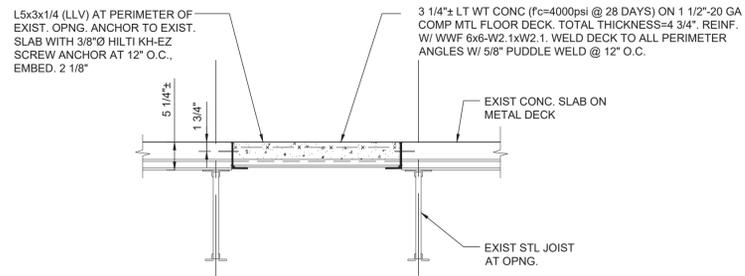
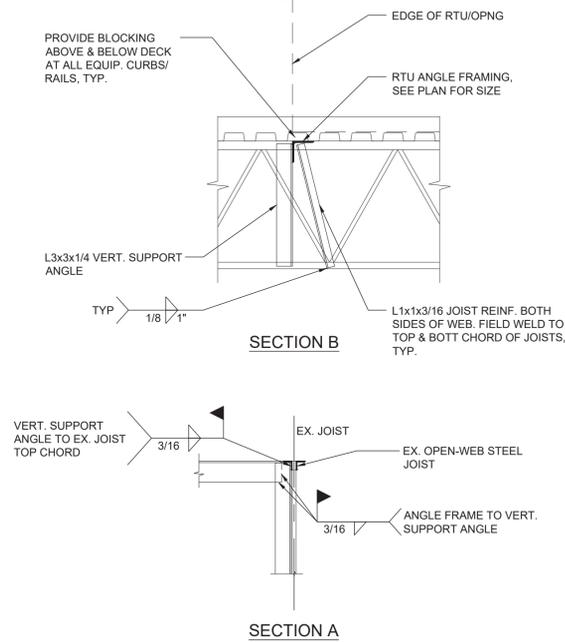


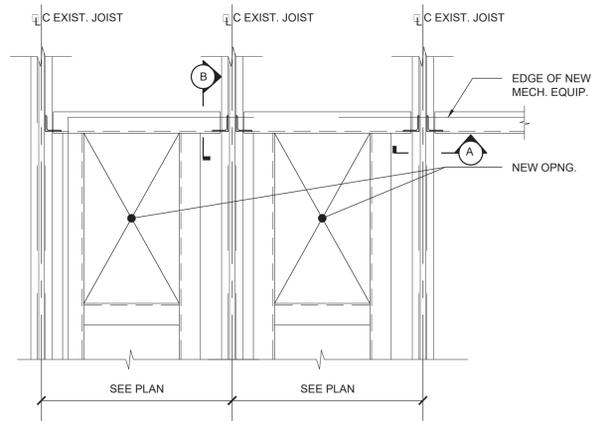
1 TYPICAL SECTION AT ROOFTOP UNIT FRAME
SCALE: 3/4" = 1'-0"



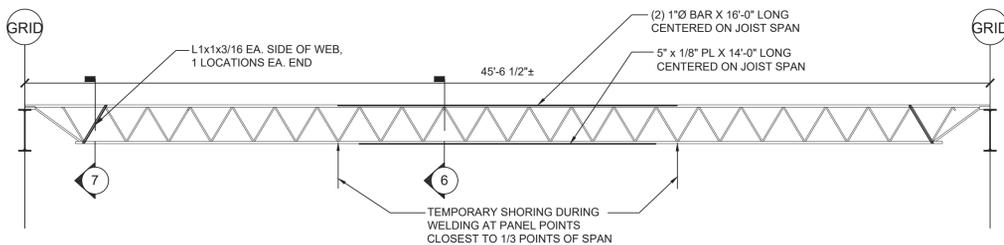
2 EXIST. ROOF OPENING INFILL DETAIL
SCALE: 1/4" = 1'-0"



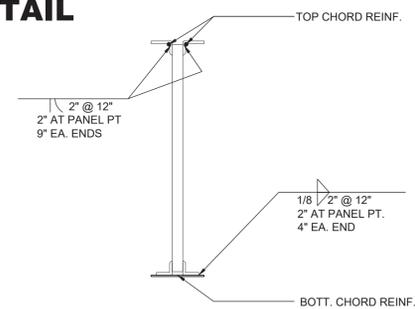
NOTES:
1. PROVIDE FRAME FOR ALL ROOFTOP EQUIPMENT SHOWN ON ARCHITECTURAL AND MECHANICAL DRAWINGS.
2. PROVIDE ANGLE FRAME MEMBER AT ALL EDGES OF MECHANICAL EQUIPMENT, UNLESS EDGE OCCURS OVER EXISTING MEMBER.
3. SEE PLAN FOR ANGLE FRAME SIZES. COORDINATE DIMENSIONS WITH EXISTING CONDITIONS AND MECHANICAL DRAWINGS.



3 NEW ROOF OPNG & ROOFTOP EQUIP. SUPPORT FRAME DETAIL
SCALE: 3/4" = 1'-0"

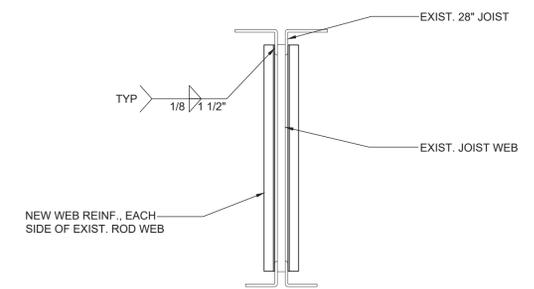


5 EXISTING JOIST REINFORCING ELEVATION
SCALE: 1/4" = 1'-0"

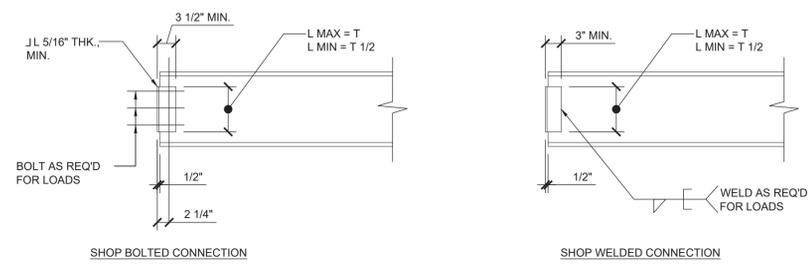


6 CHORD REINFORCING DETAIL
SCALE: 3/4" = 1'-0"

NOTE:
INSTALL ALL JOIST REINFORCING PRIOR TO INSTALLING NEW ELEMENTS TO BE SUPPORTED BY EXISTING JOISTS. SHORE AS NOTED ON ELEVATION DURING WELDING



7 WEB REINFORCING DETAIL
SCALE: 3/4" = 1'-0"



NOTES:
1. ALL CONNECTIONS SHALL BE DESIGNED IN ACCORDANCE WITH THE LATEST AISC SPECIFICATIONS USING ALLOWABLE STRESS DESIGN.
2. REACTIONS SHOWN ON PLAN ARE DUE TO UNFACTORED SERVICE LOADS.
3. FABRICATOR SHALL SUBMIT STANDARD CONNECTION DETAILS FOR APPROVAL WITH STEEL ERECTION DRAWING SUBMISSION.
4. AT CONNECTION OF BEAM TO END OF CANTILEVER BEAM, PROVIDE STANDARD DOUBLE ANGLE CONNECTION WITH CAPACITY FOR REQUIRED LOADS.
5. WHERE BEAMS FRAME TO FITTED STIFFENERS AT COLUMNS, PROVIDE SHEAR PLATE CONNECTION WITH CAPACITY FOR REQUIRED LOADS.
6. ALL BOLTS TO BE A325 HIGH STRENGTH BOLTS, IN BEARING TYPE 'N' CONNECTION, UNLESS OTHERWISE NOTED ON DRAWINGS.
7. ALL WELDING ELECTRODES TO BE E70XX.
8. USE DOUBLE BENT PLATE CONNECTION AS REQUIRED FOR SKEWED FRAMING CONDITIONS.
9. WHERE SINGLE PLATE CONNECTIONS ARE USED AT BEAM TO COLUMN CONNECTIONS, DESIGN TO ELIMINATE MOMENT DUE TO ECCENTRICITY TRANSFER TO COLUMN (I.E. EXTENDED SINGLE-PLATE SHEAR CONNECTION PROCEDURE.)

4 STANDARD BEAM CONNECTION DETAIL
SCALE: 3/4" = 1'-0"

0 1/2 1
IF THIS BAR DOES NOT MEASURE 1", THEN DRAWING IS NOT TO FULL SCALE

No.	Date	Revisions
1	03-04-25	BIDDING DOCUMENTS

Drawn by	S.I.
Checked by	R.B.
Project No.	43040
Scale	AS NOTED
Date	03-04-25

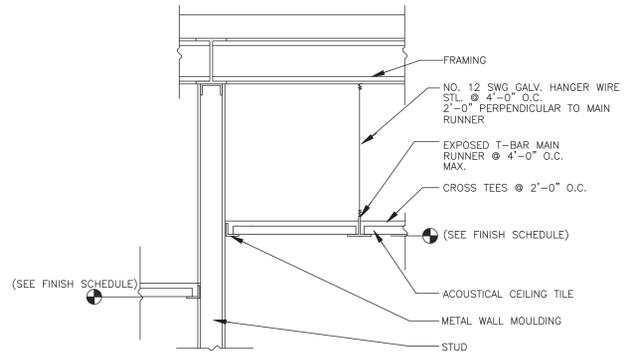
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UNIVENT REPLACEMENT AT STONY POINT THIELLS, WEST HAVESTRAW ELEMENTARY SCHOOL SED# 50-02-01-06-0-014-012 SED# 50-02-01-06-0-025-018 SED# 50-02-01-06-0-024-015	RENTY, RYAN PROJ. NO. 1: 1001-00000000
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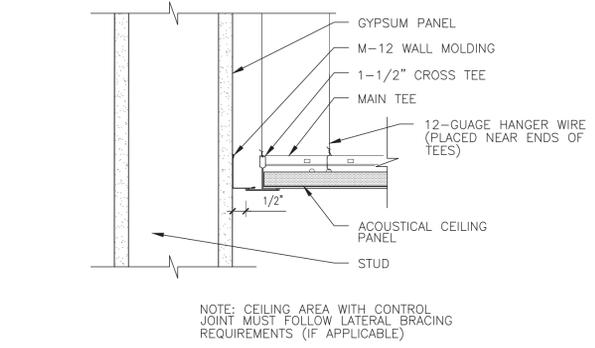
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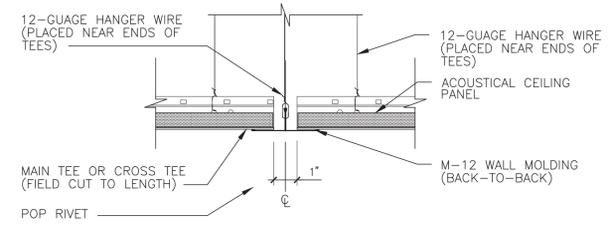
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Drawing Title
STRUCTURAL DETAILS
Drawing No.
S-501



1 ACT DETAIL (TYP.)
SCALE: NTS



2 ACT CLG @ WALL EXPANSION JOINT DETAIL
SCALE: NTS



3 ACT CLG EXPANSION JOINT DETAIL
SCALE: NTS



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**REFLECTED
CEILING PLAN
DETAILS**

Drawing No.
A-410



**UNIVENT REPLACEMENT AT
STONY POINT, THIELLS
AND WEST HAVERSTRAW
ELEMENTARY SCHOOL**
SPES SED# 50-02-01-06-0-014-012
TES SED# 50-02-01-06-0-025-018
WILES SED# 50-02-01-06-0-024-015
7 GERRY DRIVE, STONY POINT, NY 10980
COUNTY OF ROCKLAND

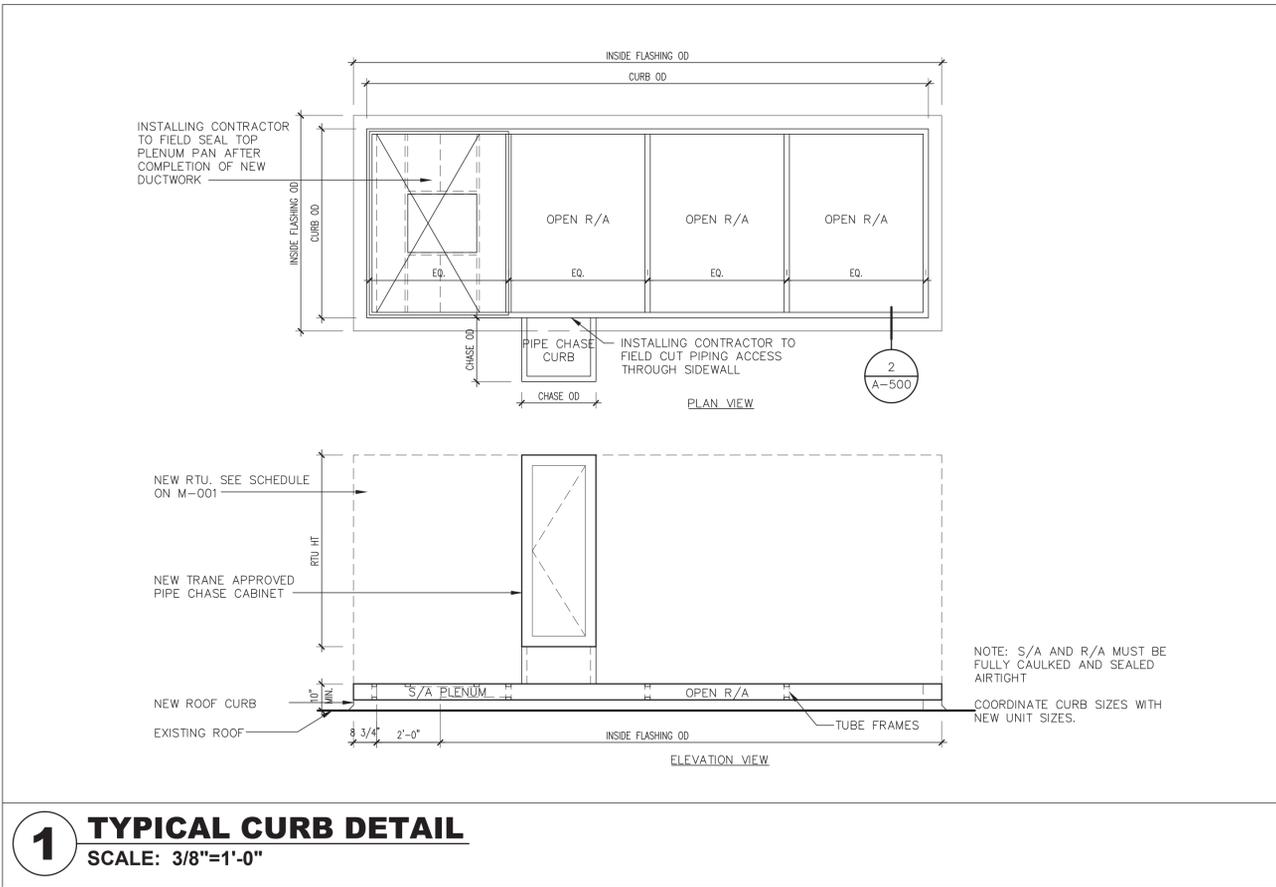
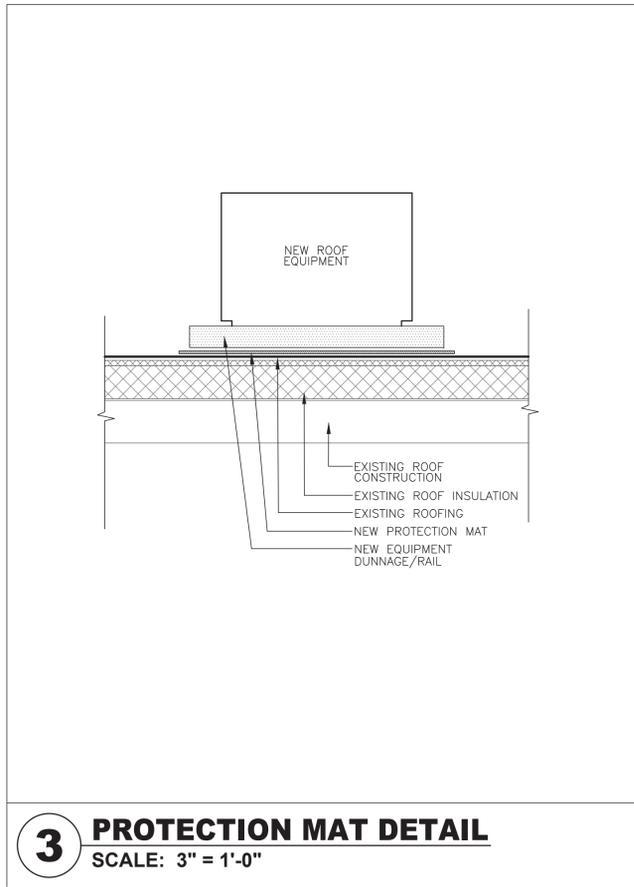
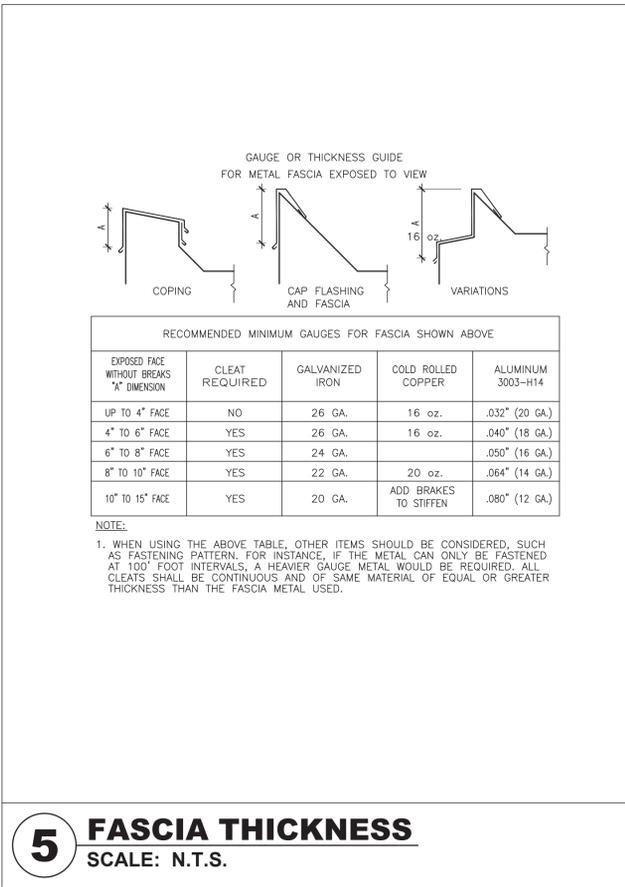
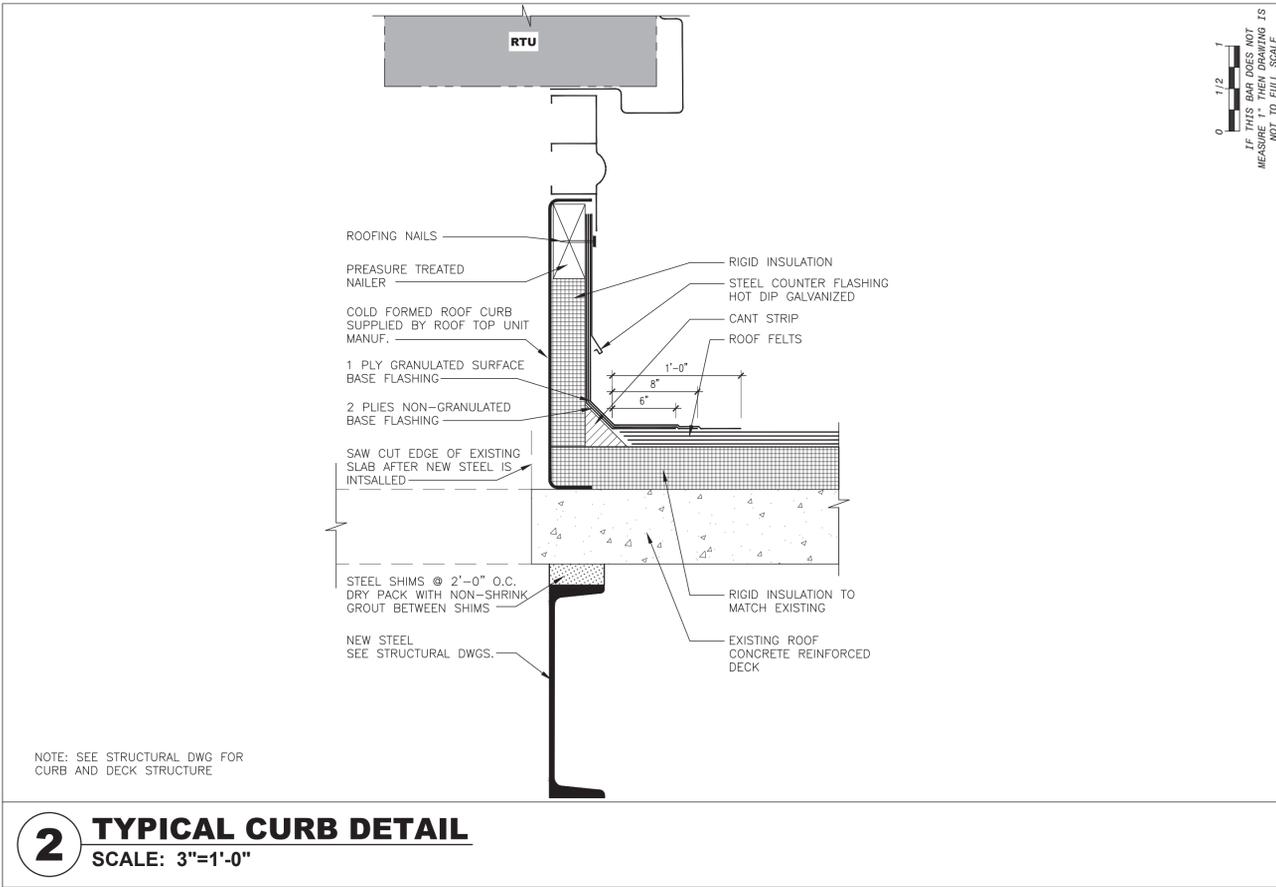
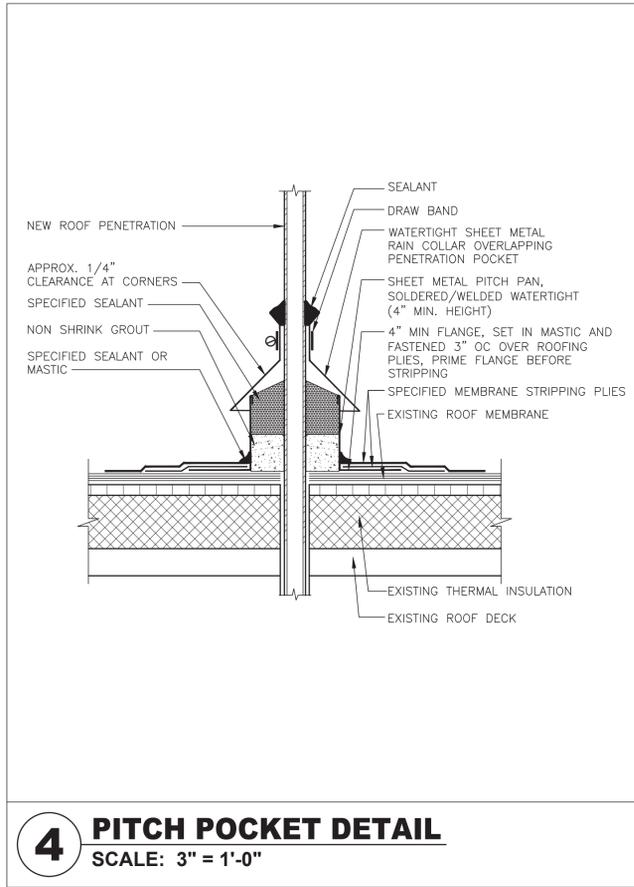
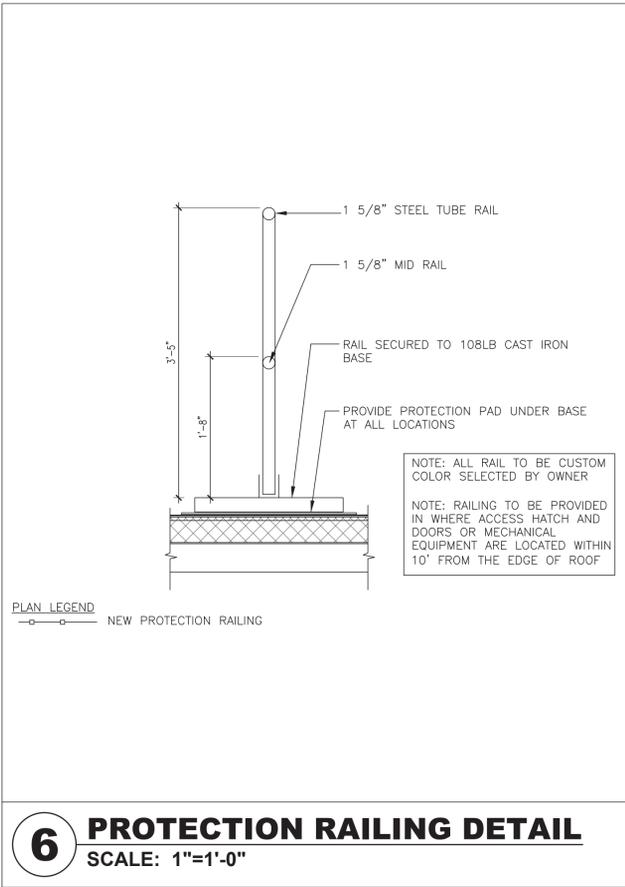
Mechanical & Electrical Engineer:
GREENMAN PEDERSEN INC
400 BELLA BOULEVARD
MONTEBELLA, NY 10901

