UNIVENT REPLACEMENT AT WILLOW GROVE ELEMENTARY SCHOOL

WILLOW GROVE ELEMENTARY SCHOOL
153 STORRS ROAD
THIELLS, NY 10984
SED# 50-02-01-06-0-030-016

OWNER:
NORTH ROCKLAND CENTRAL SCHOOL DISTRICT
65 Chapel Street
Garnerville, NY 10923

ARCHITECT:
MICHAEL SHILALE ARCHITECTS, LLP
140 Park Avenue
New City, NY 10956

PME ENGINEER:
GREENMAN-PEDERSON, INC.
400 Rella Boulevard, Suite 207
Montabello, NY 10901

MATERIALS LEGEND

- CONCRETE MASONRY UNIT
- BRICK
- RIGID INSULATION
- CONCRETE
- GRAVEL OR STONE
- EARTH
- EIFS
- ASPHALT PAVING
- SAND/MORTAR/GYPSUM BOARD
- STEEL
- ACT
- ROUGH WOOD
- BRONZE

SYMBOLS LEGEND

- 1 — DOOR NUMBER
- 1 — KEY NOTE
- 1 — PARTITION TYPE
- 1 — REVISION NUMBER
- 1 — WINDOW TYPE
- 1 — MECHANICAL EQUIPMENT
- EXISTING PARTITION
- EXISTING PARTITION TO BE REMOVED
- NEW PARTITION (SEE PARTITION LEGEND A-101)
- NEW DOOR
- EXISTING DOOR
- EXISTING DOOR TO BE REMOVED
- EXISTING WINDOW
- NEW WINDOW
- OFFICE / 100 SF / 101 — ROOM NAME / NUMBER IDENTIFICATION; ROOM NUMBER; ROOM AREA
- 1 / A-100 — DRAWING NUMBER; WALL SECTION/ELEVATION REFERENCE; SHEET NUMBER
- 1 / A-100 — DETAIL NUMBER; DETAIL REFERENCE; SHEET NUMBER
- 1 — COLUMN LINE DESIGNATION

LIST OF DRAWINGS

DRAWING No.	DRAWING TITLE	DATE
WGES-A-000	COVER SHEET	09-14-23
WGES-B-100	CODE ANALYSIS	09-14-23
WGES-S-001	STRUCTURAL GENERAL NOTES	09-14-23
WGES-S-070	STRUCTURAL ROOF DEMOLITION	09-14-23
WGES-S-101	STRUCTURAL ROOF CONSTRUCTION	09-14-23
WGES-S-102	STRUCTURAL GROUND CONSTRUCTION	09-14-23
WGES-D-101	MAIN LEVEL DEMO PLAN	09-14-23
WGES-D-102	LOWER LEVEL DEMO PLAN	09-14-23
WGES-D-103	ROOF DEMO PLAN	09-14-23
WGES-D-610	WINDOW DEMO ELEVATIONS	09-14-23
WGES-A-101	MAIN LEVEL FLOOR PLAN	09-14-23
WGES-A-102	LOWER LEVEL FLOOR PLAN	09-14-23
WGES-A-103	ROOF PLAN	09-14-23
WGES-A-401	MAIN LEVEL REFLECTED CEILING PLAN	09-14-23
WGES-A-402	LOWER LEVEL REFLECTED CEILING PLAN	09-14-23
WGES-A-500	ROOF DETAILS	09-14-23
WGES-A-510	WINDOW ELEVATIONS	09-14-23
WGES-A-511	WINDOW DETAILS	09-14-23
WGES-A-600	UNIT ELEVATIONS	09-14-23
WGES-A-601	UNIT ELEVATIONS	09-14-23
WGES-A-610	INTERIOR DETAILS	09-14-23
WGES-M-001	MECHANICAL GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS	09-14-23
WGES-M-002	MECHANICAL SCHEDULES - 1	09-14-23
WGES-M-003	MECHANICAL SCHEDULES - 2	09-14-23
WGES-M-004	MECHANICAL SCHEDULES - 3	09-14-23
WGES-M-005	MECHANICAL SCHEDULES - 4	09-14-23
WGES-M-061	MECHANICAL LOWER LEVEL DEMOLITION - 1	09-14-23
WGES-M-062	MECHANICAL LOWER LEVEL DEMOLITION - 2	09-14-23
WGES-M-063	MECHANICAL LOWER LEVEL DEMOLITION - 3	09-14-23
WGES-M-064	MECHANICAL MAIN LEVEL DEMOLITION - 1	09-14-23
WGES-M-065	MECHANICAL MAIN LEVEL DEMOLITION - 2	09-14-23
WGES-M-066	MECHANICAL MAIN LEVEL DEMOLITION - 3	09-14-23
WGES-M-067	MECHANICAL MAIN LEVEL DEMOLITION - 4	09-14-23
WGES-M-068	MECHANICAL MAIN LEVEL DEMOLITION - 5	09-14-23
WGES-M-069	MECHANICAL UPPER LEVEL DEMOLITION	09-14-23
WGES-M-070	MECHANICAL ROOF PLAN DEMOLITION - 1	09-14-23
WGES-M-071	MECHANICAL ROOF PLAN DEMOLITION - 2	09-14-23
WGES-M-101	MECHANICAL LOWER LEVEL INSTALLATION PLAN - 1	09-14-23
WGES-M-102	MECHANICAL LOWER LEVEL INSTALLATION PLAN - 2	09-14-23
WGES-M-103	MECHANICAL LOWER LEVEL INSTALLATION PLAN - 3	09-14-23
WGES-M-104	MECHANICAL MAIN LEVEL INSTALLATION PLAN - 1	09-14-23
WGES-M-105	MECHANICAL MAIN LEVEL INSTALLATION PLAN - 2	09-14-23
WGES-M-106	MECHANICAL MAIN LEVEL INSTALLATION PLAN - 3	09-14-23
WGES-M-107	MECHANICAL MAIN LEVEL INSTALLATION PLAN - 4	09-14-23
WGES-M-108	MECHANICAL MAIN LEVEL INSTALLATION PLAN - 5	09-14-23
WGES-M-109	MECHANICAL UPPER LEVEL INSTALLATION PLAN	09-14-23
WGES-M-110	MECHANICAL ROOF INSTALLATION PLAN - 1	09-14-23
WGES-M-111	MECHANICAL ROOF INSTALLATION PLAN - 2	09-14-23
WGES-M-112	MECHANICAL CRAWLSPACE INSTALLATION PLAN - 1	09-14-23
WGES-M-113	MECHANICAL CRAWLSPACE INSTALLATION PLAN - 2	09-14-23
WGES-M-201	MECHANICAL ENLARGED INSTALLATION PLANS	09-14-23
WGES-M-301	HVAC PIPING DIAGRAM - DEMOLITION	09-14-23
WGES-M-302	HVAC PIPING DIAGRAM - INSTALLATION	09-14-23
WGES-M-303	CHILLER PIPING DIAGRAMS	09-14-23
WGES-M-304	REFRIGERANT PIPING DIAGRAMS	09-14-23
WGES-M-401	CONTROL DIAGRAMS - 1	09-14-23
WGES-M-402	CONTROL DIAGRAMS - 2	09-14-23
WGES-M-403	CONTROL DIAGRAMS - 3	09-14-23
WGES-M-404	CONTROL DIAGRAMS - 4	09-14-23
WGES-M-501	MECHANICAL DETAILS - 1	09-14-23
WGES-M-502	MECHANICAL DETAILS - 2	09-14-23
WGES-M-503	MECHANICAL DETAILS - 3	09-14-23
WGES-E-001	ELECTRICAL NOTES & SCHEDULES	09-14-23
WGES-E-061	ELECTRICAL LOWER LEVEL DEMO PLAN	09-14-23
WGES-E-062	ELECTRICAL MAIN LEVEL DEMO PLAN - 1	09-14-23
WGES-E-063	ELECTRICAL MAIN LEVEL DEMO PLAN - 2	09-14-23
WGES-E-101	ELECTRICAL LOWER LEVEL PLAN	09-14-23
WGES-E-102	ELECTRICAL MAIN LEVEL PLAN - 1	09-14-23
WGES-E-103	ELECTRICAL MAIN LEVEL PLAN - 2	09-14-23
WGES-E-104	ELECTRICAL ROOF PLAN - 1	09-14-23
WGES-E-105	ELECTRICAL ROOF PLAN - 2	09-14-23
WGES-E-400	ELECTRICAL SCHEDULES & RISERS	09-14-23
WGES-E-500	ELECTRICAL DETAILS - 1	09-14-23
WGES-E-501	ELECTRICAL DETAILS - 2	09-14-23

GENERAL NOTES

1. ALL PLAN DIMENSIONS ARE NOMINAL U.O.N. DIMENSIONS TO THE FINISHED FACE OF AN ELEMENT OR WALL WILL BE DESIGNATED WITH AN "F" AS SHOWN.

2. G.C. TO VERIFY ALL DIMENSIONS IN THE FIELD AND IS TO NOTIFY ARCHITECT IF THERE ARE ANY DISCREPANCIES.

UNIT PRICES

UNIT PRICE NO. 200:
PROVIDE A PRICE TO REPLACE 10 LINEAR FEET OF EXISTING HEAT OR CHILLED WATER PIPE. (THIS AMOUNT WILL ADD OR REDUCE ALLOWANCE NO. 200).

ALTERNATES

BASE BID: REUSE EXISTING UV'S SPECIFIED FOR REPLACEMENT AS PER ALT. NO. 200. REMOVE EXISTING COIL, FLIP AND CONNECT HEAT & CHILLER LINES TO PROPER COILS. ALL OTHER EXISTING UV'S TO BE REPLACED WITH NEW.

ALT. NO. 200: REPLACE EXISTING UV'S IN LOCATION SPECIFIED ON DRAWINGS WGES-A-100 AND WGES-A-101. SEE PLANS FOR LOCATIONS. INCLUDE AN ALLOWANCE TO REPLACE EXISTING HEAT SUPPLY & RETURN PIPING AND INSULATION FOR 20 LINEAR FEET PER EACH UNIT VENTILATOR TO BE REPLACED.

ALT. NO. 201: REMOVE AND REPLACE CAFETERIA UNIT, SEE MECHANICAL DWGS.

ALT. NO. 202: REFURBISH EXISTING PLENUM MOUNTED HVAC UNIT AND PROVIDE NEW ACCESS PANELS AND MAINTENANCE PLATFORMS FOR AHU-1 AND AHU-2.

ALT. NO. 203: REMOVE EXISTING GLASS BLOCK AND INSTALL NEW WINDOWS.

ALT. NO. 204: CONTRACTOR TO INSTALL ONE SWING SET WITH LOCATION TO BE DETERMINED IN THE FIELD BY OWNER. SWING SET TO BE GAMETIME ADA POWERSCAPE 10847. SWING SET WILL BE PROVIDED TO THE CONTRACTOR BY THE OWNER.

ALLOWANCES

ALLOWANCE NO. 200: REPLACE EXISTING HEAT & CHILLED WATER SUPPLY & RETURN PIPING AND INSULATION FOR 40 LINEAR FEET PER EACH UNIT VENTILATOR TO BE REPLACED.

ABBREVIATIONS

ACT	ACOUSTICAL CEILING TILE	ITR	INDIVIDUAL TREATMENT ROOM
A.F.F.	ABOVE FINISH FLOOR	JT	JOINT
ASPH	ASPHALT	LAM	LAMINATE
BLK	BLOCK	LAV	LAVATORY
BLK'G	BLOCKING	LF	LINEAR FEET
BUR	BUILT UP ROOFING	LP	LOW POINT
CLG	CEILING	MAX	MAXIMUM
CONC	CONCRETE	MFR	MANUFACTURER
CONT	CONTINUOUS	MTL	METAL
C.J.	CONTROL JOINT	MIN	MINIMUM
DN	DOWN	MO	MASONRY OPENING
DIA	DIAMETER	N.I.C.	NOT IN CONTRACT
DWG	DRAWING	NO.	NUMBER
E.F.	EACH FACE	OC	ON CENTER
EIFS	EXTERIOR INSULATION AND FINISH SYSTEM	OPN'G	OPENING
E.W.	EACH WAY	PBC	PLUMBING CONTRACTOR
E.W.C.	ELECTRICAL WATER COOLER	PLAS.LAM.	PLASTIC LAMINATE
EL.	ELEVATION	PL.	PLATE
ELC	ELECTRICAL CONTRACTOR	PLY'D	PLYWOOD
EXIST	EXISTING	RAD	RADIUS
EXP	EXPANSION	REF.CLG.	REFLECTED CEILING
EXT'G	EXISTING	REQ'D	REQUIRED
EXTR	EXTERIOR	RO	ROUGH OPENING
FP	FIREPROOF	SIM	SIMILAR
FIN.	FINISH(ED)	STL	STEEL
GA	GAUGE	SUSP.CLG.	SUSPENDED CEILING
GC	GENERAL CONTRACTOR	T.O.M.	TOP OF MASONRY
GALV	GALVANIZED	T.O.S.	TOP OF STEEL
GL	GLASS	TYP	TYPICAL
GWB	GYPSUM WALL BOARD	U.O.N.	UNLESS OTHERWISE NOTED
HM	HOLLOW METAL	V.I.F.	VERIFY IN FIELD
H.P.	HIGH POINT	VCT	VINYL COMPOSITE TILE
HAC	HEATING & A/C CONTRACTOR	W/	WITH
		WD	WOOD

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

IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ARCHITECT TO ALTER AN ITEM IN ANY WAY.

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM 1
1	01-18-23	BIDDING DOCUMENTS

REG. EXP DATE: 06-30-24

Drawn by MAL
Checked by MS/JC
Project No. 42054
Scale AS NOTED
Date 07-29-22

GREENMAN PEDERSEN, INC
400 RELLA BOULEVARD
MONTEBELLO, NY 10901

Mechanical & Electrical Engineer:

Structural Engineer:

UNIVENT REPLACEMENT AT WILLOW GROVE ELEMENTARY SCHOOL
SED# 50-02-01-06-0-030-016
153 STORRS ROAD
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COUNTY OF ROCKLAND

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Drawing Title: COVER SHEET

Drawing No.: WGES-A-000

2020 EXISTING BUILDING CODE OF NEW YORK STATE

BUILDING CODE SUMMARY			
Site	Willow Grove Elementary School	Date:	7/15/2022
Project Name:	Univent Replacement at Farley Elementary	Location	Rockland County
Project Number:	42054	Architect of Record	MSA
Project Address:	153 Storrs Road, Thiells, NY 10984		

APPLICABLE ORDINANCES, CODES & STANDARD	
2020	Existing Building Code of New York State
2020	Building Code of New York State
2020	Energy Conservation Code of New York State
2020	Fire Code of New York State
2020	Fuel Gas Code of New York State
2020	Mechanical Code of NY State
2020	Plumbing Code of NY State
	NFPA 70

EXISTING BUILDING CODE: CHAPTER 1 SCOPE AND ADMINISTRATION	
SECTION 101	GENERAL
101.2 Scope	The provisions of this code shall apply to the repair, alteration, change of occupancy, addition to and relocation of existing buildings.
101.4 Applicability	This code shall apply to the repair, alteration, change of occupancy, addition and relocation of existing buildings, regardless of occupancy, subject to the criteria of Sections 101.4.1 and 101.4.2.
101..4.2 Buildings Previously Occupied	The legal occupancy of any building existing on the date of adoption of this code shall be permitted to continue without change, except as is specifically covered in this code, the Fire Code of New York State, or the Property Maintenance Code of New York State, or as is deemed necessary by the building official for the general safety and welfare of the occupants and the public.
EXISTING BUILDING CODE: CHAPTER 2 DEFINITIONS	
SECTION 202	GENERAL DEFINITIONS
EQUIPMENT OR FIXTURE	Any plumbing, heating, electrical, ventilating, air conditioning, refrigerating, and fire protection equipment, and elevators, dumbwaiters, escalators, boilers, pressure vessels and other mechanical facilities or installations that are related to building services. Equipment or fixture shall not include manufacturing, production, or process equipment, but shall include connections from building service to process equipment.
EXISTING BUILDING CODE: CHAPTER 3 PROVISIONS FOR ALL COMPLIANCE METHODS	
SECTION 301	ADMINISTRATION
301.3.2 Work Area Compliance Method	Alterations, additions and changes of occupancy complying with the applicable requirements of Chapters 6 through 12 of this code shall be considered in compliance with the provisions of this code.
302.5 New and replacement materials	Except as otherwise required or permitted by this code, materials permitted by the applicable code for new construction shall be used. Like materials shall be permitted for repairs and alterations, provided that unsafe conditions are not created. Hazardous materials shall not be used where the code for new construction would not permit their use in buildings of similar occupancy, purpose and location.
302.2 Additional Codes	Alterations, repairs, additions and changes of occupancy to, or relocation of, existing buildings and structures shall comply with the provisions for alterations, repairs, additions and changes of occupancy or relocation, respectively, in this code and the Energy Conservation Construction Code of New York State, Fire Code of New York State, Fuel Gas Code of New York State, Mechanical Code of New York State, Plumbing Code of New York State, Property Maintenance Code of New York State, Residential Code of New York State and NFPA 70. Where provisions of the other codes conflict with provisions of this code, the provisions of this code shall take precedence.
302.5.1 New structural members and connections	New structural members and connections shall comply with the detailing provisions of the Building Code of New York State for new buildings of similar structure, purpose and location.
EXISTING BUILDING CODE: CHAPTER 6 CLASSIFICATION OF WORK	
SECTION 601	GENERAL
601.2 Work Area	The work area, as defined in Chapter 2, shall be identified on the construction documents.
SECTION 602	ALTERATION - LEVEL 1
602.1 Scope	Level 1 alterations include the removal and replacement or the covering of existing materials, elements, equipment, or fixtures using new materials, elements, equipment, or fixtures that serve the same purpose.
602.2 Application	Level 1 alterations shall comply with the provisions of Chapter 7.
SECTION 603	ALTERATION - LEVEL 2
603.1 Scope	Level 2 alterations include the reconfiguration of space, the addition or elimination of any door or window, the reconfiguration or extension of any system, or the installation of any additional equipment.
603.2 Application	Level 2 alterations shall comply with the provisions of Chapter 7 for Level 1 alterations as well as the provisions of Chapter 8.
EXISTING BUILDING CODE: CHAPTER 7 ALTERATIONS - LEVEL 1	
SECTION 702	BUILDING ELEMENTS AND MATERIALS
702.1 Interior Finishes	Newly installed interior wall and ceiling finishes shall comply with Chapter 8 of the Building Code of New York State.
702.2 Interior Floor Finish	New interior floor finish, including new carpeting used as an interior floor finish material, shall comply with Section 804 of the Building Code of New York State.
702.3 Interior Trim	Newly installed interior trim materials shall comply with Section 806 of the Building Code of New York State.
SECTION 703	FIRE PROTECTION
703.1 General	Alterations shall be done in a manner that maintains the level of fire protection provided
SECTION 704	MEANS OF EGRESS
704.1 General	Alterations shall be done in a manner that maintains the level of protection provided for the means of egress.

EXISTING BUILDING CODE

SECTION 705	REROOFING
705.1 General	Materials and methods of application used for recovering or replacing an existing roof covering shall comply with the requirements of Chapter 15 of the Building Code of New York State.
705.6 Flashings	Flashings shall be reconstructed in accordance with approved manufacturer's installation instructions. Metal flashing to which bituminous materials are to be adhered shall be primed prior to installation.
SECTION 706	STRUCTURAL
706.2 Addition or replacement of roofing or replacement of equipment	Any existing gravity load-carrying structural element for which an alteration causes an increase in design dead, live or snow load, including snow drift effects, of more than 5 percent shall be replaced or altered as needed to carry the gravity loads required by the Building Code of New York State for new structures.
EXISTING BUILDING CODE: CHAPTER 8 ALTERATIONS LEVEL 2	
SECTION 801	GENERAL
801.2 Alteration Level 1 Compliance	In addition to the requirements of this chapter, all work shall comply with the requirements of Chapter 7.
801.3 Compliance	New construction elements, components, systems, and spaces shall comply with the requirements of the Building Code of New York State.
SECTION 802	BUILDING ELEMENTS AND MATERIALS
802.4 Interior Finish	The interior finish of walls and ceilings in exits and corridors in any work area shall comply with the requirements of the Building Code of New York State.
SECTION 803	FIRE PROTECTION
803.2.2 Groups A,B,E,F-1, M, R-1, R-2, R-4, S-1, & S-1	In buildings with occupancies in Groups A, B, E, F-1, H, I, M, R-1, R-2, R-4, S-1 and S-2, work areas that have exits or corridors shared by more than one tenant or that have exits or corridors serving an occupant
803.4 Fire Alarm and Detection	In buildings with occupancies in Groups A, B, E, F-1, H, I, M, R-1, R-2, R-4, S-1 and S-2, work areas that have exits or corridors shared by more than one tenant or that have exits or corridors serving an occupant load greater than 30 shall be provided with automatic sprinkler protection where **BOTH** of the following conditions occur: 1. The work area is required to be provided with automatic sprinkler protection in accordance with the Building Code of New York State as applicable to new construction. 2. The work area exceeds 50 percent of the floor area.
SECTION 805	MEANS OF EGRESS
SECTION 806	STRUCTURAL
806.2 Existing Structural Elements Carrying Gravity Loads	Any existing gravity load-carrying structural element for which an alteration causes an increase in design dead, live or snow load, including snow drift effects, of more than 5 percent shall be replaced or altered as needed to carry the gravity loads required by the Building Code of New York State for new structures. Any existing gravity load-carrying structural element whose gravity load-carrying capacity is decreased as part of the alteration shall be shown to have the capacity to resist the applicable design dead, live and snow loads, including snow drift effects, required by the Building Code of New York State for new structures.
SECTION 807	ELECTRICAL
807.1 New Installations	Newly installed electrical equipment and wiring relating to work done in any work area shall comply with all applicable requirements of NFPA 70 except as provided for in Section 807.3.
SECTION 808	MECHANICAL
807.1 Altered Existing Systems	In mechanically ventilated spaces, existing mechanical ventilation systems that are altered, reconfigured, or extended shall provide not less than 5 cubic feet per minute (cfm) (0.0024 m3/s) per person of outdoor air and not less than 15 cfm (0.0071 m3/s) of ventilation air per person; or not less than the amount of ventilation air determined by the Indoor Air Quality Procedure of ASHRAE 62.1.

