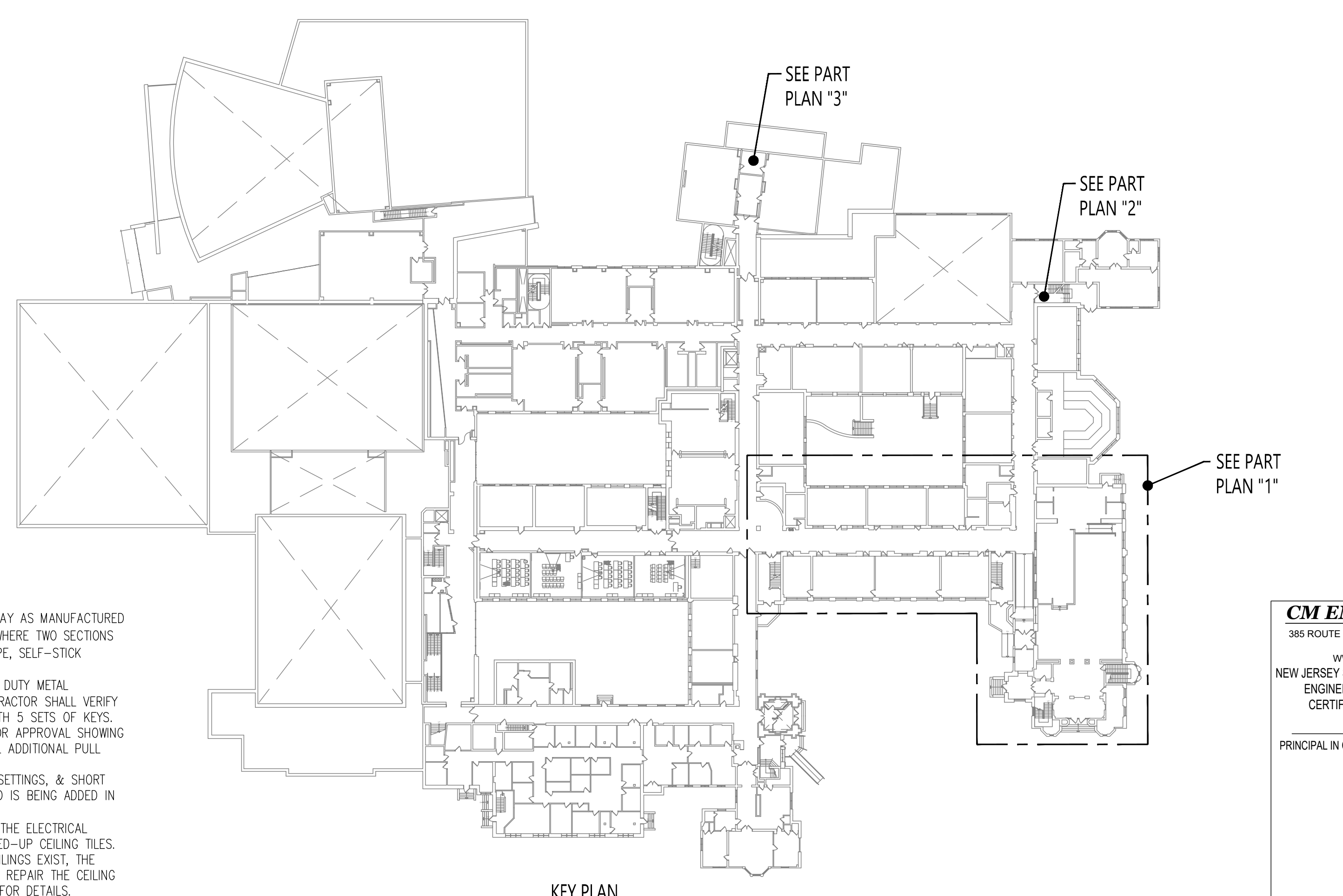
1. CONDUITS SHALL BE INSTALLED TIGHT TO WALL.

GENERAL CONSTRUCTION NEW WORK NOTES

G1. NEW ELECTRIC CONDUIT SHALL BE INSTALLED WITHIN AN ENCLOSURE. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.

ELECTRICAL GENERAL NEW WORK NOTES

1. ALL EXPOSED POWER WIRING TO BASEBOARD SHALL BE CONCEALED IN SURFACE RACEWAY AS MANUFACTURED BY WIREMOLD, PART NO. PN10L. PROVIDE COVER CLIP (PN10F06) TO CONCEAL SEAMS WHERE TWO SECTIONS MEET. INSTALL USING #8 PAN HEAD FASTENERS EVERY 2 FT (MAX). DOUBLE-SIDED TAPE, SELF-STICK FASTENERS, ETC., SHALL NOT BE USED.
2. ALL NEW THERMOSTATS IN PUBLIC AREAS/STAIRWELLS SHALL BE INSTALLED IN A HEAVY DUTY METAL THERMOSTAT LOCK BOX AS MANUFACTURED BY HONEYWELL, MODEL: TG511D1004. CONTRACTOR SHALL VERIFY THAT COVER HAS ADEQUATE SPACE FOR THERMOSTAT INSTALLATION. PROVIDE OWNER WITH 5 SETS OF KEYS.
3. CONDUIT ROUTING IS DIAGRAMMATIC. CONTRACTOR SHALL PROVIDE A SHOP DRAWING FOR APPROVAL SHOWING EXACT ROUTING AND ELEVATIONS OF CONDUITS & PLACEMENT OF PULL BOXES. INSTALL ADDITIONAL PULL BOXES AS NEEDED AND AS REQUIRED BY THE NEC.
4. ELECTRICAL CONTRACTOR SHALL PROVIDE A COORDINATION STUDY, INCLUDING BREAKER SETTINGS, & SHORT CIRCUIT ANALYSIS FOR ALL NEW ELECTRICAL PANELS AND EXISTING PANELS WHERE LOAD IS BEING ADDED IN THE BUILDING.
5. WHERE NEW POWER/CONTROL WIRING & CONDUITS ARE BEING REMOVED OR INSTALLED, THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO REMOVE & REPLACE ANY DAMAGED OR MARKED-UP CEILING TILES. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TILE SPECIFICATION. WHERE HARD CEILINGS EXIST, THE GENERAL CONTRACTOR SHALL REMOVE SECTION OF CEILING TO FACILITATE THE WORK & REPAIR THE CEILING AFTER THE INSTALLATION HAS BEEN COMPLETED. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.



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Project Name
HVAC Renovations at Princeton High School

Project Owner Name
Princeton Public Schools

Project Location
151 Moore Street,
Princeton, NJ
08540

Project Number
5516E

Project Date
01.29. 2026

Checked By
JTM

Drawn By
JD

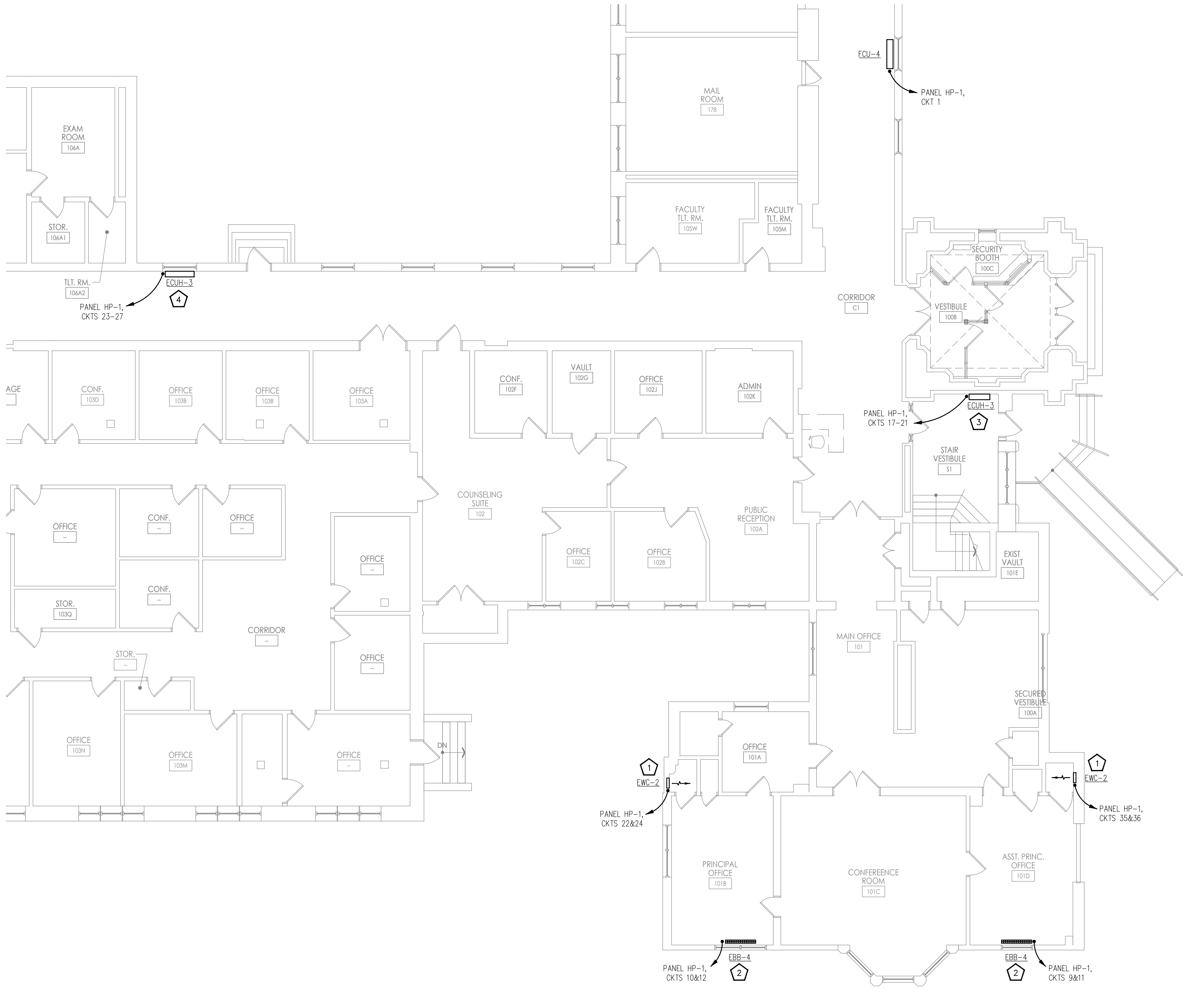
Scale
AS NOTED

Drawing Name
ELECTRICAL - FIRST FLOOR PARTIAL NEW WORK PLANS SHEET 1

Revisions

No.	Date	Description

Drawing Number
E-504



1 ELECTRICAL - SECTOR 'C' 1ST FLOOR NEW WORK PARTIAL PLAN

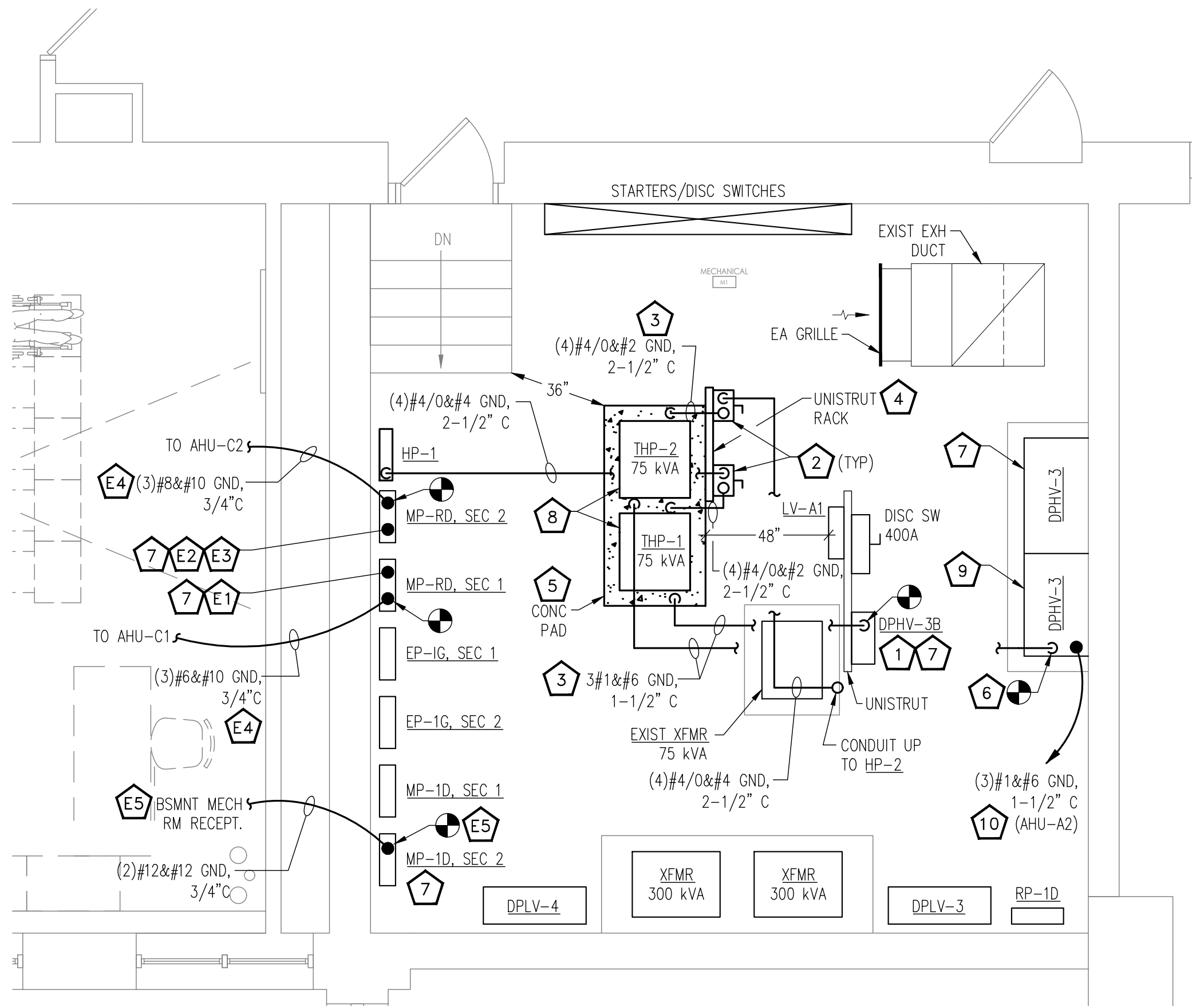
SCALE: 1/8"=1'-0"

ELECTRICAL NEW WORK NOTES

1. INSTALL RECESSED ELECTRIC CONVECTOR CENTERED ON WALL & CENTERED BETWEEN THE FLOOR AND WINDOW SILL.
2. INSTALL NEW ELECTRIC BASEBOARD WHERE CI RADIATOR WAS REMOVED.
3. INSTALL ELECTRIC CABINET HEATER WHERE FAN COIL UNIT WAS REMOVED. CENTER EQUIPMENT ON WALL.
4. INSTALL ELECTRIC CABINET HEATER WHERE CI RADIATOR WAS REMOVED. CENTER EQUIPMENT ON WINDOW.

ELECTRICAL GENERAL NEW WORK NOTES

1. ALL EXPOSED POWER WIRING TO BASEBOARD SHALL BE CONCEALED IN SURFACE RACEWAY AS MANUFACTURED BY WIREMOLD, PART NO. PN10L. PROVIDE COVER CLIP (PN10F06) TO CONCEAL SEAMS WHERE TWO SECTIONS MEET. INSTALL USING #8 PAN HEAD FASTENERS EVERY 2 FT (MAX). DOUBLE-SIDED TAPE, SELF-STICK FASTENERS, ETC., SHALL NOT BE USED.
2. ALL NEW THERMOSTATS IN PUBLIC AREAS/STAIRWELLS SHALL BE INSTALLED IN A HEAVY DUTY METAL THERMOSTAT LOCK BOX AS MANUFACTURED BY HONEYWELL, MODEL: TG511D1004. CONTRACTOR SHALL VERIFY THAT COVER HAS ADEQUATE SPACE FOR THERMOSTAT INSTALLATION. PROVIDE OWNER WITH 5 SETS OF KEYS.
3. ELECTRICAL CONTRACTOR SHALL PROVIDE A COORDINATION STUDY, INCLUDING BREAKER SETTINGS, & SHORT CIRCUIT ANALYSIS FOR ALL NEW ELECTRICAL PANELS AND EXISTING PANELS WHERE LOAD IS BEING ADDED IN THE BUILDING.
4. WHERE NEW POWER/CONTROL WIRING & CONDUITS ARE BEING REMOVED OR INSTALLED, THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO REMOVE & REPLACE ANY DAMAGED OR MARKED-UP CEILING TILES. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TILE SPECIFICATION. WHERE HARD CEILINGS EXIST, THE GENERAL CONTRACTOR SHALL REMOVE SECTION OF CEILING TO FACILITATE THE WORK & REPAIR THE CEILING AFTER THE INSTALLATION HAS BEEN COMPLETED. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.



2 ELECTRICAL - ROOM 136C PARTIAL NEW WORK PARTIAL PLAN

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

ELECTRICAL NEW WORK NOTES-BASE BID

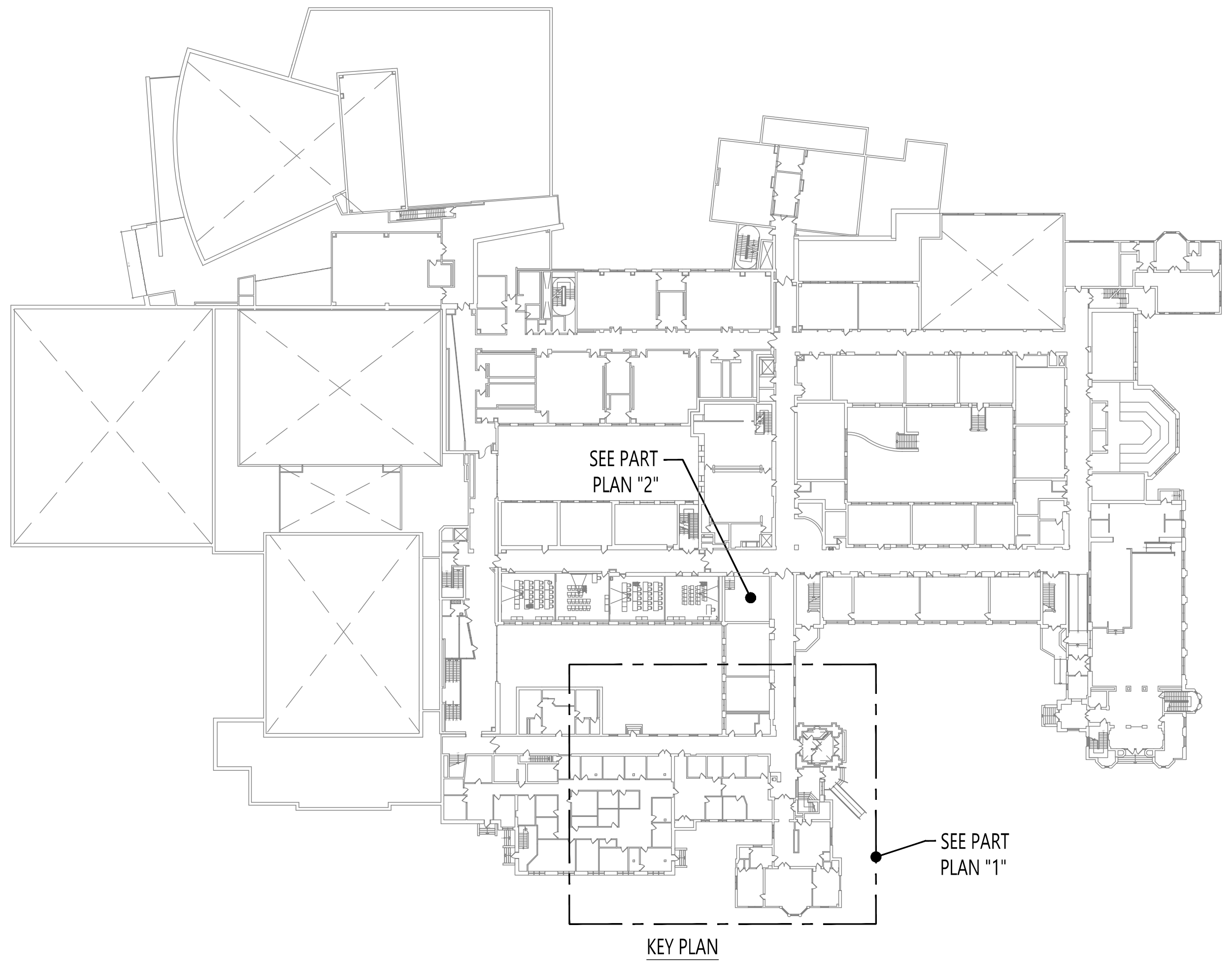
1. EXISTING 125A, 3-P BREAKER SHALL BE REUSED TO POWER TRANSFORMER 'THP-1'. UPDATE PANEL SCHEDULE.
2. INSTALL A 225A RATED, 3-P FUSED DISCONNECT SWITCH (NEMA 1) ON A GALVANIZED UNISTRUT SUPPORT. INSTALL 225A FUSES.
3. CONDUITS SHALL BE ROUTED UP HIGH ALONG WITH THE OTHER EXISTING CONDUITS (TYP).
4. INSTALL A GALVANIZED UNISTRUT RACK TO SUPPORT A NEW DISCONNECT SWITCHES AS SHOWN.
5. INSTALL A 4" THICK CONCRETE PAD AS SHOWN. PAD SHALL EXTEND 4" (MIN) BEYOND OUTER EDGE OF TRANSFORMERS.
6. INSTALL A NEW 125A, 3-P DISCONNECT SWITCH IN POSITION #5, BELOW EXISTING SWITCHES. SWITCH SHALL HAVE A SHORT CIRCUIT RATING OF 100 kAIC. INSTALL 125 AMP FUSES IN SWITCH.
7. WITHIN 3 WEEKS OF CONTRACT AWARD, CONTRACTOR SHALL INSTALL A METER ON EXISTING INCOMING CONDUCTORS FOR A PERIOD OF ONE (1) WEEK TO RECORD AMPS READINGS AT 15 MINUTE INTERVALS. SUBMIT RESULTS TO ENGINEER IN GRAPHICAL FORMAT FOR REVIEW.
8. BOND TRANSFORMER TO BLDG STEEL USING A #2 COPPER JUMPER.
9. REMOVE EXISTING 100A FUSES FROM SWITCH POWERING EXISTING AHU-A1 AND INSTALL NEW 80A FUSES TO PROTECT THE NEW AHU-A1.
10. INSTALL NEW CONDUCTORS & GROUND WIRE IN EXISTING CONDUIT TO POWER NEW AHU-A2. INSTALL ADDITIONAL PULL BOXES AS NEEDED AND AS REQUIRED BY THE NEC. EXISTING 100A FUSES IN SWITCH (CKT #3) SHALL REMAIN.

ELECTRICAL NEW WORK NOTES-ADD/ALT #2

- E1 INSTALL A NEW 3-P, 50A BREAKER (CKTS 38-42) FOR AHU-C1. BREAKER TYPE & SCCR RATING SHALL MATCH EXISTING BREAKERS.
- E2 INSTALL A NEW 3-P, 35A BREAKER (CKTS 43-47) FOR AHU-C2. BREAKER TYPE & SCCR RATING SHALL MATCH EXISTING BREAKERS.
- E3 INSTALL A NEW 3-P, 25A BREAKER (CKTS 44-48) FOR UH-4. REFER TO FLOOR PLAN FOR NEW CONDUIT & CONDUCTOR SIZES. BREAKER TYPE & SCCR RATING SHALL MATCH EXISTING BREAKERS.
- E4 CONTRACTOR SHALL PULL NEW CONDUCTORS & GND WIRE IN EXISTING CONDUIT FOR POWER TO NEW EQUIPMENT. VERIFY EXISTING CONDUIT ROUTING. INSTALL ADDITIONAL PULL BOXES AS NEEDED AND AS REQUIRED BY THE NEC.
- E5 USE EXISTING 20A BREAKER IN CKT #84 TO POWER NEW CONDENSATE PUMPS IN BASEMENT MECH ROOM.

ELECTRICAL GENERAL NEW WORK NOTES-BASE BID & ALT BIDS

1. CONTRACTOR SHALL PROVIDE A SHOP DRAWING (SCALE: 1"=1'-0") OF THE NEW INSTALLATION FOR REVIEW & APPROVAL. LAYOUT SHALL BE BASED ON APPROVED ELECTRICAL EQUIPMENT. DIMENSION NEW EQUIPMENT FROM WALL/COLUMNS. INCLUDE ELEVATIONS OF CONDUITS, CONDUIT SIZES, CONDUCTORS, ETC.



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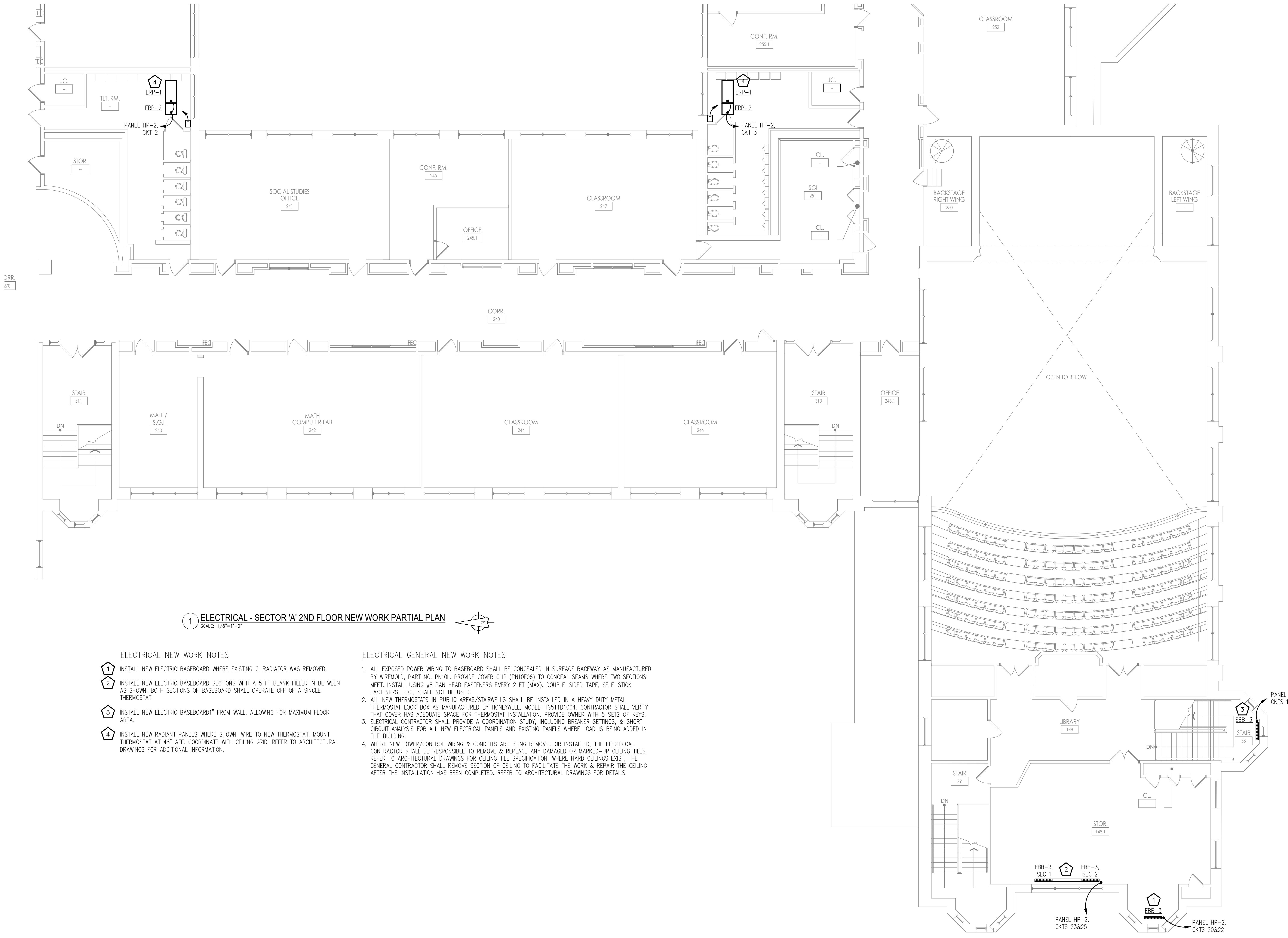
Drawing Name
ELECTRICAL - FIRST FLOOR PARTIAL NEW WORK PLANS SHEET 2

Revisions

No.	Date	Description

Drawing Number
E-505



① ELECTRICAL - SECTOR 'A' 2ND FLOOR NEW WORK PARTIAL PLAN

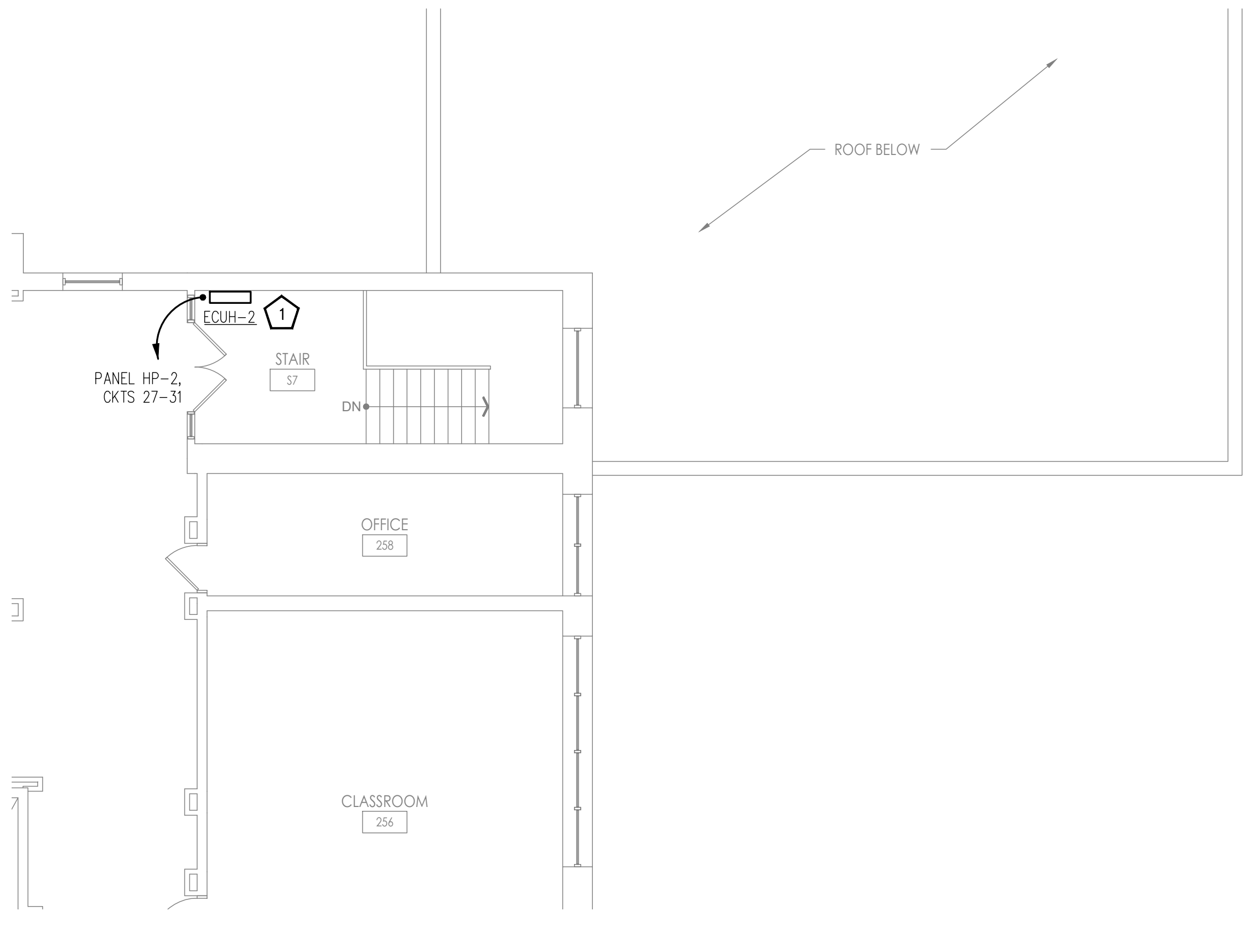
SCALE: 1/8"=1'-0"

ELECTRICAL NEW WORK NOTES

1. INSTALL NEW ELECTRIC BASEBOARD WHERE EXISTING CI RADIATOR WAS REMOVED.
2. INSTALL NEW ELECTRIC BASEBOARD SECTIONS WITH A 5 FT BLANK FILLER IN BETWEEN AS SHOWN. BOTH SECTIONS OF BASEBOARD SHALL OPERATE OFF OF A SINGLE THERMOSTAT.
3. INSTALL NEW ELECTRIC BASEBOARD1" FROM WALL, ALLOWING FOR MAXIMUM FLOOR AREA.
4. INSTALL NEW RADIANT PANELS WHERE SHOWN. WIRE TO NEW THERMOSTAT. MOUNT THERMOSTAT AT 48" AFF. COORDINATE WITH CEILING GRID. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.

ELECTRICAL GENERAL NEW WORK NOTES

1. ALL EXPOSED POWER WIRING TO BASEBOARD SHALL BE CONCEALED IN SURFACE RACEWAY AS MANUFACTURED BY WIREMOLD, PART NO. PN10L. PROVIDE COVER CLIP (PN10F06) TO CONCEAL SEAMS WHERE TWO SECTIONS MEET. INSTALL USING #8 PAN HEAD FASTENERS EVERY 2 FT (MAX). DOUBLE-SIDED TAPE, SELF-STICK FASTENERS, ETC., SHALL NOT BE USED.
2. ALL NEW THERMOSTATS IN PUBLIC AREAS/STAIRWELLS SHALL BE INSTALLED IN A HEAVY DUTY METAL THERMOSTAT LOCK BOX AS MANUFACTURED BY HONEYWELL, MODEL: TG511D1004. CONTRACTOR SHALL VERIFY THAT COVER HAS ADEQUATE SPACE FOR THERMOSTAT INSTALLATION. PROVIDE OWNER WITH 5 SETS OF KEYS.
3. ELECTRICAL CONTRACTOR SHALL PROVIDE A COORDINATION STUDY, INCLUDING BREAKER SETTINGS, & SHORT CIRCUIT ANALYSIS FOR ALL NEW ELECTRICAL PANELS AND EXISTING PANELS WHERE LOAD IS BEING ADDED IN THE BUILDING.
4. WHERE NEW POWER/CONTROL WIRING & CONDUITS ARE BEING REMOVED OR INSTALLED, THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO REMOVE & REPLACE ANY DAMAGED OR MARKED-UP CEILING TILES. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TILE SPECIFICATION. WHERE HARD CEILINGS EXIST, THE GENERAL CONTRACTOR SHALL REMOVE SECTION OF CEILING TO FACILITATE THE WORK & REPAIR THE CEILING AFTER THE INSTALLATION HAS BEEN COMPLETED. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.



② ELECTRICAL - SECTOR 'B' 2ND FLOOR NEW WORK PARTIAL PLAN

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

ELECTRICAL NEW WORK NOTES

1. INSTALL ELECTRIC CABINET HEATER WHERE SHOWN.

ELECTRICAL GENERAL NEW WORK NOTES

1. ALL EXPOSED POWER WIRING TO BASEBOARD SHALL BE CONCEALED IN SURFACE RACEWAY AS MANUFACTURED BY WIREMOLD, PART NO. PN10L. PROVIDE COVER CLIP (PN10F06) TO CONCEAL SEAMS WHERE TWO SECTIONS MEET. INSTALL USING #8 PAN HEAD FASTENERS EVERY 2 FT (MAX). DOUBLE-SIDED TAPE, SELF-STICK FASTENERS, ETC., SHALL NOT BE USED.
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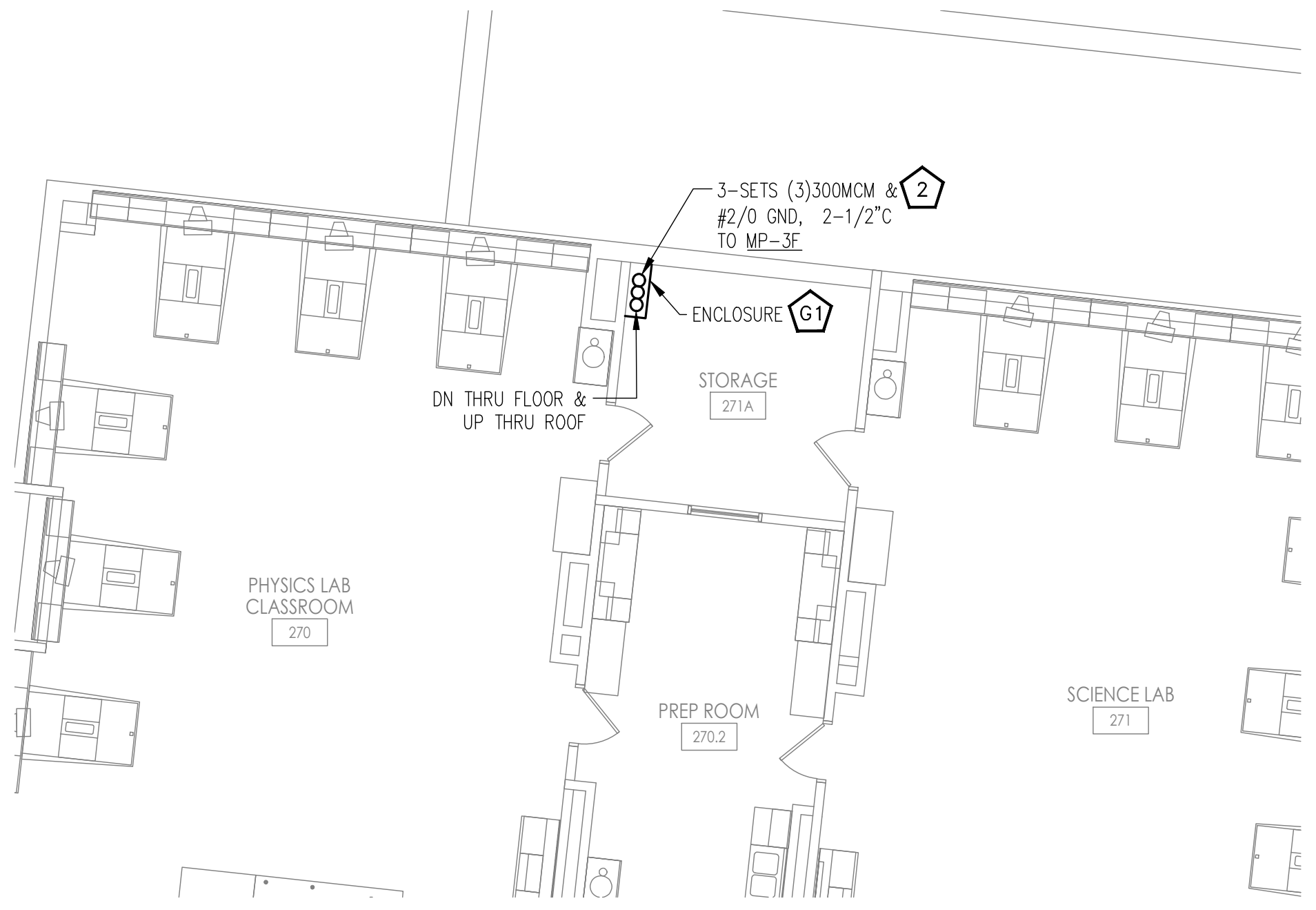
3-SETS (3)300MCM & #2/0 GND, 2-1/2"C TO MP-3F
2
ENCLOSURE
G1
DN THRU FLOOR & UP THRU ROOF
STORAGE 271A
PHYSICS LAB CLASSROOM 270
PREP ROOM 270.2
SCIENCE LAB 271

③ ELECTRICAL - SECTOR 'B' 2ND FLOOR NEW WORK PARTIAL PLAN

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

ELECTRICAL NEW WORK NOTES

1. CONDUITS SHALL BE INSTALLED TIGHT TO WALL.

GENERAL CONSTRUCTION NEW WORK NOTES

G1. NEW ELECTRIC CONDUIT SHALL BE INSTALLED WITHIN AN ENCLOSURE. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.

ELECTRICAL GENERAL NEW WORK NOTES

1. ALL EXPOSED POWER WIRING TO BASEBOARD SHALL BE CONCEALED IN SURFACE RACEWAY AS MANUFACTURED BY WIREMOLD, PART NO. PN10L. PROVIDE COVER CLIP (PN10F06) TO CONCEAL SEAMS WHERE TWO SECTIONS MEET. INSTALL USING #8 PAN HEAD FASTENERS EVERY 2 FT (MAX). DOUBLE-SIDED TAPE, SELF-STICK FASTENERS, ETC., SHALL NOT BE USED.
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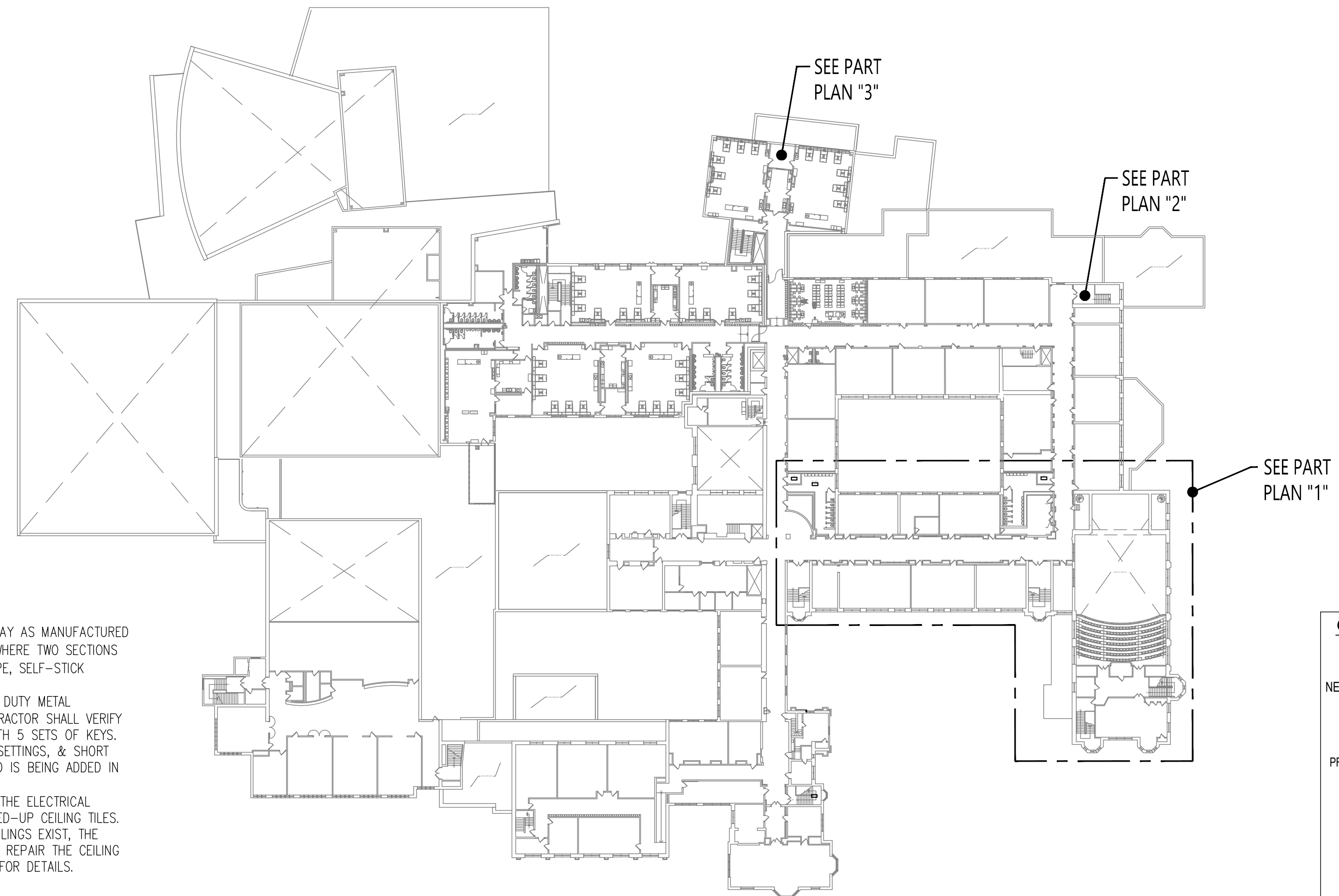

KEY PLAN

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William D. Hopkins
Architect

01/29/26
Date

FVHD architects planners
EST 1918
Fraytak Veisz Hopkins Duthie PC
Corporate: 1515 Lower Ferry Road - Trenton - New Jersey 08618
Pennsylvania: 820 Adams Ave., Suite 210 - Audubon - Pennsylvania 19403
FVHDPC.COM

Project Name
HVAC Renovations at Princeton High School

Project Owner Name
Princeton Public Schools

Project Location
151 Moore Street,
Princeton, NJ
08540

Project Number
5516E

Project Date
01.29. 2026

Checked By
JTM

Drawn By
JD

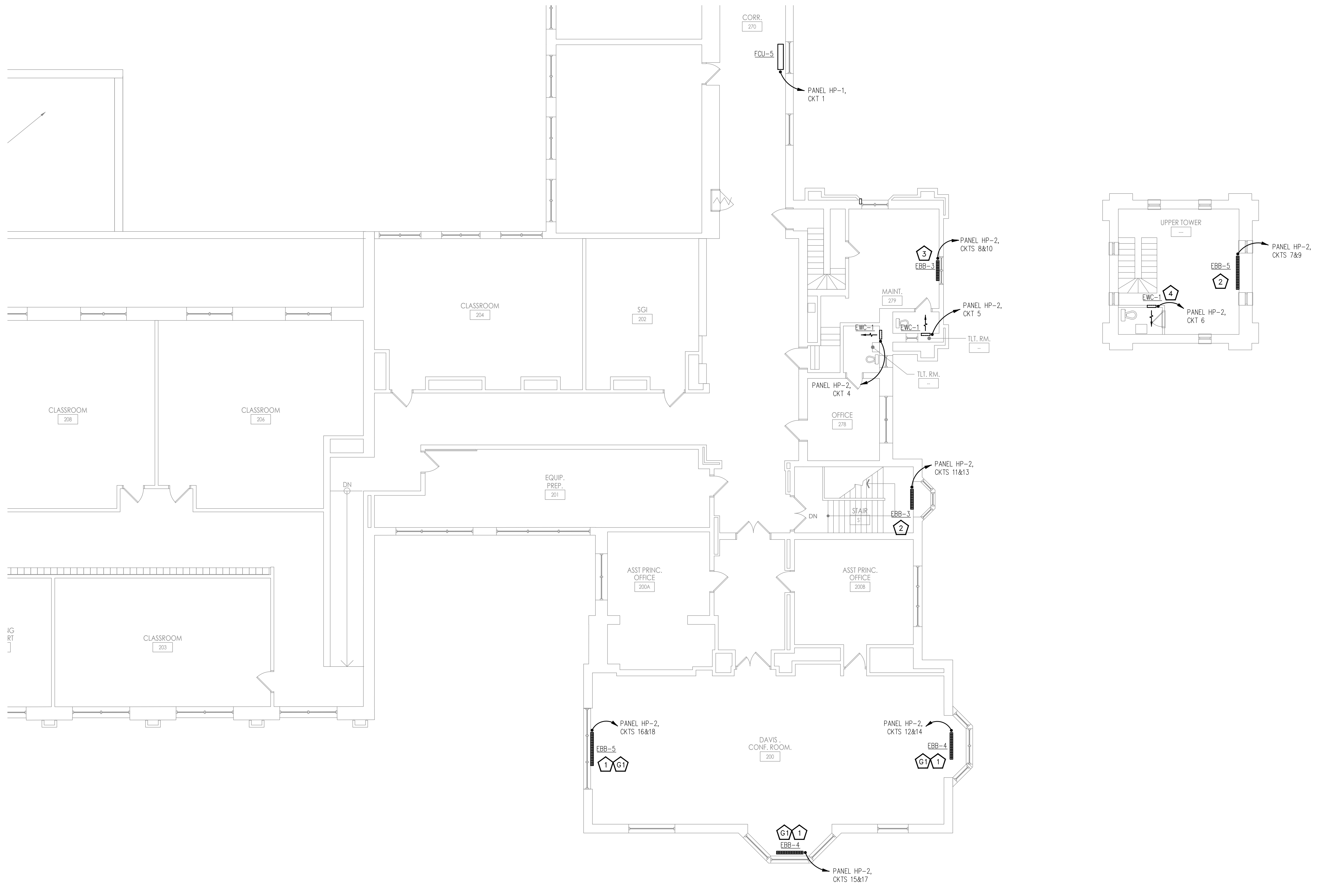
Scale
AS NOTED

Drawing Name
ELECTRICAL - SECOND FLOOR NEW WORK PARTIAL PLANS SHEET 1

Revisions

No.	Date	Description

Drawing Number
E-506



1 ELECTRICAL - SECTOR 'C' 2ND FLOOR NEW WORK PARTIAL PLAN
SCALE: 1/8"=1'-0"

ELECTRICAL NEW WORK NOTES

1. INSTALL NEW ELECTRIC BASEBOARD IN WOODEN ENCLOSURE.
2. INSTALL NEW ELECTRIC BASEBOARD WHERE THE CI RADIATOR WAS REMOVED.
3. INSTALL NEW ELECTRIC WALL CONVECTOR/BASEBOARD CENTERED UNDER WINDOW.
4. INSTALL NEW ELECTRIC WALL CONVECTOR WHERE THE CI RADIATOR WAS REMOVED.

GENERAL CONSTRUCTION NEW WORK NOTES

G1 REFER TO ARCHITECTURAL DRAWINGS FOR WOODEN ENCLOSURE MODIFICATIONS NEEDED TO INSTALL NEW BASEBOARD.

ELECTRICAL GENERAL NEW WORK NOTES

1. ALL EXPOSED POWER WIRING TO BASEBOARD SHALL BE CONCEALED IN SURFACE RACEWAY AS MANUFACTURED BY WIREMOLD, PART NO. PN10L. PROVIDE COVER CLIP (PN10F06) TO CONCEAL SEAMS WHERE TWO SECTIONS MEET. INSTALL USING #8 PAN HEAD FASTENERS EVERY 2 FT (MAX). DOUBLE-SIDED TAPE, SELF-STICK FASTENERS, ETC., SHALL NOT BE USED.
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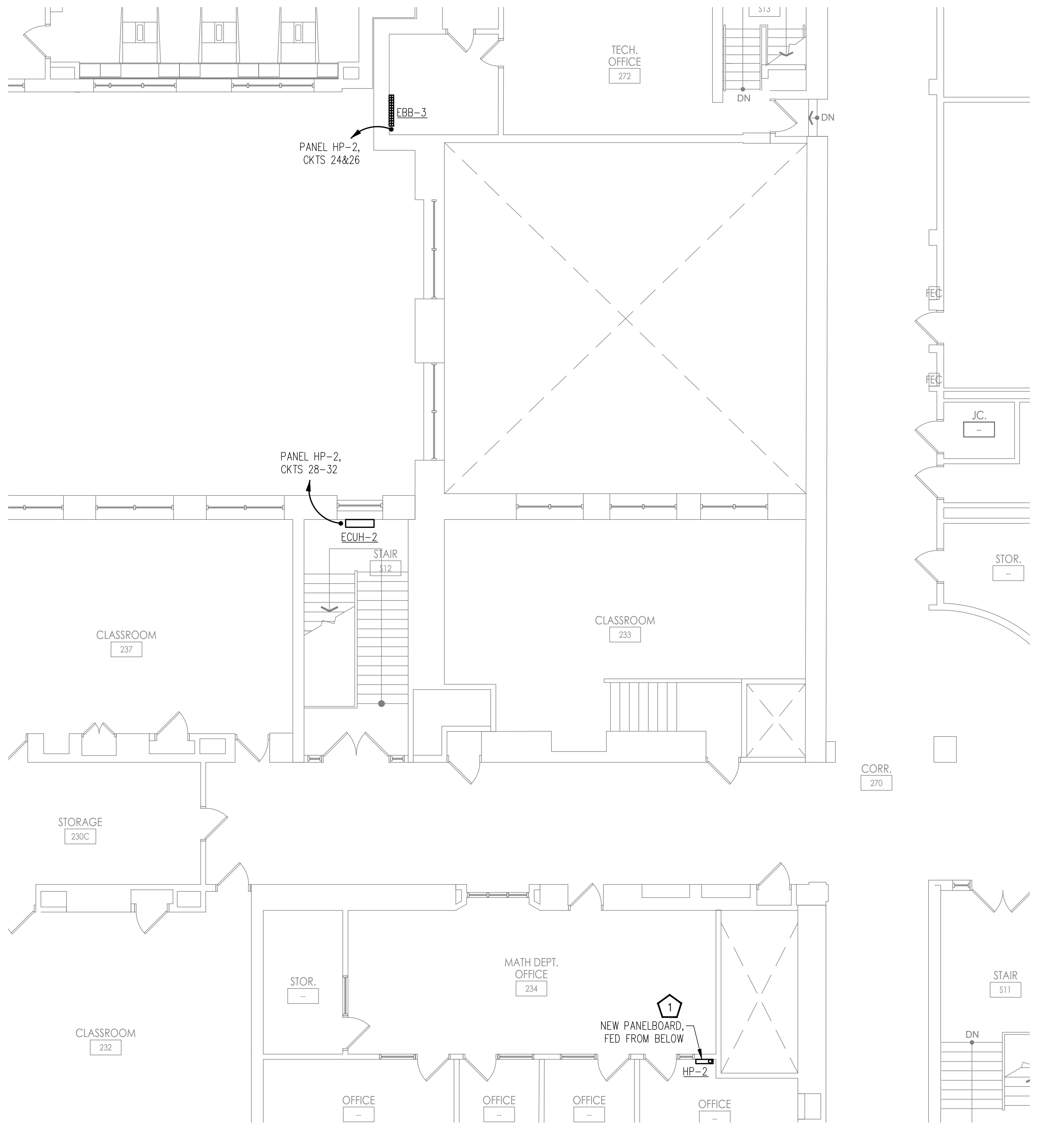

2 ELECTRICAL - SECTOR 'D' 2ND FLOOR NEW WORK PARTIAL PLAN
SCALE: 1/8"=1'-0"

ELECTRICAL NEW WORK NOTES

1. RUN NEW BRANCH CONDUITS ABOVE PANEL AND INTO CEILING.

ELECTRICAL GENERAL NEW WORK NOTES

1. ALL EXPOSED POWER WIRING TO BASEBOARD SHALL BE CONCEALED IN SURFACE RACEWAY AS MANUFACTURED BY WIREMOLD, PART NO. PN10L. PROVIDE COVER CLIP (PN10F06) TO CONCEAL SEAMS WHERE TWO SECTIONS MEET. INSTALL USING #8 PAN HEAD FASTENERS EVERY 2 FT (MAX). DOUBLE-SIDED TAPE, SELF-STICK FASTENERS, ETC., SHALL NOT BE USED.
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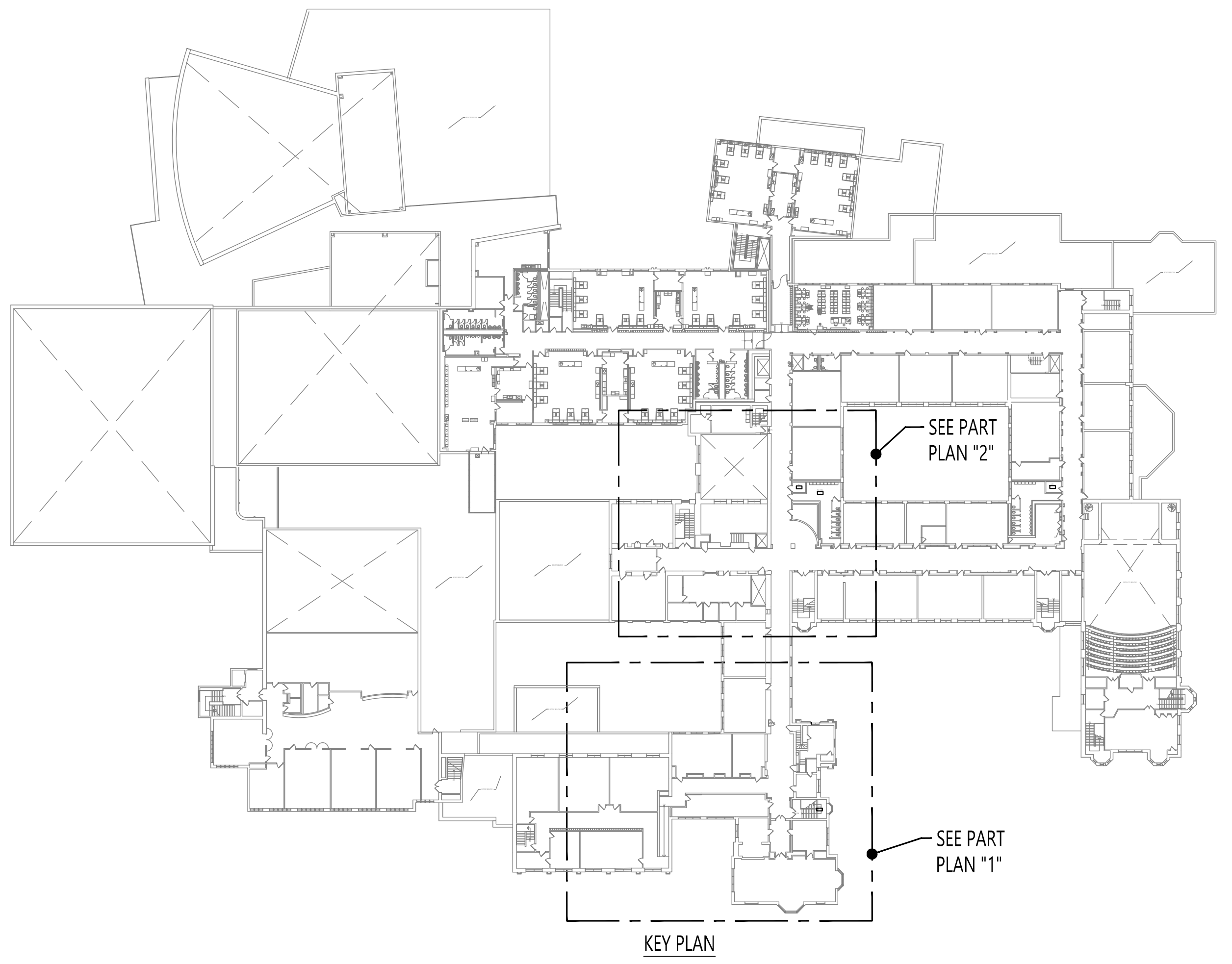

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F V H D P C . C O M

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Scale
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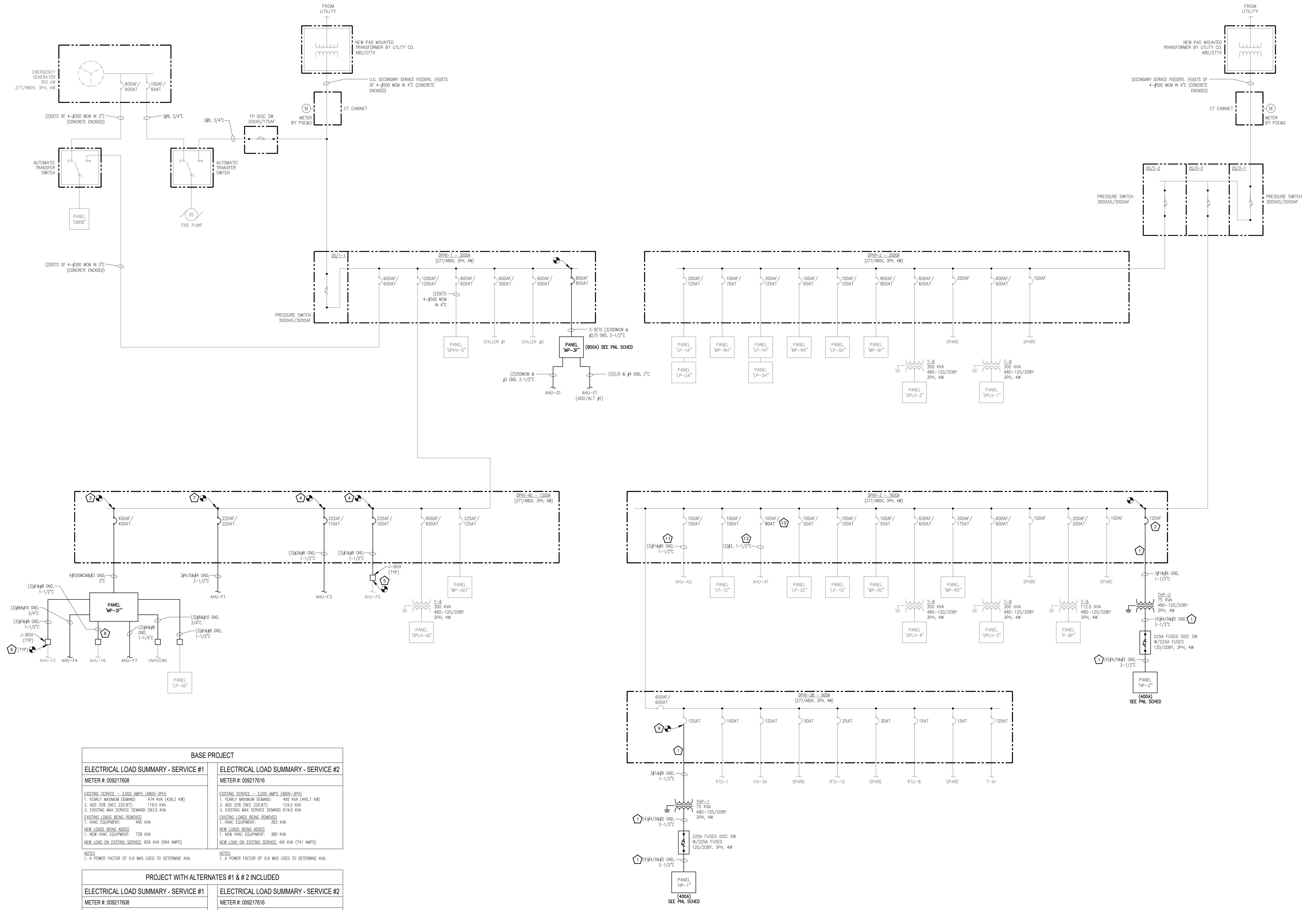
Drawing Name
ELECTRICAL - SECOND FLOOR NEW WORK PARTIAL PLANS SHEET 2

Revisions		
No.	Date	Description

Drawing Number
E-507



① ELECTRICAL - PARTIAL SINGLE LINE DIAGRAM, NEW WORK PLAN

SCALE: N.T.S.