Structural Engineer:
GREENMAN PEDERSEN INC
400 BELLA BOULEVARD
MONTEBELLA, NY 10901

Drawn by: JR
Checked by: MS/JC
Project No.: 4-3040
Scale: AS NOTED
Date: 03-18-24

REG. EXP. DATE: 12-31-25
No. 0
Date 03-04-25
BIDDING DOCUMENTS

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No.	Date	Revisions
0	03-04-25	BIDDING DOCUMENTS

REC. EXP. DATE: 12-31-25

Drawn by: MS/JC
Checked by: MS/JC
Project No.: 43040
Scale: AS NOTED
Date: 03-18-24

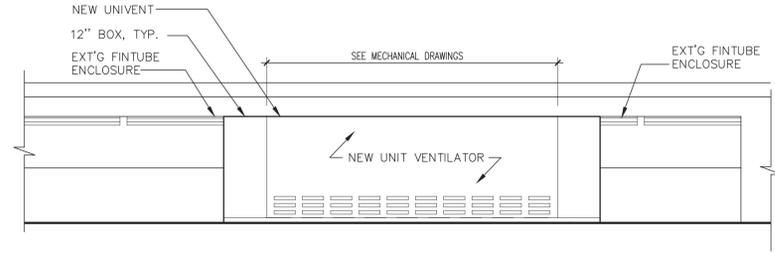
GREENMAN PEDERSEN, INC
MONTEBELLO, NY 10801
GREENMAN PEDERSEN, INC
MONTEBELLO, NY 10801

Mechanical & Electrical Engineer
Structural Engineer

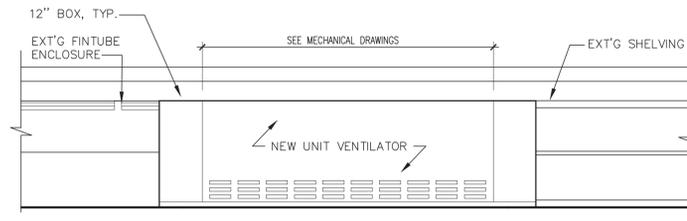
UNIVENT REPLACEMENT AT STONY POINT, THIELS AND WEST HAVERSTRAW ELEMENTARY SCHOOL
SPES SED# 50-02-01-06-0-014-012
TES SED# 50-02-01-06-0-023-016
WHES SED# 50-02-01-06-0-024-015
STONY POINT, NY 10980
COUNTY OF ROCKLAND



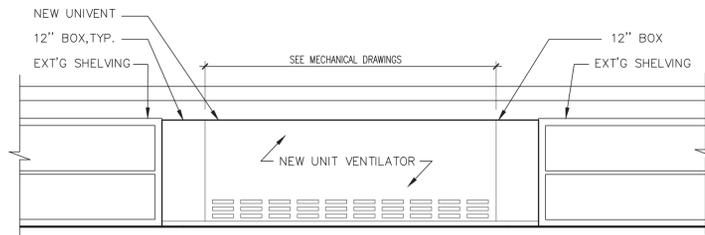
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Drawing Title: ROOF DETAILS
Drawing No.: A-500



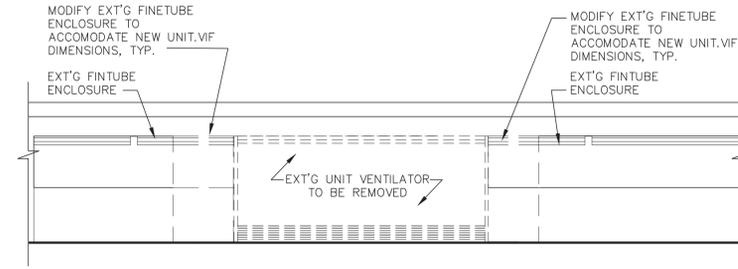
8 NEW UNIVENT ELEVATION (CONDITION: FINTUBE ON BOTH SIDES)
SCALE: 1/2" = 1'-0"



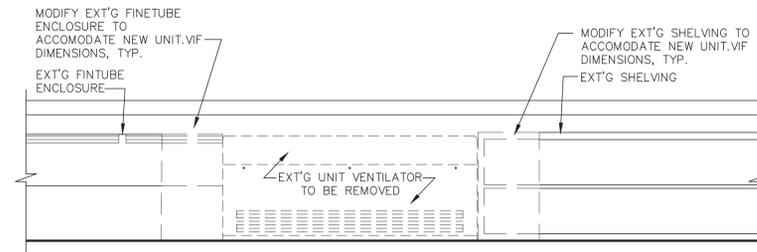
7 NEW UNIVENT ELEVATION (CONDITION: CASEWORK ONE SIDE, FINTUBE ONE SIDE)
SCALE: 1/2" = 1'-0"



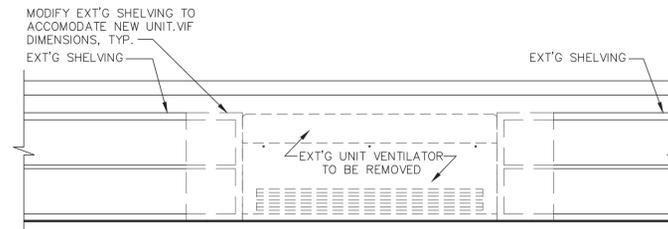
6 NEW UNIVENT ELEVATION (CONDITION: CASEWORK ON BOTH SIDES)
SCALE: 1/2" = 1'-0"



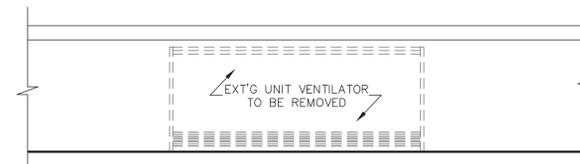
4 EXISTING UNIVENT REMOVAL ELEVATION (CONDITION: FINTUBE ON BOTH SIDES)
SCALE: 1/2" = 1'-0"



3 EXISTING UNIVENT REMOVAL ELEVATION (CONDITION: CASEWORK ONE SIDE, FINTUBE ONE SIDE)
SCALE: 1/2" = 1'-0"



2 EXISTING UNIVENT REMOVAL ELEVATION (CONDITION: CASEWORK ON BOTH SIDES)
SCALE: 1/2" = 1'-0"



1 EXISTING UNIVENT REMOVAL ELEVATION (CONDITION: FREE STANDING UNIT)
SCALE: 1/2" = 1'-0"

0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

No.	Date	Revisions
0	03-04-25	BIDDING DOCUMENTS

REG. EXP. DATE: 12-31-25

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Checked by MS/JC
Project No. 4-3040
Scale AS NOTED
Date 03-18-24

MECHANICAL & ELECTRICAL ENGINEER:
GREENMAN PEDERSEN INC
400 BELLA BOULEVARD
MONTEBELLA, NY 10901

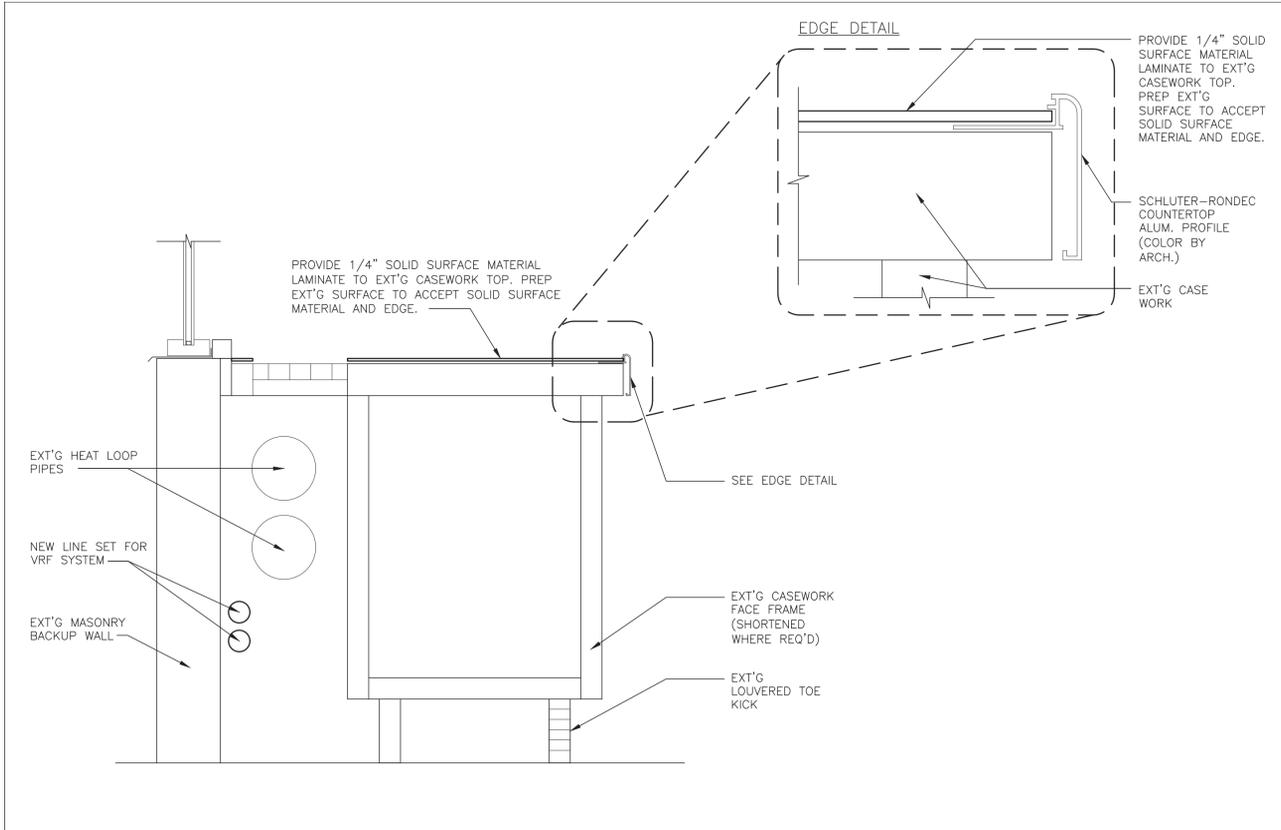
STRUCTURAL ENGINEER:
GREENMAN PEDERSEN INC
400 BELLA BOULEVARD
MONTEBELLA, NY 10901

UNIVENT REPLACEMENT AT STONY POINT, THIELS AND WEST HAVERSTRAW ELEMENTARY SCHOOL
SPES SED# 50-02-01-08-0-014-012
TES SED# 50-02-01-06-0-025-018
WHES SED# 50-02-01-08-0-024-015
7 GORNER DRIVE, STONY POINT, NY 10980
COUNTY OF ROCKLAND

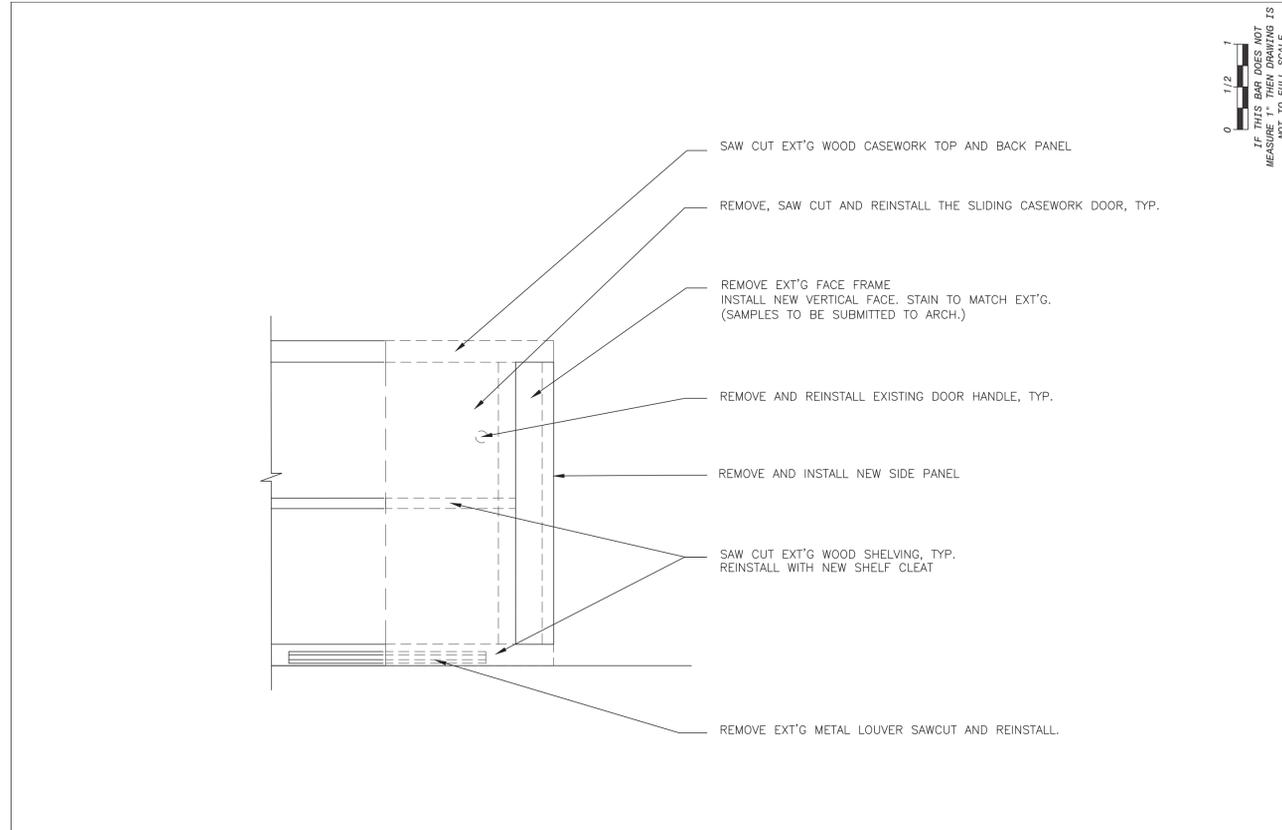
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TYPICAL UV ELEVATIONS
Drawing No. **A-600**

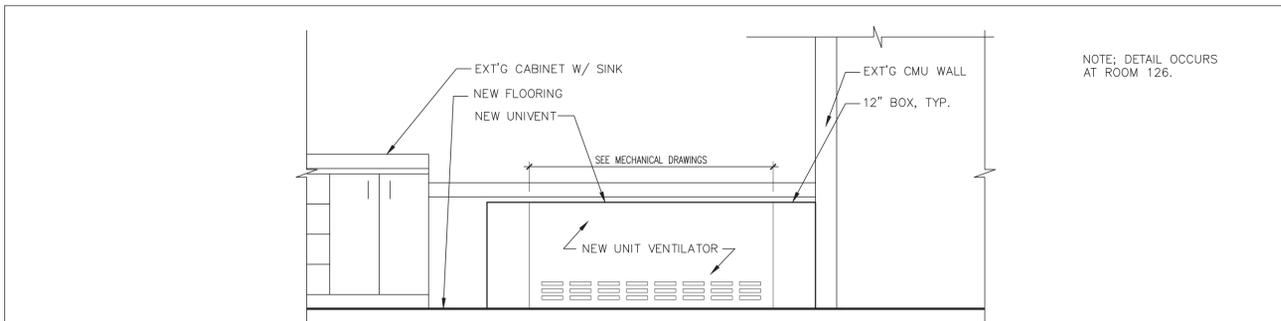
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Drawing Title



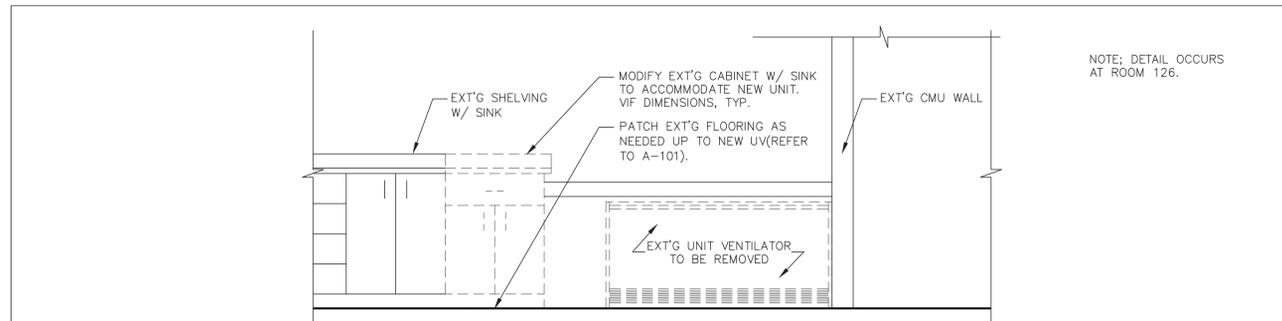
6 CASEWORK MODIFICATION SECTION DETAIL
SCALE: 1-1/2" = 1'-0"



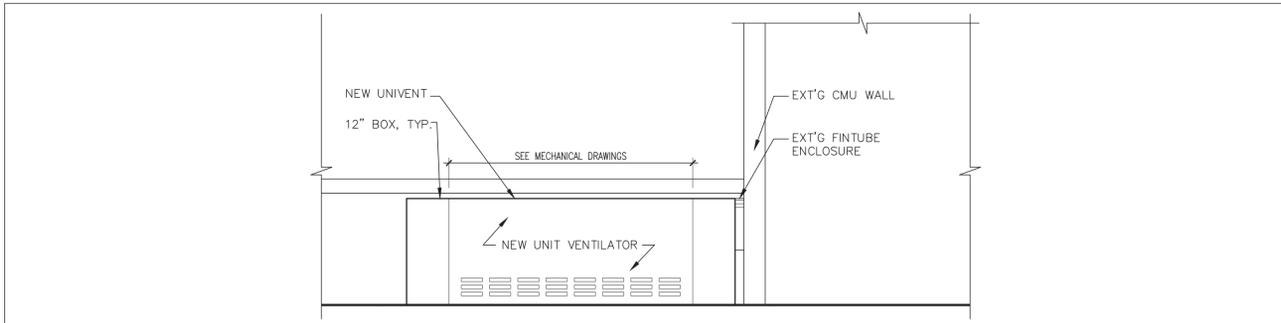
5 TYPICAL EXISTING CASEWORK DEMOLITION DETAIL
SCALE: 1-1/2" = 1'-0"



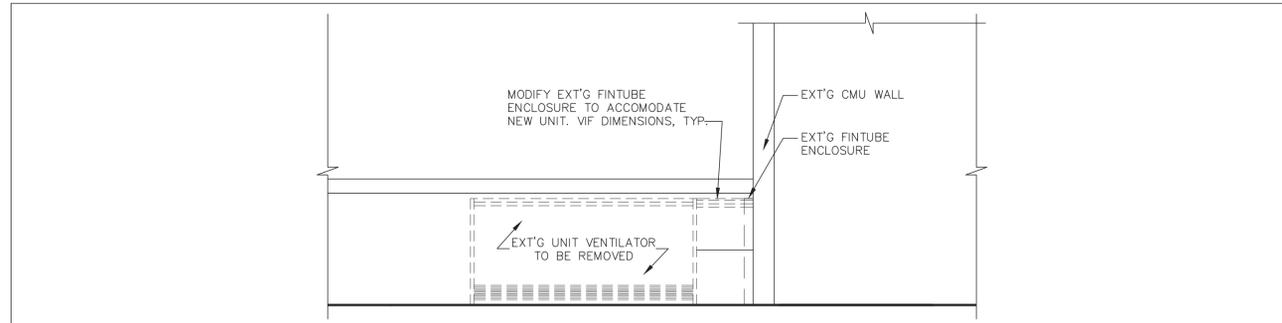
4 NEW UNIVENT ELEVATION AT SPES (CONDITION: CASEWORK ON ONE SIDE)
SCALE: 1/2" = 1'-0"



2 EXISTING UNIVENT REMOVAL ELEVATION AT SPES (CONDITION: CASEWORK ON ONE SIDE)
SCALE: 1/2" = 1'-0"



3 NEW UNIVENT ELEVATION AT SPES (CONDITION: FINITUBE ON ONE SIDE)
SCALE: 1/2" = 1'-0"



1 EXISTING UNIVENT REMOVAL ELEVATION AT SPES (CONDITION: FINITUBE ON ONE SIDE)
SCALE: 1/2" = 1'-0"

0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

No.	Date	Revisions
0	03-04-25	BIDDING DOCUMENTS

Drawn by SP
Checked by MS/JC
Project No. 4-3040
Scale AS NOTED
Date 03-18-24
REC. EXP. DATE: 12-31-25

MECHANICAL & ELECTRICAL ENGINEER:
GREENMAN PEDERSEN INC
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MONTEBELLA, NY 10901

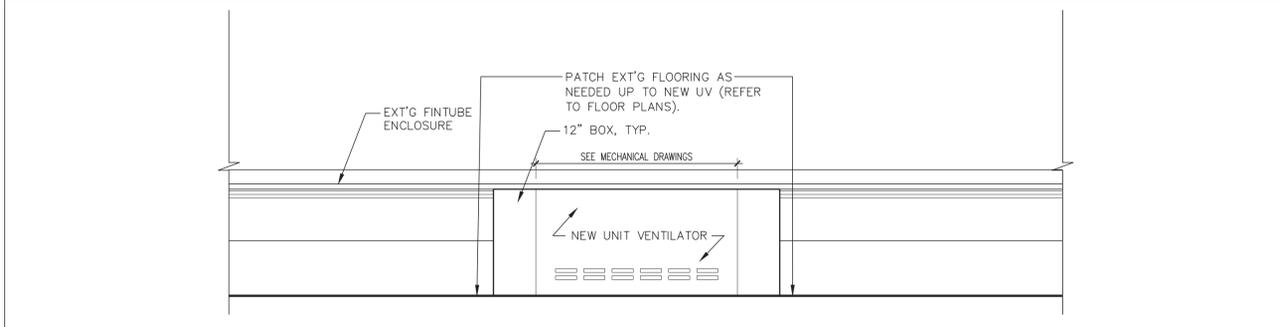
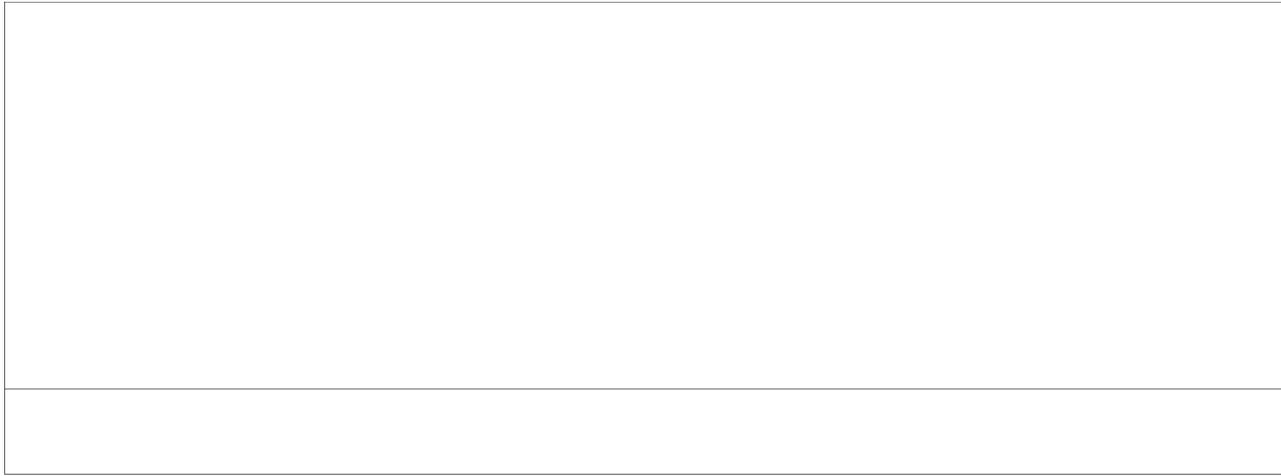
STRUCTURAL ENGINEER:
GREENMAN PEDERSEN INC
400 BELLA BOULEVARD
MONTEBELLA, NY 10901

UNIVENT REPLACEMENT AT STONY POINT, THIELS AND WEST HAVERSTRAW ELEMENTARY SCHOOL
SPES SED# 50-02-01-08-0-014-012
TES SED# 50-02-01-06-0-025-018
WHES SED# 50-02-01-08-0-024-015
7 GORNER DRIVE, NY 10986
STONY POINT, NY 10986
COUNTY OF ROCKLAND