2020 ENERGY CONSERVATION CODE OF NEW YORK STATE

BUILDING CODE SUMMARY			
Site	Willow Grove Elementary School	Date:	6/7/2022
Project Name:	Univent Replacement at Willow Grove Elementary	Location	Rockland County
Project Number:	42054	Architect of Record	MSA
Project Address:	153 Storrs Rd, Thiells, NY 10984		

APPLICABLE ORDINANCES, CODES & STANDARD	
2020	Existing Building Code of New York State
2020	Building Code of New York State
2020	Energy Conservation Code of New York State

ENERGY CONSERVATION CODE: CHAPTER 4 COMMERCIAL ENERGY EFFICIENCY			
SECTION C402	Building Envelope Requirements		
Table C402.1.3	Building Envelope Requirements - Opaque Assemblies		
	Climate Zone 5A	Walls	Average R-Value
	Mass	Above Grade	R-11.4ci
	Climate Zone 5A	Roofs	Average R-Value
	Wood Framed or Other	Insul entirely above roof deck	R-30ci
SECTION C403	Building Mechanical Systems		
C403.1 General	Mechanical systems and equipment serving the building heating, cooling, ventilating or refrigerating needs		
C403.1.1 Calculation of Heating and Cooling Loads (Mandatory)	Design loads associated with heating, ventilating and air conditioning of the building shall be determined in accordance with ANSI/ASHRAE/ACCA Standard 183 or by an approved equivalent computational procedure using the design parameters specified in Chapter 3. Heating and cooling loads shall be adjusted to account for load reductions that are achieved where energy recovery systems are utilized in the HVAC system in accordance with the ASHRAE HVAC Systems and Equipment Handbook by an approved equivalent computational procedure.		
ENERGY CONSERVATION CODE: CHAPTER 5 EXISTING BUILDING			
SECTION C503	ALTERATIONS		
C503.1 General	Alterations to any building or structure shall comply with the requirements of the code for new construction. Alterations shall be such that the existing building or structure is no less conforming to the provisions of this code than the existing building or structure was prior to the alteration. Alterations to an existing building, building system or portion thereof shall conform to the provisions of this code as those provisions relate to new construction without requiring the unaltered portions of the existing building or building system to comply with this code. Alterations shall not create an unsafe or hazardous condition or overload existing building systems.		
C503.4 Heating and cooling Systems	New heating, cooling and duct systems that are part of the alteration shall comply with Sections C403.		

ENERGY CODE

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

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM 1
1	01-18-23	BIDDING DOCUMENTS

REG. EXP DATE: 06-30-24

Drawn by MAL/JC
Checked by MS/JC
Project No. 42054
Scale AS NOTED
Date 07-29-22

GREENMAN PEDERSEN, INC
400 REBEL BOULEVARD
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Mechanical & Electrical Engineer:

Structural Engineer:

UNIVENT REPLACEMENT AT WILLOW GROVE ELEMENTARY SCHOOL
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COUNTY OF ROCKLAND

MICHAEL SHILALE ARCHITECTS, L.L.P.
140 Park Avenue New City, NY 10956 Tel 845-708-9200
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Drawing Title
CODE ANALYSIS

Drawing No.
WGES-B-100

GENERAL NOTES:

1. THE STRUCTURES HAVE BEEN DESIGNED IN COMPLIANCE WITH THE REQUIREMENTS OF 2020 BUILDING CODE OF NEW YORK STATE AND ASCE/SEI 7-16 "MINIMUM DESIGN LOADS AND ASSOCIATED CRITERIA FOR BUILDINGS AND OTHER STRUCTURES".
2. CONTRACTOR AND SUBCONTRACTOR SHALL BE LICENSED BY NEW YORK STATE WHERE REQUIRED TO PERFORM THE SPECIFIED WORK. THE CONTRACTOR SHALL FURNISH ALL MATERIALS, LABOR AND EQUIPMENT NECESSARY TO ERECT / INSTALL ALL STRUCTURES AND ACCESSORIES AS REQUIRED IN ACCORDANCE WITH PLANS AND SPECIFICATIONS.
3. THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, REGULATIONS, AND ORDERS OF ANY PUBLIC AUTHORITY BEARING ON THE PERFORMANCE OF THE WORK INDICATED IN THE CONTRACT DOCUMENTS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING ALL NECESSARY PERMITS, APPROVALS, AS WELL AS THEIR ASSOCIATED FEES, EXCEPT WHERE SPECIFIED AND AGREED UPON ELSEWHERE.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ARRANGING HOISTING FACILITIES FOR HANDLING MATERIALS AND REMOVAL OF DEBRIS.
6. THE CONTRACTOR SHALL VISIT THE SITE TO BECOME FAMILIAR WITH CONDITIONS THEREON AND TO DETERMINE THE EXTENT OF ALL FACILITIES AND SERVICES REQUIRED TO PERFORM THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
7. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH OTHER CONSTRUCTION DOCUMENTS. STRUCTURAL WORK SHALL BE COORDINATED WITH OTHER TRADES. ANY DISCREPANCIES IN THE CONTRACT DOCUMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND/OR ENGINEER FOR CLARIFICATION BEFORE COMMENCING THE WORK.
8. THE CONTRACTOR SHALL MAINTAIN ONE COPY OF THE LATEST CONTRACT DOCUMENTS INCLUDING ALL CHANGES AT THE JOB SITE FOR THE USE OF THE ARCHITECT & ENGINEER.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ACTS AND OMISSIONS OF ALL THEIR EMPLOYEES AND ALL SUBCONTRACTORS, THEIR AGENTS AND EMPLOYEES, AND ALL OTHER PERSONS PERFORMING ANY OF THE WORK FOR THE CONTRACTOR.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE INCURRED ANYWHERE WITHIN THE BOUNDARIES OF THE PROPERTY, AND ANY DAMAGE SHALL BE PROMPTLY REPAIRED TO ORIGINAL CONDITION TO THE SATISFACTION OF THE CLIENT'S REPRESENTATIVE AND/OR ARCHITECT AT NO COST TO THE CLIENT.
11. DURING THE COURSE OF THE WORK, THE CONTRACTOR SHALL REGULARLY REMOVE ALL UNUSED MATERIAL, RUBBISH AND DEBRIS FROM THE PROPERTY AND BROOM CLEAN DAILY. THE SITE AND PREMISES SHALL BE KEPT REASONABLY CLEAN, NEAT AND ORDERLY.
12. THE CONTRACTOR SHALL CONTROL CLEANING OPERATIONS TO PREVENT DIRT OR DUST FROM LEAVING THE JOB SITE AND INFILTRATING AREAS NOT INVOLVED IN THE PROJECT.
13. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND SITE CONDITIONS PRIOR TO SUBMITTING BIDS AND SHOP DRAWINGS AND/OR FABRICATION AND SHALL REPORT ANY DEVIATIONS OF DIMENSIONS, DISCREPANCIES AND/OR CONDITIONS WHICH WOULD INTERFERE WITH THE COMPLETION OF THE WORK TO THE ARCHITECT AND/OR ENGINEER OF RECORD FOR RESOLUTION AND BEFORE PERFORMING THE WORK. COMMENCEMENT OF THE WORK SHALL SIGNIFY ACCEPTANCE OF ANY AND ALL JOB SITE CONDITIONS.
14. WHEN "APPROVED EQUAL", "EQUAL TO", "APPROVED ALTERNATE", OR WHERE OTHER QUALIFYING TERMS ARE USED, SUBSTITUTIONS SHALL BE BASED SOLELY UPON THE REVIEW AND APPROVAL OF THE ARCHITECT AND/OR ENGINEER. THE BURDEN OF PROOF THAT A PRODUCT OR SYSTEM MEETS OR EXCEEDS THAT WHICH WAS SPECIFIED LIES ENTIRELY ON THE CONTRACTOR.
15. NOTATIONS ON ANY PLAN, ELEVATION, SECTION, OR DETAIL ARE APPLICABLE TO ALL PLANS, ELEVATIONS, SECTIONS, AND DETAILS. IF A CONFLICT ARISES ENGINEER AND/OR ARCHITECT OF RECORD SHALL BE INFORMED TO CLARIFY.
16. DO NOT SCALE DRAWINGS, USE DIMENSIONAL NOTATION ONLY.
17. LARGE SCALE DRAWINGS (I.E. SECTIONS, DETAILS, ETC.) TAKE PRECEDENCE OVER SMALL SCALE DRAWINGS. TYPICAL SECTIONS AND DETAILS SHOWN ON THE DRAWINGS SHALL APPLY TO ALL SIMILAR CONDITIONS.
18. CONTRACTOR SHALL BE RESPONSIBLE FOR MEANS AND METHODS OF CONSTRUCTION.
19. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE & STABILITY OF ALL STRUCTURES UNDER RENOVATION/CONSTRUCTION FOR THE WHOLE DURATION OF CONSTRUCTION.

CONCRETE NOTES:

1. DESIGN OF REINFORCED CONCRETE MEMBERS ARE IN ACCORDANCE WITH THE PROVISIONS OF THE BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318-14), AND THE NEW YORK STATE BUILDING CODE 2020 EDITION SECTIONS BC 1901 AND 1906.
2. ALL EXTERIOR CONCRETE PADS SHALL BE NORMAL WEIGHT CONCRETE WITH A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS, AND WITH A MAXIMUM WATER TO CEMENT RATIO OF 0.40. MAXIMUM CONCRETE SLUMP SHALL BE 4".
3. ALL EXPOSED CONCRETE SHALL BE AIR ENTRAINED, 5% TO 7% BY VOLUME.
4. PROPORTION, BATCH, AND MIX CONCRETE IN ACCORDANCE WITH SECTION BC 1903 OF THE 2020 NYS BUILDING CODE. MIXES SHALL HAVE INCLUDED ALL ADMIXTURES THAT WILL BE USED DURING THIS CONSTRUCTION.
5. ROUGHENED SURFACE AT INTERFACE OF SEPARATE CONCRETE POURS (JOINTS) SHALL BE PREPARED AS FOLLOWS:
   a. ROUGHEN SURFACE TO A FULL AMPLITUDE OF APPROXIMATELY ¼" WITH STIFF BROOM AFTER INITIAL SET.
   b. BEFORE PLACING FRESH CONCRETE, CLEAN SURFACE AND REMOVE LAITANCE WITH WIRE BRUSH.
   c. IMMEDIATELY BEFORE NEW CONCRETE IS PLACED, WET SURFACE AND REMOVE STANDING WATER.
6. ALL EMBEDDED STEEL SHALL BE ASTM A36. ALUMINUM INSERTS ARE NOT PERMITTED.

CONCRETE REINFORCEMENT NOTES:

1. ALL REINFORCING BARS SHALL BE DEFORMED BILLET STEEL BARS AND SHALL CONFORM TO ASTM A615 GRADE 60. WELDED WIRE FABRIC (WIRE MESH) SHALL CONFORM TO ASTM A185.
2. SUBMIT SHOP DRAWINGS CONSISTING OF COMPLETE PLANS AND DETAILS OF REINFORCEMENT, LOCATIONS OF POUR LINES, CONSTRUCTION JOINTS, ETC. FOR APPROVAL BEFORE PROCEEDING WITH THE WORK.
3. ALL DETAILING, FABRICATION AND ERECTION OF REINFORCING BARS SHALL COMPLY WITH THE REQUIREMENTS OF ACI 315-18 AND ACI 318-14, AND NYS BC SECTION 1907.5.
4. ALL SPLICES SHALL BE IN ACCORDANCE WITH ACI 318-14, THE LOCATIONS SHALL BE INDICATED ON THE SHOP DRAWINGS AND APPROVED BY THE ENGINEER OF RECORD. GENERALLY, ALL SPLICES SHALL BE STAGGERED AND LOCATED AWAY FROM THE SECTION OF MAXIMUM TENSILE STRESS.
5. ALL REINFORCEMENT SHALL BE ACCURATELY PLACED AND SECURELY WIRED TO PREVENT DISLOCATION FROM PROPER POSITION.
6. PROVIDE CHAIRS FOR SUPPORT OF ALL REINFORCEMENT. LIFTING OF BARS OR MESH DURING PLACEMENT OF CONCRETE IS NOT PERMITTED.
7. CONCRETE PROTECTION FOR BARS SHALL BE:
   a. ¾" CLEAR - INTERIOR
   b. 2" CLEAR - EXPOSED TO WEATHER/ELEMENTS
   c. 3" CLEAR - IN CONTACT WITH SOIL.
8. WELDING OF REINFORCING BARS IS NOT PERMITTED.
9. THE DETAILING OF REINFORCEMENT AND CONNECTION BETWEEN CONCRETE MEMBER AS RELATED TO REQUIREMENTS FOR STRUCTURAL INTEGRITY SHALL COMPLY WITH PROVISIONS OF ACI 318, SECTION 7.13.
10. REINFORCED CONCRETE STRUCTURES SHALL MEET ALL THE REQUIREMENTS OF 2020 NYS BUILDING CODE CHAPTER 19 RELATED TO STRUCTURAL INTEGRITY.

MISCELLANEOUS STRUCTURAL STEEL:

1. STRUCTURAL STEEL DETAILING, FABRICATION AND ERECTION SHALL CONFORM TO THE AISC STEEL CONSTRUCTION MANUAL, 15TH EDITION, ANSI/AISC 360-16 "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS" AND ANSI/AISC 303-16 "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES".
2. MATERIALS SHALL CONFORM TO THE STANDARDS LISTED:
   a. W-SHAPES: ASTM A992
   b. PLATES, ANGLES AND CHANNELS: ASTM A36
   c. COLD-FORMED HSS: ASTM A500 GRADE B
   d. ANCHOR RODS: ASTM F1554, GRADE 36
   e. STRUCTURAL BOLTS: ASTM A325
3. WELDING SHALL CONFORM TO THE AMERICAN WELDING SOCIETY STANDARD D1.1. ELECTRODES FOR SHOP AND FIELD WELDS SHALL CONFORM TO AWS, CLASS E70XX, LOW HYDROGEN.
4. SPLICING OF STRUCTURAL STEEL MEMBERS WHERE NOT DETAILED ON THE CONTRACT DOCUMENTS IS PROHIBITED WITHOUT THE PRIOR APPROVAL OF THE EoR AS FOR LOCATION, TYPE OF SPLICE AND CONNECTION TO BE MADE.
5. THE CONTRACTOR SHALL NOTIFY EoR OF ANY MISFABRICATED STRUCTURAL STEEL OR JOISTS PRIOR TO ERECTION OF SAME.
6. PENETRATIONS SHALL NOT BE CUT IN STRUCTURAL STEEL MEMBERS UNLESS SO INDICATED IN THE DRAWINGS OR AS APPROVED BY THE ENGINEER OF RECORD.
7. FILLET WELDS SHALL BE A MINIMUM OF 3/16".
8. ALL STEEL MEMBERS AND CONNECTIONS EXPOSED TO THE WEATHER SHALL BE HOT DIP GALVANIZED. STEEL MEMBERS, FABRICATIONS AND ASSEMBLIES INDICATED ON THE DRAWINGS TO BE GALVANIZED SHALL BE GALVANIZED AFTER FABRICATION BY HOT DIP PROCESS IN ACCORDANCE WITH ASTM A123. WEIGHT OF ZINC COATING TO CONFORM TO THE REQUIREMENTS SPECIFIED UNDER "WEIGHT OF COATING" IN ASTM A123 OR ASTM A386, AS APPLICABLE.
9. USE 3/8" MINIMUM GUSSET PLATE THICKNESS, UNLESS OTHERWISE NOTED.

STRUCTURAL STABILITY NOTE:

THE STRUCTURES SHALL BE ADEQUATELY GUYED AND BRACED TO MAINTAIN SAFETY AND ALIGNMENT DURING ALL PHASES OF CONSTRUCTION. SUCH GUYING AND BRACING SHALL REMAIN IN PLACE UNTIL THE STRUCTURE HAS REACHED ADEQUATE STRENGTH AND/OR ALL PERMANENT BRACING IS IN PLACE. ENSURE THAT CONSTRUCTION OPERATIONS AND PROCEDURES IMPOSE NO LOADING GREATER THAN THE DESIGN LOADS ON ANY MEMBER.

SUBMITTALS REQUIRED:

1. THE FOLLOWING ITEMS REQUIRE SUBMITTAL OF SHOP AND ERECTION DRAWINGS FOR REVIEW:
   a. STRUCTURAL STEEL
   b. CONCRETE MIX DESIGN
   c. REINFORCING LAYOUT

SPECIAL AND PROGRESS INSPECTIONS:

SPECIAL & PROGRESS INSPECTIONS REQUIRED BY THE 2020 BUILDING CODE OF NEW YORK STATE SHALL BE PERFORMED BY A TESTING AGENCY ENGAGED BY THE CONSTRUCTION MANAGER AT THEIR EXPENSE (NOT TO BE PERFORMED BY THE ENGINEER OF RECORD, EXCEPT FINAL INSPECTION) FOR THE FOLLOWING ITEMS:

INSPECTION	REF. STANDARD	BC REF.
STEEL CONSTRUCTION:		
• HIGH-STRENGTH BOLTS, NUTS, AND WASHERS MATERIAL VERIFICATION	ANSI/AISC 360-16: Table N5.6-1	1705.2.1
• HIGH-STRENGTH BOLTING	ANSI/AISC 360-16: Table N5.6-2 & Table N5.6-3	
• MATERIAL VERIFICATION OF STRUCTURAL STEEL	ANSI/AISC 360-16: N5.1, N5.2	
• MATERIAL VERIFICATION OF WELD FILLER MATERIALS	ANSI/AISC 360-16: Table N5.4-1	
• INSPECTION OF WELDING	ANSI/AISC 360-16: Table N5.4-2 & Table N5.4-3	
• WELDER QUALIFICATION/CERTIFICATION AND WELDING PROCEDURES VERIFICATION	ANSI/AISC 360-16: Table N5.4-1	
CONCRETE CONSTRUCTION:		
• INSPECTION OF REINFORCING STEEL AND PLACEMENT VERIFICATION	ACI 318 Ch. 20, 25.2, 25.3, 26.6.1-26.6.3	1905, Table 1705.3 and 1908.4
• INSPECTION OF ANCHORS CAST IN CONCRETE	ACI 318: 17.8.2	Table 1705.3
• INSPECTION OF ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS	ACI 318: 17.8.2.4 ACI 381: 17.8.2	Table 1705.3
• VERIFYING USE OF REQUIRED DESIGN MIX	ACI 318: Ch. 19, 26.4.3, 26.4.4	1904.1 1904.2 1908.2, 1908.3 Table 1705.3
• PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TEST, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMP. OF THE CONCRETE	ASTM C172, ASTM C31, ACI 318: 26.4, 26.12	1908.10 Table 1705.3
• INSPECTION OF CONCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES	ACI 318: 26.5	1908.6 1908.7 1908.8, Table 1705.3
• VERIFICATION OF THE MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES	ACI 318: 26.5.3 - 26.5.5	1908.9, Table 1705.3
• FORMWORK INSPECTION FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED	ACI 318: Ch. 26.11.1.2(b)	Table 1705.3
SOILS:		
• VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE DESIGN BEARING CAPACITY		1705.6 Table 1705.6
• VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH ANDHAVE REACHED PROPER MATERIAL		
FINAL INSPECTION:		

GENERAL LEGEND & ABBREVIATIONS:

W6x20	NEW STEEL MEMBER DESIGNATION (ON FRAMING PLANS & ELEVATIONS ONLY)
W10x22	EXISTING STEEL MEMBER DESIGNATION (ON FRAMING PLANS & ELEVATIONS ONLY)
———	NEW STRUCTURAL STEEL
– – – – – –	EXISTING STRUCTURAL STEEL
B.O.S.	BOTTOM OF STEEL
T.O.C.	TOP OF CONCRETE
T.O.G.	TOP OF GRATING
T.O.R.	TOP OF RAIL
T.O.S.	TOP OF STEEL
EL.	ELEVATION
E.S.	EACH SIDE
F.S.	FAR SIDE
N.S.	NEAR SIDE
(E)	EXISTING
(N)	NEW
℄	CENTERLINE
PL.	PLATE
DN	DOWN
EQ	EQUAL
OPP	OPPOSITE HAND
SIM	SIMILAR
TYP	TYPICAL
V.I.F.	VERIFY IN FIELD

DESIGN LOADS

1. RISK CATEGORY — III
2. ROOF LIVE LOAD — 20 PSF
3. WIND LOAD PARAMETERS:
   a. BASIC WIND SPEED — 122 MPH
   b. EXPOSURE CATEGORY — C
4. SEISMIC LOAD PARAMETERS:
   a. Ss — 0.261
   b. S1 — 0.061
   c. SDS — 0.300
   d. SD1 — 0.097
   e. SITE CLASS — D
   f. IMPORTANCE FACTOR — 1.25
   g. SEISMIC DESIGN CATEGORY — B
5. SNOW LOAD PARAMETERS:
   a. GROUND SNOW LOAD — 30 PSF
   b. IMPORTANCE FACTOR — 1.1
   c. EXPOSURE FACTOR — 1.0
   d. TEMPERATURE FACTOR — 1.2
   e. ROOF SLOPE FACTOR — 1.0

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

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

STATE OF NEW YORK — RONALD ALAN BROKENSHIRE — 104873 — LICENSED PROFESSIONAL ENGINEER
RONALD A. BROKENSHIRE, P.E.
NY LIC 104873
REG. EXP. DATE: 04-30-24

Drawn by: AN
Checked by: RAB
Project No.: 42054
Scale: AS NOTED
Date: 09-14-23

GREENMAN PEDERSEN, INC
8 EXECUTIVE BOULEVARD SUITE 302 SUFFERN, NY 10901
Mechanical & Electrical Engineer:

GREENMAN PEDERSEN, INC
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Structural Engineer:

UNIVENT REPLACEMENT AT WILLOW GROVE ELEMENTARY SCHOOL
SED# 50-02-01-06-0-030-016
105 ZITOMER RD
TOMKINS, NY 10984
COUNTY OF ROCKLAND

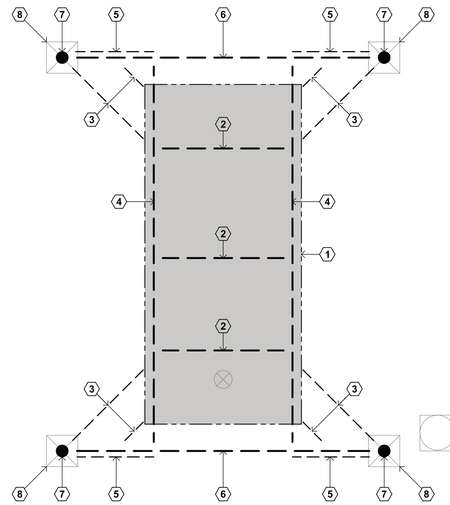
MICHAEL SHILALE ARCHITECTS, L.L.P.
140 Park Avenue New City, NY 10956 Tel 845-708-9200
www.shilale.com

Drawing Title: **STRUCTURAL GENERAL NOTES**

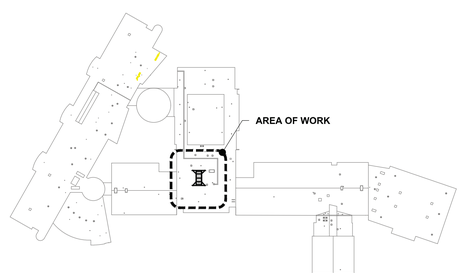
Drawing No.: **WGES-S-001**

DEMOLITION KEYED NOTES:

1. FOR EXISTING COOLING TOWER DEMOLITION REFER TO MECHANICAL DWG. NO. WGES-M-070.
2. REMOVE EXISTING CHANNELS (C6x8.2).
3. REMOVE EXISTING HORIZONTAL BRACES (L3x3x¼).
4. REMOVE EXISTING SECONDARY BEAMS (10B15).
5. REMOVE EXISTING KNEE BRACES (L3x3x¼).
6. REMOVE EXISTING PRIMARY BEAMS (10WF22).
7. REMOVE EXISTING 3"Ø (NOM.) POSTS DOWN TO ROOF FRAMING CONNECTION. REFER TO DWG. NO. WGES-S-101 FOR CLEANING PROCEDURE.
8. FOR PITCH POCKETS REMOVAL AND SURROUNDING ROOF REPAIR REFER TO ARCHITECTURAL DWGS.