BASE PROJECT

ELECTRICAL LOAD SUMMARY - SERVICE #1	ELECTRICAL LOAD SUMMARY - SERVICE #2
METER #: 009217608	METER #: 009217616
EXISTING SERVICE – 3,000 AMPS (480V–3PH) 1. YEARLY MAXIMUM DEMAND: 474 KVA (426.2 KW) 2. ADD 25% (NEC 220.87): 119.0 KVA 3. EXISTING MAX SERVICE DEMAND: 593.0 KVA	EXISTING SERVICE – 3,000 AMPS (480V–3PH) 1. YEARLY MAXIMUM DEMAND: 495 KVA (445.7 KW) 2. ADD 25% (NEC 220.87): 124.0 KVA 3. EXISTING MAX SERVICE DEMAND: 619.0 KVA
EXISTING LOADS BEING REMOVED 1. HVAC EQUIPMENT: 495 KVA	EXISTING LOADS BEING REMOVED 1. HVAC EQUIPMENT: 383 KVA
NEW LOADS BEING ADDED 1. NEW HVAC EQUIPMENT: 728 KVA	NEW LOADS BEING ADDED 1. NEW HVAC EQUIPMENT: 380 KVA
NEW LOAD ON EXSTING SERVICE: 826 KVA (994 AMPS)	NEW LOAD ON EXSTING SERVICE: 616 KVA (741 AMPS)

NOTES
1. A POWER FACTOR OF 0.9 WAS USED TO DETERMINE KVA.

NOTES
1. A POWER FACTOR OF 0.9 WAS USED TO DETERMINE KVA.

PROJECT WITH ALTERNATES #1 & # 2 INCLUDED

ELECTRICAL LOAD SUMMARY - SERVICE #1	ELECTRICAL LOAD SUMMARY - SERVICE #2
METER #: 009217608	METER #: 009217616
EXISTING SERVICE – 3,000 AMPS (480V–3PH) 1. YEARLY MAXIMUM DEMAND: 474 KVA (426.2 KW) 2. ADD 25% (NEC 220.87): 119.0 KVA 3. EXISTING MAX SERVICE DEMAND: 593.0 KVA	EXISTING SERVICE – 3,000 AMPS (480V–3PH) 1. YEARLY MAXIMUM DEMAND: 495 KVA (445.7 KW) 2. ADD 25% (NEC 220.87): 124.0 KVA 3. EXISTING MAX SERVICE DEMAND: 619.0 KVA
EXISTING LOADS BEING REMOVED 1. HVAC EQUIPMENT: 495 KVA	EXISTING LOADS BEING REMOVED 1. HVAC EQUIPMENT: 402 KVA
NEW LOADS BEING ADDED 1. NEW HVAC EQUIPMENT: 798 KVA	NEW LOADS BEING ADDED 1. NEW HVAC EQUIPMENT: 430 KVA
NEW LOAD ON EXSTING SERVICE: 896 KVA (1078 AMPS)	NEW LOAD ON EXSTING SERVICE: 647 KVA (778 AMPS)

NOTES
1. A POWER FACTOR OF 0.9 WAS USED TO DETERMINE KVA.

NOTES
1. A POWER FACTOR OF 0.9 WAS USED TO DETERMINE KVA.

ELECTRICAL NEW WORK NOTES

1. INSTALL NEW CONDUIT AND POWER WIRING FOR NEW TRANSFORMER, FUSED DISCONNECT SWITCH AND PANELBOARD.
2. INSTALL A NEW 125A, 480V, 3-P FUSED DISCONNECT.
3. MODIFY EXISTING PANELBOARD & INSTALL A NEW 400A, LSI STYLE BREAKER. SHORT CIRCUIT RATING SHALL BE 65kA. SEE FLOOR PLAN FOR ADDITIONAL INFORMATION.
4. INSTALL A NEW 480V, 3-P BREAKER IN EXISTING PANEL.
5. EXTEND EXISTING CONDUCTORS TO NEW BREAKER.
6. EXTEND EXISTING CONDUCTORS TO NEW PANELBOARD.
7. MODIFY EXISTING PANELBOARD & INSTALL A NEW 225A, LSI STYLE BREAKER. SHORT CIRCUIT RATING SHALL BE 65KA. SEE FLOOR PLAN FOR ADDITIONAL INFORMATION.
8. INSTALL NEW CONDUCTORS & GROUND WIRE IN EXISTING CONDUIT.
9. INSTALL A NEW 125A, 480V, 3-P BREAKER.

ELECTRICAL NEW WORK NOTES

10. REMOVE 100A FUSES AND INSTALL 80 AMP FUSES.
11. PULL NEW WIRE IN EXISTING CONDUIT.
12. EXISTING CONDUCTORS TO REMAIN.

75 kVA TRANSFORMER SPECIFICATION

TRANSFORMER SHALL BE AS MANUFACTURED BY SQUARE D, MODEL: EXN75T3HNLP. TRANSFORMER SHALL BE RATED FOR 75 kVA. PRIMARY SHALL BE 480V, 3-PHASE DELTA. SECONDARY SHALL BE 208Y/120V. COIL MATERIAL SHALL BE ALUMINUM WITH A 150°C RISE. DOE EFFICIENCY SHALL BE 98.7% @ 35% LOAD FACTOR. MAXIMUM DIMENSIONS SHALL BE 30.1"(W) x 27.4"(D) x 33.5"(H).

ELECTRICAL COORDINATION & SHORT CIRCUIT ANALYSIS

1. ELECTRICAL CONTRACTOR SHALL PROVIDE A COORDINATION STUDY, INCLUDING BREAKER SETTINGS, & SHORT CIRCUIT ANALYSIS FOR ALL NEW ELECTRICAL PANELS AND EXISTING PANELS WHERE LOAD IS BEING MODIFIED. THE PARTIAL SINGLE LINE DRAWINGS INDICATE THE MODIFICATIONS TO THE MAIN ELECTRICAL GEAR & DOES NOT SHOW TO BRANCH CIRCUITS FOR ALL INDIVIDUAL EXISTING PANELS. REFER TO ELECTRICAL FLOOR PLANS FOR LOAD BEING ADDED TO EXISTING POWER PANELS.
2. ELECTRICAL CONTRACTOR SHALL OBTAIN THE FAULT CURRENT AVAILABLE AT THE UTILITY CONNECTION FROM THE UTILITY COMPANY.

GENERAL NEW WORK NOTES

1. REFER PLAN VIEW DRAWINGS & ROOF PLANS FOR ADDITIONAL INFORMATION.
2. VERIFY SIZE OF EXISTING FRAME PRIOR TO PURCHASING NEW BREAKERS.
3. FOR THE FULL SET OF SINGLE LINE DRAWINGS & PANEL SCHEDULES, CONTACT OWNER FOR A COPY OF THE 2003 BUILDING RENOVATIONS.

UTILITY NOTE

ELECTRICAL CONTRACTOR SHALL CONTACT THE UTILITY COMPANY AND NOTIFY THEM OF THE REVISED ELECTRIC LOAD WITH BASE BID AND/OR ALTERNATES CHOSEN. CONTRACTOR SHALL OBTAIN FAULT CURRENT AT UTILITY CONNECTION. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL WORK REQUIRED BY THE UTILITY COMPANY FOR LOAD MODIFICATIONS TO THE ELECTRIC SERVICE.

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Drawing Name
ELECTRICAL - PARTIAL SINGLE LINE DIAGRAM NEW WORK PLAN

Revisions

No.	Date	Description

Drawing Number
E-601

ELECTRICAL LEGEND

POWER SYMBOLS

	120V COMMERCIAL GRADE DUPLEX RECEPTACLE
GFI	120V COMMERCIAL GRADE GROUND FAULT CURRENT INTERRUPTING DUPLEX RECEPTACLE
	120V COMMERCIAL GRADE QUAD RECEPTACLE
CK 60"	120V COMMERCIAL GRADE RECESSED CLOCK RECEPTACLE MTD. 60" AFF
	120V COMMERCIAL GRADE DEDICATED SIMPLEX RECEPTACLE
	120V COMMERCIAL GRADE DEDICATED DUPLEX RECEPTACLE
	120V COMMERCIAL GRADE FLUSH MOUNTED COMBINATION QUAD RECEPTACLE AND TELEPHONE/DATA JACK (FR = FIRE RATED)
A	SINGLE RECEPTACLE 250V 3 POLE 60A HUBBEL NEMA 15-60R
B	SINGLE RECEPTACLE 250V 2 POLE 15A HUBBEL NEMA 6-15R
C	SINGLE RECEPTACLE 250V 2 POLE 20A HUBBEL NEMA 6-20R
D	SINGLE RECEPTACLE 250V 2 POLE 30A HUBBEL NEMA 6-30R
E	SINGLE RECEPTACLE 250V 3 POLE 60A HUBBEL NEMA L14-20R
F	SINGLE RECEPTACLE 250V 2 POLE 20A HUBBEL NEMA 5-20R
G	SINGLE RECEPTACLE 208V 3 POLE 30A HUBBEL NEMA 15-30R
H	SINGLE RECEPTACLE 208V 3 POLE 30A HUBBEL NEMA L21-30P
▽	VOICE - CONDUIT AND BACK BOX ROUGH IN
▼	DATA - CONDUIT AND BACK BOX ROUGH IN
	VOICE / DATA - CONDUIT AND BACK BOX ROUGH IN
	ISODUCT - LEGRAND WIREMOLED ALA4800 SERIES OR APPROVED EQUAL
	HARDWIRE POWER CONNECTION
ST	LAB PANEL SHUNT TRIP PUSH BUTTON
ETB	EQUIPMENT TERMINAL BOX (POWER)
J	JUNCTION BOX - HARDWIRE TO EQUIPMENT
J	JUNCTION BOX - WALL OR CEILING MOUNTED
	DISCONNECT SWITCH
▨	POWER PANEL - 120V
☐	POWER PANEL - 480V
ISOL.	ISOLATED GROUND

LIGHTING SYMBOLS

	2'x4' RECESSED LED LIGHT FIXTURE
	2'x2' RECESSED LED LIGHT FIXTURE
	WALL OR CEILING MOUNTED FLUORESCENT LIGHTING FIXTURE
	EXIT SIGN AS MANUFACTURED BY LITHONIA MODEL NUMBER LQC. WHITE HOUSING DOUBLE FACE AS NEEDED, ARROWS AS SHOWN ON PLANS W/ BATTERY BACKUP.
	EMERGENCY LIGHTING AS MANUFACTURED BY LITHONIA. MODEL NUMBER ELM2 LED UNLESS OTHERWISE SPECIFIED.
$A	SINGLE POLE SWITCH COMMERCIAL GRADE. 'A' (ALPHA-DENOTE) IDENTIFIES LIGHT FIXTURE CONTROLLED.
$3	SINGLE POLE, 3-WAY, COMMERCIAL GRADE SWITCH
$OCC	SINGLE POLE, WALL MOUNTED, COMBINATION , COMMERCIAL GRADE SWITCH
$ DIM	SINGLE POLE, WALL MOUNTED, SLIDE TYPE DIMMER SWITCH
$WP	WEATHERPROOF LIGHT SWITCH
GFI	LED FLOOD LIGHT AND GROUND FAULT RECEPTACLE FOR ROOF TOP HVAC UNIT. DUAL HEAD 6 LED LIGHTING FIXTURE AS MANUFACTURED BY LITHONIA LIGHTING. MODEL NUMBER OFLR 6 MO. UNIT SUPPLIED WITH MOTION SENSOR WITH MANUAL OVERIDE
OCC	CEILING MOUNTED OCCUPANCY SENSOR
	CEILING MOUNTED PHOTO CELL

FIRE ALARM SYMBOLS

PRE	ABORT SWITCH - PREACTION SYSTEM
EPO	ABORT SWITCH - EMERGENCY POWER OFF
CA	ABORT SWITCH - CLEAN AGENT
WC	ABORT SWITCH - WET CHEMICAL
FO	ABORT SWITCH - FOAM
DC	ABORT SWITCH - DRY CHEMICAL
CO2	ABORT SWITCH - CARBON DIOXIDE
HL	ABORT SWITCH - HALON
DL	MANUAL PULL STATION - DELUGE SPRINKLER
WM	MANUAL PULL STATION - WATER MIST
CA	MANUAL PULL STATION - CLEAN AGENT
P	MANUAL PULL STATION - PULLSTATION/FIRE ALARM BOX
WC	MANUAL PULL STATION - WET CHEMICAL
CA	MANUAL PULL STATION - CLEAN AGENT
FO	MANUAL PULL STATION - FOAM
DC	MANUAL PULL STATION - DRY CHEMICAL
CO2	MANUAL PULL STATION - CARBON DIOXIDE
HL	MANUAL PULL STATION - HALON
PRE	PREACTION SYSTEM
H	HORN
H	HORN/STROBE
S	SPEAKER
ST	STROBE LIGHT
R	REMOTE LIGHT
FL	FLASHING LIGHT (NOT LL58/87)
DH	MAGNETIC DOOR HOLDER
SV	SOLENOID VALVE
MD	MOTORIZED FIRE/SMOKE DAMPER
R	OUTPUT RELAY
	GONG
V	BELL - VIBRATING
VS	BELL - VIBRATING/STROBE
G	BELL - SINGLE STROKE GONG
GS	BELL - SINGLE STROKE GONG/STROBE
T	BELL - TROUBLE
C	BELL - CHIME
	HEAT DETECTOR - THERMAL DETECTOR
R/F	HEAT DETECTOR - COMBINATION RATE OF RISE AND FIXED TEMP.
R/C	HEAT DETECTOR -RATE COMPENSATION
F	HEAT DETECTOR -FIXED TEMPERATURE
R	HEAT DETECTOR -RATE OF RISE ONLY
	HEAT DETECTOR - LINE TYPE (HEAT SENSITIVE CABLE)
R	SMOKE/HEAT DETECTOR -RATE OF RISE ONLY
	SMOKE DETECTOR
P	SMOKE DETECTOR - PHOTOELECTRIC
I	SMOKE DETECTOR - IONIZATION
BT	SMOKE DETECTOR - BEAM TRANSMITTER
BR	SMOKE DETECTOR - BEAM RECEIVER
ASD	SMOKE DETECTOR - AIR SAMPLING
	SMOKE DETECTOR - DUCT
	GAS DETECTOR
	FLAME DETECTOR
F	FLAME
UV	ULTRAVIOLET
IR	INFRARED
UV/IR	COMBINATION ULTRAVIOLET/INFRARED
VR	VISIBLE RADIATION

ELECTRIC BASEBOARD SCHEDULE

UNIT NO.	MFR	MODEL	LENGTH	HEIGHT	DEPTH	COLOR	MOUNTING	W/FT	TOTAL WATTS	FLA	MOCP(A)	ELECTRICAL VOLTS	PHASE	HERTZ	WEIGHT (LBS)	REMARKS
EBB-3	QMARK	CPH0703500201BTLLS00000D000N4M	3-FT	7"	5"	BEIGE	FLOOR	500	1500	7.2	20	208	1	60	15	SEE NOTES
EBB-4	QMARK	CPH0704500201BTLLS00000D000N4M	4-FT	7"	5"	BEIGE	FLOOR	500	2000	9.6	20	208	1	60	18	SEE NOTES
EBB-5	QMARK	CPH0704500201BTLLS00000D000N4M	5-FT	7"	5"	BEIGE	FLOOR	500	2500	12.0	20	208	1	60	25	SEE NOTES

NOTE:
1. PROVIDE FLOOR PEDESTALS & END CAPS, INTEGRAL 2 STAGE THERMOSTAT, OUTLET MESH, 14 GA CONSTRUCTION & UNIT MOUNTED/WIRED DISCONNECT SWITCH.
2. PROVIDE BLANK SECTIONS WHERE NOT ON DRAWINGS.
3. SET THERMOSTAT TO 68°F.
4. CONTRACTOR SHALL SPECIFY LEFT OR RIGHT HAND WIRING CONNECTION.

ELECTRIC WALL CONVECTOR SCHEDULE

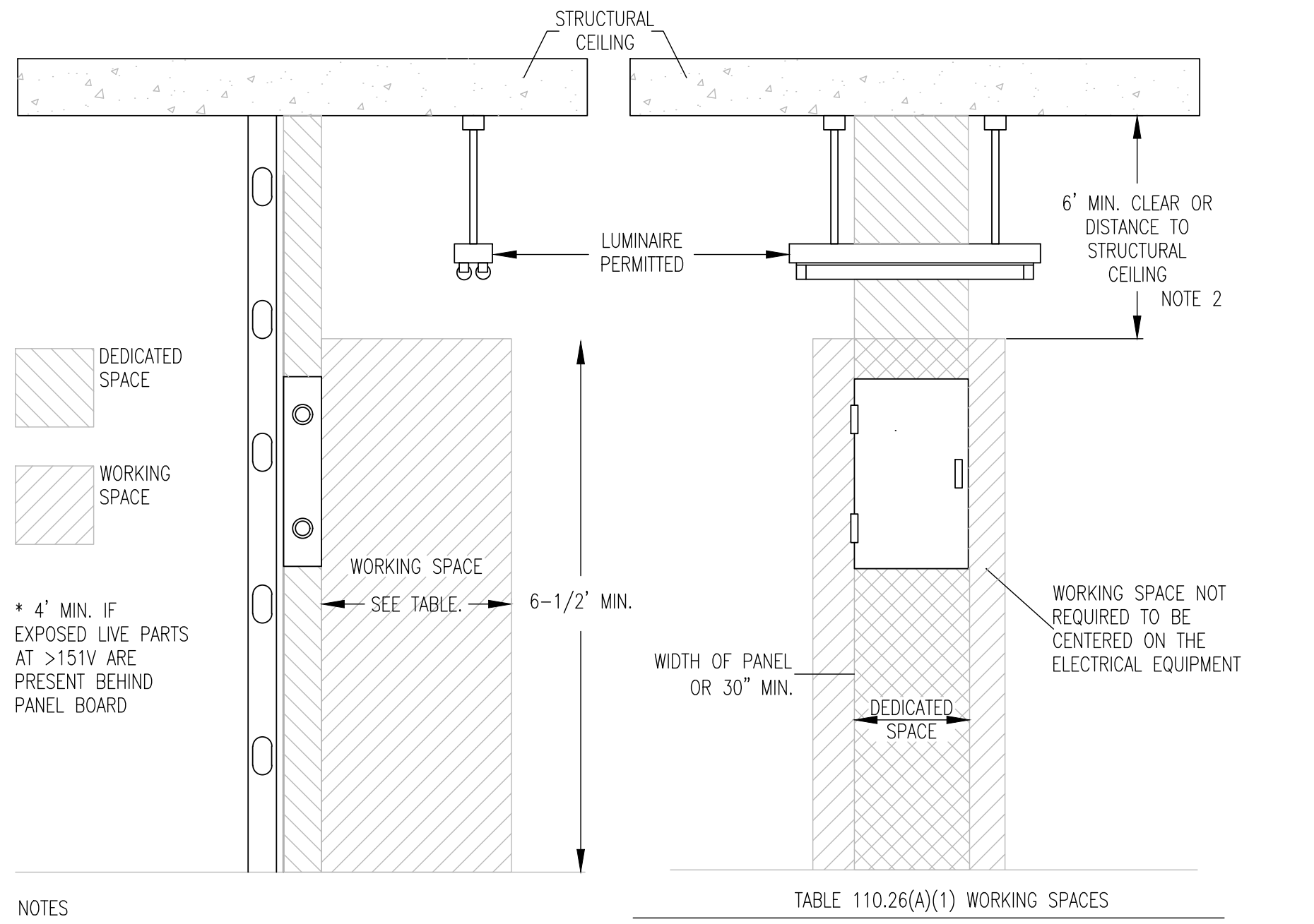
UNIT NO.	MFR	MODEL	LENGTH	HEIGHT	DEPTH	COLOR	MOUNTING	CFM	TOTAL WATTS	FLA	MOCP(A)	ELECTRICAL VOLTS	PHASE	HERTZ	WEIGHT (LBS)	REMARKS
EWC-1	BERKO	FRA1512F	15.75	19.5	3.75	WHITE	RECESSED	100	1500	12.5	20	120	1	60	17	SEE NOTES
EWC-2	BERKO	FRA4024F	15.75	19.5	3.75	WHITE	RECESSED	100	1500	7.2	20	208	1	60	17	SEE NOTES

NOTE:
1. PROVIDE FRONT IN/FRONT OUT CONFIGURATION, WHITE TAMPER PROOF 20GA FRONT COVER, INTEGRAL DOUBLE POLE STAGE THERMOSTAT, RECESSED TRIM KIT, UNIT MOUNTED DISCONNECT SWITCH. MANUAL RESTART THERMAL OVERHEAT PROTECTOR, AUTOMATIC FAN DELAY
2. SET THERMOSTAT TO 68°F.

ELECTRIC HORIZONTAL UNIT HEATER SCHEDULE

UNIT NO.	MFR	MODEL	LENGTH	HEIGHT	DEPTH	COLOR	AIRFLOW (CFM)	KW	FLA	MOCP(A)	ELECTRICAL VOLTS	PHASE	HERTZ	WEIGHT (LBS)	REMARKS
EUH-1	TPI CORP	F3FUH20CA1-SFD	24"	17"	17"	BEIGE	1350	20	55.6	70	208	3	60	55	SEE NOTES
EUH-2	TPI CORP	F3FUH7CA1-SFD	20"	13"	11"	BEIGE	575	7.5	20.8	30	208	3	60	44	SEE NOTES
EUH-3	TPI CORP	F3FUH10CA1-SFD	20"	13"	11"	BEIGE	575	10	27.8	40	208	3	60	42	SEE NOTES
EUH-4	TPI CORP	P3PUH15CA1-SFD	15"	22"	11"	BEIGE	800	15	18.1	25	480	3	60	54	SEE NOTES
EUH-5	TPI CORP	F3FUH03C03-SFD	20"	13"	11"	BEIGE	400	3.3	9.2	20	208	3	60	36	SEE NOTES

NOTE:
1. PROVIDE LOW VOLTAGE CONTROL TRANSFORMER, LOW VOLTAGE REMOTE WALL MOUNTED THERMOSTAT WITH SUMMER FAN SWITCH, FAN DELAY SWITCH, UNIT MOUNTED DISCONNECT SWITCH, 18GA CONSTRUCTION, COPPER CLAD SHEATH WITH BRAZED STEEL FINS, ADJUSTABLE LOUVER, OVERHEAT PROTECTION, & TEFC FAN MOTOR. ELECTRICAL CONTRACTOR SHALL INSTALL & WIRE THERMOSTAT.
2. SET THERMOSTAT TO 60°F.


STRUCTURAL CEILING
LUMINAIRE PERMITTED
6' MIN. CLEAR OR DISTANCE TO STRUCTURAL CEILING
NOTE 2
DEDICATED SPACE
WORKING SPACE
WORKING SPACE
SEE TABLE
6-1/2' MIN.
* 4" MIN. IF EXPOSED LIVE PARTS AT >151V ARE PRESENT BEHIND PANEL BOARD
WIDTH OF PANEL OR 30" MIN.
DEDICATED SPACE
WORKING SPACE NOT REQUIRED TO BE CENTERED ON THE ELECTRICAL EQUIPMENT

NOTES
1. ALL ELECTRICAL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH ARTICLE 110 OF THE 2011 NATIONAL ELECTRICAL CODE.
2. THE AREA ABOVE THE DEDICATED WORK SPACE SHALL BE PERMITTED TO CONTAIN OTHER SYSTEMS. PROTECTION SYSTEMS SHALL BE PROVIDED TO PROTECT ELECTRICAL SYSTEMS FROM LEAKS, CONDENSATION, OR BREAKS IN THE FOREIGN SYSTEMS. IT SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO PROVIDE THE REQUIRED PROTECTION.
3. DEDICATED SPACE PROTECTION SHALL BE PROVIDED FOR ALL SWITCHBOARDS, PANEL BOARDS, DISTRIBUTION BOARDS AND MOTOR CONTROL SECTIONS.

TABLE 110.26(A)(1) WORKING SPACES

NOMINAL VOLTAGE TO GROUND	MINIMUM CLEAR DISTANCE CONDITION 1	CONDITION 2	CONDITION 3
0-150	914 MM (3FT)	914 MM (3FT)	914 MM (3FT)
151-600	914 MM (3FT)	1.07 M (3FT 6IN)	1.22 M (4FT)

NOTE: WHERE THE CONDITIONS ARE AS FOLLOWS:

CONDITION 1 - EXPOSED LIVE PARTS ON ONE SIDE OF THE WORKING SPACE AND NO LIVE OR GROUNDED PARTS ON THE OTHER SIDE OF THE WORKING SPACE, OR EXPOSED LIVE PARTS ON BOTH SIDES OF THE WORKING SPACE THAT ARE EFFECTIVELY GUARDED BY INSULATING MATERIALS.

CONDITION 2 - EXPOSED LIVE PARTS ON ONE SIDE OF THE WORKING SPACE AND GROUNDED PARTS ON THE OTHER SIDE OF THE WORKING SPACE. CONCRETE, BRICK, OR TILE WALLS SHALL BE CONSIDERED AS GROUND.

CONDITION 3 - EXPOSED LIVE PARTS ON BOTH SIDES OF THE WORKING SPACE.

2 NEC DEDICATED AND WORKING SPACE REQUIREMENTS

SCALE: NONE

ELECTRIC CABINET UNIT HEATER SCHEDULE

UNIT NO.	MFR	MODEL	LENGTH	HEIGHT	DEPTH	COLOR	MOUNTING	AIRFLOW (CFM)	KW	FLA	MOCP(A)	ELECTRICAL VOLTS	PHASE	HERTZ	WEIGHT (LBS)	REMARKS
ECUH-1	TPI CORP	6346D102033B5SD0F	46"	25"	9"	BEIGE	RECESSED	500	10	35.1	50	208	3	60	130	NOTES 2, 4
ECUH-2	TPI CORP	6333A52033B5SD0F	33"	25"	9"	BEIGE	SURFACE	250	5	17.6	25	208	3	60	99	NOTES 1, 4
ECUH-3	TPI CORP	6346D102033B5SD0F	46"	25"	9"	BEIGE	SURFACE	500	10	35.1	50	208	3	60	130	NOTES 3, 4
ECUH-4	TPI CORP	6333A52033B5SD0F	33"	25"	9"	BEIGE	RECESSED	250	5	17.6	25	208	3	60	99	NOTES 2, 4

NOTE:
1. PROVIDE BOTTOM IN/TOP OUT CONFIGURATION, LOCKING FRONT COVER, INTEGRAL 2 STAGE THERMOSTAT, SUMMER FAN SWITCH, UNIT MOUNTED & WIRED DISCONNECT SWITCH, DISPOSABLE AIR FILTER, SAFETY CUTOFF, 16 GA CABINET.
2. PROVIDE FRONT IN/FRONT OUT CONFIGURATION, TRIM KIT FOR RECESSED MOUNTING, LOCKING FRONT COVER, INTEGRAL 2 STAGE THERMOSTAT, SUMMER FAN SWITCH, UNIT MOUNTED & WIRED DISCONNECT SWITCH, DISPOSABLE AIR FILTER, SAFETY CUTOFF, 16GA CABINET.
3. PROVIDE FRONT IN/TOP OUT CONFIGURATION, LOCKING FRONT COVER, INTEGRAL 2 STAGE THERMOSTAT, SUMMER FAN SWITCH, UNIT MOUNTED & WIRED DISCONNECT SWITCH, DISPOSABLE AIR FILTER, SAFETY CUTOFF, 16 GA CABINET.
4. SET THERMOSTAT TO 68°F.

ELECTRIC RADIANT CEILING PANEL SCHEDULE

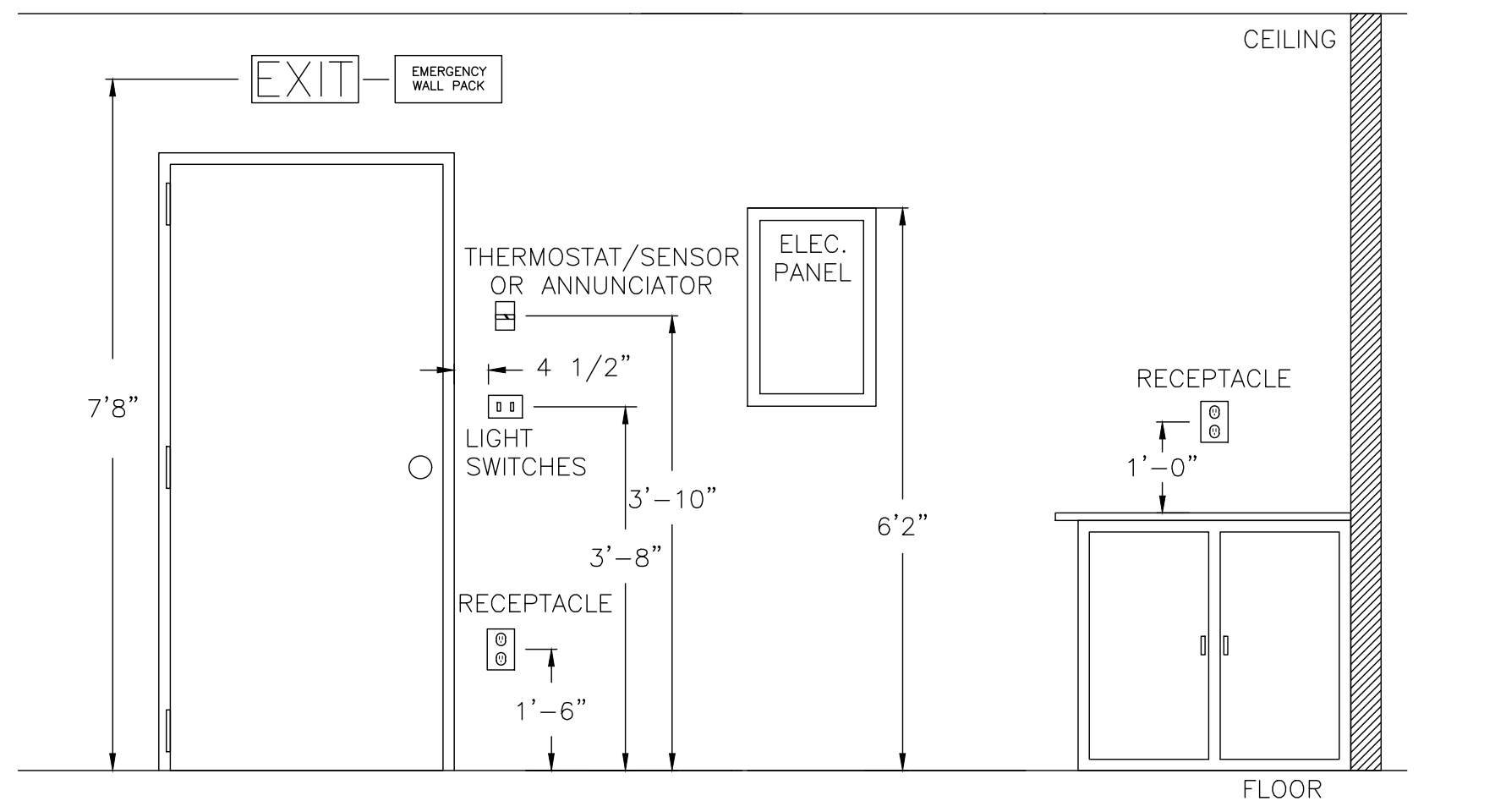
UNIT NO.	MFR	MODEL	LENGTH	WIDTH	COLOR	MOUNTING	TOTAL WATTS	FLA	MOCP(A)	ELECTRICAL VOLTS	PHASE	HERTZ	WEIGHT (LBS)	REMARKS
ERP-1	MARKEL	CP127	48"	24"	WHITE	LAY-IN	750	6.3	20	120	1	60	20	SEE NOTES
ERP-2	MARKEL	CP123	24"	24"	WHITE	LAY-IN	375	3.1	20	120	1	60	13	SEE NOTES

NOTE:
1. PROVIDE 1 STAGE THERMOSTAT (MODEL: T4398A 1021), 20 GA CASING, 2" THICK INSULATION. ELECTRICAL CONTRACTOR SHALL INSTALL & WIRE THERMOSTAT.
2. SET THERMOSTAT TO 68°F.
3. CONTRACTOR SHALL SPECIFY LEFT OR RIGHT HAND WIRING CONNECTION.

LIGHT FIXTURE SCHEDULE

FIXTURE NO.	FIXTURE SYMBOL	MANUF.	MODEL	DESCRIPTION	LUMENS	COLOR	LUMENS/ WATT	FINISH	WATTS	VOLATGE	REMARKS
A		LIRON LIGHTING	SP1S-4FT-UW-3CCT-40W50K	STRIP LIGHT	5,481	5000K	140	WHITE	40	120-277V	-
B	☐	LIRON LIGHTING	LHB3-90W-40K-WG130W-HC12	HIGH BAY LED LIGHT	12,670	4000K	140	WHITE	90	120-277V	NOTE 1
B-EM	☐	LIRON LIGHTING	LHB3-90W-40K-EM40-WG130W-HC12	HIGH BAY LED LIGHT	12,670	4000K	140	WHITE	90	120-277V	NOTE 1
C	☐	LIRON LIGHTING	PLB3-2x2-UW-5CCT-4000K-25W	2x2 LED LIGHT	3,193	4000K	128	WHITE	25	120-277V	-
C-EM	☐	LIRON LIGHTING	PLB3-2x2-UW-5CCT-4000K-25W-EM	2x2 LED LIGHT	3,193	4000K	128	WHITE	25	120-277V	NOTE 2
EM		LIRON LIGHTING	EMC-JLEU	EMERG WALL PACK LED FIXTURE	234	6000K	-	WHITE	-	120-277V	NOTE 3

NOTE:
1. PROVIDE WITH WIRE GUARD.
2. PROVIDE WITH 90 MIN BATTERY PACK.
3. DUAL HEAD FIXTURE WITH TEST SWITCH & CHARGE INDICATOR.



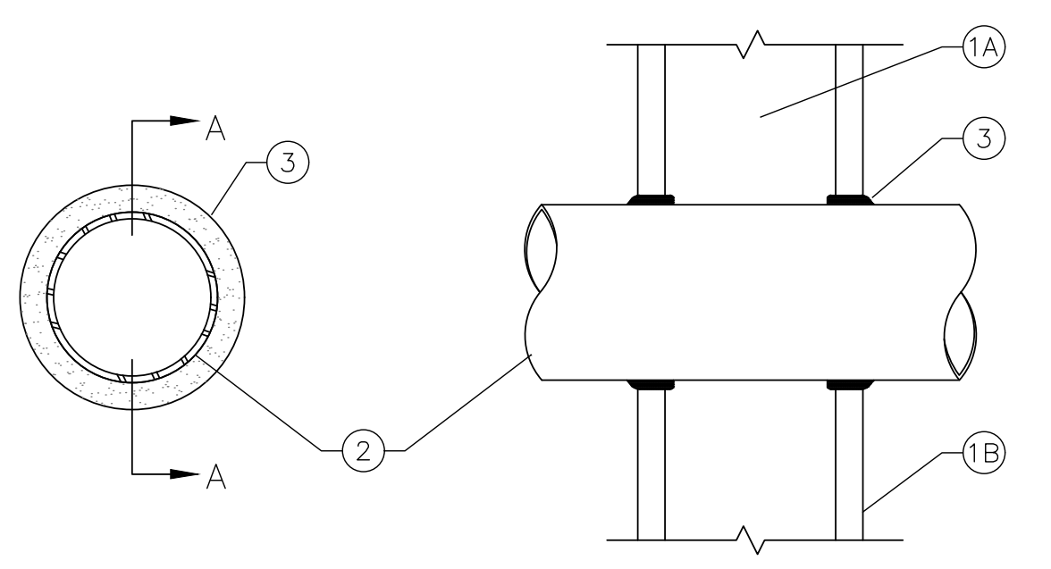
1 TYPICAL DEVICE MOUNTING HEIGHTS DETAIL

SCALE: NONE

NOTES
1. INSTALL DEVICES AS SHOWN UNLESS OTHERWISE NOTED ON FLOOR PLANS.

LIGHTING LEVELS - BASIS OF DESIGN

SPACE	AVERAGE FOOT CANDLES (FC)
MECH ROOMS	35
STORAGE ROOM	20



SYSTEM NO. WL1001
(FORMERLY SYSTEM NO. 202)
F RATING – 1 HR
T RATING – 0 HR

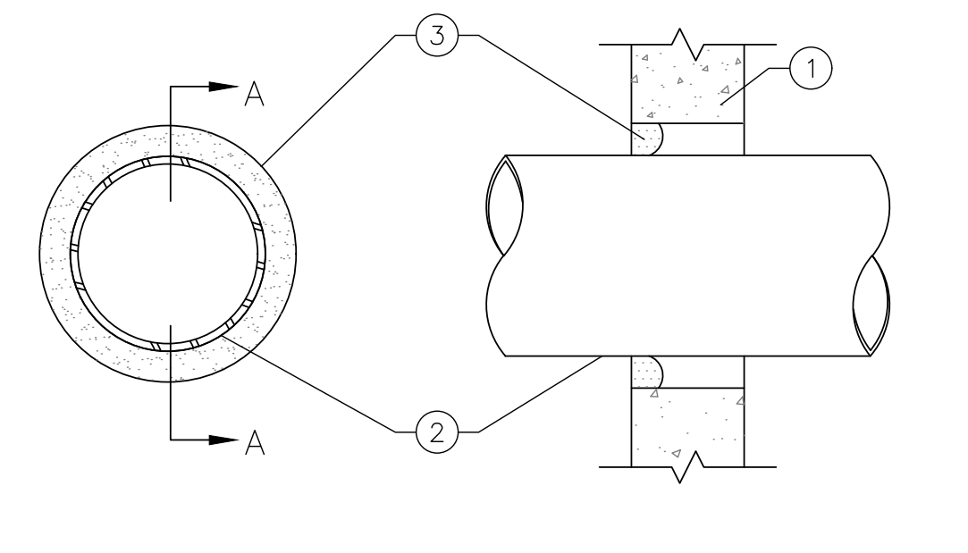
SECTION A-A

1. WALL ASSEMBLY – ONE hr FIRE RATED GYPSUM WALLBOARD/STUD WALL ASSEMBLY SHALL INCLUDE THE FOLLOWING FEATURES:
   A. STUDS – STEEL STUDS TO BE MIN. 3-5/8" WIDE AND SPACED MAX. 24" O.C.
   B. WALLBOARD, GYPSUM – 5/8" THICK 4'-0" WIDE WITH SQUARE OR TAPERED EDGES. MAX. DIA. OF OPENINGS IN WALLBOARD IS 13-1/2"
2. PIPE OR CONDUIT – NOM. 12"ø(OR SMALLER) SCH. 10 (OR HEAVIER) STEEL PIPE NOM. 12"ø (OR SMALLER) SERVICE WEIGHT (OR HEAVIER) CAST IRON SOIL PIPE, NOM 12"ø (OR SMALLER) CLASS 50 (OR HEAVIER) DUCTILE IRON PRESSURE PIPE, NOM. 6"ø (OR SMALLER) STEEL CONDUIT NOM. 4"ø (OR SMALLER) STEEL ELECTRICAL METALLIC TUBING, NOM 6"ø (OR SMALLER) TYPE L (OR HEAVIER) COPPER TUBING OR NOM. 1"ø (OR SMALLER) FLEXIBLE STEEL CONDUIT. A MAX. OF ONE PIPE OR CONDUIT IS PERMITTED IN THE FIRESTOP SYSTEM. PIPE OR CONDUIT TO BE INSTALLED NEAR CENTER OF STUD CAVITY WIDTH AND TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY.
3. FILL, VOID OR CAVITY MATERIALS* CAULK – CAULK FILL MATERIAL INSTALLED TO COMPLETELY FILL ANNULAR SPACE BETWEEN PIPE OR CONDUIT AND GYPSUM WALLBOARD WITH A MIN 1/4"ø BEAD OF CAULK APPLIED TO PERIMETER OF PIPE OR CONDUIT AT ITS EGRESS FROM THE WALL. CAULK INSTALLED SYMMETRICALLY ON BOTH SIDES OF THE WALL ASSEMBLY.

* – BEARING THE UL CLASSIFICATION MARKING.

3 CONDUIT PENETRATIONS FOR FIRE RATED GYPSUM WALLBOARD PARTITION

SCALE: NONE



SYSTEM NO. CAJ1027
(FORMERLY SYSTEM NO. 202)
F RATING – 3 HR
T RATING – 0 HR

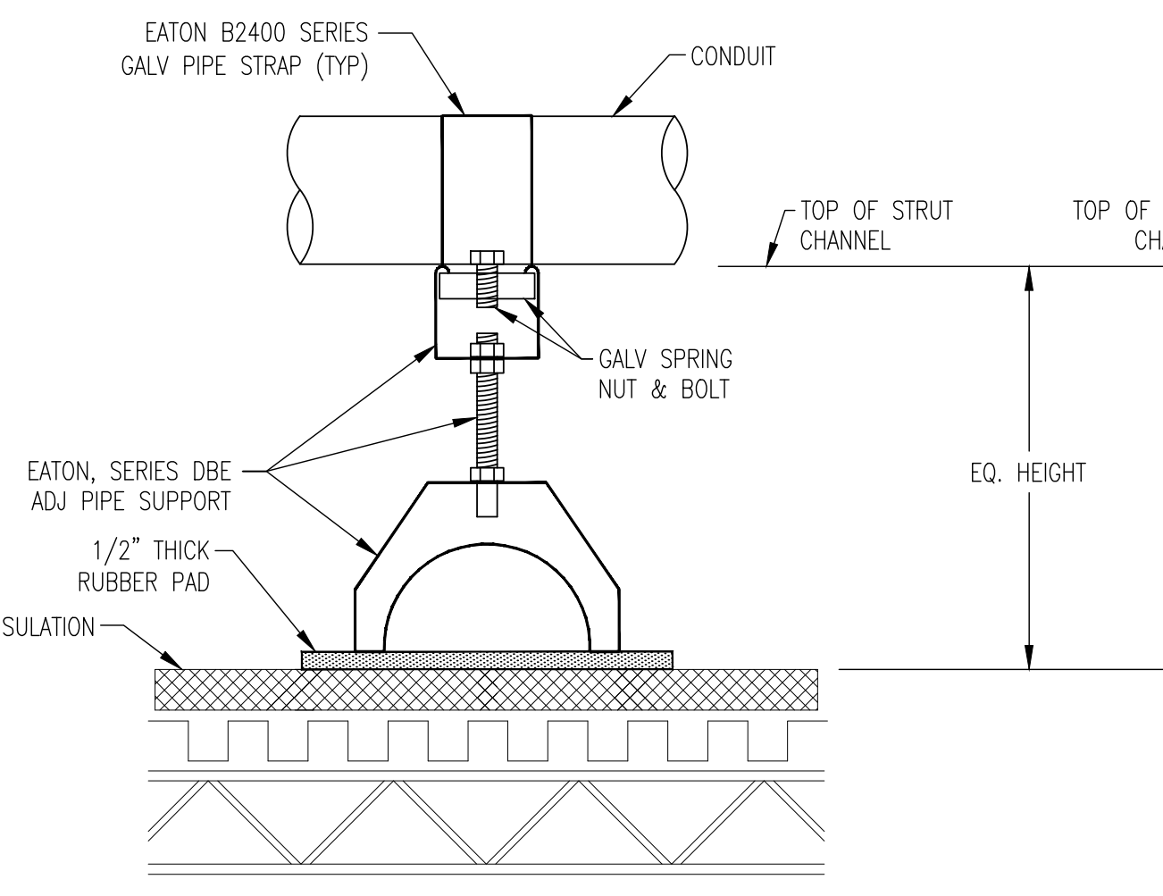
SECTION A-A

1. FLOOR OR WALL ASSEMBLY – MIN 4-1/2 IN. THICK LIGHTWEIGHT OR NORMAL WEIGHT (100-150 PCF) CONCRETE. WALL MAY ALSO BE CONSTRUCTED OF ANY UL CLASSIFIED CONCRETE BLOCKS*. MAX DIAM OF THROUGH OPENING IS 12-1/4 IN. SEE CONCRETE BLOCKS (CAZT) CATEGORY IN FIRE RESISTANCE RESISTANCE DIRECTORY FOR NAMES OF MANUFACTURERS.
2. PIPE OR CONDUIT – NOM 10 IN. DIAM (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE, NOM 6 IN. DIAM (OR SMALLER) RIGID STEEL CONDUIT, NOM 4 IN. DIAM (OR SMALLER) STEEL EMT OR NOM 3 IN. DIAM (OR SMALLER) TYPE L (OR HEAVIER) COPPER PIPE. MAX ONE PIPE OR CONDUIT PER THROUGH OPENING. MAX ANNULAR SPACE BETWEEN PIPE OR CONDUIT AND EDGE OF OPENING IS 3/4 IN. MIN ANNULAR SPACE BETWEEN PIPE OR CONDUIT AND EDGE OF OPENING IS 0 IN. (POINT CONTACT). PIPE OR CONDUIT TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF FLOOR OR WALL ASSEMBLY.
3. FILL, VOID OR CAVITY MATERIALS*– PUTTY– MOLDABLE PUTTY MATERIAL KNEADED BY HAND AND APPLIED TO FILL ANNULAR SPACE TO A MIN DEPTH OF 1 IN., FLUSH WITH TOP SURFACE OF FLOOR. IN WALL ASSEMBLIES, REQUIRED PUTTY THICKNESS TO BE INSTALLED SYMMETRICALLY ON BOTH SIDES OF WALL. MINNESOTA MINING & MFG. CO. – MPS-2+. *BEARING THE UL CLASSIFICATION MARKING

* – BEARING THE UL CLASSIFICATION MARKING.

4 CONDUIT PENETRATIONS FOR MASONRY PARTITION

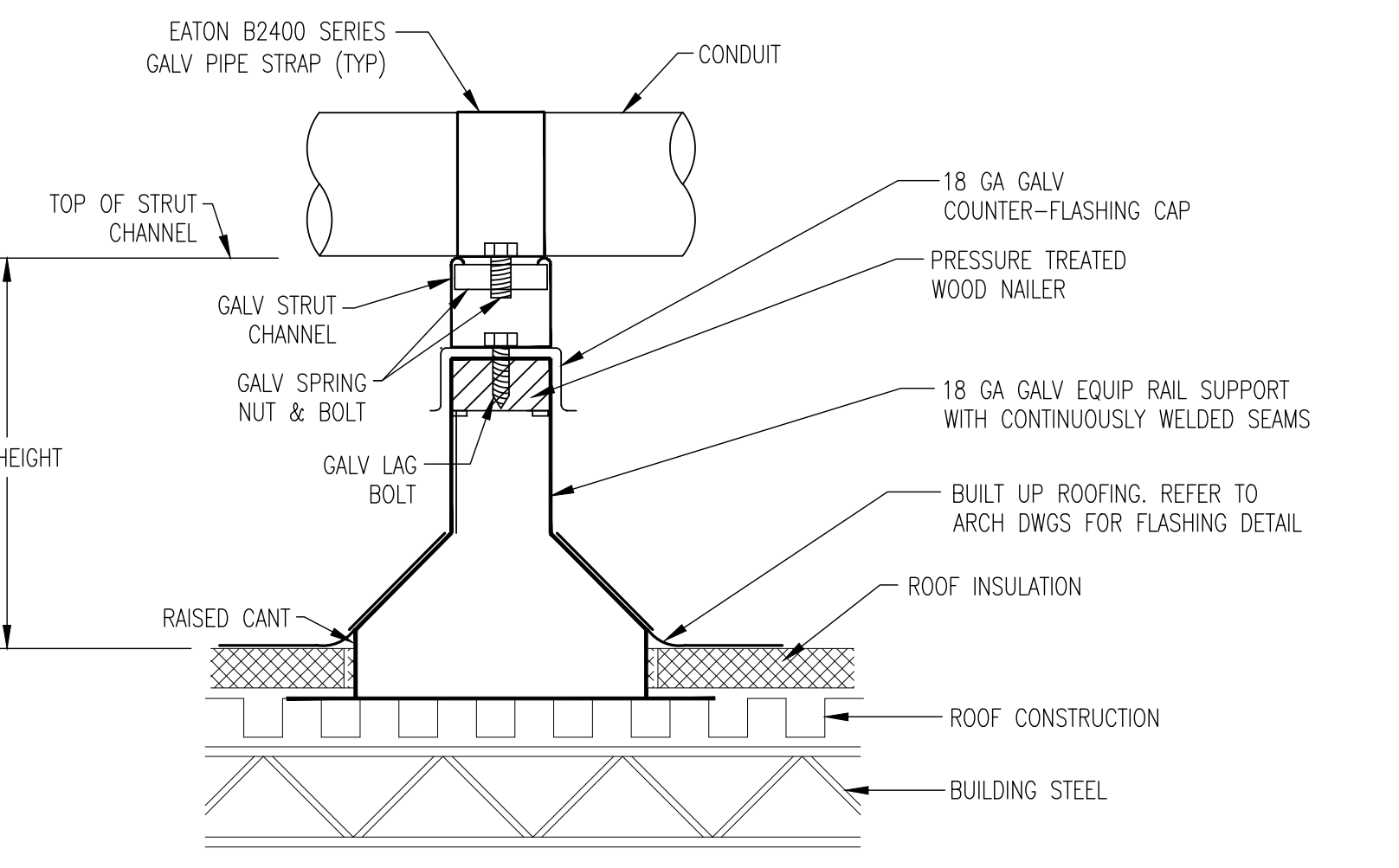
SCALE: NONE



5 ROOF SURFACE CONDUIT SUPPORT DETAIL

Scale: NTS

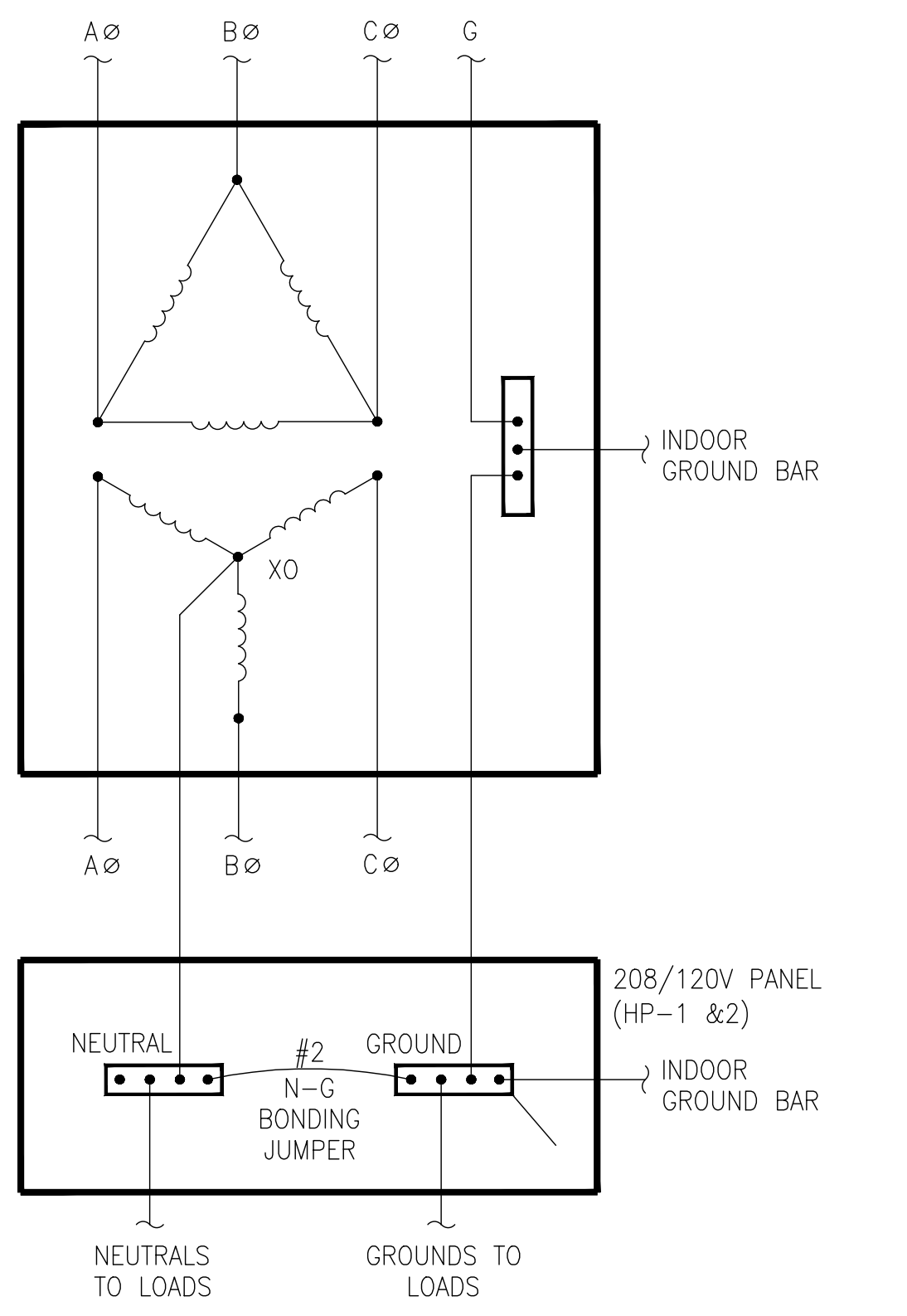
NOTES:
1. DURABLOK MODEL 'DBE' IS DETAILED ABOVE. DETAIL IS SIMILAR FOR ALL OTHER DURABLOK SURFACE MOUNTED SUPPORTS.


EATON B2400 SERIES GALV PIPE STRAP (TYP)
CONDUIT
TOP OF STRUT CHANNEL
18 GA GALV COUNTER-FLASHING CAP
PRESSURE TREATED WOOD NAILER
GALV STRUT CHANNEL
GALV SPRING NUT & BOLT
GALV LAG BOLT
18 GA GALV EQUIP RAIL SUPPORT WITH CONTINUOUSLY WELDED SEAMS
BUILT UP ROOFING. REFER TO ARCH DWGS FOR FLASHING DETAIL
ROOF INSULATION
RAISED CANT
ROOF CONSTRUCTION
BUILDING STEEL

6 ROOFED-IN CONDUIT SUPPORT DETAIL

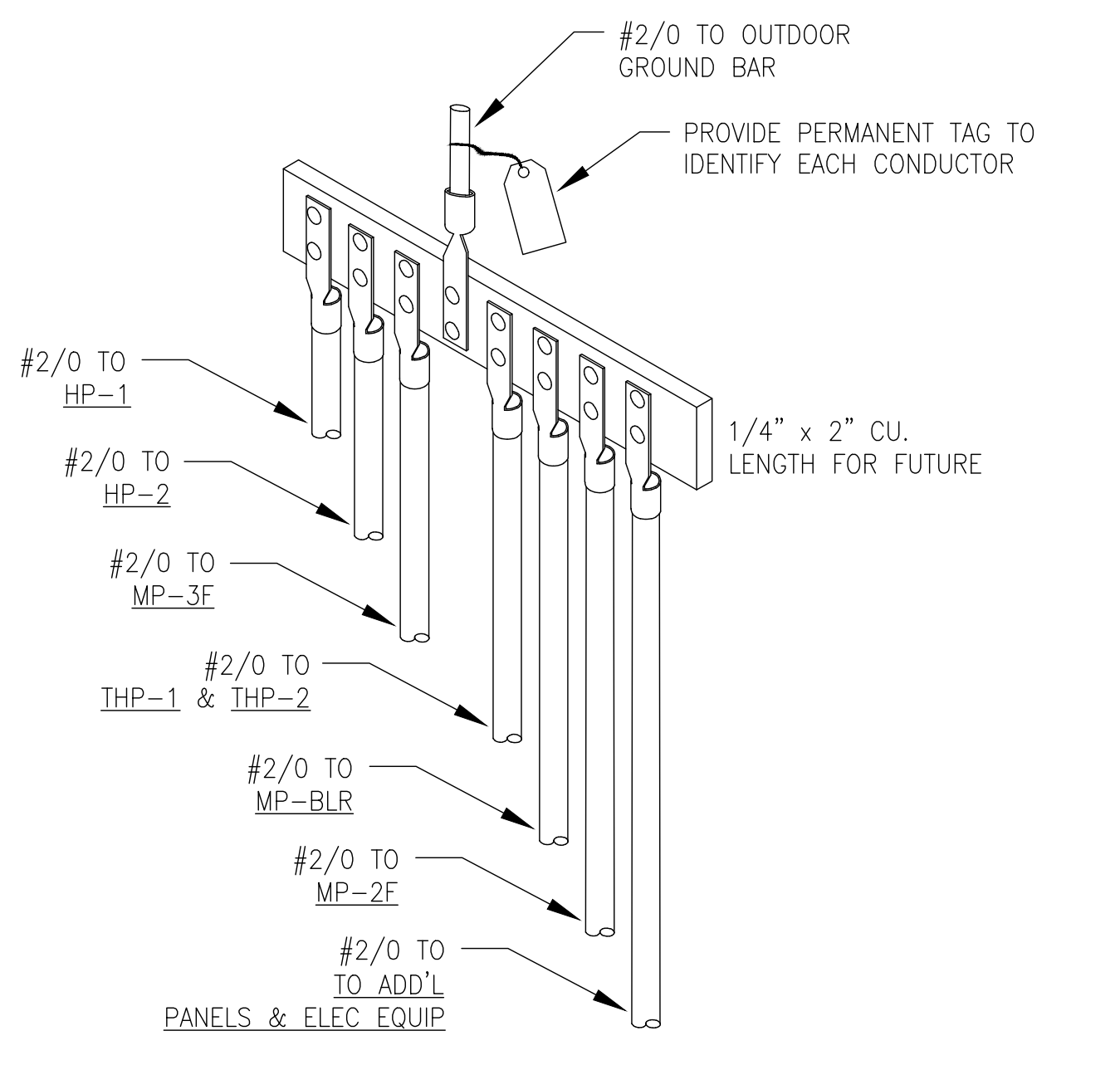
Scale: NTS

NOTES:
1. CONTRACTOR SHALL VERIFY LENGTH OF RAIL NEEDED FOR EACH CONDUIT SUPPORT.
2. CONTRACTOR SHALL DETERMINE THE HEIGHT OF SUPPORT RAIL NEEDED TO MATCH ROOF SURFACE CONDUIT SUPPORTS.



7 TRANSFORMER - PANEL DETAIL

Scale: NTS


#2/0 TO OUTDOOR GROUND BAR
PROVIDE PERMANENT TAG TO IDENTIFY EACH CONDUCTOR
#2/0 TO HP-1
#2/0 TO HP-2
#2/0 TO MP-3F
1/4" x 2" CU. LENGTH FOR FUTURE
#2/0 TO THP-1 & THP-2
#2/0 TO MP-BLR
#2/0 TO MP-2F
#2/0 TO TO ADD'L PANELS & ELEC EQUIP

8 INDOOR DISTRIBUTION GROUND BAR DETAIL

Scale: NTS

DEMOLITION NOTES:

1. THE ELECTRICAL CONTRACTOR SHALL FURNISH ALL LABOR AND MATERIALS AS REQUIRED TO COMPLETE ANY NECESSARY DEMOLITION AND/OR REMOVAL OF ITEMS AS INDICATED ON DRAWINGS OR AS OTHERWISE DIRECTED BY OWNER.

2. PROVIDE TEMPORARY PROTECTION AS REQUIRED TO PRESERVE EXISTING ITEMS INDICATED TO REMAIN AND RESTORE DAMAGED WORK TO THE CONDITION EXISTING PRIOR TO START OF WORK, UNLESS OTHERWISE DIRECTED.

3. ELECTRICAL CONTRACTOR SHALL BE COORDINATED WITH OWNER AND MECHANICAL CONTRACTOR BEFORE DISCONNECTING MECHANICAL DEVICES, CONTROLS OR EQUIPMENT.

4. ALL ELECTRICAL DEMOLITION WORK SHALL BE COORDINATED WITH OWNER 72 HOURS PRIOR TO START OF DEMOLITION WORK. ALL ELECTRICAL POWER CIRCUITS TO BE DEMOLISHED SHALL BE TRACED AND IDENTIFIED PRIOR TO EXECUTION OF WORK.

5. ELECTRICAL CONTRACTOR SHALL REMOVE ALL UNUSED AND ABANDONED ELECTRICAL DEVICES.

6. ALL ACTIVE MECHANICAL, ELECTRICAL AND PLUMBING SYSTEMS TO REMAIN SHALL BE FULLY PROTECTED FROM DAMAGE DURING DEMOLITION AND CONSTRUCTION.

7. CONTRACTOR SHALL DEVELOP DETAILED WRITTEN PLAN TO COORDINATE ALL DEMOLITION WORK IN ORDER TO MINIMIZE DOWNTIME OF THE ELECTRICAL SYSTEMS. THIS PLAN SHALL BE COMPLETED AND APPROVED BY THE OWNER. THE PLAN SHALL BE COMPLETED AND SUBMITTED WITHIN 2 WEEKS OF CONTRACTOR SELECTION. OWNER APPROVAL IS REQUIRED BEFORE ANY WORK CAN COMMENCE.

8. THE CONTRACTOR SHALL RESTORE TO ITS ORIGINAL CONDITION WITHOUT EXTRA PAYMENT, ANY OF THE OWNERS PROPERTY OR WORK BY/OF OTHER CONTRACTORS THAT SHALL BECOME DAMAGED DUE TO THE NEGLIGENCE OF EMPLOYEES OR AGENTS OF THE CONTRACTOR. SUCH REPAIRS SHALL MEET THE APPROVAL OF THE OWNER.