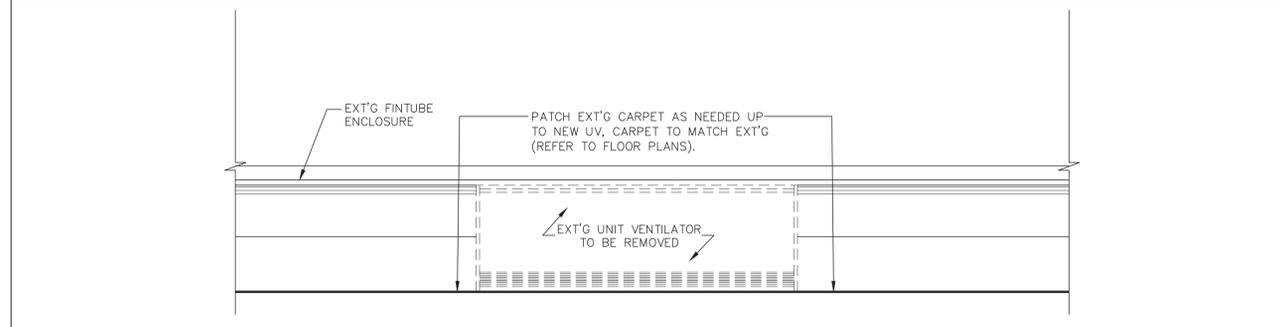
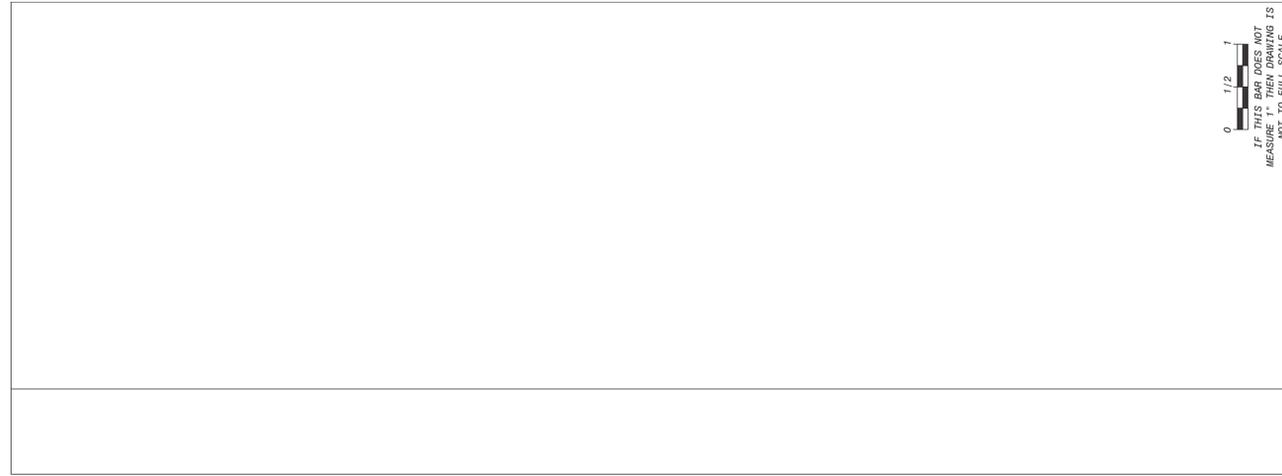
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140 Park Avenue New York, NY 10022
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Drawing Title
TYPICAL UV ELEVATIONS
Drawing No.
A-601

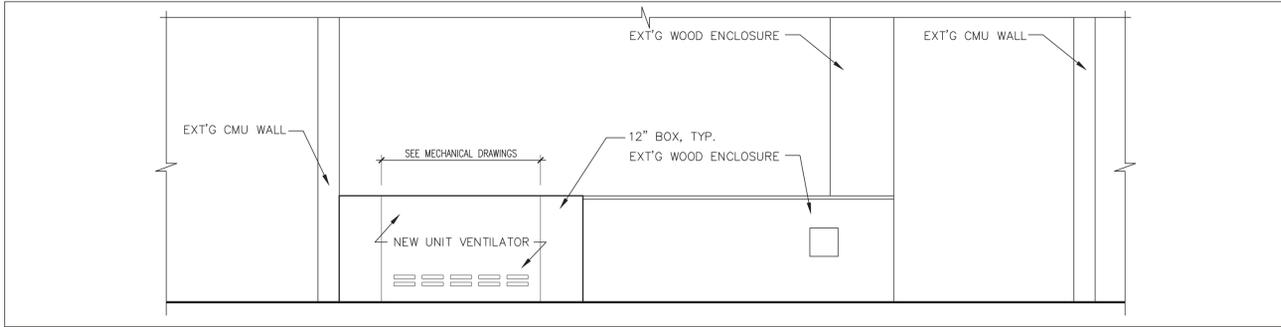
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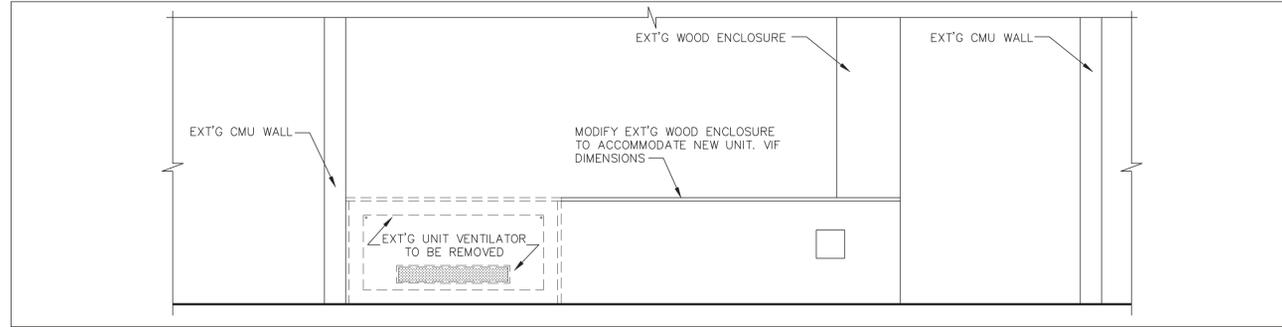
6 NEW UNIVENT ELEVATION @ LIBRARY (CONDITION: FINTUBE ON BOTH SIDES)
SCALE: 1/2" = 1'-0"



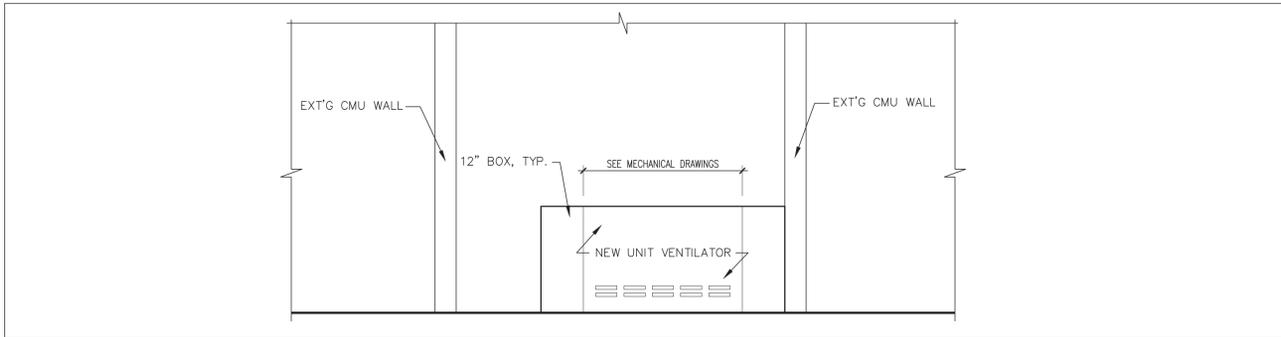
3 EXISTING UNIVENT REMOVAL ELEVATION AT TES, WHES @ LIBRARY (CONDITION: FINTUBE ON BOTH SIDES)
SCALE: 1/2" = 1'-0"



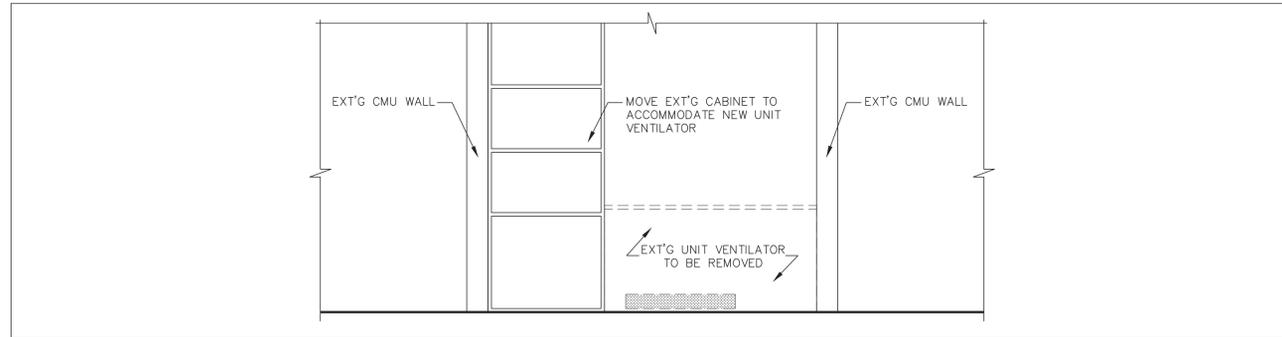
5 NEW UNIVENT ELEVATION AT TES, WHES @ PRINCIPAL'S OFFICE (CONDITION: CASEWORK ONE SIDE)
SCALE: 1/2" = 1'-0"



2 EXISTING UNIVENT REMOVAL ELEVATION AT TES, WHES @ PRINCIPAL'S OFFICE (CONDITION: CASEWORK ONE SIDE)
SCALE: 1/2" = 1'-0"



4 NEW UNIVENT ELEVATION AT TES, WHES @ ASST. PRINCIPAL'S OFFICE
SCALE: 1/2" = 1'-0"



1 EXISTING UNIVENT REMOVAL ELEVATION AT TES, WHES @ ASST. PRINCIPAL'S OFFICE
SCALE: 1/2" = 1'-0"

0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

No.	Date	Revisions
0	03-04-25	BIDDING DOCUMENTS

REG. EXP. DATE: 12-31-25

Drawn by: JR
Checked by: MS/JC
Project No.: 4-3040
Scale: AS NOTED
Date: 03-18-24

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Mechanical & Electrical Engineer:
Structural Engineer:

UNIVENT REPLACEMENT AT
STONY POINT, THIELS
AND WEST HAVERSTRAW
ELEMENTARY SCHOOL

SPES SED# 50-02-01-08-0-014-012
TES SED# 50-02-01-06-0-025-018
WHES SED# 50-02-01-08-0-024-015

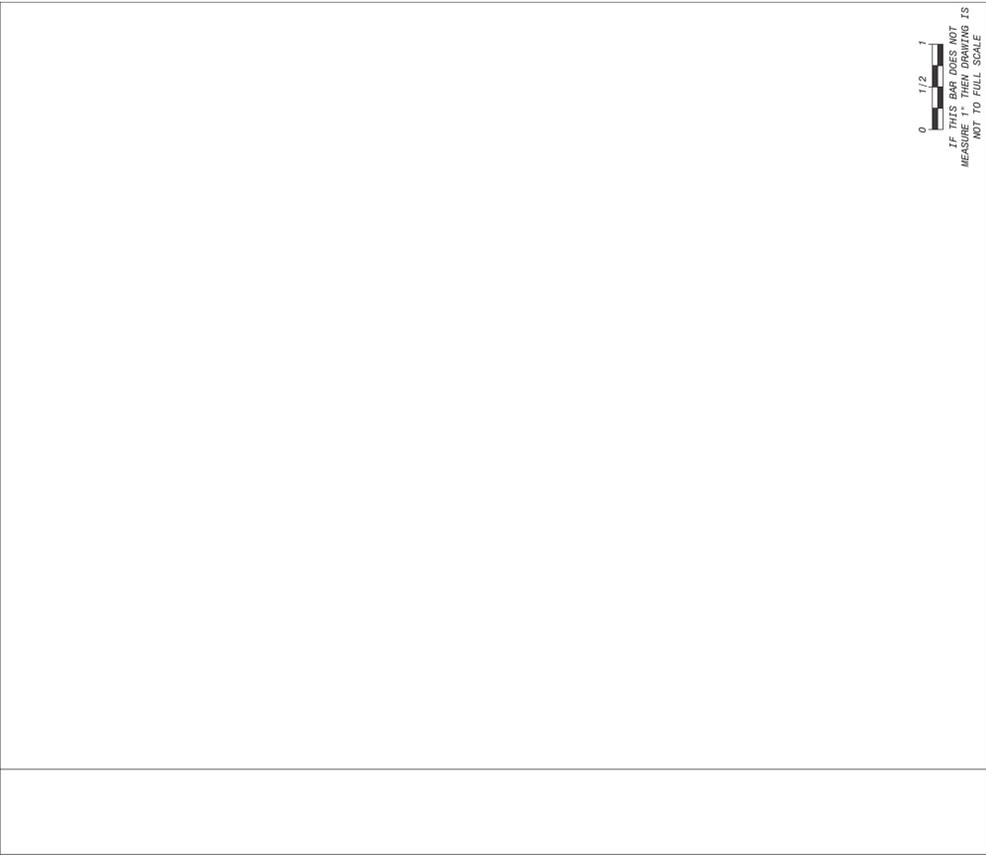
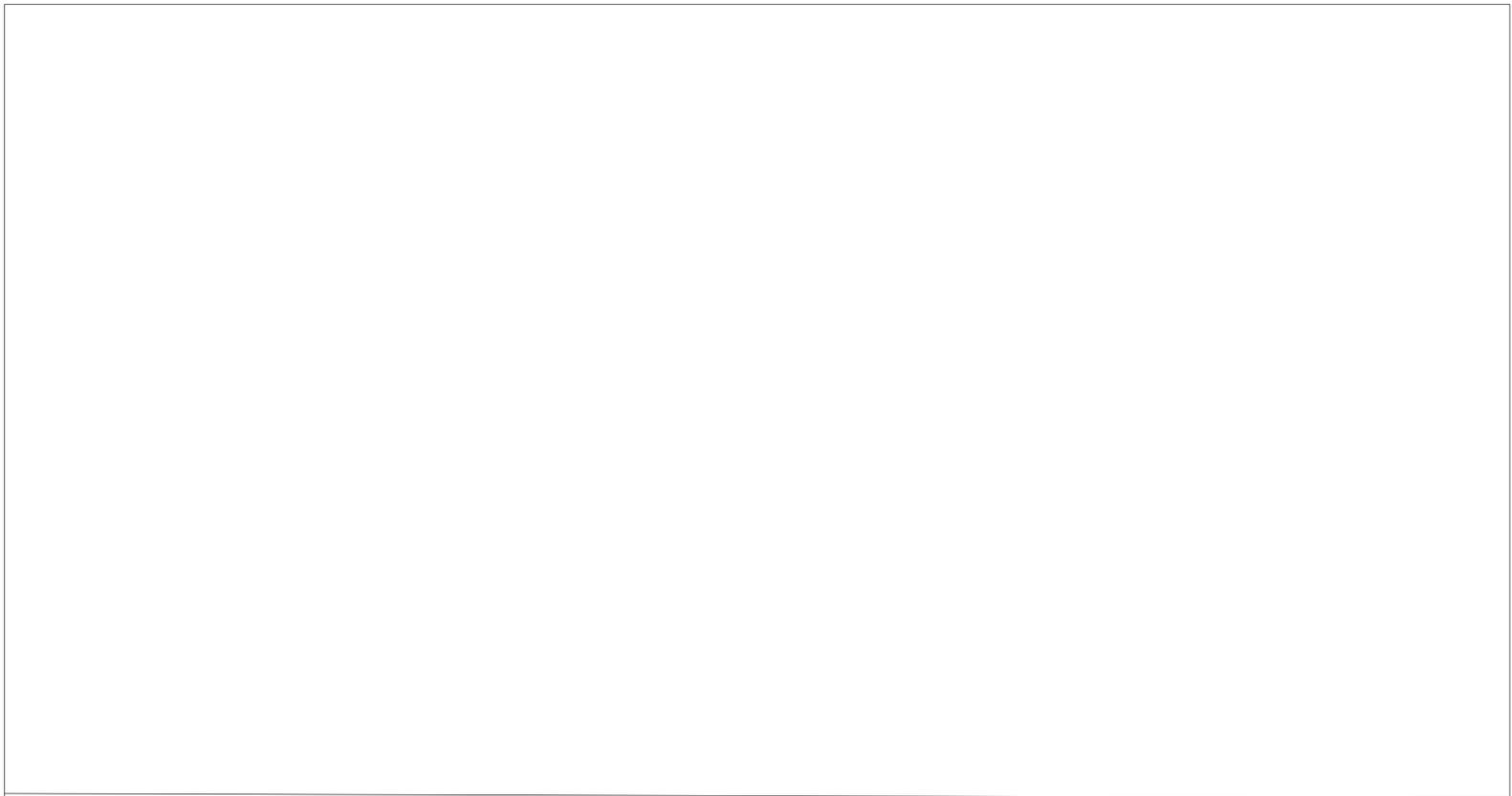
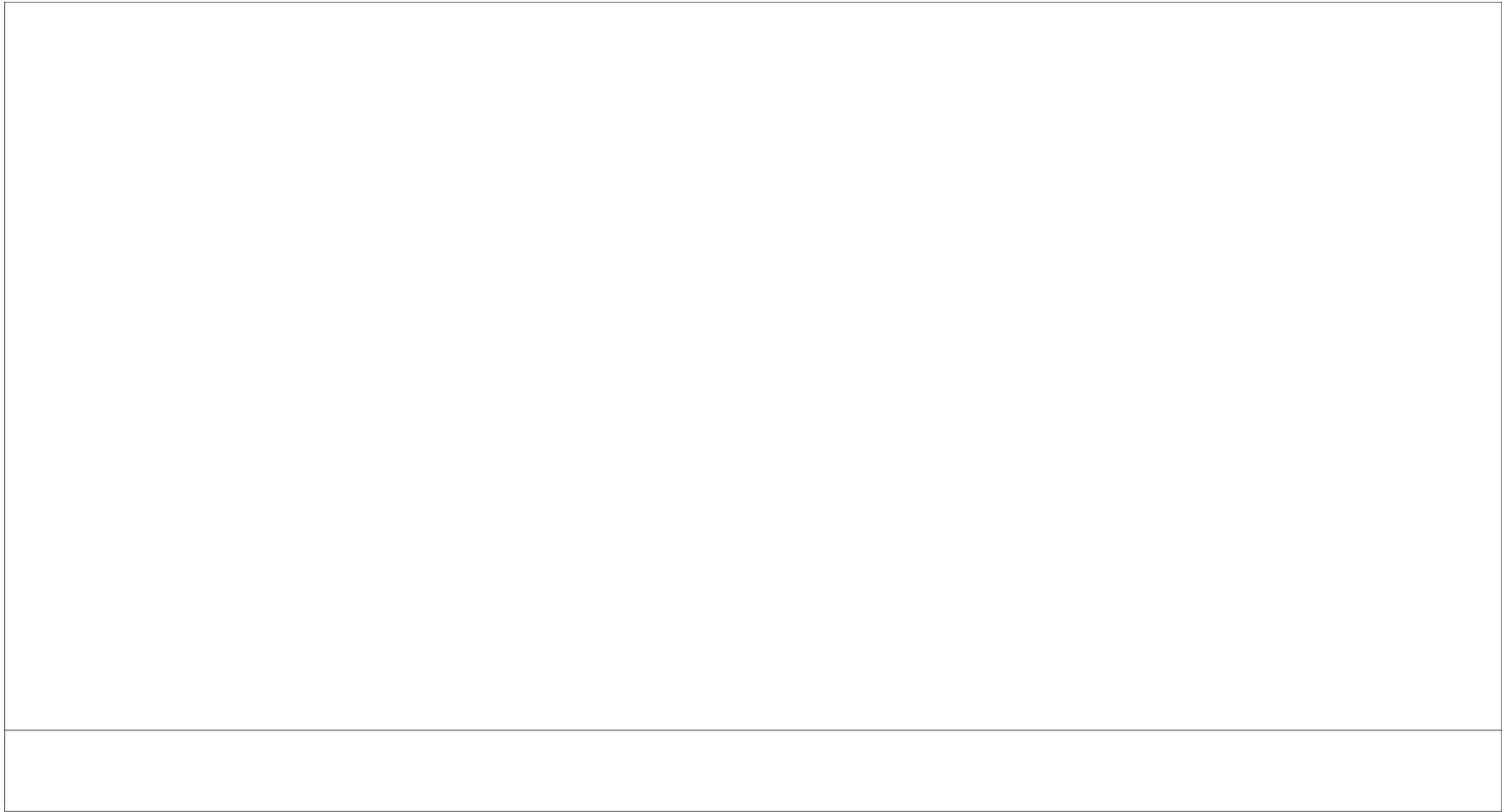
7 GORNER DRIVE, NY 10986
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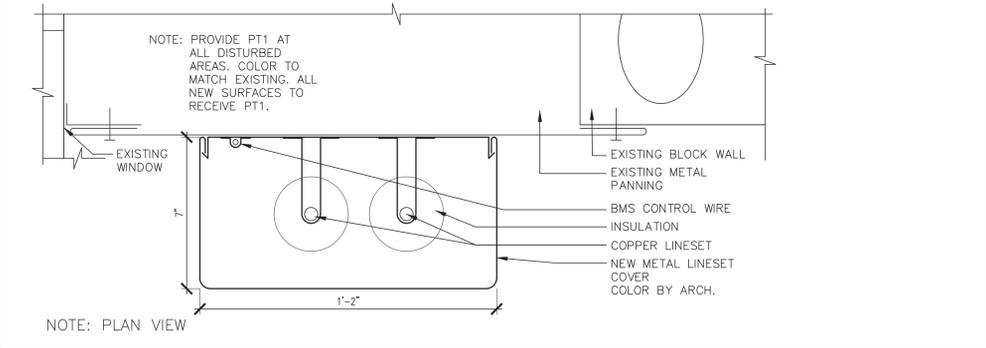
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Drawing Title
TYPICAL UV ELEVATIONS

Drawing No.
A-603

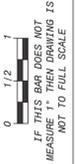


CODE	MATERIAL	MANUFACTURER	PRODUCT	CATALOG NO.	FINISH	COLOR	REMARKS
PT1	LATEX FINISH	BENJAMIN MOORE	REGAL AQUA PEARL	310	EGGSHELL	BY ARCH	(1) COAT PT4, (2) COATS PT1
PT4	LATEX PRIMER	BENJAMIN MOORE	LATEX PRIMER	273	FLAT	BY ARCH	
PT5	LATEX FINISH	BENJAMIN MOORE	DTM ACRYLIC	M29	SEMI-GLOSS	BY ARCH	(3) COAT PT6
BF	BLOCK FILLER	BENJAMIN MOORE	BLOCK FILLER	958-11			
ACT1	2'X2' CEILING TILE	USG	MARS CLIMAPLUS	86185HRC		WHITE	W/ NEW GRID SYSTEM. PROVIDE "A USG DX" GRID PROFILE

FINISH MATERIAL SCHEDULE



1 LINE SET ENCLOSURE
SCALE: 3" = 1'-0"



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 Project No.: 4-3040
 Scale: AS NOTED
 Date: 03-18-24
 REG. EXP. DATE: 12-31-25

Mechanical & Electrical Engineer:
GREENMAN PEDERSEN INC
 400 BELLA ROUTE
 MONTEBELLA, NY 10901

Structural Engineer:
GREENMAN PEDERSEN INC
 400 BELLA ROUTE
 MONTEBELLA, NY 10901

UNIVENT REPLACEMENT AT STONY POINT, THELLS AND WEST HAVERSTRAW ELEMENTARY SCHOOL
 SPES SED# 50-02-01-06-0-014-012
 TES SED# 50-02-01-06-0-025-018
 WTES SED# 50-02-01-06-0-024-015
 COUNTY OF ROCKLAND
 STONY POINT, NY 10980



INTERIOR DETAILS

Drawing No. **A-610**

No.	Date	Revisions
0	03-04-25	BIDDING DOCUMENTS

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 Drawing Title

SAFETY NOTES:

- SPECIAL PRECAUTIONS SHALL BE TAKEN BY THE CONTRACTOR SO THAT EQUIPMENT ON THE APPLICATION AND ITS INSTALLATION WILL NOT AFFECT THE FOLLOWING:
 - EGRESS TO AND FROM THE BUILDING FIRE SAFETY OR CREATE A FIRE HAZARD
 - STRUCTURAL SAFETY OF THE BUILDING.
 - ACCUMULATION OF DUST AND DEBRIS. THE CONTRACTOR SHALL LEAVE THE SITE BROOM CLEAN EACH DAY.
- ASBESTOS MUST FIRST BE INVESTIGATED AND VERIFIED IN FIELD BEFORE ANY DEMOLITION OR CONSTRUCTION WORK TO BE PERFORMED. ASBESTOS FREE MUST BE CERTIFIED FOR ALL HVAC EQUIPMENT, DUCTWORK, AND ALL PIPING INSULATION.
- CONSTRUCTION WORK SHALL BE CONFINED TO WORK AREAS NOTED ON THE DRAWINGS AND SHALL INVOLVE TEMPORARY INTERRUPTION OF HEATING, WATER AND ELECTRIC SERVICES TO THE BUILDING SYSTEMS ONLY AS SCHEDULED WITH NEW YORK CITY.
- FIRE SAFETY: ALL BUILDING MATERIALS STORED IN CONSTRUCTION AREA, AND/OR IN ANY AREA OF THE BUILDING ARE TO BE SECURED IN A LOCKED AREA. ACCESS TO SUCH AREAS TO BE CONTROLLED BY THE FACILITY AND/OR GENERAL CONTRACTOR.
- CONTRACTOR SHALL PROVIDE BARRICADES AROUND WORK AREAS AS REQUIRED TO PREVENT UNAUTHORIZED PERSONS FROM ENTERING THEREIN.
- THE CONTRACTOR SHALL SUBMIT SAFETY PLAN FOR CONSTRUCTION MANAGER'S APPROVAL.
- CONFINED SPACES: ALL WORK WITHIN CONFINED SPACES SHALL BE CONDUCTED IN ACCORDANCE WITH OSHA REGULATIONS. THE BUILDING "E" TUNNEL LEVEL AND THE "DEEP SIX" TUNNEL HAVE ONLY ONE ENTRANCE/EXIT AND SHALL BE CONSIDERED CONFINED SPACES.