1 COOLING TOWER DUNNAGE DEMOLITION
SCALE: 1/4" = 1' - 0"



KEY PLAN

PLAN NORTH

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

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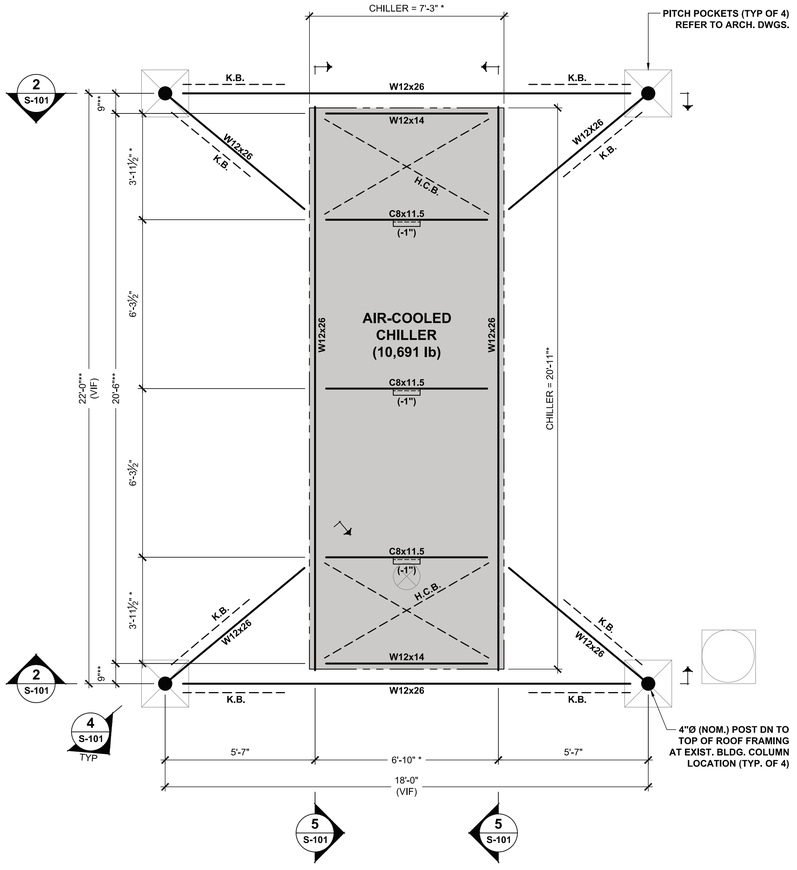
Drawing Title
STRUCTURAL ROOF DEMOLITION

Drawing No.
WGES-S-070



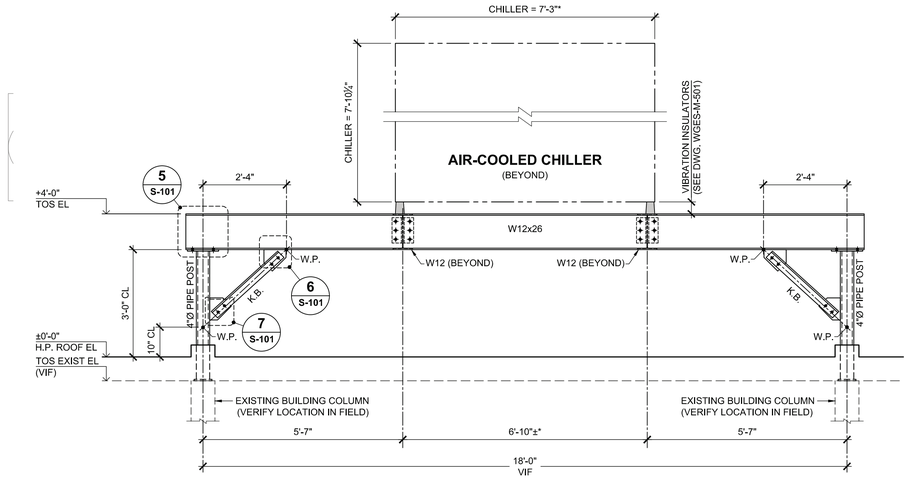
1 ROOF DUNNAGE PLAN INSTALLATION
SCALE: 3/8"=1' - 0"

PLAN NORTH

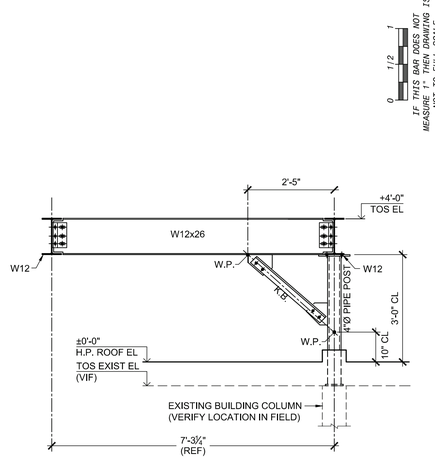
- T.O.S. EL. +4'-0" A.F. ROOF (U.N.O.)
- DIMENSIONS DESIGNATED THUS (*) ARE SUBJECT TO COORDINATION WITH UNIT MANUFACTURER.
- DIMENSION DESIGNATED THUS (**) ARE SUBJECT TO COORDINATION BETWEEN CHILLER INSTALLER AND GENERAL CONTRACTOR.
- ALL KNEE BRACES (K.B.) SHALL BE 2-L3X3X¼.
- ALL HORIZ. CROSS BRACES (H.C.B.) SHALL BE 1-L3X3X¼ (-6" T.O.S.)
- ALL STEEL EXPOSED TO ELEMENTS SHALL BE HOT-DIP GALVANIZED.

NOTES:

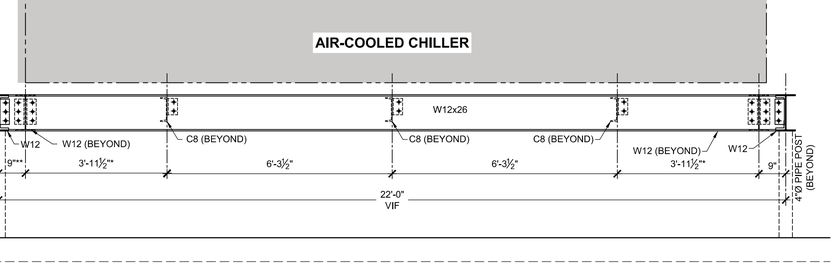
1. PRIOR TO BEGINNING ANY WORK, CONTRACTOR SHALL SURVEY AND CONFIRM EXISTING CONSTRUCTION AND DIMENSIONS. NOTIFY ARCHITECT AND/OR ENGINEER IF THERE ARE ANY DISCREPANCIES.
2. EXISTING ROOF CONSTRUCTION CONSISTS OF LIGHT WEIGHT CONCRETE FILL OVER METAL DECK, SPANNING OVER STRUCTURAL STEEL BEAMS. TOP OF EXISTING STEEL IS AT UNDERSIDE OF EXISTING METAL DECK, U.N.O.
3. COORDINATE LOCATION AND DIMENSIONS OF REQUIRED ROOF OPENING WITH MEP DRAWINGS AND APPROVED MECHANICAL SHOP DRAWINGS.
4. REFER TO DRAWING S-001 FOR GENERAL NOTES.



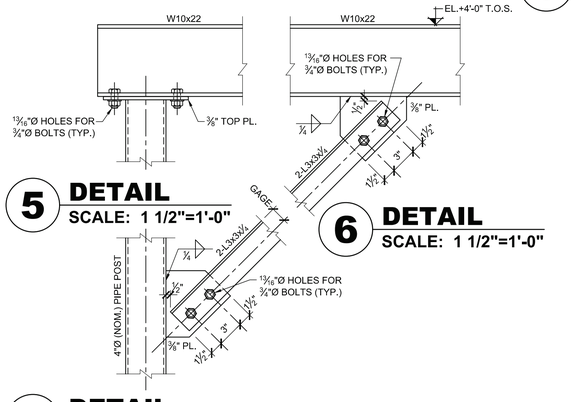
2 DUNNAGE VERTICAL SECTION
SCALE: 1/2"=1' - 0"



4 SECTION AT KNEE BRACE
SCALE: 1/2"=1' - 0"



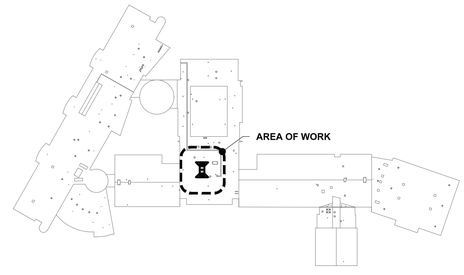
3 DUNNAGE LONGITUDINAL SECTION
SCALE: 1/2"=1' - 0"



5 DETAIL
SCALE: 1 1/2"=1'-0"

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

7 DETAIL
SCALE: 1 1/2"=1'-0"



KEY PLAN

PLAN NORTH

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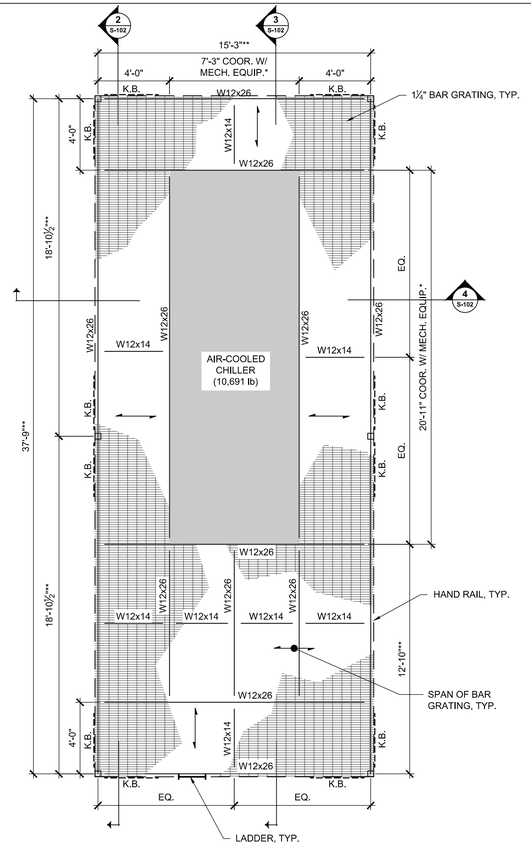
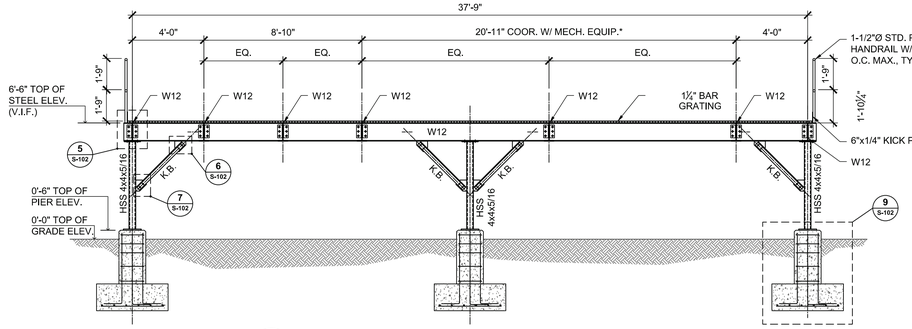
Drawing Title
STRUCTURAL ROOF CONSTRUCTION

Drawing No.
WGES-S-101



1 GROUND DUNNAGE PLAN INSTALLATION
SCALE: 1/4" = 1'-0"



2 LONGITUDINAL SECTION
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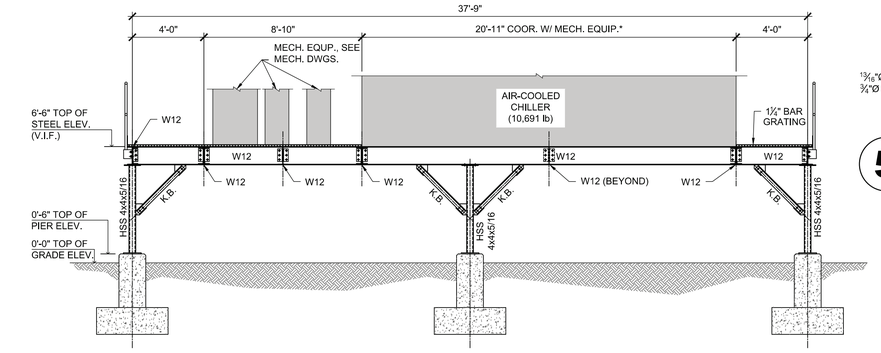

3 LONGITUDINAL SECTION
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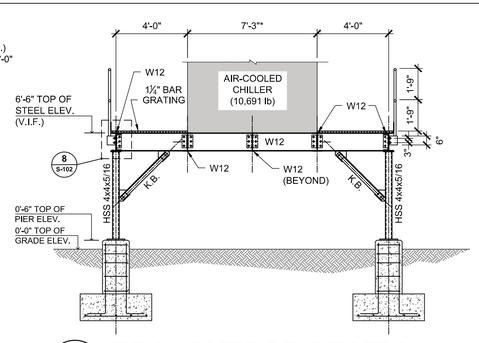

4 TRANSVERSE SECTION
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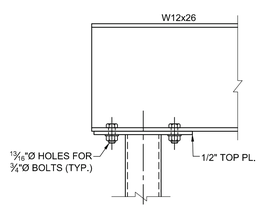
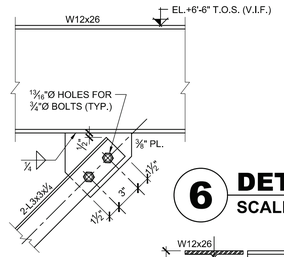
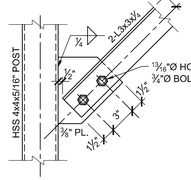


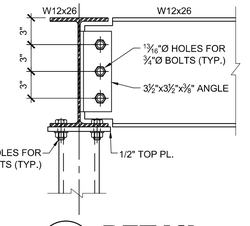
5 DETAIL
SCALE: 1-1/2" = 1'-0"



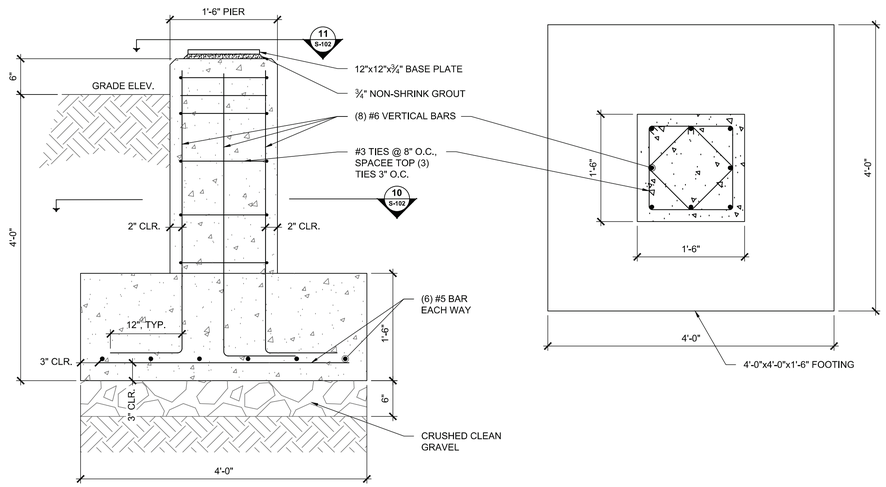
6 DETAIL
SCALE: 1-1/2" = 1'-0"



7 DETAIL
SCALE: 1-1/2" = 1'-0"

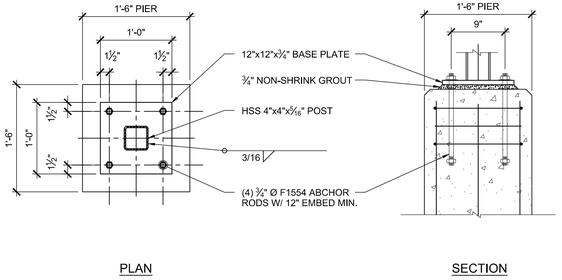


8 DETAIL
SCALE: 1-1/2" = 1'-0"



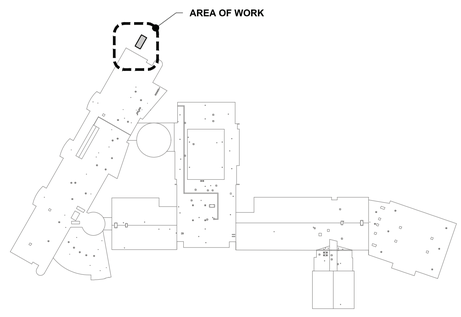
9 FOUNDATION SECTION DETAIL
SCALE: 1" = 1'-0"

10 FOUNDATION PLAN VIEW
SCALE: 1" = 1'-0"



11 BASE PLATE DETAIL
SCALE: 1" = 1'-0"

- T.O.S. EL. ±6'-6" VERIFY IN FIELD.
- DIMENSIONS DESIGNATED THUS (*) ARE SUBJECT TO COORDINATION WITH UNIT MANUFACTURER.
- DIMENSION DESIGNATED THUS (**) ARE SUBJECT TO COORDINATION BETWEEN CHILLER INSTALLER AND GENERAL CONTRACTOR.
- ALL KNEE BRACES (K.B.) SHALL BE 2-L3X3X¼.
- ALL STEEL EXPOSED TO ELEMENTS SHALL BE HOT-DIP GALVANIZED.



KEY PLAN

PLAN NORTH

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

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

STATE OF NEW YORK · RONALD ALAN BROKENSHIRE · 104873 · LICENSED PROFESSIONAL ENGINEER

RONALD A. BROKENSHIRE, P.E.
NY LIC 104873
REG. EXP. DATE: 04-30-24

Drawn by YAY
Checked by RAB
Project No. 42054
Scale
Date 09-14-23

GREENMAN PEDERSEN, INC
2 EXECUTIVE BOULEVARD SUITE 302 SUFFERN, NY 10901
Mechanical & Electrical Engineer:

GREENMAN PEDERSEN, INC
2 EXECUTIVE BOULEVARD SUITE 302 SUFFERN, NY 10901
Structural Engineer:

UNIVENT REPLACEMENT SCHOOL
AT
WILLOW GROVE
ELEMENTARY SCHOOL
SED# 50-02-01-06-0-030-016
153 STORIES RD
TOMKINS, NY 10984
COUNTY OF ROCKLAND

MICHAEL SHILALE ARCHITECTS, L.L.P.
140 Park Avenue New City, NY 10956 Tel 845-708-9200
www.shilale.com

Drawing Title
STRUCTURAL GROUND CONSTRUCTION

Drawing No.
WGES-S-102

EXISTING THROUGH WALL LOUVER

SUPPLY REGISTER

EXISTING UNIT VENT TO BE REPLACED
UV-00

EXISTING FAN COIL UNIT TO BE REPLACED
FC-00

EXISTING UNIT VENT
(TO REMAIN)

EXISTING UNIT VENT
(TO BE REMOVED)

LEGEND

D1 AS ALTERNATE NO. 200 REMOVE AND REPLACE EXISTING UV'S.

D2 REMOVE EXISTING CEILING TO FACILITATE WORK ON EXISTING UV. STORE CEILING TILES AND GRID FOR RE-INSTALLATION.

D3 EXISTING UV TO BE REMOVED AND NOT REPLACED. REMOVE EXISTING UV & CABINET. PREPARE FOR PATCHING.

D4 AS PER ALTERNATE NO. 203, REMOVE EXISTING GLASS BLOCK & EXISTING HALF CIRCLE TRANSOM. PREPARE EXISTING OPENING TO RECEIVE NEW WINDOW.

D5 REMOVE EXISTING CEILING AS REQUIRED FOR REFURBISHMENT OF ATTIC AND FOR INSTALLATION OF NEW ACCESS SCUTTLE AS PART OF ALTERNATE NO. 202.

D6 REMOVE EXISTING RAILING AND WALL GUARDS. PATCH EXISTING BLOCK AND TILE TO MATCH EXISTING AS PART OF ALTERNATE NO. 203.

D7 CAFETERIA HVAC UNIT TO BE DEMOLISHED AS PART OF ALTERNATE NO. 201.

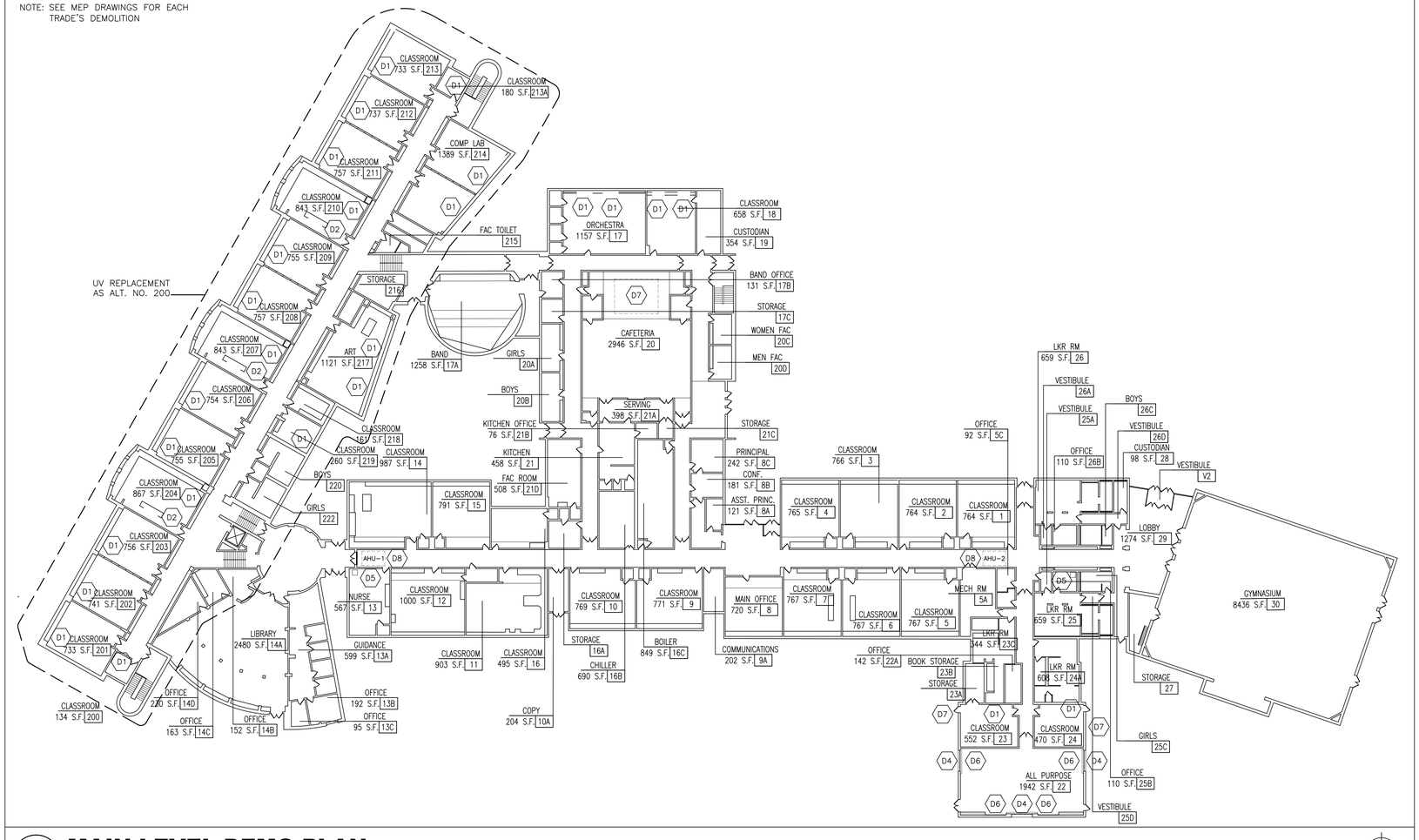
D8 REFURBISH AHU-1 AND AHU-2 AS ALTERNATE NO. 202.