9. CONTRACTOR SHALL TAKE PROPER CARE AND PROTECT ALL PORTIONS OF THE WORK UNTIL ITS ACCEPTANCE.

10. THE CONTRACTOR SHALL HAVE A COMPETENT FOREMAN IN RESPONSIBLE CHARGE OF THE WORK WHO SHALL BE ON THE SITE DURING THE DEMOLITION OF THE SYSTEM.

11. AT LEAST ONCE A DAY, OR AS REQUIRED BY THE OWNER, GATHER ALL RUBBISH, INCLUDING CARTONS, CRATES AND PACKAGING MATERIALS, DEBRIS AND OTHER WASTE MATERIALS. WASTE TO BE PLACED IN TRASH BIN/DUMPSTER PROVIDED BY CONTRACTOR.

12. WHEN WORK IS PERFORMED IN OCCUPIED AREAS, TRASH REMOVAL SHOULD BE CONTINUOUS TO PREVENT HEALTH AND SAFETY ISSUES.

13. PROTECT ALL WORK AND EQUIPMENT AGAINST DAMAGE OR THEFT UNTIL FINAL INSPECTION, TESTED AND ACCEPTED. CAREFULLY STORE AND PROTECT MATERIALS AND EQUIPMENT RECEIVED ON SITE WHICH ARE NOT IMMEDIATELY INSTALLED. CLOSE OPEN ENDS OF WORK WITH TEMPORARY PLUGS OR COVERS DURING CONSTRUCTION TO PREVENT ENTRY DEBRIS.

14. PERFORM WORK IN EXISTING BUILDING WHEN AND AS DIRECTED. ALL WORK IS TO BE PERFORMED SO AS TO CAUSE THE LEAST POSSIBLE INCONVENIENCE AND DISTURBANCE TO THE OCCUPANTS.

15. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF ALL PERSONS PERFORMING THE WORK OF THIS CONTRACT.

16. THIS CONTRACTOR SHALL OBTAIN AND READ ALL SITE, JOB AND CORPORATE SAFETY AND SECURITY RULES AND REGULATIONS FROM THE OWNER, AND SIGN OFF ON THEM IF REQUIRED. THIS CONTRACTOR SHALL ADEQUATELY INFORM AND INSTRUCT ALL EMPLOYEES, AND OTHERS PERFORMING WORK FOR HIM, OF SUCH RULES AND REGULATIONS. THESE INSTRUCTIONS ARE THE MINIMUM THAT WILL BE ACCEPTED ON THIS PROJECT.

17. ALL OF THE ABOVE RULES AND REGULATIONS ARE NOT MEANT TO REPLACE OR ELIMINATE INDIVIDUAL CONTRACTORS SAFETY PROGRAMS OR CHANGE ANY LOCAL, STATE OR FEDERAL RULES AND REGULATIONS, BUT RATHER TO AUGMENT THEM AS REQUIRED FOR THE INDIVIDUAL PREMISES ON WHICH THIS WORK IS BEING PERFORMED

18. THE ELECTRICAL CONTRACTOR SHALL SURVEY AND VERIFY ALL PANELS AND BREAKERS POWER THE EQUIPMENT. THE PANEL SCHEDULES SHOWN ON THIS DRAWINGS ARE FOR REFERENCE AND SHALL BE CONFIRMED.

19. ELECTRICAL CONTRACTOR TO DISPOSE OF ALL REMOVED ELECTRICAL MATERIAL.

GENERAL NEW WORK NOTES:

1. INSTALL ALL WORK IN ACCORDANCE WITH THE 2020 NATIONAL ELECTRIC CODE AND ALL APPLICABLE STATE AND LOCAL CODES. WHERE THE PROJECT DRAWINGS AND/OR SPECIFICATIONS DIFFER FROM THE GOVERNING CODE THE MORE STRINGENT REQUIREMENTS WILL GOVERN THE INSTALLATION.

2. CONTRACTOR SHALL PAY FOR ALL REQUIRED PERMITS AND LICENSES REQUIRED UNDER THIS CONTRACT.

3. THE CONTRACTOR SHALL VISIT AND INSPECT THE PREMISES IN ORDER TO BE FAMILIAR THE THE EXISTING SITE CONDITIONS WHICH MAY AFFECT THE INSTALLATION OF THE WORK SHOWN ON THE PROJECT DRAWINGS. NO ADDITIONAL COMPENSATION SHALL BE GRANTED FOR THE CONTRACTOR'S FAILURE TO VISIT AND INSPECT THE SITE.

4. THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL WORK AS SHOWN ON THE PROJECT DRAWINGS AND SPECIFICATIONS WITH THE FOLLOWING UNDERSTANDINGS:
   A. THE PROJECT DRAWINGS ARE ONLY DIAGRAMMATIC IN NATURE AND ARE INTENDED TO OUTLINE THE BASIC SYSTEMS TO BE PROVIDED. THEREFORE MINOR DETAILS AND APPERTURANCES MAY OR NOT BE SHOWN. THE OMISSION OF A MINOR COMPONENT SHALL NOT RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITY TO FURNISH AND INSTALL ALL SUCH ITEMS NECESSARY TO PROVIDE A COMPLETE, OPERATIVE, AND CODE COMPLIANT SYSTEM TO THE OWNER. IF THERE ARE ANY DOUBTS TO THE EXTEND OR SCOPE OF WORK REQUIRED THE ENGINEER SHALL BE CONTACTED TO PROVIDE CLARIFICATION DURING THE BID PHASE
   B. THE PROJECT DRAWINGS SHOW INTENDED EQUIPMENT LOCATIONS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY MINOR ADJUSTMENTS OR RELOCATIONS NECESSARY DUE TO THE CHOICE OF EQUIPMENT AND COORDINATION CONFLICTS. ALL EQUIPMENT RELOCATIONS MUST BE APPROVED BY THE ARCHITECT OR ENGINEER.

5. WORK UNDER THIS CONTRACT INCLUDES THE FURNISHING OF EQUIPMENT, MATERIAL, TOOLS, TRANSPORTATION, SERVICES, SCAFFOLDING, SUPERVISION, LABOR AND OTHER APPURTENANCES REQUIRED FOR THE FABRICATION, INSTALLATION,OR APPLICATION AND COMPLETION OF THE WORK UNDER THIS SECTION AS SHOWN OR IMPLIED ON THE PROJECT DRAWINGS AND SPECIFICATIONS.

6. ELECTRICAL CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS, DIMENSIONS, EXISTING UTILITY LOCATIONS, AND ELECTRICAL EQUIPMENT REQUIREMENTS PRIOR TO STARTING WORK.

7. CONTRACTOR TO SUBMIT CUTSHEETS AND CALCULATIONS WHERE APPLICABLE FOR ANY EQUIPMENT OR DEVICES THAT DIFFER FROM THOSE SPECIFIED ON THE PROJECT DRAWINGS OR SPECIFICATIONS PRIOR TO THE START OF WORK. SUBSTITUTIONS WILL ONLY BE GRANTED THAT REDUCE THE OWNER'S OVERALL INSTALLED COST OR PROVIDE A SUBSTANTIALLY BETTER FINISHED PROJECT.

8. COORDINATE ALL WORK WITH THAT OF OTHER TRADES AFFECTING, OR EFFECTED BY, WORK OF THIS SECTION. COOPERATE WITH SUCH TRADES TO ASSURE THE STEADY PROGRESS OF ALL WORK UNDER THIS CONTRACT.

9. ARRANGE ALL WORK TO PROCEED AS RAPIDLY AS POSSIBLE IN COOPERATION WITH OTHER TRADES. COOPERATE WITH OTHER TRADES TO HAVE ALL WORK RACEWAY, WIRING, ETC TO THE BEST ADVANTAGE.

10. ALL EQUIPMENT, MATERIALS, INSTALLATIONS AND CONSTRUCTION ACTIVITIES SHALL COMPLY WITH ALL REQUIREMENTS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION WHEREVER THEY APPLY.

11. CONTRACTOR SHALL BE RESPONSIBLE FOR PLANNING HIS OWN WORK AND FOR ANY DAMAGE CAUSED TO THE OWNER OR OTHER CONTRACTORS BY IMPROPER WORK EXECUTION OR PLACEMENT OF RACEWAYS, WIRING, AND EQUIPMENT

12. PROVIDE TEMPORARY LIGHTING AND POWER DURING CONSTRUCTION.

13. MAINTAIN ELECTRIC SERVICE CONTINUITY TO ALL EQUIPMENT OUTSIDE OF CONSTRUCTION AREA. NOTIFY TENANTS IN WRITING 48 HOURS IN ADVANCE OF ANTICIPATED UTILITY OUTAGES. OBTAIN WRITTEN PERMISSION TO CONDUCT ALL WORK REQUIRING AN OUTAGE TO OCCUPIED SPACES.

14. CONDUIT RUNS ARE DIAGRAMMATIC AND EQUIPMENT LOCATIONS ARE APPROXIMATE. ELECTRICAL CONTRACTOR IS TO ROUTE CONDUIT AND TO VERIFY EXISTING CONDITIONS IN THE FIELD.

15. All BRANCH CIRCUITS SERVING MOTOR OPERATED EQUIPMENT SHALL BE RUN IN EMT WHERE EXPOSED OR IN FRAMED PARTITIONS FROM THE PANEL BOARD TO DISCONNECT OR CONTROLLER.

16. ALL CONDUIT TERMINATING AT MOTORS, SOLENOID VALVES, VIBRATING DEVICES, DUCT AND PIPE MOUNTED SWITCHES AND DEVICES SHALL TERMINATE IN FLEXIBLE METAL CONDUIT FOR INDOOR EQUIPMENT OR LIQUID-TIGHT FLEXIBLE METAL CONDUIT FOR OUTDOOR EQUIPMENT.

17. ALL BRANCH CIRCUITS SHALL BE IN CONDUIT FROM THE PANEL TO THE FIRST DEVICE. MC CABLE MAY BE USED, WHERE PERMITTED BY CODE, FOR ALL SUBSEQUENT DEVICES.

18. REFER TO DRAWING SPECIFICATIONS FOR WIRING REQUIREMENTS.

19. ALL POWER WIRING TO BE MINIMUM #12 AWG SIZE, ALL CONTROL WIRING TO BE #14 AWG UNLESS OTHERWISE NOTED

20. ALL CONDUIT TO BE 3/4" MINIMUM SIZE UNLESS OTHERWISE NOTED.

21. WIRE ALL 20A CIRCUITS USING #12 AWG, ALL 30A CIRCUITS USING #10 AWG UNLESS OTHERWISE NOTED.

22. SIZE BRANCH CIRCUITS, PANEL HOME RUNS, AND DEVICE CIRCUITING PER NEC 310-15. WHERE SINGLE PHASE 20A AND 30A BRANCH CIRCUITS EXCEED 100 FEET IN LENGTH INCREASE CONDUCTOR SIZE ONE SIZE FOR EVERY ADDITIONAL 100 FEET OF CONDUCTOR LENGTH UNLESS THE CONDUCTOR HAS ALREADY BEEN INCREASED DUE TO CONDUIT FILL DERATING.

23. ALL BRANCH CIRCUITS ARE TO CONTAIN A GREEN COLORED EQUIPMENT GROUNDING CONDUCTOR SIZED PER NEC TABLE 250.95.

24. GROUNDING AND BONDING OF ALL NON CURRENT CARRY METALLIC PARTS OF ALL ELECTRICAL EQUIPMENT AND ENCLOSURES INCLUDING CONDUITS, SUPPORTS, CONTROLLERS, RACEWAYS, TRANSFORMERS, ELECTRICAL PANELS, MOTOR FRAMES, ETC. INSTALLED OR CONNECTED UNDER THIS CONTRACT SHALL BE PROPERLY CONNECTED TO THE GROUNDING SYSTEM, REGARDLESS OF WHETEHER OR NOT THE CONNECTIONS ARE SHOWN ON THE PROJECT DRAWINGS.

25. ALL NEW CIRCUITS SHALL NOT SHARE NEUTRALS UNLESS SHOWN OTHERWISE ON THE PROJECT DRAWINGS. EACH NEW CIRCUIT SHALL BE ROUTED WITH IT'S OWN DEDICATED NEUTRAL FROM OVER CURRENT PROTECTION DEVICE TO POINT OF CONNECTION AT EQUIPMENT.

26. ALL ISOLATED GROUND CIRCUITS SHALL HAVE A DEDICATED #12 IG CONDUCTOR INSTALLED IN ADDITION TO THE SAFETY GROUND CONDUCTOR.

27. PROVIDE INSULATING BUSHINGS FOR CONDUCTOR PROTECTION AT CONDUIT TERMINATIONS.

28. SEAL ALL FLOOR AND WALL PENETRATIONS TO MAINTAIN FIRE RATING OF WALL OR FLOOR. CONSULT SPECIFIED TECHNOLOGIES INC. PRODUCT AND APPLICATION GUIDE (OR EQUIVALENT) TO DETERMINE THE APPROPRIATE FIRE STOP SYSTEM TO BE UTILIZED FOR A GIVEN PENETRATION TYPE. PROVIDE PRODUCTS AND SEAL PENETRATION PER THE MANUFACTURER'S INSTRUCTIONS IN ORDER TO MAINTAIN THE LISTINGS OF THE SEALED PENETRATION. PROVIDE ALL NECESSARY DOCUMENTATION TO THE AUTHORITY HAVING JURISDICTION.

29. PROVIDE ALL ROOF PENETARTIONS IN A MANNER APPLICABLE FOR THE ROOFING SYSTEM AND THAT MAINTAINS ANY EXISTING ROOF WARRANTY.

30. BEFORE ENERGIZING OR STARTING ANY DEVICE OR PIECE OF EQUIPMENT VERIFY THAT IT HAS BEEN INSTALLED INACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. ADHERE TO ALL MANUFACTURER'S GUIDELINES AND START-UP REQUIREMENTS.

31. ALL DISCONNECT SWITCHES, STARTERS, OPERATORS, AND ENCLOSURES SHALL BE UL LISTED AND/OR FACTORY MUTUAL (FM) APPROVED.

32. LOCATE ELECTRICAL EQUIPMENT IN THE FIELD AS SPACE LIMITATIONS AND CONDITIONS PERMIT IN ORDER TO SATISFY MINIMUM WORKING SPACE OF NEC 110-26.

33. PROVIDE MOUNTING FRAMES AND STRUCTURAL SUPPORT FROM PLATFORMS, FLOORS, AND CEILING STEEL AS REQUIRED FOR ELECTRICAL EQUIPMENT. STRUCTURAL SUPPORT SHALL BE CONSTRUCTED TO MAINTAIN A SAFETY FACTOR OF 4 WITH A 200 LB MINIMUM.

34. LABEL ALL NEW ELECTRICAL EQUIPMENT, PANELS WITH MINIMUM 1/2" LETTERS USING THERMAL TRANSFER LABEL SYSTEM. PROVIDE TYPE WRITTEN PANEL SCHEDULES FOR ALL PANEL BOARDS.

35. NO COMBUSTIBLE MATERIALS SHALL BE UTILIZED IN CEILING PLENUMS.

36. CONTRACTOR TO FOLLOW ALL OWNER SITE AND SAFETY RULES. CONTRACTOR IS RESPONSIBLE FOR DAILY SITE CLEANING FOR THEIR ACTIVITIES. BROOM CLEAN DAILY AND REMOVE ALL CONSTRUCTION DEBRIS FROM THE BUILDING AND GROUNDS DAILY

37. ALL MECHANICAL ROTATING EQUIPMENT SHALL BE TESTED TO INSURE PROPER ROTATION. CHECK ALL BEARINGS FOR PROPER LUBRICATION PRIOR TO START-UP.

38. CONTRACTOR SHALL CONDUCT A TEST OF THE EMERGENCY AND EGRESS LIGHTING WHEN REQUIRED BY THE AUTHORITY HAVING JURISDICTION.

39. UPON COMPLETION PROVIDE AN ACCURATE "MARKED-UP" SET OF PROJECT DRAWINGS REFLECTING ALL FIELD CHANGES TO THE OWNER.

40. WHERE EXISTING POWER PANELS WILL BE PROVIDING NEW POWER CIRCUITS, THE CONTRACTOR SHALL INSTALL AN AMP METER FOR A PERIOD OF ONE (1) WEEK WITH READINGS TAKEN EVERY 15 MINUTES. THE RESULTS OF THE TESTING SHALL BE PROVIDED TO THE ENGINEER FOR REVIEW IN GRAPHICAL FORMAT. THE PANEL METERING SHALL BEGIN WITHIN THREE (3) WEEKS OF CONTRACT AWARD.

41. ALL BRANCH CIRCUITS THAT WILL BE REUSED, MODIFIED OR REMOVED SHALL BE TRACED BY THE CONTRACTOR TO ENSURE THE IDENTIFYING CIRCUIT & CORRESPONDING BREAKER SERVES THE INDICATED EQUIPMENT.

42. ELECTRICAL CONTRACTOR SHALL INSTALL AND WIRE CONTROLS FOR ELECTRIC HEATING EQUIPMENT SPECIFIED IN EQUIPMENT SCHEDULES.

CM ENGINEERS, LLC
385 ROUTE 24, SUITE 3-O, CHESTER, NJ 07930
TEL (908) 879-1801
WWW.CMENGINEERS.COM
NEW JERSEY STATE BOARD OF PROFESSIONAL ENGINEERS AND LAND SURVEYORS
CERTIFICATE OF AUTHORIZATION:
24GA28121800
PRINCIPAL IN CHARGE: JOSEPH T. MISTRETTA, PE

N.J. PROFESSIONAL ENGINEER LICENSE NUMBER:
24GE02823800

WILLIAM D. HOPKINS III, AIA, LEED AP
NJ - 21AI01706000 | PA - RA012520X
JASON J. DUBOWITCH, AIA
NJ - 21AI01979800 | PA - RA406009
STEPHEN W. SCHREYER JR., AIA, LEED AP BD+C
NJ - 21AI02003100 | PA - RA410435

William D. Hopkins
Architect
01/29/26
Date

EST 1918
FVHD architects planners
Fraytak Veisz Hopkins Duthie PC
Corporate: 1515 Lower Ferry Road - Trenton - New Jersey 08618
Pennsylvania: 820 Adams Ave., Suite 210 - Audubon - Pennsylvania 19403
FVHDPC.COM

Project Name
HVAC Renovations at Princeton High School

Project Owner Name
Princeton Public Schools

Project Location
151 Moore Street,
Princeton, NJ
08540

Project Number
5516E

Project Date
01.29.2026

Checked By
JTM

Drawn By
JD

Scale
AS NOTED

Drawing Name
ELECTRICAL - SCHEDULES & DETAILS

Revisions

No.	Date	Description

Drawing Number
E-701

Panel Type: NEMA 1, MCB
Mounting: WALL
Fed From: MP-B1, SEC #1
Location: BOILER RM

PNL FEEDER PROTECTION: MCB
MAIN BREAKER RATING: 125A
PNL. SHORT CIR. RATING: 65KA,SYM.
PNL. BUS RATING: 250A

MP-BLR

PANEL VOLTAGE: 480Y/277V
PHASE: 3
WIRE: 4

CKT. DESCRIPTION	HOMERUNS				BREAKER		LOAD	CIR.	PHASE			CIR.	LOAD	BREAKER		HOMERUNS				CKT. DESCRIPTION
	WIRE QTY.	WIRE SIZE	GND SIZE	COND. SIZE	POLE	AMPS	KVA	NO.	A	B	C	NO.	KVA	AMPS	POLE	COND. SIZE	GND SIZE	WIRE SIZE	WIRE QTY.	
HW BOILER #1 PUMP	3	#12	#12	3/4"	3	20	9.1	1	●			2	9.1	20	3	3/4"	#12	#12	3	HW BOILER PUMP #2
								3		●		4								
								5			●	6								
HW BOILER #3 PUMP	3	#12	#12	3/4"	3	20	9.1	7	●			8	9.1	20	3	3/4"	#12	#12	3	HW BOILER PUMP #4
								9		●		10								
								11			●	12								
HW BOILER #1	3	#12	#12	3/4"	3	20	5.8	13	●			14	5.8	20	3	3/4"	#12	#12	3	HW BOILER #2
								15		●		16								
								17			●	18								
HW BOILER #3	3	#12	#12	3/4"	3	20	5.8	19	●			20	5.8	20	3	3/4"	#12	#12	3	HW BOILER #4
								21		●		22								
								23			●	24								
FLT-1	3	#12	#12	3/4"	3	20	4.2	25	●			26		30	3					SPARE
								27		●		28								
								29			●	30								
SPARE					3	20		31	●			32		30	3					SPARE
								33		●		34								
								35			●	36								
BOILER RM BAS CTRL PANEL	2	#12	#12	3/4"	1	20	2.7	37	●			38	0.5	15	1	3/4"	#12	#12	2	EF-B10
SPACE								39		●		40								SPACE
SPACE								41			●	42								SPACE
SPACE								43	●			44								SPACE
SPACE								45		●		46								SPACE
SPACE								47			●	48								SPACE
SPACE								49	●			50								SPACE
SPACE								51		●		52								SPACE
SPACE								53			●	54								SPACE

PANEL MFR: SQUARE D, NF PANELBOARD, HINGED LOCKING COVER
BUS: 250A COPPER
NO. OF CKTS: 54
SS RATING: NON-SERIES

		24	21	21		0
	TOT.	CON.	67	KVA		100
CONN.	and	SPR.	67	KVA		
	TOT.	**DEM**	**67**	**KVA**		
	TOT.	**DEM**	**81**	**Amp**	at	480 V

% SPARE CAPACITY
% DEMAND FACTOR
REMARKS:
1. BUS TO BE COPPER
2. CU NEUTRAL & GROUND BAR

100% NEUTRAL

Panel Type: NEMA 1, MCB (LSI)
Mounting: WALL
Fed From: MAIN SWITCHBOARD
Location: STING STOR 093A

PNL FEEDER PROTECTION: MCB
MAIN BREAKER RATING: 800A
PNL. SHORT CIR. RATING: 65KA,SYM.
PNL. BUS RATING: 800A

MP-3F

PANEL VOLTAGE: 480V
PHASE: 3
WIRE: 3

CKT. DESCRIPTION	HOMERUNS				BREAKER		LOAD	CIR.	PHASE			CIR.	LOAD	BREAKER		HOMERUNS				CKT. DESCRIPTION
	WIRE QTY.	WIRE SIZE	GND SIZE	COND. SIZE	POLE	AMPS	KVA	NO.	A	B	C	NO.	KVA	AMPS	POLE	COND. SIZE	GND SIZE	WIRE SIZE	WIRE QTY.	
AHU-G1	3	250 MCM	#3	2-1/2"	3	225	163	1	●	●	●	2	97.2	150	3	2"	#4	#2/0	3	AHU-E1 (ALT #1)
SPACE (100A FRAME)								3	●	●	●	4								SPACE (100A FRAME)
SPACE (200A FRAME)								5	●	●	●	6								SPACE (200A FRAME)
SPACE (400A FRAME)								7	●	●	●	8								SPACE (200A FRAME)

PANEL MFR: SQUARE D, I-LINE, LOCKING HINGED COVER
BUS: 800A SILVER PLATED COPPER
NO. OF CKTS: 12
SS RATING: NON-SERIES

		87	87	87		0
	TOT.	CON.	260	KVA		100
CONN.	and	SPR.	260	KVA		
	TOT.	**DEM**	**260**	**KVA**		
	TOT.	**DEM**	**313**	**Amp**	at	480 V

% SPARE CAPACITY
% DEMAND FACTOR
REMARKS:
1. BUS TO BE COPPER
2. CU NEUTRAL & GROUND BAR

100% NEUTRAL

Panel Type: NEMA 1, MCB (225A)
Mounting: SURFACE
Fed From: DP-HV3/THP-2
Location: MECH ROOM 136C, 1ST FL

PNL FEEDER PROTECTION: FUSED DISC
PANEL BREAKER RATING: 225A
PNL. SHORT CIR. RATING: 65KA,SYM.
PNL. BUS RATING: 225A

PANEL HP-2

PANEL VOLTAGE: 208Y/120V
PHASE: 3
WIRE: 4

CKT. DESCRIPTION	HOMERUNS				BREAKER		LOAD	CIR.	PHASE			CIR.	LOAD	BREAKER		HOMERUNS				CKT. DESCRIPTION
	WIRE QTY.	WIRE SIZE	GND SIZE	COND. SIZE	POLE	AMPS	KVA	NO.	A	B	C	NO.	KVA	AMPS	POLE	COND. SIZE	GND SIZE	WIRE SIZE	WIRE QTY.	
FCU-5	2	#12	#12	3/4"	1	15	0.46	1	●			2	1.1	20	1	3/4"	#10	#10	2	ERP-1&2 (WOMEN'S TLT RM)
ERP-1&2 (MEN'S TLT RM)	2	#8	#10	3/4"	1	20	1.1	3		●		4	1.5	20	1	3/4"	#10	#10	2	EWC-1 (OFFICE 278 TLT RM)
EWC-1 (MAINT 279 TLT RM)	2	#10	#10	3/4"	1	20	1.5	5			●	6	1.5	20	1	3/4"	#10	#10	2	EWC-1 (UPPER TOWER)
EBB-5 (UPPER TOWER)	2	#10	#10	3/4"	2	20	2.5	7	●			8	1.5	20	2	3/4"	#10	#10	2	EBB-3 (MAINT 279)
								9		●		10								
EBB-3 (STAIR S-1)	2	#10	#10	3/4"	2	20	1.5	11			●	12	2.0	20	2	3/4"	#10	#10	2	EBB-4 (CONF RM 200)
								13	●			14								
EBB-4 (CONF RM 200)	2	#10	#10	3/4"	2	20	2.0	15		●		16	2.5	20	2	3/4"	#10	#10	2	EBB-5 (CONF RM 200)
								17			●	18								
EBB-3 (STAIR S-8)	2	#10	#10	3/4"	2	20	1.5	19	●			20	1.5	20	2	3/4"	#10	#10	2	EBB-3 (STOR 148.1)
								21		●		22								
EBB-3 (STOR 148.1, SECT 1&2)	2	#8	#10	3/4"	2	20	3.0	23			●	24	1.5	20	2	3/4"	#10	#10	2	EBB-3 (TECH OFFICE 272)
								25	●			26								
ECUH-2 (STAIR S-7)	3	#8	#8	3/4"	3	25	6.3	27		●		28	6.3	25	3	3/4"	#10	#10	3	ECUH-2 (STAIR S-12)
								29			●	30								
								31	●			32								
SPARE					1	20		33		●		34		20	1					SPARE
SPARE					1	20		35			●	36		20	1					SPARE
SPARE					1	20		37	●			38		20	1					SPARE
SPARE					1	20		39		●		40		20	1					SPARE
SPACE								41			●	42								SPACE
SPACE								43	●			44								SPACE
SPACE								45		●		46								SPACE
SPACE								47			●	48								SPACE
SPACE								49	●			50								SPACE
SPACE								51		●		52								SPACE
SPACE								53			●	54								SPACE

PANEL MFR: SQUARE D
STYLE: NQ, SURFACE MOUNTED, LOCKING HINGED COVER
NO. OF CKTS: 54
SS RATING: NON-SERIES

		13	13	13		0
	TOT.	CON.	39	KVA		100
CONN.	and	SPR.	39	KVA		
	TOT.	**DEM**	**39**	**KVA**		
	TOT.	**DEM**	**109**	**Amp**	at	208 V

% SPARE CAPACITY
% DEMAND FACTOR
REMARKS:
1. BUS TO BE COPPER
2. COPPER NEATRAL & GROUND BAR
100% NEUTRAL

Panel Type: NEMA 1, MLO
Mounting: WALL
Fed From: MPHV-AD
Location: ELEC CLOSET 93C

PNL FEEDER PROTECTION: MCB
MAIN BREAKER RATING: 400A
PNL. SHORT CIR. RATING: 65KA,SYM.
PNL. BUS RATING: 400A

MP-2F

PANEL VOLTAGE: 480Y/277V
PHASE: 3
WIRE: 4

CKT. DESCRIPTION	HOMERUNS				BREAKER		LOAD	CIR.	PHASE			CIR.	LOAD	BREAKER		HOMERUNS				CKT. DESCRIPTION
	WIRE QTY.	WIRE SIZE	GND SIZE	COND. SIZE	POLE	AMPS	KVA	NO.	A	B	C	NO.	KVA	AMPS	POLE	COND. SIZE	GND SIZE	WIRE SIZE	WIRE QTY.	
AHU-F2	3	#1	#8	1-1/2"	3	100	64.8	1	●			2	24.9	35	3	3/4"	#10	#8	3	AHU-F4
								3		●		4								
								5			●	6								
AHU-F6	3	#1	#8	1-1/2"	3	100	61.5	7	●			8	36.6	70	3	1-1/4"	#8	#4	3	AHU-F7
								9		●		10								
								11			●	12								
UNKNOWN BREAKER	3	#8	#10	3/4"	3	40	26.6	13	●			14	49.1	100	3	1-1/2"	#8	#1	3	PANEL 'LPAD'
								15		●		16								
								17			●	18								
SPACE								19	●			20								SPACE
SPACE								21		●		22								SPACE
SPACE								23			●	24								SPACE
SPACE								25	●			26								SPACE
SPACE								27		●		28								SPACE
SPACE								29			●	30								SPACE
SPACE								31	●			32								SPACE
SPACE								33		●		34								SPACE
SPACE								35			●	36								SPACE
SPACE								37	●			38								SPACE
SPACE								39		●		40								SPACE
SPACE								41			●	42								SPACE

PANEL MFR: SQUARE D, NF PANELBOARD, HINGED LOCKING COVER
BUS: 400A COPPER
NO. OF CKTS: 42
SS RATING: NON-SERIES

		88	88	88		0
	TOT.	CON.	264	KVA		100
CONN.	and	SPR.	264	KVA		
	TOT.	**DEM**	**264**	**KVA**		
	TOT.	**DEM**	**317**	**Amp**	at	480 V

% SPARE CAPACITY
% DEMAND FACTOR
REMARKS:
1. BUS TO BE COPPER
2. CU NEUTRAL & GROUND BAR

100% NEUTRAL

Panel Type: NEMA 1, MCB (225A)
Mounting: SURFACE
Fed From: DPHV-3B/THP-1
Location: MECH ROOM 136C, 1ST FL

PNL FEEDER PROTECTION: FUSED DISC
PANEL BREAKER RATING: 225A
PNL. SHORT CIR. RATING: 65KA,SYM.
PNL. BUS RATING: 225A

PANEL HP-1

PANEL VOLTAGE: 208Y/120V
PHASE: 3
WIRE: 4

CKT. DESCRIPTION	HOMERUNS				BREAKER		LOAD	CIR.	PHASE			CIR.	LOAD	BREAKER		HOMERUNS				CKT. DESCRIPTION
	WIRE QTY.	WIRE SIZE	GND SIZE	COND. SIZE	POLE	AMPS	KVA	NO.	A	B	C	NO.	KVA	AMPS	POLE	COND. SIZE	GND SIZE	WIRE SIZE	WIRE QTY.	
FCU-4	2	#12	#12	3/4"	1	15	0.46	1	●			2	1.1	20	1	3/4"	#10	#10	2	ERP-1&2 MEEN'S TLT RM 177M)
ERP-1&2 (MEN'S TLT RM 151M)	2	#10	#10	3/4"	1	20	1.1	3		●		4	0.46	20	1	3/4"	#10	#10	2	FCU-2
FCU-3	2	#12	#12	3/4"	1	15	0.46	5			●	6	0.46	20	1	3/4"	#12	#12	2	FCU-1
SPARE					1	20		7	●			8		20	1					SPARE
EBB-4 (ASST PRINC 101D)	2	#12	#12	3/4"	2	20	2.0	9		●		10	2.0	20	2	3/4"	#12	#12	2	EBB-4 (PRINC 101B)
								11			●	12								
EBB-3 (STAIR S-8)	2	#10	#10	3/4"	2	20	1.5	13	●			14	1.5	20	2	3/4"	#10	#10	2	EWC-2 (TLT RM 106C1)
								15		●		16								
ECUH-3 (STAIR VESTIBULE S-1)	3	#6	#8	1"	3	50	12.6	17			●	18	1.5	20	2	3/4"	#10	#10	2	EWC-2 (TLT RM 106C1)
								19	●			20								
								21		●		22	1.5	20	2	3/4"	#12	#12	2	EWC-2 (PRINC TLT RM)
ECUH-3 (CORR C-1)	3	#6	#8	1"	3	50	12.6	23			●	24								
								25	●			26		20	1					SPARE
								27		●		28		20	1					SPARE
ECUH-1 (STAIR S-7)	3	#4	#8	1"	3	50	12.6	29			●	30		20	1					SPARE
								31	●			32		20	1					SPARE
								33		●		34		20	1					SPARE
EWC-2 (ASST PRINC TLT RM)	2	#12	#12	3/4"	2	20	1.5	35			●	36		20	1					SPARE
								37	●			38		20	1					SPARE
SPACE								39		●		40								SPACE
SPACE								41			●	42								SPACE
SPACE								43	●			44								SPACE
SPACE								45		●		46								SPACE
SPACE								47			●	48								SPACE
SPACE								49	●			50								SPACE
SPACE								51		●		52								SPACE
SPACE								53			●	54								SPACE

PANEL MFR: SQUARE D
STYLE: NQ, SURFACE MOUNTED, LOCKING HINGED COVER
NO. OF CKTS: 54
SS RATING: NON-SERIES

		17	18	18		0
	TOT.	CON.	53	KVA		100
CONN.	and	SPR.	53	KVA		
	TOT.	**DEM**	**53**	**KVA**		
	TOT.	**DEM**	**148**	**Amp**	at	208 V

% SPARE CAPACITY
% DEMAND FACTOR
REMARKS:
1. BUS TO BE COPPER
2. COPPER NEATRAL & GROUND BAR
100% NEUTRAL

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Architect
01/29/26
Date

EST 1918
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Project Name
HVAC Renovations at Princeton High School

Project Owner Name
Princeton Public Schools

Project Location
151 Moore Street,
Princeton, NJ
08540

Project Number
5516E

Project Date
01.29. 2026

Checked By
JTM

Drawn By
JD

Scale
AS NOTED

Drawing Name
ELECTRICAL - PANEL SCHEDULES

Revisions

No.	Date	Description

Drawing Number
E-702

ELECTRICAL SPECIFICATION

WORK INCLUDED

A. INCLUDE ALL LABOR, MATERIALS, APPLIANCES, TOOLS, TRANSPORTATION, STORAGE, CERTIFICATES, DRAWINGS, TEMPORARY WORK, CLEANING, START–UP, COMMISSIONING AND ALL OTHER CONTRACTOR SERVICES REQUIRED TO MAKE THE INSTALLATION COMPLETE IN EVERY RESPECT, GUARANTEED TO BE SAFE AND READY FOR USE AND OPERATION IN A MANNER SATISFACTORY TO THE OWNER AND ALL THE MECHANICAL WORK SHOWN ON THE DRAWINGS AND AS SPECIFIED HEREIN.

B. ELECTRICAL WORK SHALL INCLUDE PROVIDING POWER AND 120V OR HIGHER, FOR ALL EQUIPMENT, STARTERS, DISCONNECT SWITCHES, INTERLOCK CONTROL WIRING OF MOTORS AND 120V TO CONTROL PANELS.

C. THE ELECTRICAL CONTRACTOR SHALL PERFORM ALL WORK IN ACCORDANCE WITH THE LATEST APPROVED VERSION OF NFPA 70E.

D. WHERE THERE IS CONFLICT BETWEEN THE SPECIFICATIONS ON THE DRAWINGS AND THE ISSUED BOOK SPECIFICATIONS FOR THE PROJECT, THE SPECIFICATIONS ON THE DRAWINGS SHALL BE FOLLOWED BY THE CONTRACTOR.

LAWS AND ORDINANCES

A. ALL LOCAL AND STATE LAWS AND REGULATIONS AND RECOMMENDATIONS OF THE NATIONAL FIRE PROTECTION ASSOCIATION, UNDERWRITERS LABORATORIES AND INTERNATIONAL BUILDING CODES GOVERNING OR RELATING TO ANY PORTION OF THIS WORK ARE HEREBY MADE PART OF THESE SPECIFICATIONS. RESPONSIBILITY FOR COMPLIANCE TO THEIR PROVISIONS IS INCLUDED.

B. INFORM THE ENGINEER OF ANY WORK OR MATERIALS, WHICH OBVIOUSLY VIOLATES ANY OF THE APPLICABLE CODES AND REGULATIONS BEFORE PROCEEDING WITH THE WORK. FAILURE TO DO SO INDICATES ACCEPTANCE OF THE WORK AS SHOWN BY THE ENGINEER, AND RESPONSIBILITY FOR CORRECTING SUCH WORK SHALL BE MADE BY THE CONTRACTOR AT NO COST TO THE OWNER.

C. ALL WORK SHALL MEET OR EXCEED THE LATEST REQUIREMENTS OF ALL NATIONAL, STATE, COUNTY, LOCAL OR MUNICIPAL, AND OTHER RECOGNIZED AUTHORITIES EXERCISING OR ASSERTING JURISDICTION OVER THE CONSTRUCTION WORK AT THE PROJECT.

D. EQUIPMENT, MATERIAL AND INSTALLATION SHALL COMPLY WITH THE LATEST APPROVED VERSIONS OF THE FOLLOWING CODES, ORDINANACES AND STARDARDS, AS APPLICIABLE. NFPA 70, NFPA 70E, FACTORY MUTUAL FIRE CO. (FM), FACTORY INSURANCE ASSOC. (FIA), INSTITUTE OF ELECTRICAL & ELECTRONICS ENGINEERS (IEEE), NATIONAL ELECTRICAL MANUFACTURERS ASSOC. (NEMA), NFPA, INSTITUTE OF POWER CABLE ENGINEERS ASSOC. (IPCEA) NATIONAL SAFETY CODE (NESC), UNDERWRITER'S LABORATORIES, INC. (UL) AND OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA).

STANDARDS

A. MATERIALS SPECIFIED BY REFERENCE TO A SPECIFIC STANDARD SUCH AS THE AMERICAN SOCIETY OF TESTING MATERIALS, UNDERWRITERS LABORATORIES, AMERICAN NATIONAL STANDARDS INSTITUTE, FEDERAL SPECIFICATIONS, A TRADE STANDARD OR OTHER SIMILAR STANDARD SHALL COMPLY WITH THE LATEST REVISION THEREOF IN EFFECT AT THE TIME OF BIDDING, EXCEPT AS MODIFIED BY TYPE, CLASS OR GRADE OR MODIFIED BY SUCH REFERENCE.

B. WHERE COMPLIANCE WITH TWO OR MORE STANDARDS IS SPECIFIED, AND THEY ESTABLISH DIFFERENT OR CONFLICTING REQUIREMENTS FOR MINIMUM QUANTITIES OR QUALITY LEVELS, THE MORE STRINGENT REQUIREMENTS WILL BE ENFORCED UNLESS THE CONTRACT DOCUMENTS INDICATE OTHERWISE.

C. REFER REQUIREMENTS THAT ARE DIFFERENT, BUT APPARENTLY EQUAL, AND UNCERTAINTIES AS TO WHICH QUALITY LEVEL IS MORE STRINGENT TO THE ENGINEER BEFORE PROCEEDING.

INTENT OF THE DRAWINGS AND SPECIFICATIONS

A. IT IS THE INTENT OF THESE SPECIFICATIONS TO PROVIDE COMPLETE SYSTEMS IN GOOD WORKING ORDER, READY FOR OPERATION, INCLUDING ALL ACCESSORIES AND ITEMS REQUIRED FOR PROPER OPERATION.

B. IT SHALL BE UNDERSTOOD THAT THE ELECTRICAL DRAWINGS SHOW THE GENERAL RUN OF PIPING, DUCTWORK AND THE APPROXIMATE LOCATION OF ALL EQUIPMENT. DO NOT SCALE THE DRAWINGS TO DETERMINE EXACT POSITIONS AND CLEARANCES. OBTAIN FROM THE ARCHITECT ANY DIMENSIONS NOT SHOWN.

C. METHODS OF CONSTRUCTION AND DETAILS OF WORKMANSHIP WHERE NOT SPECIFICALLY DESCRIBED HEREIN OR INDICATED ON THE DRAWINGS ARE SUBJECT TO THE OWNER'S APPROVAL.

D. MAKE A THOROUGH EXAMINATION OF ALL SURFACES RECEIVING THE WORK OF THIS SECTION, AND BEFORE STARTING THE INSTALLATION, NOTIFY THE ENGINEER IN WRITING OF ANY DEFECT WHICH WILL AFFECT THE SATISFACTORY COMPLETION OF ANY WORK.

E. CONTRACTOR SHALL CONFORM TO THE OWNER'S SITE STANDARDS FOR QUALITY, WORKMANSHIP, MATERIALS, EQUIPMENT, ETC. IF THERE IS A DISCREPANCY BETWEEN THE SITE STANDARD AND INFORMATION SHOWN ON THE DRAWINGS OR SPECIFICATIONS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER. THE ENGINEER WILL CONFER WITH THE OWNER AND THE CONTRACTOR WILL BE INSTRUCTED ON HOW TO PROCEED.

PERMITS AND CERTIFICATES

A. THIS CONTRACTOR SHALL OBTAIN ALL NECESSARY NOTICES, FILE DRAWINGS AND SPECIFICATIONS WITH THE DEPARTMENTS OR AUTHORITIES ASSERTING OR HAVING JURISDICTION, OBTAIN PERMITS OR LICENSES NECESSARY TO CARRY OUT THE WORK.

B. THE CONTRACTOR SHALL ARRANGE FOR INSPECTIONS AND TESTS OF ANY OR PART OF THE WORK IF SO REQUIRED BY AUTHORITIES OR LOCAL UTILITY OR SERVICE COMPANIES HAVING JURISDICTION. NOTIFY OWNER AND ENGINEER 72 HOURS IN ADVANCE OF ALL INSPECTIONS.

C. THE CONTRACTOR SHALL OBTAIN ALL CERTIFICATES NECESSARY AS EVIDENCE THAT THE WORK INSTALLED CONFORMS TO ALL REGULATIONS WHERE THEY APPLY TO THIS WORK.

D. THE CONTRACTOR SHALL NOTIFY THE OWNER IN A TIMELY MANNER THAT INSPECTIONS ARE REQUIRED, SO AS NOT TO HOLD UP THE PROGRESS OF THE WORK.

RELATIONS WITH OTHER TRADES

A. CONFER WITH OTHERS ENGAGED IN THE CONSTRUCTION OF THE BUILDING WHOSE WORK MIGHT AFFECT THE INSTALLATION, AND ARRANGE ALL PARTS OF THE WORK AND EQUIPMENT IN PROPER RELATION TO THE WORK AND EQUIPMENT OF OTHERS, WITH THE BUILDING CONSTRUCTION AND WITH THE ARCHITECTURAL FINISH SO THAT IT WILL HARMONIZE IN SERVICE AND APPEARANCE. SPECIAL CARE SHALL BE TAKEN IN THE INSTALLATION OF EQUIPMENT AND PIPING WHERE CONCEALED TO ASSURE THAT IT DOES NOT PROJECT BEYOND FINISHED LINES OF FLOORS, CEILINGS, WALLS AND CABINETS.

B. WHERE, DUE TO UNION REGULATIONS OR OTHER TRADE AGREEMENTS, ANY OF THE WORK SHOWN ON THE DRAWINGS OR SPECIFIED HEREIN IS CONSIDERED OTHER TRADES, SUBCONTRACT THE WORK IN QUESTION AND ASSUME FULL RESPONSIBILITY FOR THE COMPLETE INSTALLATION.

APPROVED MATERIALS

A. ALL MATERIAL AND EQUIPMENT SHALL BE NEW (EXCEPT WHERE FURNISHED OR DIRECTED FOR RE–USE BY OWNER),OF MAKES AND KINDS SPECIFIED HEREIN, OR AS INCLUDED IN THE DRAWINGS, WITHOUT EXCEPTION. WHERE ONE BRAND, MAKE OR DEVICE IS SHOWN OR SPECIFIED, THE PRODUCTS OF OTHER MANUFACTURERS SHALL BE REGARDED AS ACCEPTABLE WHEN, IN THE OPINION OF THE ENGINEER, IT IS A RECOGNIZED EQUAL CONSIDERING QUALITY, WORKMANSHIP, ECONOMY OF OPERATION AND SUITABILITY FOR THE PURPOSE INTENDED.

B. WHERE SUCH APPROVED SUBSTITUTION OR DEVIATION REQUIRES A DIFFERENT QUANTITY OR ARRANGEMENT OF PIPING, WIRING, SUPPORTS, FOUNDATIONS, DUCTWORK, AND ANY OTHER EQUIPMENT OR ACCESSORIES NORMAL TO THIS EQUIPMENT, FURNISH SAID CHANGES AND ADDITIONS, AND PAY ALL COSTS FOR ALL CHANGES TO THIS WORK AND THE WORK OF OTHER TRADES AFFECTED BY THE SUBSTITUTION OR DEVIATION.

SUBMITTALS, SCHEDULE AND SHOP DRAWINGS

A. EQUIPMENT AND MATERIALS MUST BE INACCORDANCE WITH DRAWINGS AND SPECIFICATIONS. NO SUBSTITUTIONS ARE ALLOWED UNLESS DENOTED BY CONTRACTOR AND APPROVED BY ENGINEER. EIGHT (8) COPIES WILL BE PROVIDED ALONG WITH AN INDEX OF SUBMITTALS TO BE PROVIDED. ALL SUBMITTALS MUST BE IDENTIFIED WITH THE SAME NAME USED ON THE DRAWINGS.

B. PROVIDE A CONSTRUCTION SCHEDULE USING MICROSOFT PROJECT MANAGER INCLUDING LEAD TIMES FOR EQUIPMENT, PHASING, ETC.

C. SUBMIT SHOP DRAWINGS AND OBTAIN WRITTEN APPROVAL OF SAME BEFORE ORDERING OR INSTALLING ANY OF THE EQUIPMENT OR MATERIAL. EQUIPMENT OR MATERIAL ORDERED OR INSTALLED WITHOUT WRITTEN APPROVAL WILL NOT BE ACCEPTED. SHOP DRAWINGS SHALL BE PRESENTED ON AUTOCAD VERSION 2010 OR LATER. SHOP DRAWING SCALE SHALL BE NO SMALLER THAN ¼ INCHES EQUALS 1 FOOT.

D. THE CHECKING OF SHOP DRAWING AND SAMPLES AND THE USE OF THE APPROVAL STAMP WILL BE ONLY FOR CONFORMANCE WITH THE DESIGN CONCEPT. THE STAMP OF APPROVAL DOES NOT INDICATE APPROVAL OF EVERY DETAIL OF THE DRAWINGS NOR OF THE WORK AND METHODS INDICATED THEREON.

HANGER, SUPPORTS AND SEISMIC RESTRAINTS

A. CONTRACTOR TO OBTAIN THE DESIGN AND PREPARATION OF SHOP DRAWINGS FOR CONDUITS, CABLE TRAYS AND EQUIPMENT SUPPORTS AND SEISMIC RESTRAINTS AS SPECIFIED IN THE INTERNATIONAL BUILDING CODE FROM A QUALIFIED PROFESSIONAL ENGINEER. ALL DRAWINGS SHALL BE SEALED AND SIGNED BY A QUALIFIED PROFESSIONAL ENGINEER. UNLESS SPECIFIED, THE SEISMIC DESIGN CATEGORY IS B.

EQUIPMENT START–UP

ALL ELECTRICAL EQUIPMENT START–UP SHALL BE CONDUCTED BY MANUFACTURER'S REPRESENTATIVE. START–UP CHECKLISTS SHALL BE COMPLETED AND PROVIDED TO THE OWNER.

CUTTING AND PATCHING

A. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE CUTTING, PATCHING AND FIRE STOPPING OF ALL HOLES/HANGERS REQUIRED TO INSTALL MATERIALS AND EQUIPMENT THEY SUPPLY.

B. NO STRUCTURAL ELEMENTS SHALL BE CUT OR DRILLED.

C. THE CONTRACTOR SHALL REPLACE THE INTEGRITY OF RATED PARTITIONS, COLUMN AND BEAM FIREPROOFING EFFECTED BY ITS WORK.

RECORD DRAWINGS

FURNISH AS–BUILT DRAWINGS AS PART OF THIS WORK, CONSISTING OF A COMPLETE SET OF AUTOCAD VERSION 2004 COMPATIBLE DRAWINGS ON CD AND INDICATING IN A NEAT AND ACCURATE MANNER A COMPLETE RECORD OF ALL REVISIONS OF THE ORIGINAL DESIGN OF THE WORK. THIS SHALL INCLUDE CHANGES AND ADDENDUM OF THIS SECTION WHICH EXISTS IN THE COMPLETED WORK. DURING CONSTRUCTION KEEP AN ACCURATE RECORD ON A SET OF CONTRACT DRAWINGS, ALL DEVIATIONS BETWEEN THE WORK SHOWN AND THE WORK INSTALLED. ELECTRONIC FILES SHALL BEAR THE NOTATION "RECORD DRAWINGS OF WORK AS–BUILT", AND MUST BE DELIVERED TO THE ENGINEER AT THE COMPLETION OF THE WORK. INCLUDE IN THE BID AND BEAR THE COST OF THESE ELECTRONIC FILES.

DAMAGE TO PROPERTY

A. RESTORE TO ITS ORIGINAL CONDITION WITHOUT EXTRA PAYMENT, ANY OF THE OWNERS PROPERTY OR PROPERTY OR WORK BY/OF OTHER CONTRACTORS THAT SHALL BECOME DAMAGED DUE TO THE NEGLIGENCE OF EMPLOYEES OR AGENTS OF THE CONTRACTOR. SUCH REPAIRS SHALL MEET THE APPROVAL OF THE OWNER. PARTICULAR CARE SHALL BE EXERCISED WITHIN ROOMS OF SPECIAL CONSTRUCTION, SUCH AS CLEAN AND STERILE ROOMS, FROM SCRATCHING OR OTHER IMPERFECTIONS CAUSED BY INSTALLATION OF WORK UNDER THIS CONTRACT.BT

B. TAKE PROPER CARE AND PROTECT ALL PORTIONS OF THE WORK UNTIL ITS ACCEPTANCE. ANY AND ALL PORTIONS OF THE WORK LIABLE TO DAMAGE UNDER THIS OR OTHER SECTIONS, BY FREEZING OR INCLEMENT WEATHER MUST BE THOROUGHLY AND COMPLETELY PROTECTED BY ANY SUBSTANTIAL MEANS UNTIL NOT FURTHER REQUIRED. IT SHALL BE REMOVED FROM THE PREMISES ONLY WHEN ITS REMOVAL IS APPROVED BY THE ENGINEER.

C. PROTECT PLATED AND POLISHED MATERIAL AND TRIMMINGS AGAINST DAMAGE.

REPLACEMENT OF DEFECTIVE WORK

WHEN, IN THE OPINION OF THE OWNER OR CONSTRUCTION MANAGER ANY MATERIAL INSTALLED IS SUBSTANDARD IN APPEARANCE OR FUNCTION, OR DOES NOT MEET GENERALLY ACCEPTED STANDARDS OF WORKMANSHIP, ALL SUCH MATERIALS SHALL BE REPLACED TO THE SATISFACTION OF THE ENGINEER AT NO COST TO THE OWNER.

SUPERVISION

THE CONTRACTOR SHALL HAVE A COMPETENT FOREMAN IN RESPONSIBLE CHARGE OF THE WORK WHO SHALL BE ON THE SITE DURING THE INSTALLATION OF THE MATERIAL FURNISHED UNDER THIS SPECIFICATION, UNTIL SAME HAS BEEN PUT IN COMPLETE OPERATING CONDITION AND ACCEPTED BY THE OWNER.

DIVISION OF WORK

NO REASSIGNMENT OF THE DIVISION OF RESPONSIBILITY FOR ANY WORK HEREIN SPECIFIED FOR ANY RESPECTIVE TRADE SHALL BE MADE WITHOUT THE PRIOR WRITTEN ACCEPTANCE OF THE OWNER AND ENGINEER.

RUBBISH

A. AT LEAST ONCE A DAY, OR AS REQUIRED BY THE OWNER, GATHER ALL RUBBISH, INCLUDING CARTONS, CRATES AND PACKAGING MATERIALS, DEBRIS AND OTHER WASTE MATERIALS. WASTE TO BE PLACED IN TRASH BINS OR DUMPSTERS.

B. WHEN WORK IS PERFORMED IN OCCUPIED AREAS, TRASH REMOVAL SHOULD BE CONTINUOUS TO PREVENT HEALTH AND SAFETY ISSUES.

ASBESTOS

A. CONTRACTOR SHALL NOTIFY OWNER ANY SUSPECTED ASBESTOS IN AREA OF WORK.

B. OWNER SHALL BE RESPONSIBLE FOR ALL TESTING AND REMEDIATION PRIOR TO ANY WORK IN THAT AREA. WORK SHALL BE PERFORMED BY A LICENSED ASBESTOS ABATEMENT CONTRACTOR.

PROTECTION

PROTECT ALL WORK AND EQUIPMENT AGAINST DAMAGE OR THEFT UNTIL FINALLY INSPECTED, TESTED AND ACCEPTED. CAREFULLY STORE AND PROTECT MATERIALS AND EQUIPMENT RECEIVED ON SITE WHICH ARE NOT IMMEDIATELY INSTALLED. CLOSE OPEN ENDS OF WORK WITH TEMPORARY PLUGS OR COVERS DURING CONSTRUCTION TO PREVENT ENTRY DEBRIS.

GUARANTEES

A. ALL WORK SHALL BE GUARANTEED TO BE FREE FROM DEFECTS IN WORKMANSHIP AND MATERIALS.

B. DURING THE GUARANTEE PERIOD ANY DEFECTS IN WORKMANSHIP, MATERIAL OR EQUIPMENT WILL BE CORRECTED AT THE CONTRACTORS' EXPENSE. ANY DAMAGE OR LOSS, EXCLUSIVE OF BUILDING'S CONTENTS, DUE TO SUCH DEFECTS, WILL ALSO BE MADE GOOD AT CONTRACTOR'S EXPENSE. DEFECTS WILL BE REMEDIED WITHIN A REASONABLE TIME, AS SPECIFIED IN NOTICE FROM THE ENGINEER. AFTER THE SPECIFIED TIME, OWNER MAY HAVE DEFECTS AND DAMAGES REMEDIED AT THE CONTRACTOR'S EXPENSE.

C. GUARANTEE PERIOD SHALL BE TWO (2) YEARS.

D. GUARANTEE PERIOD SHALL START WHEN THE WORK INCLUDED IN CONTRACT DOCUMENTS IS ACCEPTED BY THE OWNER AND/OR RECEIPT OF THE CERTIFICATE OF OCCUPANCY.

WORK IN EXISTING AREAS

A. PERFORM WORK IN EXISTING BUILDING WHEN AND AS DIRECTED. ALL WORK IS TO BE PERFORMED SO AS TO CAUSE THE LEAST POSSIBLE INCONVENIENCE AND DISTURBANCE TO THE OCCUPANTS.

B. SHIFT WORK AND STAGING WILL BE REQUIRED AT NO ADDITIONAL COST TO THE OWNER.

C. SCRAP AND DEBRIS ASSOCIATED WITH THIS CONTRACTOR, EXCEPT AS OTHERWISE SPECIFIED, SHALL BE REMOVED FROM THE CONSTRUCTION SITE AND DISPOSED OF. WHEN REQUESTED BY OWNER, MOVE EQUIPMENT REMOVED TO A STORAGE PLACE ON THE PREMISES AND LEAVE AS PROPERTY OF THE OWNER.

D. WHEN INSTALLATION OF THE NEW WORK REQUIRES THE SHUTDOWN OF AN EXISTING OPERATING SYSTEM, A MINIMUM OF 72 HOURS WRITTEN NOTICE SHALL BE GIVEN TO THE OWNER BEFORE WORK IS STARTED.

E. PERFORM WORK IN EXISTING BUILDING WHEN AND AS DIRECTED. ALL WORK IS TO BE PERFORMED SO AS TO CAUSE THE LEAST POSSIBLE INCONVENIENCE AND DISTURBANCE TO THE OCCUPANTS. ALL WORK SHALL BE COORDINATED WITH THE OWNER'S REPRESENTATIVE AND FOLLOW ALL SECURITY AND SAFETY STANDARD OPERATING PROCEDURES.

F. SHIFT WORK AND STAGING REQUIRED SHALL BE AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR SHALL UNDERSTAND THE STAGING PLAN BEFORE SUBMITTING THE PROPOSAL. CONTRACTOR SHALL PROVIDE A STAGING PLAN AND OVERTIME ALLOWANCE IN THE PROPOSAL.

SAFETY

A. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF ALL PERSONS PERFORMING THE WORK OF THIS CONTRACT.

B. THIS CONTRACTOR SHALL OBTAIN AND READ ALL SITE, JOB AND CORPORATE SAFETY AND SECURITY RULES AND REGULATIONS FROM THE OWNER, AND SIGN OFF ON THEM IF REQUIRED. THIS CONTRACTOR SHALL ADEQUATELY INFORM AND INSTRUCT ALL EMPLOYEES, AND OTHERS PERFORMING WORK FOR HIM, OF SUCH RULES AND REGULATIONS. THESE INSTRUCTIONS ARE THE MINIMUM THAT WILL BE ACCEPTED ON THIS PROJECT.

C. ALL OF THE ABOVE RULES AND REGULATIONS ARE NOT MEANT TO REPLACE OR ELIMINATE INDIVIDUAL CONTRACTORS SAFETY PROGRAMS OR CHANGE ANY LOCAL, STATE OR FEDERAL RULES AND REGULATIONS, BUT RATHER TO AUGMENT THEM AS REQUIRED FOR THE INDIVIDUAL PREMISES ON WHICH THIS WORK IS BEING PERFORMED.

D. THE CONTRACTOR SHALL HAVE A COMPETENT FOREMAN IN RESPONSIBLE CHARGE OF THE WORK WHO SHALL BE ON THE SITE DURING THE SPECIFIED WORK. CONTRACTOR SHALL PERFORM ALL WORK TO OSHA AND CLIENT'S HEALTH AND SAFETY REQUIREMENTS.

E. WHEN PERFORMING WORK ON THE ROOF ALL CONTRACTORS MUST COMPLY WITH THE OWNER'S STANDARD OPERATING PROCEDURE FOR ROOF ENTRY.

F. THE ELECTRICAL CONTRACTOR SHALL PERFORM ALL WORK IN ACCORDANCE WITH NFPA 70E.

REMOVALS AND DEMOLITION

A. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL ELECTRICAL FACILITIES RENDERED INACTIVE OR OBSOLETE BY THE SCOPE OF THE MECHANICAL WORK. THE CONTRACTOR IS RESPONSIBLE FOR THIS SCOPE OF WORK EVEN IF SUCH ELECTRICAL FACILITIES ARE NOT EXPLICITLY SHOWN ON THE ELECTRICAL DRAWINGS. THE CONTRACTOR SHALL VISIT THE SITE, REFER TO THE MECHANICAL AND PLUMBING DRAWINGS, AND COORDINATE WITH THE MECHANICAL AND PLUMBING CONTRACTOR(S), AND INCLUDE ALL ELECTRICAL DEMOLITION WORK INCLUDING, HOWEVER NOT NECESSARILY LIMITED TO, THE COMPLETE REMOVAL OF ALL ELECTRICAL AND CONTROL WIRES, CONDUIT, JUNCTION BOXES, ENCLOSURE AND RACEWAY SUPPORT SYSTEMS, DISCONNECT SWITCHES, CIRCUIT BREAKERS ETC. INTENDED FOR REMOVAL.

B. THE ELECTRICAL CONTRACTOR SHALL REMOVE, IN THEIR ENTIRETY OR AS OTHERWISE INDICATED, ALL ELECTRICAL OUTLETS, RECEPTACLES, SWITCHES, LIGHTING FIXTURES, TELE DATA OUTLETS, AND OTHER DEVICES AS REQUIRED, COMPLETE WITH ASSOCIATED WIRING, CONDUITS, AND SURFACE RACEWAY SYSTEMS ETC. FROM THE AFFECTED AREAS. PROVIDE ALL DEMOLITION LABOR AND EQUIPMENT COSTS AS REQUIRED BY THE CONTRACT DRAWINGS & WORK NOTES, AND AS INSTRUCTED IN THE FIELD BY THE GENERAL CONTRACTOR.

C. WHERE THE REMOVAL OF EXISTING FACILITIES RESULT IN THE DEENERGIZATION OF EXISTING REMAINING FACILITIES, THE CONTRACTOR SHALL INSTALL JUNCTION BOXES AND/OR OTHER DEVICES, PROVIDE BYPASS CONNECTIONS NECESSARY TO MAKE THE AFFECTED CIRCUITS CONTINUOUS AND READY FOR OPERATION. OTHERWISE, WIRING SHALL BE REMOVED BACK TO THE NEAREST INTENDED POWER SOURCE AND SAFELY TERMINATED.

D. THE CONTRACTOR SHALL REMOVE AND/OR RELOCATE ALL EXISTING ELECTRICAL FACILITIES THAT INTERFERE WITH THE NEW ARCHITECTURAL, MECHANICAL, PLUMBING, STRUCTURAL, AND ELECTRICAL LAYOUTS AND SCHEMES. REFER TO THE ARCHITECTURAL, MECHANICAL, PLUMBING AND STRUCTURAL DRAWINGS, AND COORDINATE WITH THE GENERAL, MECHANICAL, PLUMBING AND TEMPERATURE CONTROL CONTRACTORS.

E. PRIOR TO THE COMMENCEMENT OF WORK, ELECTRICAL POWER SHALL BE DISCONNECTED AND/OR SAFED OFF AS REQUIRED. TEMPORARY LIGHTING AND POWER FOR ALL TRADES, REMAINING BUILDING OCCUPANTS, AND CRITICAL BUILDING SERVICES SHALL BE PROVIDED WITHOUT EXCEPTION. UNDER NO CIRCUMSTANCES SHALL POWER BE INTERRUPTED TO ANY AREA WITHOUT PRIOR WRITTEN APPROVAL FROM BUILDING MANAGEMENT.

F. REMOVE EXPOSED CONDUITS, WIRE WAYS, OUTLET BOXES, HANGERS, SUPPORTS AND DEVICES MADE OBSOLETE BY THIS WORK UNLESS BEING REUTILIZED FOR THE NEW INSTALLATION. THE REUTILIZATION OF EXISTING FACILITIES BY THE CONTRACTOR SHALL RENDER A FINISHED INSTALLATION IN STRICT ACCORDANCE WITH THE NEC WITHOUT EXCEPTION.