MECHANICAL DEMOLITION NOTES:

- DEMOLITION/RELOCATIONS: CONTRACTOR SHALL BE RESPONSIBLE FOR DEMOLITION AND RELOCATIONS OF SERVICES, EQUIPMENT AND MATERIAL RELATING TO HIS/HER RESPECTIVE TRADE. INCLUDE IN BID THE COST TO PROVIDE DEMOLITION OF ALL ELECTRICAL EQUIPMENT AND SYSTEMS ASSOCIATED WITH THE RENOVATION WORK. ALL DEMOLITION WORK SHALL COORDINATE WITH OWNER.
- WHERE EXISTING WALLS, FLOORS OR CEILINGS ARE REMOVED OR PENETRATED, AND WHERE EXISTING END WALLS OF THE BUILDING ARE POINTS OF CONNECTION OF ADDITIONS, ALL SERVICES, PIPING, CONDUIT, CONTROL AND/OR SWITCH DEVICES, LIGHTS, OR OTHER HVAC, PLUMBING, FIRE PROTECTION OR ELECTRICAL EQUIPMENT SHALL BE REMOVED (AND/OR RELOCATED WHERE THEY MUST REMAIN IN SERVICE, OR SERVE, AREAS BEYOND THE IMMEDIATE WORK) CONTRACTOR SHALL FIELD VERIFY CONDITIONS AT THE SITE.
- PRIOR TO DEMOLITION CONTRACTOR SHALL REVIEW WITH OWNER ALL MATERIALS TO BE REMOVED. SHOULD THE OWNER OPT TO KEEP ANY MATERIALS THE CONTRACTOR SHALL REMOVE AND DELIVER THE PARTS TO THE OWNER ON THE SITE WHERE SO DIRECTED. OTHERWISE ALL DEMOLISHED OR REMOVED MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE AND BE DISPOSED OF IN A LEGAL MANNER.
- DEMOLITION SHALL INCLUDE REMOVAL OF ALL PARTS AND PIECES IN THEIR ENTIRETY BACK TO POINTS INDICATED OR IF NOT INDICATED BACK TO THEIR POINT OF SOURCE. REMOVE CONDUCTORS FROM REMAINING CONDUITS WHERE IT IS INDICATED. WHERE CONDUCTORS REMAINED IN CONDUITS-DISCONNECT, ISOLATE AND CAPPED THEM TO ENSURE SAFETY AND PROTECTION. WHERE CONDITIONS PROHIBIT TOTAL REMOVAL OF THE WORK, THE REMAINING PORTION SHALL BE CUT FLUSH WITH THE SURROUNDING SURFACE AND BE CAPPED, PLUGGED OR SEALED AND THE SURROUNDING SURFACE SHALL BE REFRESHED IN AN APPROVED MANNER.
- MAINTAIN EXISTING UTILITIES INDICATED OR REQUIRED TO REMAIN, KEEP IN SERVICE, AND PROTECT AGAINST DAMAGE DURING DEMOLITION OPERATIONS. DO NOT INTERRUPT EXISTING UTILITIES SERVING OCCUPIED OR USED FACILITIES, EXCEPT WHEN SCHEDULED WITH THE OWNER.
- DO NOT REMOVE EXISTING STRUCTURAL WORK. DO NOT REMOVE OPERATIONAL ELEMENTS AND SAFETY-RELATED COMPONENTS IN A MANNER RESULTING IN A REDUCTION OF CAPACITIES TO PERFORM IN THE MANNER INTENDED OR RESULTING IN DECREASED OPERATIONAL LIFE, INCREASED MAINTENANCE, OR DECREASED SAFETY.
- REMOVALS, DISCONNECTIONS, AND RELOCATIONS SHALL BE PERFORMED BY WORKMEN SKILLED IN THE TRADE INVOLVED AND SHALL BE EMPLOYED BY A CONTRACTOR LICENSED IN THE TRADE INVOLVED. ALL WORK SHALL BE DONE IN ACCORDANCE WITH ACCEPTED TRADE PRACTICES.
- PROVIDE ADEQUATE TEMPORARY SUPPORT FOR WORK TO REMAIN, TO PREVENT FAILURE. DO NOT ENDANGER OTHER WORK.
- PROTECTION: PROVIDE ADEQUATE PROTECTION WHERE REQUIRED FOR THE PRESENT BUILDING AND ITS CONTENTS. TEMPORARY DUSTPROOF BARRIERS AND BARRICADES SHALL BE ERCTED WHERE REQUIRED FOR PROTECTION OF PERSONNEL, PROTECTION FROM DUST AND DIRT FOR SECURITY, FIRE AND WEATHER PROTECTIVE REASONS. CONTRACTOR SHALL TAKE EVERY PRECAUTION AGAINST FIRE BY EMPLOYING FIRE DEPARTMENT TYPE HOSES AND PORTABLE FIRE EXTINGUISHERS AS REQUIRED BY OSHA AND/OR THE OWNER'S INSURANCE UNDERWRITER.
- USE TEMPORARY ENCLOSURES, OR OTHER SUITABLE METHODS TO LIMIT DUST AND DIRT RISING AND SCATTERING TO LOWEST PRACTICAL LEVEL. COMPLY WITH GOVERNING REGULATIONS PERTAINING TO ENVIRONMENTAL PROTECTION.
- ALL EXISTING EQUIPMENT REQUIRED TO BE REUSED SHALL BE CLEANED, RECONDITIONED, CALIBRATED AND ADJUSTED. IN ALL INSTANCES WHERE CONTRACTOR FINDS THAT EXISTING EQUIPMENT IS DEFECTIVE TO THE POINT WHERE IT CANNOT BE PROPERLY RESTORED AND WILL NOT OPERATE PROPERLY, HE SHALL REPORT THE SPECIFIC INSTRUMENTS OR EQUIPMENT TO THE OWNER/ENGINEER FOR DIRECTIONS.
- TEMPORARY SHUTDOWNS OF SERVICE OF EXISTING ELECTRICAL, HEATING, AIR CONDITIONING, AND VENTILATION SYSTEMS SHALL BE PERFORMED WITH A MINIMUM OF DISRUPTION OF SERVICE, HELD TO AN ABSOLUTE MINIMUM DURATION OF TIME, AND ONLY AFTER HAVING NOTIFIED THE BUILDING OPERATIONS MANAGEMENT AT LEAST TWO WEEKS IN ADVANCE AND HAVING RECEIVED THEIR PERMISSION IN WRITING. AT LEAST TWO WEEKS PRIOR TO THE SCHEDULED SHUTDOWN, COMMUNICATIONS SHALL BE RELAYED THROUGH THE PROJECT OFFICER.
- ELECTRICAL CONTRACTOR SHALL RING OUT AND IDENTIFY ALL CIRCUITS REMAINING IN CONTRACT AREA. AFTER DEMOLITION, REMOVE ALL CIRCUITS BACK TO POINT OF SOURCE. MARK PANEL CIRCUITS NO LONGER IN USE "SPARE".

GENERAL NOTES

- THE FULL DEMOLITION SCOPE IS NOT SPECIFICALLY SHOWN ON THE DRAWINGS. PROVIDE DEMOLITION WORK CONSIDERED NECESSARY FOR THE COMPLETION OF THE WORK. SURVEY THE PREMISES TO ACCURATELY DETERMINE THE FULL SCOPE OF THE REMOVAL AND DISPOSAL WORK. NO ADDITIONAL PAYMENTS WILL BE MADE DUE TO CONTRACTOR'S FAILURE TO ADEQUATELY SURVEY THE PREMISES.
- CONTRACTOR TO REMOVE AND PROPERLY DISPOSE OF EQUIPMENT FROM SITE INDICATED FOR DEMOLITION, UNLESS OTHERWISE DIRECTED BY THE AUTHORITY.
- THE MECHANICAL CONTRACTOR SHALL PROVIDE POWER SUPPLIES, ELECTRICAL WIRING AND CONDUIT FOR POWER AND CONTROL TO PNEUMATIC OR MOTORIZED DAMPER AND VALVE OPERATORS, THERMOSTATS, AUTOMATIC CONTROL INSTRUMENTATION. COORDINATE WITH THE ELECTRICAL CONTRACTOR TO PROVIDE A COMPLETE AND FUNCTIONAL SYSTEM.
- FOR POWERED EQUIPMENT INTENDED FOR DEMOLITION, THE CONTRACTOR SHALL COORDINATE SHUT-OFF POWER SUPPLIES AND DISCONNECT SWITCHES ASSOCIATED WITH THE EQUIPMENT TO BE DISCONNECTED. RECONNECT ELECTRICAL POWER TO NEW EQUIPMENT AFTER INSTALLATION. PROVIDE ELECTRICAL MATERIAL AND LABOR AS REQUIRED FOR A COMPLETE AND FUNCTIONAL INSTALLATION.
- TEMPORARY SHUTDOWNS OF SERVICE OF EXISTING ELECTRICAL, STEAM, HEATING, AIR CONDITIONING AND VENTILATION SYSTEMS SHALL BE PERFORMED WITH A MINIMUM OF DISRUPTION OF SERVICE, HELD TO AN ABSOLUTE MINIMUM DURATION OF TIME, AND ONLY AFTER HAVING NOTIFIED THE BUILDING OPERATIONS MANAGEMENT AT LEAST TWO WEEKS IN ADVANCE AND HAVING RECEIVED THEIR PERMISSION IN WRITING. AT LEAST TWO WEEKS PRIOR TO THE SCHEDULED SHUTDOWN, COMMUNICATIONS SHALL BE RELAYED THROUGH THE OWNER'S REPRESENTATIVE.
- LOAD CALCULATIONS HAVE BEEN PERFORMED IN ACCORDANCE WITH GENERALLY ACCEPTED ENGINEERING STANDARDS, SPECIFICALLY ASHRAE HANDBOOK - FUNDAMENTALS.
- CONTRACTOR SHALL PERFORM ALL TESTS AND STARTUP PROCEDURES FOR EACH VENTILATION SYSTEM IN ACCORDANCE WITH THE MANUFACTURER AND SPECIFICATIONS.
- ALL THERMOSTATIC CONTROLS SHALL BE TESTED FOR FUNCTIONALITY AND PROPER OPERATION AS REQUIRED BY NYS ECC.
- ELECTRIC MOTORS SHALL COMPLY WITH THE REQUIREMENTS OF THE ENERGY POLICY ACT OF 1992 AS SHOWN IN ASHRAE 90.1-2013 TABLE #10.8.
- IT IS THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR TO PROVIDE CONTROL WIRING. THE MECHANICAL CONTRACTOR SHALL ALSO PROVIDE ALL POWER SUPPLIES, ELECTRICAL WIRING AND CONDUIT FOR POWER AND CONTROL TO ALL VALVE OPERATORS, THERMOSTATS AND AUTOMATIC CONTROL INSTRUMENTATION. ELECTRICAL CONTRACTOR TO INSTALL AND ROUTE POWER WIRING FOR EACH MECHANICAL SYSTEM.
- MOUNTING HEIGHTS FOR ASSOCIATED MECHANICAL THERMOSTAT CONTROLS, ETC. SHALL MEET THE AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES FOR BUILDING AND FACILITIES. MOUNTING HEIGHTS FOR ALL THERMOSTATS, ETC SHALL BE 48" AFF.

HVAC DESIGN CRITERIA

- SITE (BASED ON NEAREST AVAILABLE DATA: ASHRAE 2013 HANDBOOK CLIMATIC DESIGN INFORMATION, WESTCHESTER CO, NY):
 - 41.07°N, 73.71°W
 - ELEVATION: 397 FT
 - CLIMATE ZONE 5A.
- OUTSIDE DESIGN CONDITIONS (BASED ON NEAREST AVAILABLE DATA: ASHRAE 2013 CLIMATIC DESIGN INFORMATION, WESTCHESTER CO, NY):
 - HEATING DB (99.6%): 9.0°F DB
 - COOLING DB(M)CWB (1%): 86.5°F DB, 72.1°F WB
- INSIDE DESIGN CONDITIONS (PER NYSMD MANUAL OF PLANNING STANDARDS §602-6 B. AND 2015 ASHRAE HANDBOOK CH 7 TABLE 6):
 - HEATING INDOOR SETPOINT: 72°F
 - COOLING INDOOR SETPOINT: 78°F, 60% RH
- ACOUSTICS (PER NYSMD MANUAL OF PLANNING STANDARDS, TABLE S304-1):
 - DESIGN REQUIREMENTS FOR HVAC SYSTEM NOISE FOR CLASSROOMS, 7-12: RC 25-30.
- FILTRATION: MERV 13 (PER NYSMD MANUAL OF PLANNING STANDARDS).
- DEMAND CONTROLLED VENTILATION NOT REQUIRED PER EC03.2.6.1 EXCEPTION #3.

SEQUENCE OF OPERATIONS

- REFER TO SEQUENCE OF OPERATION SPECIFICATION.

HVAC NOTES:

- PROVIDE LABOR, MATERIALS, TOOLS, MACHINERY, EQUIPMENT, AND SERVICES NECESSARY TO COMPLETE THE HVAC WORK UNDER THIS CONTRACT. ALL SYSTEMS AND EQUIPMENT SHALL BE COMPLETE IN EVERY ASPECT AND ALL ITEMS OF MATERIAL, EQUIPMENT AND LABOR SHALL BE PROVIDED FOR A FULLY OPERATIONAL SYSTEM AND READY FOR USE. COORDINATE THE WORK WITH THE WORK OF THE OTHER SUBCONTRACTORS IN ORDER TO RESOLVE ALL CONFLICTS WITHOUT IMPEDING THE JOB PROGRESS.
- EXAMINE THE ARCHITECTURAL, STRUCTURAL, AND ELECTRICAL DRAWINGS AND OTHER DIVISIONS, AND SECTIONS OF THE SPECIFICATIONS IN ORDER TO DETERMINE THE EXTENT OF THE WORK REQUIRED TO BE COMPLETED UNDER THIS DIVISION. FAILURE TO EXAMINE ALL THE CONTRACT DOCUMENTS FOR THIS PROJECT WILL NOT RELIEVE THIS CONTRACTOR OF HIS RESPONSIBILITIES TO PERFORM THE WORK REQUIRED FOR A COMPLETE FULLY OPERATIONAL AND SATISFACTORY INSTALLATION.
- START-UP SERVICES SHALL BE INCLUDED.
- ALL SYSTEMS, EQUIPMENT AND SERVICES SPECIFIED HEREIN SHALL BE PROVIDED COMPLETE AND READY FOR USE. ALL EQUIPMENT, DUCTWORK, PIPING, DAMPERS, OUTLETS ARE NEW, FURNISHED AND INSTALLED BY THIS CONTRACTOR, UNLESS OTHERWISE NOTED.
- DUCTWORK AND PIPING ARE SHOWN DIAGRAMMATICALLY AND DO NOT SHOW ALL OFFSETS, DROPS AND RISES OF RUNS. THE CONTRACTOR SHALL ALLOW IN HIS PRICE FOR ROUTING OF DUCTWORK AND PIPING TO AVOID OBSTRUCTIONS. EXACT LOCATIONS ARE SUBJECT TO APPROVAL OF ENGINEER. COORDINATION WITH THE EXISTING SERVICES, INCLUDING THOSE OF OTHER SUBCONTRACTORS IS REQUIRED. PROVIDE COORDINATION DRAWINGS SHOWING ALL TRADES WORK AND EXISTING CONDITION.
- INSTALL WORK SO AS TO BE READILY ACCESSIBLE FOR OPERATION, MAINTENANCE AND REPAIR. MINOR DEVIATIONS FROM DRAWINGS MAY BE MADE TO ACCOMPLISH THIS, BUT CHANGES INVOLVING EXTRA COST SHALL NOT BE MADE WITHOUT APPROVAL.
- VERIFY FINAL LOCATIONS FOR ROUGH WORK WITH FIELD MEASUREMENTS AND WITH THE REQUIREMENTS OF THE ACTUAL EQUIPMENT BEING CONNECTED.
- PROVIDE A COMPLETE SYSTEM OF VIBRATION ISOLATION FOR EACH ITEM OF HVAC EQUIPMENT AND APPARATUS AS SPECIFIED HEREIN, AS SHOWN ON THE DRAWINGS AND AS NEEDED FOR A COMPLETE AND PROPER INSTALLATION.
- THE FINAL ACCEPTANCE WILL BE MADE AFTER THE CONTRACTOR HAS ADJUSTED HIS EQUIPMENT, BALANCED THE VARIOUS SYSTEMS, DEMONSTRATED THAT IT FULFILLS THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS AND HAS FURNISHED ALL THE REQUIRED CERTIFICATES OF INSPECTION AND APPROVAL.
- CONTRACTOR IS RESPONSIBLE TO ATTEND COORDINATION MEETING WITH ALL TRADES TO DETERMINE LOCATIONS OF DEVICES AND DISCOVER IF ANY CONFLICTS MAY EXIST.
- ALL PIPING EXPOSED OR INSULATED, DUCTWORK, CONDUIT AND CONTROL WIRING SHALL BE CONCEALED IN CEILINGS, WALLS AND FLOORS OR CONCEALED IN NEW SOFFITS OR FRAMED ENCLOSURES.
- ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE REQUIREMENTS OF THE 2020 NYS BUILDING CODE, 2020 NYS MECHANICAL CODE, AND 2020 NYS ENERGY CONSERVATION CONSTRUCTION CODE, AND ALL GOVERNING LOCAL CODES, LAWS, AND REGULATIONS.
- PROVIDE A COMPLETE OPERABLE SYSTEM IN A WORKMANLIKE MANNER. OUTLINE DESCRIPTION AND EQUIPMENT; DO NOT LIMIT CONTRACTOR'S LIABILITY FOR THE INSTALLATION OF A COMPLETE OPERABLE SYSTEM.
- VISIT THE SITE AND BECOME FAMILIAR WITH ALL EXISTING CONDITIONS THAT MAY AFFECT THE WORK. NO ADDITIONAL COMPENSATION WILL BE DUE FOR FAILURE TO DO SO.
- CONTRACTOR TO BE RESPONSIBLE FOR REVIEWING THE FULL SET OF BID DOCUMENTS TO BE AWARE OF THE TOTAL SCOPE PRIOR TO SUBMITTING BID. ALL WORK SHOWN ON THE DRAWINGS NOT SPECIFICALLY CALLED OUT AS EXISTING SHALL BE CONSIDERED WORK TO BE PERFORMED UNDER THIS CONTRACT.
- BIDDERS, BEFORE SUBMITTING A PROPOSAL, SHALL VISIT AND CAREFULLY EXAMINE THE SITE TO BECOME FAMILIAR WITH THE EXISTING CONDITIONS AND WITH THE DIFFICULTIES THAT WILL ATTEND THE EXECUTION OF THIS WORK. SUBMISSION OF A PROPOSAL WILL BE CONSTRUED AS EVIDENCE THAT SUCH EXAMINATION HAS BEEN MADE. LATER CLAIMS WILL NOT BE RECOGNIZED FOR EXTRA LABOR, EQUIPMENT OR MATERIALS REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED. NO ALLOWANCE WILL SUBSEQUENTLY BE MADE TO THE CONTRACTOR BY REASON OF ANY ERROR DUE TO THE CONTRACTOR'S NEGLIGENCE TO COMPLY WITH THIS REQUIREMENT. REPORT ANY DISCREPANCIES BETWEEN DRAWINGS AND FIELD CONDITIONS TO THE ENGINEER.
- BEFORE COMMENCING WORK, THE CONTRACTOR SHALL FILE ALL REQUIRED CERTIFICATES OF INSURANCE WITH THE BUILDING DEPARTMENT. OBTAIN ALL REQUIRED PERMITS AND PAY ALL FEES REQUIRED.
- THE CONTRACTOR SHALL PERFORM ALL CUTTING AND PATCHING REQUIRED TO COMPLETE THE WORK OR TO MAKE ITS PARTS FIT TOGETHER PROPERLY WITHOUT COMPROMISING THE QUALITY OF THE WORK. RESTORE WALLS AND CEILINGS TO MATCH EXISTING.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADEQUATELY BRACING AND PROTECTING ALL WORK DURING CONSTRUCTION AGAINST DAMAGE, BREAKAGE, COLLAPSE, DISTORTIONS, AND OFF ALIGNMENTS ACCORDING TO CODES AND STANDARDS OF GOOD PRACTICE.
- THE TERM "FINISH FLOOR" SHALL MEAN THE NORMAL FINISHED SURFACE OF THE FLOOR LEVEL. ALL ELEVATIONS GIVEN FOR EXISTING BUILDINGS ARE TO FINISHED FLOOR. THE CONTRACTOR SHALL FIELD VERIFY ALL ELEVATIONS FOR EXISTING STRUCTURES PRIOR TO THE COMMENCEMENT OF WORK.
- THE CONTRACTOR SHALL PATCH AND REPAIR ALL FLOORS, WALLS, CEILINGS, ETC. DAMAGED OR EXPOSED DUE TO WORK OR REMOVALS AND FINISH TO MATCH ADJOINING SURFACES.
- WHERE MANUFACTURERS NAMES AND PRODUCT NUMBERS ARE INDICATED ON THE DRAWINGS IT SHALL BE CONSTRUED TO MEAN THE ESTABLISHING OF QUALITY AND PERFORMANCE STANDARDS OF SUCH ITEMS. ALL OTHER PRODUCTS MUST BE SUBMITTED TO THE ENGINEER FOR APPROVAL BEFORE THEY SHALL BE DEMOLISHED.
- DRAWINGS ARE NOT TO BE SCALED. USE DIMENSIONS ONLY. ALL DIMENSIONS AND CONDITIONS SHOWN AND ASSUMED ON THE DRAWINGS MUST BE VERIFIED AT THE SITE BY THE CONTRACTOR BEFORE ORDERING ANY MATERIAL OR DOING ANY WORK. ANY DISCREPANCIES IN THE DRAWINGS AND SPECIFICATIONS SHALL BE REPORTED TO THE ENGINEER. NO CHANGE IN DRAWINGS OR SPECIFICATIONS IS PERMISSIBLE WITHOUT THE WRITTEN CONSENT OF THE ENGINEER.
- ALL WORK ON THESE DRAWINGS SHALL BE CONSIDERED NEW WORK WHETHER STATED OR NOT EXCEPT WHERE SPECIFICALLY NOTED AS "EXISTING TO REMAIN".
- DETAILS NOT SHOWN OR SPECIFIED, BUT NECESSARY FOR PROPER AND ACCEPTABLE CONSTRUCTION, INSTALLATION OR OPERATION OF ANY PART OF THE WORK AS DETERMINED BY THE ENGINEER, SHALL BE INCLUDED IN THE WORK THE SAME AS IF HEREIN SPECIFIED OR INDICATED.
- ALL WORK SHALL BE INSTALLED SO THAT ALL PARTS REQUIRED ARE READILY ACCESSIBLE FOR INSPECTION, OPERATION, MAINTENANCE AND REPAIR.
- CONTRACTOR SHALL KEEP WORK SITE FREE FROM DEBRIS AND ACCUMULATED REFUSE, AND SHALL HAVE SOLE RESPONSIBILITY FOR PROTECTING ALL DANGEROUS AREAS FROM ENTRY BY UNAUTHORIZED PARTIES. WORK AREA WILL BE LEFT BROOM CLEAN AT THE END OF COMPLETION OF WORK AND UNTIL THE SPACE IS READY TO BE OCCUPIED.
- PROVIDE BARRICADES AROUND WORK AREAS AS REQUIRED TO PREVENT UNAUTHORIZED PERSONS FROM ENTERING THEREIN.
- THE WORD "PROVIDE" USED ON DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THIS PROJECT MEANS "FURNISH AND INSTALL". WHEN ONLY ONE PART OF ACTION IS REQUIRED, EITHER "FURNISH" OR "INSTALL" WILL BE USED ACCORDINGLY (TYP., U.O.W.N.).
- ALL DISCONNECT SWITCHES, STARTERS, AND VARIABLE FREQUENCY DRIVES SHALL BE FURNISHED BY MECHANICAL CONTRACTOR AND INSTALLED BY ELECTRICAL CONTRACTOR.
- PROVIDE OPERATING AND MAINTENANCE MANUALS FOR ALL EQUIPMENT SPECIFIED IN THE SCHEDULES ON THIS DRAWING TO THE BUILDING OWNER WITHIN 90 DAYS AFTER SYSTEM ACCEPTANCE.