DEMO NOTES

1. CONTRACTOR SHALL BE REQUIRED TO CORE DRILL ALL HOLES IN WALLS, FLOORS AND CEILINGS TO FACILITATE NEW LINESETS, ELECTRICAL CONDUITS AND CONDENSATE LINES.

GENERAL NOTES

NOTE: SEE MEP DRAWINGS FOR EACH TRADE'S DEMOLITION



1 MAIN LEVEL DEMO PLAN
SCALE: 1" = 30'-0"

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

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM 1
1	01-18-23	BIDDING DOCUMENTS

REG. EXP DATE: 06-30-24

Drawn by MAL
Checked by MS/JC
Project No. 42054
Scale AS NOTED
Date 07-29-22

GREENMAN PEDERSEN, INC
400 RELLA BOULEVARD
MONTEBELLO, NY 10901

Mechanical & Electrical Engineer:
Structural Engineer:

UNIVENT REPLACEMENT
AT WILLOW GROVE
ELEMENTARY SCHOOL
SED# 50-02-01-06-0-030-016
103 STORRS ROAD
THIELLS, NY 10984
COUNTY OF ROCKLAND

MICHAEL SHILALE ARCHITECTS, L.L.P.
140 Park Avenue New City, NY 10956 Tel 845-708-9200
www.mhlale.com

Drawing Title
MAIN LEVEL DEMO PLAN

Drawing No.
WGES-D-101

EXISTING THROUGH WALL LOUVER

SUPPLY REGISTER

EXISTING UNIT VENT TO BE REPLACED
UV-00

EXISTING FAN COIL UNIT TO BE REPLACED
FC-00

EXISTING UNIT VENT
(TO REMAIN)

EXISTING UNIT VENT
(TO BE REMOVED)

LEGEND

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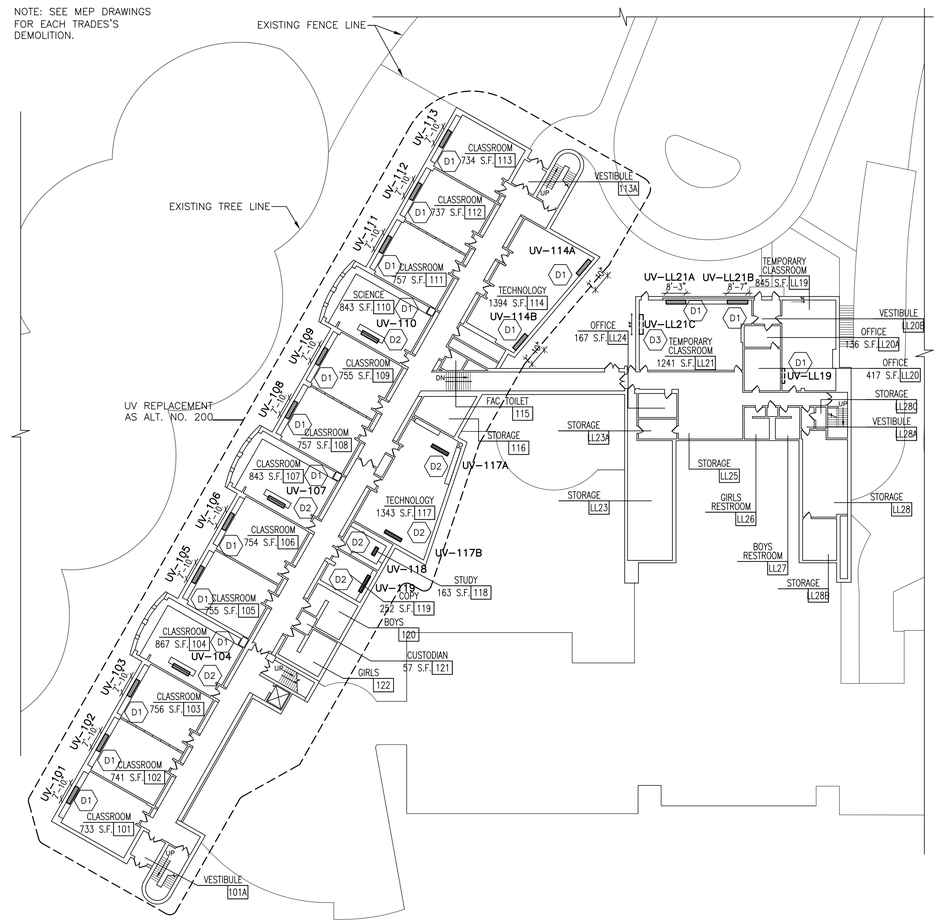
GENERAL NOTES

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

NOTE: SEE MEP DRAWINGS FOR EACH TRADES'S DEMOLITION.



1 LOWER LEVEL DEMO PLAN
SCALE: 1" = 30'-0"

PLAN NORTH

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM 1
1	01-18-23	BIDDING DOCUMENTS

REG. EXP DATE: 06-30-24

Drawn by MAL
Checked by MS/JC
Project No. 42054
Scale AS NOTED
Date 07-29-22

IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ARCHITECT, TO ALTER AN ITEM IN ANY WAY.

GREENMAN PEDERSEN, INC
400 REILLA BOULEVARD
MONTGOMERY, NY 10001

Mechanical & Electrical Engineer:

Structural Engineer:

UNIVENT REPLACEMENT
AT WILLOW GROVE
ELEMENTARY SCHOOL
SED# 50-02-01-06-0-030-016

COUNTY OF ROCKLAND
131 STONEY ROAD
NEW CITY, NY 10956

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140 Park Avenue New City, NY 10956 Tel 845-708-9200
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Drawing Title
LOWER LEVEL DEMO PLAN

Drawing No.
WGES-D-102

EXISTING THROUGH WALL LOUVER

SUPPLY REGISTER

EXISTING UNIT VENT TO BE REPLACED
UV-00

EXISTING FAN COIL UNIT TO BE REPLACED
FC-00

EXISTING UNIT VENT
(TO REMAIN)

EXISTING UNIT VENT
(TO BE REMOVED)

LEGEND

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D8 REFURBISH AHU-1 AND AHU-2 AS ALTERNATE NO. 202.

DEMO NOTES

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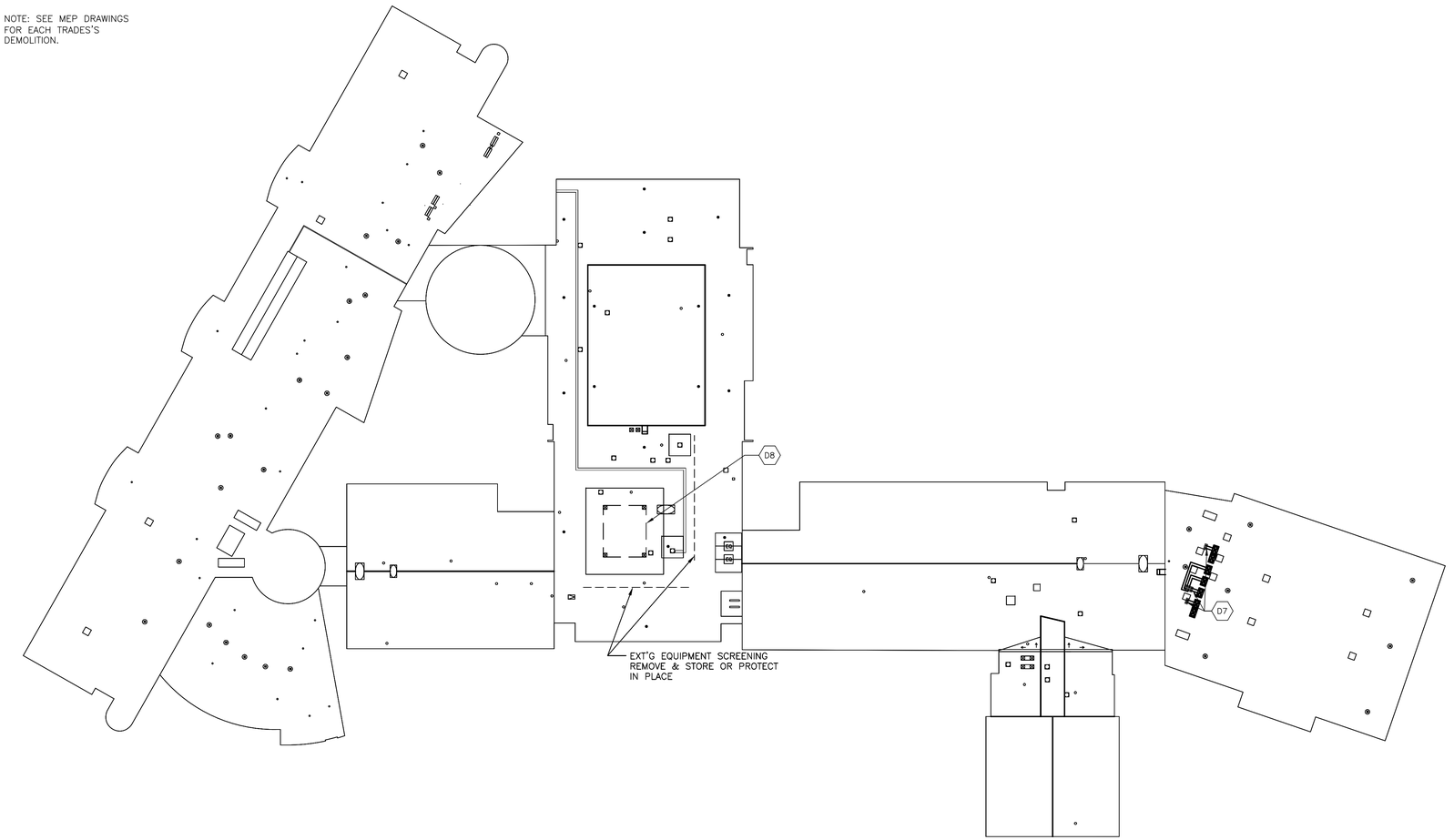
GENERAL NOTES

NOTE: SEE MEP DRAWINGS FOR EACH TRADES'S DEMOLITION.



1 ROOF DEMO PLAN
SCALE: 1" = 30'-0"

PLAN NORTH

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

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No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
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1	01-18-23	BIDDING DOCUMENTS

REG. EXP DATE: 06-30-24

Drawn by MAL
Checked by MS/JC
Project No. 42054
Scale AS NOTED
Date 07-29-22

Mechanical & Electrical Engineer:
GREENMAN PEDERSEN, INC
400 RELLA BOULEVARD
MONTEBELLO, NY 10901

Structural Engineer:

UNIVENT REPLACEMENT
AT WILLOW GROVE
ELEMENTARY SCHOOL
SED# 50-02-01-06-0-030-016
103 STORRS ROAD
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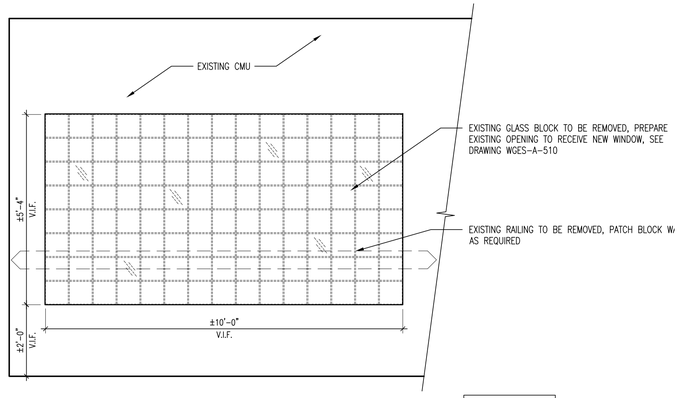
COUNTY OF ROCKLAND

MICHAEL SHILALE ARCHITECTS, LLP.
140 Park Avenue New City, NY 10956 Tel 845-708-9200
www.shilale.com

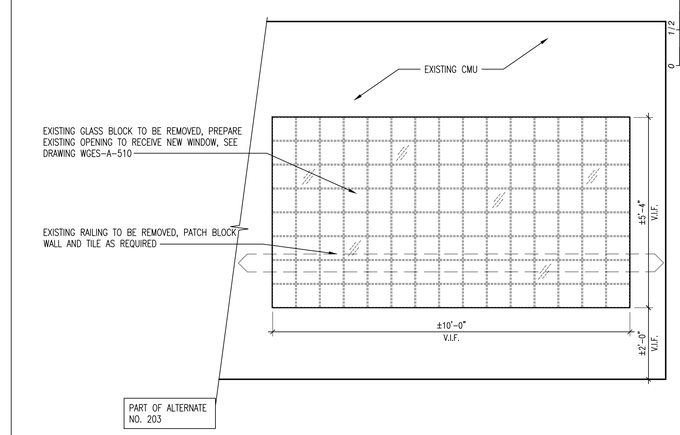
Drawing Title
ROOF DEMO PLAN

Drawing No.
WGES-D-103



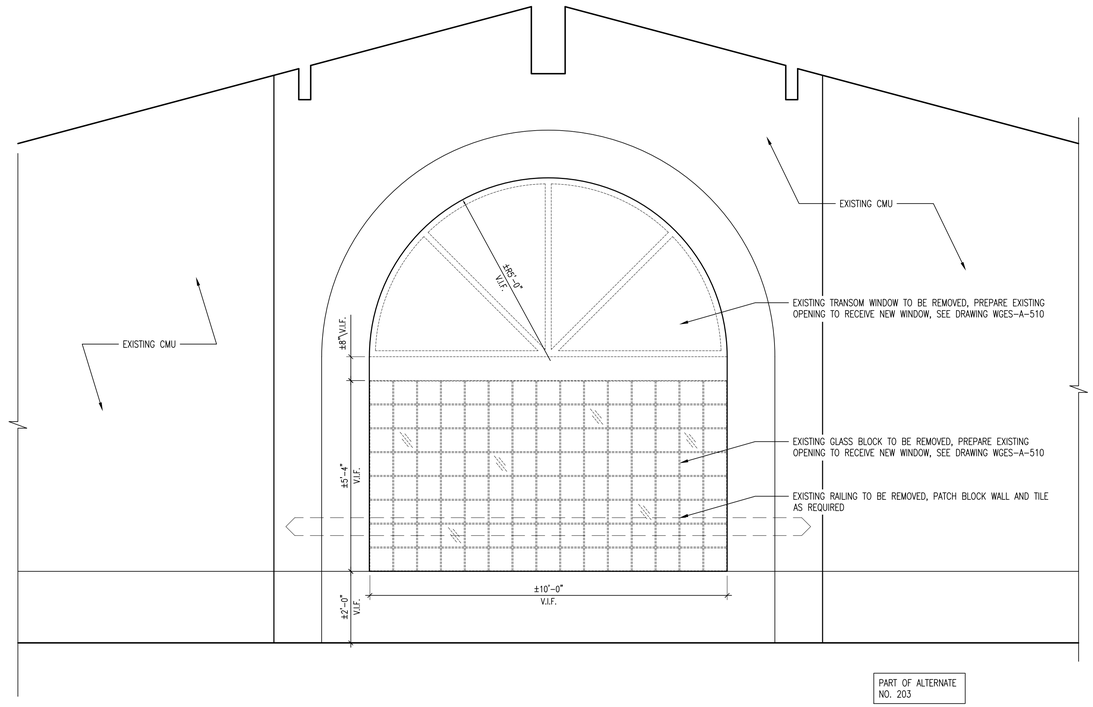
3 WINDOW DEMO ELEVATION

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



2 WINDOW DEMO ELEVATION

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



1 WINDOW DEMO ELEVATION

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

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM 1
1	01-18-22	BIDDING DOCUMENTS

REG. EXP DATE: 06-30-24

Drawn by MAL/JR
Checked by MS/JC
Project No. 42054
Scale AS NOTED
Date 08-30-21

GREENMAN PEDERSEN, INC
400 RELLA BOULEVARD
MONTEBELLO, NY 10901

Mechanical & Electrical Engineer:
Structural Engineer:

UNIVENT REPLACEMENT AT WILLOW GROVE ELEMENTARY SCHOOL
SED# 50-02-01-06-0-030-016
153 STOKES ROAD
FREDDA, NY 10940
COUNTY OF ROCKLAND

MICHAEL SHILALE ARCHITECTS, L.L.P.
140 Park Avenue New City, NY 10956 Tel 845-708-9200
www.shilale.com

Drawing Title
WINDOW DEMO ELEVATIONS

Drawing No.
WGES-D-610

EXISTING THROUGH WALL LOUVER

SUPPLY REGISTER

NEW UNIT VENT
UV-00

NEW FAN COIL UNIT
FC-00

NEW CASSETTE
CS-00

EXISTING UNIT VENT (TO REMAIN)

EXISTING UNIT VENT (TO BE REMOVED)

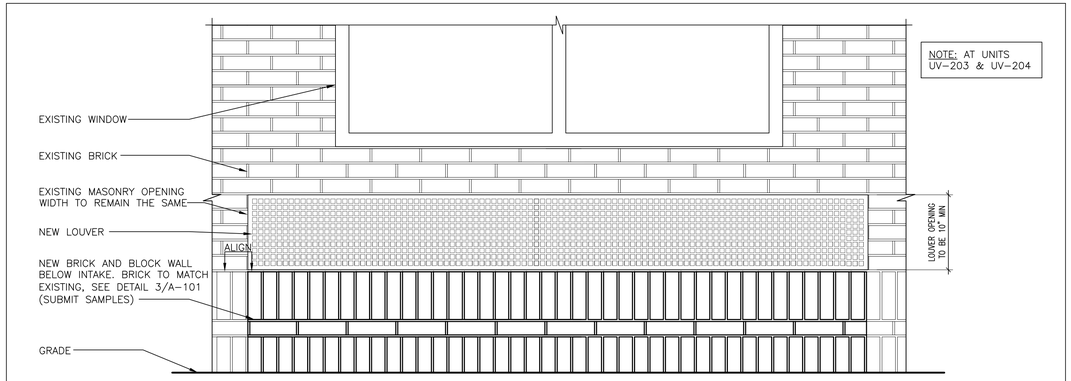
RA NEW RELIEF VENT ENCLOSURE

AREA OF NEW ROOF

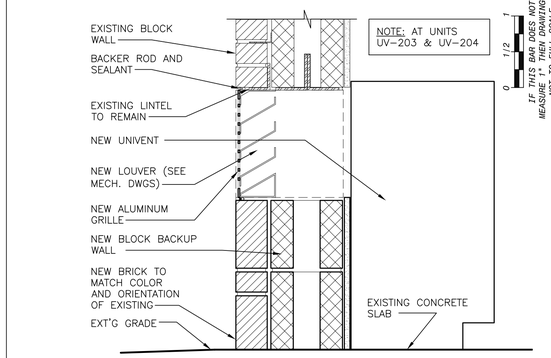
NEW CHILLER

OLF / LE LINEAR FEET OF LINE SET ENCLOSURE

LEGEND



4 AIR INTAKE ELEVATION
SCALE: 1" = 1'-0"



3 RAISED AIR INTAKE SECTION
SCALE: 1-1/2" = 1'-0"

A1 INSTALL NEW UNIT VENTILATOR AS PART OF ALTERNATE NO. 200.

A2 INSTALL NEW CEILING MOUNTED UNIT VENTILATOR AS PART OF ALTERNATE NO. 200.

A3 PATCH EXISTING FLOOR AND WALL WHERE EXISTING UV IS REMOVED.

A4 INSTALL NEW WINDOW ASSEMBLY. VERIFY ALL DIMENSIONS IN FIELD. SEE DRAWING WGES-A-510 FOR WINDOW ELEVATIONS AS ALTERNATE NO. 203.

A5 NEW INTAKE TO BE RAISED AWAY FROM GRADE. INSTALL NEW BRICK AND BLOCK WALL BELOW INTAKE. BRICK TO MATCH EXISTING, SEE DETAIL 3/A-101 & 4/A-101. SUBMIT BRICK SAMPLES FOR APPROVALS.