G. PROVIDE TEMPORARY CONSTRUCTION LIGHTING AND POWER AS REQUIRED BY ALL TRADES. MAINTAIN REQUIRED MINIMUM LIGHTING LEVELS FOR EGRESS PATHS. CONSULT ARCHITECT FOR EGRESS PATH. PROVIDE RECONNECTIONS AND TEMPORARY INSTALLATION AS REQUIRED. ALL TEMPORARY FACILITIES SHALL BE SUPPLIED AND INSTALLED PER THE LATEST APPROVED VERSION OF NEC 527 UNDER ALL CIRCUMSTANCES. REMOVE ALL TEMPORARY FACILITIES AT JOB COMPLETION.

H. FOR ALL EQUIPMENT CALLED FOR REMOVAL. THE CONTRACTOR SHALL DISCONNECT AND REMOVE ALL EXISTING WIRING AND CONDUIT BACK TO IT'S RESPECTIVE SOURCE UNLESS OTHERWISE INDICATED.

I. ELECTRIC PANEL COVERS ARE NOT TO BE LEFT OFF AT ANY TIME UNLESS MEN ARE WORKING ON, ADEQUATELY PROTECTING AND BARRICADING THEM AS REQUIRED. COVERS SHALL BE REPLACED EACH NIGHT BEFORE LEAVING JOB SITE.

J. REMOVE AND PROPERLY DISPOSE OF ALL REMOVALS IN ACCORDANCE WITH APPLICABLE LAWS AND ENVIRONMENTAL REGULATIONS UNLESS OTHERWISE REQUESTED OR DIRECTED BY THE BUILDING PROPERTY MANAGER.

K. THE REMOVAL OF ANY FIRE ALARM, COMMUNICATIONS, DATA AND SECURITY EQUIPMENT AND ASSOCIATED CABLING SHALL BE COORDINATED WITH BUILDING OPERATING PERSONNEL. EXISTING BASE BUILDING FIRE ALARM SYSTEM (AND FLOOR SECURITY SYSTEM WHERE APPLICABLE) INTEGRITY SHALL BE MAINTAINED AT ALL TIMES BEFORE, DURING AND AFTER DEMOLITION.

L. EXISTING CONDUITS WHEN REUSED, SHALL BE THOROUGHLY CLEANED AND REFURBISHED BEFORE REUSING. ANY AND ALL EXISTING REUSED SETSCREW–TYPE CONNECTORS SHALL BE RETIGHTENED.

ELECTRICAL IDENTIFICATION

A. GENERAL REQUIREMENTS FOR PANELS, DISCONNECT SWITCHES, CIRCUIT BREAKERS, TRANSFORMERS, ETC. SHALL HAVE PERMENANT NAMEPLATES: NAMEPLATES SHALL BE PREPRINTED ON RIGID PLASTIC AND PERMENANTLY AFFIXED TO THE OUTSIDE OF THE EQUIPMENT.

B. ALL DISTRIBUTION PANELS SHALL HAVE CIRCUIT DIRECTORIES IDENTIFIIED WITH PRINTED PLASTIC WITH PERMANENT–ADHESIVE BACKING.

CONDUITS

A. CONDUIT SHALL BE INSTALLED TO MAINTAIN CLEARANCE FROM OTHER PIPING, VALVES OR OTHER MECHANICAL EQUIPMENT, AND SHALL NOT BE INSTALLED WITHIN 6" OF HOT WATER, STEAM PIPING, FLUES OR OTHER HOT SURFACES.

B. ALL CONDUITS SHALL BE TERMINATED WITH SUITABLE BUSHINGS TO PROTECT THE ENCLOSED WIRES FROM ABRASION. INSULATED METALLIC BUSHINGS SHALL BE USED ON CONDUITS 1 ¼"AND LARGER.

C. ALL CONDUIT TO BE 3/4" MINIMUM SIZE UNLESS OTHERWISE NOTED.

D. INTERIOR POWER WIRING, INCLUDING MECHANICAL AND ELECTRICAL ROOMS, SHALL BE IN GALVANIZED ELECTRICAL METALLIC TUBING (EMT). CONTROL WIRING IN MECHANICAL & ELECTRICAL ROOMS SHALL ALSO BE IN EMT.

E. EXTERIOR POWER AND CONTROL WIRING SHALL BE IN GALVANIZED RIGID METALLIC CONDUIT (RMC)

BOXES

A. PULL BOXES SHALL BE OF AMPLE SIZE FOR THE APPLICATION, AND SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST APPROVED VERSION OF THE NEC.

B. PULL BOXES SHALL BE INSTALLED IN ACCESSIBLE LOCATIONS.

C. PULL BOXES SHALL BE INSTALLED BETWEEN A MAXIMUM OF EVERY 3 RIGHT ANGLE BENDS OR THE EQUIVALENT. LONG CONDUITS RUNS SHALL HAVE A PULL BOX AT LEAST EVERY 100'–0".

D. LOCATION OF OUTLETS, EQUIPMENT, CONDUIT, ETC. EXCEPT WHERE SHOWN IN DIMENSIONED DETAIL IS ONLY APPROXIMATE. THE EXACT LOCATION WILL BE DETERMINED DURING INSTALLATION.

DISCONNECT SWITCHES

A. FURNISH AND INSTALL PROPERLY SIZED AND RATED DISCONNECT SWITCHES AS INDICATED ON DRAWINGS AND AS REQUIRED BY APPLICABLE CODES FOR THE SAFE DISCONNECTION OF ELECTRICAL OR MECHANICAL EQUIPMENT.

B. ALL DISCONNECT SWITCHES SHALL BE HEAVY DUTY TYPE, QUICK MAKE AND BREAK, NON FUSIBLE AS WITH DEFEATABLE DOOR LOCK INTERLOCK WHICH PREVENTS THE DOOR FROM OPENING WHEN THE SWITCH IS "ON" AND ALL SHALL HAVE PROVISION FOR PADLOCKING IN THE "OFF" POSITION. FUSIBLE SWITCHES SHALL BE PROVIDED WHERE SPECIFIED AND SHALL HAVE REJECTIONTYPE FUSE CLIPS.

C. ALL DISCONNECT SWITCHES SHALL BE MANUFACTURED IN ACCORDANCE WITH NEMA STANDARDS AND SHALL CONFORM WITH NEC REQUIREMENTS AND SHALL BEAR THE UL LABEL.

D. DISCONNECT SWITCHES SHALL BE IN NEMA–3R ENCLOSURE WHERE MOUNTED OUTDOORS.

PANELBOARDS

A. FURNISH AND INSTALL CIRCUIT BREAKER TYPE PANEL BOARDS AS INDICATED IN THE PANEL SCHEDULES WITH BREAKERS OF FRAME AND TRIP RATINGS AS SHOWN.

B. CIRCUIT BREAKERS SHALL BE QUICK MAKE, THERMAL–MAGNETIC AND HAVE COMMON TRIP ON ALL MULTIPLE BREAKERS, TRIP INDICATION SHALL CLEARLY BE SHOWN BY BREAKER HANDLE TAKING POSITION BETWEEN "ON" AND "OFF" WHEN BREAKER IS TRIPPED AND BY INDICATION. THE INDICATION SHALL CONSIST OF A HIGHLY VISIBLE RED TRIPPED CIRCUIT INDICATOR.

C. BUS BAR CONNECTIONS TO THE BRANCH CIRCUITS SHALL BE "PHASE SEQUENCE" TYPE. THREE (3) PHASE, FOUR (4) WIRE BUSSING SHALL BE SUCH THAT ANY THREE (3) ADJACENT SINGLE POLE BREAKERS ARE INDIVIDUALLY CONNECTED TO EACH OF THE THREE (3) DIFFERENT PHASES IN SUCH A MANNER THAT TWO (2) OR THREE (3) POLE BREAKERS CAN BE INSTALLED AT ANY LOCATION. ALL CURRENT CARRYING PARTS OF THE BUS ASSEMBLY SHALL BE COPPER.

D. ALL TERMINALS FOR FEEDER AND BRANCH CIRCUIT CONDUCTORS IN THE PANELBOARD MAINS AND NEUTRAL SHALL BE UL LISTED AS SUITABLE FOR THE TYPE OF CONDUCTOR SPECIFIED.

E. PANEL BOARDS SHALL BE LISTED BY UL AND BEAR THE UL LABEL.

F. THE PANELBOARD ASSEMBLY SHALL BE ENCLOSED IN A STEEL CABINET IN ACCORDANCE WITH NEMA AND UL STANDARDS, FABRICATED FROM GALVANIZED STEEL OR EQUIVALENT RUST RESISTANT STEEL. FRONTS SHALL INCLUDE DOORS AND HAVE FLUSH, CYLINDER TUMBER–TYPE LOCKS WITH CATCHES AND SPRING LOADED STAINLESS STEEL DOOR PULLS. DOORS SHALL BE MOUNTED WITH COMPLETELY CONCEALED STEEL HINGES. FRONTS SHALL NOT BE REMOVABLE WITH DOOR IN THE LOCKED POSITION. A CIRCUIT DIRECTORY FRAME AND CARD PLASTIC COVERING SHALL BE PROVIDED ON THE INSIDE OF THE DOOR. THE DIRECTORY CARD SHALL PROVIDE A SPACE AT LEAST 5" HIGH x 3" WIDE AND SHALL BE TYPE WRITTEN TO IDENTIFY ALL EQUIPMENT TO AS–BUILT CONDITIONS. PROVIDE LAMINATED BAKELITE 1"X3.5" SCREW MOUNTED NAME PLATE.

G. NEUTRAL BUS & EQUIPMENT GROUND BUS SHALL BE COPPER.

H. 200% RATED NEUTRAL BUS.

WIRE AND CABLE (GENERAL REQUIREMENTS)

A. CONDUCTORS SHALL RUN CONTINUOUS FROM OUTLET TO OUTLET. SPLICES AND TAPES WILL NOT BE ALLOWED ALONG THE CONDUCTOR. CONDUCTORS SHALL TERMINATE IN TERMINAL LUGS OR CONNECTORS MADE UP OF INSULATED TERMINAL POSTS, APPROVED AND LISTED FOR THE APPLICATION.

B. SINGLE CONDUCTOR CABLES IN SWITCHBOARDS AND LARGE ENCLOSURES SHALL BE BUNDLED AND BOUND TOGETHER IF NOT INDIVIDUALLY RESTRAINED AGAINST SHORT CIRCUIT FORCES. BINDING AND RESTRAINT MUST BE ADEQUATE, APPROVED AND LISTED FOR THE APPLICATION.

C. ALL BRANCH CIRCUIT CONDUCTORS SHALL BE 90C. TYPE THHN OR THWN–2, ALL SIZES SHOWN ON THE DRAWINGS ARE BASED ON THHN COPPER, RATED 600 VOLTS. ALL UNDERGROUND WIRING TO BE TYPE XHHW–2.

D. ALL PHASE LEG, NEUTRAL AND GROUND CONDUCTORS SHALL BE PROPERLY COLOR CODED IN ALL PANELS, TROUGHS, CABINETS AND BOXES IN ACCORDANCE WITH INDUSTRY STANDARDS.

E. WIRE AND CABLE SHALL NOT BE PULLED UNTIL AFTER CONDUIT OR DUCT SYSTEM WITH CABINETS, BOXES AND OTHER TERMINATION POINTS ARE PERMANENTLY IN PLACE.

F. USE ONLY APPROVED TYPE LUBRICANT TO FACILITATE THE PULLING OF WIRE AND CABLE.

G. ALL POWER WIRING TO BE MINIMUM #12 AWG SIZE. ALL CONTROL WIRING TO BE MINIMUM #14 AWG SIZE UNLESS OTHERWISE NOTED.

H. ALL WIRES, CONTROL, FIRE ALARM ETC RUN EXPOSED SUCH AS IN MECHANICAL ROOMS TO BE RUN IN CONDUIT/EMT.

I. ALL CONDUCTORS RUN IN RETURN PLENUM SHALL BE PLENUM RATED.

LOW VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

A. SUMMARY:
BUILDING WIRES AND CABLES RATED FOR 600V AND LESS.
CONNECTORS, SPLICES, AND TERMINATIONS RATED FOR 600V AND LESS.
SLEEVES AND SLEEVE SEALS FOR CABLES.

B. SUBMITTALS
1. PRODUCT DATA FOR EACH TYPE OF PRODUCT INDICATED.
2. FIELD QUALITY CONTROL TEST REPORTS.

C. QUALITY ASSURANCE
ELECTRICAL COMPONENTS, DEVICES, AND ACCESSORIES: LISTED AND LABELED AS DEFINED IN NFPA 70, ARTICLE 100, BY A TESTING AGENCY ACCEPTABLE BY AUTHORITIES HAVING JURISDICTION, AND MARKED FOR INTENDED USE. COMPLY WITH NFPA 70.

D. CONDUCTORS AND CABLES
1. COPPER CONDUCTORS: COMPLY WITH NEMA WC 70.
2. CONDUCTOR INSULATION: COMPLY WITH NEMA WC 70 FOR TYPES THHN, THWN–2 AND XHHW–2 (UNDERGROUND USE)
3. MULTICONDUCTOR CABLE: COMPLY WITH NEMA WC 70 FOR METAL CLAD, TYPE MC, WITH GROUND WIRE.

E. CONNECTORS AND SPLICES: FACTORY–FABRICATED CONNECTORS AND SPLICES OF SIZE, AMPACITY RATING, MATERIAL, TYPE, AND CLASS FOR APPLICATION AND SERVICE INDICATED.

F. SLEEVES FOR CABLES
1. STEEL PIPE SLEEVES: ASTM A 53/A 53M, TYPE E, GRADE B, SCHEDULE 40, GALVANIZED STEEL, PLAIN ENDS.

G. SLEEVE SEALS: MODULAR SEALING DEVICE, DESIGNED FOR FIELD ASSEMBLY, TO FILL ANNULAR SPACE BETWEEN SLEEVE AND CABLE.
1. SEALING ELEMENTS: EPDM INTERLOCKING LINKS SHAPED TO FIT SURFACE OF CABLE OR CONDUIT. INCLUDE TYPE AND NUMBER REQUIRED FOR MATERIAL AND SIZE OF RACEWAY OR CABLE.
2. PRESSURE PLATES: CARBON STEEL, INLCUDE TWO FOR EACH SEALING ELEMENT.
3. CONNECTING BOLTS AND NUTS: CARBON STEEL WITH CORROSION–RESISTANT COATING OF LENGTH REQUIRED TO SECURE PRESSURE PLATES TO SEALING ELEMENTS. INCLUDE ONE FOR EACH SEALING ELEMENT.

H. CONDUCTOR MATERIAL APPLICATIONS
FEEDERS & BRANCH CIRCUITS: COPPER, SOLID FOR NO. 10 AWG AND SMALLER, STRANDED FOR NO. 8 AWG AND LARGER.

I. CONDUCTOR INSULATION:
1. SERVICE ENTRANCE: TYPE THHN, THWN–2, SINGLE CONDUCTOR IN RACEWAY OR TYPE XHHW–2, SINGLE CONDUCTOR IN RACEWAY (UNDERGROUND USE).
2. EXPOSED FEEDERS & BRACH CIRCUITS: TYPE THHN, THWN–2, SINGLE CONDUCTOR IN RACEWAY.
3. FEEDERS CONCEALED IN CEILINGS, WALLS, PARTITIONS, AND CRAWLSPACES: TYPE THHN, THWN–2, SINGLE CONDUCTOR IN RACEWAY.
2. BRANCH CIRCUITS CONCEALED IN CEILINGS, WALLS, PARTITIONS, AND CRAWLSPACES: TYPE THHN, THWN–2, SINGLE CONDUCTOR IN RACEWAY OR MC CABLE.
3. FEEDERS & BRANCH CIRCUITS CONCEALED IN CONCRETE, BELOW SLABS ON GRADE, AND UNDERGROUND: XHHW–2, SINGLE CONDUCTOR IN RACEWAY.
4. CLASS 1 AND 2 CONTROL CIRCUITS: TYPE THHN, THWN–2, IN RACEWAY.

J. INSTALLATION OF CONDUCTORS AND CABLES
1. CONCEAL CABLES IN FINISHED WALLS.
2. USE MANUFACTURER'S APPROVED PULLING COMPOUND OR LUBRICANT WHERE NECESSARY, COMPOUND USED MUST NOT DETERIORATE CONDUCTOR OR INSULATION.
3. USE PULLING MEANS, INCLUDING FISH TAPE, CABLE, ROPE, AND BASKET WEAVE WIRE/CABLE GRIPS, THAT WILL NOT DAMAGE CABLES OR RACEWAY.
4. INSTALL EXPOSED CABLES PARALLEL AND PERPENDICULAR TO SURFACES OF EXPOSED STRUCTURAL MEMBERS, AND FOLLOW SURFACE CONTOURS WHERE POSSIBLE.
5. SUPPORT CABLE IN ACCORDANCE WITH THE NEC.
6. IDENTIFY AND COLOR–CODE CONDUCTORS AND CABLES ACCORDING TO THE NEC.
7. TIGHTEN ELECTRICAL CONNECTORS AND TERMINALS ACCORDING TO MANUFACTURER'S PUBLISHED TORQUE–TIGHENING VALUES. IF MANUFACTURER'S TORQUE VALUES ARE NOT INDICATED, USE THOSE SPECIFIED IN UL486A AND UL496B.
8. WIRING OUTLETS: INSTALL CONDUCTOR AT EACH OUTLET, WITH AT LEAST 6 INCHES OF SLACK.

K. SLEEVE INSTALLATION FOR ELECTRICAL PENETRATIONS
1. CONCRETE SLABS AND WALLS: INSTALL SLEEVES FOR PENETRATIONS UNLESS CORE–DRILLED HOLES ARE FORMED OPENINGS ARE USED. INSTALL SLEEVES DURING ERECTION OF SLABS AND WALLS.
2. FIRE RATED ASSEMBLIES: INSTALL SLEEVES FOR PENETRATIONS OF FIRE RATED FLOOR AND WALL ASSEMBLIES UNLESS OPENINGS COMPATIBLE WITH FIRE STOP SYSTEM USED ARE FABRICATED DURING CONSTRUCTION OF FLOOR OR WALL.
3. CUT SLEEVES TO LENGTH FOR MOUNTING FLUSH WITH BOTH WALL SURFACES.
4. EXTEND SLEEVES INSTALLED IN FLOORS 2 INCHES ABOVE FINISHED FLOOR LEVEL.
5. SIZE PIPE SLEEVES TO PROVIDE 1/4" ANNULAR CLEAR SPACE BETWEEN SLEEVE AND CABLE UNLESS SLEEVE SEAL IS TO BE INSTALLED.
6. SEAL SPACE OUTSIDE OF SLEEVES WITH GROUT FOR PENETRATIONS OF CONCRETE AND MASONRY AND WITH APPROVED JOINT COMPOUND FOR GYPSUM BOARD ASSEMBLIES.
7. INTERIOR PENETRATIONS OF NON–FIRE RATED WALLS AND FLOORS: SEAL ANNULAR SPACE BETWEEN SLEEVE AND CABLE USING JOINT SEALANT APPROPRIATE FOR SIZE, DEPTH, AND LOCATION OF JOINT.
8. PENETRATIONS OF FIRE RATED ASSEMBLIES: MAINTAIN INDICATED FIRE RATING OF WALLS, PARTITIONS, CEILINGS, AND FLOORS AT CABLE PENETRATIONS. INSTALL SLEEVES AND SEAL WITH FIRESTOP MATERIALS.
9. ROOF–PENETRATION SLEEVES: SEAL PENETRATION OF INDIVIDUAL CABLES WITH FLEXIBLE BOOT–TYPE FLASHING UNITS APPLIED IN ACCORDANCE WITH ROOFING WORK.
10. ABOVEGROUND EXTERIOR WALL PENETRATIONS: SEAL PENETRATIONS USING SLEEVES AND MECHANICAL SLEEVE SEALS. SIZE SLEEVES TO ALLOW FOR 1 INCH ANNULAR CLEAR SPACE BETWEEN PIPE AND SLEEVE FOR INSTALLING MECHANICAL SLEEVE SEAL.
11. UNDERGROUND EXTERIOR WALL PENETRATIONS: INSTALL CAST–IRON "WALL PIPES" FOR SLEEVES. SIZE SLEEVES TO ALLOW FOR 1 INCH ANNULAR CLEAR SPACE BETWEEN PIPE AND SLEEVE FOR INSTALLING MECHANICAL SLEEVE SEAL.

L. SLEEVE–SEAL INSTALLATION
1. INSTALL TO SEAL UNDERGROUND EXTERIOR–WALL PENETRATIONS.
2. USE TYPE AND NUMBER OF SEALING ELEMENTS RECOMMENDED BY MANUFACTURER FOR CABLE MATERIAL AND SIZE. POSITION CABLE IN CENTER OF SLEEVE. ASSEMBLE MECHANICAL SLEEVE SEALS AND INSTALL IN ANNULAR SPACE BETWEEN CABLE AND SLEEVE. TIGHTEN BOLTS AGAINST PRESSURE PLATES THAT CAUSE SEALING ELEMENTS TO EXPAND AND MAKE WATERTIGHT SEAL.

M. FIRESTOPPING
1. APPLY FIRESTOPPING TO ELECTRICAL PENETRATIONS OF FIRE–RATED FLOOR AND WALL ASSEMBLIES TO RESTORE ORIGINAL FIRE–RESISTANCE RATING OF ASSEMBLY.

CONTROL AND CONNECTORS

A. PROVIDE MATCHING RECEPTACLES FOR ALL EQUIPMENT FURNISHED WITH CORD AND PLUG.

B. MAKE DIRECT POWER CONNECTIONS, AS REQUIRED, TO ALL EQUIPMENT NOT FURNISHED WITH CORD AND PLUG.

GROUNDING AND BONDING

GENERAL – PROVIDE PROPER GROUNDING OF THE NON–CURRENT CARRYING MATALLIC PARTS OF ALL ELECTRICAL EQUIPMENT AND ENCLOSURES INCLUDING CONDUITS, SUPPORTS, CABINETS, PANELS, TRANSFORMERS, MOTOR FRAMES, SWITCHGEAR AND SWITCHBOARD ENCLOSURES.

A. SUBMITTALS
1. PRODUCT DATA FOR EACH TYPE OF PRODUCT INDICATED.
2. FIELD QUALITY CONTROL TEST REPORTS.

B. QUALITY ASSURANCE
ELECTRICAL COMPONENTS, DEVICES, AND ACCESSORIES: LISTED AND LABELED AS DEFINED IN NFPA 70, ARTICLE 100, BY A TESTING AGENCY ACCEPTABLE BY AUTHORITIES HAVING JURISDICTION, AND MARKED FOR INTENDED USES. COMPLY WITH NFPA 70 AND UL467.

C. CONDUCTORS
1. INSULATED CONDUCTORS: COPPER WIRE OR CABLE INSULATED FOR 600V UNLESS OTHERWISE REQUIRED BY APPLICABLE CODE OR AUTHORITIES HAVING JURISDICTION.
2. BARE COPPER CONDUCTORS:
a. SOLID CONDUCTORS: ASTM B 3.
b. STRANDED CONDUCTORS: ASTM B 8.
c. BONDING CABLE: 28 KCMIL, 14 STRANDS OF NO. 17 AWG CONDUCTOR, 1/4" IN DIAMETER.
d. BONDING CONDUCTOR: NO. 4 OR NO. 6 AWG STRANDED.
e. BONDING JUMPER: COPPER TAPE, BRAIDED CONDUCTORS, TERMINATED WITH COPPER FERRULES, 1–5/8" WIDE X 1/16" THICK.

D. CONNECTORS:
1. LISTED AND LABELED BY A NATIONALLY RECOGNIZED TESTING LABORATORY ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION FOR APPLICATIONS IN WHICH USED, AND FOR SPECIFIC TYPES, SIZES, AND COMBINATIONS OF CONDUCTORS AND OTHER ITEMS CONNECTED.
2. BOLTED CONNECTORS: COPPER OR COPPER ALLOY, BOLTED PRESSURE–TYPE, WITH AT LEAST TWO BOLTS.
3. WELDED CONNECTORS: EXOTHERMIC–WELDING KITS OF TYPE RECOMMENDED BY KIT MANUFACTURER FOR MATERIALS BEING JOINED AND INSTALLATION CONDITIONS.

E. GROUNDING ELECTRODES
GROUND RODS: COPPER, 5/8" DIAMETER, 8 FEET LONG.

F. APPLICATIONS:
1. CONDUCTORS: INSTALL SOLID CONDUCTOR FOR NO. 10 AWG AND SMALLER AND STRANDED CONDUCTORS FOR NO. 8 AWG AND LARGER UNLESS OTHERWISE REQUIRED BY THE NATIONAL ELECTRIC CODE.
2. UNDERGROUND GROUNDING CONDUCTORS: INSTALL BARE COPPER CONDUCTOR, NO. 2/0 AWG MINIMUM. BURY AT LEAST 30 INCHES BELOW GRADE.
3. ISOLATED GROUNDING CONDUCTORS: GREEN COLORED INSULATION WITH CONTINUOUS YELLOW STRIPE.
4. CONDUCTOR TERMINATIONS AND CONNECTIONS:
a. PIPE & EQUIPMENT GROUNDING CONDUCTOR TERMINATIONS: BOLTED CONNECTORS.
b. UNDERGROUND CONNECTIONS: WELDED CONNECTORS, EXCEPT AT TEST WELLS.
c. CONNECTIONS TO GROUND RODS AT TEST WELLS: BOLTED CONNECTORS.
d. CONNECTIONS TO STRUCTURAL STEEL: WELDED CONNECTORS.

G. EQUIPMENT GROUNDING
1. INSTALL INSULATED EQUIPMENT GROUNDING CONDUCTORS FOR THE FOLLOWING ITEMS, IN ADDITION TO THOSE REQUIRED BY NFPA 70: FEEDERS AND BRANCH CIRCUITS, LIGHTING & RECEPTACLE CIRCUITS, SINGLE AND THREE PHASE MOTOR & APPLIANCE BRANCH CIRCUITS, FLEXIBLE RACEWAY RUNS, BUSWAY SUPPLY CIRCUITS, COMPUTER AND RACK–MOUNTED ELECTRONIC EQUIPMENT, X–RAY EQUIPMENT CIRCUITS.

H. INSTALLATION
1. GROUND RODS: DRIVE RODS UNTIL TOPS ARE 2 INCHES BELOW FINISHED FLOOR OR FINAL GRADE. INTERCONNECT GROUNDING RODS WITH GROUNDING ELECTRODE BELOW GARDE. MAKE CONNECTIONS WITHOUT EXPOSING STEEL OR DAMAGING COATING, IF ANY. FOR GROUNDING ELECTRODE SYSTEM, INSTALL AT LEAST THREE RODS SPACED AT LEAST ONE–ROD LENGTH FROM EACH OTHER.
2. TEST WELLS (AT LEAST ONE PER SERVICE): GROUND ROD DRIVEN THROUGH DRILLED HOLE IN BOTTOM OF HAND HOLE AND SHALL BE AT LEAST 12 INCHES DEEP, WITH COVER. SET TOP OF TEST WELL FLUSH WITH FINISHED GRADE.
3. BONDING STRAPS AND JUMPERS:
a. BONDING TO STRUCTURE: BOND STRAPS DIRECTLY TO BASIC STRUCTURE, TAKING CARE NOT TO PENETRATE ANY ADJACENT PARTS.
4. GROUNDING AND BONDING FOR PIPING:
a. METAL WATER SERVICE PIPE: INSTALL INSULATED COPPER GROUNDING CONDUCTOR, IN CONDUIT, FROM BUILDINGS MAIN SERVICE EQUIPMENT, OR GROUNDING BUS, TO MAIN METAL WATER SERVICE ENTRANCES TO BUILDING.
b. WATER METER PIPING: USE BRAIDED–TYPE BONDING JUMPERS TO ELECTRICALLY BYPASS WATER METERS. CONNECT TO PIPE WITH A BOLTED CONNECTOR.
c. GAS PIPING: BOND EACH ABOVE GROUND PORTION OF GAS PIPING SYSTEM DOWNSTREAM FROM EQUIPMENT SHUTOFF VALVE.

TESTING

A. WIRING AND CONNECTIONS
1. PERFORM TESTS AND INSPECTIONS AND PREPARE TEST REPORTS.
2. TESTS AND INSPECTIONS: AFTER INSTALLING CONDUCTORS AND CABLES AND BEFORE ELECTRICAL CIRCUITRY HAS BEEN ENERGIZED, TEST SERVICE ENTRANCE FEEDER CONDUCTORS, AND CONDUCTORS FEEDING EQUIPMENT AND SERVICES FOR COMPLIANCE WITH THE FOLLOWING REQUIREMENTS:
VISUAL TESTS:
a. COMPARE CABLE DATA WITH DRAWINGS AND SPECIFICATIONS.
b. INSPECT EXPOSED SECTIONS OF CABLE FOR PHYSICAL DAMAGE AND CORRECT CONNECTION IN ACCORDANCE WITH SINGLE LINE DIAGRAM.
d. INSPECT COMPRESSION–APPLIED CONNECTORS FOR CORRECT CABLE MATCH AND IDENTIFICATION.
e. VERIFY TIGHTNESS OF ACCESSIBLE BOLTED ELECTRICAL CONNECTIONS BY CALIBRATED TORQUE WRENCH METHOD IN ACCORDANCE WITH MANUFACTURER'S PUBLISHED DATA.
f. INSPECT CABLE JACKET INSULATION AND CONDITION.
ELECTRICAL TESTS:
a. PERFORM RESISTANCE MEASUREMENTS THROUGH BOLTED CONNECTIONS WITH LOW–RESISTANCE OHMMETER. COMPARE BOLTED CONNECTION RESISTANCE VALUES TO VALUES OF SIMILAR CONNECTIONS. INVESTIGATE VALUES WHICH DEVIATE FROM THOSE OF SIMILAR BOLTED CONNECTIONS BY MORE THAN 50% OF THE LOWEST VALUE.
b. PERFORM INSULATION–RESISTANCE TEST ON EACH CONDUCTOR WITH RESPECT TO GROUND AND ADJACENT CONDUCTORS. APPLIED POTENTAL SHALL BE 500 VDC FOR 300 VOLT RATED CABLE AND 1000 VDC FOR 600 VOLT RATED CABLE. TEST DURATION SHALL BE ONE (1) MINUTE. INSULATION RESISTANCE VALUES SHALL BE IN ACCORDANCE WITH MANUFACTURER'S PUBLISHED DATA.
c. PERFORM CONTINUITY TEST TO INSURE CORRECT CABLE CONNECTION. CABLE SHALL EXHIBIT CONTINUITY.
d. VERIFY UNIFORM RESISTANCE OF PARALLEL CONDUCTORS. DEVIATIONS SHALL BE INVESTIGATED.

3. TEST REPORTS
a. TEST PROCEDURES USED.
b. TEST RESULTS THAT COMPLY WITH REQUIREMENTS.
c. TEST RESULTS THAT DO NOT COMPLY WITH REQUIREMENTS AND CORRECTIVE ACTION TAKEN TO ACHIEVE COMPLIANCE WITH REQUIREMENTS. REMOVE AND REPLACE MALFUNCTIONING UNITS AND TEST AS SPECIFIED.

B. GROUNDING
1. PERFORM THE FOLLOWING TESTS AND INSPECTIONS AND PREPARE TEST REPORTS:
a. TEST COMPLETED GROUNDING SYSTEM AT EACH LOCATION WHERE A MAXIMUM GROUND–RESISTANCE LEVEL IS SPECIFIED, AT SERVICE DISCONNECT ENCLOSURE GROUNDING TERMINAL, AND AT GROUND TEST WELLS.

MEASURE GROUND RESISTANCE NOT LESS THAN TWO FULL DAYS AFTER LAST TRACE OF PRECIPITATION AND WITHOUT SOIL BEING MOISTENED BY ANY MEANS OTHER THAN NATURAL DRAINAGE OR SEEPAGE AND WITHOUT CHEMICAL TREATMENT OR OTHER MEANS OF REDUCING NATURAL GROUND RESISTANCE.

PERFORM TESTS BY FALL–OF–POTENTIAL METHOD ACCORDING TO IEEE 81.

2. REPORT MEASURED GROUND RESISTANCE THAT EXCEED THE FOLLOWING VALUES:
a. POWER AND LIGHTING EQUIPMENT OR SYSTEM WITH A CAPACITY 500 KVA AND LESS: 10 OHMS
b. POWER AND LIGHTING EQUIPMENT OR SYSTEM WITH A CAPACITY 500–1000 KVA: 5 OHMS
c. POWER AND LIGHTING EQUIPMENT OR SYSTEM WITH A CAPACITY MORE THAN 1000 KVA: 3 OHMS
d. POWER DISTRIBUTION UNITS OR PANELBOARDS SERVING ELECTRONIC EQUIPMENT: 1 OHM.

3. EXCESSIVE GROUND RESISTANCE: IF RESISTANCE TO GROUND EXCEEDS SPECIFIED VALUES, NOTIFY ENGINEER PROMPTLY AND INCLUDE RECOMMENDATIONS TO REDUCE GROUND RESISTANCE.

C. LOADS ON ALL PARTS OF THE SYSTEM SHALL BE BALANCED.

D. PHASE ROTATION AT ALL BUSSES, PANEL, SWITCHGEAR ETC. SHALL BE CHECKED TO SEE THAT IT CONFORMS WITH RECOGNIZED STANDARDS.

E. THE COMPLETE ELECTRICAL SYSTEM SHALL FUNCTION AS INTENDED ACCEPTABLE TO THE OWNER & SHALL BE FREE OF GROUNDS AND SHORT CIRCUITS. IT SHALL OPERATE PROPERLY UNDER FULL LOAD CONDITIONS WITHOUT EXCESSIVE HEATING AT ANY POINT IN THE SYSTEM.

COMMISSIONING SPECIFICATION

GENERAL DEFINITION

COMMISSIONING IS THE ENGINEERED APPROACH TO THE DOCUMENTATION AND ADJUSTMENT OF FACILITY RELATED SYSTEMS, IN AN EFFORT TO ENSURE THAT THE ELECTRICAL SYSTEM MEETS THE OWNER'S REQUIREMENTS.

PARTIES IN RESPONSIBLE CHARGE

A. THE ELECTRICAL CONTRACTOR
THE ELECTRICAL CONTRACTOR SHALL DESIGNATE A SINGLE REPRESENTATIVE THAT WILL BE THE POINT OF CONTACT FOR THE OWNER AND ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE TO PREPARE THE PLAN, COORDINATE ALL TESTS BY THE CONTRACTORS, EXECUTE THE FIELD INSTALLATION VERIFICATION WORK SHEETS

B. OWNER
THE OWNER SHALL COORDINATE FOR REQUIRED RESOURCES TO THE COMMISSIONING AUTHORITY.

WRITTEN PLAN

PRIOR TO EXECUTION OF THE COMMISSIONING ASSIGNMENT, AN OUTLINE SHALL BE PREPARED AND SUBMITTED TO THE OWNER, WHICH DETAILS THE BASIC AND SPECIFIC GOALS OF THE COMMISSIONING ASSIGNMENT. THIS MUST INCLUDE THE APPROPRIATE METHODS OF EXECUTION, AND RESPONSIBILITIES OF EACH MEMBER OF THE COMMISSIONING TEAM, INCLUDING REQUIRED SUPPORT FROM OTHER MEMBERS/ SUBCONTRACTORS NOT DIRECTLY UNDER THE ELECTRICAL CONTRACTOR AUTHORITY'S SUPERVISION.

FIELD INSTALLATION VERIFICATION (FIV)

DOCUMENTATION WILL BE PROVIDED TO ENSURE THAT ALL MODIFIED OR NEW SYSTEMS AND THEIR COMPONENTS HAVE BEEN PROVIDED AND INSTALLED IN ACCORDANCE WITH ENGINEERING PLANS, SPECIFICATIONS, AND MANUFACTURER'S RECOMMENDATIONS. BEFORE ENERGIZING ANY EQUIPMENT, INSPECT EACH UNIT IN DETAIL, BOLTS AND CONNECTIONS SHALL BE TIGHT (TORQUE TIGHT WHERE REQUIRED) PER MANUFACTURER'S SPECIFICATIONS.

OPERATIONAL PERFORMANCE TEST (OPT)

DOCUMENTATION WILL BE PROVIDED TO ENSURE THAT ALL MODIFIED OR NEW SYSTEMS AND THEIR COMPONENTS HAVE BEEN STARTED–UP PROPERLY. OPT MAY ONLY BEGIN ONCE THE FIV HAS BEEN COMPLETED.

COMMISSIONING REPORT

A CONTRACTOR TO PROVIDE THREE (3) SETS OF (IOM) INSTALLATION, OPERATING, AND MAINTENANCE MANUALS FOR THE PROJECT. FINAL REPORT WILL BE PROVIDED BY THE ELECTRICAL CONTRACTOR THAT WILL INCLUDE ALL INFORMATION AS DESCRIBED ABOVE IN A NEAT AND ORGANIZED FORMAT. AT A MINIMUM, THIS FINAL REPORT WILL INCLUDE THE FOLLOWING SECTIONS:

A. COVER/ TITLE SHEET/ PROJECT NAME
B. TABLE OF CONTENTS/ INDEX
C. NAME AND ADDRESS OF CONTRACTOR
D. ENGINEERS AND ARCHITECT NAME AND ADDRESS
E. APPROVED SUBMITTALS AND IOM FOR ALL EQUIPMENT AND SYSTEMS
F. APPROVED SHOP DRAWINGS
G. RESULTS OF CONTINUITY, GROUND, CIRCUIT BREAKER, HIGH POTENTIAL TESTING, INSULATION RESISTANCE TESTS & LUG TORQUE SETTINGS.
H. LIGHTNING PROTECTION SYSTEM TESTING & RESULTS
I. RED–LINED DRAWINGS SHOWING FIELD CHANGES
J. WARRANTY CERTIFICATES FOR ALL EQUIPMENT AND SYSTEMS
K. TRAINING LOG

TRAINING

CONTRACTOR TO PROVIDE NECESSARY TRAINING TO OWNER SO THAT OWNER MAY PROPERLY OPERATE AND MAINTAIN THE SYSTEMS PROVIDED.

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PRINCIPAL IN CHARGE: JOSEPH T. MISTRETTA, PE

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Project Name
HVAC Renovations at Princeton High School

Project Owner Name
Princeton Public Schools

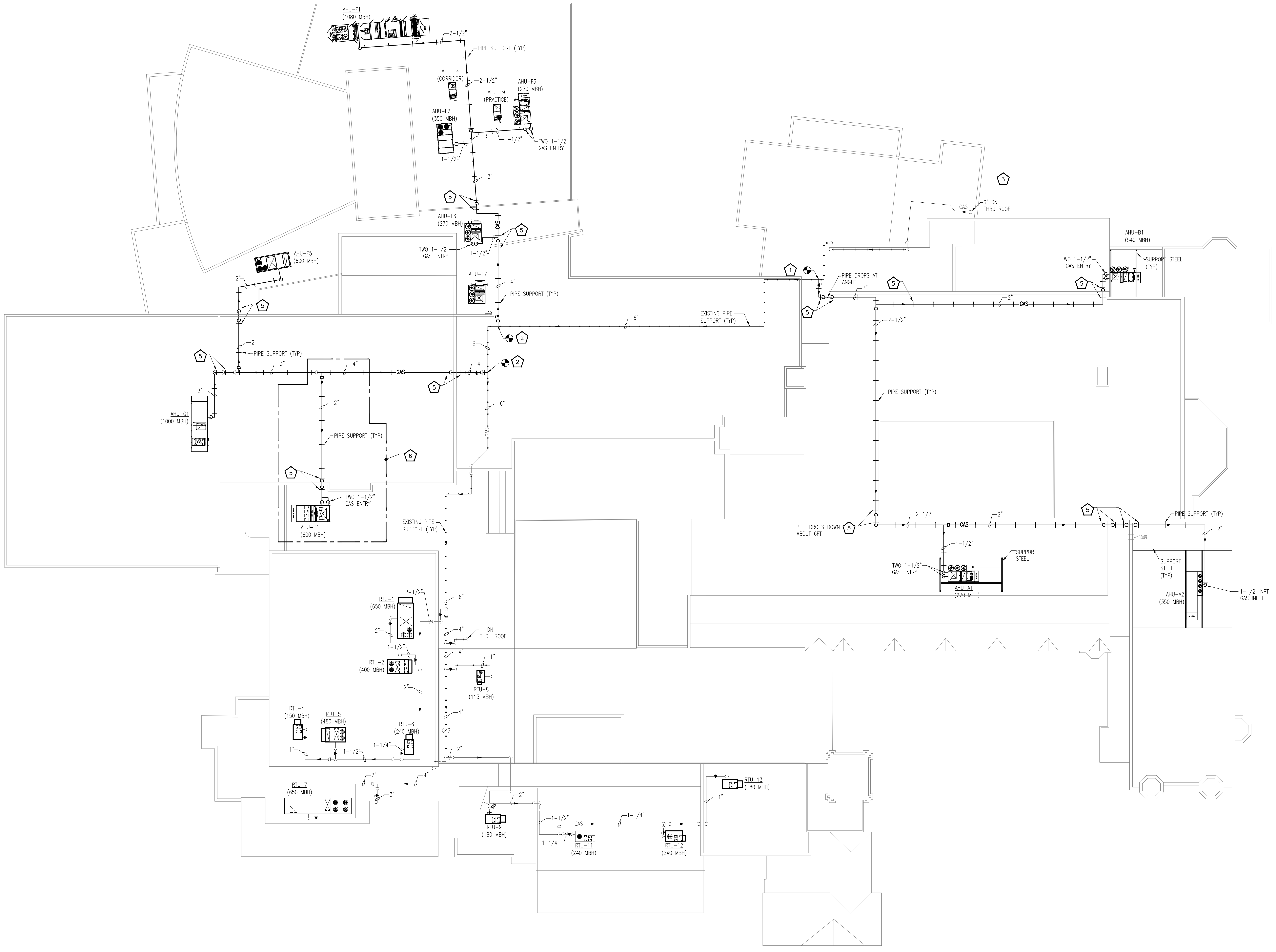
Project Location
151 Moore Street,
Princeton, NJ
08540

Project Number
5516E
Project Date
01.29. 2026
Checked By
JTM
Drawn By
JD
Scale
AS NOTED

Drawing Name
ELECTRICAL - SPECIFICATIONS

Revisions		
No.	Date	Description

Drawing Number
E-901



① PLUMBING - GAS PIPING ROOF NEW WORK PLAN
SCALE: 3/64"=1'-0"

PLUMBING NEW WORK NOTES

1. CONTRACTOR SHALL CONNECT NEW 3" GAS PIPING WITH ISOLATION VALVE TO EXISTING 6" PIPE ON ROOF WHERE SHOWN. PIPE SHALL BE SUPPORTED USING DURA-BLOK, MODEL: DBE10-12 SUPPORTS RESTING ON 1/2" THICK RUBBER PADS EVERY 8'-0" OR CHANGE OF DIRECTION FOR SUPPORTS. SUPPORTS SHALL BE ROOFED IN WHERE NOTED. RPS MODEL: ER-4A STYLE TO BE USED FOR THESE SUPPORTS.

2. CONTRACTOR SHALL CONNECT NEW 4" GAS PIPE WITH ISOLATION VALVE TO EXISTING 6" GAS PIPE ON THE ROOF WHERE SHOWN. PIPE SHALL BE SUPPORTED USING DURA-BLOK, MODEL: DBE10-12 SUPPORTS RESTING ON 1/2" THICK RUBBER PADS EVERY 8'-0" OR CHANGE OF DIRECTION FOR SUPPORTS. SUPPORTS SHALL BE ROOFED IN WHERE NOTED.RPS MODEL: ER-4A STYLE TO BE USED FOR THESE SUPPORTS.

3. PIPE ROOFTOP UNITS ACCORDING TO MANUFACTURER'S SPECIFICATIONS. CONTRACTOR SHALL PROVIDE ISOLATION VALVE, GAS REGULATOR AND DIRT TRAP AT EACH UNIT. SEE DETAIL. COORDINATE GAS REGULATOR WITH THE MINIMUM AND MAXIMUM ALLOWABLE GAS PRESSURE BASED ON MANUFACTURER'S REQUIREMENTS. SUBMIT REGULATORS TO ENGINEER FOR APPROVAL. PRELIMINARY GAS REGULATOR SELECTIONS HAVE BEEN MADE FOR BIDDING PURPOSES. SEE TABLE ON DETAILS DRAWING.

4. CONTRACTOR SHALL PROVIDE LOAD LETTER TO GAS UTILITY TO DETERMINE WHETHER THE EXISTING REGULATOR AND METER IS ACCEPTABLE. CONTRACTOR IS RESPONSIBLE FOR COORDINATING ANY WORK REQUIRED BY THE GAS UTILITY.

5. SUPPORTS INDICATED SHALL BE SECURED AND SEALED TO THE ROOF. THESE SUPPORTS SHALL BE COORDINATED WITH THE HEIGHTS OF THE SUPPORTS THAT WILL REST ON THE ROOF. PIPING ROUTED UP OR DOWN THE WALL SHALL BE SECURED TO THE WALL WHERE IT EXCEEDS THE PIPING SUPPORT REQUIREMENTS. SEE ARCHITECTURAL DRAWINGS ON HOW TO SECURE TO WALL AND ROOF.

6. REFER TO ROOF PARTIAL PLAN ON DETAILS DRAWING FOR CHANGES ASSOCIATED WITH ALTERNATE 1.

GENERAL NEW WORK NOTES

1. CONTRACTOR SHALL PROVIDE SUBMITTAL AND COORDINATED SHOP DRAWING FOR APPROVAL BY ENGINEER SHOWING PIPE ROUTING, GAS REGULATORS, TYPE AND LOCATION OF PIPE SUPPORTS, CONNECTION TYPE, PIPE ELEVATIONS, SLOPE, ETC. BEFORE WORK CAN COMMENCE. SHOP DRAWING SHALL SHOW THE NEW EQUIPMENT LOCATIONS, GAS PIPING LOCATION & ELEVATION, CONDENSATE PIPING LOCATION & ELEVATION, LOCATION OF NEW CONDUITS & ELEVATION, ETC., BEFORE WORK CAN COMMENCE. COORDINATE WITH THE MECHANICAL & ELECTRICAL CONTRACTORS. EXACT PIPE ROUTING SHALL BE DETERMINED IN FIELD TO AVOID INTERFERENCE WITH ELECTRICAL CONDUITS, VENTS, WINDOWS, EQUIPMENT, ETC.
2. CONTRACTOR SHALL REPAIR AND SEAL ANY OPENINGS REQUIRED FOR INSTALLATION OF PIPING OR OPENINGS LEFT FROM THE DEMOLITION.
3. CONTRACTOR IS RESPONSIBLE FOR ROOFING ASSOCIATED WITH PLUMBING WORK SCOPE. ROOFER TO BE USED SHALL BE APPROVED BY OWNER.
4. REFER TO RISER DIAGRAM FOR PIPING SIZES ARRANGEMENT AND CAPACITY.
5. ALL PIPING PENETRATIONS THROUGH FIRE RATED WALLS/FLOORS SHALL BE FIRE STOPPED. COORDINATE WITH FINAL ARCHITECTURAL DRAWINGS.
6. ALL GAS PIPING INCLUDING EXISTING GAS PIPING EXCEPT WHERE NOTED SHALL BE PAINTED SAFETY YELLOW WITH TWO COATS OF ENAMEL PAINT. SEE PLUMBING SPECIFICATIONS. EXISTING PIPING SHALL BE PREPPED BASED ON PAINT MANUFACTURER'S RECOMMENDATIONS.
7. CONTRACTOR SHALL COORDINATE WITH PHASING PLAN AND WITH OWNER FOR PROPER TIMING FOR INSTALLATION OF SYSTEMS.
8. REFER TO ARCHITECTURAL DRAWING ON HOW TO FASTEN GAS PIPING ON THE WALL AT VERTICAL LOCATIONS.
9. COORDINATE NEW GAS PIPING ROUTING AND ELEVATION WITH EXISTING & NEW ROOF-MOUNTED DUCTWORK.

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Project Name
HVAC Renovations at Princeton High School

Project Owner Name
Princeton Public Schools

Project Location
151 Moore Street,
Princeton, NJ
08540

Project Number
5516E

Project Date
01.29. 2026

Checked By
JTM

Drawn By
JD

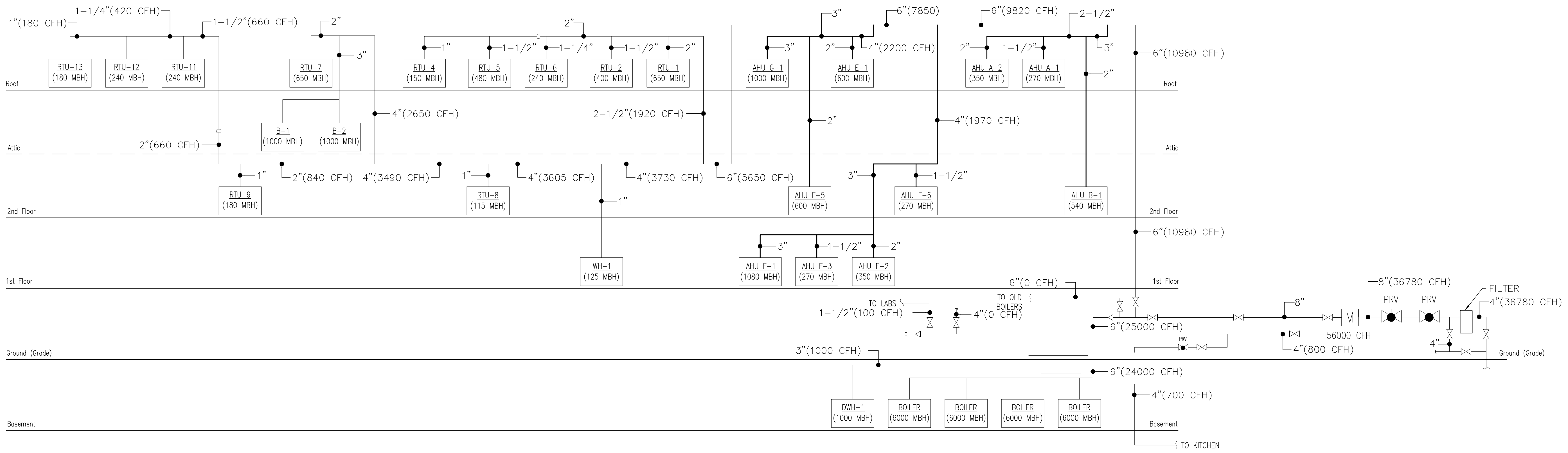
Scale
AS NOTED

Drawing Name
PLUMBING - OVERALL ROOF NEW WORK PLAN

Revisions

No.	Date	Description

Drawing Number
P-430



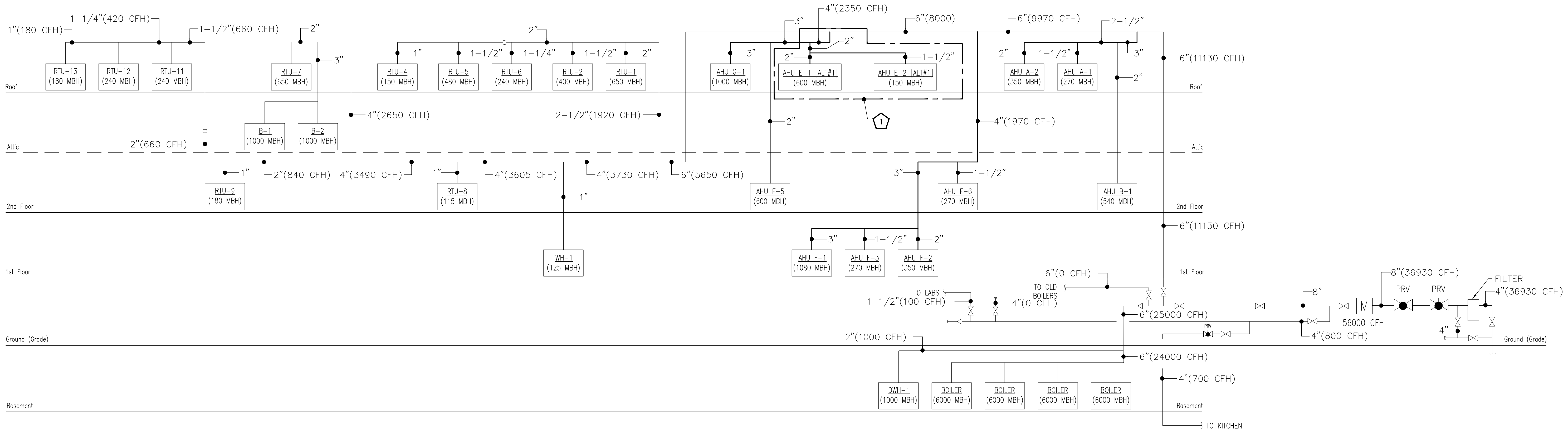
1 GAS PIPING RISER DIAGRAM - BASE PROJECT

Scale: NTS

NOTES:

1. GAS PRESSURE REGULATOR IS CURRENTLY SIZED FOR 5.5"–8.5" W.C.. SPRING SHALL BE REPLACED BY GAS COMPANY WITH NEW SPRING SIZED FOR 10"–16" W.C., FISHER PART NUMBER GE30340X012. CONTRACTOR SHALL SUBMIT LOAD LETTER TO THE GAS COMPANY IN COORDINATION WITH INCREASE IN PRESSURE AND CONNECTED LOAD. COORDINATE WITH GAS COMPANY FOR ANY CHANGES TO REGULATOR AND/OR METER AS REQUIRED. CONTRACTOR SHALL BE RESPONSIBLE FOR MANAGING AND SCHEDULING THE WORK BY THE GAS COMPANY.
2. GAS CONSUMPTION VALUES ARE INPUT RATINGS.
3. ALL GAS PIPING IS BLACK STEEL. EXTERIOR PIPING SHALL BE PAINTED, SEE SPECIFICATION FOR PAINTING REQUIREMENTS. CONTRACTOR SHALL PAINT THE PIPING BEFORE SETTING IT IN THE PIPE SUPPORTS SO PIPING CAN BE COMPLETELY PAINTED.
4. THE PIPING SIZES ARE BASED ON A GAS PRESSURE AT THE OUTLET OF THE MAIN BLDG REGULATOR OF 8" AND A MINIMUM GAS PRESSURE AT THE EQUIPMENT OF 6" W.C. GAS REGULATORS SHALL BE PROVIDED AT EACH PIECE OF EQUIPMENT. CONTRACTOR SHALL COORDINATE WITH EQUIPMENT VENDOR AS TO THE TYPE AND SIZE OF REGULATOR REQUIRED.
5. IF AN EXTERNAL VENT LINE IS REQUIRED FOR THE REGULATOR VENT LINE SHALL BE SIZED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. EACH VENT LINE THAT PENETRATES THE ROOF SHALL TERMINATE WITH A 90° ELBOW AND INSECT SCREEN AT A MINIMUM OF 3'–0" ABOVE ROOF LINE AND NO CLOSER THAN 10'–0" FROM AN OUTDOOR AIR INTAKE.
6. CONTRACTOR SHALL COORDINATE HEIGHT OF PIPING BETWEEN THE ROOFED IN PIPE SUPPORTS AND THE SUPPOTS NOT ROOFED INTO THE BUILDING'S ROOF. SEE DETAILS FOR DURABLOC DBE10–12 AND RPS ER–4A STYLE SUPPORTS.

EXISTING CONNECTED GAS LOAD:	36,750 CFU
GAS LOAD TO BE REMOVED:	29,300 CFU
GAS LOAD FOR RTU TO BE ADDED:	5330 CFU
GAS LOAD FOR BOILERS TO BE ADDED:	24,000 CFU
NEW CONNECTED GAS LOAD TOTAL:	36,780 CFU



2 GAS PIPING RISER DIAGRAM - ALTERNATE #1

Scale: NTS

DRAWING NOTES

1 CHANGES ASSOCIATED WITH ALTERNATE #1.

NOTES:

1. GAS PRESSURE REGULATOR IS CURRENTLY SIZED FOR 5.5"–8.5" W.C.. SPRING SHALL BE REPLACED BY GAS COMPANY WITH NEW SPRING SIZED FOR 10"–16" W.C., FISHER PART NUMBER GE30340X012. CONTRACTOR SHALL SUBMIT LOAD LETTER TO THE GAS COMPANY IN COORDINATION WITH INCREASE IN PRESSURE AND CONNECTED LOAD. COORDINATE WITH GAS COMPANY FOR ANY CHANGES TO REGULATOR AND/OR METER AS REQUIRED. CONTRACTOR SHALL BE RESPONSIBLE FOR MANAGING AND SCHEDULING THE WORK BY THE GAS COMPANY.
2. GAS CONSUMPTION VALUES ARE INPUT RATINGS.
3. ALL GAS PIPING IS BLACK STEEL. EXTERIOR PIPING SHALL BE PAINTED, SEE SPECIFICATION FOR PAINTING REQUIREMENTS. CONTRACTOR SHALL PAINT THE PIPING BEFORE SETTING IT IN THE PIPE SUPPORTS SO PIPING CAN BE COMPLETELY PAINTED.
4. THE PIPING SIZES ARE BASED ON A GAS PRESSURE AT THE OUTLET OF THE MAIN BLDG REGULATOR OF 8" AND A MINIMUM GAS PRESSURE AT THE EQUIPMENT OF 6" W.C. GAS REGULATORS SHALL BE PROVIDED AT EACH PIECE OF EQUIPMENT. CONTRACTOR SHALL COORDINATE WITH EQUIPMENT VENDOR AS TO THE TYPE AND SIZE OF REGULATOR REQUIRED.
5. IF AN EXTERNAL VENT LINE IS REQUIRED FOR THE REGULATOR VENT LINE SHALL BE SIZED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. EACH VENT LINE THAT PENETRATES THE ROOF SHALL TERMINATE WITH A 90° ELBOW AND INSECT SCREEN AT A MINIMUM OF 3'–0" ABOVE ROOF LINE AND NO CLOSER THAN 10'–0" FROM AN OUTDOOR AIR INTAKE.
6. CONTRACTOR SHALL COORDINATE HEIGHT OF PIPING BETWEEN THE ROOFED IN PIPE SUPPORTS AND THE SUPPOTS NOT ROOFED INTO THE BUILDING'S ROOF. SEE DETAILS FOR DURABLOC DBE10–12 AND RPS ER–4A STYLE SUPPORTS.

EXISTING CONNECTED GAS LOAD:	36,750 CFU
GAS LOAD TO BE REMOVED:	29,300 CFU
GAS LOAD FOR RTU TO BE ADDED:	5,480 CFU
GAS LOAD FOR BOILERS TO BE ADDED:	24,000 CFU
NEW CONNECTED GAS LOAD TOTAL:	36,930 CFU

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Project Name	HVAC Renovations at Princeton High School
Project Owner Name	Princeton Public Schools
Project Location	151 Moore Street, Princeton, NJ 08540
Project Number	5516E
Project Date	01.29. 2026
Checked By	JTM
Drawn By	JD
Scale	AS NOTED
Drawing Name	PLUMBING - GAS PIPING RISER DIAGRAMS

Revisions

No.	Date	Description

Drawing Number

P-501

GAS PRESSURE REGULATOR SCHEDULE

AC UNIT NO.	MFR	MODEL	MAX OPERATING PRESS (PSI)	MIN OPERATING PRESS (IN W.C.)	OUTLET PRESS (IN W.C.)	CAPACITY (CFH)	SIZE (INxIN)	REMARKS
AHU-B1	MAXITROL	325-9L201E	1	14	10	540	2x2	SEE NOTES
AHU-A1, F3, F6	MAXITROL	325-9L201E	1	14	10	270	1-1/2x1-1/2	SEE NOTES
AHU-A2, F2	MAXITROL	325-9L201E	1	14	10	350	1-1/2X1-1/2	SEE NOTES
AHU-F1	MAXITROL	325-9L201E	1	14	10	1080	2X2	SEE NOTES
AHU-E1	MAXITROL	325-9L201E	1	14	10	600	2X2	SEE NOTES
AHU-G1	MAXITROL	325-9L201E	1	14	10	1000	2X2	SEE NOTES
AHU-F5	MAXITROL	325-9L201E	1	14	10	600	2X2	SEE NOTES

NOTE:
1. SLECTIONS ABOVE ARE FOR BIDDING. GAS REGULATORS SHALL BE SUBMITTED FOR APPROVAL. CONTACT MANUFACTURER FOR REQUIRED SPRING.

PIPE SERVICE SCHEDULE

SERVICE	PIPE MATERIAL	FITTINGS
NATURAL GAS PIPING 2-1/2"< (ABOVE ROOF)	SCHEDULE 30 BLACK IRON STEEL	JOINTS SHALL BE WELDED
NATURAL GAS PIPING <2-1/2"	SCHEDULE 30 BLACK IRON STEEL	JOINTS SHALL BE WELDED OR THREADED
A/C CONDENSATE PIPING	TYPE "L" COPPER PIPING	TYPE "L" COPPER/BRONZE FITTINGS, SOLDER OR PRO-PRESS
DOMESTIC WATER (CW & HW)	TYPE "L" COPPER PIPING	TYPE "L" COPPER/BRONZE FITTINGS, SOLDER OR PRO-PRESS
DWH CONDENSATE	CPVC, SCH 80 ASTM F441/F441M	SOLVENT WELDED SOCKET FITTINGS

NOTE:
1. GAS PIPING SHALL BE PAINTED WHERE IT IS OUTDOORS. SEE PAINING SPECIFICATIONS.

HOT WATER CIRCULATION PUMP SCHEDULE (ADD/ALT #3)

TAG	QTY	SERVICE	LOCATION	MFR	SERIES	MODEL	TYPE	GPM	HEAD (FT)	INLET (IN)	OUTLET (IN)	IMP. (IN)	ELECTRICAL VOLTS	PHASE	HERTZ	HP	WORK PRESS (PSI)	WEIGHT (LBS)	REMARKS
HWCP-1	1	DHW	MER	B&G	E-90	2AAC	IN-LINE	79	15	2"	2"	4.5"	120	1	60	1/2	175	67	SEE NOTES

NOTE:
1. PROVIDE ALL BRONZE LEAD FREE CONSTRUCTION FOR USE WITH POTABLE WATER SYSTEM.