ABBREVIATIONS

ABBREVIATION:	DESCRIPTION:
A	AMPERE
AC	AIR CONDITIONING
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
AMP	AMPERE
ASHRAE	AMERICAN SOCIETY OF HEATING, REFRIGERATING, AND AIR CONDITIONING ENGINEERS
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS
AUX	AUXILIARY
BC	BRANCH CONTROLLER
BHP	BRAKE HORSEPOWER
BOD	BOTTOM OF DUCT
BOP	BOTTOM OF PIPE
BMS	BUILDING MANAGEMENT SYSTEM
BTU	BRITISH THERMAL UNIT
CFM	CUBIC FEET PER MINUTE
CW	COLD WATER
DB	DRY BULB
DDC	DIRECT DIGITAL CONTROL
DEG.	DEGREES
DEW	DEW POINT
DWG	DRAWING
DX	DIRECT EXPANSION
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EER	ENERGY EFFICIENCY RATIO
EFF	EFFICIENCY
ESP	EXTERNAL STATIC PRESSURE
F	FAHRENHEIT
FA	FIRE ALARM
FC	FLEXIBLE CONNECTION
FD	FLOOR DAMPER
FD	FLOOR DRAIN
FLA	FULL LOAD AMPS
FPI	FINS PER INCH
PFM	FEET PER MINUTE
FSD	COMBINATION FIRE/SMOKE DAMPER
FEET	FEET
G	NATURAL GAS
GAL	GALLON
GALV	GALVANIZED
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
HOA	HAND/OFF/AUTO
HP	HEAT PUMP
H	HOUR
HP	HORSEPOWER
HVAC	HEATING, VENTILATION, AND AIR CONDITIONING
HW	HOT WATER
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
HZ	HERTZ
IEER	INTEGRATED ENERGY EFFICIENCY RATIO
IN	INCHES
KW	KILOWATTS
LxWxH	LENGTH BY WIDTH BY HEIGHT
LAT	LEAVING AIR TEMPERATURE
LB	POUND
LF	LINEAR FEET
LRA	LOCKED ROTOR AMPS
LWT	LEAVING WATER TEMPERATURE
MAX	MAXIMUM
MBH	1,000 BTUH
DEA	MINIMUM CIRCUIT AMPACITY
MHP	MINOR HORSEPOWER
MIN	MINIMUM, MINUTE
MM	MILLIMETER
MOP	MAXIMUM OVER-CURRENT PROTECTION
OAT	OUTSIDE AIR TEMPERATURE
OC	ON CENTER
NA	NOT APPLICABLE
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
PH	PHASE
PRESS	PRESSURE
PSIA	POUNDS PER SQUARE INCH, ABSOLUTE
PSIG	POUNDS PER SQUARE INCH, GAUGE
QTY	QUANTITY
RA	RETURN AIR
RAT	RETURN AIR TEMPERATURE
REQD	REQUIRED
REV	REVISION
RM	ROOM
RTU	ROOFTOP UNIT
S	SECONDS
SD	SMOKE DAMPER
SEER	SEASONAL ENERGY EFFICIENCY RATIO
SENS	SENSIBLE
SF	SQUARE FEET
SPEC	SPECIFICATION
SO	SQUARE
SS	STAINLESS STEEL
TEMP	TEMPERATURE
THK	THICK
TOD	TOP OF DUCT
TON	12,000 BTUH COOLING CAPACITY
TYP	TYPICAL
UH	UNIT HEATER
V	VENT, VOLTS, OR VOLUME
VAV	VARIABLE AIR VOLUME
VD	VOLUME DAMPER
VFD	VARIABLE FREQUENCY DRIVE
VIF	VERIFY IN FIELD
VRF	VARIABLE REFRIGERANT FLOW
W	WATTS, WIDTH
WB	WET BULB
WC	WATER COLUMN



No.	Date	Revisions
1	03-04-23	BIDDING DOCUMENTS

Drawn by	VF /AW
Checked by	EF
Project No.	43040
Scale	AS NOTED
Date	03-04-25

GREENMAN PEDERSEN, INC MECHANICAL ELECTRICAL PLUMBING & REFRIGERATION CONTRACTORS SUFFERN, NY 10901 PHON. NO. : 845-2600000	GREENMAN PEDERSEN, INC MECHANICAL ELECTRICAL PLUMBING & REFRIGERATION CONTRACTORS SUFFERN, NY 10901
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Mechanical Electrical Plumbing & Refrigeration Engineer:	Structural Engineer:
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UNIVENT REPLACEMENT AT STONY POINT THIELLS, WEST HAVESTRAW ELEMENTARY SCHOOL

SD# 50-02-01-06-0-014-012
 SD# 50-02-01-06-0-025-018
 SD# 50-02-01-06-0-024-015

NEW YORK STATE
 REGISTERED ARCHITECT

MSA

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GENERAL NOTES AND ABBREVIATIONS

Drawing No. **M-001**

SYMBOLS:

	CENTER LINE
	DEMOLITION AND REMOVAL
	EXISTING TO REMAIN
	NEW PIPE, DUCTWORK OR EQUIPMENT
	PIPE DROPPING DOWN
	PIPE RISING UP
	AIR VENT
	AUTOMATIC FLOW CONTROL VALVE
	BALL VALVE
	BUTTERFLY VALVE
	CHECK VALVE
	CONCENTRIC REDUCER OR INCREASER
	ECCENTRIC REDUCER OR INCREASER
	FLEXIBLE CONNECTOR
	FLOW IN DIRECTION OF ARROW
	GATE VALVE
	GLOBE VALVE
	MODULATING CONTROL VALVE
	PRESSURE GAUGE WITH NEEDLE VALVE COCK
	PRESSURE REDUCING VALVE
	PRESSURE RELIEF VALVE
	STRAINER
	THERMOMETER
	TRIPLE DUTY VALVE
	UNION
	DISCONNECT POINT
	TIE-IN POINT
	HWR HOT WATER RETURN
	HWS HOT WATER SUPPLY
	REFRIGERANT
	DRAIN
	VENT
	TEMPERATURE SENSOR/THERMOSTAT
	HUMIDITY SENSOR

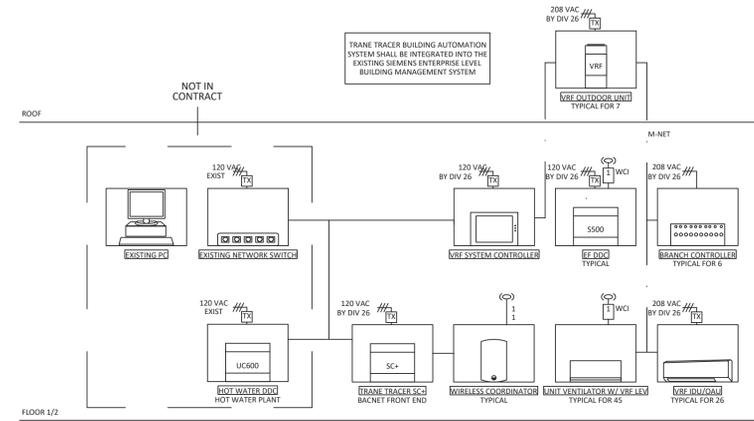
	ACCESS PANEL
	VOLUME DAMPER
	SUPPLY DIFFUSER
	RETURN OR EXHAUST GRILLE
	CEILING CASSETTE
	DEMOLISH
	SECTION A-A

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SUMMARY OF WORK STONY POINT:

THE WORK OF THIS PROJECT INCLUDES HVAC UPGRADES AT STONY POINT ELEMENTARY SCHOOL. PROVIDE MATERIALS AND SERVICES AS FOLLOWS. THE FOLLOWING IS NOT INTENDED TO BE A COMPLETE DESCRIPTION OF THE WORK; PERFORM THE WORK AS HEREINAFTER DESCRIBED IN THESE CONTRACT DOCUMENTS.

- A. REPLACE UNIT VENTILATORS THROUGHOUT THE BUILDING WHERE INDICATED. CONNECT ALL NEW UNIT VENTILATORS TO THE NEW VRF SYSTEM WITH NEWLY INSTALLED REFRIGERANT PIPING. UNIT VENTILATORS TO DX COOLING AND HEATING AND ALSO HYDRONIC HOT WATER HEATING COIL TO BE TIED IN AND CONTROLLED VIA SEPARATE THERMOSTAT. TYP. 50 TO BE TIED INTO EXISTING BMS SYSTEM.
- B. PROVIDE NINE (9) NEW CEILING CASSETTE HVAC UNITS WITH DX COOLING AND HEATING. CONNECTED TO NEW OR EXISTING FRESH AIR DUCTWORK WITH NEW THERMOSTATS. TO BE TIED INTO EXISTING BMS SYSTEM.
- B. PROVIDE EIGHT (8) NEW WALL HUNG HVAC UNITS WITH DX COOLING AND HEATING WITH NEW THERMOSTATS. TO BE TIED INTO EXISTING BMS SYSTEM.
- C. PROVIDE SEVEN (7) NEW DUCTLESS VRF OUTDOOR CONDENSING UNITS.
- D. PROVIDE AND INSTALL THREE (3) ROOFTOP HVAC UNITS. ONE (1) FOR THE LIBRARY, TIE INTO EXISTING DUCT WORK AND EXTEND NEW DUCTWORK INTO THREE ROOM. TWO (2) FOR THE GYM AND SUPPLY AND RETURN DUCTWORK ALL THREE NEW THERMOSTATS AND CONNECT TO BMS.
- E. LIBRARY SUPPLY DUCTWORK TO HAVE NEW HOT WATER COILS TO BE TIED INTO EXISTING HOT WATER SYSTEM. CONNECT TO NEW THERMOSTAT AND BMS.

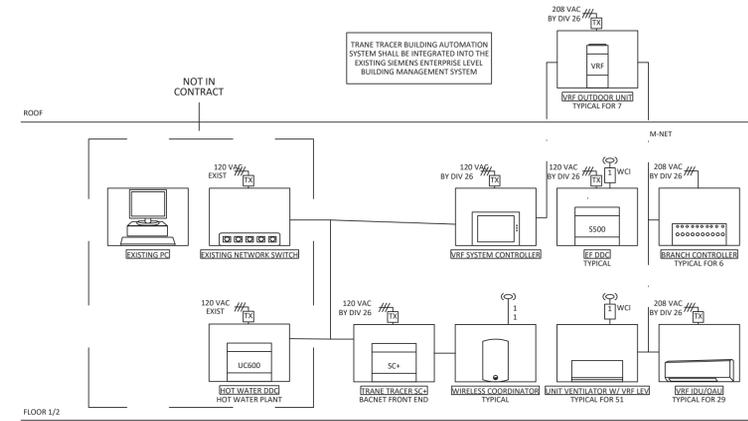


1 HVAC UPGRADE BMS-CONTROLS (THIELS)
SCALE: N.T.S.

SUMMARY OF WORK - THIELS:

THE WORK OF THIS PROJECT INCLUDES HVAC UPGRADES AT THIELS ELEMENTARY SCHOOL. PROVIDE MATERIALS AND SERVICES AS FOLLOWS. THE FOLLOWING IS NOT INTENDED TO BE A COMPLETE DESCRIPTION OF THE WORK; PERFORM THE WORK AS HEREINAFTER DESCRIBED IN THESE CONTRACT DOCUMENTS.

- A. REPLACE UNIT VENTILATORS THROUGHOUT THE BUILDING WHERE INDICATED. CONNECT ALL NEW UNIT VENTILATORS TO THE NEW VRF SYSTEM WITH NEWLY INSTALLED REFRIGERANT PIPING. UNIT VENTILATORS TO DX COOLING AND HEATING AND ALSO HYDRONIC HOT WATER HEATING COIL TO BE TIED IN AND CONTROLLED VIA SEPARATE THERMOSTAT. TYP. 51 TO BE TIED INTO EXISTING BMS SYSTEM.
- B. PROVIDE NINE (9) NEW CEILING CASSETTE HVAC UNITS WITH DX COOLING AND HEATING. CONNECTED TO NEW OR EXISTING FRESH AIR DUCTWORK WITH NEW THERMOSTATS. TO BE TIED INTO EXISTING BMS SYSTEM.
- B. PROVIDE EIGHT (8) NEW WALL HUNG HVAC UNITS WITH DX COOLING AND HEATING WITH NEW THERMOSTATS. TO BE TIED INTO EXISTING BMS SYSTEM.
- C. PROVIDE SEVEN (7) NEW DUCTLESS VRF OUTDOOR CONDENSING UNITS.

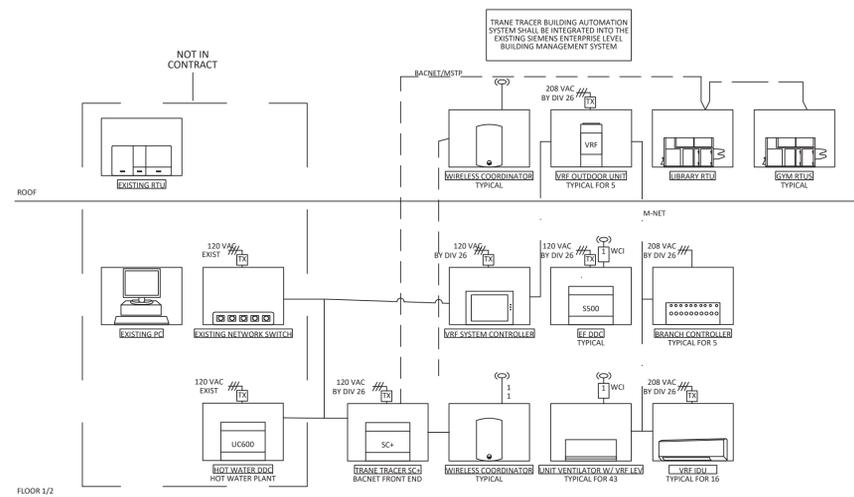


2 HVAC UPGRADE BMS-CONTROLS (WEST HAVERSTRAW)
SCALE: N.T.S.

SUMMARY OF WORK WEST HAVERSTRAW:

THE WORK OF THIS PROJECT INCLUDES HVAC UPGRADES AT WEST HAVERSTRAW ELEMENTARY SCHOOL. PROVIDE MATERIALS AND SERVICES AS FOLLOWS. THE FOLLOWING IS NOT INTENDED TO BE A COMPLETE DESCRIPTION OF THE WORK; PERFORM THE WORK AS HEREINAFTER DESCRIBED IN THESE CONTRACT DOCUMENTS.

- A. REPLACE UNIT VENTILATORS THROUGHOUT THE BUILDING WHERE INDICATED. CONNECT ALL NEW UNIT VENTILATORS TO THE NEW VRF SYSTEM WITH NEWLY INSTALLED REFRIGERANT PIPING. UNIT VENTILATORS TO DX COOLING AND HEATING AND ALSO HYDRONIC HOT WATER HEATING COIL TO BE TIED IN AND CONTROLLED VIA SEPARATE THERMOSTAT. TYP. 50 TO BE TIED INTO EXISTING BMS SYSTEM.
- B. PROVIDE NINE (9) NEW CEILING CASSETTE HVAC UNITS WITH DX COOLING AND HEATING. CONNECTED TO NEW OR EXISTING FRESH AIR DUCTWORK WITH NEW THERMOSTATS. TO BE TIED INTO EXISTING BMS SYSTEM.
- B. PROVIDE EIGHT (8) NEW WALL HUNG HVAC UNITS WITH DX COOLING AND HEATING WITH NEW THERMOSTATS. TO BE TIED INTO EXISTING BMS SYSTEM.
- C. PROVIDE SEVEN (7) NEW DUCTLESS VRF OUTDOOR CONDENSING UNITS.



3 HVAC UPGRADE BMS-CONTROLS (STONY POINT)
SCALE: N.T.S.

0 1/2
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

No.	Date	Revisions
1	03-04-25	BIDDING DOCUMENTS

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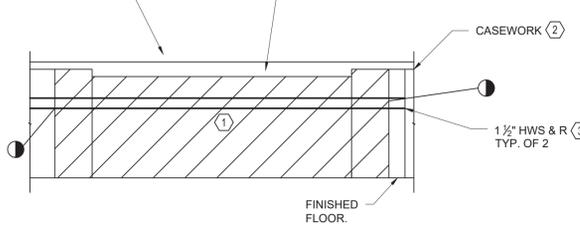
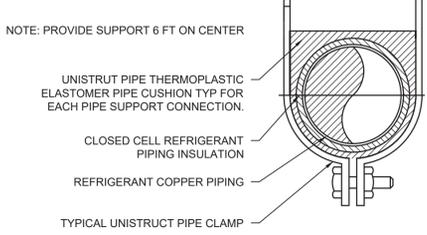
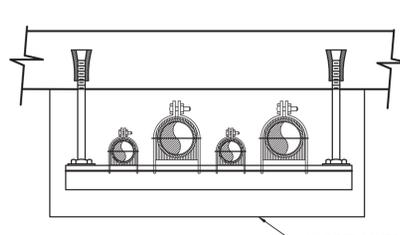
Drawn by	VF / AW
Checked by	EF
Project No.	43040
Scale	AS NOTED
Date	03-04-25

GREENMAN PEDERSEN, INC Mechanical Electrical & Structural Engineer PROJ. NO. : NY-20080800	GREENMAN PEDERSEN, INC Structural Engineer PROJ. NO. : NY-10001
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UNIVENT REPLACEMENT AT STONY POINT, THIELS, WEST HAVERSTRAW ELEMENTARY SCHOOL
 SEDA# 50-02-01-06-0-014-012
 SEDA# 50-02-01-06-0-025-018
 SEDA# 50-02-01-06-0-024-015
 GREENMAN PEDERSEN, INC. 10960
 STONY POINT, NY 10980



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MECHANICAL SCOPE OF WORK
Drawing No. M-002



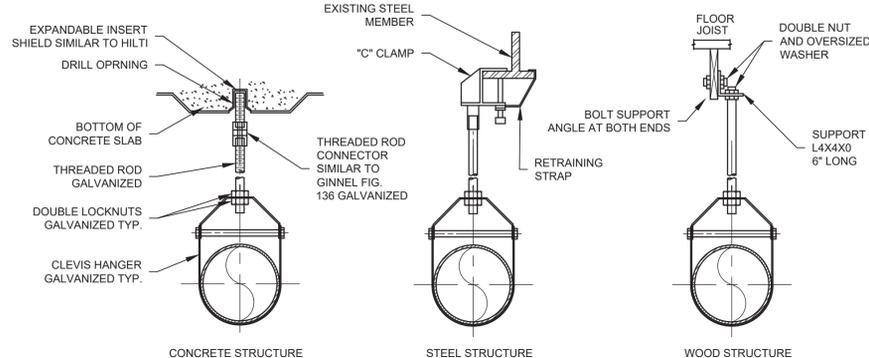
NOTES:
 ① DEMOLISH EXISTING NESBITT UNIT VENTILATOR.
 ② REFER TO ARCHITECTURAL DRAWINGS.
 ③ REMOVE APPROX. 10 LF OF HWS & HWR PIPING SERVING THE FINNED TUBE RADIATORS PER UNIT VENTILATOR. CUT BACK THE ALUMINUM FINS AS NEEDED.

NOTE:
 1. SLOPE PIPING 1/8" PER FOOT TOWARD DRAIN. TERMINATE WITHIN 6" OF THE NEAREST ROOF DRAIN.
 2. FOR DRAW THROUGH UNITS: H1= NEGATIVE STATIC PRESSURE OF FAN + 1" MIN. H2=H1.
 3. MINIMUM PIPE SIZES SHALL BE AS FOLLOWS:
 a. FOR EQUIPMENT UP TO 20 TONS REFRIGERATION: 3/4"
 b. FOR EQUIPMENT OVER 20 TONS UP TO 40 TONS REFRIGERATION: 1"
 4. CONNECT THE CONDENSATE DRAIN TO THE EXISTING CONDENSATE DRAIN PIPING AT EACH UNIT VENTILATOR AND FAN COIL UNIT.

1 REFRIDGERANT AND CONDENSATE PIPING DETAIL
 SCALE: N.T.S.

2 UNIT VENTILATOR DEMOLITION
 SCALE: 1/2" = 1'0"

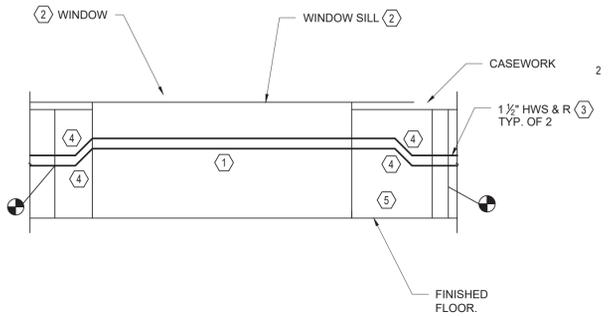
3 CONDENSATE TRAP
 SCALE: N.T.S.



NOTES:
 1. INCREASE CLEVIS HANGER SIZE TO ALLOW FOR INSULATION OF THOSE LINES REQUIRING INSULATION.
 2. FOR INSULATED LINES USE STEEL PIPE SHIELDS AT HANGER POINTS.
 3. THE ABOVE DETAIL SHALL BE USED ONLY FOR LINES UP TO AND INCLUDING 4" IN SIZE.
 4. HANGING DETAILS SHALL BE SUBMITTED TO ENGINEER FOR REVIEW AND APPROVAL.
 5. HANGER SPACING SHALL BE AS FOLLOWS:

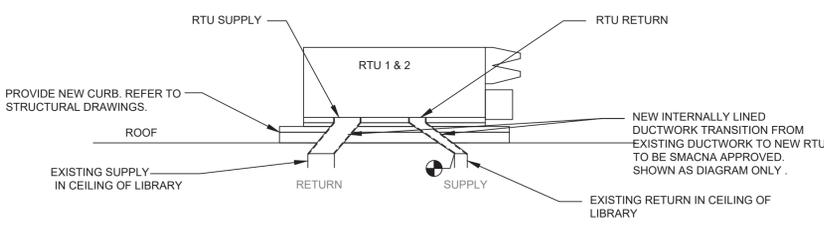
PIPE SIZE	MAX. HANGER SPACING	MIN. ROD SIZE
1/2" TO 1"	7' O.C.	3/8"
1-1/4" TO 2"	9' O.C.	1/2"
2-1/2" TO 4"	10' O.C.	1/2"

4 TYPICAL HANGER DETAILS
 SCALE: N.T.S.

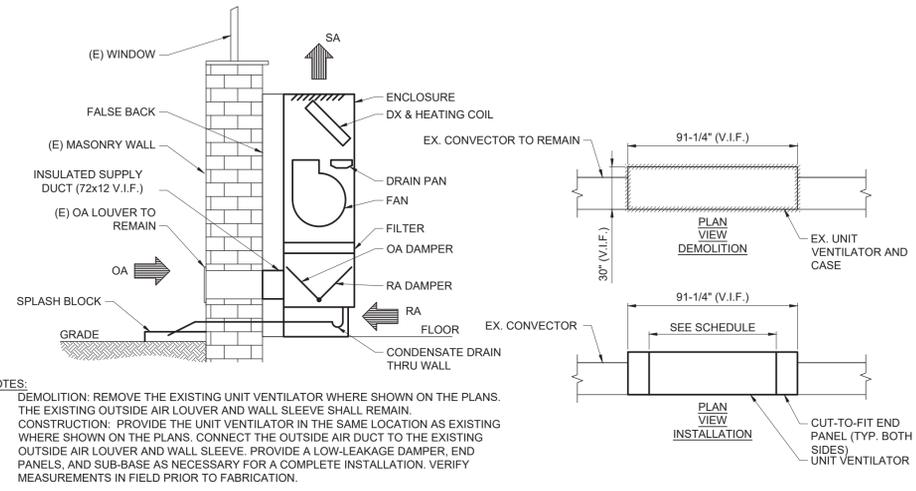


NOTES:
 ① INSTALL NEW UNIT VENTILATOR. REFER TO SCHEDULE FOR DIMENSIONS.
 ② REFER TO ARCHITECTURAL DRAWINGS.
 ③ PROVIDE APPROX. 10 LF OF HWS & HWR PIPING SERVING THE EXISTING FINNED TUBE RADIATORS. RUN WITHIN THE UNIT VENTILATOR'S INTEGRAL PIPE CHASE.
 ④ OFFSET PIPING WITH 45 DEGREE ELBOWS ONLY IF NEEDED.
 ⑤ 12" ± EXTENSION FOR LINEAR EXPANSION VALVE.

5 UNIT VENTILATOR INSTALLATION
 SCALE: 1/2" = 1'0"

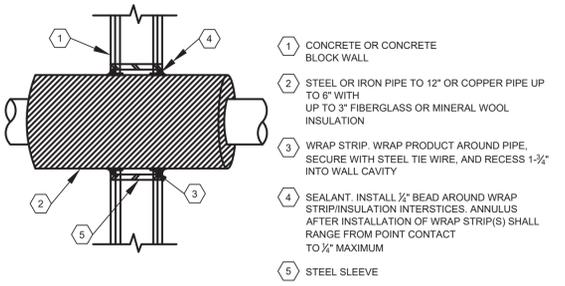


2 RTU INSTALL DETAIL
 SCALE: NONE

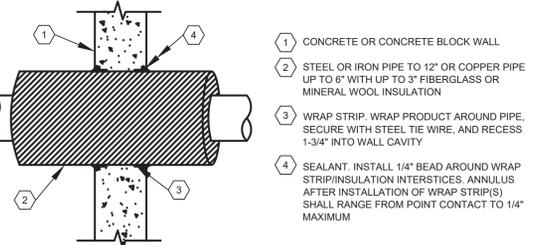


NOTES:
 1. DEMOLITION: REMOVE THE EXISTING UNIT VENTILATOR WHERE SHOWN ON THE PLANS. THE EXISTING OUTSIDE AIR LOUVER AND WALL SLEEVE SHALL REMAIN.
 2. CONSTRUCTION: PROVIDE THE UNIT VENTILATOR IN THE SAME LOCATION AS EXISTING WHERE SHOWN ON THE PLANS. CONNECT THE OUTSIDE AIR DUCT TO THE EXISTING OUTSIDE AIR LOUVER AND WALL SLEEVE. PROVIDE A LOW-LEAKAGE DAMPER, END PANELS, AND SUB-BASE AS NECESSARY FOR A COMPLETE INSTALLATION. VERIFY MEASUREMENTS IN FIELD PRIOR TO FABRICATION.