A6 INSTALL NEW SPLIT SYSTEM UNITS, PROVIDE EQUIPMENT SUPPORT RAILS, SEE MEP DRAWINGS & DETAIL 1/WGES-A-500

A7 PROVIDE NEW CHILLER, SEE MEP DRAWINGS

A8 MODIFY EXISTING DUNNAGE AS REQ'D., SEE STRUCTURAL DRAWINGS

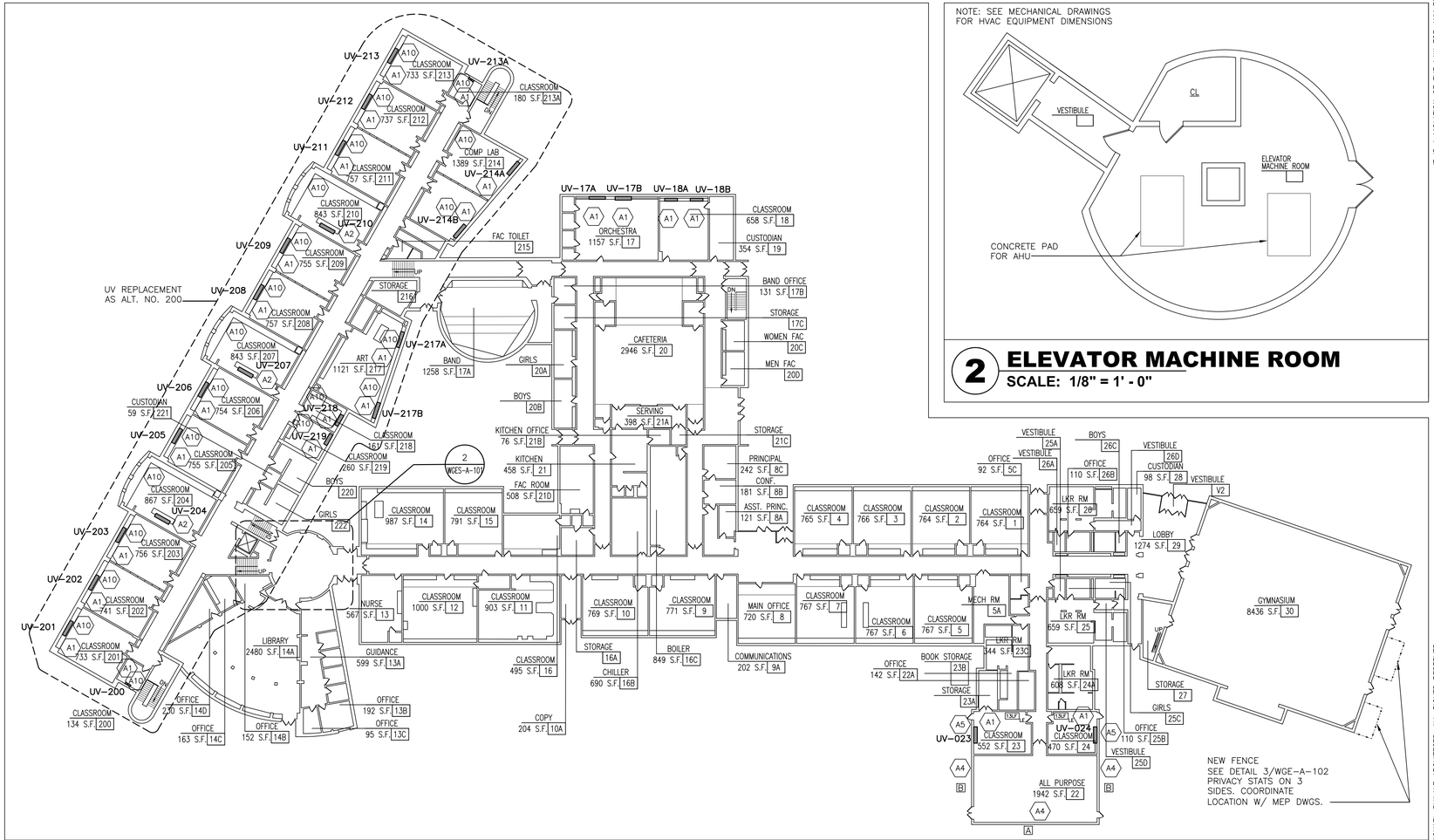
A9 PROVIDE PITCH POCKET OR THROUGH ROOF BOOT/FLASHING ASSEMBLY @ ALL PIPE & CONDUIT ROOF PENETRATIONS. NEW ASSEMBLY TO BE COMPATIBLE W. EXISTING ROOFING SYSTEM. SEE DETAIL 2/WGES-A-500

A10 PERFORM MODIFICATIONS TO EXISTING UV AS NOTED ON MECHANICAL DRAWINGS.

KEY NOTES

1. CONTRACTOR SHALL BE REQUIRED TO CORE DRILL ALL HOLES IN WALLS, FLOORS AND CEILINGS TO FACILITATE NEW CHILLER LINES, CONDUITS AND CONDENSATE LINES. FIRE STOP ALL PENETRATIONS.
2. PATCH EXISTING VCT FLOORING AT BASE UNDER UNI-VENT.
3. PATCH EXISTING PLASTER AND CASE WORK AT ALL UNI-VENT LOCATIONS.

GENERAL NOTES



1 MAIN LEVEL FLOOR PLAN
SCALE: 1" = 30' - 0"

NOTE: SEE MECHANICAL DRAWINGS FOR HVAC EQUIPMENT DIMENSIONS

2 ELEVATOR MACHINE ROOM
SCALE: 1/8" = 1' - 0"

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
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1	01-18-23	BIDDING DOCUMENTS

REG. EXP DATE: 06-30-24

Drawn by MAL
Checked by MS/JC
Project No. 42054
Scale AS NOTED
Date 07-29-22

GREENMAN PEDERSEN, INC
400 RELLA BOULEVARD
MONTEBELLO, NY 10901

Mechanical & Electrical Engineer:

Structural Engineer:

UNIVENT REPLACEMENT
AT WILLOW GROVE
ELEMENTARY SCHOOL
SED# 50-02-01-06-0-030-016
105 STRYKER ROAD
TROOSA, NY 10984
COUNTY OF ROCKLAND

MICHAEL SHILALE ARCHITECTS, L.L.P.
140 Park Avenue New City, NY 10956 Tel 845-708-9200
www.shilale.com

Drawing Title
MAIN LEVEL FLOOR PLAN

Drawing No.
WGES-A-101

EXISTING THROUGH WALL LOUVER

SUPPLY REGISTER

NEW UNIT VENT
UV-00

NEW FAN COIL UNIT
FC-00

NEW CASSETTE
CS-00

EXISTING UNIT VENT (TO REMAIN)

EXISTING UNIT VENT (TO BE REMOVED)

NEW RELIEF VENT ENCLOSURE
RA

AREA OF NEW ROOF

NEW CHILLER

OLF LE LINEAR FEET OF LINE SET ENCLOSURE

LEGEND

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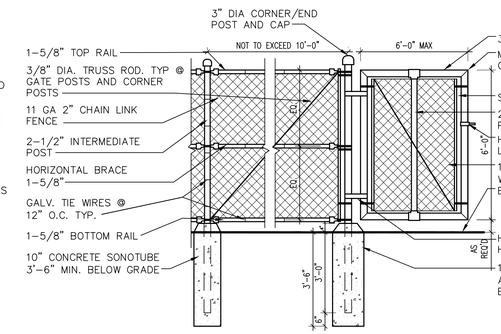
2. PATCH EXISTING VCT FLOORING AT BASE UNDER UNI-VENT.
3. PATCH EXISTING PLASTER AND CASE WORK AT ALL UNI-VENT LOCATIONS.

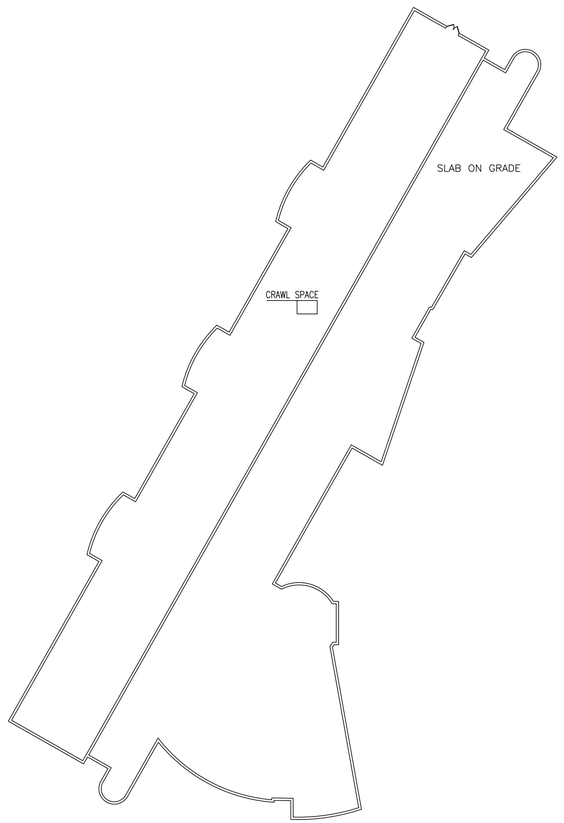
GENERAL NOTES

NOTES:
1. ALL WORK SHALL CONFORM TO ASTM F-1553 AND THE CHAIN LINK FENCE MANUFACTURERS INSTITUTE.
2. ALL POSTS AND RAILS SHALL BE GALVANIZED, HIGH STRENGTH STEEL (83000 PSI YIELD STRENGTH). ALL OTHER COMPONENETS AND HARDWARE SHALL BE GALVANIZED UNLESS OTHERWISE NOTED.
3. ALL MESH SHALL RECIEVE A CLASS 2a EXTRUDED BLACK POLYMER COATING WITH ASTM F-668.
4. REFER TO PLANS FOR THE SIZE AND LOCATION OF THE PEDESTRIAN SWING GATE. THE SPECIFIED WIDTH SHALL BE THE CLEAR WIDTH IN THE OPEN POSITION. GATE SHALL INCLUDE A LOCK (WHICH SHALL BE INTEGRATED INTO THE BUILDING'S MASTER KEYING SYSTEM). GATE SHALL ALSO INCLUDE OTHER WEATHER-RATED HARDWARE (INCLUDING AN AUTOMATIC CLOSER, HINGES, LATCHING, WALL STOP, AND OTHER HARDWARE AS REQUIRED FOR PROPER OPERATION OF GATE)
5. INCLUDE CUSTOM PROVISIONS FOR HARDWARE MOUNTING AND LATCHING.
6. INCLUDE CUSTOM PROVISIONS TO PREVENT VANDALS FROM ENTERING FROM THE EXTERIOR SIDE.
7. CONTRACTOR TO REPAIR/PATCH ANY EXISTING CONCRETE/ASPHAULT DAMAGED DURING EXCAVATION OF PIERS/SONOTUBES.
8. PROVIDE EXTERIOR CORNER FENCE POST PROTECTION 36"X36"X6'-0" BY RESILITE MAT COMPANY (800-843-6287), PROVIDE AT 2 LOCATIONS DESIGNATED BY ARCHITECT.

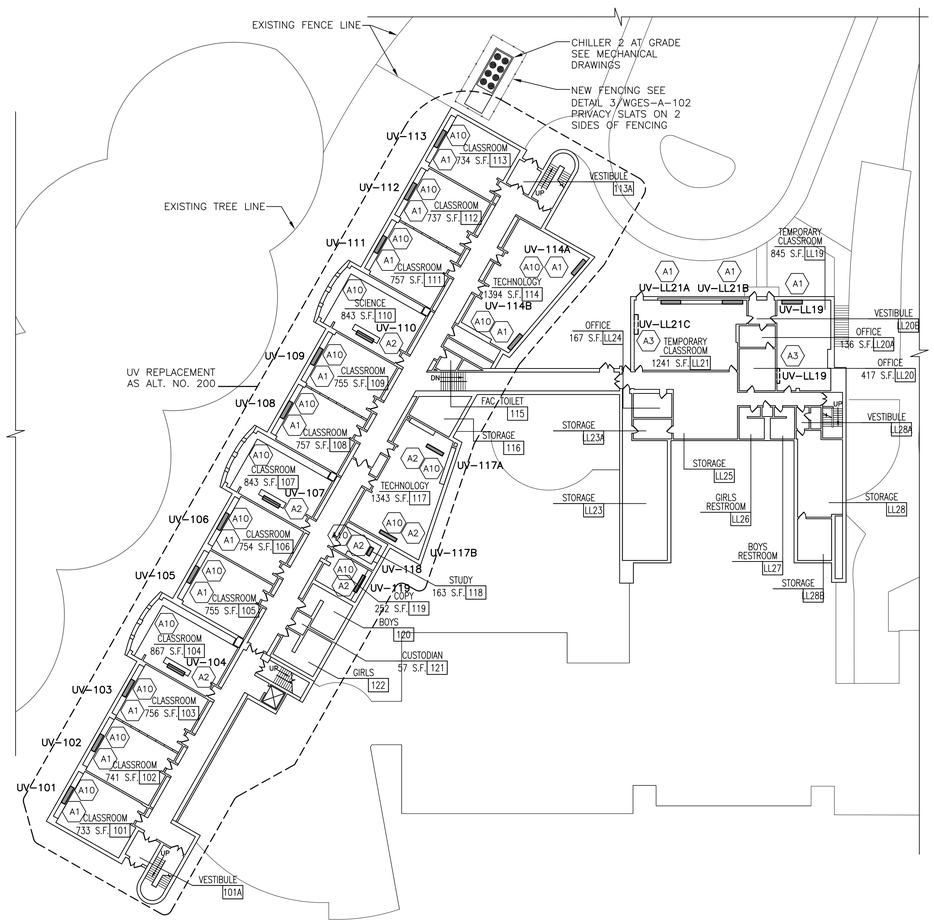


3 FENCING DETAIL
SCALE: 3/8"=1'-0"

NOTE: CHILLER LINES TO BE INSTALLED IN CRAWL SPACE. SEE MECHANICAL DRAWINGS



2 CRAWL SPACE PLAN
SCALE: 1"= 30'- 0"



1 LOWER LEVEL FLOOR PLAN
SCALE: 1"= 30'- 0"

No.	Date	Revisions
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Project No. 42054
Scale AS NOTED
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GREENMAN PEDERSEN, INC
400 REILLA BOULEVARD
MONTGOMERY, NY 12001

Mechanical & Electrical Engineer:

Structural Engineer:

UNIVENT REPLACEMENT AT WILLOW GROVE ELEMENTARY SCHOOL
SED# 50-02-01-06-0-030-016
COUNTY OF ROCKLAND
108 STORMS ROAD
STERLING, NY 10948

MICHAEL SHILALE ARCHITECTS, L.L.P.
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Drawing Title
LOWER LEVEL FLOOR PLAN

Drawing No.
WGES-A-102

EXISTING THROUGH WALL LOUVER

SUPPLY REGISTER

NEW UNIT VENT
UV-00

NEW FAN COIL UNIT
FC-00

NEW CASSETTE
CS-00

EXISTING UNIT VENT
(TO REMAIN)

EXISTING UNIT VENT
(TO BE REMOVED)

RA NEW RELIEF VENT ENCLOSURE

AREA OF NEW ROOF

NEW CHILLER

0LF LE LINEAR FEET OF LINE SET ENCLOSURE

LEGEND

A1 INSTALL NEW UNIT VENTILATOR AS PART OF ALTERNATE NO. 200.

A2 INSTALL NEW CEILING MOUNTED UNIT VENTILATOR AS PART OF ALTERNATE NO. 200.

A3 PATCH EXISTING FLOOR AND WALL WHERE EXISTING UV IS REMOVED.

A4 INSTALL NEW WINDOW ASSEMBLY. VERIFY ALL DIMENSIONS IN FIELD. SEE DRAWING WGES-A-510 FOR WINDOW ELEVATIONS AS ALTERNATE NO. 203.

A5 NEW INTAKE TO BE RAISED AWAY FROM GRADE. INSTALL NEW BRICK AND BLOCK WALL BELOW INTAKE. BRICK TO MATCH EXISTING, SEE DETAIL 3/A-101 & 4/A-101. SUBMIT BRICK SAMPLES FOR APPROVALS.

A6 INSTALL NEW SPLIT SYSTEM UNITS, PROVIDE EQUIPMENT SUPPORT RAILS, SEE MEP DRAWINGS & DETAIL 1/WGES-A-500

A7 PROVIDE NEW CHILLER, SEE MEP DRAWINGS

A8 MODIFY EXISTING DUNNAGE AS REQ'D., SEE STRUCTURAL DRAWINGS

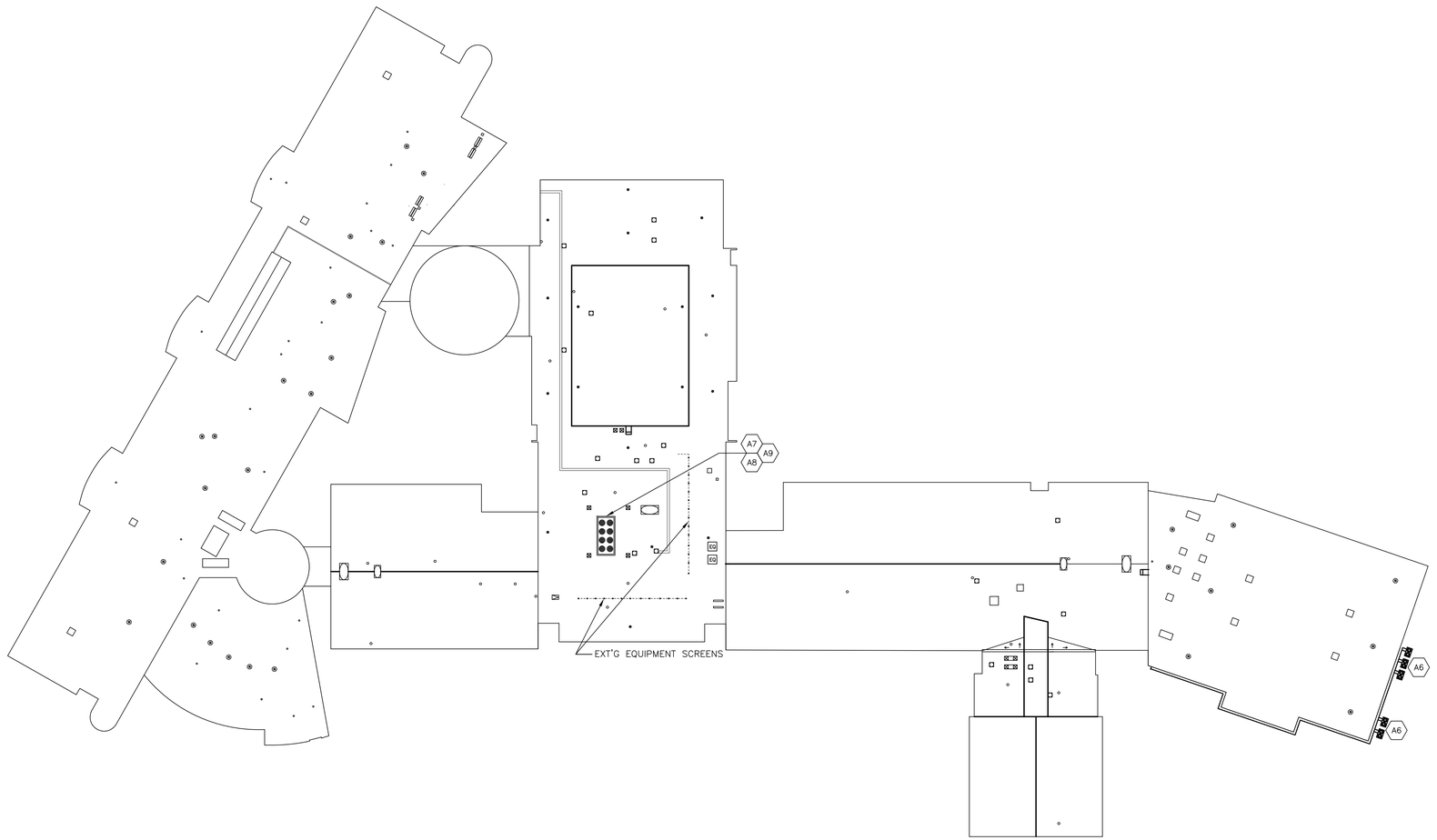
A9 PROVIDE PITCH POCKET OR THROUGH ROOF BOOT/FLASHING ASSEMBLY @ ALL PIPE & CONDUIT ROOF PENETRATIONS. NEW ASSEMBLY TO BE COMPATIBLE W. EXISTING ROOFING SYSTEM. SEE DETAIL 2/WGES-A-500

A10 PERFORM MODIFICATIONS TO EXISTING UV AS NOTED ON MECHANICAL DRAWINGS.

KEY NOTES

1. CONTRACTOR SHALL BE REQUIRED TO CORE DRILL ALL HOLES IN WALLS, FLOORS AND CEILINGS TO FACILITATE NEW CHILLER LINES, CONDUITS AND CONDENSATE LINES. FIRE STOP ALL PENETRATIONS.
2. PATCH EXISTING VCT FLOORING AT BASE UNDER UNI-VENT.
3. PATCH EXISTING PLASTER AND CASE WORK AT ALL UNI-VENT LOCATIONS.

GENERAL NOTES



1 ROOF PLAN
SCALE: 1" = 30'-0"

PLAN NORTH

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

IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ARCHITECT, TO ALTER AN ITEM IN ANY WAY.