HOT WATER STORAGE TANK SCHEDULE (ADD/ALT #3)

TAG	QTY	SERVICE	LOCATION	MFR	MODEL	CAPACITY (GAL)	PRESS RATING (PSI)	DIMENSIONS (DIA x H)	SHIP WEIGHT (LBS)	REMARKS
TK-1	1	DHW	MER	LOCHINVAR	RGA0752	752	150	52" DIA x 104"	2,030	SEE NOTES

NOTE:
1. PROVIDE A GLASS-LINED TANK.

DOMESTIC HOT WATER HEATER SCHEDULE (ADD/ALT #3)

TAG	QTY	MFR	LOCATION	MODEL	TYPE	INPUT (MBH)	EFF. (%)	TD RATIO	GPH (100F RISE)	(GPM)	PD (FT.HD)	WTR VOL (GAL)	WORK PRESS (PSIG)	SRV PRESS (PSIG)	WTR CONN. (IN)	FUEL	MIN. INLET PRESS (IN-WG)	MAX. OUTLET PRESS (IN-WG)	GAS LINE SIZE (IN)	AIR INTAKE SIZE (IN)	VENT SIZE (IN)	ELECTRICAL VOLTS	PHASE	HERTZ	(FLA)	(MOP)	SHIP WT. (LBS)	DIMENSIONS HxWxD (IN)	REMARKS
DWH-1	1	LOCHINVAR	BOILER RM	AWH1000NPM	CONDENSING	1000	98.0	10:1	1,187	79	15.0	8.8	160	150	2-1/2"	NAT GAS	4	14	1-1/4"	6	6	120	1	60	11.7	15.0	494	45x24x48	SEE NOTES

NOTES:
1. PROVIDE HEATER CONTROLS BASED ON LOCHINVAR "SMART TOUCH" PC SOFTWARE WITH FULL COLOR TOUCH SCREEN & BACNET MS/TP COMMUNICATION PROTOCOL FOR INTEGRATION INTO BUILDING BMS. BOILER CONTROLS MUST BE CAPABLE OF PROVIDING FREEZE PROTECTION. BOILER MANUFACTURER SHALL PROVIDE A FLOW SWITCH WIRED TO HEATER CONTROLLER AND 150 PSI TEMPERATURE/PRESSURE RELIEF VALVE TO BE FIELD INSTALLED.
2. PROVIDE CONDENSATION NEUTRALIZATION KIT & LOW LOSS MAGNETIC Y-STRAINER SHIPPED LOOSE AND INSTALLED BY CONTRACTOR.
3. PROVIDE TEMPERATURE SENSOR FOR WATER STORAGE TANK. FIELD INSTALLED & WIRED TO HEATER CONTROL BOARD.
4. MANUFACTURER TO PROVIDE A LOCHINVAR GAS PRESSURE REGULATOR VALVE (100269922). SET AT 12" W.C. BOILER,
5. MANUFACTURER SHALL PROVIDE PRE-INSPECTION, STARTUP, ASSISTANCE DURING COMMISSIONING, AND TRAINING.
6. PROVIDE TWO YEAR PARTS AND LABOR WARRANTY.

PIPE INSULATION SERVICE SCHEDULE

INTERIOR PIPING		
SERVICE	PIPE MATERIAL	JACKET
DOMESTIC HOT WATER (<1-1/2")	1-1/2" FIBERGLASS INSULATION	VAPOR BARRIER AND ASK JACKET - PVC JACKET FOR FITTINGS
DOMESTIC HOT WATER (1-1/2"<8")	2" FIBERGLASS INSULATION	VAPOR BARRIER AND ASK JACKET - PVC JACKET FOR FITTINGS
DOMESTIC COLD WATER (< 1-1/2"ø)	1" FIBERGLASS INSULATION	VAPOR BARRIER AND ASK JACKET - PVC JACKET FOR FITTINGS
DOMESTIC COLD WATER (> 1-1/2"ø)	1 1/2" FIBERGLASS INSULATION	VAPOR BARRIER AND ASK JACKET - PVC JACKET FOR FITTINGS

HEATER FLUE AND INTAKE DUCTWORK SCHEDULE (ADD/ALT #3)

SERVICE	DUCT MATERIAL	PRESSURE CLASS / CONNECTION	REMARKS
HEATER FLUE	-	-	NOTE 1
INTAKE COMBUSTION AIR	GALVANIZED STEEL	4" PRESSURE CLASS - FLANGED AND GASKETED FITTINGS	-

NOTES:
1. THE SPECIAL GAS VENT, MODEL CM+2 BY BLUE FLAME., SHALL BE MANUFACTURED FROM VP1738 STAINLESS STEEL SPECIFICALLY DESIGNED FOR EXTREME RESISTANCE TO CHLORINE ION PITTING, CREVICE CORROSION, AND STRESS CORROSION INDUCED BY THE GENERATION OF CORROSIVE CONDENSATES BY PARTIALLY OR FULLY CONDENSING NATURAL GAS FIRED HEATING APPLIANCES. SEE SPECIFCATION ON DRAWINGS.

EXPANSION TANK SCHEDULE (ADD/ALT #3)

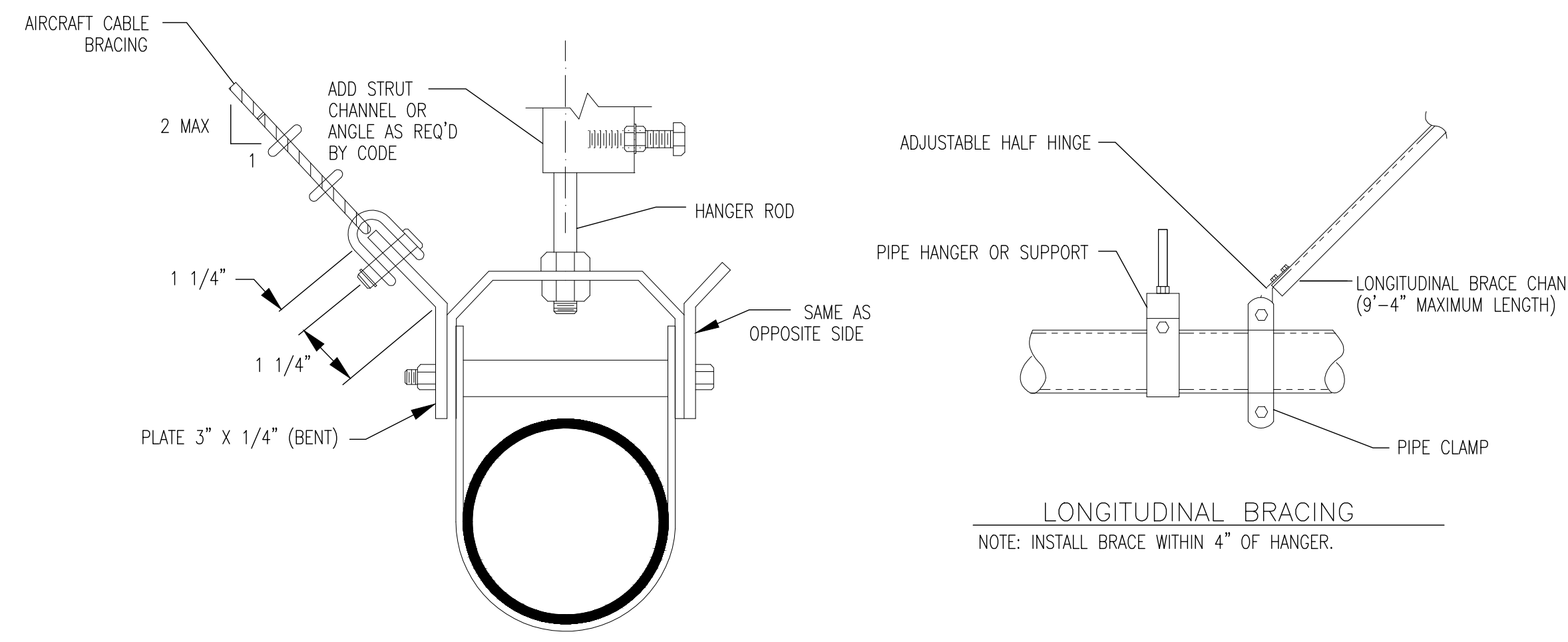
UNIT DESIGNATION	TANK TYPE	TANK VOL (GAL)	MAX ACCEPT FACTOR (GAL)	HEIGHT (INCH)	DIAMETER (INCH)	SHIP WT. (LBS)	BASIS OF DESIGN MANUFACTURER	MODEL	REMARKS
DWET-1	BLADDER	45	30	39	20	110	WATTS	DETA 100	SEE NOTES 1&2

NOTES:
1. TANK SHALL BE ASME, SECTION VIII (DIV 1) 150 PSIG.
2. PRE-CHARGE AIR PRESSURE TO 55 PSI.

HOT WATER RECIRCULATON PUMP SCHEDULE (ADD/ALT #3)

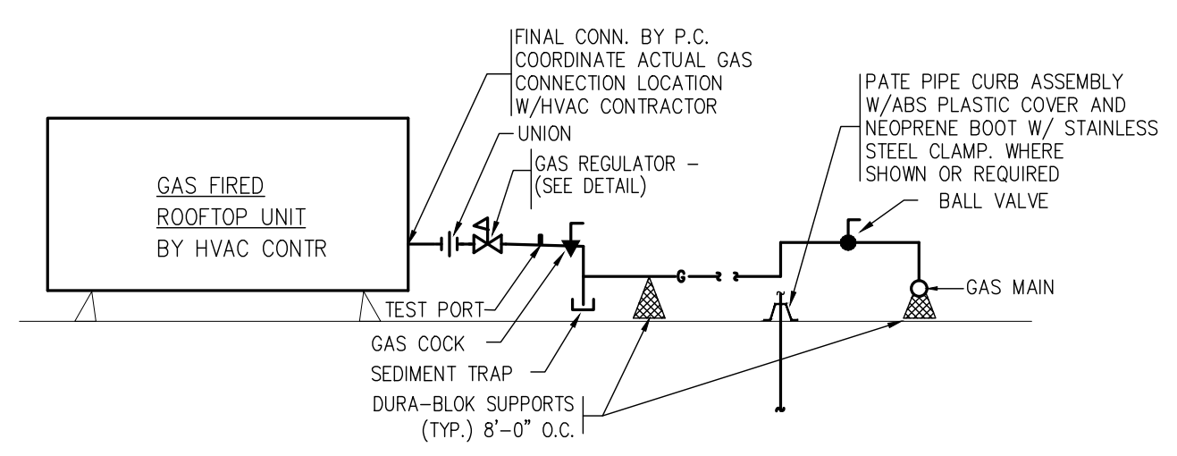
TAG	QTY	SERVICE	LOCATION	MANUFACTURER	MODEL	TYPE	GPM	HEAD (FT)	INLET (IN)	OUTLET (IN)	RPM	ELECTRICAL VOLTS	PHASE	HERTZ	FLA	HP	WORK PRESS (PSI)	WEIGHT (LBS)	REMARKS
HWRP-1 & 2	2	DHW	MER	B&G	PL-36B	IN-LINE	15	26	1-1/4"	1-1/4"	3300	115	1	60	2.1	1/6	150	13	SEE NOTES

NOTE:
1. PROVIDE BRONZE/LEAD FREE CONSTRUCTION.



1 SEISMIC CABLE BRACING FOR GAS PIPING
SCALE: NONE

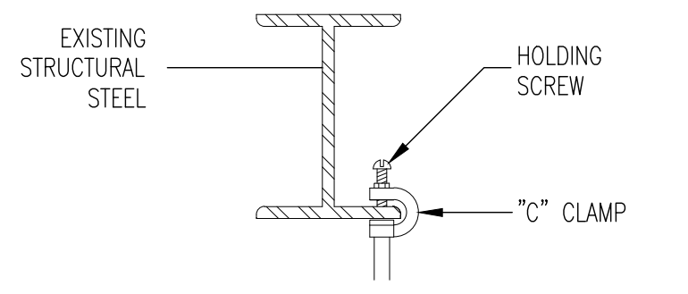
NOTES:
1. CONTRACTOR SHALL OBTAIN THE SERVICES OF A NJ PROFESSIONAL ENGINEER TO DETERMINE THE TYPES AND LOCATIONS OF THE GAS PIPING SUPPORTSS. THE SHOP DRAWING AND CALCULATIONS SHALL BE SIGNED AND SEALED BY THE ENGINEER OF RECORD.
2. REFER TO THE DRAWING SPECIFICATION FOR THE SIESMIC CATEGORY.


GAS FIRED ROOFTOP UNIT BY HVAC CONTR
FINAL CONN. BY P.C. COORDINATE ACTUAL GAS CONNECTION LOCATION W/HVAC CONTRACTOR
UNION
GAS REGULATOR - (SEE DETAIL)
PATE PIPE CURB ASSEMBLY W/ABS PLASTIC COVER AND NEOPRENE BOOT W/ STAINLESS STEEL CLAMP. WHERE SHOWN OR REQUIRED
BALL VALVE
GAS MAIN
TEST PORT
GAS COCK
SEDIMENT TRAP
DURA-BLOK SUPPORTS (TYP.) 8'-0" O.C.

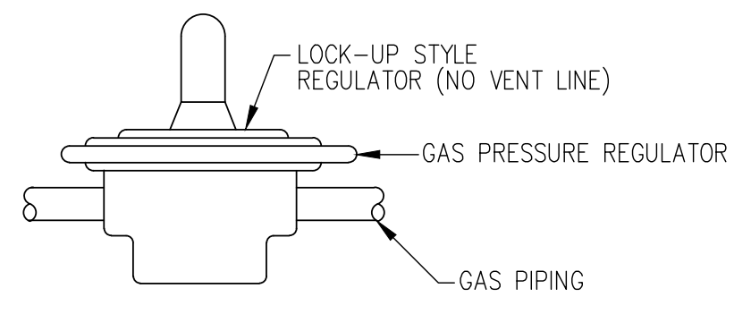
MAXIMUM PIPE SUPPORT SPACING										
NOM. SIZE IN.	THRU 3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6
PIPE FT.	7	7	7	9	10	11	12	12	8	8

2 TYPICAL GAS CONNECTION TO ROOFTOP UNIT
SCALE: NONE

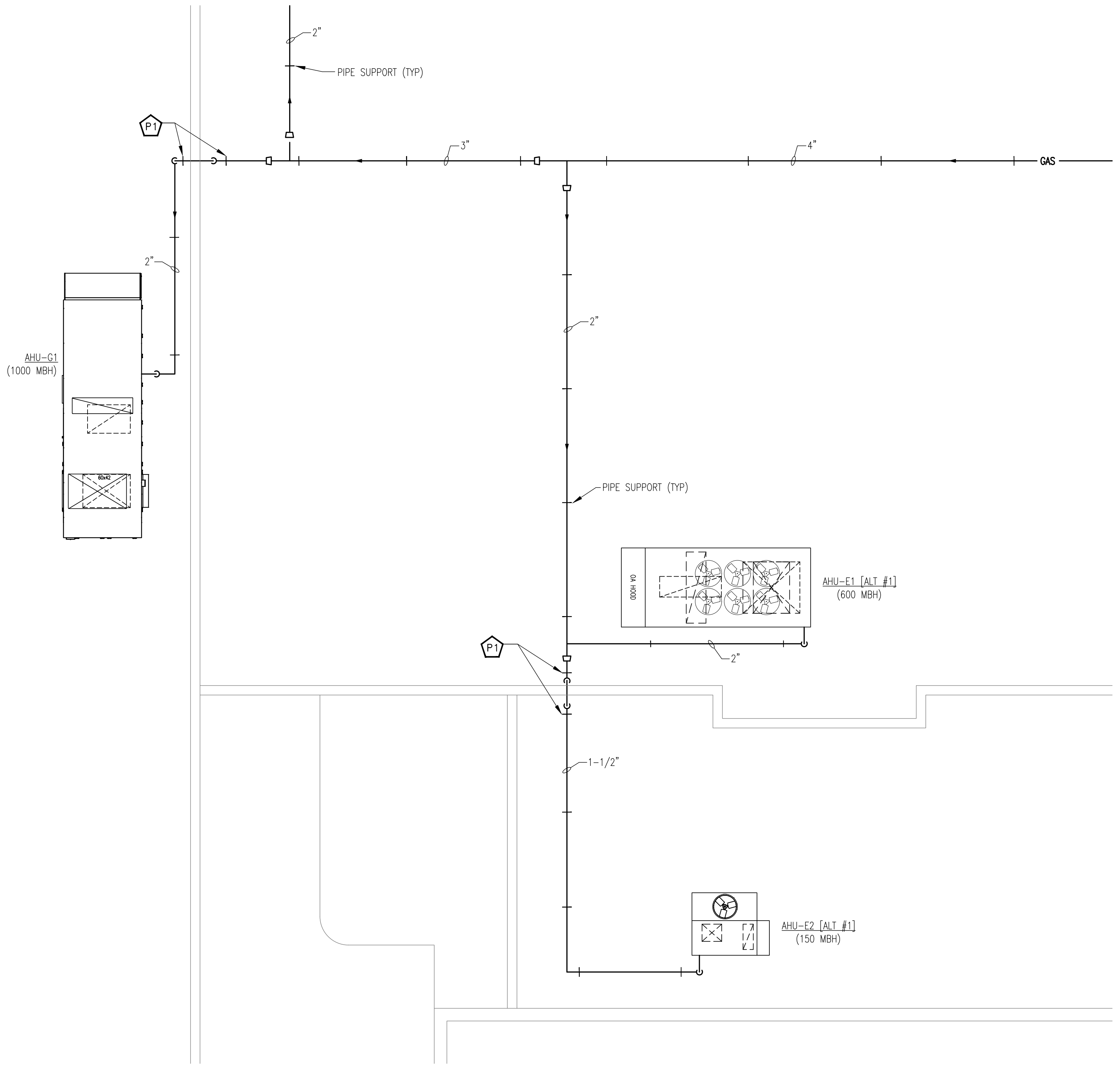
NOTES:
1. CONTRACTOR SHALL OBTAIN A GAS PRESSURE READING AT THE DISCHARGE OF THE MAIN SERVICE REGULATOR FOR THE BUILDING ALONG WITH THE EQUIPMENT REQUIREMENTS TO SIZE THE EQUIPMENT GAS PRESSURE REGULATOR.
2. CONTRACTOR SHALL SUBMIT LOAD LETTER TO THE GAS COMPANY IN COORDINATION WITH INCREASE IN PRESSURE AND CONNECTED LOAD. COORDINATE WITH GAS COMPANY FOR ANY CHANGES TO REGULATOR AND/OR METER AS REQUIRED. CONTRACTOR SHALL BE RESPONSIBLE FOR MANAGING AND SCHEDULING THE WORK BY THE GAS COMPANY.



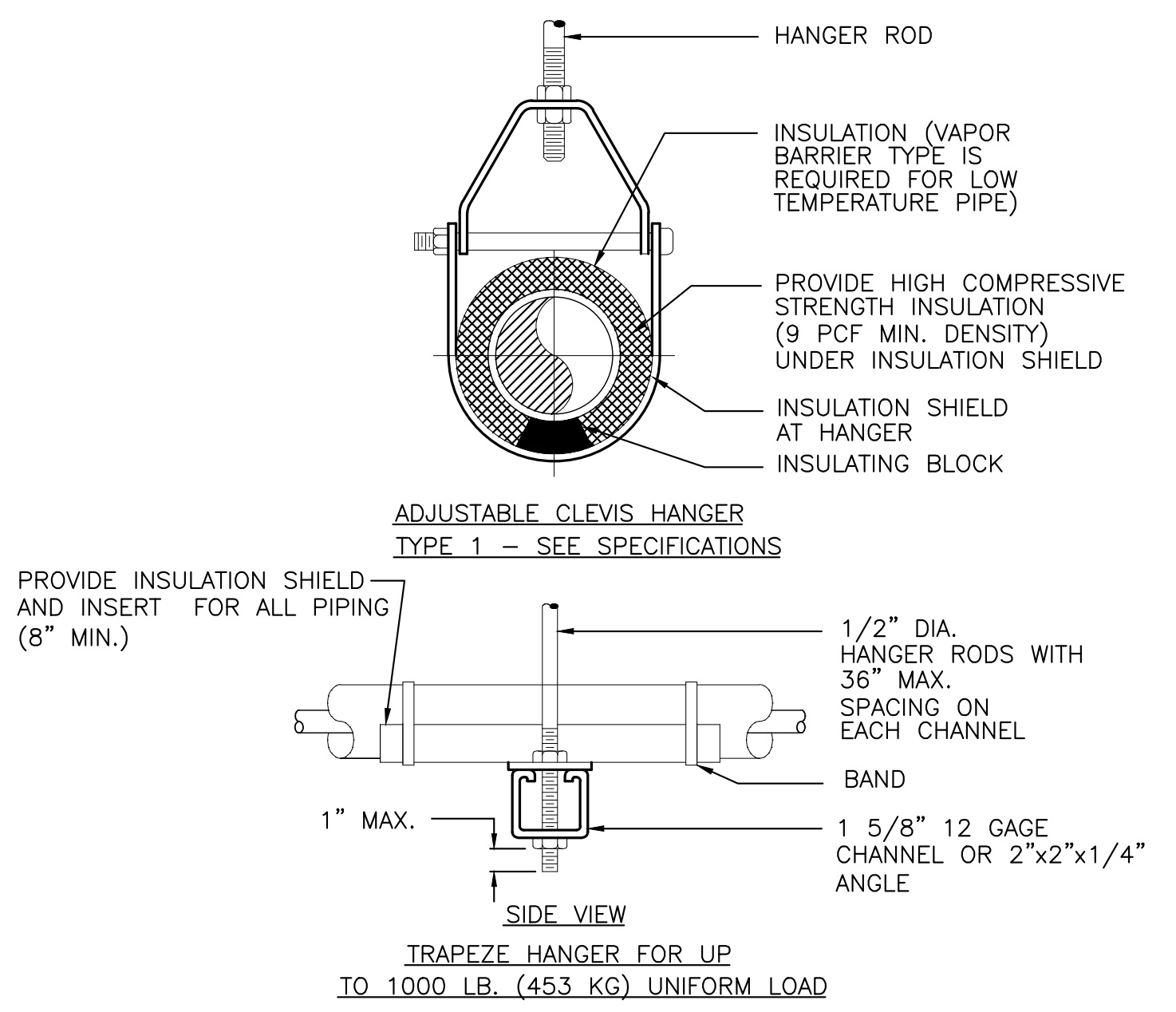
4 CLAMP HANGER
SCALE: NONE



5 GAS PRESSURE REGULATOR DETAIL
SCALE: NONE

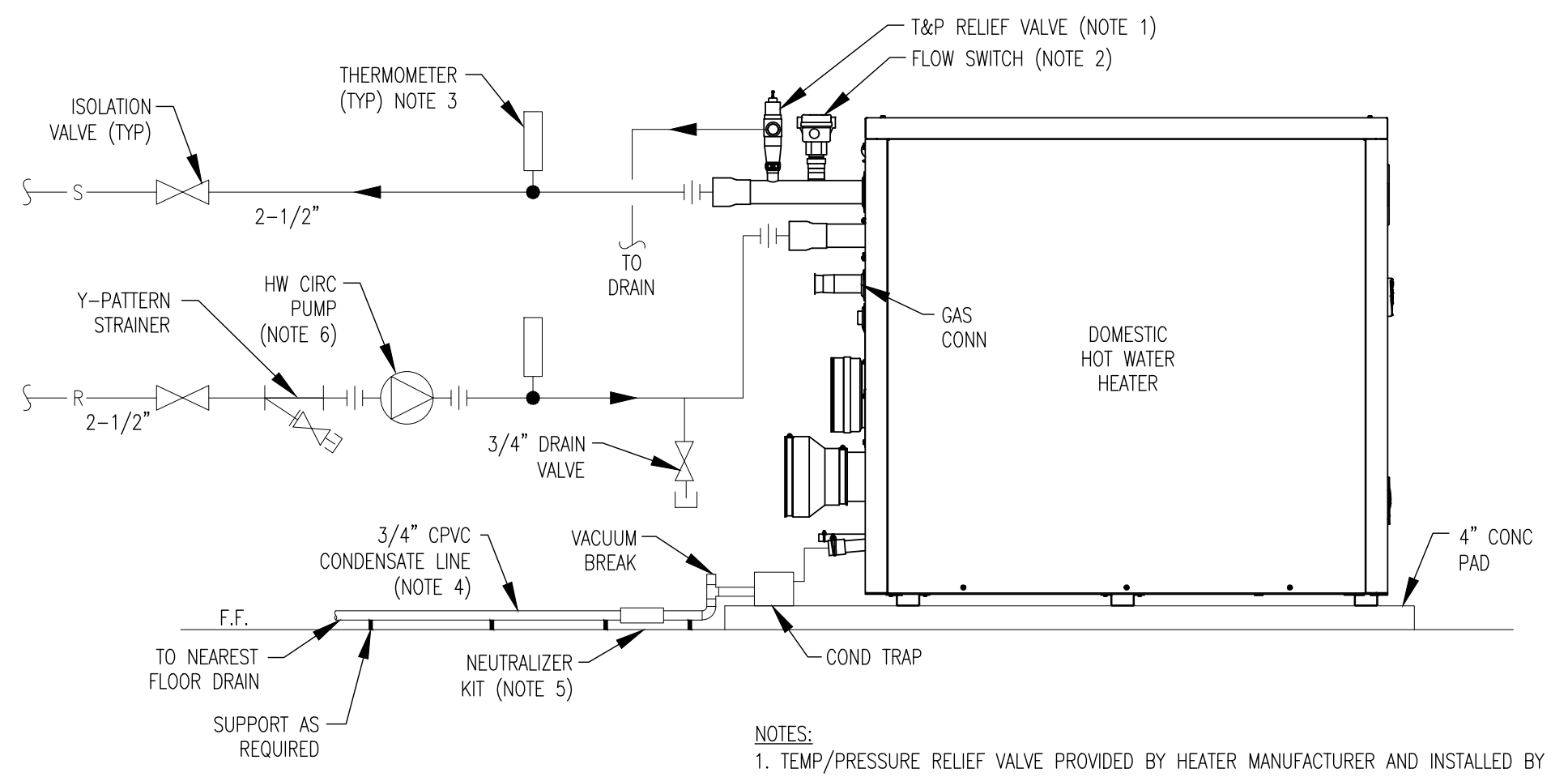


1 ROOF PARTIAL PLAN - ADD/ALT #1
SCALE: 1/8"=1'-0"


HANGER ROD
INSULATION (VAPOR BARRIER TYPE IS REQUIRED FOR LOW TEMPERATURE PIPE)
PROVIDE HIGH COMPRESSIVE STRENGTH INSULATION (9 PCF MIN. DENSITY) UNDER INSULATION SHIELD
INSULATION SHIELD AT HANGER
INSULATING BLOCK
ADJUSTABLE CLEVIS HANGER
TYPE 1 - SEE SPECIFICATIONS
PROVIDE INSULATION SHIELD AND INSERT FOR ALL PIPING (8" MIN.)
1/2" DIA. HANGER RODS WITH 36" MAX. SPACING ON EACH CHANNEL
BAND
1" MAX.
1 5/8" 12 GAGE CHANNEL OR 2"x2"x1/4" ANGLE
SIDE VIEW
TRAPEZE HANGER FOR UP TO 1000 LB. (453 KG) UNIFORM LOAD

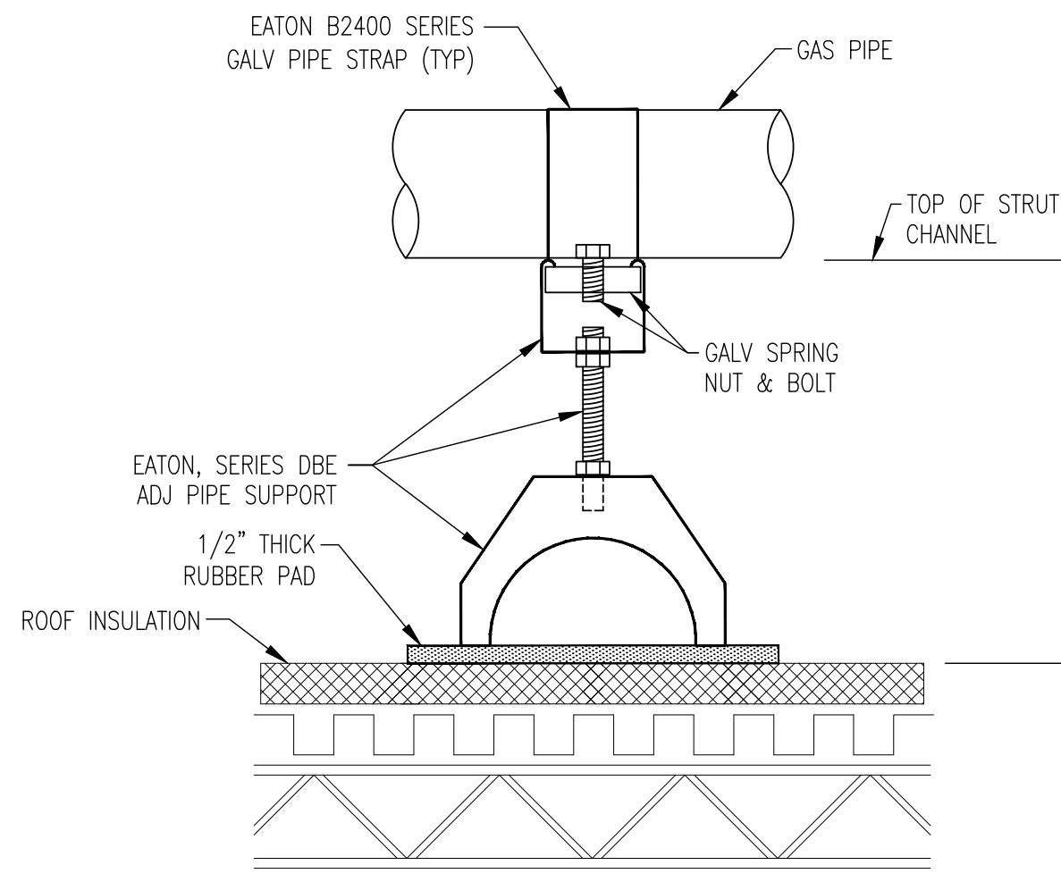
MAXIMUM PIPE/TUBING SUPPORT SPACING (FT)										
NOM. SIZE IN.	THRU 3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6
PIPE FT.	7	7	7	9	10	11	12	14	16	17
TUBING FT.	5	6	7	8	8	9	10	12	13	14
NOTE: FOR TRAPEZE HANGER TAKE SPACING OF SMALLEST SIZE ON TRAPEZE.										

3 TYPICAL PIPE HANGER DETAIL
Scale: NTS

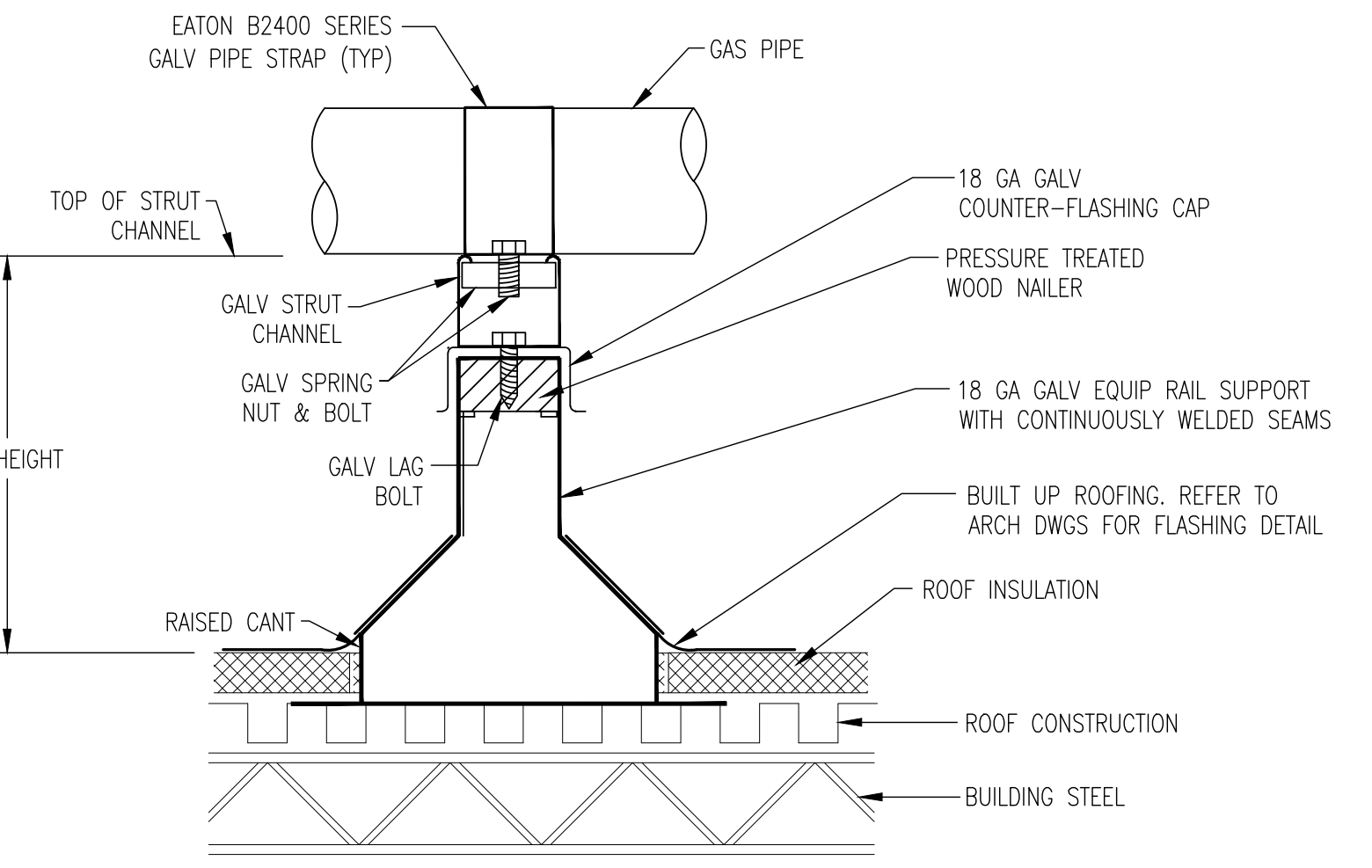


NOTES:
1. TEMP/PRESSURE RELIEF VALVE PROVIDED BY HEATER MANUFACTURER AND INSTALLED BY CONTRACTOR.
2. FLOW SWITCH INSTALLED & WIRED BY HEATER MANUFACTURER.
3. INSTALL THERMOMETERS AS OUTLINED IN MECHANICAL SPECIFICATIONS.
4. SLOPE IN DIRECTION OF FLOW.
5. PROVIDE LOCHINVAR NEUTRALIZER KIT MODEL CN4-2000.
6. SEE SCHEDULE FOR PUMP DETAILS.

6 DOMESTIC HOT WATER HEATER PIPING DETAIL
SCALE: NONE



7 ROOF SURFACE PIPE SUPPORT DETAIL
Scale: NTS


EATON B2400 SERIES GALV PIPE STRAP (TYP)
GAS PIPE
TOP OF STRUT CHANNEL
18 GA GALV COUNTER-FLASHING CAP
PRESSURE TREATED WOOD NAILER
GALV STRUT CHANNEL
GALV SPRING NUT & BOLT
18 GA GALV EQUIP RAIL SUPPORT WITH CONTINUOUSLY WELDED SEAMS
GALV LAG BOLT
BUILT UP ROOFING. REFER TO ARCH DWGS FOR FLASHING DETAIL
RAISED CANT
ROOF INSULATION
ROOF CONSTRUCTION
BUILDING STEEL

8 ROOFED-IN PIPE SUPPORT DETAIL
Scale: NTS

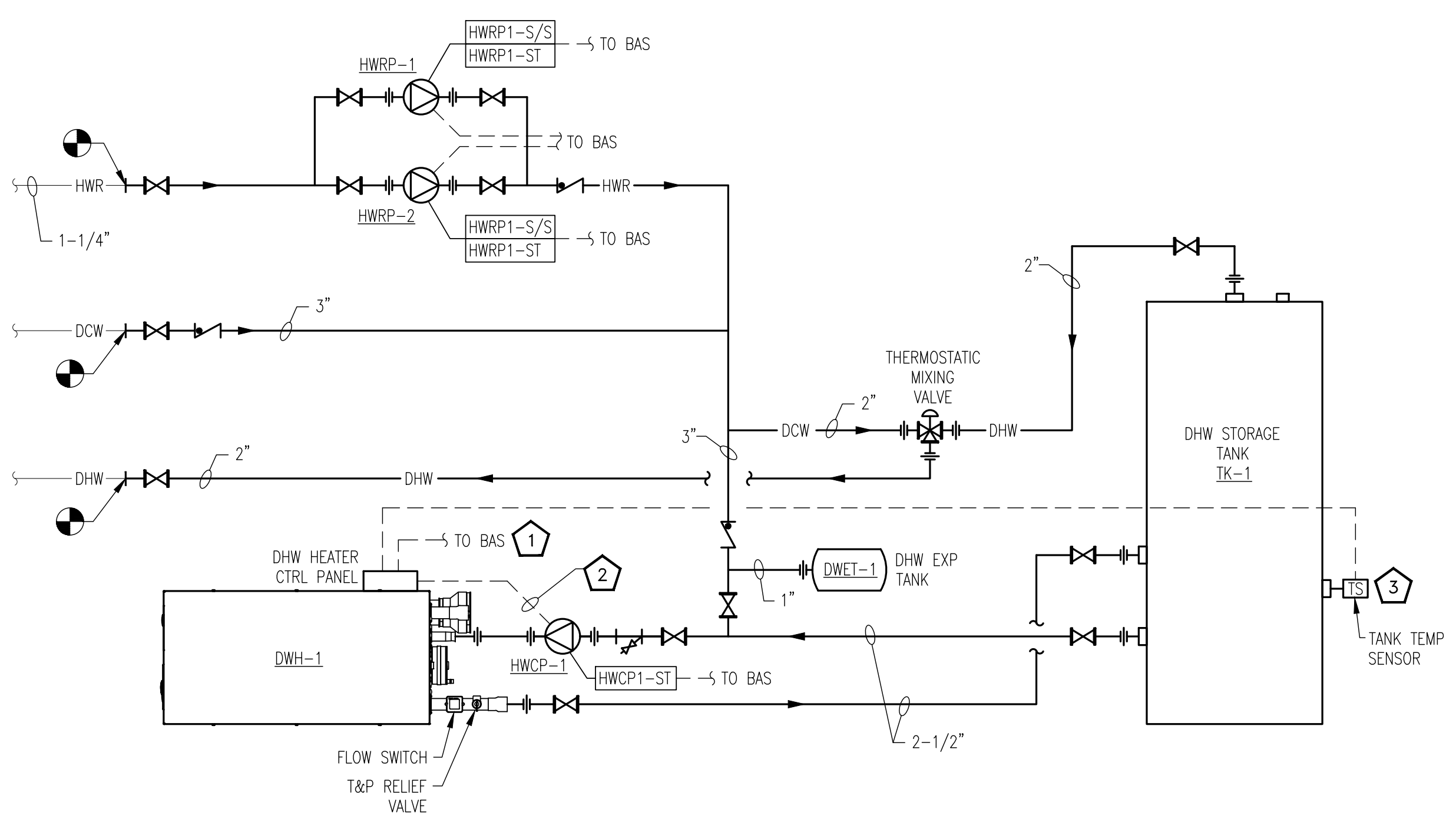
NOTES:
1. CONTRACTOR SHALL VERIFY LENGTH OF RAIL NEEDED FOR EACH PIPE/CONDUIT SUPPORT.
2. CONTRACTOR SHALL DETERMINE THE HEIGHT OF SUPPORT RAIL NEEDED TO MATCH ROOF SURFACE PIPE SUPPORTS.

PLUMBING NEW WORK NOTES

P1 SUPPORTS INDICATED SHALL BE SECURED AND SEALED TO THE ROOF. THESE SUPPORTS SHALL BE COORDINATED WITH THE HEIGHTS OF THE SUPPORTS THAT WILL REST ON THE ROOF. PIPING ROUTED UP OR DOWN THE WALL SHALL BE SECURED TO THE WALL WHERE IT EXCEEDS THE PIPING SUPPORT REQUIREMENTS. SEE ARCHITECTURAL DRAWINGS ON HOW TO SECURE TO WALL.

PLUMBING GENERAL NOTES

1. ALL PIPE SUPPORTS REQUIREMENTS AND GENERAL NOTES LISTED UNDER THE BASE PROJECT SHALL BE PART OF ALTERNATE #1.



[NOTE: REFER TO DRAWING M-501 FOR LAYOUT AND INSTALLATION REQUIREMENTS OF NEW DOMESTIC WATER HEATER, CIRCULATION PUMPS, STORAGE TANK, ETC.]

2 PLUMBING - DOMESTIC HOT WATER PIPING & CONTROL DIAGRAM - ADD/ALT #3
SCALE: 1/4"=1'-0"

PLUMBING NEW WORK NOTES

1 MAP HOT WATER HEATER CONTROL & MONITORING/ALARM POINT TO BAS VIA BACNET MS/TP.

2 ELEC CONTRACTOR CONTRACTOR SHALL WIRE HOT WATER CIRCULATION PUMP (HWCP-1) TO CONTACTS ON BOILER CONTROL PANEL. SEE ELECTRICAL DRAWINGS.

3 BAS CONTRACTOR SHALL WIRE TANK TEMPERATURE SENSOR TO HEATER CONTROL PANEL.

4 BAS CONTRACTOR SHALL WIRE HOT WATER RETURN PUMPS TO BAS.

DOMESTIC HW POINTS LIST - ADD/ALT #3

POINT DESIGNATION	POINT DESCRIPTION	POINT TYPE	PART NO. AND/OR DESCRIPTION	NOTES
HWRP1-ST & HWRP2-ST	HW RECICULATION PUMP STATUS	DIGITAL INPUT	-	THRU CURRENT SENSOR (NOTE 1)
HWRP1-S/S & HWRP2-S/S	PUMP START / STOP	DIGITAL OUTPUT	-	-
DWH-1	HEATER STATUS	BACNET	-	NOTE 2
HWCP1-ST	HW CIRCULATION PUMP STATUS	DIGITAL INPUT	-	THRU CURRENT SENSOR (NOTE 1)

POINTS LIST NOTES

1. CURRENT SENSOR SHALL BE AS MANUFACTURED BY HAWKEYE WITH ADJUSTABLE CURRENT SETTING.
2. MAP ALL AVAILABLE HEATER BOILER POINTS TO THE BAS VIA BACNET MS/TP.

DOMESTIC HOT WATER HEATER - SEQUENCE OF OPERATION

ENERGIZING DOMESTIC HOT WATER HEATER
THE DOMESTIC HOT WATER PLANT SHALL BE INDEXED TO OPERATE FROM THE BUILDING AUTOMATION SYSTEM. THE PLANT SHALL REMAIN ENABLED AT ALL TIMES. THE BAS SHALL ENERGIZE THE PRIMARY HOT WATER RECIRCULATION PUMP. THIS PUMP SHALL OPERATE BETWEEN THE HOURS OF 5 AM & 10 PM (ADJ).

DOMESTIC HOT WATER SUPPLY WATER TEMPERATURE
THE DOMESTIC WATER HEATER CONTROL PANEL SHALL MONITOR THE WATER TEMPERATURE IN THE HOT WATER STORAGE TANK THRU A TANK-MOUNTED TEMPERATURE SENSOR. THE TEMPERATURE SET POINT IN THE TANK SHALL 140 F. WHEN THE TEMPERATURE DROPS BELOW 140 F, THE BOILER CIRCULATION PUMP SHALL ENERGIZE AS WELL AS THE HEATER. THE HEATER & PUMP SHALL REMAIN ENERGIZED UNTIL THE TANK TEMPERATURE REACHES IT'S SET POINT TEMPERATURE.

DOMESTIC HOT WATER RECIRCULATION PUMPS
THE PRIMARY HOT WATER RECIRCULATION PUMP SHALL OPERATE DURING THE HOURS INDICATED ABOVE. THE STATUS OF THE PRIMARY PUMP SHALL BE MONITORED AT THE BAS. IF THE PUMP HAS BEEN COMMANDED TO START AND DOES NOT SHOW A RUN STATUS WITHIN 15 SECONDS (ADJ), THE BACKUP HOT WATER RECIRCULATION PUMP SHALL BE COMMANDED TO START AND A PUMP FAILURE ALARM SHALL BE ISSUED AT THE CONTROL SYSTEM FRONT END.

ALARMS
- IF THE SUPPLY WATER TEMPERATURE IS 5 °F ABOVE THE SET POINT (ADJUSTABLE), A "HIGH SUPPLY WATER TEMPERATURE" ALARM SHALL BE ISSUED AT THE CONTROL SYSTEM FRONT END.
- IF THE SUPPLY WATER TEMPERATURE IS 5 °F BELOW THE SET POINT (ADJUSTABLE), A "LOW SUPPLY WATER TEMPERATURE" ALARM SHALL BE ISSUED AT THE CONTROL SYSTEM FRONT END.
- IF A GENERAL FAULT IS DETECTED BY THE HEATER, A "DOMESTIC WATER HEATER FAILURE ALARM" SHALL BE ISSUED AT THE CONTROL SYSTEM FRONT END.
- THE STATUS OF EACH HOT WATER RECIRCULATION PUMP SHALL BE MONITORED THROUGH ITS CURRENT SENSOR. IF A PUMP FAILURE OCCURS, A "PUMP FAILURE" ALARM SHALL BE ISSUED AT THE CONTROL SYSTEM FRONT END IDENTIFYING WHICH PUMP HAS FAILED.

EPO SWITCH OPERATION
IF EITHER OF THE EMERGENCY POWER OFF SWITCHES (EPO-1 & 2) ARE DEPRESSED, ALL FOUR (4) BOILERS & THE DOMESTIC HOT WATER HEATER SHALL DE-ENERGIZE. A SUPERVISORY ALARM SHALL BE ISSUED AT THE FIRE ALARM CONTROL PANEL.

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F V H D P C . C O M

Project Name
HVAC Renovations at Princeton High School

Project Owner Name
Princeton Public Schools

Project Location
151 Moore Street,
Princeton, NJ
08540

Project Number
5516E
Project Date
01.29. 2026
Checked By
JTM
Drawn By
JD
Scale
AS NOTED

Drawing Name
PLUMBING - DOMESTIC HOT WATER PIPING DIAGRAM, PARTIAL PLAN & SCHEDULES

Revisions		
No.	Date	Description

Drawing Number
P-502

PLUMBING SPECIFICATION

WORK INCLUDED
A. INCLUDE ALL LABOR, MATERIALS, APPLIANCES, TOOLS, TRANSPORTATION, STORAGE, CERTIFICATES, DRAWINGS, TEMPORARY WORK, CLEANING, START-UP, COMMISSIONING AND ALL OF CONTRACTORS SERVICES REQUIRED TO MAKE THE INSTALLATION COMPLETE IN EVERY RESPECT, GUARANTEED TO BE SAFE AND READY FOR USE AND OPERATION IN A MANNER SATISFACTORY TO THE OWNER AND ALL THE PLUMBING WORK SHOWN ON THE DRAWINGS AND SPECIFIED HEREIN.

B. WHERE THERE IS CONFLICT BETWEEN THE SPECIFICATIONS ON THE DRAWINGS AND THE ISSUED BOOK SPECIFICATIONS FOR THE PROJECT, THE SPECIFICATIONS ON THE DRAWINGS SHALL BE FOLLOWED BY THE CONTRACTOR.

LAWS AND ORDINANCES
A. ALL LOCAL AND STATE LAWS AND REGULATIONS AND RECOMMENDATIONS OF THE NATIONAL FIRE PROTECTION ASSOCIATION AND NATIONAL STANDARD PLUMBING CODE GOVERNING OR RELATING TO ANY PORTION OF THIS WORK ARE HEREBY MADE PART OF THESE SPECIFICATIONS. RESPONSIBILITY FOR COMPLIANCE TO THEIR PROVISIONS IS INCLUDED.

B. INFORM THE ENGINEER OF ANY WORK OR MATERIALS, WHICH OBVIOUSLY VIOLATES ANY OF THE APPLICABLE CODES AND REGULATIONS BEFORE PROCEEDING WITH THE WORK. FAILURE TO DO SO INDICATES ACCEPTANCE OF THE WORK AS SHOWN BY THE ENGINEER, AND RESPONSIBILITY FOR CORRECTING SUCH WORK SHALL BE MADE BY THE CONTRACTOR AT NO COST TO THE OWNER.

C. ALL WORK SHALL MEET OR EXCEED THE LATEST REQUIREMENTS OF ALL NATIONAL, STATE, COUNTY, LOCAL OR MUNICIPAL, AND OTHER RECOGNIZED AUTHORITIES EXERCISING OR ASSERTING JURISDICTION OVER THE CONSTRUCTION WORK AT THE PROJECT.

STANDARDS
A. MATERIALS SPECIFIED BY REFERENCE TO A SPECIFIC STANDARD SUCH AS THE AMERICAN SOCIETY OF TESTING MATERIALS, UNDERWRITERS LABORATORIES, AMERICAN NATIONAL STANDARDS INSTITUTE, FEDERAL SPECIFICATIONS, A TRADE STANDARD OR OTHER SIMILAR STANDARD SHALL COMPLY WITH THE LATEST REVISION THEREOF IN EFFECT AT THE TIME OF BIDDING, EXCEPT AS MODIFIED BY TYPE, CLASS OR GRADE OR MODIFIED BY SUCH REFERENCE.

B. WHERE COMPLIANCE WITH TWO OR MORE STANDARDS IS SPECIFIED, AND THEY ESTABLISH DIFFERENT OR CONFLICTING REQUIREMENTS FOR MINIMUM QUANTITIES OR QUALITY LEVELS THE MORE STRINGENT REQUIREMENTS WILL BE ENFORCED UNLESS THE CONTRACT DOCUMENTS INDICATE OTHERWISE.

C. REFER REQUIREMENTS THAT ARE DIFFERENT, BUT APPARENTLY EQUAL, AND UNCERTAINTIES AS TO WHICH QUALITY LEVEL IS MORE STRINGENT TO THE ENGINEER BEFORE PROCEEDING.

INTENT OF THE DRAWINGS AND SPECIFICATIONS
A. IT IS THE INTENT OF THESE SPECIFICATIONS TO PROVIDE COMPLETE SYSTEMS IN GOOD WORKING ORDER, READY FOR OPERATION, INCLUDING ALL ACCESSORIES AND ITEMS REQUIRED FOR PROPER OPERATION.

B. IT SHALL BE UNDERSTOOD THAT THE PLUMBING DRAWINGS SHOW THE GENERAL RUN OF PIPING AND THE APPROXIMATE LOCATION OF ALL APPARATUS. DO NOT SCALE THE DRAWINGS TO DETERMINE EXACT POSITIONS AND CLEARANCES. OBTAIN FROM THE ARCHITECT ANY DIMENSIONS NOT SHOWN.

C. METHODS OF CONSTRUCTION AND DETAILS OF WORKMANSHIP WHERE NOT SPECIFICALLY DESCRIBED HEREIN OR INDICATED ON THE DRAWINGS ARE SUBJECT TO THE ENGINEERS' APPROVAL.

D. MAKE A THROUGH EXAMINATION OF ALL SURFACES RECEIVING THE WORK OF THIS SECTION, AND BEFORE STARTING THE INSTALLATION, NOTIFY THE ENGINEER IN WRITING OF ANY DEFECT WHICH WILL AFFECT THE SATISFACTORY COMPLETION OF ANY WORK.

E. CONTRACTOR SHALL CONFORM TO THE OWNER'S SITE STANDARDS FOR QUALITY, WORKMANSHIP, MATERIALS, EQUIPMENT, ETC. IF THERE IS A DISCREPANCY BETWEEN THE SITE STANDARD AND INFORMATION SHOWN ON THE DRAWINGS OR SPECIFICATIONS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER. THE ENGINEER WILL CONFER WITH THE OWNER AND THE CONTRACTOR WILL BE INSTRUCTED ON HOW TO PROCEED.

PERMITS AND CERTIFICATES
A. THIS CONTRACTOR SHALL OBTAIN ALL NECESSARY NOTICES, FILE DRAWINGS AND SPECIFICATIONS WITH THE DEPARTMENTS OR AUTHORITIES ASSERTING OR HAVING JURISDICTION, OBTAIN PERMITS OR LICENSES NECESSARY TO CARRY OUT THE WORK.

B. THE CONTRACTOR SHALL ARRANGE FOR INSPECTIONS AND TESTS OF ANY OR PART OF THE WORK IF SO REQUIRED BY AUTHORITIES OR LOCAL UTILITY OR SERVICE COMPANIES HAVING JURISDICTION, AND PAY ALL CHARGES INCURRED. NOTIFY OWNER AND ENGINEER 72 HOURS IN ADVANCE OF ALL INSPECTIONS.

C. THE CONTRACTOR SHALL OBTAIN ALL CERTIFICATES NECESSARY AS EVIDENCE THAT THE WORK INSTALLED CONFORMS TO ALL REGULATIONS WHERE THEY APPLY TO THIS WORK.

D. THE CONTRACTOR SHALL NOTIFY THE OWNER IN A TIMELY MANNER THAT INSPECTIONS ARE REQUIRED, SO AS NOT TO HOLD UP THE PROGRESS OF THE WORK.

RELATIONS WITH OTHER TRADES
A. CONFER WITH OTHERS ENGAGED IN THE CONSTRUCTION OF THE BUILDING WHOSE WORK MIGHT AFFECT THE INSTALLATION, AND ARRANGE ALL PARTS OF THE WORK AND EQUIPMENT IN PROPER RELATION TO THE WORK AND EQUIPMENT OF OTHERS, WITH THE BUILDING CONSTRUCTION AND WITH THE ARCHITECTURAL FINISH SO THAT IT WILL HARMONIZE IN SERVICE AND APPEARANCE. SPECIAL CARE SHALL BE TAKEN IN THE INSTALLATION OF EQUIPMENT AND PIPING WHERE CONCEALED TO ASSURE THAT IT DOES NOT PROJECT BEYOND FINISHED LINES OF FLOORS, CEILINGS, WALLS AND CABINETS.

B. WHERE, DUE TO UNION REGULATIONS OR OTHER TRADE AGREEMENTS, ANY OF THE WORK SHOWN ON THE DRAWINGS OR SPECIFIED HEREIN IS NOT CONSIDERED PLUMBING WORK, SUBCONTRACT THE WORK IN QUESTION AND ASSUME FULL RESPONSIBILITY FOR THE COMPLETE INSTALLATION.

APPROVED MATERIALS
A. ALL MATERIAL AND EQUIPMENT SHALL BE NEW, OF MAKES AND KINDS SPECIFIED HEREIN, OR AS INCLUDED IN THE DRAWINGS, WITHOUT EXCEPTION. WHERE ONE BRAND, MAKE OR DEVICE IS SHOWN OR SPECIFIED, THE PRODUCTS OF OTHER MANUFACTURERS SHALL BE REGARDED AS ACCEPTABLE WHEN, IN THE OPINION OF THE ENGINEER, IT IS A RECOGNIZED EQUAL CONSIDERING QUALITY, WORKMANSHIP, ECONOMY OF OPERATION AND SUITABILITY FOR THE PURPOSE INTENDED.

B. WHERE SUCH APPROVED SUBSTITUTION OR DEVIATION REQUIRES A DIFFERENT QUANTITY OR ARRANGEMENT OF PIPING, WIRING, SUPPORTS, FOUNDATIONS, DUCTWORK, AND ANY OTHER EQUIPMENT OR ACCESSORIES NORMAL TO THIS EQUIPMENT, FURNISH SAID CHANGES AND ADDITIONS, AND PAY ALL COSTS FOR ALL CHANGES TO THIS WORK AND THE WORK OF OTHER TRADES AFFECTED BY THE SUBSTITUTION OR DEVIATION.

SUBMITTALS, SCHEDULE AND SHOP DRAWINGS
A. EQUIPMENT AND SUBMITTALS MUST BE INACCORDANCE WITH DRAWINGS AND SPECIFICATIONS. NO SUBSTITUTIONS ARE ALLOWED UNLESS DENOTED BY CONTRACTOR AND APPROVED BY ENGINEER. EIGHT (8) COPIES WILL BE PROVIDED ALONG WITH AN INDEX OF SUBMITTALS TO BE PROVIDED. ALL SUBMITTALS MUST BE IDENTIFIED WITH THE SAME NAME USED ON THE DRAWINGS.

B. PROVIDE CONSTRUCTION SCHEDULE USING MICROSOFT PROJECT MANAGER INCLUDING LEAD TIMES FOR EQUIPMENT, PHASING, ETC.

C. SUBMIT SHOP DRAWINGS AND OBTAIN WRITTEN APPROVAL OF SAME BEFORE ORDERING OR INSTALLING ANY OF THE EQUIPMENT OR MATERIAL. EQUIPMENT OR MATERIAL ORDERED OR INSTALLED WITHOUT WRITTEN APPROVAL WILL NOT BE ACCEPTED. SHOP DRAWINGS SHALL BE PRESENTED ON AUTOCAD VERSION 2010 OR LATER. SHOP DRAWING SCALE SHALL BE NO SMALLER THAN $\frac{1}{4}$ INCHES EQUALS 1 FOOT.

D. THE CHECKING OF SHOP DRAWING AND SAMPLES AND THE USE OF THE APPROVAL STAMP WILL BE ONLY FOR CONFORMANCE WITH THE DESIGN CONCEPT. THE STAMP OF APPROVAL DOES NOT INDICATE APPROVAL OF EVERY DETAIL OF THE DRAWINGS NOR OF THE WORK AND METHODS INDICATED THEREON.

HANGER AND SUPPORT
A. CONTRACTOR TO OBTAIN THE DESIGN AND PREPARATION OF SHOP DRAWINGS FOR PIPE AND EQUIPMENT SUPPORTS, AND SEISMIC RESTRAINT BY A QUALIFIED PROFESSIONAL ENGINEER. ALL DRAWINGS SHALL BE SEALED AND SIGNED BY A QUALIFIED PROFESSIONAL ENGINEER. UNLESS OTHERWISE SPECIFIED, THE SEISMIC DESIGN CATEGORY IS B.

CUTTING AND PATCHING

A. CONTRACTOR SHALL BE RESPONSIBLE FOR THE CUTTING, PATCHING AND FIRE STOPPING OF ALL HOLES/HANGERS REQUIRED TO INSTALL MATERIALS AND EQUIPMENT THEY SUPPLY.

B. NO STRUCTURAL ELEMENTS SHALL BE CUT OR DRILLED.

RECORD DRAWINGS
A. FURNISH AS-BUILT DRAWINGS AS PART OF THIS WORK, CONSISTING OF A COMPLETE SET OF AUTOCAD COMPATIBLE DRAWINGS ON CD, SUITABLE FOR REPRODUCTION AND INDICATING IN A NEAT AND ACCURATE MANNER A COMPLETE RECORD OF ALL REVISIONS OF THE ORIGINAL DESIGN OF THE WORK. THIS SHALL INCLUDE CHANGES AND ADDENDUM OF THIS SECTION WHICH EXISTS IN THE COMPLETED WORK. DURING CONSTRUCTION KEEP AN ACCURATE RECORD ON A SET OF CONTRACT DRAWINGS, ALL DEVIATIONS BETWEEN THE WORK SHOWN AND THE WORK INSTALLED. DRAWINGS SHALL BEAR THE NOTATION "RECORD DRAWING OF WORK AS-BUILT", AND MUST BE DELIVERED TO THE ENGINEER AT THE COMPLETION OF THE WORK. INCLUDE IN THE BID AND BEAR THE COST OF THESE TRANSPARENCIES AND THE PREPARATION OF RECORD DRAWINGS.

DAMAGE TO PROPERTY
A. RESTORE TO ITS ORIGINAL CONDITION WITHOUT EXTRA PAYMENT, ANY OF THE OWNERS PROPERTY THAT SHALL BECOME DAMAGED DUE TO THE NEGLIGENCE OF EMPLOYEES OR AGENTS OF THE CONTRACTOR. SUCH REPAIRS SHALL MEET THE APPROVAL OF THE OWNER. PARTICULAR CARE SHALL BE EXERCISED WITHIN ROOMS OF SPECIAL CONSTRUCTION, SUCH AS CLEAN AND STERILE ROOMS, FROM SCRATCHING OR OTHER IMPERFECTIONS CAUSED BY INSTALLATION OF WORK UNDER THIS CONTRACT.

B. TAKE PROPER CARE AND PROTECT ALL PORTIONS OF THE WORK UNTIL ITS ACCEPTANCE. ANY AND ALL PORTIONS OF THE WORK LIABLE TO DAMAGE UNDER THIS OR OTHER SECTIONS, BY FREEZING OR INCLEMENT WEATHER MUST BE THOROUGHLY AND COMPLETELY PROTECTED BY ANY SUBSTANTIAL MEANS UNTIL NOT FURTHER REQUIRED. IT SHALL BE REMOVED FROM THE PREMISES ONLY WHEN ITS REMOVAL IS APPROVED BY THE ENGINEER.

C. PROTECT PLATED AND POLISHED MATERIAL AND TRIMMINGS AGAINST DAMAGE.

TESTS

A. INCLUDE ALL TESTS SPECIFIED AND/OR REQUIRED UNDER LAWS, RULES AND REGULATIONS OF ALL AUTHORITIES HAVING JURISDICTION.

B. ALL PARTS OF THE WORK SHALL BE TESTED AND ADJUSTED TO WORK PROPERLY AND BE LEFT IN PERFECT OPERATING CONDITION UPON COMPLETION OF THE WORK. CORRECT DEFECTS DISCLOSED BY THESE TESTS WITHOUT ADDITIONAL COST TO THE OWNER. REPEAT TESTS ON REPAIRED OR REPLACED WORK IF DEEMED NECESSARY BY THE ENGINEER.

C. NOTIFY THE OWNER AND ENGINEER AT LEAST 72 HOURS IN ADVANCE OF ALL TESTS. FURNISH ALL NECESSARY INSTRUMENTS, GAUGES AND OTHER EQUIPMENT REQUIRED FOR THESE TESTS. IF TESTS CANNOT BE COMPLETED AS SCHEDULED, PAY ALL EXPENSES INCURRED BY THE ENGINEER OR HIS AUTHORIZED REPRESENTATIVES REQUIRED TO BE PRESENT. EXPENSES SHALL INCLUDE THE COST OF TRAVELING, LODGING AND MEALS. TO AVOID SUCH OCCURRENCES, MAKE PRELIMINARY TESTS PRIOR TO GIVING NOTICE AND CONDUCTING FINAL TESTS.