7 UNIT VENTILATOR DETAILS
 SCALE: N.T.S.



8 PIPE THRU GWB WALL
 SCALE: N.T.S.



9 PIPE THRU MASONRY WALL
 SCALE: N.T.S.

No.	Date	Revisions
1	03-04-25	BIDDING DOCUMENTS

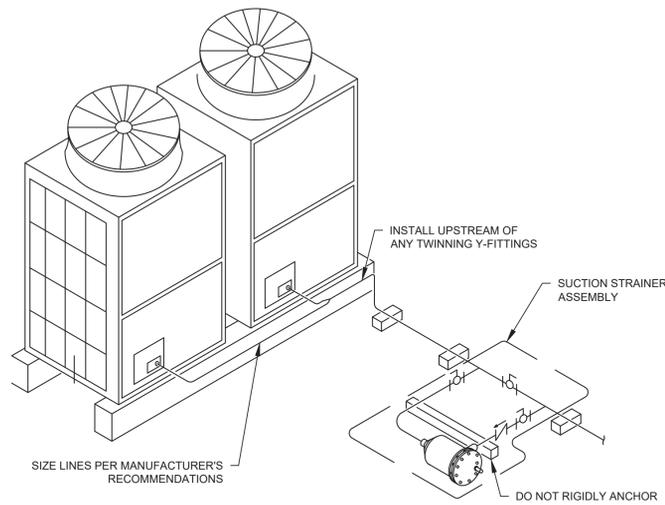
Drawn by	VF/AW
Checked by	EF
Project No.	43040
Scale	AS NOTED
Date	03-04-25

Mechanical Engineer:	GREENMAN PEDERSEN, INC 2 EXECUTIVE BLDG SUFFERN, NY 10081 PROJ. NO.: NY-000157-00
Structural Engineer:	GREENMAN PEDERSEN, INC 2 EXECUTIVE BLDG SUFFERN, NY 10081

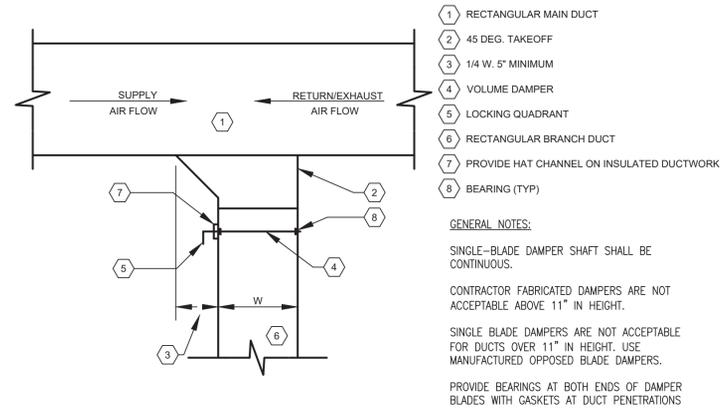
UNIVENT REPLACEMENT AT STONY POINT, THIELLS, WEST HAV ELEMENTARY SCHOOL
 SED# 50-02-01-06-0-014-XXX
 SED# 50-02-01-06-0-025-XXX
 SED# 50-02-01-06-0-024-XXX
 MICHAEL SHILALE ARCHITECTS, L.L.P.
 140 Park Avenue New York, NY 10066 Tel 845-708-9200
 www.shilale.com



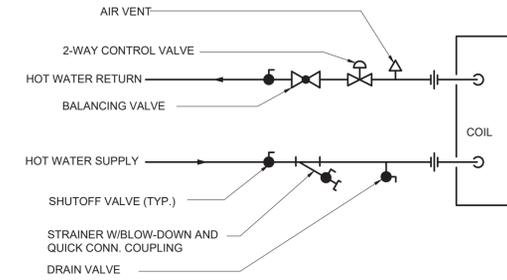
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 Drawing Title: MECHANICAL DETAILS
 Drawing No.: M-501
 - 1



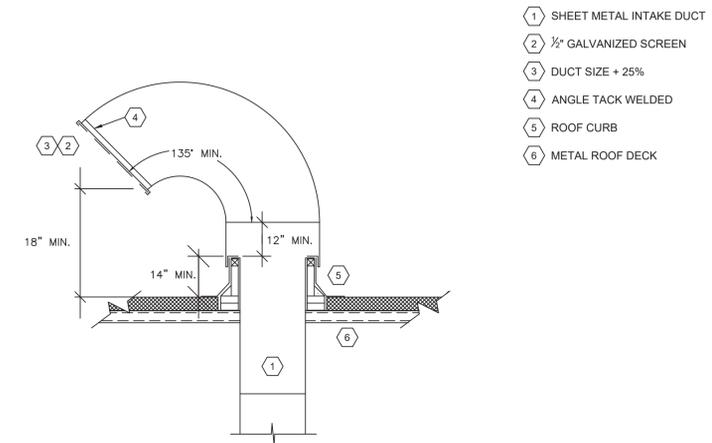
1 PIPING AT ACCU
SCALE: N.T.S.



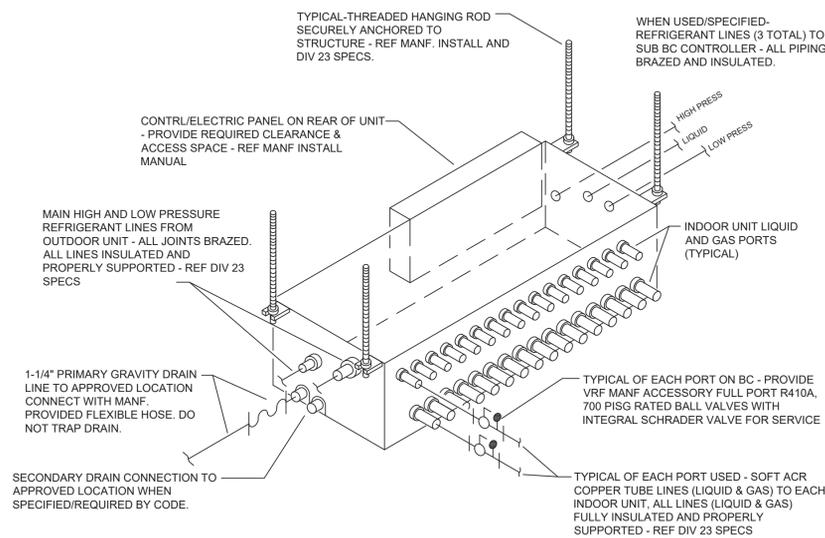
2 RECTANGULAR DUCT TAP W/ DAMPER
SCALE: N.T.S.



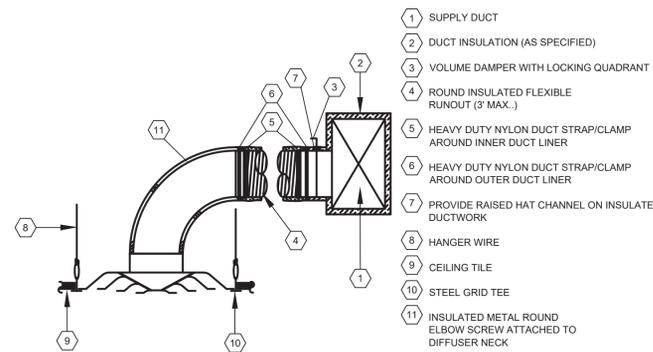
3 HOT WATER PIPING AT VENTILATOR
SCALE: N.T.S.



4 INTAKE GOOSE DETAIL
SCALE: N.T.S.

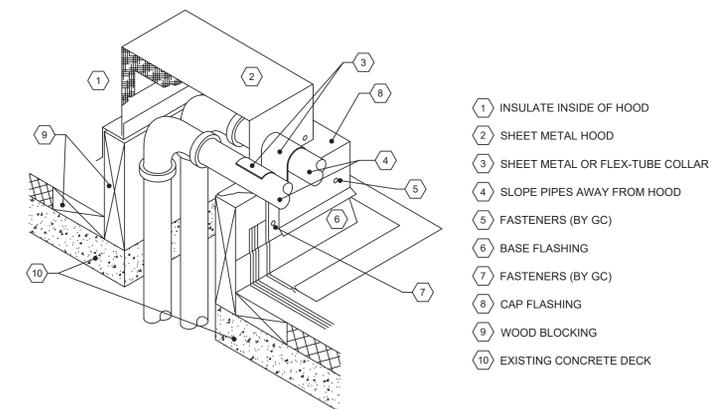


5 BC CONTROLLER DETAIL
SCALE: N.T.S.



NOTES:
1. SUPPLY DIFFUSER IS SHOWN, RETURN AND EXHAUST ARE SIMILAR.

6 DIFFUSER/ GRILL CONNECTION DETAIL
SCALE: N.T.S.



7 ROOFTOP PIPE PENETRATION
SCALE: N.T.S.

0 1/2 1
IF THIS BAR DOES NOT MEASURE 1\"/>

No.	Date	Revisions
1	03-04-25	BIDDING DOCUMENTS

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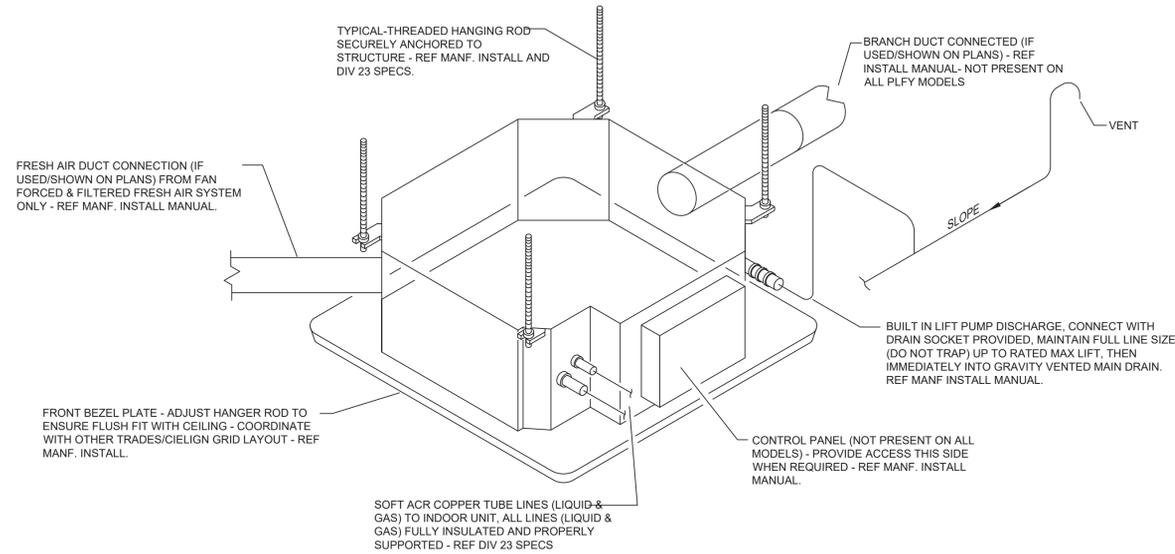
Drawn by	VF /AW
Checked by	EF
Project No.	43040
Scale	AS NOTED
Date	03-04-25

Mechanical Structural Engineer:	GREENMAN PEDERSEN, INC 2 EXECUTIVE BOULEVARD SUFFERN, NY 10901 PROJ. NO. : MNY-2000127.00
	GREENMAN PEDERSEN, INC 2 EXECUTIVE BOULEVARD SUFFERN, NY 10901

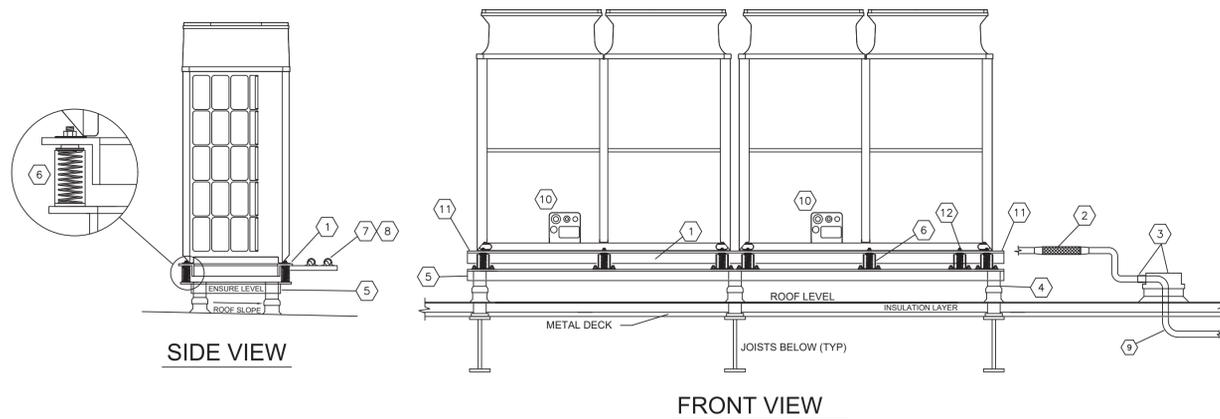
UNIVENT REPLACEMENT
AT STONY POINT,
THIELLS, WEST HAV
ELEMENTARY SCHOOL
SSD# 50-02-01-06-0-014-XXX
SSD# 50-02-01-06-0-025-XXX
SSD# 50-02-01-06-0-024-XXX
NEW YORK STATE
REGISTERED ARCHITECTS
MICHAEL SHILALE ARCHITECTS, L.L.P.



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Drawing Title
MECHANICAL DETAILS
- 2
Drawing No.
M-502



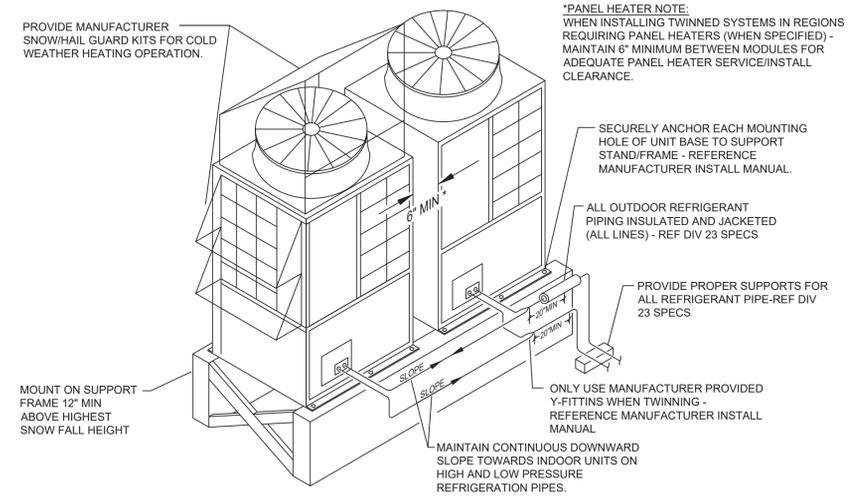
1 CEILING CASSETTE INSTALLATION DETAIL
SCALE: N.T.S.



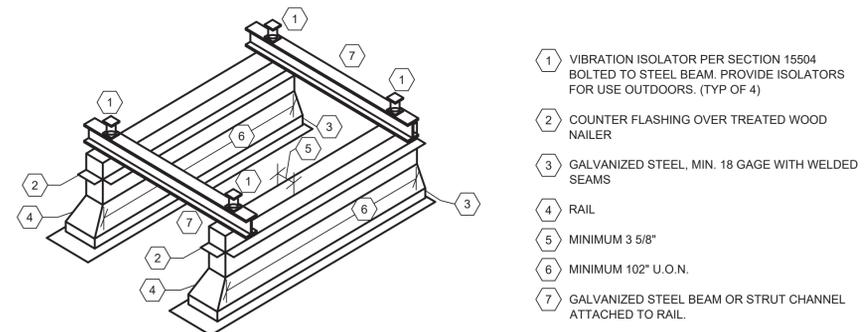
CODING NOTES:

1. PROVIDE STRUCTURAL INTERSTITIAL ANGLE IRON MOUNTING MEMBER OR SIMILAR ATTACHED DIRECTLY TO BOTTOM OF UNIT MOUNTING FLANGE AND PROVIDE CROSS BRACING FOR RIGIDITY. ENSURE IT CARRIES FULL MOUNTING FOOT WIDTH ON UNIT. FINAL SPECIFICATION OF MEMBER BY STRUCTURAL ENGINEER OF RECORD.
2. PROVIDE BRAIDED COPPER FLEXIBLE CONNECTOR, R410A RATED, 650PSI MAX WORKING PRESSURE, PACKLESS INDUSTRIES OR EQUAL ON ALL MAIN PIPING DOWNSTREAM OF TWINNING KITS/CONVERGING FITTINGS PRIOR TO PENETRATION THROUGH ROOF.
3. PIPE ROOF CURB, FLASHED AND SEALED WATER TIGHT. PROVIDE FLEXIBLE WATER TIGHT COLLAR TO ALLOW FOR MOVEMENT WHERE PIPE ENTERS CURB. DO NOT ENTER PIPE CURB FROM VERTICAL DIRECTION.
4. TYPICAL BASE SUPPORT POSTS, SECURELY ANCHORED TO BUILDING STRUCTURE BELOW, QUANTITY, SIZE, AND CARRYING CAPACITY DETERMINED BY STRUCTURAL ENGINEER OF RECORD.
5. STRUCTURAL ANGLE IRON BASE MOUNTING FRAME WITH CROSS MEMBERS FOR RIGIDITY - FINAL SIZING BY STRUCTURAL ENGINEER OF RECORD.
6. VIBRATION SPRING SLR TYPE ISOLATORS (MASON INDUSTRIES OR EQUIV.) WITH RUBBER BASE PADS, SECURELY FASTENED TO STRUCTURAL BASE AND TO VRF UNIT INTERSTITIAL SUPPORT STEEL. SPRING ISOLATOR TO PROVIDE MINIMUM 1" DEFLECTION OR 10 TIMES THE STATIC DEFLECTION OF THE ROOF DECK FROM EQUIPMENT WEIGHT - DETERMINED BY STRUCTURAL ENGINEER OF RECORD. AT A MINIMUM, PROVIDE SPRING ISOLATORS AT EACH EQUIPMENT BASE MOUNTING HOLE LOCATION.
7. IF REQUIRED, ONLY SUPPORT LATERAL PIPE EMANATING FROM VRF UNIT CONNECTIONS BY CROSS MEMBER SUPPORT THAT IS ATTACHED DIRECTLY TO VRF UNIT MOUNTING ANGLE IRON FRAME ABOVE SPRING ISOLATORS. DO NOT ATTACH ANY PIPING TO LOWER FIXED SUPPORT BASE.
8. USE NEOPRENE ISOLATION COLLARS ON PIPE CLAMS WHEN FASTENING PIPING TO SUPPORTS.
9. USE LONG RADIUS SWEEPING COPPER ACR TUBE PIPE BENDS WHERE PIPE ENTERS BUILDING AT FIRST ELBOW INTO CEILING SPACE TO MINIMIZE REFRIGERANT FLOW NOISE AND VIBRATION.
10. ALL ELECTRICAL CONNECTIONS TO UNITS TO BE VIA FLEXIBLE CONDUIT, PROVIDE SUFFICIENT SLACK TO ALLOW FOR UNIT MOVEMENT ON SPRING ISOLATORS.
11. ENSURE CROSS MEMBERS OF INTERSTITIAL FRAME AND BOTTOM SUPPORT FRAME ARE NOT DIRECTLY BELOW ENDS OF MODULES IN ALL LOCATIONS AND DO NOT BLOCK DRAINAGE WEEP HOLES IN BOTTOM OF UNIT CASING, FAILURE TO DO THIS MAY RESULT IN ICE DAMMING/BUILDUP BENEATH UNIT AND SUBSEQUENT BUILDUP OF ICE IN BOTTOM OF UNIT CASING BELOW COIL AND POTENTIAL DAMAGE TO BOTTOM OF COIL.
12. WHEN SELECTING SPRING ISOLATORS ALWAYS CONSIDER WEIGHT DISTRIBUTION BY REFERENCING EQUIPMENT WEIGHT AND CENTER OF GRAVITY. NEAR RIGHT ENDS OF UNITS (VIEWED FROM FRONT PANEL) SPRING WEIGHT CAPACITY MAY BE LARGER. IF HIGHER SPRING WEIGHT CAPACITY IS REQUIRED VS OTHER SPRING LOCATIONS, CONSIDER AN ADDITIONAL SPRING OF EQUAL "K" VALUE (lbs/in) NEAR RIGHT END OF LAST MODULE. IN GENERAL IT IS RECOMMENDED TO SELECT ALL MOUNTING SPRINGS OF EQUIVALENT "K" VALUE (lbs/in).

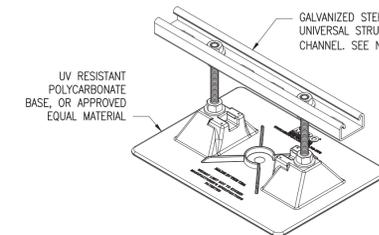
3 ACCU OUTDOOR UNIT MOUNTING DETAIL
SCALE: N.T.S.



2 ACCU OUTDOOR UNIT TWINNING DETAIL
SCALE: N.T.S.



4 ACCU ROOFTOP SUPPORT RAIL DETAIL
SCALE: N.T.S.



NOTES:

1. MINIMUM SUPPORT SPACING SHALL BE AS FOLLOWS:
 - a. COPPER TUBE (1 1/4" AND SMALLER): 6'-0" O.C.
 - b. COPPER TUBE (1 1/2" AND LARGER): 10'-0" O.C.
 - c. PVC: 4'-0" O.C.
 - d. FOR SIZES AND MATERIALS NOT LISTED ABOVE, COMPLY WITH 2015 MCNS 305.4.
2. VERIFY IN FIELD REQUIRED STRUT CHANNEL HEIGHT. SECURE PIPING TO CHANNEL USING CLAMP CONSTRUCTED OF COMPATIBLE MATERIAL.
3. BASIS OF DESIGN: MIRO IND. MODEL 2.5-CS.

5 SUPPORT FOR ROOFTOP CONDENSATE PIPING
SCALE: N.T.S.

0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

No.	Date	Revisions
1	03-04-25	BIDDING DOCUMENTS

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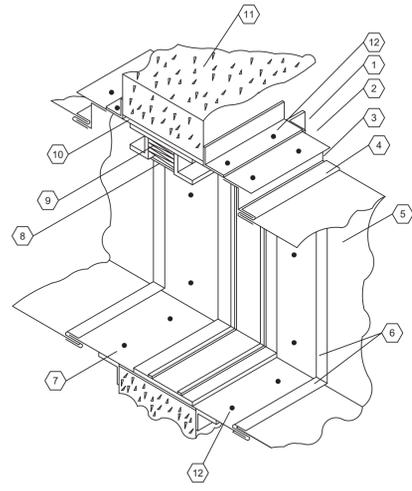
Drawn by	VF/AW
Checked by	EF
Project No.	43040
Scale	AS NOTED
Date	03-04-25

Mechanical Electrical Engineer:	GREENMAN PEDERSEN, INC 2 EXECUTIVE BOULEVARD SUFFERN, NY 10901 PROJ. NO.: MNY-200127.00
	GREENMAN PEDERSEN, INC 2 EXECUTIVE BOULEVARD SUFFERN, NY 10901
Structural Engineer:	GREENMAN PEDERSEN, INC 2 EXECUTIVE BOULEVARD SUFFERN, NY 10901

UNIVENT REPLACEMENT
AT STONY POINT,
THIELS, WEST HAV
ELEMENTARY SCHOOL
SDD# 50-02-01-06-0-014-XXX
SDD# 50-02-01-06-0-025-XXX
SDD# 50-02-01-06-0-024-XXX
MAY 2005
MAY 2005
MAY 2005

MSA
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140 Park Avenue New City, NY 10954 Tel 845-708-9200
www.shilale.com

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Drawing Title
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- 3
Drawing No.
M-503



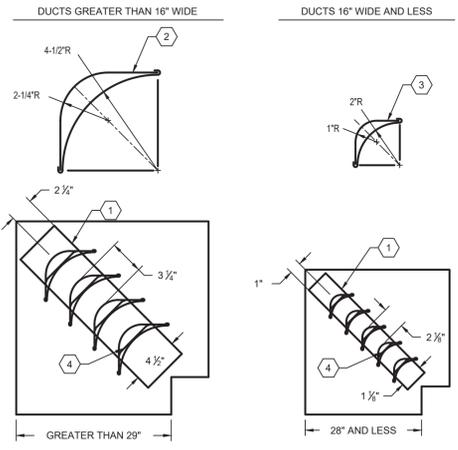
- 1 RETAINING ANGLE
- 2 STEEL SLEEVE
- 3 COLLAR EXTENSION
- 4 "S" SLIP BREAKAWAY CONNECTION
- 5 SHEET METAL DUCT
- 6 "S" SLIP CONNECTION
- 7 TYPICAL SLEEVE ATTACHMENT TO RETAINING ANGLE
- 8 FUSIBLE LINK
- 9 CURTAIN TYPE BLADES
- 10 CLEARANCE FOR EXPANSION
- 11 RATED SEPARATION
- 12 RETAINING ANGLE FASTENERS. (FASTENERS SPACED 8" APART) (MINIMUM 2 FASTENERS ON ALL 4 SIDES)

NOTES:
REFER TO SMACNA FIRE DAMPER GUIDE FOR CONSTRUCTION DETAILS

DAMPERS TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS PRINTED INSTRUCTIONS

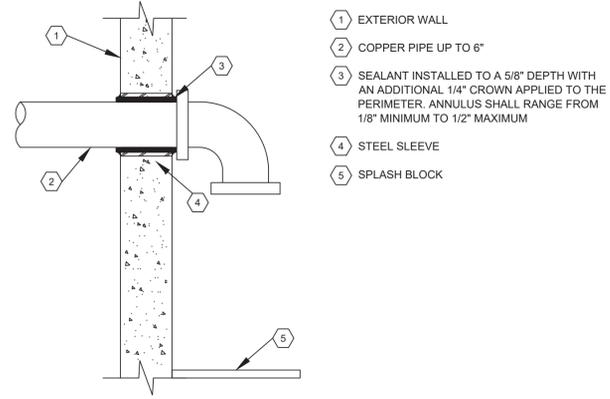
PROVIDE DUCT ACCESS DOOR MINIMUM 16"x16" OR DUCT WIDTH BY 16" AT EACH FIRE DAMPER. LABEL EACH DOOR WITH 1/2" TALL LETTERS "FD". POSITION ACCESS DOOR TO PROVIDE SERVICE ACCESS OF THE FIRE DAMPER TO INCLUDE FUSIBLE LINK REPLACEMENT.