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM 1
1	01-18-23	BIDDING DOCUMENTS

REG. EXP DATE: 06-30-24

Drawn by MAL
Checked by MS/JC
Project No. 42054
Scale AS NOTED
Date 07-29-22

GREENMAN PEDERSEN, INC
400 REILLA BOULEVARD
MONTVILLE, NJ 07001

Mechanical & Electrical Engineer:

Structural Engineer:

UNIVENT REPLACEMENT
AT WILLOW GROVE
ELEMENTARY SCHOOL
SED# 50-02-01-06-0-030-016
COUNTY OF ROCKLAND
105 STORMS ROAD
NYACK, NY 10994

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Drawing Title
ROOF PLAN

Drawing No.
WGES-A-103

LEGEND

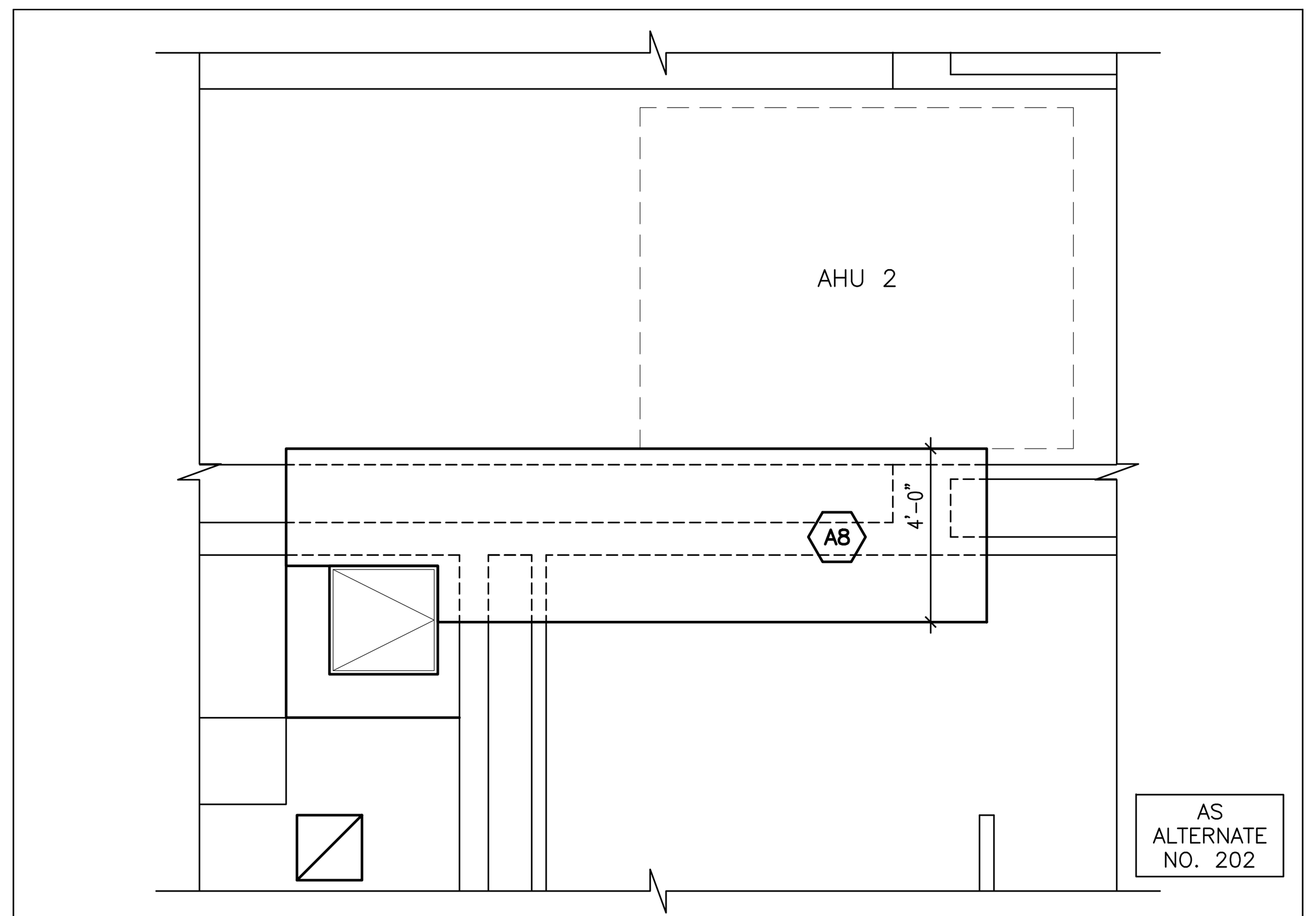
- GYPSUM BOARD CLG.
- 2' x 2' SUSPENDED CLG GRID
- 2' x 4' SUSPENDED CLG GRID
- EXIT SIGN ARROW INDICATES DIRECTION OF TRAVEL. SHADED PORTION INDICATES ILLUMINATED FACE.
- EXIT SIGN/EMERGENCY LIGHT WITH SELF-CONTAINED BATTERY BACKUP.
- EMERGENCY LIGHT WITH SELF-CONTAINED BATTERY BACKUP.
- RETURN AIR CEILING DIFFUSER
- SUPPLY AIR CEILING DIFFUSER
- CEILING RECESSED MOUNTED LIGHT FIXTURE
- WALL MOUNTED LIGHT FIXTURE
- 2' x 2' RECESSED LIGHT FIXTURE
- 2' x 4' RECESSED LIGHT FIXTURE
- 1' x 4' LIGHT FIXTURE
- 4" x 4' LIGHT FIXTURE
- 4" x 2' LIGHT FIXTURE
- EXPANSION JOINT
- SOUND BAFFLE – SLOPED WITH CEILING
- COLORED SOUND BAFFLE – PARALLEL WITH FINISH FLOOR
- 6" x 4' LIGHT FIXTURE

KEY NOTES

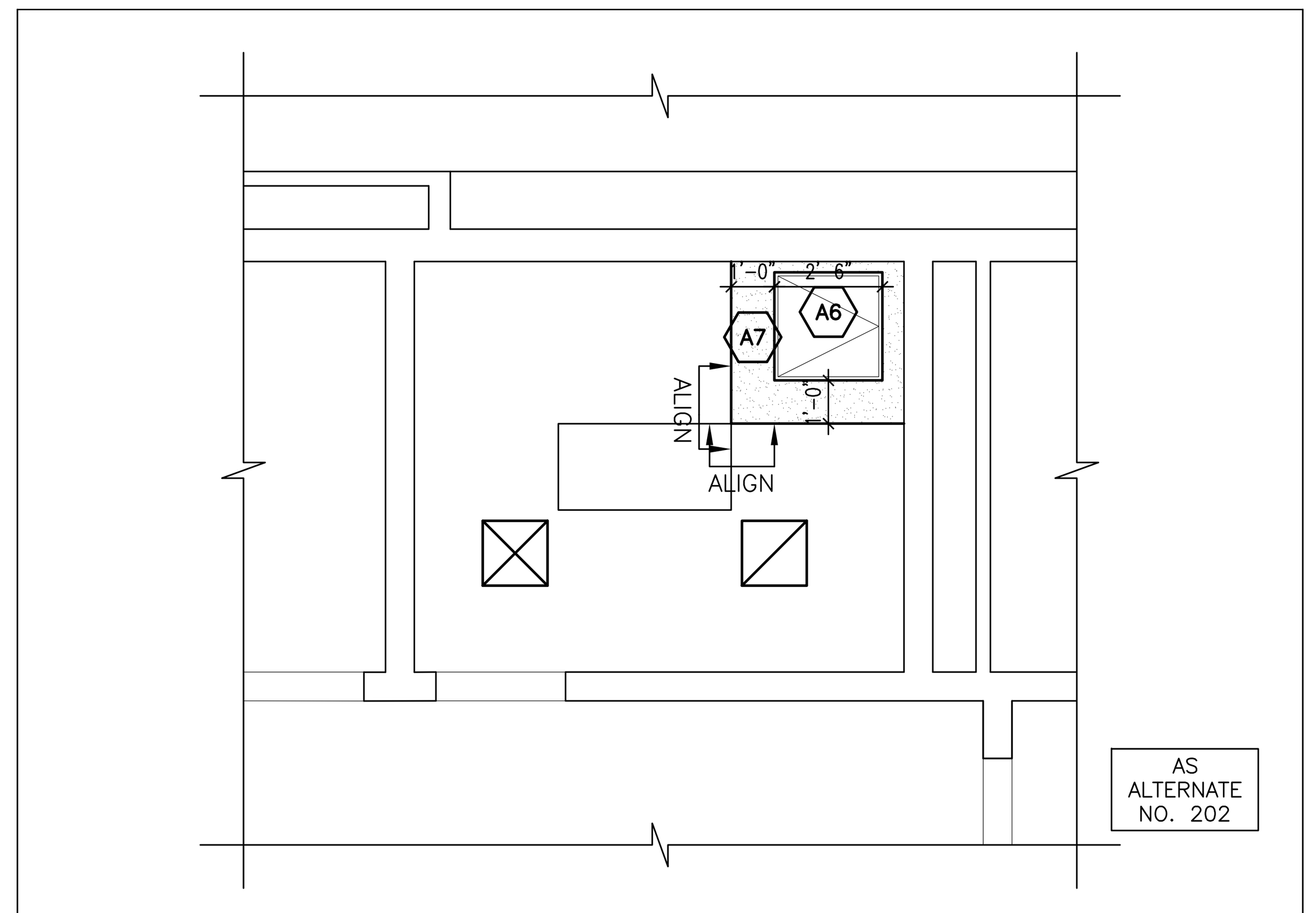
- A1 MODIFY EXISTING CEILING MOUNTED UV (BASE BID). INSTALL NEW CEILING MOUNTED NEW UNIT VENTILATOR (IF ALTERNATE NO. 200 ACCEPTED).
- A2 REMOVE AND RE-INSTALL CEILING AS REQUIRED FOR NOTE A1. SEE SPEC SECTION: 095113.
- A3 –
- A4 REMOVE AND RE-INSTALL EXISTING CEILING AS REQUIRED FOR REPAIR AND REFURBISHING OF AIR HANDLERS AS ALTERNATE NO. 202.
- A5 MOVE EXISTING LIGHT FIXTURE DOWN ONE GRID TO ALLOW FOR INSTALLATION OF GYPSUM CEILING AS ALTERNATE NO. 202.
- A6 INSTALL NEW 30"X30" METAL ACCESS PANEL IN CEILING AS ALTERNATE NO. 202.
- A7 INSTALL NEW GYPSUM CEILING. ALIGN EDGE OF GYPSUM CEILING WITH EXISTING GRID. CEILING TO SUPPORT NEW ACCESS PANEL AS ALTERNATE NO. 202.
- A8 CONSTRUCT A NEW METAL STUD FLOOR FOR AHU MAINTENANCE. FLOOR TO BE HUNG VIA ROOF JOISTS AND PROVIDE A PATHWAY FROM THE ACCESS PANEL TO THE AHU. FLOOR LOCATION TO BE DESIGNATED WITH OWNER AND ARCHITECT ON SITE AS ALTERNATE NO 202.

GENERAL NOTES

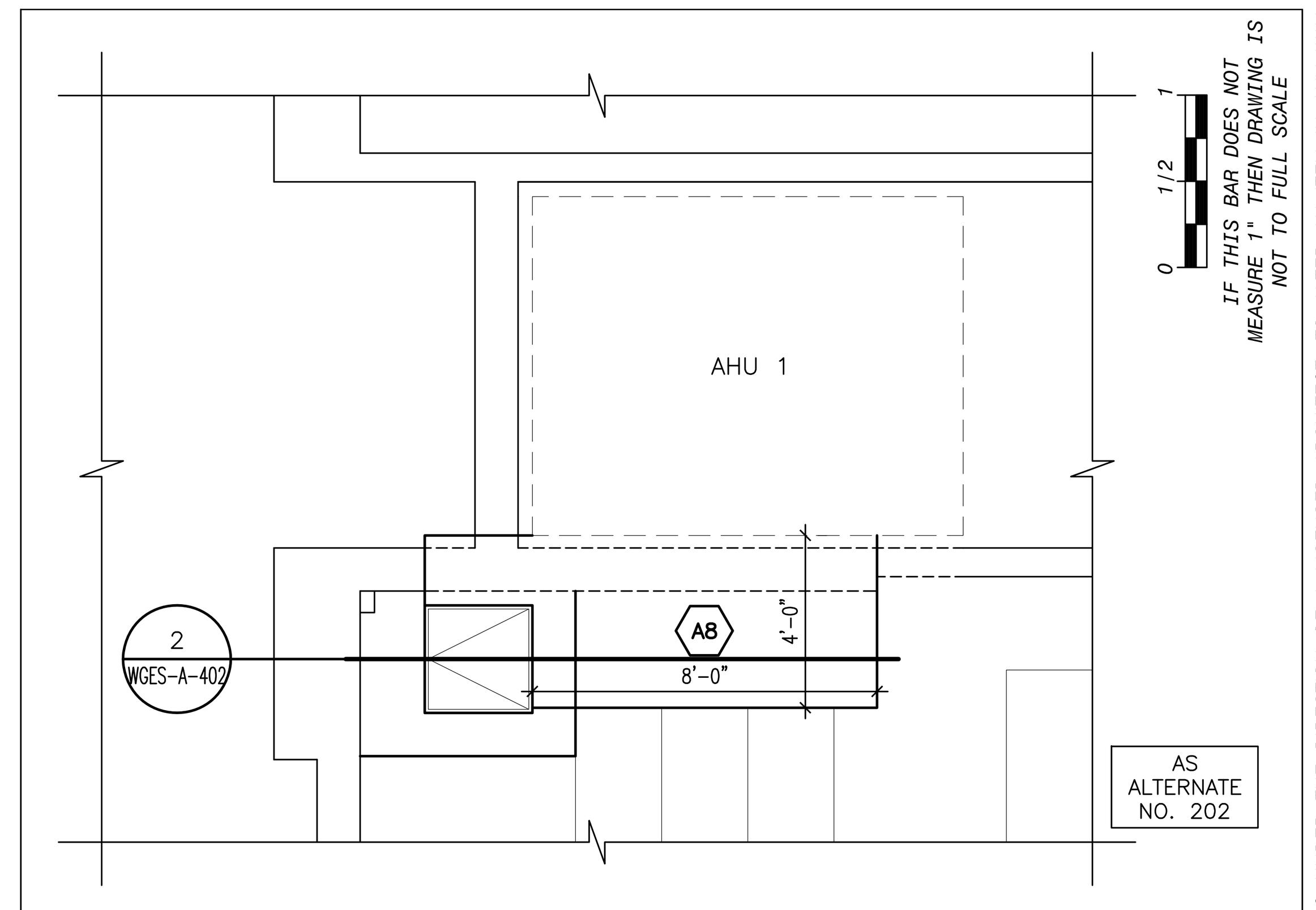
1. CONTRACTOR SHALL BE REQUIRED TO CORE DRILL ALL HOLES IN WALLS, FLOORS AND CEILINGS TO FACILITATE NEW LINESETS, ELECTRICAL CONDUITS AND CONDENSATE LINES.
2. PATCH EXISTING VCT FLOORING AT BASE UNDER UNI-VENT.
3. PATCH EXISTING PLASTER AT ALL UNIVENT LOCATIONS.



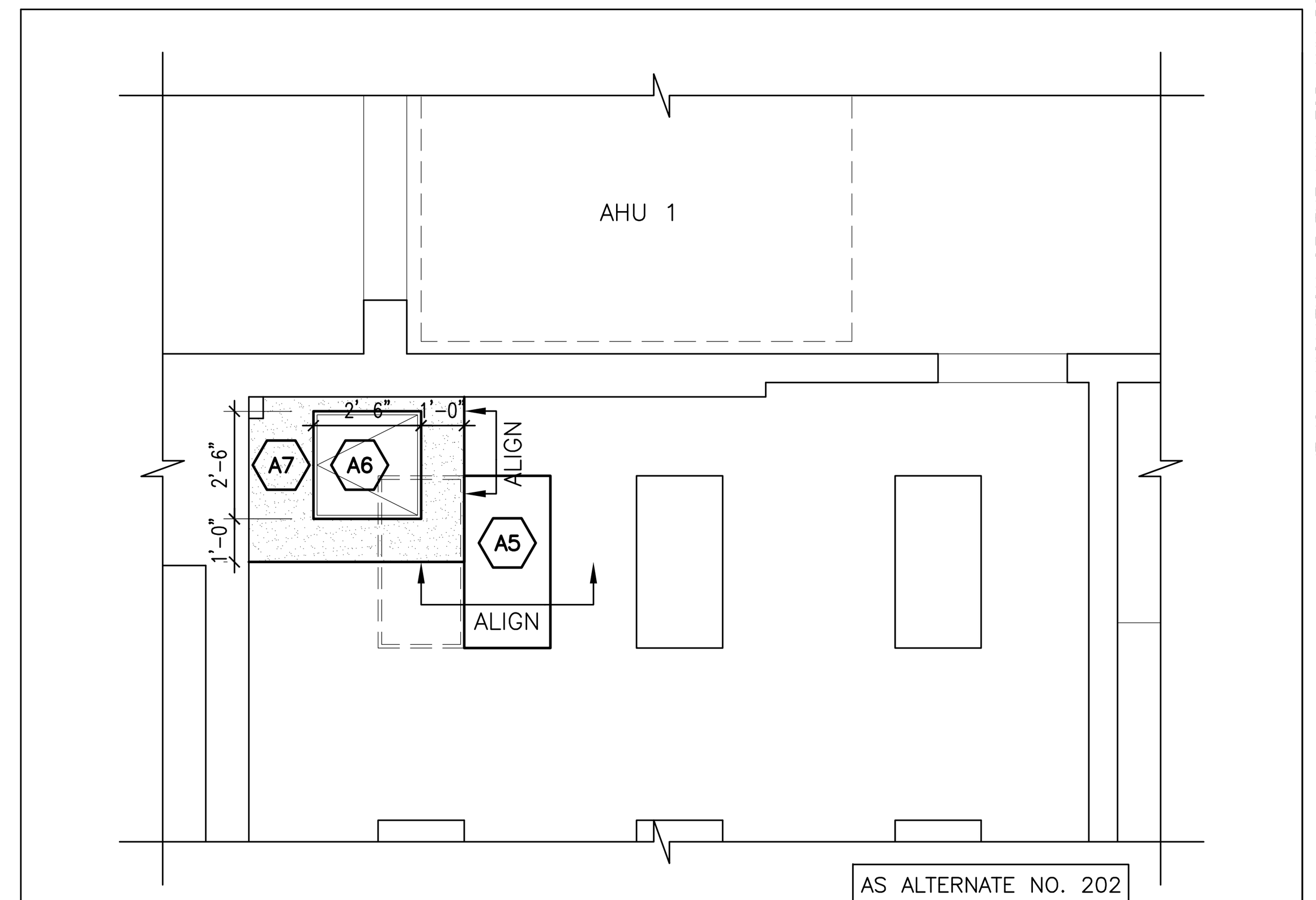
5 **ATTIC PLAN - AHU 2**
SCALE: 1/4" = 1'-0"



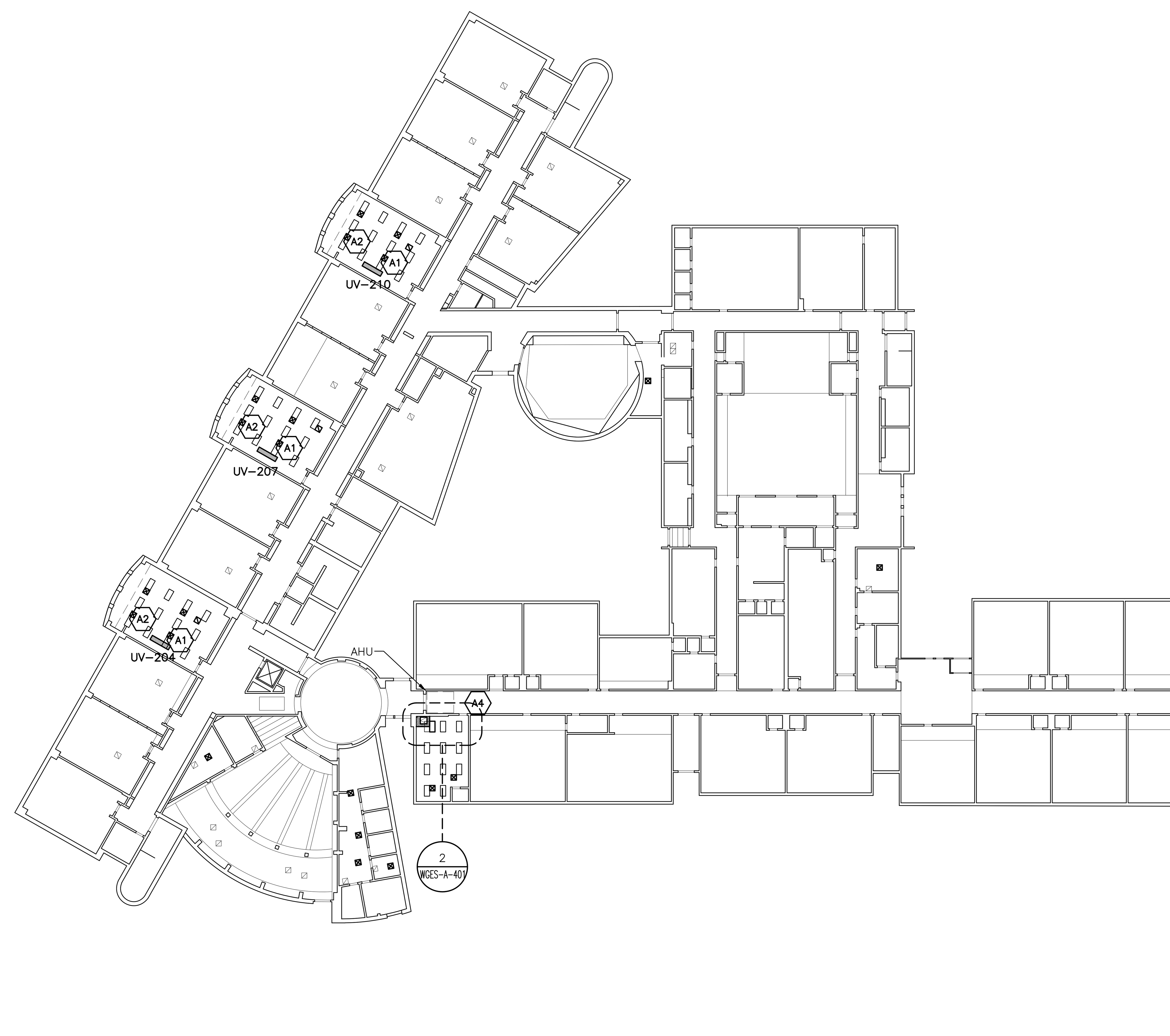
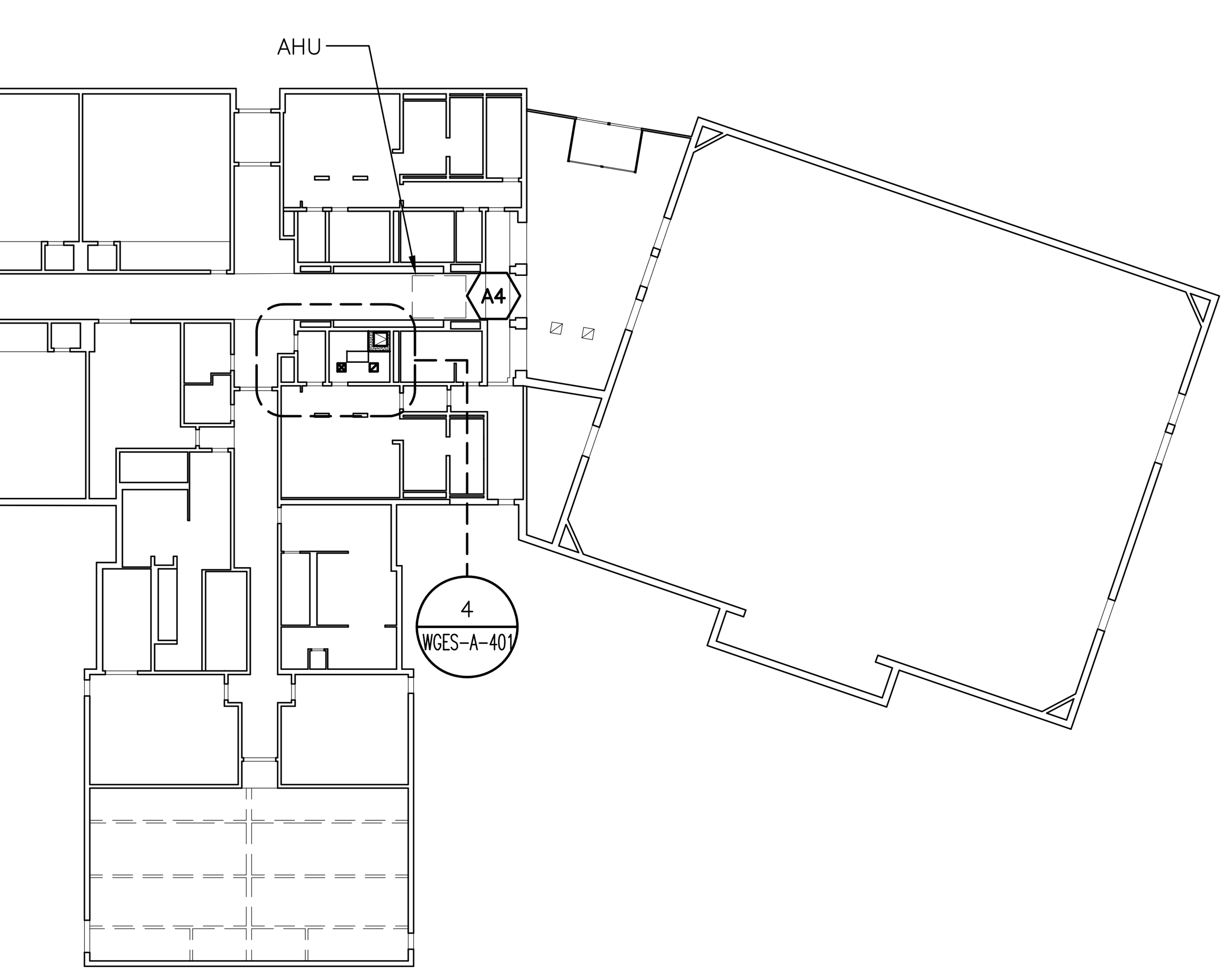
4 **RCP - OFFICE ROOM 25A**
SCALE: 1/4" = 1'-0"



3 **ATTIC PLAN - AHU 1**
SCALE: 1/4" = 1'-0"



2 **RCP - NURSE ROOM 13**
SCALE: 1/4" = 1'-0"

1 **MAIN LEVEL REFLECTED CEILING PLAN**
SCALE: 1" = 30' - 0"

PLAN NORTH

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

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REG. EXP DATE: 06-30-24

Drawn by MAL
Checked by MS/JC
Project No. 42054
Scale AS NOTED
Date 07-29-22

Mechanical & Electrical Engineer: GREENMAN PEDERSEN, INC 400 RELLA BOULEVARD MONTEBELLO, NY 10901

Structural Engineer:

UNIVENT REPLACEMENT AT WILLOW GROVE ELEMENTARY SCHOOL
SED# 50-02-01-06-0-030-016
153 STORMS ROAD THIELLS, NY 10984
COUNTY OF ROCKLAND

MICHAEL SHILALE ARCHITECTS, L.L.P.
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Drawing Title: REFLECTED CEILING PLAN

Drawing No. WGES-A-401

GYPSUM BOARD CLG.