D. TEST PIPING AND PROVE TIGHT AS SPECIFIED AND/OR REQUIRED, IN THE PRESENCE OF AUTHORITIES REQUESTING WITNESSING OF THE FINAL TESTS. MAKE TESTS IN STAGES IF SO ORDERED TO FACILITATE THE WORK OF OTHERS.

E. BE RESPONSIBLE FOR EXISTING BUILDING AND WORK OF OTHER TRADES DISTURBED OR DAMAGED BY TESTS OR REPAIR AND REPLACEMENT OF WORK. ALL WORK DISTURBED SHALL BE RESTORED TO ORIGINAL CONDITION AT NO COST TO THE OWNER.

F. TEST REVISED AND ALTERED DRAINAGE PIPING TO POINT OF CONNECTION WITH EXISTING PIPE WITH A FLOW OF WATER EQUAL TO EXPECTED MAXIMUM DISCHARGE FOR 30 MINUTES WITH NO LEAKAGE ALLOWED.

G. TEST NEW AND ALTERED WATER PIPING WITH BUILDING WATER AT BUILDING WORKING PRESSURE FOR A PERIOD OF ONE HOUR WITH NO LEAKAGE PERMITTED.

H. TEST NEW GAS PIPING AT A PRESSURE OF 75 PSIG FOR A PERIOD OF FOUR HOURS WITH NO LEAKAGE PERMITTED. HIGH PRESSURE COMPRESSED AIR PIPING AND NITROGEN GAS PIPING SHALL BE TESTED AT A PRESSURE OF 150 psig FOR A PERIOD OF FOUR HOURS WITH NO DROP OF PRESSURE PERMITTED.

I. CONTRACTOR TO COOPERATE WITH OWNER AND OTHER CONTRACTORS IN OBTAINING TEMPORARY AND FINAL CERTIFICATE OF OCCUPANCY.

REPLACEMENT OF DEFECTIVE WORK
A. WHEN, IN THE OPINION OF THE ENGINEER ANY MATERIAL INSTALLED IS SUBSTANDARD IN APPEARANCE OR FUNCTION, OR DOES NOT MEET GENERALLY ACCEPTED STANDARDS OF WORKMANSHIP, ALL SUCH MATERIALS SHALL BE REPLACED TO THE SATISFACTION OF THE ENGINEER AT NO COST TO THE OWNER.

SUPERVISION
A. THE CONTRACTOR SHALL HAVE A COMPETENT FOREMAN IN RESPONSIBLE CHARGE OF THE WORK WHO SHALL BE ON THE SITE DURING THE INSTALLATION OF THE MATERIAL FURNISHED UNDER THIS SPECIFICATION, UNTIL SAME HAS BEEN PUT IN COMPLETE OPERATING CONDITION AND ACCEPTED BY THE OWNER.

DIVISION OF WORK
A. NO REASSIGNMENT OF THE DIVISION OF RESPONSIBILITY FOR ANY WORK HEREIN SPECIFIED FOR ANY RESPECTIVE TRADE SHALL BE MADE WITHOUT THE PRIOR WRITTEN ACCEPTANCE OF THE OWNER AND ENGINEER.

RUBBISH
A. AT LEAST ONCE A DAY OR AS REQUIRED BY THE OWNER GATHER ALL RUBBISH, INCLUDING CARTONS, CRATES AND PACKAGING MATERIALS, DEBRIS AND OTHER WASTE MATERIALS. PILE SAME IN DESIGNATED LOCATIONS CONVENIENT TO RUBBISH REMOVAL FACILITIES.

B. RUBBISH SHALL BE REMOVED FROM PREMISES BY THE CONTRACTORS ONCE EACH WEEK, OR MORE FREQUENTLY IF DIRECTED OR REQUIRED.

PROTECTION
A. PROTECT ALL WORK AND EQUIPMENT AGAINST DAMAGE OR THEFT UNTIL FINALLY INSPECTED, TESTED AND ACCEPTED. CAREFULLY STORE AND PROTECT MATERIALS AND EQUIPMENT RECEIVED ON SITE WHICH ARE NOT IMMEDIATELY INSTALLED. CLOSE OPEN ENDS OF WORK WITH TEMPORARY PLUGS OR COVERS DURING CONSTRUCTION TO PREVENT ENTRY DEBRIS.

GUARANTEES
A. ALL WORK SHALL BE GUARANTEED TO BE FREE FROM DEFECTS IN WORKMANSHIP AND MATERIALS.

B. DURING THE GUARANTEE PERIOD ANY DEFECTS IN WORKMANSHIP, MATERIAL OR EQUIPMENT WILL BE CORRECTED AT THE CONTRACTORS' EXPENSE. ANY DAMAGE OR LOSS, EXCLUSIVE OF BUILDINGS CONTENTS, DUE TO SUCH DEFECTS, WILL ALSO BE MADE GOOD AT CONTRACTOR'S EXPENSE. DEFECTS WILL BE REMEDIED AND DAMAGES OR LOSSES WILL BE MADE GOOD WITHIN A REASONABLE TIME, AS SPECIFIED IN NOTICE FROM THE ENGINEER. AFTER THE SPECIFIED TIME, OWNER MAY HAVE DEFECTS REMEDIED AND DAMAGES OR LOSSES MADE GOOD AT THE CONTRACTOR'S EXPENSE.

C. GUARANTEE PERIOD SHALL BE TWO (2) YEARS.

D. GUARANTEE PERIOD SHALL START WHEN THE WORK INCLUDED IN CONTRACT DOCUMENTS IS ACCEPTED BY THE OWNER.

WORK IN EXISTING BUILDING

A. PERFORM WORK IN EXISTING BUILDING WHEN AND AS DIRECTED. ALL WORK IS TO BE PERFORMED SO AS TO CAUSE THE LEAST POSSIBLE INCONVENIENCE AND DISTURBANCE TO THE OCCUPANTS.

B. THE WORK IS PREDICATED ON THE PERFORMANCE OF THE WORK DURING NORMAL WORKING HOURS. WHEN SO DIRECTED, INSTALL OR PERFORM WORK DURING OVERTIME HOURS, AND THE ADDITIONAL COST WILL ONLY INVOLVE THE "PREMIUM" PORTION OF THE WAGES PAID.

C. SCRAP AND DEBRIS, EXCEPT AS OTHERWISE SPECIFIED, SHALL BE REMOVED FROM THE CONSTRUCTION SITE AND DISPOSED OF. WHEN REQUESTED BY OWNER, MOVE EQUIPMENT REMOVED TO A STORAGE PLACE ON THE PREMISES AND LEAVE AS PROPERTY OF THE OWNER.

D. WHEN INSTALLATION OF THE NEW WORK REQUIRES THE SHUTDOWN OF AN EXISTING OPERATING SYSTEM, A MINIMUM OF 72 HOURS WRITTEN NOTICE SHALL BE GIVEN TO THE OWNER BEFORE WORK IS STARTED.

E. THE WORK SPECIFIED SHALL INCLUDE REPAIR TO EXISTING SYSTEMS REQUIRED WHEN SUCH SYSTEMS ARE DISTURBED OR OTHERWISE DAMAGED AS A RESULT OF THE EXECUTION OF THIS WORK.

F. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH SITE CGMP CONSTRUCTION STANDARDS. PROVIDE ALL NECESSARY TEMPORARY PARTIONS TO ENSURE THAT GMP SPACES ARE NOT IMPACTED BY CONSTRUCTION ACTIVITIES.

CLEANING AND ADJUSTING
A. REMOVE DEBRIS FROM INSIDE AND OUTSIDE OF PIPING AND EQUIPMENT.

B. FLUSH OUT PIPING AFTER INSTALLATION AND BEFORE FINAL CONNECTIONS ARE MADE, AT LEAST TWICE, IN A MANNER AS DIRECTED AND/OR ACCEPTED BY THE OWNER. MAKE ALL TEMPORARY CONNECTIONS AND PROVIDE ALL EQUIPMENT REQUIRED FOR THE CLEANING AT NO EXTRA EXPENSE TO THE OWNER.

C. DISINFECTION

D. ALL FIXTURES SHALL BE SECURED TO PREVENT USE PRIOR TO INSPECTION AND ACCEPTANCE BY OWNER.

1. DISINFECT INTERIOR POTABLE WATER DISTRIBUTION SYSTEM IN ACCORDANCE WITH REQUIREMENTS OF LOCAL AUTHORITIES. PROVIDE THE FOLLOWING PROCEDURE WHERE NO PRESCRIBED METHOD EXISTS:
   - AFTER SYSTEM IS FLUSHED, FILL IN WITH EITHER 50-PPM CHLORINE-WATER SOLUTION AND LET STAND FOR 24 HOURS, OR 200-PPM CHLORINE-WATER SOLUTION AND LET STAND FOR 3 HOURS.
   - BLEED ALL OUTLETS TO ASSURE FILLING ALL THE SYSTEM.
   - FLUSH SYSTEM WITH POTABLE WATER UNTIL RISIDUAL CLORINE BY ORTHOTOLIDIN TEST IS NOT GREATER THAN THAT OF THE INCOMING WATER SUPPLY.
   - REPEAT PROCEDURE IF CONTAMINATION STILL PERSISTS AFTER FURTHER TEST.
   - PROVIDE FINAL WATER CHEMISTRY RESULTS AND "CERTIFICATE OF COMPLETION OF CLORINATION" TO OWNER.

SAFETY
A. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF ALL PERSONS PERFORMING THE WORK OF THIS CONTRACT.

B. THIS CONTRACTOR SHALL OBTAIN AND READ ALL SITE, JOB AND CORPORATE SAFETY AND SECURITY RULES AND REGULATIONS FROM THE OWNER, AND SIGN OFF ON THEM IF REQUIRED. THIS CONTRACTOR SHALL ADEQUATELY INFORM AND INSTRUCT ALL EMPLOYEES, AND OTHERS PERFORMING WORK FOR HIM, OF SUCH RULES AND REGULATIONS. THESE INSTRUCTIONS ARE THE MINIMUM THAT WILL BE ACCEPTED ON THIS PROJECT.

C. ALL OF THE ABOVE RULES AND REGULATIONS ARE NOT MEANT TO REPLACE OR ELIMINATE INDIVIDUAL CONTRACTORS SAFETY PROGRAMS OR CHANGE ANY LOCAL, STATE OR FEDERAL RULES AND REGULATIONS, BUT RATHER TO AUGMENT THEM AS REQUIRED FOR THE INDIVIDUAL PREMISES ON WHICH THIS WORK IS BEING PERFORMED.

INSPECTIONS

A. FURNISH ALL LABOR, EQUIPMENT, SUPPLIES AND MATERIALS, AS WELL AS PERFORM ALL OPERATIONS REQUIRED, LICENSES OR PERMITS FOR THE WORK INDICATED ON THE DRAWINGS AND/OR SPECIFICATIONS.

B. CONTRACTOR TO PROVIDE ASSISTANCE TO THE OWNER FOR ALL NECESSARY NOTICES, FILE DRAWINGS AND SPECIFICATIONS WITH THE DEPARTMENT HAVING JURISDICTION.

DRAINAGE PIPING

A. ALL STORM, SANITARY, WASTE AND VENT PIPING ABOVE GRADE AND UNDERGROUND SHALL BE NO-HUB CAST IRON SOIL PIPE AND FITTINGS (CISPI 301 A.S.T.M. A888) WITH HEAVY-DUTY CORROSION RESISTANT STAINLESS STEEL COUPLINGS AND INTEGRAL RUBBER SLEEVE UNLESS OTHERWISE NOTED IN SCHEDULE. CLEVIS HANGERS INSTALLED 5'-0" O.C. AND AT FITTINGS.

B. ALL STORM AND SANITARY RISERS SHALL HAVE CLEANOUT TEE AND PLUG AT THE BASE OF EVERY RISER.

WATER PIPING AND ACCESSORIES

A. ALL WATER PIPING (COLD WATER, HOT WATER, HOT WATER RECIRCULATION, NON POTABLE, AND TEMPERED WATER) SHALL BE COPPER TYPE "L" HARD TEMPER CONFORMING TO A.S.T.M. B-88 WITH LEAD FREE SOLDERED JOINTS.

B. FITTING SHALL BE CAST COPPER ALLOY SOLDER END CONFORMING TO ANSI B16.18 OR WROUGHT COPPER CONFORMING TO ANSI 16.22. NO BENDING WILL BE PERMITTED.

C. SOLDER JOINTS: FILTER METAL SHALL CONFORM TO ASTM B 32. CUT END OF TUBING SQUARE AND REMOVE BURRS. CLEAN INSIDE OF FITTING AND OUTSIDE OF TUBING WITH SAND CLOTH. MAKE JOINT WITH NON-CORROSIVE PASTE FLUX CONFORMING TO CDA STM 1.0. CORED SOLDER IS NOT PERMITTED. SOLDER SHALL BE ALLOY SB5, COMPOSED OF 95% TIN AND 5% ANTIMONY.

D. VALVES SHALL BE BALL TYPE WITH ENDS SUITABLE FOR SOLDERING, APOLLO SERIES 70-200-01.

E. WATER HAMMER ARRESTORS SHALL BE J.R. SMITH SERIES 5000, SEE DOMESTIC WATER RISER DIAGRAM FOR FIXTURE UNIT NUMBERS FOR SIZING.

F. EYEWASH AND SHOWERS TO COMPLY WITH ANSI Z358-1.

G. ALL BACKFLOW PREVENTERS SHALL BE REDUCED PRESSURE ZONE TYPE UNLESS OTHERWISE NOTED. BACKFLOW PREVENTERS SHALL BE INSTALLED BETWEEN 1'-0" AND 5'-0" ABOVE FINISHED FLOOR FOR ACCESS AND TESTING. PROVIDE WITH AIR GAP FITTING AND ACCESS TO FLOOR DRAIN.

PIPING INSULATION

A. INSULATION OF DOMESTIC COLD WATER, HOT WATER, HOT WATER RECIRCULATION AND NON POTABLE WATER PIPING SHALL BE PREMOLDED FIBERGLASS PIPE COVERING WITH A WHITE ALL SERVICE JACKET AND SELF SEALING LAP, MANVILLE MICRO-LOK.

B. REFER TO SCHEDULES FOR INSULATION THICKNESS.

C. FITTINGS SHALL BE PREMOLDED WHITE PVC COVERS WITH FIBERGLASS INSERTS, ZESTON #2000.

D. INSULATION OF NEW HORIZONTAL STORM PIPING AND EXISTING ROOF SUMP SHALL BE 1-1/2" THICK FIBERGLASS BLANKET.

E. INSULATION TO BE FLAME RATED FOR 25 AND SMOKE RATED FOR 50.

PIPING SUPPORTS

A. PIPING ON WALL ABOVE THE FLOOR SHALL BE SUPPORTED BY MANUFACTURED SUPPORTS SIMILAR TO "UNISTRUT". OTHER SUPPORTS SHALL BE SUBMITTED BY CONTRACTOR FOR APPROVAL.

B. PIPING IN CEILING SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE ON APPROVED CLEVIS HANGERS.

C. SEISMIC RESTRAINT SUPPORTS: PROVIDE SEISMIC RESTRAINTS FOR PIPING AND EQUIPMENT IN ACCORDANCE WITH SECTION 1600 OF THE LATEST VERSION OF THE INTERNATIONAL BUILDING CODE.

PIPE, VALVE AND EQUIPMENT IDENTIFICATION
A. IDENTIFY ALL EXPOSED OR CONCEALED PIPING WITH PLASTIC PIPE MARKERS EVERY 10'. ALL VALVES SHALL BE TAGGED WITH BRASS LABELS AND A VALVE SCHEDULE SHALL BE PROVIDE BY THE CONTRACTOR TO THE OWNER.

PIPE INSTALLATION
A. THE WORD "PIPING" IN THIS SPECIFICATION SHALL MEAN PIPE, FITTING, FLANGES, NIPPLES, AND VALVES.

B. DRAINAGE PIPING 3" SIZE AND SMALLER SHALL BE RUN AT A UNIFORM GRADE AT LEAST ¼" PER FOOT, AND PIPING LARGER THAN 3" SIZE SHALL BE RUN AT A GRADE OF NOT LESS THAN 1/8" PER FOOT UNLESS OTHERWISE INDICATED.

C. DRAINAGE PIPING SHALL BE RUN STRAIGHT AS POSSIBLE AND SHALL HAVE EASY BENDS WITH LONG TURN FITTINGS.

D. VENT PIPES SHALL BE GRADED TO FREE THEMSELVES OF ANY WATER OR CONDENSATION.

E. WATER PIPING SHALL BE RUN FREE OF TRAPS AND UNNECESSARY BENDS. ANY TRAPS FORMED SHALL BE PROVIDED WITH DRIP VALVES TO COMPLETELY DRAIN THE SYSTEMS.

F. CHECK THE DRAWINGS FOR SPACE LIMITATIONS PERMITTED FOR THE INSTALLATION OF PIPING SUCH AS SHAFTS, CHASES, AND FURRED CEILINGS.

G. INSTALL PIPING CLOSE AND PARALLEL TO THE STRUCTURAL MEMBERS AND TIGHT TO THE UNDERSIDE OF THE FLOOR CONSTRUCTION TO GIVE MAXIMUM HEADROOM AND CREATE THE LEAST POSSIBLE FURRING WHERE FURRED BEAMS OR CEILINGS ARE INDICATED.

H. INSTALL PIPING SO AS TO BE READILY ACCESSIBLE FOR OPERATION, MAINTENANCE, REPAIR, OR REPLACEMENT.

I. ALL PIPING SHALL HAVE REDUCING FITTINGS. NO BUSHINGS WILL BE PERMITTED ON ANY PIPING WITHOUT THE WRITTEN APPROVAL OF THE ARCHITECT.

J. REAM OR FILE SCREWED PIPE OF TUBING TO ORIGINAL BORE AND REMOVE BURRS.

INSTALLATION OF HANGERS AND SUPPORTS

A. WHERE NO INSERTS HAVE BEEN PROVIDED, PIPES SHALL BE SUPPORTED FROM HEAVY DUTY ADHESIVE ANCHORS SIMILAR TO HILTI HVA, USING ONLY HAS RODS AND HFA INSERTS FOR PIPING OVER 2" IN SIZE AND HAS RODS FOR PIPING 2" AND SMALLER. ALLOW A MINIMUM OF ONE-HOUR SETTING TIME BEFORE DISTURBING THE INSERT IN ANY MANNER. MANUFACTURERS INSTALLATION INSTRUCTIONS SHALL BE STRICTLY ADHERED TO. FOR LIGHTWEIGHT PIPING AND WHERE APPROVED BY ENGINEER, ATTACH THE ROD AND HANGER TO A 2 INCH X 2-INCH ANGLE FASTENED TO THE SLAB BY TWO STAR NO. 7000 DOUBLE EXPANSION SHIELDS, NO SMALLER THAN 3/8" INCH SIZE. THE RODS ON ALL HANGERS SHALL BE OF ADEQUATE SIZE TO SUPPORT THE LOADS WHICH THEY CARRY.

B. REGARDLESS OF THE TYPE OF CONSTRUCTION (I.E., CONCRETE, CONCRETE-DECK-STEEL OR VARIATIONS THERETO), PARTICULAR CARE SHALL BE TAKEN TO SUPPORT ALL MAIN LINES AND ALL LARGE AND HEAVY PIPES IN A SATISFACTORY MANNER, INCLUDING THE FURNISHING AND INSTALLATION OF SUPPLEMENTARY STEEL, IF REQUIRED.

C. THIS SECTION SHALL COORDINATE WITH THE OTHER SECTIONS THAT USE COMMON MEANS OF SUPPORT. SUBMIT FOR APPROVAL ALL PERTINENT DESIGN DATA RELATING TO THE SUPPORT AS WELL AS VERIFICATION OF THE RESPONSIBILITY FOR THE SUPPORT.

D. DO NOT HANG PIPING FROM THE DUCTWORK OF OTHER PIPING. HANGERS SHALL NOT BE FASTENED BY MEANS OF VERTICAL EXPANSION BOLTS.

REMOVALS, MODIFICATIONS, RECONNECTIONS, AND RELOCATIONS

A. THIS CONTRACTOR SHALL INCLUDE REMOVAL OR RELOCATION OF EXISTING EQUIPMENT, PIPING, FIXTURES, ETC. AS REQUIRED TO ACCOMMODATE THE NEW WORK. THIS CONTRACTOR SHALL VISIT THE SITE PRIOR TO BID TO ASCERTAIN WORK REQUIRED. INCLUDE ALL COSTS IN THE BID PRICE TO ACCOMPLISH THIS WORK.

B. WHERE EQUIPMENT AND PIPING ARE REMOVED OR PIPING INTERRUPTED OR DAMAGED, PROVIDE THE REQUIRED RELOCATION, RECONNECTION OR REARRANGEMENT TO RESTORE TO SERVICE ALL ITEMS, PIPING, ETC. NOT MADE OBSOLETE BY THIS WORK.

C. THIS CONTRACTOR'S ATTENTION IS CALLED TO THE FACT THAT IT IS A PREREQUISITE THAT HE EXAMINE THE SPECIFICATIONS AND DRAWINGS AND ALSO VISIT THE SITE OF WORK IN ORDER TO BECOME THOROUGHLY ACQUAINTED WITH THE EXTENT AND REQUIREMENTS OF THE WORK. AS WELL AS THE ACTUAL CONDITIONS UNDER WHICH THE WORK IS SPECIFIED IS TO BE PERFORMED. CLAIMS FOR EXTRA COMPENSATION WILL NOT BE ALLOWED FOR ANY WORK THAT MAY BE CAUSED BY EXISTING CONDITIONS, WHICH CONDITION SHOULD HAVE BEEN FORESEEN SUBSEQUENT TO JOB SITE VISIT.

FIELD MEASUREMENTS, LAYOUT AND POSITIONING

A. VERIFY TYPES AND MATERIALS FOR CEILING, WALLS AND FLOORS, BOTH EXISTING AND NEW AND MAKE NEW OR REVISED INSTALLATIONS COMPATIBLE.

B. NEW PLUMBING INSTALLATIONS SHALL ALLOW FOR THE REQUIRED AND RECOMMENDED SERVICE, MAINTENANCE, REPAIR OR SAFEETY CLEARANCES.

C. THE DRAWINGS INDICATE REQUIRED SIZE AND POINTS OF TERMINATIONS OF PIPES AND SUGGESTED ROUTES TO CONFORM TO STRUCTURE. HOWEVER, IT IS NOT INTENDED THAT DRAWINGS INDICATE EXACT LOCATIONS AND ALL NECESSARY OFFSETS WHICH MIGHT HAVE TO BE MADE TO CONFORM TO STRUCTURE, AVOID OBSTRUCTIONS, PRESERVE HEADROOM AND KEEP OPENINGS AND PASSAGEWAYS CLEAR.

D. TAKE FIELD MEASUREMENTS AS REQUIRED TO FIT WORK PROPERLY. RECHECK MEASUREMENTS BEFORE INSTALLING EACH PRODUCT. WHERE PORTIONS OF THE WORK ARE INDICATED TO FIT TO OTHER CONSTRUCTION, VERIFY DIMENSIONS OF THE OTHER CONSTRUCTION BY FIELD MEASUREMENTS BEFORE FABRICATION. COORDINATE FABRICATION SCHEDULE WITH CONSTRUCTION PROGRESS TO AVIOD DELAYS.

NATURAL GAS PIPING

A. NATURAL GAS PIPING SHALL BE SCH. 40 BLACK STEEL. MATERIALS SHALL COMPLY WITH A.S.T.M. A-53, A-105, A-47 AND A.N.S.I. B-16.9. ALL SIZES 2 1/2" AND LARGER SHALL BE BUTTWELDED AND CONFORM TO A.S.M.E. CODE B31.9. ALL SIZES 2" AND SMALLER SHALL BE THREADED AND CONFORM TO A.N.S.I. B1.20.1.

B. PROVIDE A GAS REGULATOR, GAS COCK, DIRT LEG AND UNION AT THE POINT OF CONNECTION TO EACH PIECE OF EQUIPMENT.

C. CONTRACTOR SHALL COORDINATE WITH EQUIPMENT MANUFACTURER AND PROVIDE APPROPRIATE PRESSURE REGULATOR IF REQUIRED.

D. TEST GAS PIPING IN ACCORDANCE WITH PLUMBING INSPECTOR'S REQUIREMENTS BUT NOT LESS THAN 10 P.S.I. AND MAINTAIN FOR TWO (2) HOURS MINIMUM WITHOUT LEAKAGE. PROVIDE DOCUMENTATION TO ENGINEER FOR APPROVAL.

E. GAS PIPING INSTALLED ON THE ROOF OF A BUILDING SHALL BE SUPPORTED AS INDICATED IN BUILDING HVAC AND PLUMBING PLANS AND DETAILS. EXTERIOR GAS PIPING SHALL BE PAINTED "SAFETY YELLOW". PAINT SHALL BE BENJAMIN MOORE AND COMPANY INDUSTRIAL MAINTENANCE COATINGS M22 URETHANE ALKYD GLOSS ENAMEL. CONTRACTOR SHALL FOLLOW PAINT MANUFACTURERS REQUIREMENTS AND APPLY TWO (2) COATS OF PAINT. CONTRACTOR SHALL PAINT PIPING BEFORE INSTALLATION AND TOUCH UP PIPING AFTER INSTALLATION.

F. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE INTERNATIONAL FUEL GAS CODE, THE NJ UNIFORM CONSTRUCTION CODE AND THE REQUIREMENTS OF THE LOCAL UTILITY AUTHORITY.

G. PROVIDE VENT CAP AT ALL GAS VENT TERMINATIONS. BECKETT OR EQUAL. ZINC-PLATED CAST IRON THREADED MUSHROOM CAP WITH 30-MESH SCREEN.

COMMISSIONING SPECIFICATION

GENERAL DEFINITION

COMMISSIONING IS THE ENGINEERED APPROACH TO THE DOCUMENTATION AND ADJUSTMENT OF FACILITY RELATED SYSTEMS, IN AN EFFORT TO ENSURE THAT THE FACILITY MEETS THE OWNER'S REQUIREMENTS.

PARTIES IN RESPONSIBLE CHARGE

A. THE PLUMBING CONTRACTOR
THE PLUMBING CONTRACTOR SHALL DESIGNATE A SINGLE REPRESENTATIVE THAT WILL BE THE POINT OF CONTACT FOR THE OWNER AND ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE TO PREPARE THE PLAN, COORDINATE ALL TESTS BY THE CONTRACTORS, EXECUTE THE FIELD INSTALLATION VERIFICATION WORK SHEETS, SUPERVISE/ EXECUTE AIR AND HYDRONIC BALANCING, EXECUTE OPERATIONAL PERFORMANCE TESTS (SUPERVISE OR EXECUTE START-UP), EXECUTE FUNCTIONAL PERFORMANCE TESTS, AND PREPARE THE FINAL REPORT.

B. OWNER
THE OWNER SHALL COORDINATE FOR REQUIRED RESOURCES TO THE COMMISSIONING AUTHORITY.

WRITTEN PLAN

PRIOR TO EXECUTION OF THE COMMISSIONING ASSIGNMENT, AN OUTLINE SHALL BE PREPARED AND SUBMITTED TO THE OWNER, WHICH DETAILS THE BASIC AND SPECIFIC GOALS OF THE COMMISSIONING ASSIGNMENT. THIS MUST INCLUDE THE APPROPRIATE METHODS OF EXECUTION, AND RESPONSIBILITIES OF EACH MEMBER OF THE COMMISSIONING TEAM, INCLUDING REQUIRED SUPPORT FROM OTHER MEMBERS/ SUBCONTRACTORS NOT DIRECTLY UNDER THE MECHANICAL CONTRACTOR AUTHORITY'S SUPERVISION.

PIPING TESTS

A. TESTS WILL BE REQUIRED TO DEMONSTRATE THE INTEGRITY OF THE NEWLY INSTALLED PIPING INFRASTRUCTURE. THE MECHANICAL CONTRACTOR WILL PERFORM ALL TESTS SPECIFIED AND/OR REQUIRED UNDER LAWS, RULES AND REGULATIONS OF ALL AUTHORITIES HAVING JURISDICTION.

B. NOTIFY THE OWNER AND ENGINEER AT LEAST 72 HOURS IN ADVANCE OF ALL TESTS. FURNISH ALL NECESSARY INSTRUMENTS, GAUGES AND OTHER EQUIPMENT REQUIRED FOR THESE TESTS. IF TESTS CANNOT BE COMPLETED AS SCHEDULED, PAY ALL EXPENSES INCURRED BY THE ENGINEER OR HIS AUTHORIZED REPRESENTATIVES REQUIRED TO BE PRESENT. EXPENSES SHALL INCLUDE THE COST OF TRAVELING, LODGING AND MEALS. TO AVOID SUCH OCCURRENCES, MAKE PRELIMINARY TESTS PRIOR TO GIVING NOTICE AND CONDUCTING FINAL TESTS.

C. NEW AND ALTERED PIPING WILL BE TESTED TO POINT OF CONNECTION WITH EXISTING PIPING AT 1.5 TIMES THE SYSTEM OPERATING PRESSURE FOR ONE HOUR WITH NO LEAKS PERMITTED.

E. COMPRESSED AIR PIPING SHALL BE TESTED AT A PRESSURE OF 150 PSIG FOR A PERIOD OF FOUR HOURS WITH NO DROP OF PRESSURE PERMITTED.

F. VACUUM PIPING SHALL BE AS SPECIFIED IN THE LATEST EDITION OF NFPA 99.

G. STORM PIPING SHALL BE TESTED WITH 10' OF WATER COLUMN.

FIELD INSTALLATION VERIFICATION (FIV)

DOCUMENTATION WILL BE PROVIDED TO ENSURE THAT ALL MODIFIED OR NEW SYSTEMS AND THEIR COMPONENTS HAVE BEEN PROVIDED AND INSTALLED IN ACCORDANCE WITH ENGINEERING PLANS, SPECIFICATIONS, AND MANUFACTURER'S RECOMMENDATIONS.

OPERATIONAL PERFORMANCE TEST (OPT)

DOCUMENTATION WILL BE PROVIDED TO ENSURE THAT ALL MODIFIED OR NEW SYSTEMS AND THEIR COMPONENTS HAVE BEEN STARTED-UP PROPERLY. OPT MAY ONLY BEGIN ONCE THE FIV HAS BEEN COMPLETED.

FUNCTIONAL PERFORMANCE TEST (FPT)

DOCUMENTATION WILL BE PROVIDED TO VERIFY THAT ALL MODIFIED OR NEW SYSTEMS AND THEIR COMPONENTS ARE CONFORMING TO PERFORMANCE DATA OUTLINED IN THE ENGINEERING PLANS AND SPECIFICATIONS AND ACCORDING TO THE SEQUENCE OF OPERATIONS.

COMMISSIONING REPORT

A CONTRACTOR TO PROVIDE THREE (3) SETS OF (IOM) INSTALLATION, OPERATING, AND MAINTENANCE MANUALS FOR THE PROJECT. FINAL REPORT WILL BE PROVIDED BY THE MECHANICAL CONTRACTOR THAT WILL INCLUDE ALL INFORMATION AS DESCRIBED ABOVE IN A NEAT AND ORGANIZED FORMAT. AT A MINIMUM, THIS FINAL REPORT WILL INCLUDE THE FOLLOWING SECTIONS:

A. COVER/ TITLE SHEET/ PROJECT NAME
B. TABLE OF CONTENTS/ INDEX
C. NAME AND ADDRESS OF CONTRACTOR
D. ENGINEERS AND ARCHITECT NAME AND ADDRESS
E. APPROVED SUBMITTALS AND IOM FOR ALL EQUIPMENT AND SYSTEMS
F. NEBB CERTIFIED BALANCING REPORTS
G. START-UP, TESTING AND CHECK-OUT SHEETS OF PLUMBING EQUIPMENT
H. PIPE TESTS REPORTS
I. VERIFICATION OF SEQUENCE OF OPERATION THROUGH HISTORY LOGS
J. LIST OF UNRESOLVED DEFICIENCIES (COMMISSIONING LOG)
K. SHOP DRAWINGS
L. RED-LINED DRAWINGS SHOWING FIELD CHANGES
M. WARRANTY CERTIFICATES FOR ALL EQUIPMENT AND SYSTEMS
N. SPARE PARTS LIST
O. FACTORY ACCEPTANCE TEST (FAT), IF APPLICABLE
P. ALIGNMENT RESULTS FOR PUMPS, FANS, ETC.
Q. BACK FLOW CERTIFICATION REPORT.
R. CLEANING AND FLUSHING REPORTS.
S. SANITIZATION REPORTS
T. VERIFICATION OF SET POINT AND OPERATION OF TEMPERING VALVES.
U. FAUCET AND TOILET OPERATION.
V. TRAINING LOG

INSTRUMENTATION

A. ALL INSTRUMENTATION USED DURING THE COMMISSIONING PROCESS SHALL HAVE DOCUMENTATION ATTESTING TO CALIBRATION WITHIN THE LAST YEAR.

B. ALL DEVICES SUCH AS STEAM, OIL, GAS, AIRFLOW STATION, PRESSURE SENSOR, TEMPERATURE SENSOR SHALL COME FROM THE MANUFACTURER WITH A CERTIFICATE OF CALIBRATION OR SHALL BE CALIBRATED IN FIELD BY THE CONTRACTOR.

TRAINING

CONTRACTOR TO PROVIDE NECESSARY TRAINING TO OWNER SO THAT OWNER MAY PROPERLY OPERATE AND MAINTAIN THE SYSTEMS PROVIDED. TRAINING SHALL BE PREFORMED USING A MANUFACTURER'S TRAINED REPRESENTATIVE.

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385 ROUTE 24, SUITE 3-O, CHESTER, NJ 07930
TEL (908) 879-1801
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NEW JERSEY STATE BOARD OF PROFESSIONAL ENGINEERS AND LAND SURVEYORS
CERTIFICATE OF AUTHORIZATION:
24GA28121800

PRINCIPAL IN CHARGE: JOSEPH T. MISTRETTA, PE

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William D.
Architect
01/29/26
Date

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FVHD architects planners
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Corporate: 1515 Lower Ferry Road - Trenton - New Jersey 08618
Pennsylvania: 820 Adams Ave., Suite 210 - Audubon - Pennsylvania 19403
F V H D P C . C O M

Project Name
HVAC Renovations at Princeton High School

Project Owner Name
Princeton Public Schools

Project Location
151 Moore Street,
Princeton, NJ
08540

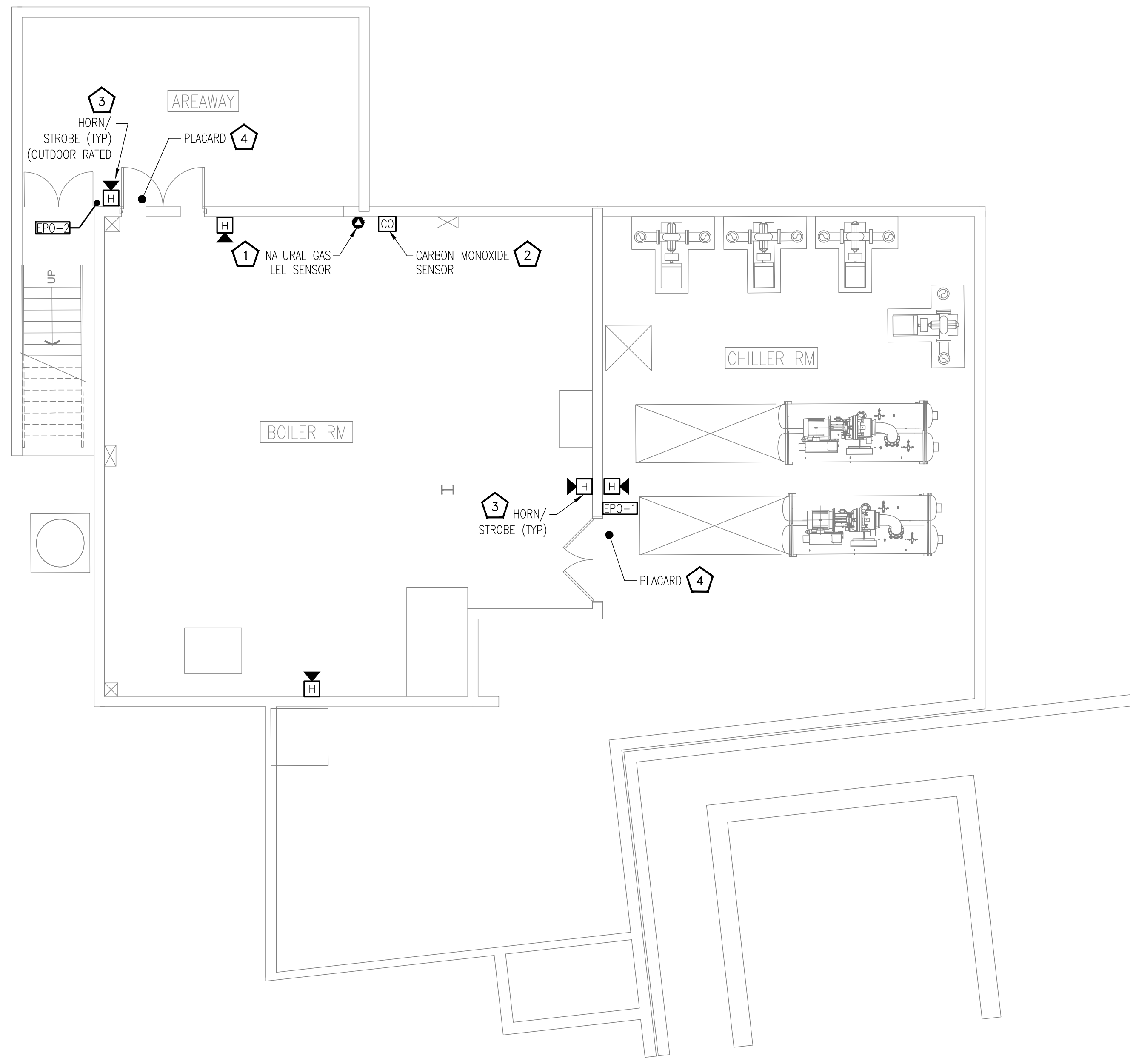
Project Number	5516E
Project Date	01.29.2026
Checked By	JTM
Drawn By	JD
Scale	AS NOTED

Drawing Name
PLUMBING - SPECIFICATIONS

Revisions

No.	Date	Description

Drawing Number
P-901

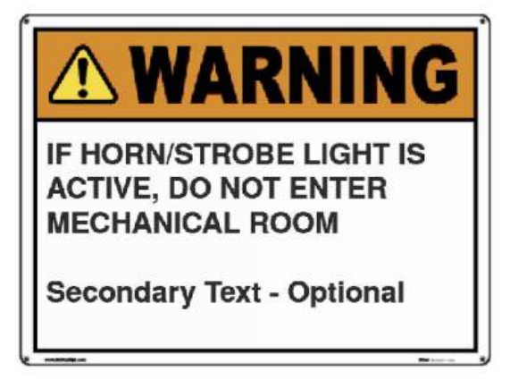


1 FIRE ALARM - BASEMENT NEW WORK PLAN

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

FIRE ALARM NEW WORK NOTES

1. INSTALL A NEW NATURAL GAS "LEL" SENSOR AT 12" BELOW ROOF DECK. TIE SENSOR INTO THE EXISTING FIRE ALARM SYSTEM AS A SUPERVISORY ALARM.
2. INSTALL A NEW CARBON MONOXIDE (CO) SENSOR ON WALL AT 5 FT ABOVE FINISHED FLOOR. TIE SENSOR INTO THE EXISTING FIRE ALARM SYSTEM AS A SUPERVISORY ALARM.
3. INSTALL ORANGE HORN/STROBE LIGHT AS MANUFACTURED BY EDWARDS SIGNALING: 860 SERIES OR EQUAL. STROBE LIGHT SHALL BE XENON. HORN SOUND SHALL BE 90 dB AT 10 FT. PROVIDE GRAY THERMOPLASTIC HOUSING. INDOOR DEVICES SHALL BE RATED FOR 85% RH @ 86°F WITH A TEMPERATURE RANGE FROM 32°F TO 120°F. OUTDOOR DEVICES SHALL BE RATED FOR 95% RH @ 86°F WITH A TEMPERATURE RANGE FROM −31°F TO 120°F. INSTALL AT 80" AFF.
4. CONTRACTOR SHALL INSTALL A 24"x18" PLACARD ON SIDE OF DOOR INDICATED THAT READS THE FOLLOWING: PLACARD SHALL BE 0.080" THICK HIGH INTENSITY PRISMATIC REFLECTIVE ALUMINUM. ATTACHED TO DOOR WITH FOUR (4) MECHANICAL FASTENERS. PROVIDE SUBMITTAL FOR APPROVAL.


⚠ WARNING

IF HORN/STROBE LIGHT IS ACTIVE, DO NOT ENTER MECHANICAL ROOM

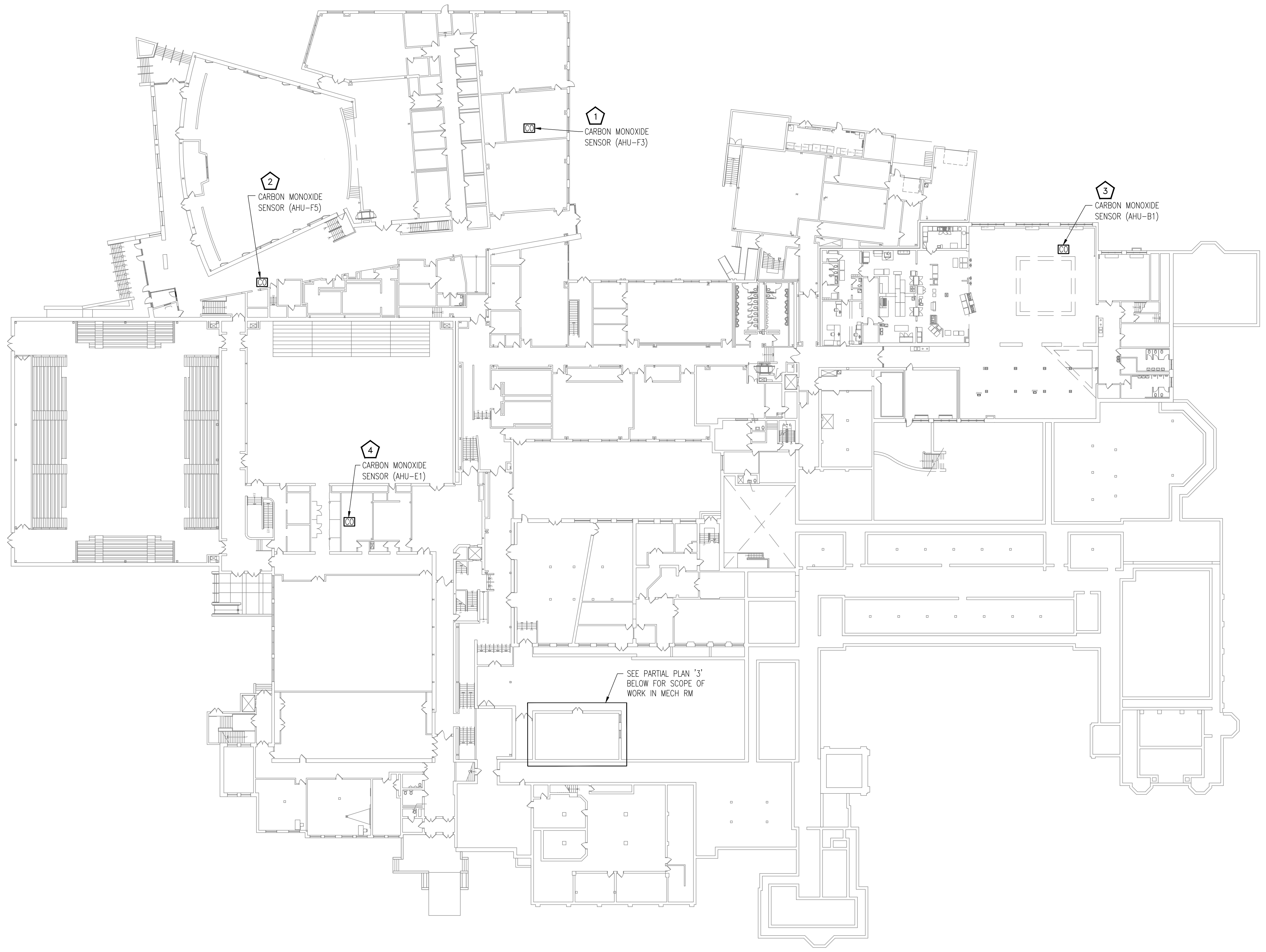
Secondary Text - Optional

FIRE ALARM GENERAL NOTES

1. THE FIRE ALARM CONTRACTOR SHALL EVALUATE EXISTING FIRE ALARM SYSTEM ARCHITECTURE, AVAILABLE PANEL I/O TERMINALS, BACKUP BATTERY CAPACITY, ETC., PRIOR TO BID FOR THE ADDITIONAL DEVICES TO BE MONITORED. INSTALL ADDITIONAL PANELS, BACKUP BATTERY CAPACITY, INTERFACE WIRING, ETC., AS REQUIRED TO ACCOMMODATE THE INSTALLATION OF ADDITIONAL DEVICES. THE EXISTING SYSTEM IS MANUFACTURED BY EDWARDS.
2. ALL EXPOSED FIRE ALARM WIRING SHALL BE RUN IN EMT CONDUIT. CONDUIT SHALL BE PAINTED "RED" TO MATCH WIRE.

SEQUENCE OF OPERATION

1. IF THE CARBON MONOXIDE (CO) LEVEL IN THE MECHANICAL ROOM REACHES 50 PPM, A SUPERVISORY ALARM SHALL BE ISSUED AT THE FACP AND THE HORN/STROBE LIGHTS SHALL BE ENERGIZED. ONLY AFTER THE CO LEVEL HAS DROPPED BELOW 30 PPM, SHOULD THE HORN/STROBE LIGHTS BE DE-ENERGIZED.
2. IF THE LEL (LOWER EXPLOSION LIMIT) SENSOR PICKS UP ANY TRACE OF NATURAL GAS (I.E. ANY LEVEL ABOVE 0% CONCENTRATION), THE BUILDING FIRE ALARM SYSTEM SHALL BE ENERGIZED AND THE HORN/STROBE LIGHTS SHALL BE ENERGIZED. ONLY QUALIFIED PERSONNEL SHALL BE ABLE TO CLEAR THE ALARM CONDITION.
3. IF EITHER OF THE EPO SWITCHES ARE PRESSED, A SUPERVISORY ALARM SHALL BE ISSUED AT THE FACP.



2 FIRE ALARM - GROUND FLOOR NEW WORK PLAN

SCALE: 1/32"=1'-0"

FIRE ALARM NEW WORK NOTES

1. BAND STORAGE ROOM – INSTALL A NEW CEILING-MOUNTED CARBON MONOXIDE (CO) SENSOR AT CEILING NEAR FIRST SUPPLY AIR DIFFUSER. FIRE ALARM CONTRACTOR SHALL FIELD VERIFY BEST LOCATION.
2. LOBBY – INSTALL A NEW WALL-MOUNTED CARBON MONOXIDE (CO) ADJACENT TO SUPPLY AIR GRILLE. FIRE ALARM CONTRACTOR SHALL FIELD VERIFY BEST LOCATION.
3. CAFETERIA – INSTALL A NEW CEILING-MOUNTED CARBON MONOXIDE (CO) SENSOR AT CEILING NEAR FIRST SUPPLY AIR DIFFUSER. FIRE ALARM CONTRACTOR SHALL FIELD VERIFY BEST LOCATION.
4. TEAM ROOM – INSTALL A NEW CEILING-MOUNTED CARBON MONOXIDE (CO) SENSOR AT CEILING NEAR FIRST SUPPLY AIR DIFFUSER. FIRE ALARM CONTRACTOR SHALL FIELD VERIFY BEST LOCATION.

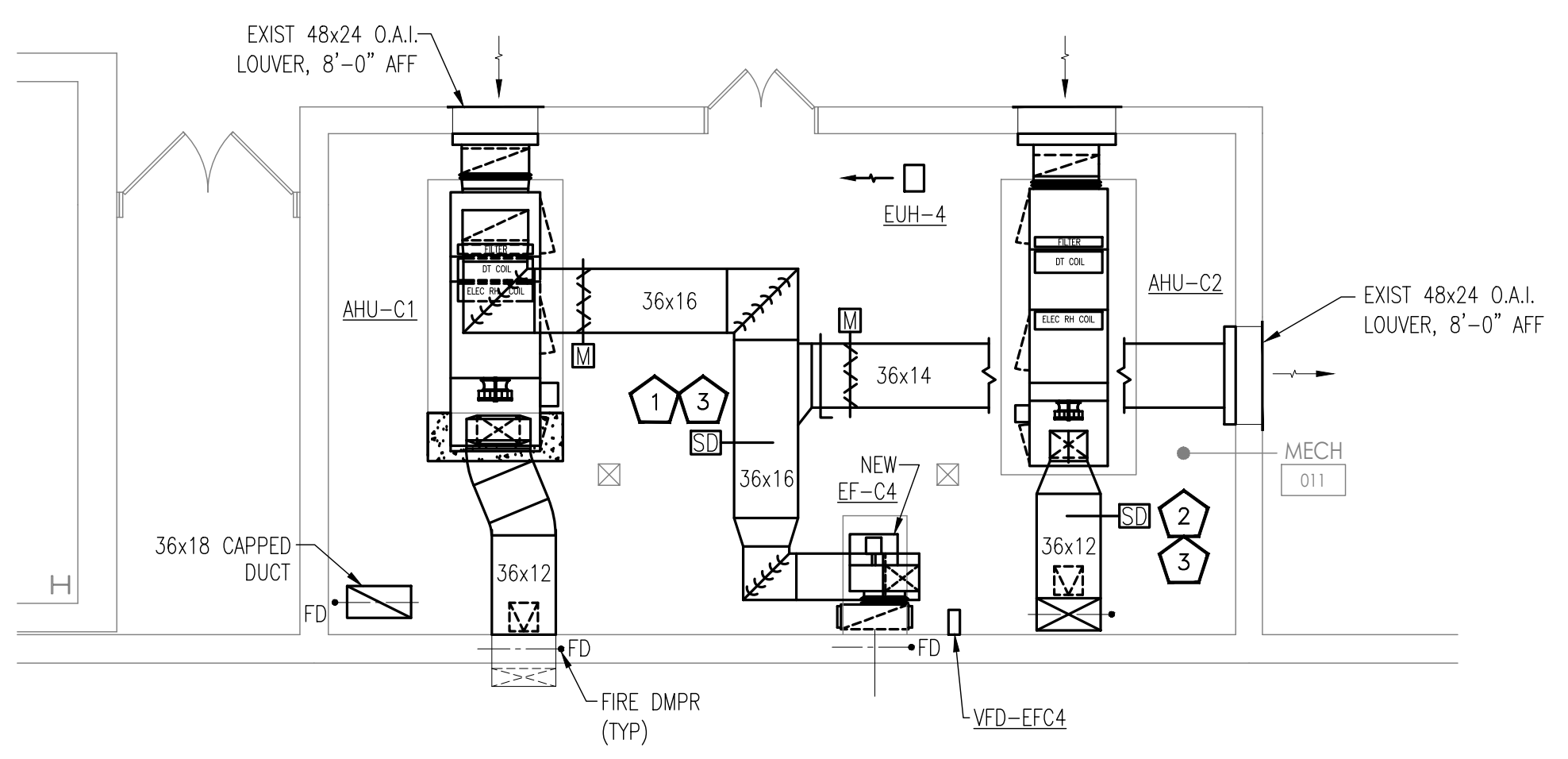
FIRE ALARM GENERAL NOTES

1. THE FIRE ALARM CONTRACTOR SHALL EVALUATE EXISTING FIRE ALARM SYSTEM ARCHITECTURE, AVAILABLE PANEL I/O TERMINALS, BACKUP BATTERY CAPACITY, ETC., PRIOR TO BID FOR THE ADDITIONAL DEVICES TO BE MONITORED. INSTALL ADDITIONAL PANELS, BACKUP BATTERY CAPACITY, INTERFACE WIRING, ETC., AS REQUIRED TO ACCOMMODATE THE INSTALLATION OF ADDITIONAL DEVICES. REQUIRED FOR THIS REVONATION.
2. THE FIRE ALARM CONTRACTOR SHALL PROVIDE AND WIRE THE ADDRESSABLE SMOKE/CARBON MONOXIDE DETECTORS TO THE FIRE ALARM SYSTEM. THE MECHANICAL CONTRACTOR SHALL INSTALL THE SMOKE DETECTOR AND SAMPLING TUBE IN THE DUCTWORK. THE ELECTRICAL CONTRACTOR SHALL PROVIDE POWER TO THE SMOKE DETECTOR AND SHALL WIRE THE SMOKE DETECTOR TO THE EMERGENCY STOP CIRCUIT IN THE VFDS FOR THE AIR HANDLERS.
3. ALL EXPOSED FIRE ALARM WIRING SHALL BE RUN IN EMT CONDUIT. CONDUIT SHALL BE PAINTED "RED" TO MATCH WIRE.
4. REFER TO THE DRAWING SET FOR THE HIGH SCHOOL RENOVATION PROJECT (DATE: 2003) FOR A REPRESENTATION OF THE DUCTWORK INSTALLATION WITHIN THE BUILDING. THE DRAWING SET CAN BE VIEWED AT BOARD OF EDUCATION OFFICE LOCATED AT 25 VALLEY RD, PRINCETON, NJ.
5. ALL FIRE ALARM COMPONENTS SUCH AS SMOKE DETECTORS, REMOTE RESET STATION, CARBON MONOXIDE, GAS DETECTION SHALL BE LABELED ALONG WITH ADDRESS WITH P-TOUCH LABEL.
6. THE FIRE ALARM SYSTEM IS MANUFACTURED BY EDWARDS. CONTACT THE FIRE ALARM CONTRACTOR THAT MAINTAINS THE SYSTEM FOR PRICING.

SEQUENCE OF OPERATION

1. IF THE CARBON MONOXIDE (CO) SENSOR DETECTS A LEVEL OF 50 PPM (OR GREATER), A SUPERVISORY ALARM SHALL BE ISSUED AT THE FACP AND THE RESPECTIVE AIR HANDLING UNIT WILL BE DE-ENERGIZED.

FIRE ALARM CONTRACTOR
SAL ELECTRIC CO INC
38 FERRY ST
JERSEY CITY, NJ 07306
CONTACT: MIRIAN QUCHOKASHVILI (201) 798-4406



3 FIRE ALARM - GROUNG FLOOR PARTIAL NEW WORK PLAN

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

FIRE ALARM NEW WORK NOTES

1. INSTALL A NEW SMOKE DAMPER IN RETURN AIR DUCT AS SHOWN.
2. INSTALL NEW SMOKE DETECTOR IN SUPPLY AIR DUCT AS SHOWN.
3. THE MECHANICAL CONTRACTOR SHALL PROVIDE AND INSTALL THE SMOKE DETECTOR. THE ELECTRICAL CONTRACTOR SHALL PROVIDE POWER TO THE DETECTOR AND SHALL WIRE THE DETECTOR TO THE EMERGENCY STOP CIRCUIT IN THE VFDs FOR THE AIR HANDLERS AND EXHAUST FAN. THE FIRE ALARM CONTRACTOR SHALL WIRE THE DETECTOR TO THE FACP.

FIRE ALARM GENERAL NOTES

1. THE FIRE ALARM CONTRACTOR SHALL EVALUATE EXISTING FIRE ALARM SYSTEM ARCHITECTURE, AVAILABLE PANEL I/O TERMINALS, BACKUP BATTERY CAPACITY, ETC., PRIOR TO BID FOR THE ADDITIONAL DEVICES TO BE MONITORED. INSTALL ADDITIONAL PANELS, BACKUP BATTERY CAPACITY, INTERFACE WIRING, ETC., AS REQUIRED TO ACCOMMODATE THE INSTALLATION OF ADDITIONAL DEVICES.
2. ALL EXPOSED FIRE ALARM WIRING SHALL BE RUN IN EMT CONDUIT. CONDUIT SHALL BE PAINTED "RED" TO MATCH WIRE.

SEQUENCE OF OPERATION

1. IF THE SMOKE DETECTOR IS ACTIVATED ON A SMOKE CONDITION, A SUPERVISORY ALARM SHALL BE ISSUED AT THE FIRE ALARM CONTROL PANEL & THE CORRESPONDING AIR HANDLER SHALL DE-ENERGIZE. IF THE SMOKE DETECTOR ASSOCIATED WITH AHU-C2 IS ACTIVATED, EXHAUST FAN (EF-C4) SHALL ALSO DE-ENERGIZE.

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Project Name
HVAC Renovations at Princeton High School

Project Owner Name
Princeton Public Schools

Project Location
151 Moore Street,
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08540

Project Number
5516E

Project Date
01.29. 2026

Checked By
JTM

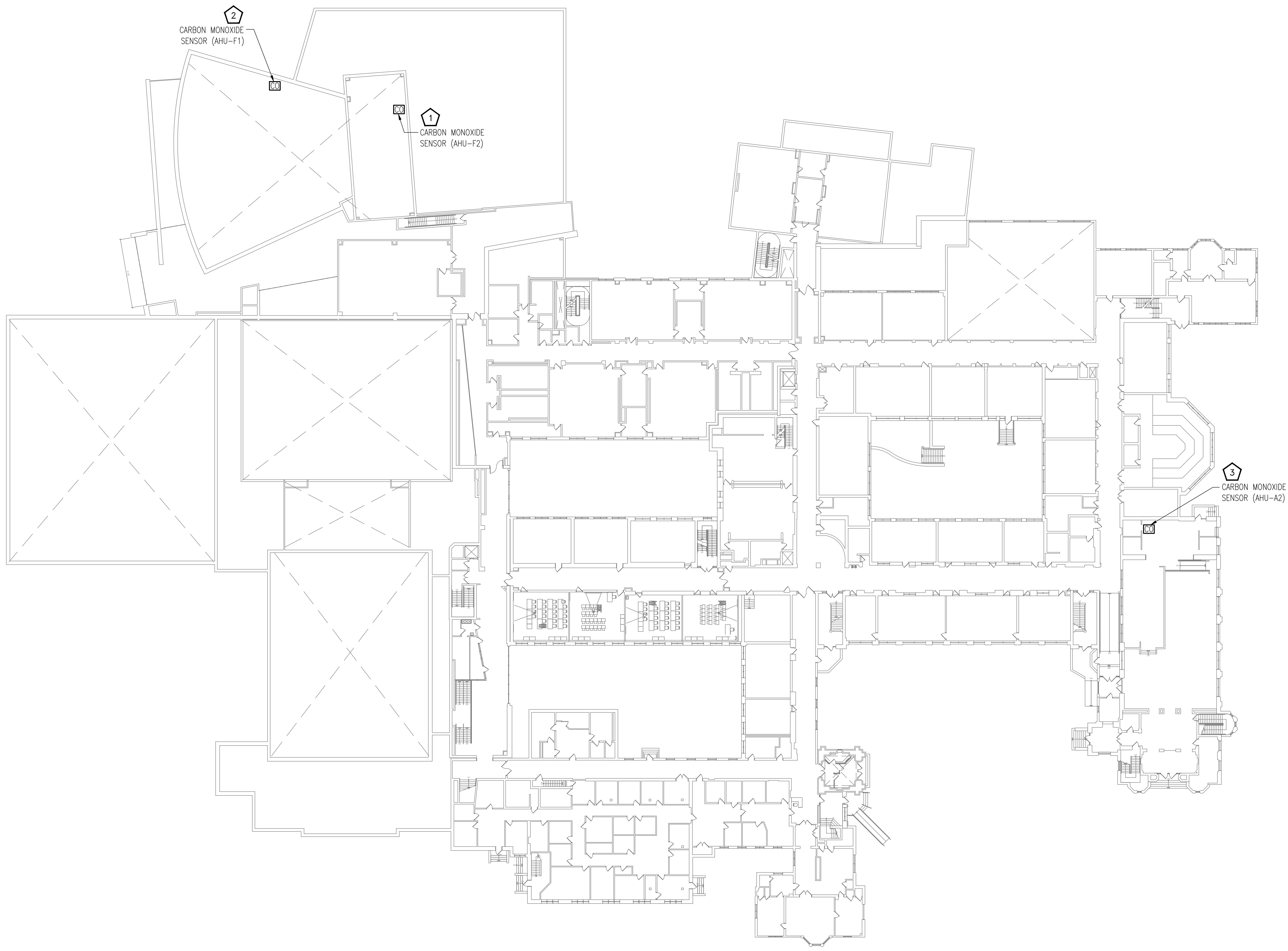
Drawn By
JD

Scale
AS NOTED

Drawing Name
FIRE ALARM - BASEMENT & GROUND FLOOR NEW WORK PLAN

Revisions		
No.	Date	Description

Drawing Number
FA-301



1 FIRE ALARM - 1ST FLOOR NEW WORK PLAN
SCALE: 1/32"=1'-0"

FIRE ALARM NEW WORK NOTES

① STAGE – INSTALL A NEW WALL-MOUNTED CARBON MONOXIDE (CO) SENSOR ADJACENT TO SUPPLY AIR GRILLE. FIRE ALARM CONTRACTOR SHALL FIELD VERIFY BEST LOCATION.

② AUDITORIUM – INSTALL A NEW WALL-MOUNTED CARBON MONOXIDE (CO) SENSOR ADJACENT TO FIRST SUPPLY AIR GRILLE. FIRE ALARM CONTRACTOR SHALL FIELD VERIFY BEST LOCATION.