1 TYPE B DAMPER AT WALL PENETRATION SCALE: N.T.S.

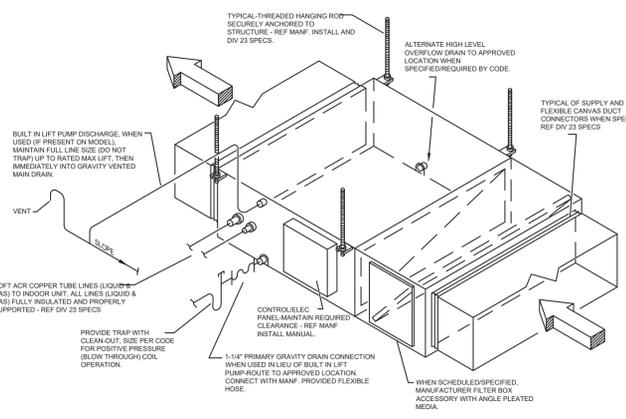


- 1 22 GA VANE RUNNER BOLTED, SCREWED OR WELDED TO DUCT
- 2 LARGE DOUBLE VANE, MIN 24 GA, 72" MAX UNSUPPORTED VANE LENGTH
- 3 SMALL DOUBLE VANE, MIN 26 GA, 48" MAX UNSUPPORTED VANE LENGTH
- 4 TURNING VANE MOUNTED ON EACH TAB OF RUNNER. EVERY RUNNER TAB MUST RECEIVE A TURNING VANE.

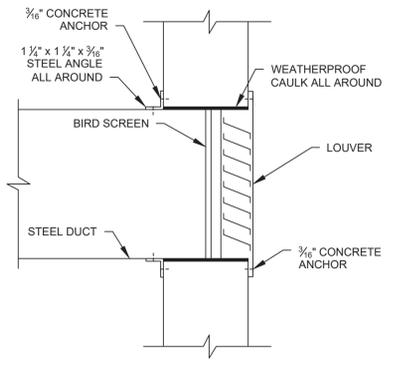
2 DUCT ELBOW WITH TURNING VANES SCALE: N.T.S.



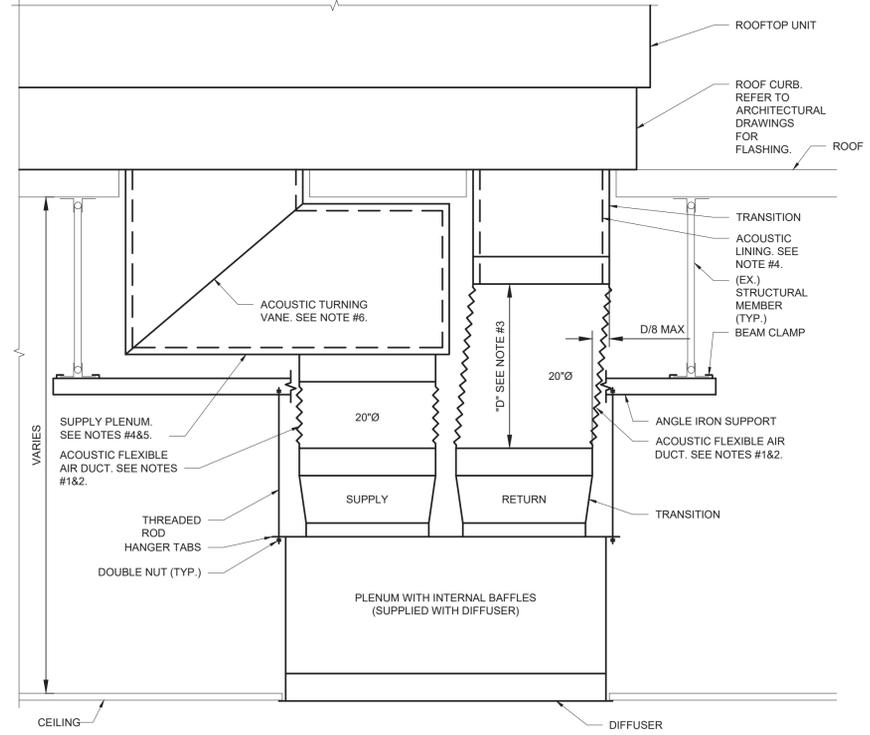
7 METALLIC PIPING THROUGH EXTERIOR WALL SCALE: N.T.S.



4 OUTSIDE AIR UNIT INSTALLATION DETAIL SCALE: N.T.S.



5 LOUVER WITH BIRDSCREEN DETAIL SCALE: N.T.S.



- NOTES:
- PROVIDE A UL LISTED ACOUSTIC FLEXIBLE AIR DUCT FACTORY COMPOSED OF A RESILIENT CALENDARED FILM LINER DUCT PERMANENTLY BONDED TO A COATED SPRING STEEL WIRE HELIX AND SUPPORTING A FIBERGLASS INSULATING BLANKET WITH LOW PERMEABILITY OUTER VAPOR BARRIER OF FIBERGLASS REINFORCED FILM LAMINATE. DUCT SHALL BE 24" UNLESS OTHERWISE NOTED ON THE PLANS. BASIS OF DESIGN, THERMAFLEX M-KE.
 - MAXIMUM OFFSET FOR FLEXIBLE DUCT SHALL BE 1/8 OF ITS INSTALLED LENGTH. USE ROUND, LONG RADIUS GALVANIZED STEEL ELBOWS IF A GREATER OFFSET IS REQUIRED. INSTALL PER MANUFACTURER'S INSTRUCTIONS.
 - FLEXIBLE DUCT SHALL BE LIMITED TO 5 FEET IN LENGTH.
 - DUCT SHALL BE INTERNALLY LINED WITH 1" THICK ACOUSTIC FIBERGLASS DUCT LINER (JOHNS MANVILLE LINACOUSTIC RC-HP OR EQUAL).
 - CLEAR INSIDE DIMENSIONS OF SUPPLY PLENUM SHALL BE 24"x24" MINIMUM.
 - PROVIDE 4" DOUBLE WALL ACOUSTIC TURNING VANES WHERE SHOWN (DUCTMATE 4AVGA24 OR EQUAL).

6 CONCENTRIC DIFFUSER RTU 3-6 DETAIL SCALE: NONE

No.	Date	Revisions
1	03-04-25	BIDDING DOCUMENTS

Drawn by	VF / AW
Checked by	EF
Project No.	43040
Scale	AS NOTED
Date	03-04-25

GREENMAN PEDERSEN, INC 2 EXECUTIVE BOULEVARD SUFFERN, NY 10001 PROJ. NO.: MNY-000187.00	GREENMAN PEDERSEN, INC 2 EXECUTIVE BOULEVARD SUFFERN, NY 10001
Mechanical Architectural Engineer	Structural Engineer

UNIVENT REPLACEMENT
AT STONY POINT,
THIELS, WEST HAV
ELEMENTARY SCHOOL
SD# 50-02-01-06-0-014-XXX
SD# 50-02-01-06-0-025-XXX
SD# 50-02-01-06-0-024-XXX
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Drawing Title MECHANICAL DETAILS - 4 -
Drawing No. M-504

GENERAL NOTES:

- FOR AN EXPLANATION OF ABBREVIATIONS AND SYMBOLS USED ON THESE DRAWINGS, SEE THE ABBREVIATION LIST AND SYMBOLS LIST ON THIS SHEET.
- ALL ELECTRICAL WORK SHALL BE DONE IN COMPLIANCE WITH NYS BUILDING CODE, NATIONAL ELECTRIC CODE 2017 AND ALL OTHER APPLICABLE CODE & LOCAL LAWS AS REQUIRED.
- THE CONTRACTOR SHALL CHECK THE LOCATION, NUMBER AND SIZE OF ALL CHASES PROVIDED ON THE CONSTRUCTION PLANS AND ARRANGE FOR ANY CHASES REQUIRED FOR CABINET OR BOXES.
- THE CONTRACTOR SHALL COORDINATE WITH THE HVAC, PLUMBING, ARCHITECTURAL AND STRUCTURAL TRADES FOR EXACT LOCATIONS OF MOTORS AND EQUIPMENT, IN ORDER TO AVOID INTERFERENCE.
- THE CONTRACTOR SHALL CHECK WITH THE HVAC TRADE CONCERNING THE LOCATION OF STEEL PLATE FIRE STOPS IN CORRIDORS AND HUNG CEILINGS AND SHALL FURNISH THE HVAC TRADE WITH SIZES AND LOCATIONS OF OPENINGS NECESSARY TO ACCOMMODATE THE ELECTRICAL CONDUITS PIERCING THE FIRE STOPS.
- IN UNFINISHED PORTIONS OF THE BUILDING, SUCH AS BOILER ROOM, FAN ROOMS, PIPE SPACES, ETC., LOCATIONS OF CONDUIT AND OUTLETS ARE APPROXIMATE AND SHALL CLEAR PIPING AND ALL OTHER CONSTRUCTION. CONDUIT IN THESE PORTIONS OF THE BUILDING SHALL BE RUN EXPOSED.
- IN THE BOILER ROOM, SYSTEM CONDUITS, SUCH AS FOR LIGHTING AND POWER FEEDERS, LOW VOLTAGE, FIRE SIGNAL, ETC., SHALL NOT BE RUN OVER BOILERS.
- NO CONDUIT SHALL BE RUN IN ANY FLOOR IN CONTACT WITH THE EARTH UNLESS OTHERWISE DIRECTED ON THE PLAN. IN SUCH AREAS, CONDUIT FOR MOTORS AND STARTERS SHALL BE RUN OVERHEAD, SUPPORTED AS REQUIRED.
- PULL AND JUNCTION BOXES SHALL BE SURFACE TYPE IN UNFINISHED AREAS AND FLUSH TYPE IN FINISHED AREAS (AT NEW WALLS/PARTITIONS), UNLESS OTHERWISE NOTED. THE JUNCTION AND PULL BOXES SHALL BE LOCATED TO SUIT CONDUIT ENTRANCE, BUT SHALL, IN ALL CASES, BE LOCATED TO AVOID INTERFERENCE WITH EQUIPMENT FROM OTHER TRADES AND SHALL BE LOCATED SO THAT COVERS ARE READILY ACCESSIBLE.
- WHERE RECESSED FIXTURES ARE INDICATED ON THESE PLANS AND WET PLASTER CEILING CONSTRUCTION IS USED, PLASTER FRAMES SHALL BE PROVIDED BY ELECTRICAL CONTRACTOR AND INSTALLED BY THE GENERAL CONTRACTOR WITH OTHER TYPES OF HUNG CEILING CONSTRUCTION. LIGHTING FIXTURES SHALL BE APPROPRIATE TO MEET THE REQUIREMENTS OF THAT CEILING CONSTRUCTION.
- UNLESS OTHERWISE NOTED ON FLOOR PLANS OR IN FLOOR PLAN NOTES, SWITCHES SHALL BE INSTALLED AT 4'-0" ABOVE FINISHED FLOOR. WHERE SWITCH HEIGHTS ARE GIVEN ON THESE DRAWINGS FOR AREAS IN WHICH THERE ARE TILE WAINSCOTS, SUCH AS TOILETS, LOCKER ROOMS, ETC. THE CONTRACTOR SHALL ADJUST SWITCH HEIGHTS, IF NECESSARY TO AVOID INTERFERENCE WITH THE WAINSCOT.
- CONTRACTOR SHALL PROVIDE SEPARATE RACEWAYS FOR CONDUCTORS ON NORMAL AND EMERGENCY CIRCUITS.
- PROVIDE FIRE STOP SEALS TO ALL PENETRATIONS OF ALL EXISTING FLOORS, SLABS, AND WALLS/PARTITIONS; AND ALL NEW FIRE RATED WALLS & PARTITIONS.
- PROVIDE DEFLECTION FITTINGS AT ALL REQUIRED CROSSINGS OF EXPANSION POINTS.
- ALL CIRCUITS CONTAINING GFI OUTLETS, CKTS FOR COMPUTERS AND/OR PERIPHERALS AND RELATED EQUIPMENT AND CIRCUITS RECOMMENDED BY THE MANUFACTURERS SHALL HAVE A SEPARATE DEDICATED NEUTRAL.
- PROVIDE COLOR CODING FOR BRANCH CIRCUITS & FEEDERS AS FOLLOWS FOR 120/208V. CONDUCTORS:
 - BLACK PHASE "A"
 - RED PHASE "B"
 - BLUE PHASE "C"
 - WHITE NEUTRAL
 - GREEN GROUNDING
- PLACEMENT OF ALL ELECTRICAL DEVICES MUST BE COORDINATED WITH FURNITURE LAY-OUTS. THE ELECTRICAL CONTRACTOR SHALL BE HELD RESPONSIBLE FOR SUBMITTING SHOP DWGS FOR LOCATION OF ALL ELECTRICAL DEVICES. THE SHOP DWGS MUST INDICATE THE MOUNTING HEIGHTS & CENTER LINE DISTANCE FROM THE NEAREST COLUMN.
- ALL COMPONENTS SHOWN ON RISER DIAGRAMS, BUT NOT ON THE PLAN OR VICE VERSA, SHALL BE INCLUDED AS IF SHOWN ON BOTH.
- CONTRACTOR SHALL NOT INSTALL MORE THAN 3 CURRENT CARRYING CONDUCTORS IN A RACEWAY UNLESS OTHERWISE SPECIFICALLY INDICATED ON THE DRAWINGS.
- THE ELECTRICAL CONTRACTOR SHALL REVIEW ALL TRADES CONTRACT DOCUMENTS TO DETERMINE SPECIFIC MOUNTING LOCATIONS FOR ELECTRICAL EQUIPMENT.
- ALL MOUNTING HEIGHTS SHALL BE MEASURED FROM FINISHED FLOOR TO CENTERLINE OF DEVICES EXCEPT FOR EXIT SIGNS.
- RIGID NONMETALLIC CONDUIT (RNM) SHALL NOT BE INSTALLED WITHIN THE BUILDING FOOTPRINT. UNLESS OTHERWISE INDICATED.
- NO CONDUIT IN THE BUILDING SHALL BE IN CONTACT WITH THE EARTH UNLESS OTHERWISE NOTED.
- CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING EACH CKT IN ALL MANHOLES, HAND HOLES, WIRE WAYS & ALL OTHER ENCLOSURES & AT ALL TERMINATION.
- ALL SERVICE ENTRANCE CONDUITS ARE TO BE PITCHED AS REQUIRED AND SEALED AT THE POINT OF ENTRY TO THE BUILDING IN ORDER TO AVOID WATER PENETRATION TO THE BUILDING THROUGH THESE CONDUITS.
- FINAL LOCATION OF ALL ELECTRICAL EQUIPMENTS, DEVICES SHALL BE COORDINATED AT FIELD WITH ALL OTHER TRADES AND WITH EXISTING BUILDING ELEMENTS, PIPES, EQUIPMENTS, DEVICES ETC. IN ORDER TO HAVE CODE COMPLIANT INSTALLATION.
- ROUTING OF ELECTRICAL CONDUITS IF SHOWN IN THE DRAWINGS ARE TENTATIVE. THE CONTRACTOR IS RESPONSIBLE TO FINALIZE THE ROUTING OF ALL ELECTRICAL CONDUITS AT FIELD IN COORDINATION WITH ALL OTHER TRADES AND EXISTING BUILDING ELEMENTS, STRUCTURES, PIPES, EQUIPMENTS, & DEVICES ETC. FOR CODE COMPLIANT INSTALLATION.
- THE ELECTRICAL CONTRACTOR IS REQUIRED TO COORDINATE WITH THE MECHANICAL CONTRACTOR DURING THE MECHANICAL EQUIPMENT SUBMITTAL REVIEW PROCESS IN ORDER TO VERIFY THE REQUIREMENT OF INSTALLING NEUTRAL WIRE IN THE CONDUIT TO FEED ALL HVAC EQUIPMENT SUCH AS ROOF TOP UNIT PRIOR TO INSTALLATION OF THE WIRES IN CONDUIT.
- THE FINAL LOCATION OF ALL ELECTRICAL RECEPTACLE OUTLETS THROUGHOUT THE BUILDING SHALL BE COORDINATED WITH FURNITURE AND ALL OTHER TRADES SO THAT ALL RECEPTACLES WILL BE ACCESSIBLE FOR USE. THE FINAL LOCATION OF THE RECEPTACLES SHOWN AT THE WINDOW SIDE WALL SHALL BE COORDINATED WITH HEATING EQUIPMENT AND BOOK SHELF; THE CONTRACTOR MAY NEED TO ADJUST THE HEIGHT OF THE RECEPTACLE, IF NECESSARY TO AVOID THE INTERFACE WITH THE HEATING EQUIPMENT OR ANY OTHER FURNITURE/BUILDING ELEMENTS.
- THE ELECTRICAL CONTRACTOR IS RESPONSIBLE TO COORDINATE WITH OTHER TRADES AT FIELD SO THAT NO FOREIGN SYSTEM SUCH AS PIPING, DJCT, LEAK PROTECTION APPARATUS, OR OTHER EQUIPMENT FOREIGN TO THE ELECTRICAL INSTALLATION SHALL BE RUN OVER THE ELECTRICAL EQUIPMENT INSTALLATION.
- THE CONTRACTOR IS REQUIRED TO PERFORM CONTINUITY AND INSULATION RESISTANCE TEST BY MEGGER FOR ALL FEEDERS AND BRANCH CIRCUITS BEING INSTALLED AND BEING MODIFIED UNDER THIS PROJECT.

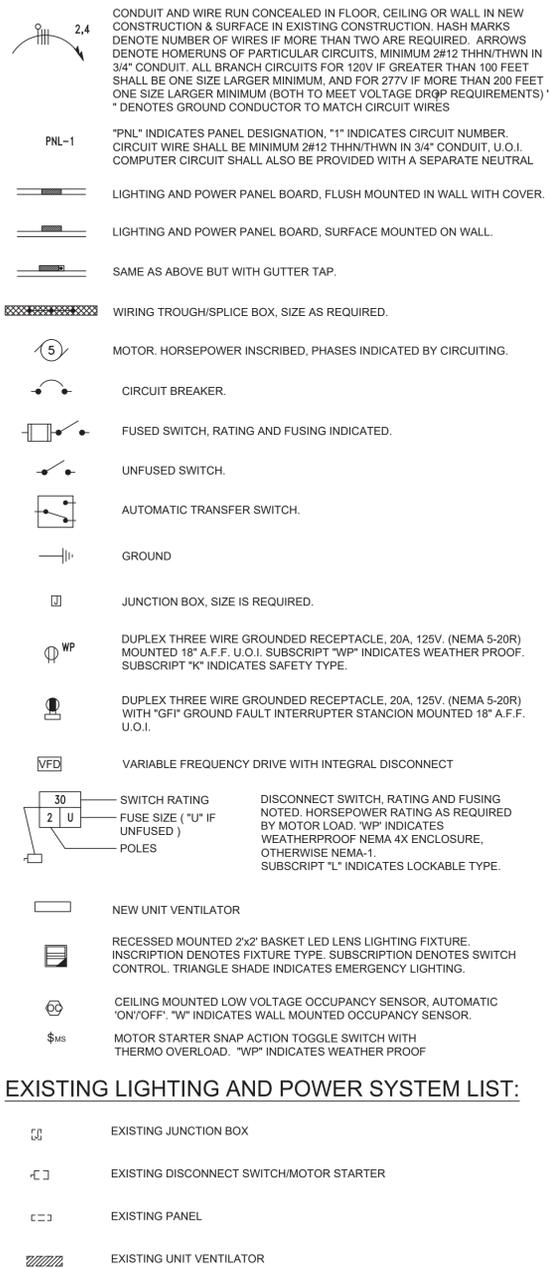
ELECTRICAL CONSTRUCTION NOTES:

- CONTRACTOR SHALL MAINTAIN UNINTERRUPTED POWER SUPPLY TO THE SCHOOL BUILDING DURING THE CONSTRUCTION. POWER IS TO BE MAINTAINED AT ALL TIMES, UNLESS OTHERWISE INSTRUCTED, ALONG WITH THE ADEQUATE POWER SUPPLY FOR THE CONCURRENT CONSTRUCTION AND MAINTENANCE PROJECTS.
- THE MAINTENANCE OF POWER SUPPLY INCLUDES BOTH THE OVERALL POWER SERVICE TO THE BUILDING AS WELL AS LOCAL POWER SUPPLY TO THE SCHOOL AREAS TEMPORARILY AFFECTED BY THE WORK OF THIS CONTRACT. THE CONTRACTOR SHALL COORDINATE ALL HIS WORK WITH THE SCHOOL PRINCIPAL AND CUSTODIAN ALONG WITH THE AUTHORITY PROJECT OFFICER.
- PROVIDING UNINTERRUPTED POWER SERVICE TO THE ENTIRE BUILDING AND POWER SUPPLY TO SCHOOL AREAS TEMPORARILY AFFECTED BY THE WORK OF THIS CONTRACT SHALL BE ACCOMPLISHED BY VARIOUS MEANS SUCH AS TEMPORARY BYPASS FEEDERS, TEMPORARY SWITCHES SUPPLYING PERMANENT FEEDERS, ETC.
- THE CONTRACTOR SHALL ARRANGE TO WORK CONTINUOUSLY, INCLUDING OVERTIME, IF REQUIRED, TO ASSURE THAT SERVICES WILL BE SHUTDOWN ONLY DURING THE TIME ACTUALLY REQUIRED TO MAKE THE NECESSARY DISCONNECTIONS/RECONNECTIONS TO EXISTING WORK.
- THE CONTRACTOR SHALL GIVE THIRTY DAYS WRITTEN NOTICE IN ADVANCE TO THE SCA OF ANY REQUIRED SHUTDOWN, INCLUDING THE ESTIMATED PERIOD.