2' x 2' SUSPENDED CLG GRID

2' x 4' SUSPENDED CLG GRID

EXIT SIGN ARROW INDICATES DIRECTION OF TRAVEL. SHADED PORTION INDICATES ILLUMINATED FACE.

EXIT SIGN/EMERGENCY LIGHT WITH SELF-CONTAINED BATTERY BACKUP.

EMERGENCY LIGHT WITH SELF-CONTAINED BATTERY BACKUP.

RETURN AIR CEILING DIFFUSER

SUPPLY AIR CEILING DIFFUSER

CEILING RECESSED MOUNTED LIGHT FIXTURE

WALL MOUNTED LIGHT FIXTURE

2' x 2' RECESSED LIGHT FIXTURE

2' x 4' RECESSED LIGHT FIXTURE

1' x 4' LIGHT FIXTURE

4" x 4' LIGHT FIXTURE

4" x 2' LIGHT FIXTURE

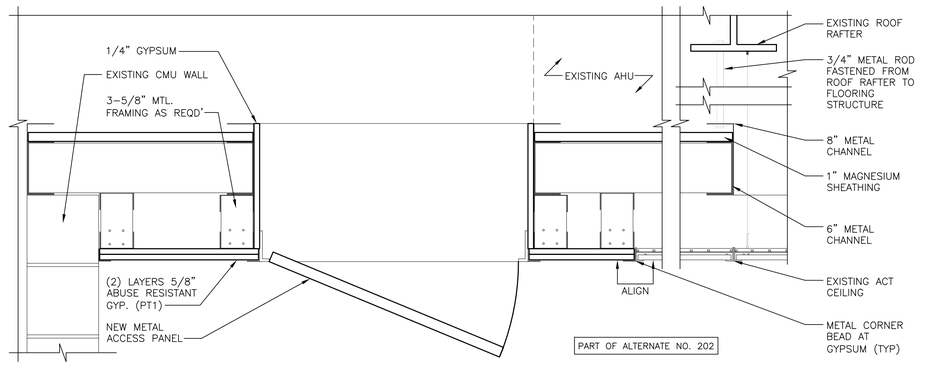
EXPANSION JOINT

SOUND BAFFLE – SLOPED WITH CEILING

COLORED SOUND BAFFLE – PARALLEL WITH FINISH FLOOR

6" x 4' LIGHT FIXTURE

LEGEND



2 ACCESS PANEL & MAINTENANCE PLATFORM SECTION (TYP.)

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

A1 MODIFY EXISTING CEILING MOUNTED UV (BASE BID). INSTALL NEW CEILING MOUNTED NEW UNIT VENTILATOR (IF ALTERNATE NO. 200 ACCEPTED).

A2 REMOVE AND RE-INSTALL CEILING AS REQUIRED FOR NOTE A1. SEE SPEC SECTION: 095113.

A3 –

A4 REMOVE AND RE-INSTALL EXISTING CEILING AS REQUIRED FOR REPAIR AND REFURBISHING OF AIR HANDLERS AS ALTERNATE NO. 202.

A5 MOVE EXISTING LIGHT FIXTURE DOWN ONE GRID TO ALLOW FOR INSTALLATION OF GYPSUM CEILING AS ALTERNATE NO. 202.

A6 INSTALL NEW 30"X30" METAL ACCESS PANEL IN CEILING AS ALTERNATE NO. 202.

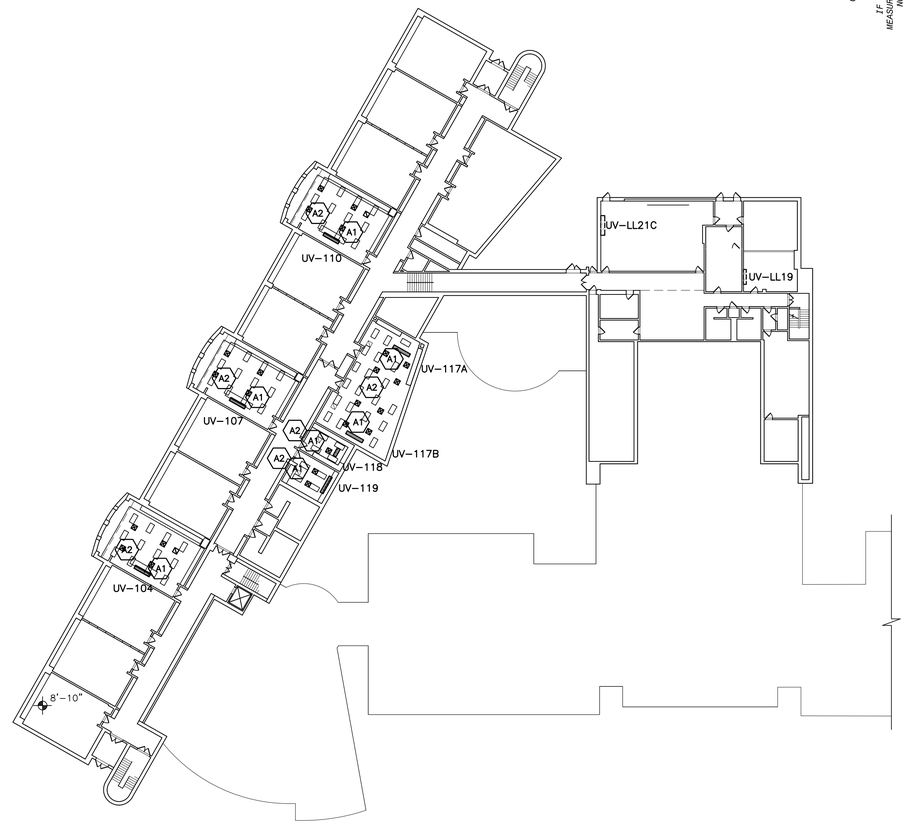
A7 INSTALL NEW GYPSUM CEILING. ALIGN EDGE OF GYPSUM CEILING WITH EXISTING GRID. CEILING TO SUPPORT NEW ACCESS PANEL AS ALTERNATE NO. 202.

A8 CONSTRUCT A NEW METAL STUD FLOOR FOR AHU MAINTENANCE. FLOOR TO BE HUNG VIA ROOF JOISTS AND PROVIDE A PATHWAY FROM THE ACCESS PANEL TO THE AHU. FLOOR LOCATION TO BE DESIGNATED WITH OWNER AND ARCHITECT ON SITE AS ALTERNATE NO 202.

KEY NOTES

1. CONTRACTOR SHALL BE REQUIRED TO CORE DRILL ALL HOLES IN WALLS, FLOORS AND CEILINGS TO FACILITATE NEW LINESETS, ELECTRICAL CONDUITS AND CONDENSATE LINES.
2. PATCH EXISTING VCT FLOORING AT BASE UNDER UNI-VENT.
3. PATCH EXISTING PLASTER AT ALL UNIVENT LOCATIONS.

GENERAL NOTES



1 LOWER LEVEL REFLECTED CEILING PLAN

SCALE: 1" = 30' - 0"

PLAN NORTH

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

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM 1
1	01-18-23	BIDDING DOCUMENTS

REG. EXP DATE: 06-30-24

Drawn by	MAL
Checked by	MS/JC
Project No.	42054
Scale	AS NOTED
Date	07-29-22

GREENMAN PEDERSEN, INC
400 REILLY BOULEVARD
WAPPINGERS, NY 12601

Mechanical & Electrical Engineer: –

Structural Engineer: –

UNIVENT REPLACEMENT AT WILLOW GROVE ELEMENTARY SCHOOL
SED# 50-02-01-06-0-030-016
COUNTY OF ROCKLAND
135 STONEY ROAD
THIELLS, NY 10984

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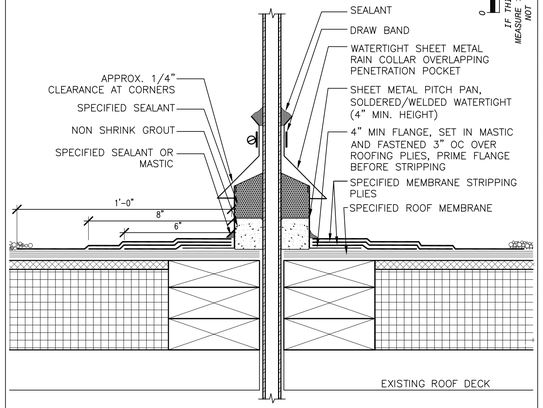
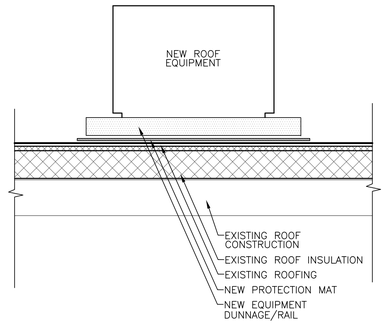
Drawing Title
REFLECTED CEILING PLAN

Drawing No.
WGES-A-402



2 PITCH POCKET (TYP)
SCALE: 3" = 1'-0"

NOTE: ROOF EQUIPMENT TO BE TO BE PLACED ON NEW DUNNAGE/SUPPORT RAILS AND PROTECTION MAT. DUNNAGE/SUPPORT RAILS TO BE SECURED TO THE STRUCTURE, SEE MEP DRAWINGS



1 ROOF EQUIP. DUNNAGE/RAILS
SCALE: 1-1/2" = 1'-0"

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

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
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1	01-18-23	BIDDING DOCUMENTS

REG. EXP DATE: 06-30-24

Drawn by MAL/JR
Checked by MS/JC
Project No. 42054
Scale AS NOTED
Date 11-30-22

Mechanical & Electrical Engineer: GREENMAN PEDERSEN, INC 400 RELLA BOULEVARD MONTEBELLO, NY 10901

Structural Engineer: - - - -

UNIVENT REPLACEMENT AT WILLOW GROVE ELEMENTARY SCHOOL
SED# 50-02-01-06-0-030-016
103 STORKS ROAD THIELLS, NY 10984
COUNTY OF ROCKLAND

MICHAEL SHILALE ARCHITECTS, L.L.P.
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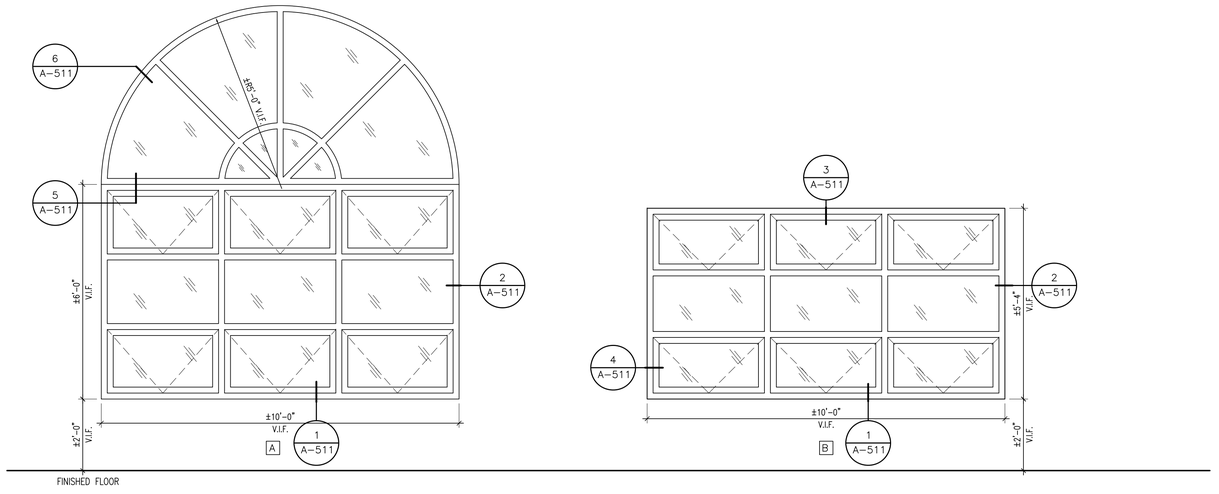
www.shilale.com

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

1. WINDOW AND STOREFRONT FRAMING – BASIS OF DESIGN IS ARCHITECTURAL WINDOW MANUFACTURING CORPORATION. SERIES 6700i. COLOR NOTED IN SPECIFICATION SECTION–085113.
2. ALL OPENINGS ARE NOT THE SAME EXACT DIMENSIONS. GC RESPONSIBLE TO FIELD VERIFY ALL EXISTING OPENINGS.
3. ALL OPERABLE WINDOWS WILL HAVE STOPS TO LIMIT OPENING TO 6" EXCEPT RESCUE WINDOWS.
4. NEW PRESSURE TREATED BLOCKING SHALL BE PROVIDED AT ALL WINDOW OPENINGS.
5. ALL GLAZING TO RECEIVE BULLET RESISTANT GLASS MANUFACTURED BY ARMOURED ONE. SEE SPECIFICATION 088853 SECURITY GLAZING.

NOTES

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



WINDOWS AS PER ALTERNATE NO. 203

1 EXISTING WINDOW ELEVATION
SCALE: 1/2" = 1'-0"

No.	Date	Revisions
3	09–14–23	BIDDING DOCUMENTS
2	06–09–23	SED ADDENDUM 1
1	01–18–23	BIDDING DOCUMENTS

REG. EXP DATE: 06–30–24

Drawn by MAL/JR
Checked by MS/JC
Project No. 42054
Scale AS NOTED
Date 08–30–21

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Mechanical & Electrical Engineer: GREENMAN PEDERSEN, INC 400 RELLA BOULEVARD MONTEBELLO, NY 10901
Structural Engineer: – – – –

UNIVENT REPLACEMENT AT WILLOW GROVE ELEMENTARY SCHOOL
SED# 50–02–01–06–0–030–016
153 STORRS ROAD THIELLS, NY 10984
COUNTY OF ROCKLAND

MICHAEL SHILALE ARCHITECTS, L.L.P.
140 Park Avenue New City, NY 10956 Tel 845-708-9200
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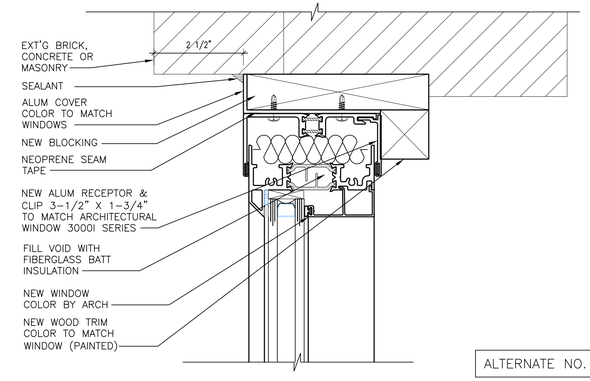
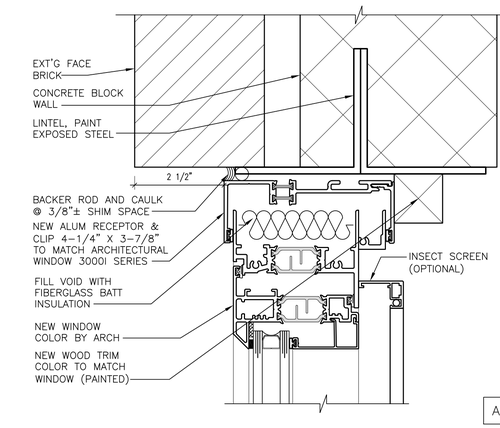
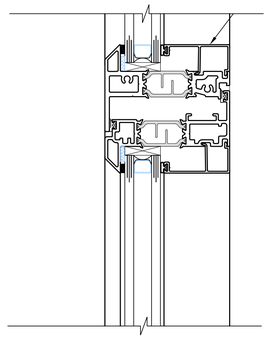
Drawing Title: WINDOW ELEVATIONS
Drawing No.: WGES-A-510



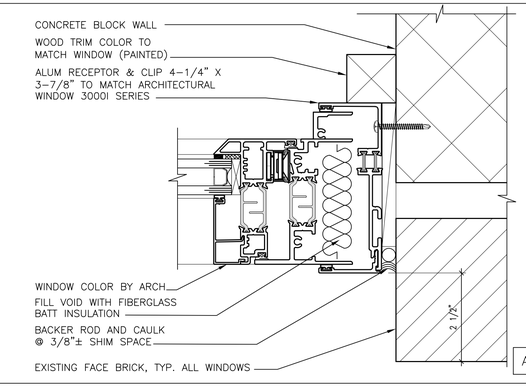
6 HEAD DETAIL - FIXED
SCALE: 6" = 1'-0"



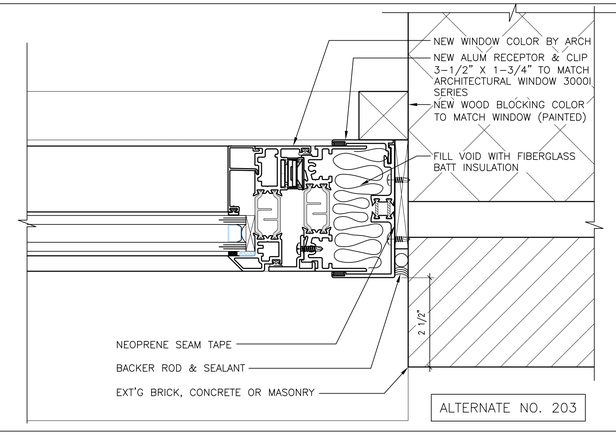
3 HEAD DETAIL @ BLOCK WALL
SCALE: 6" = 1'-0"



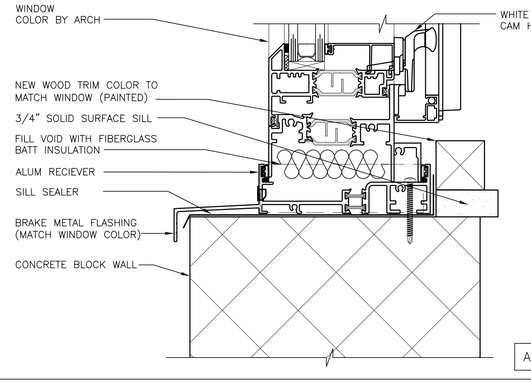
5 IMPOSED HINGED TO FIXED
SCALE: 6" = 1'-0"



2 JAMB @ BLOCK WALL
SCALE: 6" = 1'-0"



4 IMPOSED HINGED TO FIXED
SCALE: 6" = 1'-0"



1 WINDOW SILL @ BLOCK WALL
SCALE: 6" = 1'-0"

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
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REG. EXP DATE: 06-30-24

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400 REILLA BOULEVARD
MONTVILLE, NJ 07001

Mechanical & Electrical Engineer:

Structural Engineer:

UNIVENT REPLACEMENT AT WILLOW GROVE ELEMENTARY SCHOOL
SED# 50-02-01-06-0-030-016
COUNTY OF ROCKLAND
150 STORMS ROAD
NYACK, NY 10960

MICHAEL SHILALE ARCHITECTS, L.L.P.
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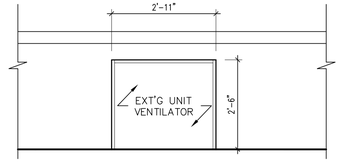
www.shilale.com

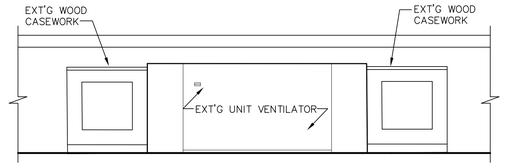
Drawing Title
WINDOW DETAILS

Drawing No.
WGES-A-511

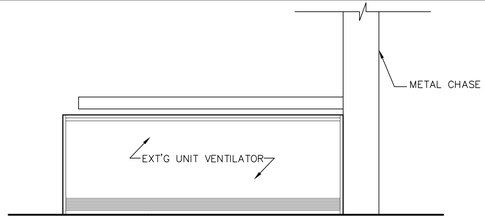


4 EXISTING UNIVENT ELEVATION (TYP.)
SCALE: 1/2" = 1'-0"

1. BASE BID INCLUDES REUSING UV. NO MODIFICATIONS REQUIRED FOR CASEWORK.
2. ALT 1 INCLUDES REPLACEMENT OF EXISTING UV WITH NEW UV. CASEMENT MODIFICATION REQ'D FOR NEW UV'S

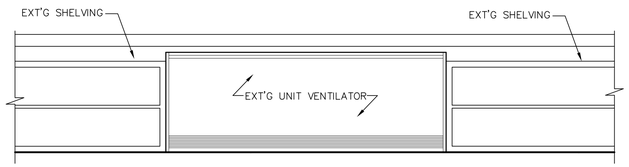


3 EXISTING UNIVENT ELEVATION (W/CASEWORK BOTH SIDES)
SCALE: 1/2" = 1'-0"



2 EXISTING UNIVENT ELEVATION (W/METAL CHASE ONE SIDE)
SCALE: 1/2" = 1'-0"

1. BASE BID INCLUDES REUSING UV. NO MODIFICATIONS REQUIRED FOR CASEWORK.
2. ALT 1 INCLUDES REPLACEMENT OF EXISTING UV WITH NEW UV. CASEMENT MODIFICATION REQ'D FOR NEW UV'S



1 EXISTING UNIVENT ELEVATION (W/SHELVING BOTH SIDES)
SCALE: 1/2" = 1'-0"

IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ARCHITECT, TO ALTER AN ITEM IN ANY WAY.