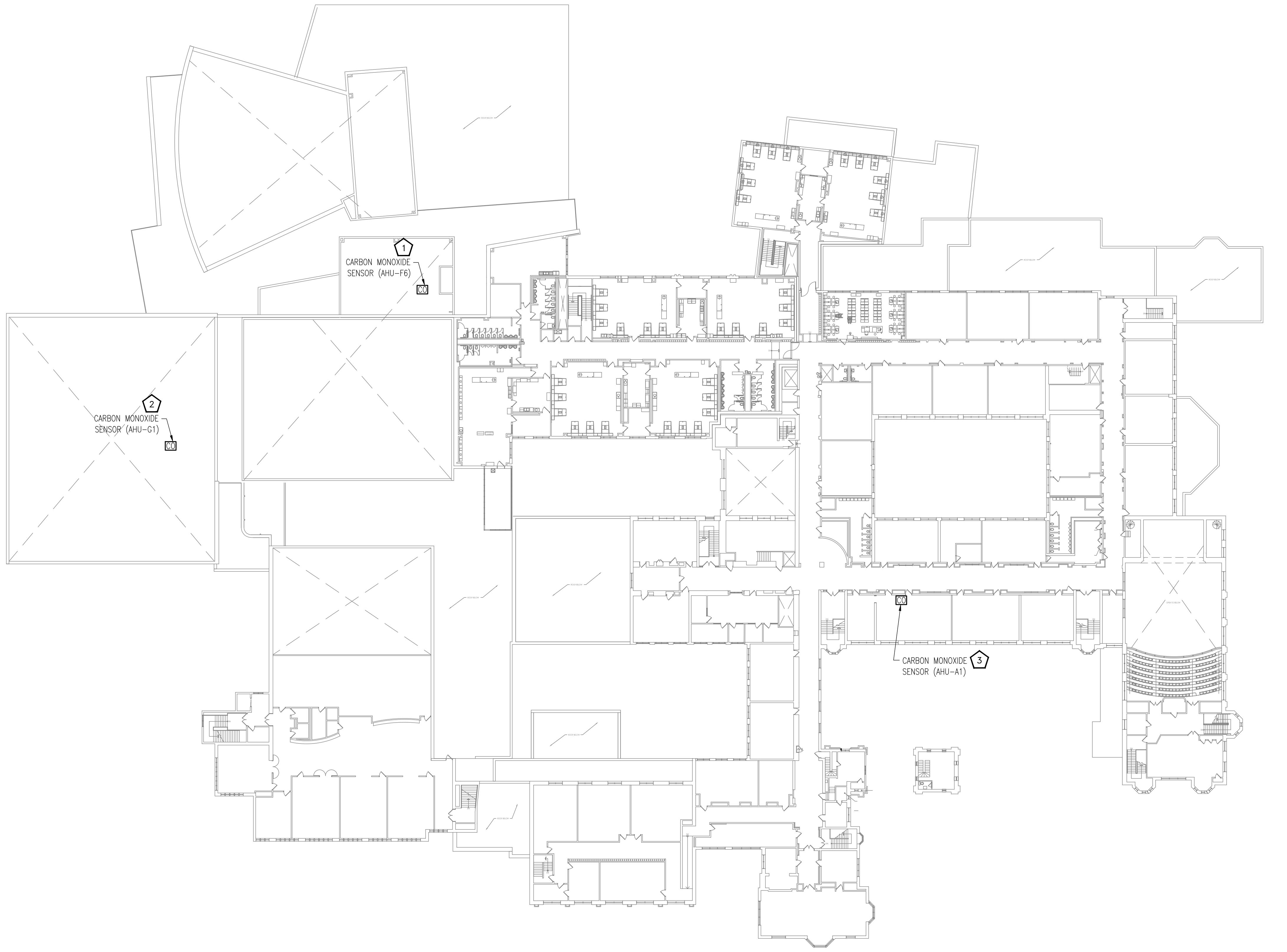
③ LIBRARY – INSTALL A NEW WALL-MOUNTED CARBON MONOXIDE (CO) SENSOR ADJACENT TO SUPPLY AIR GRILLE. FIRE ALARM CONTRACTOR SHALL FIELD VERIFY BEST LOCATION.

FIRE ALARM GENERAL NOTES

1. THE FIRE ALARM CONTRACTOR SHALL EVALUATE EXISTING FIRE ALARM SYSTEM ARCHITECTURE, AVAILABLE PANEL I/O TERMINALS, BACKUP BATTERY CAPACITY, ETC., PRIOR TO BID FOR THE ADDITIONAL DEVICES TO BE MONITORED. INSTALL ADDITIONAL PANELS, BACKUP BATTERY CAPACITY, INTERFACE WIRING, ETC., AS REQUIRED TO ACCOMMODATE THE INSTALLATION OF ADDITIONAL DEVICES.
2. THE FIRE ALARM CONTRACTOR SHALL PROVIDE AND WIRE THE ADDRESSABLE SMOKE/CARBON MONOXIDE DETECTORS TO THE FIRE ALARM SYSTEM. THE MECHANICAL CONTRACTOR SHALL INSTALL THE SMOKE DETECTOR AND SAMPLING TUBE IN THE DUCTWORK. THE ELECTRICAL CONTRACTOR SHALL PROVIDE POWER TO THE SMOKE DETECTOR AND SHALL WIRE THE SMOKE DETECTOR TO THE EMERGENCY STOP CIRCUIT IN THE VFDS FOR THE AIR HANDLERS.
3. ALL EXPOSED FIRE ALARM WIRING SHALL BE RUN IN EMT CONDUIT. CONDUIT SHALL BE PAINTED "RED" TO MATCH WIRE.
4. REFER TO THE DRAWING SET FOR THE HIGH SCHOOL RENOVATION PROJECT (DATE: 2003) FOR A REPRESENTATION OF THE DUCTWORK INSTALLATION WITHIN THE BUILDING. THE DRAWING SET CAN BE VIEWED AT BOARD OF EDUCATION OFFICE LOCATED AT 25 VALLEY RD, PRINCETON, NJ. THE FIRE ALARM SYSTEM IS MANUFACTURED BY EDWARDS. CONTACT THE FIRE ALARM CONTRACTOR FOR PRICING.
5. ALL FIRE ALARM COMPONENTS SUCH AS SMOKE DETECTORS, REMOTE RESET STATION, CARBON MONOXIDE, GAS DETECTION SHALL BE LABELED ALONG WITH ADDRESS WITH P-TOUCH LABEL.

SEQUENCE OF OPERATION

1. IF THE CARBON MONOXIDE (CO) SENSOR DETECTS A LEVEL OF 50 PPM (OR GREATER), A SUPERVISORY ALARM SHALL BE ISSUED AT THE FACP AND THE RESPECTIVE AIR HANDLING UNIT WILL BE DE-ENERGIZED.



2 FIRE ALARM - 2ND FLOOR NEW WORK PLAN
SCALE: 1/32"=1'-0"

FIRE ALARM NEW WORK NOTES

① BLACKBOX THEATER – INSTALL A NEW CEILING-MOUNTED CARBON MONOXIDE (CO) SENSOR ADJACENT TO FIRST SUPPLY AIR GRILLE. FIRE ALARM CONTRACTOR SHALL FIELD VERIFY BEST LOCATION.

② NEW GYMNASIUM – INSTALL A NEW CEILING-MOUNTED CARBON MONOXIDE (CO) SENSOR ADJACENT TO THE FIRST BRANCH DUCT WITH SUPPLY AIR PERFORATIONS IN THE FABRIC DUCT. FIRE ALARM CONTRACTOR SHALL FIELD VERIFY BEST LOCATION.

③ 2ND FLOOR CLASSROOM – INSTALL A NEW WALL-MOUNTED CARBON MONOXIDE (CO) SENSOR ADJACENT TO SUPPLY AIR GRILLE. FIRE ALARM CONTRACTOR SHALL FIELD VERIFY BEST LOCATION.

FIRE ALARM GENERAL NOTES

1. THE FIRE ALARM CONTRACTOR SHALL EVALUATE EXISTING FIRE ALARM SYSTEM ARCHITECTURE, AVAILABLE PANEL I/O TERMINALS, BACKUP BATTERY CAPACITY, ETC., PRIOR TO BID FOR THE ADDITIONAL DEVICES TO BE MONITORED. INSTALL ADDITIONAL PANELS, BACKUP BATTERY CAPACITY, INTERFACE WIRING, ETC., AS REQUIRED TO ACCOMMODATE THE INSTALLATION OF ADDITIONAL DEVICES.
2. THE FIRE ALARM CONTRACTOR SHALL PROVIDE AND WIRE THE ADDRESSABLE SMOKE/CARBON MONOXIDE DETECTORS TO THE FIRE ALARM SYSTEM. THE MECHANICAL CONTRACTOR SHALL INSTALL THE SMOKE DETECTOR AND SAMPLING TUBE IN THE DUCTWORK. THE ELECTRICAL CONTRACTOR SHALL PROVIDE POWER TO THE SMOKE DETECTOR AND SHALL WIRE THE SMOKE DETECTOR TO THE EMERGENCY STOP CIRCUIT IN THE VFDS FOR THE AIR HANDLERS.
3. ALL EXPOSED FIRE ALARM WIRING SHALL BE RUN IN EMT CONDUIT. CONDUIT SHALL BE PAINTED "RED" TO MATCH WIRE.
4. REFER TO THE DRAWING SET FOR THE HIGH SCHOOL RENOVATION PROJECT (DATE: 2003) FOR A REPRESENTATION OF THE DUCTWORK INSTALLATION WITHIN THE BUILDING. THE DRAWING SET CAN BE VIEWED AT BOARD OF EDUCATION OFFICE LOCATED AT 25 VALLEY RD, PRINCETON, NJ. THE FIRE ALARM SYSTEM IS MANUFACTURED BY EDWARDS. CONTACT THE FIRE ALARM CONTRACTOR FOR PRICING.

SEQUENCE OF OPERATION

1. IF THE CARBON MONOXIDE (CO) SENSOR DETECTS A LEVEL OF 50 PPM (OR GREATER), A SUPERVISORY ALARM SHALL BE ISSUED AT THE FACP AND THE RESPECTIVE AIR HANDLING UNIT WILL BE DE-ENERGIZED.

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Project Name
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Project Owner Name
Princeton Public Schools

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Project Date
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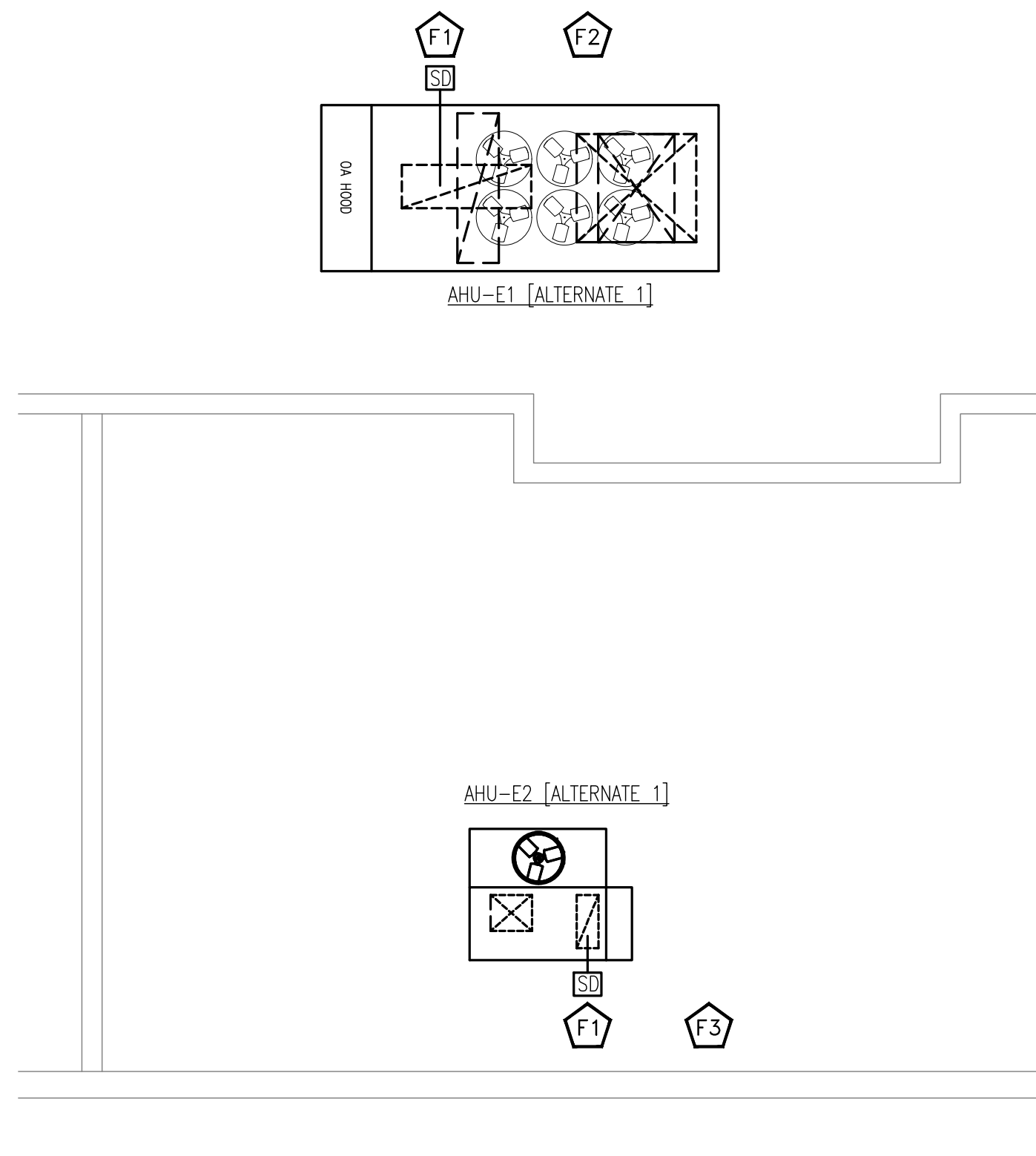
Drawing Name
FIRE ALARM - 1ST & 2ND FLOOR NEW WORK PLAN

Revisions

No.	Date	Description

Drawing Number
FA-302



2 ROOF PARTIAL PLAN - ALTERNATE #1
SCALE: 1/8"=1'-0"

FIRE ALARM NEW WORK NOTES- ALTERNATE 1

F1 PROVIDE AND INSTALL NEW SMOKE DETECTOR IN RETURN AIR DUCT (BELOW DECK), UPSTREAM OF ROOF PENETRATION AND OUTSIDE AIR.

F2 OLD GYM-PROVIDE AND INSTALL A NEW CARBON MONOXIDE IN THE GYM FOR AHU-E1. CARBON MONOXIDE SENSOR SHALL BE INSTALLED NEAR THE FIRST SUPPLY AIR DIFFUSER FROM THIS UNIT. FIRE ALARM AND MECHANICAL CONTRACTOR SHALL COORDINATE LOCATION.

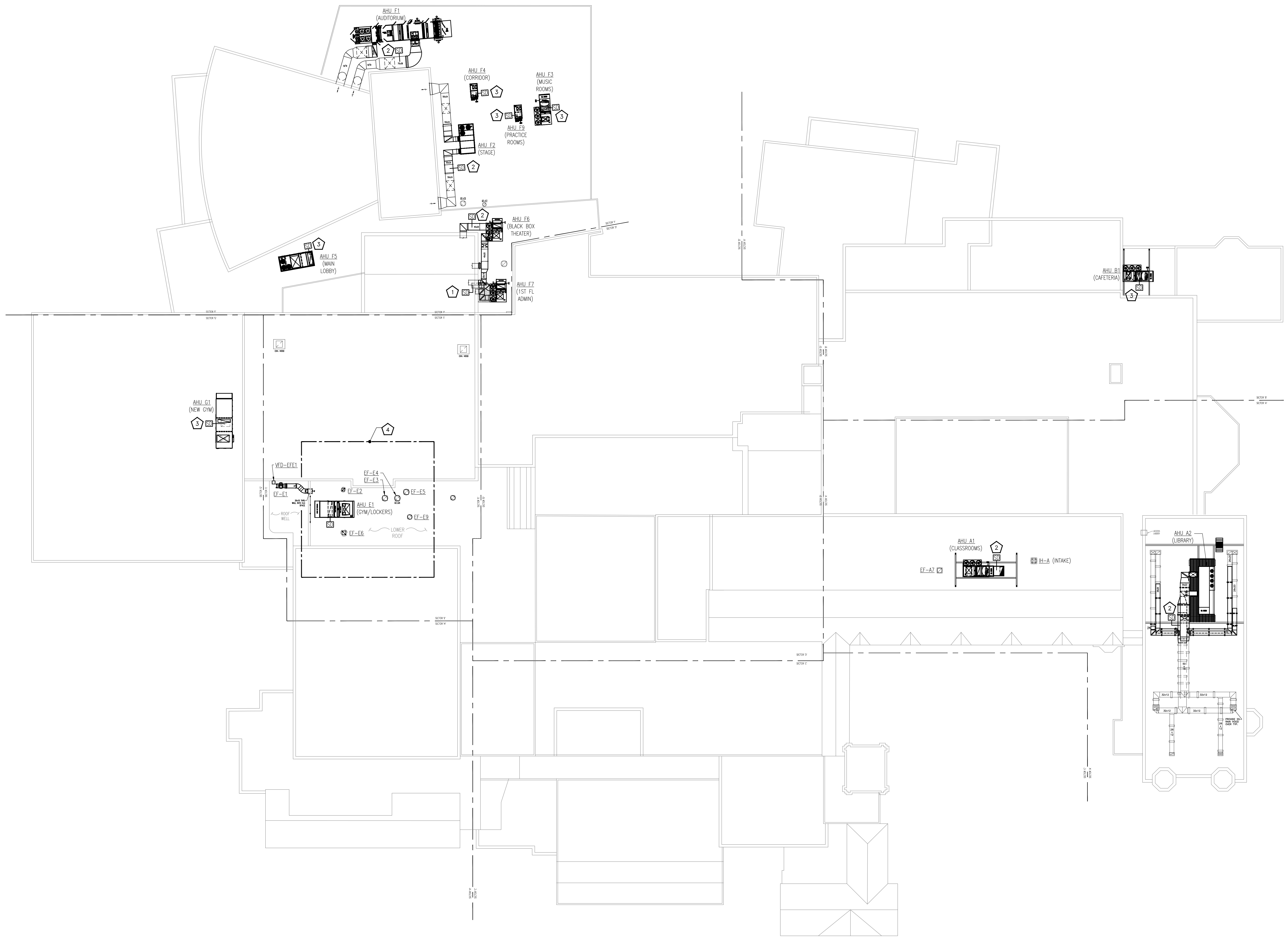
F3 TEAMS- PROVIDE AND INSTALL A NEW CARBON MONOXIDE IN THE TEAMS AREA FOR AHU-E2. CARBON MONOXIDE SENSOR SHALL BE INSTALLED NEAR THE FIRST SUPPLY AIR DIFFUSER FROM THIS UNIT. FIRE ALARM AND MECHANICAL CONTRACTOR SHALL COORDINATE LOCATION,

FIRE ALARM GENERAL NOTES- ALTERNATE 1

1. ALL FIRE ALARM GENERAL NOTES LISTED UNDER THE BASE PROJECT SHALL BE PART OF ALTERNATE 1.
2. CO SENSOR PROVIDED AND INSTALLED BY FIRE ALARM CONTRACTOR.

SEQUENCE OF OPERATION- ALTERNATE 1

1. IF THE SMOKE DETECTOR IS ACTIVATED ON A SMOKE CONDITION, A SUPERVISORY ALARM SHALL BE ISSUED AT THE FIRE ALARM CONTROL PANEL & THE CORRESPONDING ROOFTOP UNIT SHALL DE-ENERGIZE.
2. IF THE CARBON MONOXIDE DETECTOR IS ACTIVATED ON HIGH CO LEVEL, A SUPERVISORY ALARM SHALL BE ISSUED AT THE FIRE ALARM CONTROL PANEL AND THE CORRESPONDING ROOFTOP UNIT SHALL BE DE-ENERGIZED.



1 FIRE ALARM - ROOF NEW WORK PLAN
SCALE: 3/64"=1'-0"

FIRE ALARM NEW WORK NOTES

1 INSTALL NEW SMOKE DETECTOR IN RETURN AIR DUCT WITHIN THE BUILDING. PROVIDE EDWARDS SD-TRK REMOTE/RESET STATION FOR EACH SMOKE DETECTOR. COORDINATE WITH OWNER ON LOCATION OF THE RESET STATION.

2 INSTALL NEW SMOKE DETECTOR IN RETURN AIR DUCT AS SHOWN. DETECTOR SHALL BE INSTALLED IN A NEMA 3R WEATHERPROOF ENCLOSURE. PROVIDE EDWARDS SD-TRK REMOTE/RESET STATION FOR EACH SMOKE DETECTOR. COORDINATE WITH OWNER ON LOCATION OF THE RESET STATION.

3 INSTALL NEW SMOKE DETECTOR IN RETURN AIR DUCT (BELOW DECK), UPSTREAM OF ROOF PENETRATION AND OUTSIDE AIR.

4 REFER TO ROOF PARTIAL PLAN, THIS DRAWING, FOR CHANGES ASSOCIATED WITH ALTERNATE 1.

FIRE ALARM GENERAL NOTES

1. THE FIRE ALARM CONTRACTOR SHALL EVALUATE EXISTING FIRE ALARM SYSTEM ARCHITECTURE, AVAILABLE PANEL I/O TERMINALS, BACKUP BATTERY CAPACITY, ETC., PRIOR TO BID FOR THE ADDITIONAL DEVICES TO BE MONITORED. INSTALL ADDITIONAL PANELS, BACKUP BATTERY CAPACITY, INTERFACE WIRING, ETC., AS REQUIRED TO ACCOMMODATE THE INSTALLATION OF THE ADDITIONAL DEVICES FOR THIS RENOVATION.
2. FIRE ALARM CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS, INCLUDING DUCT SIZE FOR PROVIDING THE INSTALLATION OF THE NEW SMOKE DETECTORS AND DUCT SAMPLING TUBE.
3. THE FIRE ALARM CONTRACTOR SHALL PROVIDE AND WIRE ADDRESSABLE SMOKE DETECTORS AND EDWARD SD-TRK KEYED REMOTE/RESET STATION TO THE FIRE ALARM SYSTEM. THE MECHANICAL CONTRACTOR SHALL INSTALL THE SMOKE DETECTOR AND SAMPLING TUBE IN THE DUCTWORK. THE MECHANICAL CONTRACTOR SHALL PROVIDE AND INSTALL THE NEMA 3 ENCLOSURE FOR SMOKE DETECTORS LOCATED OUTDOORS. THE ENCLOSURE SHALL BE MOUNTED ON HARD BOARD INSULATION SO THAT THE DUCT INSULATION DOES NOT BUTT AGAINST THE SIDE OF THE ENCLOSURE. THE ELECTRICAL CONTRACTOR SHALL PROVIDE POWER TO THE DETECTOR AND SHALL WIRE THE SMOKE DETECTOR TO THE EMERGENCY STOP CIRCUIT IN THE VARIABLE FREQUENCY DRIVES FOR THE AIR HANDLERS.
4. ALL EXPOSED FIRE ALARM WIRING SHALL BE RUN IN EMT CONDUIT. CONDUIT SHALL BE PAINTED "RED" TO MATCH WIRE.
5. REFER TO THE DRAWING SET FOR THE HIGH SCHOOL RENOVATION PROJECT (DATE: 2003) FOR A REPRESENTATION OF THE DUCTWORK INSTALLATION WITHIN THE BUILDING. THE DRAWING SET CAN BE VIEWED AT BOARD OF EDUCATION OFFICE LOCATED AT 25 VALLEY RD, PRINCETON, NJ.
6. ALL FIRE ALARM COMPONENTS SUCH AS SMOKE DETECTORS, REMOTE RESET STATION, CARBON MONOXIDE, GAS DETECTION SHALL BE LABELED ALONG WITH ADDRESS WITH P-TOUCH LABEL.

SEQUENCE OF OPERATION

1. IF THE SMOKE DETECTOR IS ACTIVATED ON A SMOKE CONDITION, A SUPERVISORY ALARM SHALL BE ISSUED AT THE FIRE ALARM CONTROL PANEL & THE CORRESPONDING ROOFTOP UNIT SHALL DE-ENERGIZE.

DEDUCT ALTERNATE

THE FIRE ALARM CONTRACTOR SHALL EVALUATE THE EXISTING FIRE ALARM SYSTEM FOR THE INSTALLATION OF AN EXISTING SMOKE DETECTOR FOR EACH OF THE ROOFTOP UNITS BEING REPLACED. IF THE EXISTING SMOKE DETECTOR DOES NOT NEED TO BE REPLACED, THE CONTRACTOR SHALL PROVIDE A DEDUCT COST FOR EACH SMOKE DETECTOR THAT WILL REMAIN. THE FIRE ALARM CONTRACTOR SHALL PROVIDE THE DEDUCT COST PER SMOKE DETECTOR IN THE BID.

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William D. Hopkins
Architect
01/29/26
Date

Project Name
HVAC Renovations at Princeton High School

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Scale
AS NOTED

Drawing Name
FIRE ALARM - ROOF NEW WORK PLAN

Revisions		
No.	Date	Description

Drawing Number
FA-303

THE SCOPE OF WORK INCLUDES THE FURNISHING, INSTALLATION, AND CONNECTION OF AN INTELLIGENT REPORTING, MICROPROCESSOR CONTROLLED, ADDRESSABLE, FIRE ALARM AND VOICE COMMUNICATION SYSTEM. IT SHALL INCLUDE, BUT NOT BE LIMITED TO, ALARM INITIATING DEVICES, ALARM NOTIFICATION APPLIANCES, CONTROL PANELS, AUXILIARY CONTROL DEVICES, ANNUNCIATORS, MAGNETIC DOOR HOLDERS, POWER SUPPLIES, AND WIRING AS SHOWN ON THE DRAWINGS AND SPECIFIED HEREIN.

1. THE FIRE ALARM SYSTEM SHALL AT A MINIMUM COMPLY WITH THE FOLLOWING REQUIREMENTS:
   A. NFPA NO. 70 – NATIONAL ELECTRICAL CODE
   B. NFPA NO. 72 – STANDARD FOR PROTECTIVE SIGNALING
   C. NFPA NO. 20 – STANDARD FOR THE INSTALLATION OF FIRE PUMPS FOR FIRE PROTECTION
   D. FACTORY MUTUAL APPROVAL GUIDE
   E. U.L. LISTING
   F. REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION (AHJ)

2. THE SYSTEM AND ITS COMPONENTS SHALL BE SUPPLIED BY A PREMIER FACTORY– AUTHORIZED DISTRIBUTOR SECURED BY THE INSTALLING CONTRACTOR.

3. THE ADDRESSABLE FIRE ALARM SYSTEM AND ITS COMPONENTS SHALL BE UNDERWRITERS LABORATORIES, INC. LISTED UNDER THE APPROPRIATE UL TESTING STANDARD AND THE INSTALLATION SHALL BE IN COMPLIANCE WITH THE UL LISTING.

4. THE ADDRESSABLE FIRE ALARM SYSTEM AND ITS COMPONENTS SHALL HAVE CURRENT APPROVAL FROM FM GLOBAL.

5. THE FIRE ALARM CONTROL UNIT AND RACEWAYS SHALL WITHSTAND THE EFFECTS OF EARTHQUAKE MOTIONS DETERMINED ACCORDING TO ASCE 7 AND SEISMIC DESIGN CATEGORY. THE CONTRACTOR SHALL OBTAIN THE DESIGN AND PREPARATION OF SHOP DRAWINGS FOR CONDUITS, EQUIPMENT, CABLE TRAYS, ETC. AND SEISMIC RESTRAINTS FROM A QUALIFIED PROFESSIONAL ENGINEER. ALL DRAWINGS SHALL BE SEALED AND SIGNED BY A QUALIFIED PROFESSIONAL ENGINEER.

6. BASIC PERFORMANCE:
   A. ALARM, TROUBLE, AND SUPERVISORY SIGNALS FROM ALL INTELLIGENT REPORTING DEVICES SHALL BE ENCODED ON NFPA STYLE 6 SIGNALING LINE CIRCUITS (SLC). "TEE" TAPPING OF SLC CIRCUITS IS NOT ALLOWED.
   B. INITIATING DEVICE CIRCUITS (IDC) SHALL BE WIRED CLASS B AS PART OF AN ADDRESSABLE DEVICE CONNECTED BY THE SLC CIRCUIT.
   C. NOTIFICATION APPLIANCE CIRCUITS (NAC) SHALL BE WIRED CLASS B (NFPA STYLE Y) FROM A DIGITAL AUDIO AMPLIFIER, FIELD CHARGING POWER SUPPLY, OR AS PART OF AN ADDRESSABLE DEVICE CONNECTED BY THE SLC CIRCUIT.
   D. ALARM SIGNALS ARRIVING AT THE FIRE ALARM CONTROL PANEL (FACP) SHALL NOT BE LOST FOLLOWING A PRIMARY POWER FAILURE (OR OUTAGE) UNTIL THE ALARM SIGNAL IS PROCESSED AND RECORDED.
   E. THE SYSTEM SHALL BE ELECTRICALLY SUPERVISED.
   F. INITIATING DEVICE CIRCUITS (IDC) SHALL NOT MONITOR MORE THAN ONE NON– ADDRESSABLE FIRE ALARM, SUPERVISORY, OR TROUBLE INITIATING DEVICE.

7. BASIC SYSTEM FUNCTIONAL OPERATION:

   A. IF A FIRE ALARM CONDITION IS DETECTED AND REPORTED BY ONE OF THE SYSTEM INITIATING DEVICES, THE FOLLOWING FUNCTIONS SHALL IMMEDIATELY OCCUR:
      a. THE SYSTEM "FIRE ALARM" RED LED SHALL FLASH.
      b. A LOCAL PIEZO ELECTRIC FIRE ALARM SIGNAL IN THE CONTROL PANEL SHALL SOUND.
      c. SYSTEM OUTPUTS SHALL BE OPERATED PER THE ENGINEERED SEQUENCE OF OPERATIONS.
      d. THE SYSTEM LCD DISPLAY SHALL INDICATE ALL INFORMATION ASSOCIATED WITH THE FIRE ALARM CONDITION, INCLUDING THE TYPE OF ALARM POINT AND ITS LOCATION WITHIN THE PROTECTED PREMISES.
      e. THE FIRE ALARM ANNUNCIATOR LOCATED IN THE SECURITY COMMAND CENTER OF BUILDING H ROOMH–101–B SHALL INDICATE ALL INFORMATION ASSOCIATED WITH THE FIRE ALARM CONDITION, INCLUDING THE TYPE OF ALARM POINT AND ITS LOCATION WITHIN THE PROTECTED PREMISES. THE EVENT SHALL BE STORED IN SYSTEM HISTORY.
      f. THE GRAPHICS WORKSTATION LOCATED IN THE FIRE COMMAND CENTER SHALL INDICATE ALL INFORMATION ASSOCIATED WITH THE FIRE ALARM CONDITION, INCLUDING THE TYPE OF ALARM POINT AND ITS LOCATION GRAPHICALLY WITHIN THE PROTECTED PREMISES. THE EVENT SHALL BE STORED IN SYSTEM HISTORY.

   B. WHEN A TROUBLE CONDITION IS DETECTED ON THE SYSTEM OR ON ANY INITIATING DEVICE OR NOTIFICATION APPLIANCE, THE FOLLOWING FUNCTIONS SHALL IMMEDIATELY OCCUR:
      a. THE SYSTEM "TROUBLE" YELLOW LED SHALL FLASH.
      b. A LOCAL PIEZO ELECTRIC TROUBLE SIGNAL IN THE CONTROL PANEL SHALL SOUND.
      c. THE SYSTEM LCD DISPLAY SHALL INDICATE ALL INFORMATION ASSOCIATED WITH THE TROUBLE CONDITION, INCLUDING THE TYPE OF TROUBLE POINT AND ITS LOCATION WITHIN THE PROTECTED PREMISES.
      d. THE FIRE ALARM ANNUNCIATOR SHALL INDICATE ALL INFORMATION ASSOCIATED WITH THE TROUBLE CONDITION, INCLUDING THE TYPE OF TROUBLE POINT AND ITS LOCATION WITHIN THE PROTECTED PREMISES.
      e. THE GRAPHICS WORKSTATION LOCATED IN THE FIRE COMMAND CENTER SHALL INDICATE ALL INFORMATION ASSOCIATED WITH THE TROUBLE CONDITION, INCLUDING THE TYPE OF TROUBLE POINT AND ITS LOCATION GRAPHICALLY WITHIN THE PROTECTED PREMISES. THE EVENT SHALL BE STORED IN SYSTEM HISTORY.

   C. WHEN A SUPERVISORY CONDITION IS DETECTED AND REPORTED BY ONE OF THE SYSTEM INITIATING DEVICES, THE FOLLOWING FUNCTIONS SHALL IMMEDIATELY OCCUR:
      a. THE SYSTEM "SUPERVISORY" YELLOW LED SHALL FLASH.
      b. A LOCAL PIEZO ELECTRIC SUPERVISORY SIGNAL IN THE CONTROL PANEL SHALL SOUND.
      c. THE SYSTEM LCD DISPLAY SHALL INDICATE ALL INFORMATION ASSOCIATED WITH THE FIRE ALARM CONDITION, INCLUDING THE TYPE OF SUPERVISORY POINT AND ITS LOCATION WITHIN THE PROTECTED PREMISES.
      d. THE FIRE ALARM ANNUNCIATOR SHALL INDICATE ALL INFORMATION ASSOCIATED WITH THE SUPERVISORY CONDITION, INCLUDING THE TYPE OF SUPERVISORY POINT AND ITS LOCATION WITHIN THE PROTECTED PREMISES.
      e. SUPERVISORY SIGNALS SHALL BE A LATCHING TYPE. SELF–RESTORING SUPERVISORY SIGNALS SHALL NOT BE PERMITTED.

8. REQUIRED SUBMITTALS AND DOCUMENTATION
   A. INSTALLING CONTRACTOR SHALL SUBMIT SUBMITTALS AND SHOP DRAWINGS FOR APPROVAL BY ENGINEER AND OWNER. EACH TYPE OF PRODUCT USED ON THE PROJECT SHALL BE SUBMITTED. ITEMS ON SUBMITTALS NOT PERTAINING TO PROJECT SHALL SHOW STRIKE–OUT ON SUBMITTAL.
   B. SHOP DRAWINGS FOR FIRE–ALARM SYSTEM SHALL INCLUDE PLANS, ELEVATIONS, SECTIONS, DETAILS AND ATTACHMENTS TO OTHER WORK.
      a. COMPLY WITH RECOMMENDATIONS IN THE "DOCUMENTATION" SECTION OF THE "FUNDAMENTAL OF FIRE ALARM SYSTEMS "CHAPTER IN NFPA 72.
      b. INCLUDE VOLTAGE DROP CALCULATIONS FOR NOTIFICATION APPLIANCE CIRCUITS.
      c. INCLUDE BATTERY SIZE CALCULATIONS.
      d. INCLUDE PERFORMANCE PARAMETERS AND INSTALLATION DETAILS FOR EACH DETECTOR.
      e. INCLUDE FLOOR PLANS TO INDICATE FINAL OUTLET LOCATIONS SHOWING ADDRESS OF EACH ADDRESSABLE DEVICE.
   C. INSTALLING CONTRACTOR TO SUBMIT MANUFACTURER'S PUBLISHED OPERATIONS MANUALS FOR ALL EQUIPMENT FURNISHED UPON COMPLETION OF PROJECT. COMPLY WITH THE "RECORDS" SECTION OF THE "INSPECTION, TESTING AND MAINTENANCE" CHAPTER IN NFPA 72.
   D. INSTALLING CONTRACTOR TO SUBMIT SYSTEM PROGRAMMING DOCUMENTATION DETAILING DEVICE DESCRIPTIONS CORRESPONDING TO DEVICE LOCATIONS PRIOR TO PROGRAMMING FOR OWNER APPROVAL UPON COMPLETION OF PROJECT.
   E. INSTALLING CONTRACTOR TO SUBMIT UPDATED SHOP DRAWINGS (AS–BUILT) UPON COMPLETION OF PROJECT.
   F. INSTALLING CONTRACTOR TO SUBMIT A COMPLETED NFPA 72 RECORD OF COMPLETION FORM UPON COMPLETION OF PROJECT.
   G. INSTALLING CONTRACTOR TO SUBMIT A FULL COMMISSIONING REPORT UPON COMPLETION OF PROJECT. THE REPORT SHALL DETAIL THE TYPE OF DEVICE, BUILDING DESIGNATION, FLOOR DESIGNATION, LOCATION DESCRIPTION, DEVICE ADDRESS, DATE OF TEST, TIME OF TEST, TEST RESULT, TESTER'S NAME, AND TESTER'S TITLE FOR EVERY POINT INSTALLED.

9. FIRE ALARM SYSTEM EQUIPMENT VENDOR REQUIREMENTS

   A. VENDOR SHALL BE A FACTORY–AUTHORIZED DISTRIBUTOR FOR FIRE SYSTEMS.
   B. VENDOR SHALL MAINTAIN A CURRENT NEW JERSEY STATE DCA "ALL FIRE PROTECTION EQUIPMENT SYSTEMS" LICENSE.
   C. VENDOR SHALL EMPLOY A CURRENT NICET FIRE ALARM SYSTEMS LEVEL 4 CERTIFIED SYSTEM DESIGNER.
   D. VENDOR SHALL EMPLOY AT LEAST TWO NICET FIRE ALARM SYSTEMS LEVEL 2 CERTIFIED FIELD TECHNICIANS.
   E. VENDOR SHALL MAINTAIN A CURRENT TRAINING CERTIFICATE FROM NOTIFIER FOR PRODUCTS BEING INSTALLED.
   F. ALL DEVICES AND EQUIPMENT SHALL BE U.L. LISTED AND/OR FM APPROVED.
   G. MANUFACTURER SHALL BE PYROTRONICS, NOTIFIER OR APPROVED EQUAL.

10. FIRE ALARM SYSTEM EQUIPMENT

   A. ALL DEVICES, COMPONENTS AND EQUIPMENT SHALL BE NEW AND STANDARD PRODUCTS OF THE MANUFACTURERS LATEST DESIGN, SUITABLE TO PERFORM THE FUNCTIONS INTENDED.
   B. INSTALLING CONTRACTOR TO VERIFY THAT MANUFACTURER'S REQUIREMENTS FOR ENVIRONMENTAL CONDITIONS INCLUDING TEMPERATURE, VENTILATION, AND HUMIDITY HAVE BEEN PERMANENTLY ESTABLISHED BEFORE EQUIPMENT INSTALLATION.
   C. PROVIDE APPROVED EQUIPMENT TO MEET SITE STANDARDS.
   D. THE MANUFACTURER OF THE FIRE DETECTION SYSTEM HARDWARE AND DETECTION COMPONENTS SHALL HAVE A MINIMUM OF 10 YEARS EXPERIENCE IN THE DESIGN AND MANUFACTURE OF SIMILAR TYPES OF DETECTION SYSTEMS AND WHO CAN REFER TO SIMILAR INSTALLATIONS PROVIDING SATISFACTORY SERVICE.
   E. MANUAL FIRE ALARM STATION– PULL STATION SHALL BE NON–CODED, DOUBLE ACTION TYPE WITH A KEY OPERATED TEST–RESET LOCK.
   F. THE NOTIFICATION DEVICES– THE VISUAL AND AUDIO/VISUAL SIGNALING DEVICES SHALL BE COMPATIBLE WITH THE FIRE ALARM PANEL. THE UNIT SHALL PRODUCE A PEAK SOUND OUTPUT OF 88DBA OR GREATER.
   G. SMOKE DETECTORS– SMOKE DETECTORS SHALL BE CEILING MOUNTED. PHOTOELECTRIC DETECTORS WITH TWIST LOCK BASES.
   H. HEAT DETECTORS– HEAT DETECTORS SHALL BE CEILING MOUNTED, ANALOG ADDRESSABLE DETECTORS WITH TWIST LOCK BASE. DETECTOR SHALL BE 135°F FIXED TEMPERATURE.
   I. DUCT DETECTORS– ANY HVAC SYSTEMS REQUIRED TO HAVE A DUCT MOUNTED SMOKE DETECTOR SHALL BE SUPERVISED WITH AN INTELLIGENT MONITOR MODULE AND CONNECTED TO THE FIRE ALARM PANEL. IF THE DUCT DETECTOR CAN NOT BE RESTORED BACK IN OPERATION, A NEW 24VDC DUCT DETECTOR WITH RELAY CONTACTS (FOR HVAC INTERLOCK) WILL NEED TO BE INSTALLED.
   J. ANSUL SYSTEM– THE ANSUL SYSTEM ASSOCIATED WITH THE KITCHEN EXHAUST HOOD SHALL COMMUNICATE WITH THE FIRE ALARM SYSTEM. COORDINATE WITH KITCHEN EXHAUST DESIGN (BY OTHERS).
   K. REMOTE ANNUNCIATION– A LCD REMOTE ANNUNCIATOR SHALL BE INSTALLED BY THE FRONT ENTRANCE. FIELD LOCATE TO ALLOW FOR FIRE DEPARTMENT VISIBILITY.
   L. SPRINKLER SYSTEM FLOW SWITCH– THE FLOW SWITCH SHALL BE CONNECTED TO THE FIRE ALARM SYSTEM.
   M. THE FIRE ALARM SYSTEM SHALL BE MONITORED BY AN APPROVED SUPERVISING STATION IN ACCORDANCE WITH NFPA 72 AND THE 2006 INTERNATIONAL BUILDING CODE SECTION 907.14.
   N. THE FIRE ALARM SYSTEM SHALL BE TESTED, INSPECTED AND MAINTAINED IN ACCORDANCE WITH CHAPTER 10 OF THE 2013 NFPA 72.

11. CONDUIT, BOXES, AND WIRING

   A. ALL CONDUIT, BOXES, AND WIRE SHALL BE NEW AND FREE OF DEFECTS.

   B. CONDUIT:
      a. ALL CONDUIT SHALL BE UL LISTED FOR THEIR INTENDED PURPOSE.
      b. CONDUIT SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC), LOCAL, AND STATE REQUIREMENTS.
      c. CONDUIT SHALL BE TRADE SIZE 3/4 INCH MINIMUM.
      d. CONDUIT SHALL BE RED. CONDUIT FURNISHED MAY BE ANODIZED EMT, SPRAY PAINTED, OR POWDER COATED RED TO EFFICIENTLY IDENTIFY FIRE ALARM CIRCUITS.

   C. TERMINAL BOXES AND JUNCTION BOXES:
      a. ALL TERMINAL CABINETS AND JUNCTION BOXES SHALL BE UL LISTED FOR THEIR INTENDED PURPOSE.
      b. ALL TERMINAL CABINETS AND JUNCTION BOXES SHALL HAVE RED COVERS OR DOORS. TERMINAL CABINETS AND JUNCTION BOXES FURNISHED MAY BE SPRAY PAINTED OR POWDER COATED RED TO EFFICIENTLY IDENTIFY FIRE ALARM CIRCUITS.
      c. ALL TERMINAL CABINETS AND JUNCTION BOXES SHALL BE CLEARLY LABELED "FIRE ALARM" TO EFFICIENTLY IDENTIFY FIRE ALARM CIRCUITS.

   D. WIRE AND FIBER OPTICS:
      a. ALL CONDUIT SHALL BE UL LISTED FOR THEIR INTENDED PURPOSE.
      b. WIRE AND FIBER OPTICS SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE (NEC), LOCAL, AND STATE REQUIREMENTS.
      c. WIRE AND FIBER OPTICS SPECIFICATIONS BY TYPE:
         1. SIGNALING LINE CIRCUITS (SLC) SHALL BE FPL, FPLP, OR FPLR DEPENDING ON APPLICATION. SLC CONDUCTORS SHALL BE A MINIMUM 16 AWG, 2 CONDUCTOR, TWISTED, UNSHIELDED WITH A NOMINAL DC RESISTANCE OF 4.9 OHMS/MFT. AND A NOMINAL CAPACITANCE OF 20 PF/FT. VERIFY EXACT WIRE REQUIREMENTS WITH FIRE ALARM VENDOR.
         2. VISUAL (STROBE) NOTIFICATION APPLIANCE CIRCUITS (NAC) SHALL BE FPL, FPLP, OR FPLR DEPENDING ON APPLICATION. VISUAL NAC CONDUCTORS SHALL BE A MINIMUM 14 AWG, 2 CONDUCTORS, TWISTED, UNSHIELDED WITH A NOMINAL DC RESISTANCE OF 2.5 OHMS/MFT. AND A NOMINAL CAPACITANCE OF 22 PF/FT. VERIFY EXACT REQUIREMENTS WITH FIRE ALARM VENDOR.
         3. AUDIO (SPEAKER) NOTIFICATION APPLIANCE CIRCUITS (NAC) SHALL BE FPL, FPLP, OR FPLR DEPENDING ON APPLICATION. AUDIO NAC CONDUCTORS SHALL BE A MINIMUM 16 AWG, 2 CONDUCTORS, TWISTED, SHIELDED WITH A NOMINAL DC RESISTANCE OF 4.1 OHMS/MFT. AND A NOMINAL CAPACITANCE OF 46 PF/FT. VERIFY EXACT REQUIREMENTS WITH FIRE ALARM VENDOR.
         4. DIGITAL AUDIO LOOP (DAL) CIRCUITS SHALL BE ONE OF THE FOLLOWING NOTIFIER APPROVED CABLES. NO SUBSTITUTIONS ARE ACCEPTABLE. MANUFACTURER AND PART NUMBERS LISTED BELOW:
            i. HONEYWELL GENESIS 4431 (18 AWG, TWISTED, UNSHIELDED) FPLR
            ii. COMTRAN 8696 (18 AWG, TWISTED, UNSHIELDED) FPLR
            iii. WEST PENN D980 (18 AWG, TWISTED, UNSHIELDED) FPLR
         5. HIGH SPEED FIRE ALARM NETWORK COMMUNICATION MEDIUM SHALL BE MODE, 9/125 MICROMETERS WITH A MAXIMUM ATTENUATION OF 30DB. CONNECTORS AT EACH FIRE ALARM PANEL TERMINATION POINT SHALL BE LC STYLE.

12 SITE CONDITIONS

   A. INTERRUPTION OF EXISTING FIRE ALARM SERVICE:
      1. INSTALLING CONTRACTOR SHALL NOT INTERRUPT FIRE ALARM SERVICE TO OCCUPIED FACILITIES UNLESS PERMITTED BY AND COORDINATED WITH THE OWNER.
      2. INSTALLING CONTRACTOR SHALL SECURE AN APPROVED FIRE ALARM VENDOR TO MANAGE THE FACILITY FIRE ALARM SYSTEM DURING PERIODS IF SITE–WIDE FIRE ALARM SERVICE IS INTERRUPTED.

   B. CONTRACTOR SHALL PROTECT EXISTING DEVICES DURING CONSTRUCTION UNLESS DEVICES ARE IN SERVICE SPECIFICALLY TO PROTECT THE FACILITY DURING CONSTRUCTION.

   C. WHERE APPLICABLE, INSTALLING CONTRACTOR SHALL MAINTAIN EXISTING EQUIPMENT IN FULL OPERATION UNTIL NEW EQUIPMENT HAS BEEN TESTED AND FULLY ACCEPTED. AFTER ACCEPTANCE OF NEW FIRE ALARM SYSTEM EQUIPMENT, ALL EXISTING FIRE ALARM EQUIPMENT AND WIRING SHALL BE REMOVED.

   D. NON–WORKING FIRE ALARM EQUIPMENT AND WIRING SHALL BE REMOVED. FIRE ALARM EQUIPMENT SHALL NOT BE ABANDONED.

   E. INTERFACING NEW FIRE ALARM EQUIPMENT WITH EXISTING FIRE ALARM EQUIPMENT:
      1. VERIFY THAT NEW FIRE ALARM SYSTEM EQUIPMENT IS FULLY OPERATIONAL AND IMPAIRMENT–FREE BEFORE ATTEMPTING TO ESTABLISH COMMUNICATION WITH EXISTING FIRE ALARM SYSTEM EQUIPMENT.
      2. INSTALLING CONTRACTOR SHALL ACQUIRE PERMISSION FROM OWNER BEFORE INTERFACING WITH EXISTING FIRE ALARM EQUIPMENT.
      3. INSTALLING CONTRACTOR SHALL SECURE AN APPROVED FIRE ALARM VENDOR TO ENSURE PROPER CONNECTIVITY AND COMPATIBILITY WITH EXISTING EQUIPMENT.

13. INSTALLATION

   A. INSTALLATION SHALL BE IN ACCORDANCE WITH THE NEC, NFPA 72, LOCAL, AND STATE CODES, AS SHOWN ON THE DRAWINGS, AND AS RECOMMENDED BY THE EQUIPMENT MANUFACTURER.

   B. INSTALLING CONTRACTOR TO COORDINATE DEDICATED 120VAC CIRCUITS TO THE FIRE ALARM CONTROL PANEL(S) AND ALL RELATED CONTROL EQUIPMENT. DEDICATED CIRCUIT INFORMATION SHALL BE LABELED AT ALL TERMINATION POINTS. INSTALLING CONTRACTOR SHALL LABEL EACH DEDICATED CIRCUIT "FIRE ALARM" AND INSTALL PROPER BREAKER LOCK(S).

   C. ALL FIRE ALARM EQUIPMENT SHALL BE INSTALLED IN ACCESSIBLE LOCATIONS. INSTALLING CONTRACTOR TO PROVIDE ANY REQUIRED ACCESS PANELS.

   D. FIRE ALARM EQUIPMENT SHALL NOT BE INSTALLED IN AREAS THAT ARE NOT READILY VISIBLE FROM A NORMAL VIEWING POSITION. PROVIDE REMOTE ALARM INDICATORS WHERE SHOWN ON THE CONTRACT DRAWINGS.

   E. ALL SPLICED CONDUCTORS SHALL BE LABELED AT A MINIMUM WITH TYPE OF CIRCUIT AND CIRCUIT NUMBER AS SHOWN ON THE CONTRACT DRAWINGS.

   F. SMOKE DETECTORS SHALL NOT BE INSTALLED PRIOR TO THE SYSTEM PROGRAMMING AND TEST PERIOD. IF CONSTRUCTION IS ONGOING DURING THIS PERIOD, MEASURES SHALL BE TAKEN TO PROTECT SMOKE DETECTORS FROM CONTAMINATION AND PHYSICAL DAMAGE.

   G. DUCT SMOKE DETECTOR INSTALLATION SHALL BE COORDINATED WITH THE MECHANICAL/HVACCONTRACTOR. VERIFY DUCT SMOKE DETECTOR LOCATIONS, DUCT WIDTHS, DUCT VELOCITIES AND AIR FLOW DIRECTION.

   H. INSTALLING CONTRACTOR SHALL MAINTAIN UPDATED SHOP DRAWINGS REFLECTING THE ACTUAL INSTALLATION OF ALL FIRE ALARM SYSTEM EQUIPMENT,COMPONENTS, AND WIRING.

14. IDENTIFICATION

   A. IDENTIFY SYSTEM COMPONENTS, WIRING, CABLING AND TERMINALS. COMPLY WITH REQUIREMENTS FOR IDENTIFICATION SPECIFIED IN DIVISION 26 SECTION "IDENTIFICATION FOR ELECTRICAL SYSTEMS".

   B. INSTALLING CONTRACTOR SHALL LABEL EACH DEVICE WITH ITS ASSOCIATED ADDRESS WITH A BROTHER P–TOUCH OR SIMILAR TYPE LABEL PRINTER.

15. GROUNDING

   A. GROUND FIRE ALARM CONTROL UNIT AND ASSOCIATED CIRCUITS; COMPLY WITH IEEE 1100. INSTALL A GROUND WIRE FROM MAIN SERVICE GROUND TO FIRE ALARM CONTROL UNIT.

16. SYSTEM INSPECTION AND CHECKOUT

   A. AFTER THE SYSTEM INSTALLATION HAS BEEN COMPLETED, THE ENTIRE SYSTEM SHALL BE CHECKED OUT, INSPECTED AND FUNCTIONALLY TESTED BY THE MANUFACTURER'S REPRESENTATIVE, IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDED PROCEDURES AND NFPA STANDARDS. THE COMPLETE SYSTEM SHALL BE FUNCTIONALLY TESTED, IN THE PRESENCE OF THE OWNER OR HIS REPRESENTATIVE, AND ALL FUNCTIONS, INCLUDING SYSTEM AND EQUIPMENT INTERLOCKS MUST BE OPERATIONAL AT LEAST FIVE (5) DAYS PRIOR TO THE FINAL ACCEPTANCE TESTS.
      a. COMPLY WITH "TEST METHODS" TABLE IN THE "TESTING" SECTION OF THE "INSPECTION, TESTING AND MAINTENANCE" CHAPTER IN NFPA 72.
      b. PREPARE THE "FIRE ALARM SYSTEM RECORD OF COMPLETION" IN THE "DOCUMENTATION" SECTION OF THE "FUNDAMENTALS OF FIRE ALARM SYSTEMS" CHAPTER IN NFPA 72 AND THE "INSPECTION AND TESTING FORM" IN THE "RECORDS" SECTION OF THE "INSPECTION, TESTING AND MAINTENANCE" CHAPTER IN NFPA 72.
      c. ALL SYSTEM AND EQUIPMENT INTERLOCKS SUCH AS DOOR RELEASE, AUDIBLE AND VISUAL DEVICES, EQUIPMENT SHUTDOWNS, LOCAL AND REMOTE ALARMS, ETC. SHALL FUNCTION AS REQUIRED AND DESIGNED.
      d. EACH CONTROL PANEL CIRCUIT SHALL BE TESTED FOR TROUBLE BY INDUCING A TROUBLE CONDITION INTO THE SYSTEM.
      e. EACH DETECTOR SHALL BE TESTED IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDED PROCEDURES, AND TESTED VALUES RECORDED.

17. INSTRUCTION
   A. APPROVED FIRE ALARM VENDOR SHALL PROVIDE INSTRUCTION FOR OPERATING THE SYSTEM. HANDS–ON DEMONSTRATION OF THE OPERATION OF SYSTEM COMPONENTS SHALL BE PROVIDED. UP TO EIGHT (8) HOURS TRAINING SHALL BE PROVIDED TO OWNER UPON COMPLETION OF PROJECT.
   B. TRAINING REQUIREMENTS: PRIOR TO FINAL ACCEPTANCE, THE INSTALLING CONTRACTOR SHALL PROVIDE OPERATIONAL TRAINING TO THE OWNERS PERSONNEL. THE TRAINING SESSION SHALL INCLUDE SYSTEM CONTROL PANEL OPERATION, TROUBLE PROCEDURES, AUXILIARY FUNCTIONS AND EMERGENCY PROCEDURES.
   C. OPERATION AND MAINTENANCE: PRIOR TO FINAL ACCEPTANCE, THE INSTALLING CONTRACTOR SHALL PROVIDE COMPLETE OPERATION AND MAINTENANCE INSTRUCTION MANUALS, FOUR (4) COPIES FOR EACH SYSTEM, TO THE OWNER. ALL ASPECTS OF SYSTEM OPERATION AND MAINTENANCE SHALL BE DETAILED, INCLUDING WIRING.
   D. INSTALLING CONTRACTOR SHALL PROVIDE A MINIMUM 2 YEAR WARRANTY.

GENERAL NOTES:

1. IT IS THE INTENT OF THIS DRAWING TO INDICATE THE LAYOUT OF ALL FIRE ALARM DEVICES REQUIRED FOR THIS PROJECT, SUCH AS SMOKE DETECTORS, CARBON MONOXIDE DETECTORS, LEL DETECTORS, HORN/STROBES, ETC. IT IS THE RESPONSIBILITY OF THE BUILDING FIRE ALARM CONTRACTOR TO FURNISH, INSTALL AND CONNECT ALL DEVICES TO THE BUILDING FIRE ALARM SYSTEM AS REQUIRED AND AS PER THE LOCAL FIRE OFFICIAL.

2. ELECTRICAL CONTRACTOR SHALL PAINT IN RED THE FOLLOWING ITEMS ASSOCIATED WITH THE INSTALLATION OF THE WIRING FOR THE BUILDING FIRE ALARM SYSTEM:
   A. ALL COVERS OF JUNCTION/PULL BOXES
   B. ALL CONDUITS (PAINT APPROX. EVERY 10 FT INTERVAL OF RUN)
   C. IF METAL–CLAD CABLE IS UTILIZED FOR WIRING, FURNISH AND INSTALL A FIRE ALARM CONTROL CABLE AS MANUFACTURED BY AFC OR AN APPROVED EQUAL. CABLE IS TO BE COLOR CODED RED ALONG THE ENTIRE LENGTH OF CABLE.

3. ELECTRICAL CONTRACTOR SHALL COORDINATE THE LOCATION OF ALL CEILING MOUNTED FIRE ALARM DEVICES WITH LIGHTING FIXTURES, DIFFUSERS, SPRINKLER HEADS AND PAGING SPEAKERS.

4. ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL WIRING FROM TENANT'S SECURITY CONTROL PANEL TO THE BUILDING FIRE ALARM CONTROL PANEL AND MAKE ALL CONNECTIONS REQUIRED IN PANELS.

5. TYPICAL – DUCT SMOKE DETECTORS FURNISHED AND INSTALLED BY THE MECHANICAL CONTRACTOR. UNITS SHALL BE WIRED SUCH THAT UPON ACTIVATION OF A DUCT SMOKE DETECTOR, THE RESEPECTIVE UNIT SHALL BE SHUTDOWN AND A SIGNAL SENT TO THE FIRE ALARM CONTROL PANEL. COORDINATE EXACT REQUIREMENTS IN THE FIELD WITH THE HVAC CONTRACTOR. VERIFY UNIT SHUTDOWN REQUIREMENTS WITH THE LOCAL CODE OFFICIAL HAVING JURISDICTION.

6. CONNECT THE SMOKE DETECTORS TO THE NEAREST FIRE ALARM ZONE.

7. ALL FIRE ALARM WORK SHALL COMPLY THE NFPA, U.L., NEC AND ALL STATE AND LOCAL AUTHORITIES HAVING JURISDICTION.

8. ELECTRICAL CONTRACTOR SHALL HARD WIRE DETECTOR TO SHUT DOWN UNIT. FIRE ALARM CONTRACTOR SHALL PROVIDE AND WIRE THE DETECTOR BACK TO THE FIRE ALARM PANEL.

9. THE FIRE ALARM CONTRACTOR SHALL PROVIDE SHOP DRAWINGS SHOWING DEVICES, EQUIPMENT SPECIFICATIONS, SYSTEM ARCHITECTURE, LOCATION OF NEW PANELS, IF REQUIRED, REVISED BATTERY CALCULATIONS, TYPE OF ALARM, ETC. THESE SHOP DRAWINGS SHALL BE SIGNED AND SEALED BY A NJ PROFESSIONAL ENGINEER.