ELECTRICAL DEMOLITION NOTES:

- THE DEMOLITION WORK SHALL BE CARRIED ON IN EVERY RESPECT IN A THOROUGH AND WORKMANLIKE MANNER.
- ALL DEMOLITION, REMOVAL, AND DISPOSAL WORK SHALL BE IN COMPLIANCE WITH THE REQUIREMENTS OF THE BUILDING CODE AND WITH ALL STATE AND FEDERAL REGULATIONS.
- REMOVE ALL DEBRIS NOT EXPLICITLY DESIGNATED TO BE SALVAGED (TO REMAIN) FROM THE PREMISES AND LEGALLY DISPOSE OFF AWAY FROM PREMISES.
- ITEMS INDICATED TO BE SALVAGED SHALL BE REMOVED EITHER BEFORE DEMOLITION OR DURING THE PROCESS OF THE WORK, STORED AND PROTECTED ON THE SITE IN A LOCATION DESIGNATED BY THE AUTHORITY'S REPRESENTATIVE. THESE ITEMS WILL BE IDENTIFIED AND RETAINED BY THE AUTHORITY.
- CAREFULLY REMOVE AND PROTECT ALL ITEMS TO BE SAVED AND REUSED AS INDICATED ON DRAWINGS. REPLACE ANY ITEMS THAT ARE DAMAGED BY REMOVAL AT YOUR OWN COST. NOTIFY THE AUTHORITY IN WRITING OF ANY ITEM THAT IS DAMAGED PRIOR TO REMOVAL SO THAT THEY MAY ASCERTAIN THE ITEM'S CONDITION.
- PROTECT MATERIALS, SURFACES AND STRUCTURE, WHICH ARE TO REMAIN, FROM DAMAGE; IF DAMAGE OCCURS, REPAIR OR REPLACEMENT SHALL BE MADE BY THE CONTRACTOR, TO THE SATISFACTION OF THE AUTHORITY, AND AT THE EXPENSE OF THE CONTRACTOR.
- DISCONNECT, REMOVE AND RELOCATE ANY ELECTRICAL EQUIPMENT NOT SHOWN ON THESE DRAWINGS AS PART OF THIS CONTRACT, BUT INTERFERES WITH THE WORK UNDER THIS CONTRACT. THIS WORK SHALL NOT BE CONSIDERED EXTRA AND SHALL BE DONE AT NO ADDITIONAL COST TO THE OWNER.
- VISIT AND EXAMINE CAREFULLY THE AREAS AFFECTED BY THIS WORK TO BECOME FAMILIAR WITH EXISTING CONDITIONS AND WITH THE DIFFICULTIES THAT ATTEND THE EXECUTION OF THIS WORK
- RELOCATE AND/OR ALTER THE EXISTING BUILDING COMPONENTS AS DIRECTED BY AUTHORITY'S REPRESENTATIVE. ALL RELOCATION OR ALTERATIONS TO BUILDING SHALL BE RESTORED TO THEIR ORIGINAL WORKING CONDITIONS AFTER SUCH RELOCATION OR ALTERATION WORK.
- AT THE COMPLETION OF DEMOLITION WORK, ALL RUBBISH, DEBRIS AND WASTE MATERIALS SHALL BE REMOVED BY THE CONTRACTOR AND THE PREMISES SHALL BE LEFT IN CLEAN CONDITION.
- THE CONTRACTOR SHALL DISCONNECT THE CIRCUIT WIRING NOT IN USE AND SHALL REMOVE ALL NECESSARY WIRING MATERIALS, INCLUDING EXPOSED CONDUITS AND JUNCTION BOXES WHICH IMPEDE THE NEW WORK.
- MAINTAIN CONTINUITY FOR ALL EQUIPMENT TO REMAIN. PROVIDE ALL REQUIRED ACCESSORIES, WIRING AND CONDUIT AS REQUIRED.
- SUBSTANTIAL JOB COMPLETION INCORPORATES DEMOLITION OF EXISTING SYSTEMS IN CONTRACT.
- THE EXISTING FIRE ALARM SYSTEM SHALL REMAIN OPERATIONAL AT ALL TIMES DURING CONSTRUCTION.
- THE CONTRACTOR IS REQUIRED TO COORDINATE WITH GC AND ALL OTHER TRADES TO REVIEW THE EXISTING ELECTRICAL COMPONENTS, CONDUITS, DEVICES, PULL BOX, JUNCTION BOX ETC. THAT ARE ASSOCIATED WITH THE WALL THAT ARE BEING DEMOLISHED OR RESURFACED. REROUTE THE CONDUITS AND RELOCATE THOSE ELECTRICAL COMPONENTS AS REQUIRED AND FOR THE COMPLETION OF GC WORK. EXTEND CONDUIT WIRING AS REQUIRED TO REROUTING. MAINTAIN CIRCUIT CONTINUITY OF THE DEVICES THAT ARE BEING AFFECTED

SYMBOLS:



ABBREVIATIONS

ABBREVIATION:	DESCRIPTION:		
A	AMPERE	IG	ISOLATED GROUND
AC	ALTERNATION CURRENT	IWB	INTERACTIVE WHITE BOARD
AF	FUSE RATING IN AMPS	JB	JUNCTION BOX
AFCI	ARC FAULT CIRCUIT INTERRUPTER	KEF	KITCHEN EXHAUST FAN
AFB	ABOVE FINISHED FLOOR	KEF	KITCHEN EXHAUST FAN
AFG	ABOVE FINISHED GRADE	KVA	KILOVOLT AMPERE
AHRI	AIR-CONDITIONING, HEATING, AND REFRIGERATION INSTITUTE	KW	KILOWATT
AHU	AIR HANDLING UNIT	KWH	KILOWATT HOUR
AI	ANALOG INPUT	LP	LIGHTING PANEL
AMP	AMPERE	LS	LOUDSPEAKER
AO	ANALOG OUTPUT	LTG	LIGHTING
AS	SWITCH RATING IN AMPS	MCC	MOTOR CONTROL CENTER
ASHRAE	AMERICAN SOCIETY OF HEATING, REFRIGERATING, AND AIR CONDITIONING ENGINEERS	MECH	MECHANICAL
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS	ER	MECHANICAL EQUIPMENT ROOM
ATS	AUTOMATIC TRANSFER SWITCH	MIC	MICROPHONE
AUX	AUXILIARY	MLO	MAIN LUGS ONLY
AVG	AVERAGE	MTD	MOUNTED
BHP	BRAKE HORSEPOWER	N	NEUTRAL
BMS	BUILDING MANAGEMENT SYSTEM	N.C.	NORMALLY CLOSED
CB	CIRCUIT BREAKER	N.O.	NORMALLY OPEN
CF	CUBIC FEET	P	POLE(S)
CLG	CEILING	PB	PULLBOX
CKT(S)	CIRCUIT(S)	PNL	PANEL
COL	COLUMN	PPP	PORT PATCH PANEL
CONC	CONCRETE	POS	POINT OF SALE
DBA	DECIBELS (A WEIGHTED)	PP	POWER PANEL
DDC	DIRECT DIGITAL CONTROL	PWR	POWER
DEG. °	DEGREES	RC	REMOTE CONTROL
Ø	DIAMETER/ROUND	REL	RELOCATED
DR	DRAIN	RGC	RIGID GALVANIZED CONDUIT
DWG	DRAWING	RTU	ROOF TOP UNIT
E	EXISTING TO REMAIN	SECT	SECTION
ER	EXISTING TO BE REMOVED	SP	SPARE
ERR	EXISTING TO BE RELOCATED	SPF	SMOKE PURGE FAN
EC	EMPTY CONDUIT	SPR	SPARE
ECC	ELECTRIC CABINET CONVECTOR	STD	STANDARD
ECH	ELECTRIC CABINET HEATER	SUR	SURFACE
EF	EXHAUST FAN	SW	SWITCH
EMR	ELEVATOR MACHINE ROO	SWBD	SWITCHBOARD
EUH	ELECTRIC UNIT HEATER	TEF	TOILET EXHAUST FAN
EXH	EXHAUST	TEL	TELEPHONE
FA	FIRE ALARM	TV	TELEVISION
FL	FLOOR	TYP	TYPICAL
G	GUARD	UOI	UNLESS OTHERWISE INDICATED
GND	GROUND	V	VOLT
GFI	GROUND FAULT INTERRUPTER	VAV	VARIABLE AIR VOLUME
		W	WATT
		WP	WEATHER PROOF

SUMMARY OF WORK:

STONY POINT ELEMENTARY SCHOOL:
 THE WORK OF THIS PROJECT INCLUDES PROVIDING ELECTRICAL POWER TO THE HVAC UPGRADES AT STONY POINT ELEMENTARY SCHOOL. PROVIDE MATERIALS AND SERVICES AS FOLLOWS. THE FOLLOWING IS NOT INTENDED TO BE A COMPLETE DESCRIPTION OF THE WORK; PERFORM THE WORK AS HEREINAFTER DESCRIBED IN THESE CONTRACT DOCUMENTS.

- DISCONNECT POWER TO EXISTING UNIT VENTILATORS AND RETAIN THE EXISTING CABLES AND CONDUIT.
- RECONNECT EXISTING ELECTRIC POWER TO THE NEW UNIT VENTILATORS THROUGHOUT THE BUILDING WHERE INDICATED.
- PROVIDE POWER TO ALL NEW HVAC VRF EQUIPMENT BY MAKING MODIFICATIONS TO THE EXISTING SWITCHGEAR IN THE ELECTRICAL ROOM.

THIELLS ELEMENTARY SCHOOL:
 THE WORK OF THIS PROJECT INCLUDES PROVIDING ELECTRICAL POWER TO THE HVAC UPGRADES AT THIELLS ELEMENTARY SCHOOL. PROVIDE MATERIALS AND SERVICES AS FOLLOWS. THE FOLLOWING IS NOT INTENDED TO BE A COMPLETE DESCRIPTION OF THE WORK; PERFORM THE WORK AS HEREINAFTER DESCRIBED IN THESE CONTRACT DOCUMENTS.

- DISCONNECT POWER TO EXISTING UNIT VENTILATORS AND RETAIN THE EXISTING CABLES AND CONDUIT.
- RECONNECT EXISTING ELECTRIC POWER TO THE NEW UNIT VENTILATORS THROUGHOUT THE BUILDING WHERE INDICATED.
- PROVIDE POWER TO ALL NEW HVAC VRF EQUIPMENT BY MAKING MODIFICATIONS TO THE EXISTING SWITCHGEAR IN THE ELECTRICAL ROOM.

WEST HAVERSTRAW ELEMENTARY SCHOOL:
 THE WORK OF THIS PROJECT INCLUDES PROVIDING ELECTRICAL POWER TO THE HVAC UPGRADES AT STONY POINT ELEMENTARY SCHOOL. PROVIDE MATERIALS AND SERVICES AS FOLLOWS. THE FOLLOWING IS NOT INTENDED TO BE A COMPLETE DESCRIPTION OF THE WORK; PERFORM THE WORK AS HEREINAFTER DESCRIBED IN THESE CONTRACT DOCUMENTS.

- DISCONNECT POWER TO EXISTING UNIT VENTILATORS AND RETAIN THE EXISTING CABLES AND CONDUIT.
- RECONNECT EXISTING ELECTRIC POWER TO THE NEW UNIT VENTILATORS THROUGHOUT THE BUILDING WHERE INDICATED.
- PROVIDE POWER TO ALL NEW HVAC VRF EQUIPMENT BY MAKING MODIFICATIONS TO THE EXISTING SWITCHGEAR IN THE ELECTRICAL ROOM.



No.	Date	Revisions
1	03-04-23	BIDDING DOCUMENTS



Drawn by	DK/KD
Checked by	SH
Project No.	43040
Scale	AS NOTED
Date	03-04-25

GREENMAN PEDERSEN, INC
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UNIVENT REPLACEMENT AT STONY POINT, THIELLS, WEST HAVERSTRAW ELEMENTARY SCHOOL

SED# 50-02-01-06-0-014-012
 SED# 50-02-01-06-0-025-018
 SED# 50-02-01-06-0-024-015

NEW YORK, NY 10065

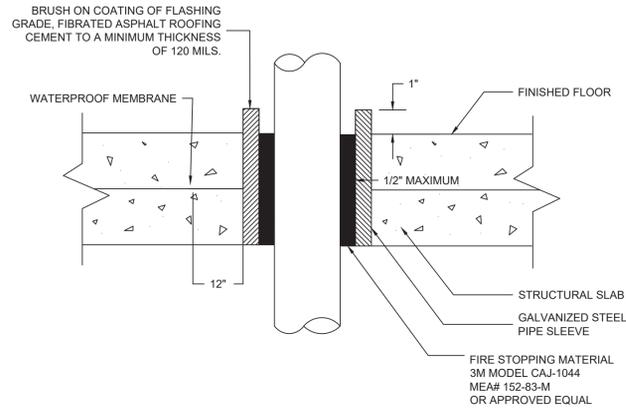
MSA

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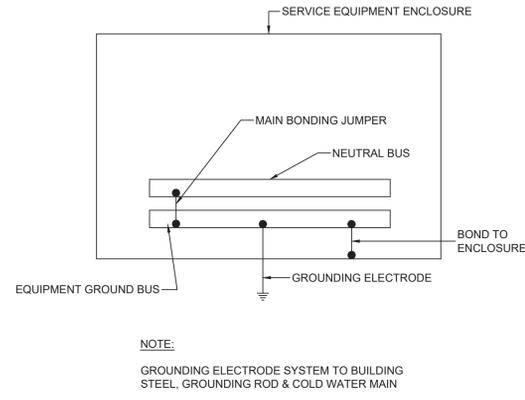
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Drawing Title
GENERAL NOTES AND ABBREVIATIONS

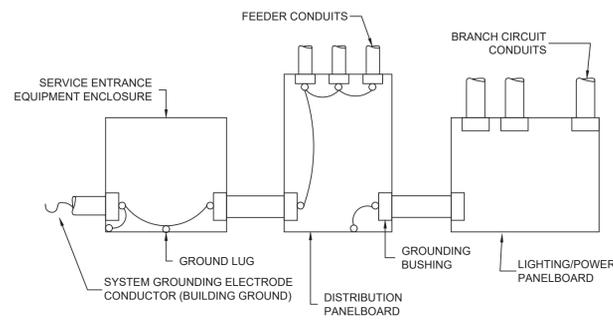
Drawing No.
E-001



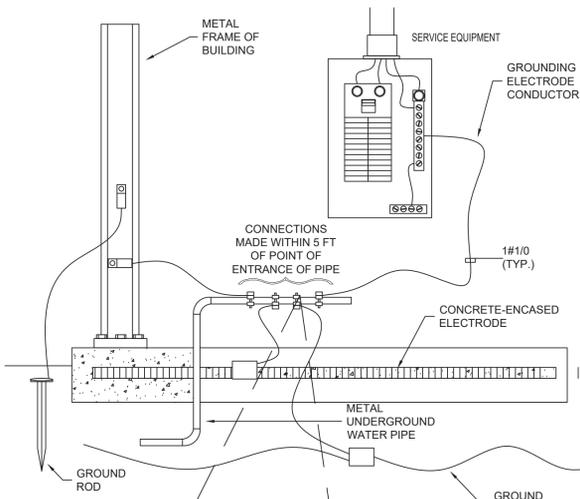
1 CONDUIT PENETRATION THRU WATERPROOF SLAB
SCALE: NTS



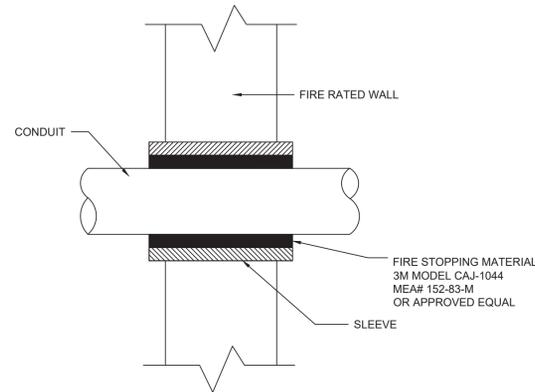
2 GROUNDING SYSTEM WITH GROUND BUS & NEUTRAL BUS
SCALE: NTS



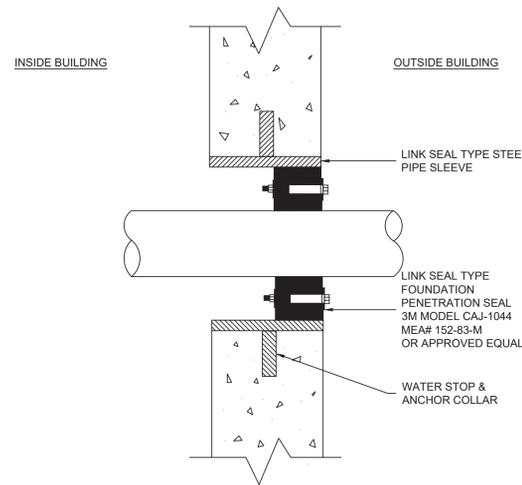
3 GROUNDING RACEWAY EQUIPMENT GROUNDING SYSTEM
SCALE: NTS



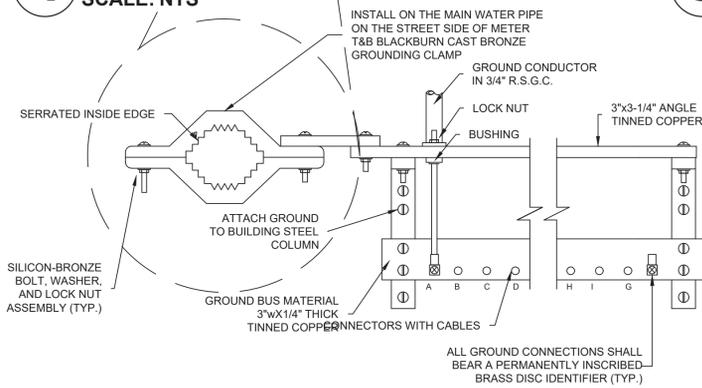
4 GROUNDING ELECTRODE SYSTEM
SCALE: NTS



5 CONDUIT PENETRATION THRU THRU FIRE RATED WALL
SCALE: NTS



6 CONDUIT PENETRATION THRU THRU FOUNDATION WALL
SCALE: NTS



7 GROUNDING CONNECTIONS & GROUND BUS
SCALE: NTS

MAIN GROUND BUS ROOM	
LETTER DESIGNATION	IDENTIFICATION
A	TO STRUCTURAL STEEL
B	FIRE ALARM CONTROL PANEL
C	NEW SERVICE EQUIPMENT
D	NEW GROUND ROD
E	NEW GROUND ROD
F	EXISTING SOLAR SYSTEM
G	EXISTING TELECOM ROOM
H	EXISTING REBAR
I	EXISTING/NEW INCOMING CONDUITS
J	OTHER EXISTING GROUNDING
K	OTHER EXISTING GROUNDING
L	OTHER EXISTING GROUNDING
M	OTHER EXISTING GROUNDING
N	OTHER EXISTING GROUNDING
O	SPARE
P	SPARE
Q	SPARE

0 1/2
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

No.	Date	Revisions
1	03-04-25	BIDDING DOCUMENTS

Drawn by DK/KD
Checked by SH
Project No. 43040
Scale AS NOTED
Date 03-04-25

GREENMAN PEDERSEN, INC
MECHANICAL ELECTRICAL ENGINEER
PROJ. NO. 1: MNY-200127.00
GREENMAN PEDERSEN, INC
STRUCTURAL ENGINEER
PROJ. NO. 1: MNY-200127.00

UNIVENT REPLACEMENT AT STONY POINT, THIELLS, WEST HAV ELEMENTARY SCHOOL
SD# 50-02-01-06-0-014-XXX
SD# 50-02-01-06-0-024-XXX
SD# 50-02-01-06-0-024-XXX
MAY 2003
MAY 2003

MSA
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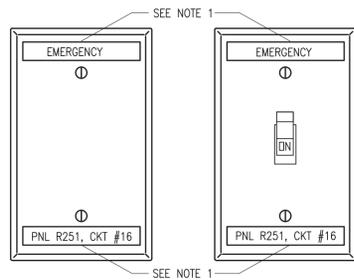
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Drawing Title
ELECTRICAL DETAILS
1
Drawing No.
E-601

BRANCH CIRCUIT VOLTAGE DROP			
CONDUCTOR AWG	#12	#10	#8
MAXIMUM CONDUCTOR LENGTH (IN FT.) AT 120V	95	160	245
MAXIMUM CONDUCTOR LENGTH (IN FT.) AT 208V,1PH	170	280	425
GROUND CONDUCTOR AWG	#12	#12	#12

NOTES:

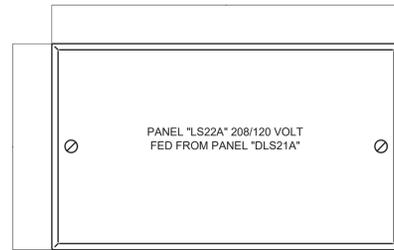
- INCREASE BRANCH CIRCUIT CONDUCTOR AS REQUIRED.
- BASED ON 20 AMP CIRCUIT LOADED TO 10 AMP USING SINGLE PHASE, 2 WIRE CIRCUITS.
- SCHEDULE REPRESENTS MINIMUM CONDUCTOR SIZE BASED ON LENGTH OF BRANCH CIRCUIT CONDUCTOR FROM PANEL TO PHYSICAL CENTER OF LOAD TO OVERCOME VOLTAGE DROP. 3% VOLTAGE DROP ASSUMED.
- TRANSITION FROM LARGER CONDUCTOR SIZE TO #12 FOR FINAL TERMINATION TO OUTLET DEVICE. PROVIDE JUNCTION BOX WITHIN 10' OF OUTLET. EXTEND #12 CONDUCTOR TO OUTLET.

1 BRANCH CIRCUIT VOLTAGE DROP
SCALE: NTS



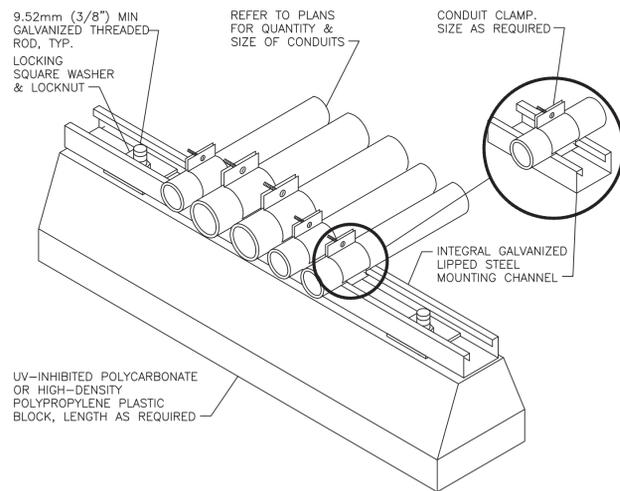
- NOTES:
- AT A MINIMUM, ELECTRICAL CONTRACTOR SHALL PROVIDE TYPED LABELS WITH PTOUCH MACHINE TO INDICATE PANEL NAME AND CIRCUIT NUMBER. PROVIDE 'EMERGENCY' TYPED LABEL FOR CIRCUITS CONNECTED TO EMERGENCY PANELS. COORDINATE EXACT NAMING WITH FACILITY'S PERSONNEL. IF FACILITY STANDARD IS ENGRAVED COVERPLATES, THE ELECTRICAL CONTRACTOR SHALL PROVIDE ENGRAVED COVERPLATES TO MATCH FACILITY REQUIREMENTS.

3 TYPICAL COVERPLATE AND SWITCH
SCALE: NTS

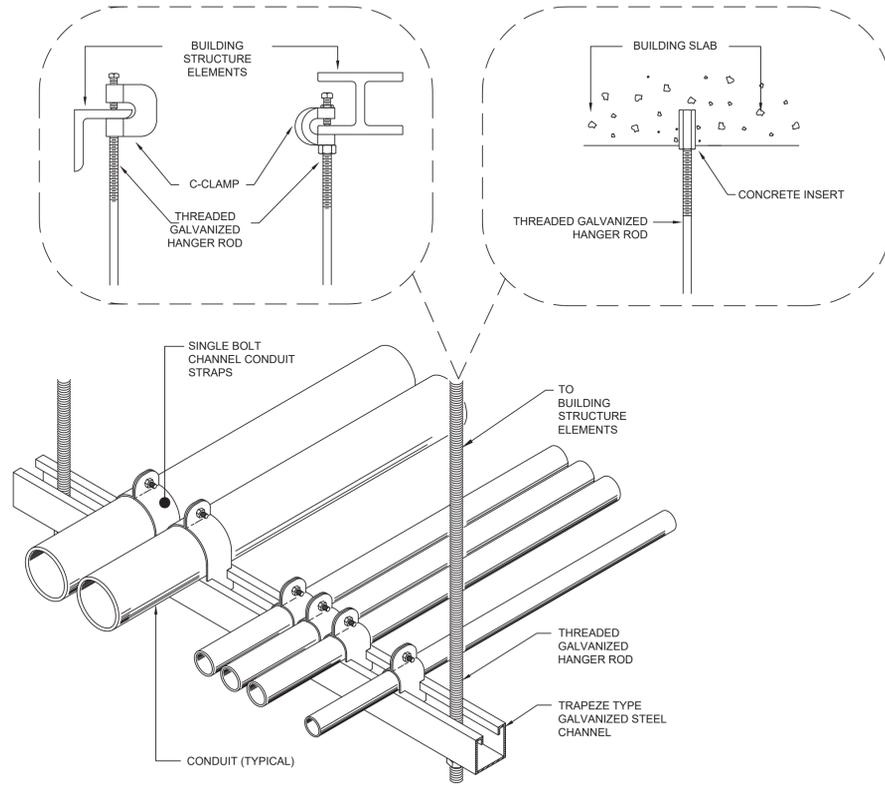


- NOTES:
- NAMEPLATES SHALL HAVE WHITE LETTERS ON BLACK BACKGROUND.
 - NAMEPLATES SHALL BE FASTENED BY MACHINE SCREWS. ADHESIVES WILL NOT BE ALLOWED.
 - NAME PLATES SHALL BE PROVIDED FOR ALL ELECTRICAL EQUIPMENT INCLUDING, BUT NOT LIMITED TO, PANELBOARDS, SWITCHBOARDS, MOTOR CONTROL CENTERS, STARTERS, JUNCTION BOXES, PULL BOXES, DISCONNECT SWITCHES, TRANSFORMERS, CABINETS, ETC.

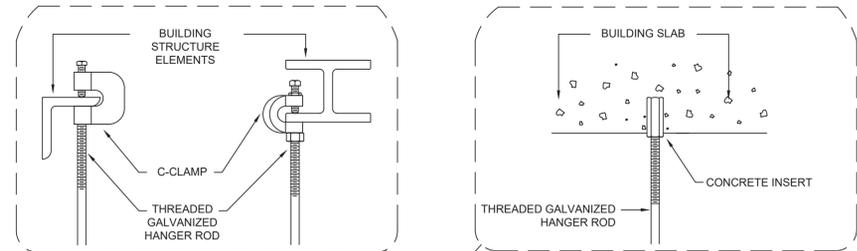
2 TYPICAL ENGRAVED NAME PLATE
SCALE: NTS



4 ROOF CONDUIT SUPPORT DETAIL
SCALE: N.T.S.



5 SUSPENDED SYSTEM MULTIPLE CONDUITS
SCALE: NTS



- NOTES:
- CONTRACTOR MAY USE A CONDUIT SUSPENSION SYSTEM EQUIVALENT TO THAT WHICH IS DETAILED, HAVING THE FEATURES SHOWN AND APPROVED IN ADVANCE BY THE ENGINEER.
 - ALL ELECTRIC CONDUITS SHALL BE SECURELY FASTENED IN PLACE. CONDUIT SUSPENSION SYSTEM SHALL BE INDEPENDENT OF ANY OTHER SUSPENSION SYSTEM. HANGERS AND PIPING INSTALLED BY OTHER TRADES SHALL NOT BE USED FOR SUPPORTING ELECTRIC CONDUITS.
 - EACH MULTIPLE HANGER SHALL BE DESIGNED TO SUPPORT A LOAD EQUAL TO OR GREATER THAN THE SUM OF THE WEIGHTS OF THE CONDUITS, WIRES AND HANGER ITSELF, PLUS 200 POUNDS.

6 SUSPENDED SYSTEM SINGLE CONDUIT
SCALE: NTS

0 1/2
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

No.	Date	Revisions
1	03-04-25	BIDDING DOCUMENTS

Drawn by	DK/KD
Checked by	SH
Project No.	43040
Scale	AS NOTED
Date	03-04-25

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Mechanical Electrical Engineer	Structural Engineer

UNIVENT REPLACEMENT AT STONY POINT, THIELS, WEST HAVEN ELEMENTARY SCHOOL
SSD# 50-02-01-06-0-014-XXX
SSD# 50-02-01-06-0-025-XXX
SSD# 50-02-01-06-0-024-XXX
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Drawing Title
ELECTRICAL DETAILS
2
Drawing No.
E-602