FIRE ALARM SYMBOLS

☐ PRE	ABORT SWITCH – PREACTION SYSTEM
☐ EPO	ABORT SWITCH – EMERGENCY POWER OFF
☐ CA	ABORT SWITCH – CLEAN AGENT
☐ WC	ABORT SWITCH – WET CHEMICAL
☐ FO	ABORT SWITCH – FOAM
☐ DC	ABORT SWITCH – DRY CHEMICAL
☐ CO2	ABORT SWITCH – CARBON DIOXIDE
☐ HL	ABORT SWITCH – HALON
☐ DL	MANUAL PULL STATION – DELUGE SPRINKLER
☐ WM	MANUAL PULL STATION – WATER MIST
☐ CA	MANUAL PULL STATION – CLEAN AGENT
☐ P	MANUAL PULL STATION – PULLSTATION/FIRE ALARM BOX
☐ WC	MANUAL PULL STATION – WET CHEMICAL
☐ CA	MANUAL PULL STATION – CLEAN AGENT
☐ FO	MANUAL PULL STATION – FOAM
☐ DC	MANUAL PULL STATION – DRY CHEMICAL
☐ CO2	MANUAL PULL STATION – CARBON DIOXIDE
☐ HL	MANUAL PULL STATION – HALON
☐ PRE	PREACTION SYSTEM
H ◁	HORN
H ◀	HORN/STROBE
S ◁	STROBE
ST	STROBE LIGHT
R	REMOTE LIGHT
FL	FLASHING LIGHT (NOT LL58/87)
DH	MAGNETIC DOOR HOLDER
SV	SOLENOID VALVE
MD	MOTORIZED FIRE/SMOKE DAMPER
R	OUTPUT RELAY
⌓	GONG
⌓ V	BELL – VIBRATING
⌓ VS	BELL – VIBRATING/STROBE
⌓ G	BELL – SINGLE STROKE GONG
⌓ GS	BELL – SINGLE STROKE GONG/STROBE
⌓ T	BELL – TROUBLE
⌓ C	BELL – CHIME
⊙	HEAT DETECTOR – THERMAL DETECTOR
⊙ R/F	HEAT DETECTOR – COMBINATION RATE OF RISE AND FIXED TEMP.
⊙ R/C	HEAT DETECTOR –RATE COMPENSATION
⊙ F	HEAT DETECTOR –FIXED TEMPERATURE
⊙ R	HEAT DETECTOR –RATE OF RISE ONLY
⊙—	HEAT DETECTOR – LINE TYPE (HEAT SENSITIVE CABLE)
⊙ R	SMOKE/HEAT DETECTOR –RATE OF RISE ONLY
◯	SMOKE DETECTOR
◯ P	SMOKE DETECTOR – PHOTOELECTRIC
◯ I	SMOKE DETECTOR – IONIZATION
◯ BT	SMOKE DETECTOR – BEAM TRANSMITTER
◯ BR	SMOKE DETECTOR – BEAM RECEIVER
◯ ASD	SMOKE DETECTOR – AIR SAMPLING
SD ═	SMOKE DETECTOR – DUCT SAMPLING TUBE
●	GAS DETECTOR
△	FLAME DETECTOR
△ F	FLAME
△ UV	ULTRAVIOLET
△ IR	INFRARED
△ UV/IR	COMBINATION ULTRAVIOLET/INFRARED
△ VR	VISIBLE RADIATION
CO	CARBON MONOXIDE DETECTOR
FS	SPRINKLER RISER FLOW SWITCH

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Project Name
HVAC Renovations at Princeton High School

Project Owner Name
Princeton Public Schools

Project Location
151 Moore Street,
Princeton, NJ
08540

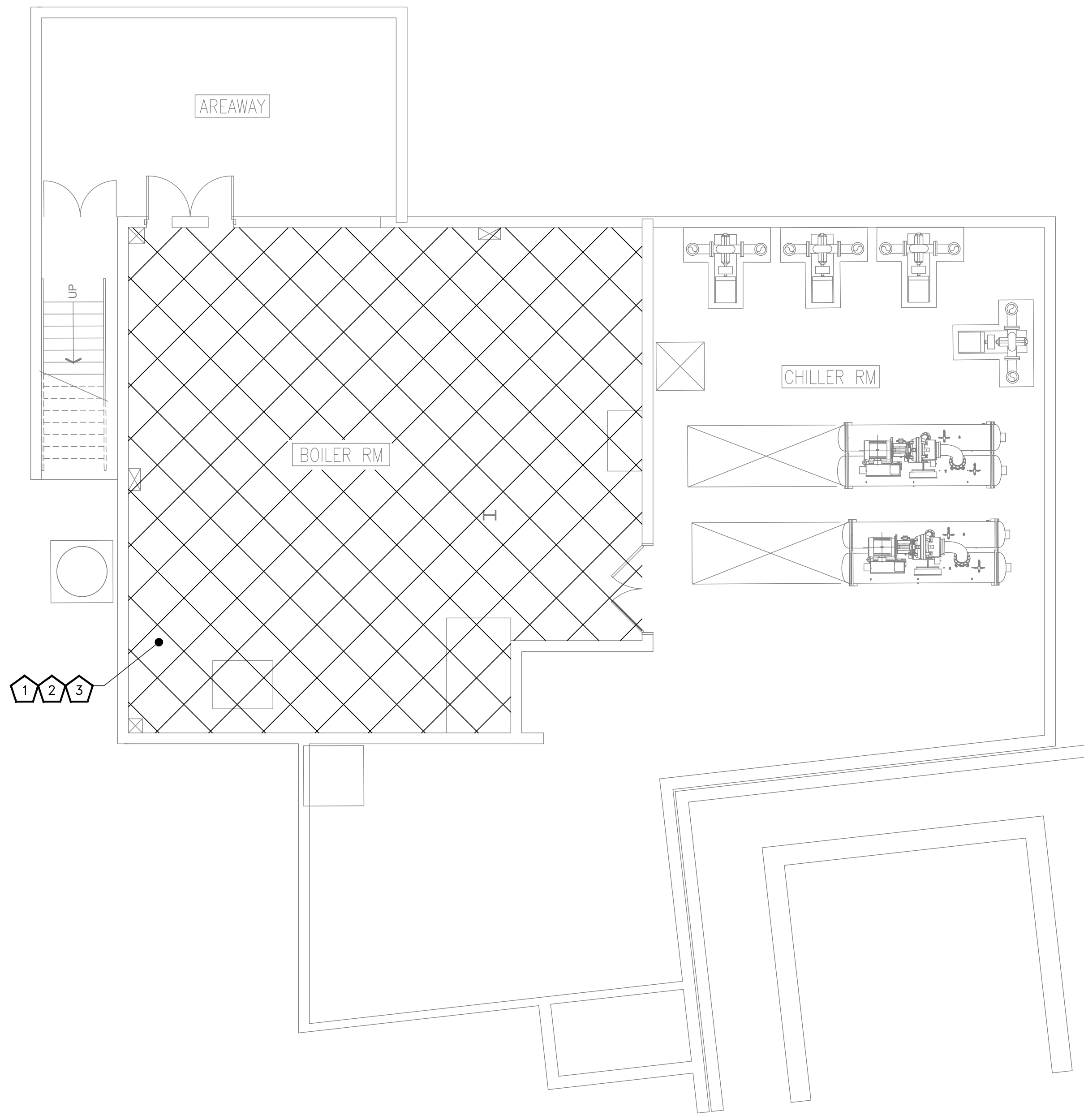
Project Number
5516E
Project Date
01.29. 2026
Checked By
JTM
Drawn By
JD
Scale
AS NOTED

Drawing Name
FIRE ALARM -
ROOF
NEW WORK PLAN

Revisions

No.	Date	Description

Drawing Number
FA-901



① FIRE PROTECTION - BASEMENT NEW WORK PLAN
SCALE: 1/8"=1'-0"

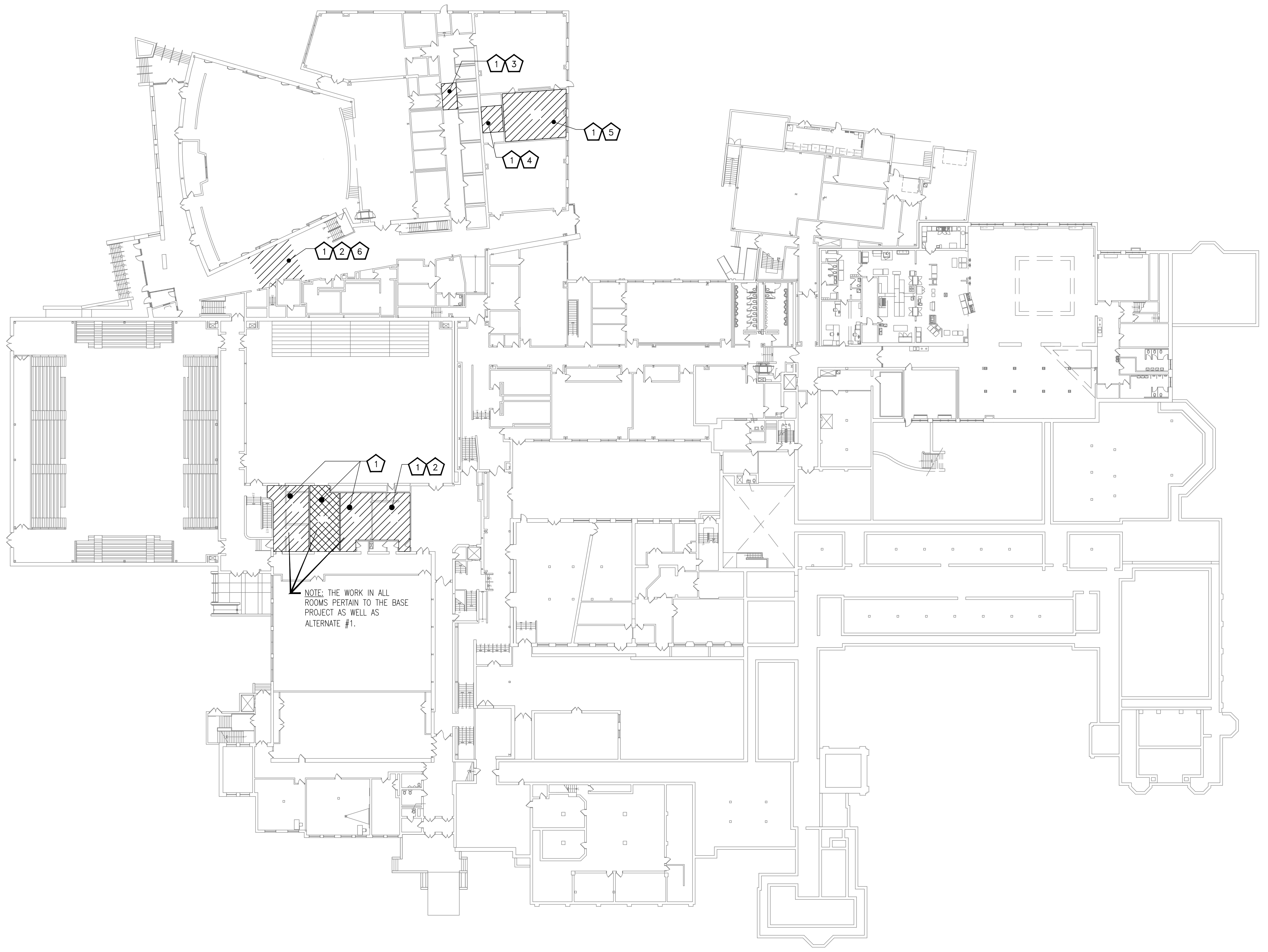
FIRE PROTECTION NEW WORK NOTES

1. SPRINKLER CONTRACTOR SHALL MODIFY EXISTING SPRINKLER PIPING AS REQUIRED TO ACCOMMODATE NEW EQUIPMENT & DUCTWORK AS WELL AS THE EXISTING PIPING & EQUIPMENT TO REMAIN. CONTRACTOR SHALL COORDINATE WITH OTHER TRADES USING THREE DIMENSIONAL MODLEING.
2. FIRE PROTECTION CONTRACTOR SHALL INSTALL CORROSION RESISTANT SPRINKLERS IN THE BOILER ROOM. SPRINKLER PIPING SHALL BE PAINTED.
3. SPRINKLERS LOCATED IN OPEN CEILING SHALL INCLUDE PROTECTIVE CAGES AROUND SPRINKLER HEADS.

CLASSIFICATION	ORDINARY HAZARD GROUP 2
DESIGN DENSITY	0.20 GPM / SQ. FT.
DESIGN AREA	2000 SQ. FT.
SPRINKLER COVERAGE	130 SQ.FT. / HEAD MAXIMUM
HEAD TYPE	QUICK RESPONSE UPRIGHT & PENDANT

LEGEND

▩ ORDINARY HAZARD 1



NOTE: THE WORK IN ALL ROOMS PERTAIN TO THE BASE PROJECT AS WELL AS ALTERNATE #1.

② FIRE PROTECTION - GROUND FLOOR NEW WORK PLAN
SCALE: 1/32"=1'-0"

FIRE PROTECTION NEW WORK NOTES

1. SPRINKLER CONTRACTOR SHALL MODIFY EXISTING SPRINKLER PIPING AS REQUIRED TO ACCOMMODATE NEW EQUIPMENT & DUCTWORK AS WELL AS THE EXISTING PIPING & EQUIPMENT TO REMAIN. CONTRACTOR SHALL COORDINATE WITH OTHER TRADES USING THREE DIMENSIONAL MODELING.
2. SPRINKLERS LOCATED IN OPEN CEILING SHALL INCLUDE PROTECTIVE CAGES AROUND SPRINKLER HEADS.
3. AREA ASSOCIATED WITH THE REMOVAL & REPLACEMENT OF AHU-F4.
4. AREA ASSOCIATED WITH THE REMOVAL & REPLACEMENT OF AHU-F9.
5. AREA ASSOCIATED WITH THE REMOVAL & REPLACEMENT OF AHU-F3.
6. AREA ASSOCIATED WITH THE REMOVAL & REPLACEMENT OF AHU-F5.

GENERAL NEW WORK NOTES

1. GENERAL CONTRACTOR SHALL REMOVE & REPLACE EXISTING CEILING TILES, CEILING GRID, LIGHTS, SENSORS, ETC., IN ORDER TO MODIFY THE EXISTING SPRINKLER SYSTEM AS REQUIRED.

CLASSIFICATION	LIGHT HAZARD
DESIGN DENSITY	0.10 GPM / SQ. FT.
DESIGN AREA	1500 SQ. FT.
SPRINKLER COVERAGE	225 SQ.FT. / HEAD MAXIMUM
HEAD TYPE	QUICK RESPONSE UPRIGHT & PENDANT

CLASSIFICATION	ORDINARY HAZARD GROUP 1
DESIGN DENSITY	0.15 GPM / SQ. FT.
DESIGN AREA	1500 SQ. FT.
SPRINKLER COVERAGE	130 SQ.FT. / HEAD MAXIMUM
HEAD TYPE	QUICK RESPONSE UPRIGHT & PENDANT

LEGEND

▨ LIGHT HAZARD

▩ ORDINARY HAZARD 1

GENERAL NEW WORK NOTES

1. THE FIRE PROTECTION CONTRACTOR SHALL COORDINATE THEIR SHOP DRAWINGS WITH OTHER TRADES USING THREE DIMENSIONAL MODELING. THE SHOP DRAWINGS SHALL BE PROVIDED SO THAT THE SUPPORT AND SEISMIC DESIGN CAN BE DEVELOPED. THE SUPPORT DESIGN AND CALCULATIONS SHALL BE SIGNED AND SEALED BY A NJ PROFESSIONAL ENGINEER.

2. THE INTENT OF THESE DRAWINGS IS TO DENOTE THE GENERAL PERFORMANCE SPECIFICATIONS FOR THE UPDATED FIRE SUPPRESSION SYSTEM. THE SUCCESSFUL FIRE PROTECTION CONTRACTOR SHALL PROVIDE THE OWNER AND THE AHJ SIGNED AND SEALED SHOP DRAWING BY A NJ PROFESSIONAL ENGINEER ALONG WITH HYDRAULIC CALCULATIONS.

2. SPRINKLER SYSTEM SHALL BE HYDRAULICALLY CALCULATED FOR LIGHT HAZARD OCCUPANCY EXCEPT AS NOTED.

3. PROVIDE WET PIPE SPRINKLER IN ALL AREAS.

4. ALL EXPOSED PIPING, FITTINGS, HANGERS AND SUPPLEMENTARY STEEL SHALL BE PAINTED. IF INSTALLED ABOVE A HUNG CEILING OR A CONCEALED SPACE, GALVANIZED FITTINGS, HANGERS AND STEEL SHALL BE USED.

5. FIRE SPRINKLER SHALL BE ONE MANUFACTURER THROUGHOUT THE BUILDING TO MATCH EXISTING SITE STANDARD.

6. FIRE PROTECTION CONTRACTOR SHALL CONDUCT A FLOW WATER TEST. SEE SPECIFICATIONS.

7. FIRE PROTECTION CONTRACTOR IS RESPONSIBLE TO COORDINATE WITH ALL OTHER TRADES AS A BASIS FOR FIRE PROTECTION SHOP DRAWINGS. THIS COORDINATION SHALL TAKE PLACE BEFORE SUBMISSION OF SHOP DRAWINGS FOR APPROVAL. REFER TO ARCHITECTURAL, MECHANICAL, AND PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION AND COORDINATION.

8. COORDINATE WITH OWNER FOR ALL SHUTDOWNS.

9. CONTRACTOR SHALL PROVIDE THE PRINCETON SCHOOL DISTRICT WITH STATE & FEDERAL CRIMINAL BACKGROUND CHECKS & NATIONAL SEX OFFENDER CHECKS FOR ALL EMPLOYEES INCLUDING SUBCONTRACTORS AND THEIR EMPLOYEES PRIOR TO THE START OF THE PROJECT.

NOTE:

THE EXISTING SPRINKLER SYSTEM SHALL BE MODIFIED TO SUPPORT THE PLANNED INTERIOR MODIFICATIONS INCLUDING THE NEW/MODIFIED CEILINGS. SPRINKLER CONTRACTOR SHALL REVIEW ALL ARCHITECTURAL PLANS AND COORDINATE WITH ALL OTHER TRADES. ALL SPRINKLER MODIFICATIONS SHALL BE PERFORMED BY A LICENSED DESIGN BUILD SPRINKLER CONTRACTOR. ALL WORK SHALL COMPLY WITH NFPA 13 AS WELL AS ALL APPLICABLE SITE, LOCAL, STATE, AND FEDERAL REQUIREMENTS AND CODES. SPRINKLER CONTRACTOR SHALL PROVIDE A DETAILED INSTALLATION DRAWING AND HYDRAULIC CALCULATIONS, WHICH SHALL BE SIGNED AND SEALED BY A LICENSED ENGINEER IN THE STATE OF NEW JERSEY.

REFER TO THE ARCHITECTURAL DRAWINGS FOR CEILING MODIFICATIONS THE CEILING HEIGHTS.

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Project Name
HVAC Renovations at Princeton High School

Project Owner Name
Princeton Public Schools

Project Location
151 Moore Street,
Princeton, NJ
08540

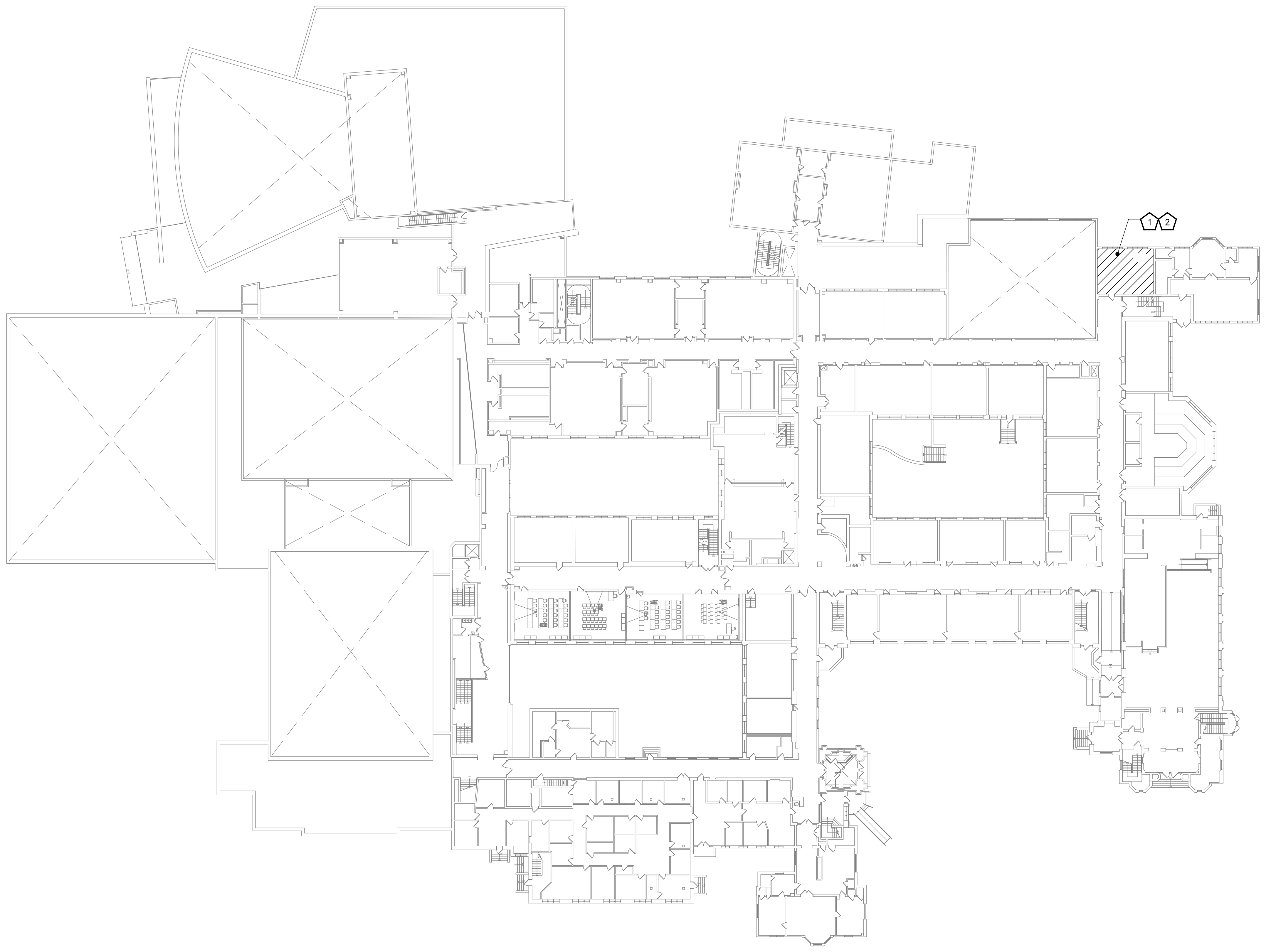
Project Number
5516E
Project Date
01.29. 2026
Checked By
JTM
Drawn By
JD
Scale
AS NOTED

Drawing Name
FIRE PROTECTION - BASEMENT & GROUND FLOOR NEW WORK PLAN

Revisions

No.	Date	Description

Drawing Number
FP-301



① FIRE PROTECTION - 1ST FLOOR NEW WORK PLAN
SCALE: 1/32"=1'-0"

FIRE PROTECTION NEW WORK NOTES

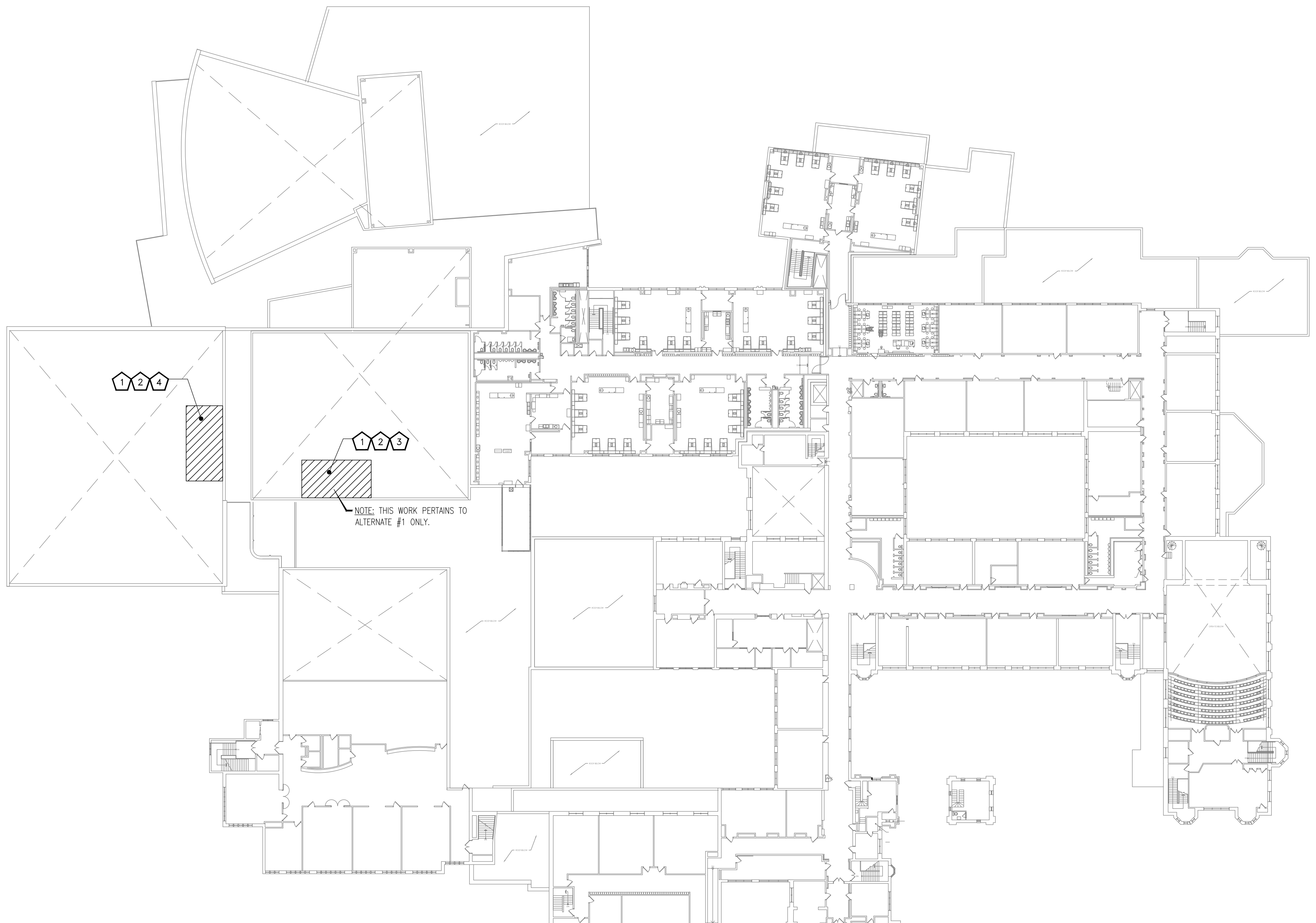
1. SPRINKLER CONTRACTOR SHALL MODIFY EXISTING SPRINKLER PIPING AS REQUIRED TO ACCOMMODATE NEW EQUIPMENT & DUCTWORK AS WELL AS THE EXISTING PIPING & EQUIPMENT TO REMAIN. CONTRACTOR SHALL COORDINATE WITH MECHANICAL SHOP DRAWINGS, NEW LIGHTING AND ARCHITECTURAL PLANS.
2. AREA ASSOCIATED WITH THE REMOVAL & REPLACEMENT OF AHU-B1.

GENERAL NEW WORK NOTES

1. GENERAL CONTRACTOR SHALL REMOVE & REPLACE EXISTING CEILING TILES, CEILING GRID, LIGHTS, SENSORS, ETC., IN ORDER TO MODIFY THE EXISTING SPRINKLER SYSTEM AS REQUIRED.

CLASSIFICATION	LIGHT HAZARD
DESIGN DENSITY	0.10 GPM / SQ. FT.
DESIGN AREA	1500 SQ. FT.
SPRINKLER COVERAGE	225 SQ.FT. / HEAD MAXIMUM
HEAD TYPE	QUICK RESPONSE UPRIGHT & PENDANT

LEGEND
▨ LIGHT HAZARD



NOTE: THIS WORK PERTAINS TO ALTERNATE #1 ONLY.

② FIRE PROTECTION - 2ND FLOOR NEW WORK PLAN
SCALE: 1/32"=1'-0"

FIRE PROTECTION NEW WORK NOTES

1. SPRINKLER CONTRACTOR SHALL MODIFY EXISTING SPRINKLER PIPING AS REQUIRED TO ACCOMMODATE NEW EQUIPMENT & DUCTWORK AS WELL AS THE EXISTING PIPING & EQUIPMENT TO REMAIN. CONTRACTOR SHALL COORDINATE WITH MECHANICAL SHOP DRAWINGS, NEW LIGHTING AND ARCHITECTURAL PLANS.
2. SPRINKLERS LOCATED IN OPEN CEILING SHALL INCLUDE PROTECTIVE CAGES AROUND SPRINKLER HEADS.
3. AREA ASSOCIATED WITH THE REMOVAL & REPLACEMENT OF AHU-E1 (ALTERNATE #1).
4. AREA ASSOCIATED WITH THE REMOVAL & REPLACEMENT OF AHU-G1.

GENERAL NEW WORK NOTES

1. GENERAL CONTRACTOR SHALL REMOVE & REPLACE EXISTING CEILING TILES, CEILING GRID, LIGHTS, SENSORS, ETC., IN ORDER TO MODIFY THE EXISTING SPRINKLER SYSTEM AS REQUIRED.

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LEGEND
▨ LIGHT HAZARD

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FIRE PROTECTION - 1st & 2nd FLOOR NEW WORK PLAN

Revisions

No.	Date	Description

Drawing Number
FP-302

FIRE PROTECTION SPECIFICATIONS

GENERAL

THESE SPECIFICATIONS AND DRAWINGS ARE INTENDED TO REQUIRE THE COMPLETE INSTALLATION OF THE FIRE PROTECTION SYSTEM SPECIFIED FOR THE BUILDING TENANT. THE SYSTEM SHALL BE HYDRAULICALLY CALCULATED, COMPLETE IN ALL RESPECTS, AND READY FOR OPERATION.

SCOPE OF WORK

A. THE FIRE PROTECTION CONTRACTOR SHALL DESIGN, INSTALL MATERIALS, INSPECT AND TEST THE SYSTEM IN ACCORDANCE WITH THE PROVISIONS OF THIS SPECIFICATION AND THE APPLICABLE CODES AND STANDARDS LISTED IN THIS SPECIFICATIONS.

B. ALL WORK SHOWN IN THE DRAWINGS AND SPECIFICATIONS SHALL BE INCLUDED UNDER THE BASE BID, EXCEPT WHERE THERE IS SPECIFIC REFERENCE TO EXCLUSION AND INCORPORATION IN OTHER QUOTATIONS.

C. ALL ELECTRICAL WORK REQUIRED FOR ELECTRICAL DEVICES INCLUDED IN THIS SPECIFICATION IS INCLUDED IN THE SCOPE OF WORK.

D. SEALING OF ALL PENETRATIONS OF WALLS IS INCLUDED IN THE SCOPE OF THIS CONTRACT.

E. ALL DRAWINGS, CALCULATIONS, AND SUBMITTALS REQUIRED BY THIS SPECIFICATION ARE INCLUDED IN THE SCOPE OF WORK.

CODES, PERMITS AND INSPECTIONS

A. ALL WORK SHALL MEET OR EXCEED THE LATEST REQUIREMENTS OF ALL NATIONAL, STATE, COUNTY, MUNICIPAL, AND OTHER AUTHORITIES EXERCISING JURISDICTION OVER FIRE PROTECTION CONSTRUCTION WORK AND THE PROJECT.

B. ALL REQUIRED PERMITS AND INSPECTION CERTIFICATIONS SHALL BE OBTAINED, PAID FOR, AND MADE AVAILABLE AT THE COMPLETION OF THE WORK.

C. ANY PORTION OF THE WORK WHICH IS NOT SUBJECT TO THE APPROVAL OF AN AUTHORITY HAVING JURISDICTION SHALL BE GOVERNED BY THE APPLICABLE SECTIONS OF THE NATIONAL FIRE CODE, AS PUBLISHED BY THE NATIONAL FIRE PROTECTION ASSOCIATION, BATTERY MARCH PARK, QUINCY, MASSACHUSETTS 02269.

D. INSTALLATION PROCEDURES, METHODS AND CONDITIONS SHALL COMPLY WITH THE LATEST REQUIREMENTS OF THE FEDERAL OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA).

GUARANTEES AND CERTIFICATIONS

A. ALL WORK SHALL BE GUARANTEED TO BE FREE FROM LEAKS OR DEFECTS. ANY DEFECTIVE MATERIALS OR WORKMANSHIP AS WELL AS DAMAGE TO THE WORK OF ALL TRADES RESULTING FROM SAME SHALL BE REPLACED OR REPAIRED AS DIRECTED FOR THE DURATION OF STIPULATED GUARANTEE PERIODS.

B. THE DURATION OR GUARANTEE PERIODS FOLLOWING THE DATE OF ACCEPTANCE OF THE WORK SHALL BE: FOR WORK NOT OTHERWISE SPECIFIED – TWO YEARS. THE DATE OF ACCEPTANCE SHALL BE THE DATE OF THE FINAL PAYMENT FOR THE WORK OR THE DATE OF A FORMAL NOTICE OF ACCEPTANCE, WHICHEVER IS EARLIER.

C. CERTIFICATION SHALL BE SUBMITTED ATTESTING TO THE FACT THAT SPECIFIED PERFORMANCE CRITERIA ARE MET BY ALL ITEMS OF FIRE PROTECTION EQUIPMENT.

SHOP DRAWINGS AND OTHER INFORMATION REQUIRED

PREPARE AND SUBMIT SHOP DRAWINGS IN ACCORDANCE WITH THE FOLLOWING:

A. ALL SUBMITTALS REQUIRED BY THIS SPECIFICATION SHALL BE SUBMITTED SIMULTANEOUSLY AS ONE PACKAGE.

B. PRIOR TO PURCHASING ANY EQUIPMENT OR MATERIALS, A LIST OF THEIR MANUFACTURERS SHALL BE SUBMITTED FOR APPROVAL.

C. PRIOR TO ASSEMBLING OR INSTALLING THE WORK, THE FOLLOWING SHALL BE SUBMITTED FOR APPROVAL:

1. DETAILED SHOP DRAWINGS OF THE SYSTEM ARE REQUIRED AND SHALL INCLUDE ALL INFORMATION REQUIRED PER NFPA 13 PARAGRAPH 6.1, AND SHALL BE IN COMPLETE COMPLIANCE WITH ALL DOCUMENTS LISTED IN THIS SPECIFICATION.
2. SCALE DRAWINGS SHOWING ELEVATIONS AND APPROPRIATE INDICATION OF COORDINATION WITH OTHER TRADES, DIMENSIONED LOCATION OF EACH SPRINKLER HEAD, AND APPROVED BY OWNERS FIRE INSURANCE CO. RATING ORGANIZATION AND THE FIRE MARSHALL BEFORE SUBMITTAL TO OWNER/ENGINEER.
3. PIPING SHOP DRAWINGS SHALL BE SIGNED BY THE ELECTRICAL, HVAC, AND PLUMBING CONTRACTORS AS BEING COORDINATED WITH THEIR WORK.
4. CATALOG CUT SUBMITTALS INCLUDING FACTORY ASSEMBLY DRAWINGS AND FIELD INSTALLATION DRAWINGS SHALL BE BOUND, AND SHALL REPRESENT ALL COMPONENTS PROPOSED FOR THE SYSTEM INCLUDING:

- PIPE AND FITTINGS
- VALVES
- BALL DRIPS
- ALL MODELS AND TYPES OF SPRINKLERS IN THE PROJECT
- INSPECTORS TEST CONNECTION DETAIL
- SPRINKLER CABINETS
- PRESSURE AND FLOW SWITCHES
- PIPE HANGERS
- BACKFLOW PREVENTER
- ALARM VALVE AND RETARD CHAMBER
- FIRE DEPARTMENT CONNECTION
- PIPE PENETRATION SEALING SYSTEM
- SLEEVES
- WATER MOTOR GONG
- TAMPER SWITCHES

HYDRAULIC CALCULATIONS

A. THIS CONTRACTOR SHALL PREPARE HYDRAULIC CALCULATIONS IN A MANNER PRESCRIBED IN NFPA PAMPHLET NO. 13 PARAGRAPH 6.2 AND SHALL BE IN COMPLETE COMPLIANCE WITH ALL DOCUMENTS LISTED IN THIS SPECIFICATION. HYDRAULIC CALCULATIONS SHALL BE SUBMITTED TO OWNER/ENGINEER WITH PIPING SHOP DRAWINGS AFTER APPROVAL BY THE INSURANCE COMPANY RATING BUREAU AND THE FIRE MARSHALL.

B. HYDRAULIC CALCULATIONS ARE TO BE BASED ON THE PERFORMANCE CRITERIA, AND IN ACCORDANCE WITH NFPA 13

1. ALL AREAS CLASSIFIED AS LIGHT HAZARD OCCUPANCIES ARE TO BE HYDRAULICALLY CALCULATED TO ASSURE THAT 0.10 GPM PER SQUARE FOOT IS APPLIED OVER THE MOST REMOTE 1500 SQUARE FEET OF AREA PLUS 100 GPM FOR HOSE STREAM. MAXIMUM PROTECTION AREA PER SPRINKLER SHALL BE 225 SQ FT.
2. ALL AREAS CLASSIFIED AS ORDINARY HAZARD OCCUPANCY ARE TO BE HYDRAULICALLY CALCULATED TO ASSURE THAT 0.15 GPM PER SQUARE FOOT IS APPLIED OVER THE MOST REMOTE 1500 SQUARE FEET OF AREA PLUS 250 GPM FOR HOSE STREAM. MAXIMUM PROTECTION AREA PER SPRINKLER SHALL BE 130 SQ FT. PROVIDE SPRINKLERS IN SHAFTS SUCH AS ELEVATORS AND STAIRWELLS IN ACCORDANCE WITH NFPA 13 AND AS SHOWN ON DRAWINGS.

C. IN ADDITION TO THE SPRINKLER SYSTEM DEMAND, 250 GPM OUTSIDE HOSE DEMAND SHALL BE ADDED TO THE HYDRAULIC CALCULATIONS AT THE CONNECTION TO THE STREET WATER MAIN.

D. ADD 10% CONTINGENCY FACTOR TO HYDRAULIC CALCULATIONS.

E. SECURE WATER FLOW TEST DATA TAKEN FROM FIRE HYDRANTS NEAREST SITE. IF RECENT FLOW TEST DATA IS NOT AVAILABLE FROM CITY RECORDS, MAKE NECESSARY TESTS AS REQUIRED BY NFPA STANDARDS TO DETERMINE CHARACTER OF WATER SUPPLY. MINIMUM OF 20 PSI DROP IN PRESSURE BETWEEN STATIC AND RESIDUAL PRESSURE SHALL BE REQUIRED IN ORDER TO OBTAIN ACCURATE DATA.

F. A WATER FLOW TEST SHALL SHOW THE FOLLOWING:

- DATE
- TIME
- STATIC PRESSURE
- RESIDUAL PRESSURE
- FLOW AT THE RESIDUAL PRESSURE
- TEST HYDRANT ELEVATION
- FLOW HYDRANT ELEVATION
- FINISHED FLOOR ELEVATION
- HYDRANT LOCATIONS SHOWN ON THE CONTRACT DRAWINGS

G. EQUIVALENT FITTING LENGTHS USED IN HYDRAULIC CALCULATIONS SHALL BE IN ACCORDANCE WITH NFPA STANDARD NO. 13. WHEREVER FITTINGS ARE USED IN CONJUNCTION WITH LIGHTWALL PIPE, EQUIVALENT FITTING LENGTHS INDICATED IN NFPA–13 SHALL BE INCREASED BY 39%.

F. THE DRAWINGS SHOW THE POSITIONS OF SPRINKLERS THAT ACCOMMODATE THE PROPOSED ARCHITECTURAL RENOVATION OF THE BUILDING. THE NEW SPRINKLER SYSTEM INSTALLED UNDER THIS CONTRACT IS TO BE DESIGNED TO MEET ALL CODES, STANDARDS AND THE PERFORMANCE OBJECTIVE AND REQUIREMENTS OF THIS SPECIFICATION.

G. ALL DEVICES USED ON THIS SYSTEM SHALL BE LISTED BY UNDERWRITERS LABORATORIES IN THE UL FIRE PROTECTION EQUIPMENT DIRECTORY.

H. CUTOUT DISKS CREATED BY CUTTING HOLES IN A PIPE FOR WELDED CONNECTIONS OR WATER FLOW SWITCHES SHALL BE RECOVERED AND WIRED TO THE PIPE NEAR THE POINT OF CUTTING. ALL DISKS SHALL BE ACCOUNTED FOR TO ASSURE THAT NO BLOCKAGE OF THE PIPE WOULD OCCUR AS THE RESULT OF THE DISPLACEMENT OF THE DISK

EQUIPMENT AND MATERIALS

A. ALL EQUIPMENT AND MATERIALS REQUIRED FOR INSTALLATION UNDER THESE SPECIFICATIONS SHALL BE NEW AND WITHOUT BLEMISH OR DEFECT. ALL EQUIPMENT SHALL BEAR LABELS ATTESTING TO UNDERWRITER LABORATORIES APPROVAL. WHERE NO SPECIFIC INDICATION AS TO THE TYPE OR QUALITY OF MATERIAL OR EQUIPMENT IS INDICATED, A FIRST–CLASS STANDARD ARTICLE SHALL BE FURNISHED.

B. IT IS THE INTENT OF THESE SPECIFICATIONS THAT WHEREVER A MANUFACTURER OF A PRODUCT IS SPECIFIED, AND THE TERMS "OTHER APPROVED" OR "OR APPROVED EQUAL" OR "EQUAL" ARE USED, THE SUBSTITUTED ITEM MUST CONFORM IN ALL RESPECTS TO THE SPECIFIED ITEM. CONSIDERATION WILL NOT BE GIVEN TO CLAIMS THAT THE SUBSTITUTED ITEM MEETS THE PERFORMANCE REQUIREMENTS WITH LESSER CONSTRUCTION.

C. ALL EQUIPMENT OF ONE TYPE (SUCH AS VALVES, SPRINKLER HEADS, ETC.) SHALL BE THE PRODUCTS OF ONE MANUFACTURER.

D. SUBSTITUTED EQUIPMENT, WHERE PERMITTED AND APPROVED, MUST CONFORM TO SPACE REQUIREMENTS. ANY SUBSTITUTED EQUIPMENT THAT CANNOT MEET SPACE REQUIREMENTS, WHETHER APPROVED OR NOT, SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. ANY MODIFICATIONS OF RELATED SYSTEMS AS A RESULT OF SUBSTITUTIONS SHALL BE MADE AT THE CONTRACTORS EXPENSE.

E. NOTE THAT THE APPROVAL OF SHOP DRAWINGS, OR OTHER INFORMATION SUBMITTED IN ACCORDANCE WITH THE REQUIREMENTS HEREIN BEFORE SPECIFIED, DOES NOT ASSURE THAT THE OWNER ATTESTS TO THE DIMENSIONAL ACCURACY OR DIMENSIONAL SUITABILITY OF THE MATERIAL OR EQUIPMENT INVOLVED OR THE MECHANICAL PERFORMANCE OF EQUIPMENT. APPROVAL OF SHOP DRAWINGS DOES NOT INVALIDATE THE PLANS AND SPECIFICATIONS IF IN CONFLICT, UNLESS A LETTER REQUESTING SUCH CHANGE IS SUBMITTED AND APPROVED BY OWNER. ALL SUCH APPROVALS MUST BE IN WRITING.

ACCESS DOORS IN FINISHED CONSTRUCTION

A. FURNISH ACCESS DOORS AS REQUIRED FOR OPERATION AND MAINTENANCE OF CONCEALED EQUIPMENT, VALVES, CLEANOUTS, CONTROLS, ETC., AND COORDINATE THEIR DELIVERY WITH THE INSTALLING TRADE.

B. COORDINATE AND PREPARE A LOCATION, SIZE AND FUNCTION SCHEDULE OF ACCESS DOORS REQUIRED AND DELIVERY TO A REPRESENTATIVE OF THE INSTALLING TRADE.

C. DOORS SHALL BE A MINIMUM SIZE 16" X 16" AS MANUFACTURED BY KARP ASSOCIATES, INLAND STEEL PRODUCTS "MILCOR", ACUDOR PRODUCTS, INC. OR OTHER APPROVED MANUFACTURER.

HANGERS AND SUPPORTS

A. PIPING SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE IN ACCORDANCE WITH ARTICLE 2–6, CHAPTER 2 OF THE NFPA PAMPHLET NO. 13, LATEST EDITION.

B. SUPPORT HANGERS FROM APPROVED CONCRETE INSERTS WHERE STONE CONCRETE SLABS ARE AVAILABLE.

C. WHERE PIPING IS REQUIRED TO BE HUNG FROM OTHER THAN STONE CONCRETE SLABS, SUCH AS PRECAST OR METAL DECKING, SUBMIT PROPOSED METHOD OF SUPPORT TO THE STRUCTURAL ENGINEER FOR APPROVAL PRIOR TO INSTALLATION.

D. PIPING MAY BE HUNG FROM STRUCTURAL STEEL BY MEANS OF BEAM ATTACHMENTS. ALL AUXILIARY STEEL REQUIRED FOR SUPPORT SHALL BE PROVIDED BY THIS TRADE.

E. DO NOT HANG PIPING FROM DUCTWORK, EXCEPT A 1" DROP BRANCH TO A MAXIMUM OF TWO HEADS.

F. THE CONTRACTOR MAY COORDINATE WITH THE OTHER CONTRACTORS TO USE COMMON MEANS OF SUPPORT. SUBMIT FOR APPROVAL ALL PERTINENT DESIGN DATA RELATING TO THE SUPPORT AS WELL AS VERIFICATION OF THE RESPONSIBILITY FOR THE SUPPORT.

SPRINKLERS

A. SPRINKLER TO MATCH EXISTING OR PROVIDE OTHER APPROVED MANUFACTURER.

B. ALL SPRINKLERS SHALL BE UL LISTED FOR FIRE PROTECTION SERVICE WITH QUICK RESPONSE ELEMENTS.

C. ALL SPRINKLERS LOCATED IN HUNG CEILINGS, SHALL BE ENGINEERED ON CEILING TILE AS INDICATED ON DRAWINGS.

D. ALL SPRINKLERS LOCATED WITHIN LOBBY AREAS SHALL BE INSTALLED USING RETURN BEND (GOOSENECK) PIPING.

E. SPRINKLERS TEMPERATURE SHALL BE 165°F UNLESS OTHERWISE NOTED.

F. EACH SPRINKLER SHALL BE LISTED FOR THE OCCUPANCY CLASSIFICATION OF THE ROOM IN WHICH THE SPRINKLER IS INSTALLED.

PIPE AND FITTING MATERIALS

A. SPRINKLER PIPING 2" AND SMALLER SHALL BE SCHEDULE 40, ASTM–A795 STEEL OR DUCTILE IRON PIPE WITH APPROVED STANDARD WEIGHT CAST IRON THREADED OR FLANGED SPRINKLER FITTINGS, MALLEABLE IRON, DUCTILE IRON OR VICTAULIC CO., STYLE 77 COUPLINGS AND FULL FLOW FITTINGS.

B. SPRINKLER LOOP PIPING 2–1/2" AND LARGER MAY BE LIGHT WALL SCHEDULE 10 WITH ROLL GROOVE ENDS AT CONTRACTOR'S OPTION.

C. ALL WET PIPE SYSTEM SPRINKLER PIPING SHALL BE IN ACCORDANCE WITH NFPA 13 AND LISTED BY THE AMERICAN SOCIETY FOR TESTING OF MATERIALS.

VALVES–GENERAL

A. ALL CONTROL VALVES SHALL BE UL LISTED FOR FIRE PROTECTION SERVICE, OS&Y TYPE OR BUTTERFLY TYPE, WITH TAMPER SWITCH

B. CHECK VALVES SHALL BE UL LISTED FOR FIRE PROTECTION SERVICE

C. DRAIN VALVES SHALL BE THREADED BRONZE

D. ALARM VALVES SHALL BE UL LISTED FOR FIRE PROTECTION SERVICE WITH RETARD CHAMBER AND CONNECTION FOR WATER MOTOR GONG

E. BACKFLOW PREVENTER SHALL BE UL LISTED

WATER–FLOW INDICATOR

A. FURNISH AND INSTALL WHERE INDICATED ON DRAWINGS, WATER FLOW SWITCHES INCORPORATING TWO (2) SETS OF SINGLE POLE, DOUBLE THROW CONTACTS, AND FLEXIBLE VANE WITH RETARDING DEVICE TO PREVENT FALSE ALARMS FROM LINE SURGES.

B. THE WATER FLOW SWITCH AND ALL TAMPER SWITCHES ARE TO BE WIRED TO THE CENTRAL FIRE ALARM CONTROL PANEL IN ACCORDANCE WITH NFPA 70 AND 72.

C. WIRING TO CENTRAL FIRE ALARM PANEL WILL BE PROVIDED BY THE ELECTRICAL TRADE.

SIGNS

A. PROVIDE ALL DESIGNATING SIGNS FOR SHUTOFF VALVES, CONTROL VALVES, ALARMS, AND THE LIKE, AS REQUIRED BY THE AGENCIES HAVING JURISDICTION.

SPECIALTIES

PROVIDE CHECK VALVES, BACK–FLOW PREVENTERS AND OTHER SPECIALTIES AS INDICATED OR REQUIRED BY LOCAL AUTHORITIES.

CLEANING AND ADJUSTING

A. PROVIDE FLUSHING CONNECTIONS WHERE REQUIRED BY NFPA.

B. CLEANING OF PIPING SYSTEM. DURING CONSTRUCTION, PROPERLY CAP ALL LINES AND EQUIPMENT NOZZLES SO AS TO PREVENT THE ENTRANCE OF SAND, DIRT, ETC. EACH SYSTEM OF PIPING SHALL BE FLUSHED (FOR THE PURPOSE OF REMOVING GRIT, DIRT, SAND, ETC., FROM THE PIPING) FOR AS LONG A TIME AS IS REQUIRED TO THOROUGHLY CLEAN THE SYSTEMS.

C. ADJUSTING (GENERAL). AFTER THE ENTIRE INSTALLATION HAS BEEN COMPLETED, MAKE ALL ADJUSTMENTS TO VALVES, ALARMS, CONTROLS, UNTIL ALL PERFORMANCE REQUIREMENTS ARE MET. ALL BEARINGS OF ALL EQUIPMENT SHALL BE OILED OR GREASED AS RECOMMENDED BY THE MANUFACTURER, AFTER INSTALLATION

D. CLEANING. UPON COMPLETION OF THE WORK, ALL EQUIPMENT SHALL BE THOROUGHLY CLEANED AND LEFT IN FIRST CLASS CONDITION FOR FINAL ACCEPTANCE.

TESTS

A. PROVIDE TEST CONNECTIONS AT HIGHEST POINT OF MAIN PORTION OF EACH SPRINKLER SYSTEM, WITH 1" PIPE AND VALVE. TEST PIPE SHALL BE CONNECTED TO SPRINKLER PIPE AT LEAST 1–1/4" IN SIZE AND SHALL DISCHARGE OUTSIDE BUILDING.

B. PERFORM ALL REQUIRED TESTS IN THE MANNER PRESCRIBED BY AND TO THE SATISFACTION OF THE FIRE MARSHALL AND ALL AUTHORITIES HAVING JURISDICTION. THE OWNER'S REPRESENTATIVES SHALL BE PRESENT TO INSPECT TESTS. OBTAIN ALL REQUIRED CERTIFICATES OF APPROVAL AND PAY ANY FEES OR COSTS IN CONJUNCTION THEREWITH.

C. PROVIDE AND PAY FOR ALL DEVICES, MATERIALS, SUPPLIES, LABOR AND POWER REQUIRED IN CONNECTION WITH ALL TESTS. ALL TESTS SHALL BE MADE IN THE PRESENCE AND TO THE SATISFACTION OF OWNER'S REPRESENTATIVE AND INSPECTORS HAVING JURISDICTION.

D. DEFECTS DISCLOSED BY THE TESTS SHALL BE REPAIRED, OR IF REQUIRED BY OWNER/ARCHITECT DEFECTIVE WORK SHALL BE REPLACED WITH NEW WORK WITHOUT EXTRA CHARGE. TESTS SHALL BE REPEATED AS DIRECTED, UNTIL ALL WORK IS PROVED SATISFACTORY.

E. THIS CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR THE WORK OF OTHER TRADES THAT MAY BE DAMAGED OR DISTURBED BY THE TESTS, OR THE REPAIR OR REPLACEMENT OF HIS OWN WORK, AND HE SHALL, WITHOUT EXTRA CHARGE TO OWNER/ARCHITECT, RESTORE TO ITS ORIGINAL CONDITION, WORK OF THE TRADES SO DAMAGED AND DISTURBED, ENGAGING THE ORIGINAL CONTRACTORS TO DO THE WORK OF RESTORATION.

GENERAL INSTALLATION

A. THE FIRE PROTECTION DRAWINGS ARE AN INTERPRETATION OF THE INFORMATION INCLUDED IN THIS SPECIFICATION, AND ARE GIVEN AS A GUIDE ONLY, AND THEY, THEREFORE, DO NOT RELIEVE THIS CONTRACTOR FROM PROVIDING ALL WORK AND EQUIPMENT NECESSARY TO COMPLETE THE INSTALLATION ACCORDING TO THE REQUIREMENTS. THE NUMBER AND SPACING OF SPRINKLER HEADS, SPACING AND SIZE OF PIPE, LOCATION AND NUMBER OF VALVES, METHOD OF DRAINAGE LINES, ALARM VALVES, AND ALL OTHER DETAILS AND WORK SHALL BE AS REQUIRED BY NFPA 13.

B. THE SPRINKLER HEADS IN ALL AREAS ARE TO BE INSTALLED ON A TRUE AXIS LINE IN BOTH DIRECTIONS WITH A MAXIMUM DEVIATION FROM THE AXIS LINE OF 1/2" PLUS OR MINUS. AT THE COMPLETION OF THE INSTALLATION, IF ANY HEADS ARE FOUND TO EXCEED THE ABOVE MENTIONED TOLERANCE, SAME SHALL BE REMOVED AND REINSTALLED BY THIS CONTRACTOR.

C. NO PIPES OR OTHER APPARATUS SHALL BE INSTALLED SO AS TO INTERFERE IN ANY WAY WITH THE FULL SWING OF THE DOORS.

D. THE ARRANGEMENT, POSITIONS AND CONNECTIONS OF PIPES, DRAINS, VALVES, ETC., SHOWN ON THE DRAWINGS SHALL BE TAKEN AS A CLOSE APPROXIMATION AND WHILE THEY SHALL BE FOLLOWED AS CLOSELY AS POSSIBLE, THE RIGHT IS RESERVED BY OWNER/ENGINEER TO CHANGE THE LOCATIONS, TO ACCOMMODATE ANY CONDITIONS WHICH MAY ARISE DURING THE PROGRESS OF THE WORK WITHOUT ADDITIONAL COMPENSATION TO THIS CONTRACTOR FOR SUCH CHANGES, PROVIDED THAT THE CHANGES ARE REQUESTED PRIOR TO THE INSTALLATION OF THIS CONTRACTOR'S WORK. THE RESPONSIBILITY FOR ACCURATELY LAYING OUT THE WORK RESTS WITH THIS CONTRACTOR. SHOULD IT BE FOUND OUT THAT ANY OF HIS WORK IS SO LAID OUT THAT INTERFERENCES WILL OCCUR, HE SHALL SO REPORT THAT TO OWNER/ENGINEER.

E. WHERE SO SHOWN, OR REQUIRED, PIPING SHALL BE INSTALLED IN BUILDING CONSTRUCTION

F. ALL SCREWED PIPE THROUGHOUT THE JOB SHALL BE REAMED SMOOTH BEFORE BEING INSTALLED. PIPE SHALL NOT BE SPLIT, BENT, FLATTENED NOR OTHERWISE INJURED EITHER BEFORE OR DURING THE INSTALLATION.

G. PROVIDE ALL SPRINKLER HEADS AND WORK IN STRICT ACCORDANCE WITH APPROVED SHOP DRAWINGS. OWNER/ENGINEER RESERVES THE RIGHT TO REJECT ANY AND ALL WORK NOT IN ACCORDANCE WITH THE APPROVED SHOP DRAWINGS.

H. WHETHER OR NOT THE SYSTEM SHOWN ON THE CONTRACT DRAWINGS MEETS THE REQUIREMENTS OF THE NFPA, THESE SPECIFICATIONS REQUIRE THE FURNISHING AND INSTALLATION OF FIRE PROTECTION SYSTEMS COMPLETE IN ALL DETAILS AND IN ACCORDANCE WITH THE STANDARDS OF THE NFPA.

SLEEVE AND ESCUTCHEONS FOR PIPING

I. PROVIDE SLEEVES FOR EACH PIPE PASSING THROUGH WALLS, PARTITIONS, FLOORS AND ROOFS. PIPING PASSING THROUGH PLENUMS SHALL BE AIRTIGHT. NO CORE BORING.

J. CONTRACTOR SHALL PROVIDE FIRE STOPPING AT ALL PIPING NEW AND OLD PENETRATIONS FOR FLOORS AND WALLS. ALL WALLS AND FLOORS SHALL BE CONSIDERED FIRE RATED.

K. CONTRACTOR SHALL FIELD VERIFY ALL PIPE SIZES AND SPRINKLER LOCATIONS IN FIELD PRIOR TO BID.

L. CONTRACTOR SHALL INSTALL GUARDS ON ALL SPRINKLER HEADS BELOW 6 FEET TO AVOID ACCIDENTAL DAMAGE.

M. CONTRACTOR SHALL INSTALL DRAIN PORTS ON ALL LOW POINTS OF NEW/RELOCATED BRANCH LINES.

SPRINKLER DRAINS AND TEST CONNECTION

A. PROVIDE ALL NECESSARY DRAIN VALVES, CAPPED NIPPLES, AUXILIARY PIPING, ETC., AS REQUIRED OR AS SHOWN ON DRAWINGS TO DRAIN THE SYSTEM RISERS AND MAINS AND ALL TRAPPED PORTIONS OF THE SYSTEM. DRAIN VALVES WHICH ARE NOT CONNECTED TO DRAIN PIPES LEADING TO FLOOR DRAINS SHALL BE HOSE END TYPE.

B. PROVIDE ALL PIPING REQUIRED TO CONNECT ALL TEST CONNECTIONS AND DRAINS TO THE SLOP SINK.

C. PROVIDE AUXILIARY DRAINS FOR ALL BELOW DUCT SPRINKLERS AND OTHER TRAPPED SECTIONS.

PAINTING

A. ALL FINISHED PAINTING WILL BE PERFORMED BY FIRE PROTECTION CONTRACTOR OR STANDARD FACTORY FINISHES.

B. ALL EXPOSED PIPING AND HANGERS SHALL BE THOROUGHLY CLEANED OF SCALE AND GREASE BEFORE PAINTING BY THE FIRE PROTECTION CONTRACTOR.

C. AS SOON AS SPRINKLER HEADS ARE IN PLACE, THE CONTRACTOR SHALL COVER EACH HEAD WITH A SMALL PAPER BAG OF AN UNDERWRITER'S APPROVED TYPE WHICH SHALL BE REMOVED ONLY AFTER ALL PAINTING IS COMPLETE. AFTER THE BAG IS REMOVED, ALL HEADS SHALL BE CLEANED AND POLISHED. THIS REQUIREMENT SHALL NOT APPLY TO SPRINKLER HEADS INSTALLED IN ACOUSTICAL CEILINGS.

APPLICABLE DESIGN AND INSTALLATION DOCUMENTS

A. NFPA 13 STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS

B. NFPA 14 STANDARD FOR THE INSTALLATION OF STANDPIPE AND HOSE SYSTEMS

C. NFPA 24 STANDARD FOR THE INSTALLATION OF PRIVATE FIRE SERVICE MAINS AND THEIR APPURTENANCES

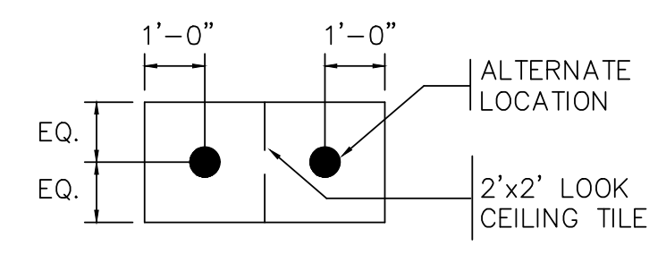
D. NFPA 70 NATIONAL ELECTRIC CODE

E. NFPA 72 NATIONAL FIRE ALARM CODE

F. UNDERWRITERS LABORATORIES FIRE PROTECTION EQUIPMENT DIRECTORY

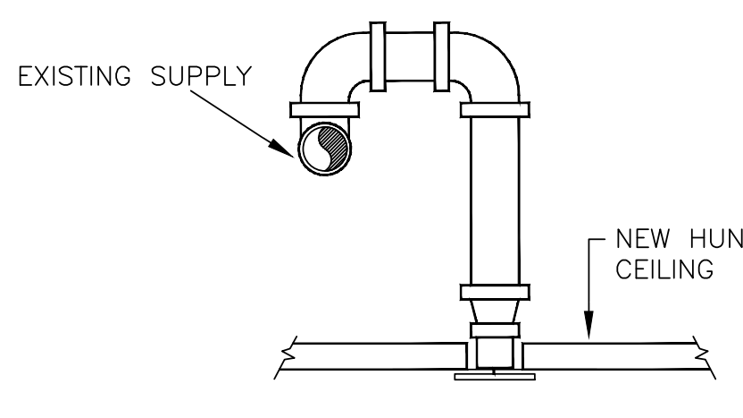
G. THE LATEST REQUIREMENTS OF ALL NATIONAL, STATE, COUNTY, MUNICIPAL, AND OTHER AUTHORITIES HAVING JURISDICTION OVER FIRE PROTECTION CONSTRUCTION WORK FOR THE PROJECT.

H. OWNER'S INSURANCE COMPANY REQUIREMENTS SUCH AS FACTORY MUTUAL.



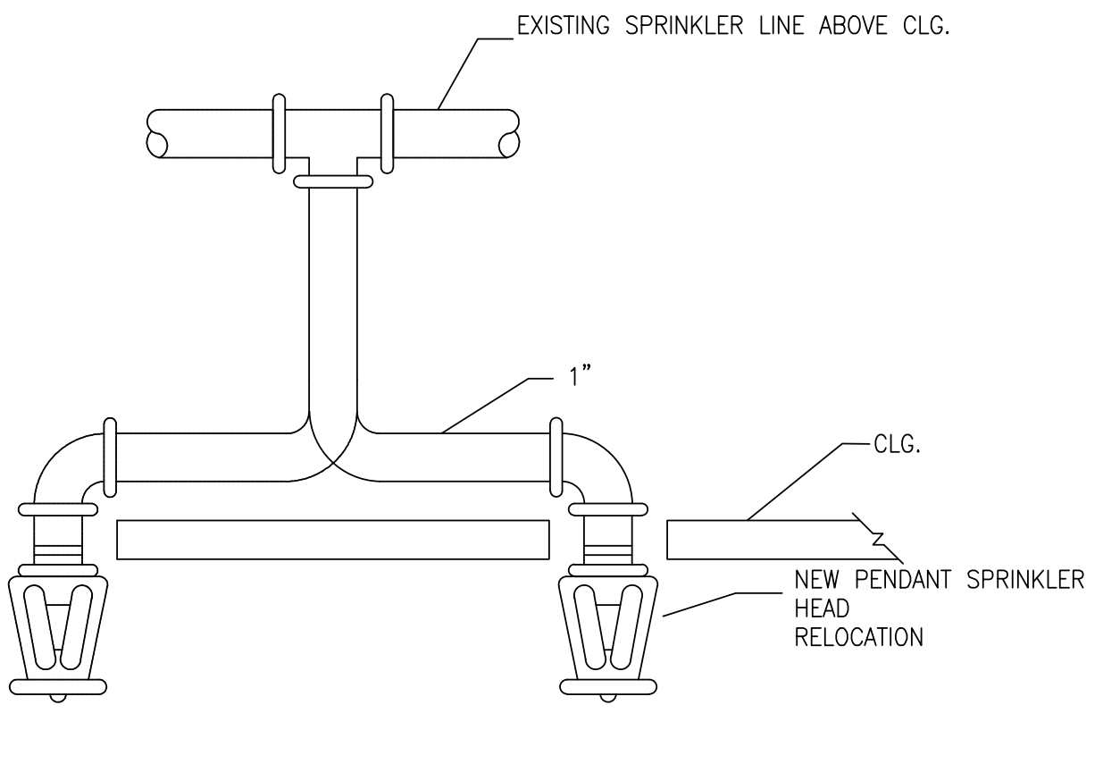
1 SPRINKLER HEAD LOCATION DETAIL

Scale: NTS



2 CONCEALED SPRINKLER DETAIL

Scale: NTS


EXISTING SPRINKLER LINE ABOVE CLG.
1"
CLG.
NEW PENDANT SPRINKLER HEAD RELOCATION

3 SPRINKLER HEAD RELOCATION DETAIL

Scale: NTS

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385 ROUTE 24, SUITE 3-O, CHESTER, NJ 07930
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CERTIFICATE OF AUTHORIZATION:
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PRINCIPAL IN CHARGE: JOSEPH T. MISTRETTA, PE

N.J. PROFESSIONAL ENGINEER LICENSE NUMBER:
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William D. Hopkins
Architect

01/29/26
Date

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F V H D P C . C O M

Project Name
HVAC Renovations at Princeton High School

Project Owner Name
Princeton Public Schools

Project Location
151 Moore Street,
Princeton, NJ
08540

Project Number
5516E

Project Date
01.29. 2026

Checked By
JTM

Drawn By
JD

Scale
AS NOTED

Drawing Name
FIRE PROTECTION - SPECIFICATIONS

Revisions		
No.	Date	Description

Drawing Number
FP-901