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

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2	06-09-23	SED ADDENDUM 1
1	01-18-23	BIDDING DOCUMENTS

REG. EXP DATE: 06-30-24

Drawn by SP
Checked by MS/JC
Project No. 42054
Scale AS NOTED
Date 08-30-21

GREENMAN PEDERSEN, INC
400 RELLA BOULEVARD
MONTEBELLO, NY 10901

Mechanical & Electrical Engineer: - - -
Structural Engineer: - - -

UNIVENT REPLACEMENT
AT WILLOW GROVE
ELEMENTARY SCHOOL
SED# 50-02-01-06-0-030-016
COUNTY OF ROCKLAND
TAX STORRS ROAD
THIELLS, NY 10984

MICHAEL SHILALE ARCHITECTS, L.L.P.
140 Park Avenue New City, NY 10956 Tel 845-708-9200
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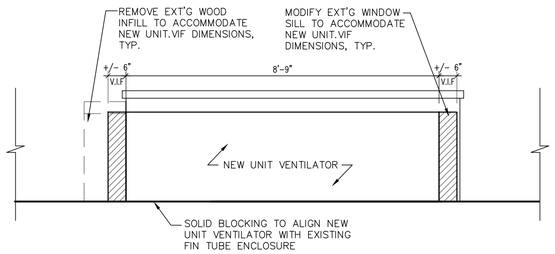
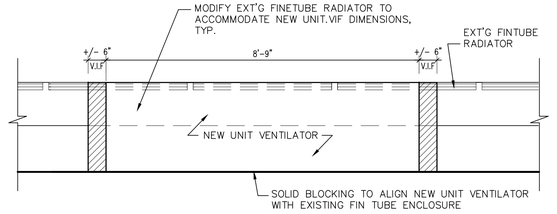
Drawing Title
UV ELEVATIONS

Drawing No.
WGES-A-600



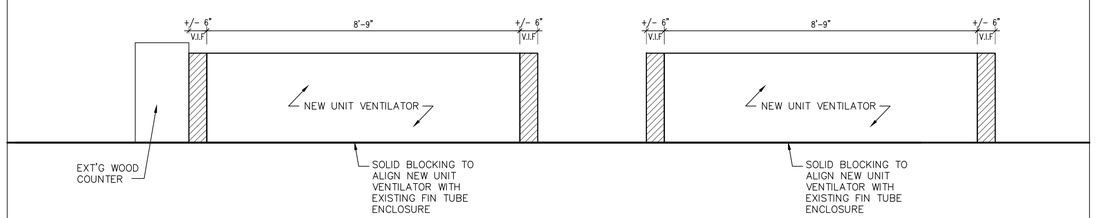
8 EXISTING/PROPOSED UNIVENT ELEVATION (W/ WOOD INFILL)RM #23,24

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



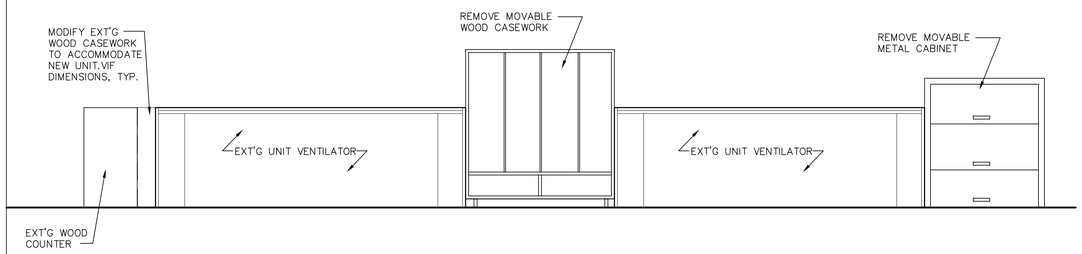
4 EXISTING/PROPOSED UNIVENT ELEVATION (W/ EXISTING FINTUBE)

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



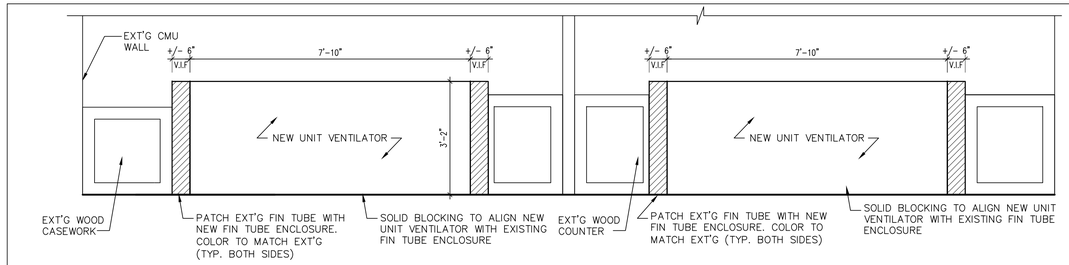
7 PROPOSED UNIVENT ELEVATION (W/ MOVABLE CASEWORK) RM#LL21

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



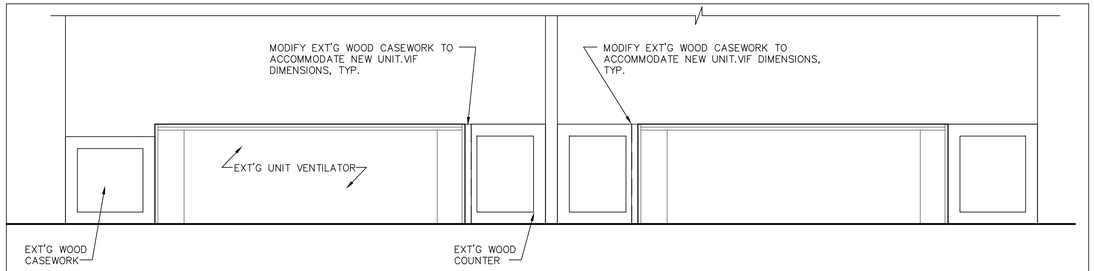
3 EXISTING UNIVENT ELEVATION (W/MOVABLE CASEWORK)RM#LL21

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



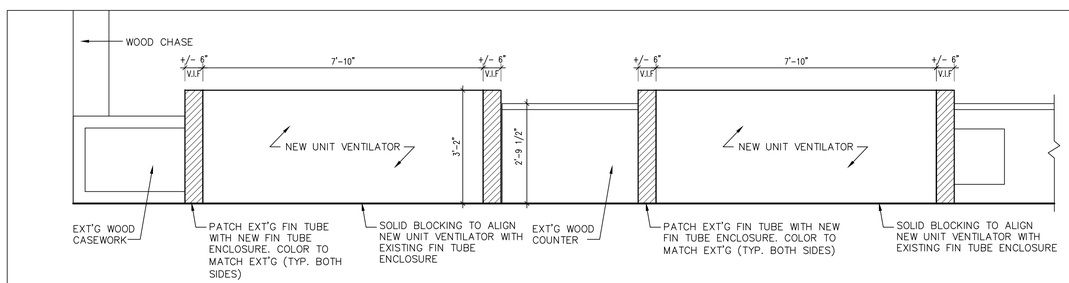
6 PROPOSED UNIVENT ELEVATION (W/CASEWORK BOTH SIDES) RM#18

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



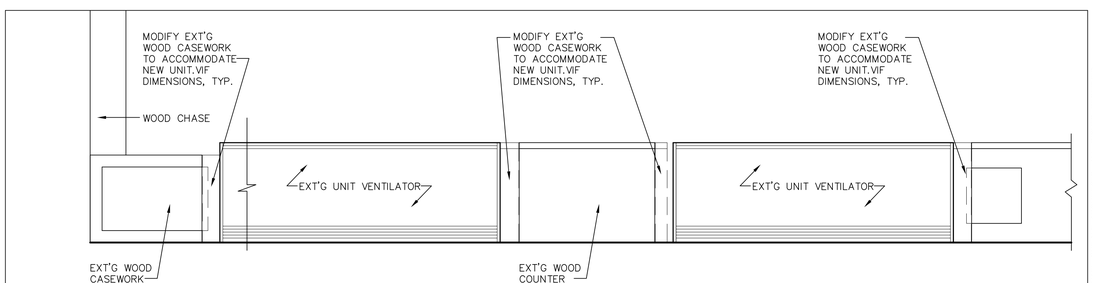
2 EXISTING UNIVENT ELEVATION (W/CASEWORK BOTH SIDES) RM#18

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



5 PROPOSED UNIVENT ELEVATION (W/CASEWORK BOTH SIDES) RM#17

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



1 EXISTING UNIVENT ELEVATION (W/CASEWORK BOTH SIDES) RM#17

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

1/2 1 0

IF THIS BAR DOES NOT MEASURE 1, THEN DRAWING IS NOT TO FULL SCALE

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM 1
1	01-18-23	BIDDING DOCUMENTS

REG. EXP DATE: 06-30-24

IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ARCHITECT, TO ALTER AN ITEM IN ANY WAY.

Drawn by SP
Checked by MS/JC
Project No. 42054
Scale AS NOTED
Date 08-30-21

GREENMAN PEDERSEN, INC
400 RELLA BOULEVARD
MONTEBELLO, NY 10901

Mechanical & Electrical Engineer:

Structural Engineer:

UNIVENT REPLACEMENT
AT WILLOW GROVE
ELEMENTARY SCHOOL
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135 STROBEL ROAD
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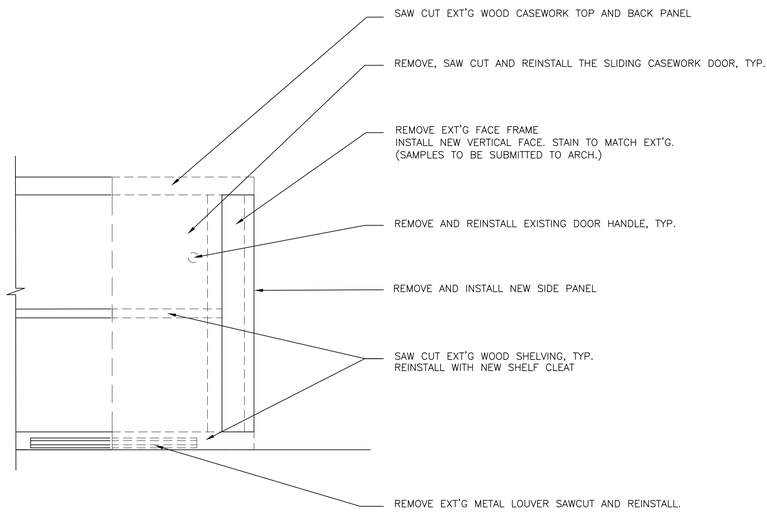
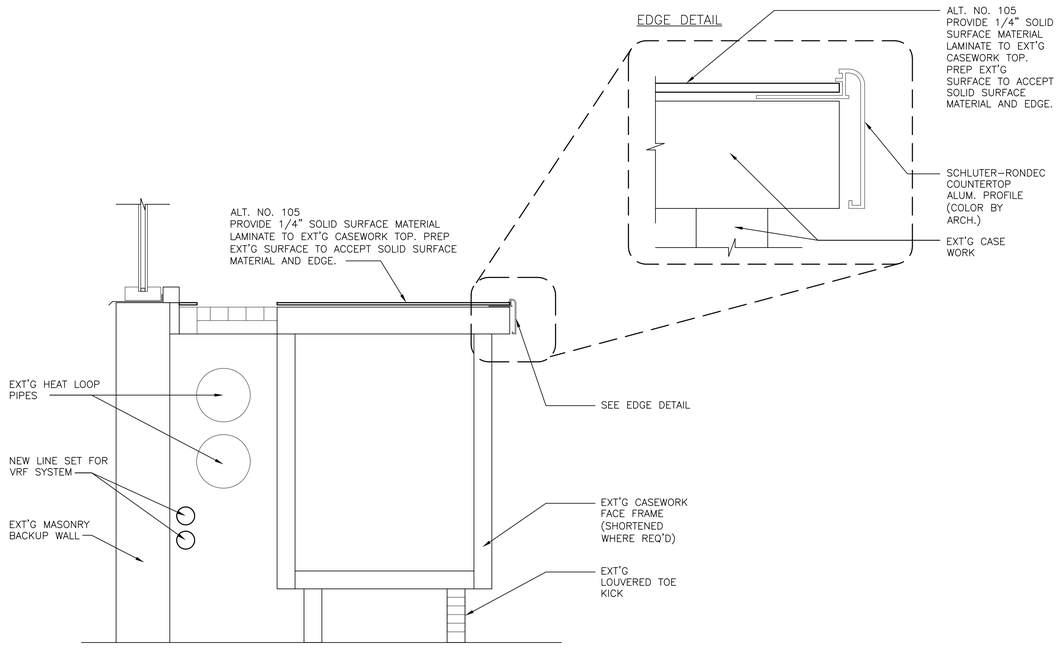
Drawing Title
UV ELEVATIONS

Drawing No.
WGES-A-601



2 EXISTING CASEWORK MODIFICATION DETAIL TYP.

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

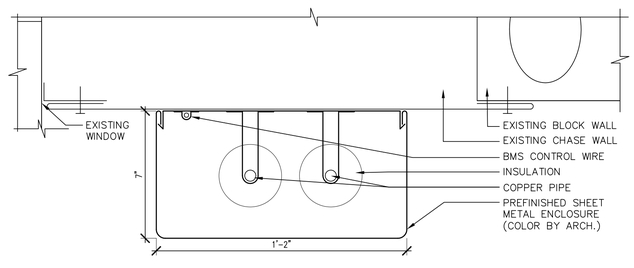


3 EXISTING CASEWORK SECTION

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

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

FINISH MATERIAL SCHEDULE



1 LINE SET ENCLOSURE

SCALE: 3" = 1'-0"

NOTE: PROVIDE PT1 AT ALL DISTURBED AREAS. COLOR TO MATCH EXISTING. ALL NEW SURFACES TO RECEIVE PT1.

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

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM 1
1	01-18-23	BIDDING DOCUMENTS

REG. EXP DATE: 06-30-24

Drawn by JR
Checked by MS/JC
Project No. 42054
Scale AS NOTED
Date 11-30-22

GREENMAN PEDERSEN, INC
400 RELLA BOULEVARD
MONTEBELLO, NY 10901

Mechanical & Electrical Engineer:

Structural Engineer:

UNIVENT REPLACEMENT AT WILLOW GROVE ELEMENTARY SCHOOL
SED# 50-02-01-06-0-030-016
COUNTY OF ROCKLAND
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TUXEDO, NY 10987

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Drawing Title
INTERIOR DETAILS

Drawing No.
WGES-A-610

HVAC NOTES:

1. THE WORK SHALL COMPLY WITH THE 2020 BUILDING CODE OF NYS. IN ADDITIONS, THE WORK SHALL COMPLY WITH ALL OTHER RELEVANT CODES, RULES AND ORDINANCES OF THIS STATE OF NEW YORK, ALL LOCAL, STATE AND FEDERAL AUTHORITIES HAVING JURISDICTION.
2. CONTRACTOR SHALL PAY ALL FEES AND TAXES, OBTAIN ALL PERMITS AND APPROVALS, FILE THE REQUIRED DOCUMENTS AND CAUSE ALL INSPECTIONS.
3. CONTRACTOR SHALL PROVIDE ALL WORK, EQUIPMENT, LABOR AND MATERIAL REQUIRED FOR A COMPLETE AND TROUBLE FREE INSTALLATION.
4. ALL DUCTWORK ELBOWS SHALL BE EITHER LONG RADIUS OR SQUARE WITH TURNING VANES.
5. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ALL EQUIPMENT, PIPING, CONTROLS, DUCTWORK, REGISTERS, SUPPORTS, DAMPERS, AND ACCESSORIES PRIOR TO FABRICATION AND INSTALLATION. SUBMIT ALL REPORTS FOR REVIEW SUCH AS TESTING, ADJUSTING, AND BALANCING, AND COMMISSIONING.
6. CONTRACTOR SHALL VERIFY ALL EXISTING FIELD CONDITIONS AND NOTIFY OWNER OF ANY DISCREPANCIES BEFORE COMMENCING WORK.
7. PROVIDE AN AIR BALANCE REPORT FOR THE EQUIPMENT SHOWN ON THE DRAWINGS.
8. ALL EQUIPMENT AND MATERIALS SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER TO THE SATISFACTION OF THE OWNER.
9. EXCEPT AS NOTED, ALL MATERIAL AND EQUIPMENT SHALL BE NEW AND IN GOOD CONDITION. WHERE APPLICABLE BY CODE AND/OR THESE SPECIFICATIONS, EQUIPMENT AND MATERIALS SHALL BE LABELED BY THE REQUISITE GOVERNING AGENCY.
10. SURVEY THE INSTALLATION SITE PRIOR TO BID. DETERMINE THE CONSTRAINTS OF THE EXISTING AVAILABLE SPACE PERTAINING TO EQUIPMENT SIZE AND CONFIGURATION AND EXAMINE THE CONDITIONS UNDER WHICH THE EQUIPMENT WILL BE INSTALLED. VERIFY ALL MEASUREMENTS AT THE SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DIMENSIONAL COMPATIBILITY OF THE DUCTWORK AND EQUIPMENT WITH THE SPACE.
11. SHIP AND DELIVER EQUIPMENT KNOCKED DOWN AS NECESSARY TO FIT THROUGH EXISTING BUILDING OPENINGS. VERIFY IN FIELD THE CONSTRAINTS OF THE EXISTING BUILDING PRIOR TO FABRICATION OF EQUIPMENTS. INCLUDE IN THE BID ALL COSTS ASSOCIATED WITH RIGGING AND DELIVERY OF EQUIPMENT AS REQUIRED BY THE EXISTING BUILDING CONDITIONS.
12. SCHEDULE AND NOTIFY THE OWNER AND BUILDING MANAGEMENT IN ADVANCE PRIOR TO SHUTDOWN OF ANY SERVICES.
13. UPON COMPLETION OF THE PROJECT, PROVIDE SIX (6) COPIES OF AS-BUILT DRAWINGS TO THE OWNER.
14. IT IS THE INTENT OF THESE CONTRACT DOCUMENTS TO CALL FOR AN INSTALLATION THAT IS COMPLETE IN EVERY RESPECT. IF AN ITEM OF WORK IS SHOWN ON THE DRAWINGS, IT SHALL BE CONSIDERED SUFFICIENT FOR INCLUSION IN THE CONTRACT. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL MATERIAL AND EQUIPMENT USUALLY FURNISHED OR NEEDED TO MAKE A COMPLETE INSTALLATION, WHETHER SPECIFICALLY MENTIONED OR NOT.
15. RENDER FULL COOPERATION TO OTHER TRADES AND COORDINATE THE WORK WITH OTHER TRADES. THIS CONTRACTOR SHALL ASSIST IN WORKING OUT SPACE CONDITIONS.
16. PERFORM ALL CUTTING AND PATCHING NECESSARY FOR THE PROPER INSTALLATION OF THIS WORK. REPAIR ANY DAMAGE DONE BY THIS WORK AND REPAIR ANY DAMAGE CAUSED.
17. ON ACCEPTANCE OF CONTRACT, CONTRACTOR AGREES TO GUARANTEE THE WORK AND EQUIPMENT FOR A PERIOD OF NOT LESS THAN ONE (1) YEAR FROM DATE OF INITIAL OPERATION. MANUFACTURED EQUIPMENT SHALL CARRY FULL PERIOD OF MANUFACTURER'S GUARANTEE, AND SHALL NOT BE LESS THAN ONE (1) YEAR. COMPRESSORS SHALL CARRY AN EXTENDED WARRANTY OF FIVE YEARS.

GENERAL NOTES:

1. 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 TRADES IN ORDER TO RESOLVE ALL CONFLICTS WITHOUT IMPEDING THE JOB PROGRESS.
2. EXAMINE THE DRAWINGS OF 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 SECTION AND ANY OTHER SECTIONS OF THEIR RESPONSIBILITIES TO PERFORM THE WORK REQUIRED FOR A COMPLETE FULLY OPERATIONAL AND SATISFACTORY INSTALLATION.
3. THE WORK INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING SYSTEMS, EQUIPMENT AND SERVICES, AS SPECIFIED HEREBY. STARTUP SERVICES FOR ALL ROOFTOP UNITS INSTALLED IN THIS CONTRACT SHALL BE INCLUDED IN THE BID.
4. ALL SYSTEMS, EQUIPMENT AND SERVICES SPECIFIED HEREIN SHALL BE PROVIDED COMPLETE AND READY FOR USE. ALL EQUIPMENT, DUCTWORK, PIPING, DAMPERS ARE NEW, FURNISHED AND INSTALLED BY THIS CONTRACTOR, UNLESS OTHERWISE NOTED.
5. 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 SERVICE, INCLUDE THOSE OF OTHER SUBCONTRACTORS IS REQUIRED. PRICE COORDINATION DRAWINGS SHOWING ALL TRADES WORK AND EXISTING CONDITION.
6. EXTEND ALL GREASE FITTINGS TO AN ACCESSIBLE LOCATION.
7. FOR ACCESS DOORS TO VALVES, DAMPERS AND ALL OTHER HVAC TYPE OF ITEMS, ACCESSORIES AND EQUIPMENT, CONCEALED IN WALLS, FURRINGS AND CEILINGS. DOOR SHALL PERMIT FULL ACCESS TO THE EQUIPMENT.
8. VERIFY FINAL LOCATIONS FOR ROUGH WORK WITH FIELD MEASUREMENTS AND WITH THE REQUIREMENTS OF THE ACTUAL EQUIPMENT BEING CONNECTED.
9. ARRANGE FOR CHASES, SLOTS, AND OPENINGS IN OTHER BUILDING COMPONENTS TO ALLOW FOR HVAC INSTALLATIONS.
10. COORDINATE THE INSTALLATION OF REQUIRED SUPPORTING DEVICES AND SIZE OF SLEEVES TO BE SET IN POURED CONCRETE AND OTHER STRUCTURAL COMPONENTS AS THEY ARE CONSTRUCTED.
11. COORDINATE THE INSTALLATION OF HVAC MATERIALS AND EQUIPMENT ABOVE CEILINGS WITH SUSPENSION SYSTEM, LIGHT FIXTURES, AND ALL OTHER INSTALLATIONS AND ACCESSORIES.
12. PROVIDE EQUIPMENT AND SYSTEMS THAT, AS DEFINED HEREIN, SHALL BE QUIET AND FREE OF APPARENT VIBRATION IN OPERATIONS.
13. OBTAIN EQUIPMENT THAT IS QUIET IN OPERATION AS COMPARED TO OTHER AVAILABLE EQUIPMENT OF ITS SIZE, CAPACITY, AND TYPE; INSTALL EQUIPMENT SO THAT A MINIMUM AMOUNT OF NOISE AND/OR VIBRATION IS TRANSMITTED TO THE BUILDING; AND FABRICATE THE DUCT SYSTEM SO THAT AIR NOISES GENERATED IN THE SYSTEM ARE HELD TO AN ABSOLUTE MINIMUM.
14. 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.
15. PROVIDE SEISMIC RESTRAINTS FOR ALL EQUIPMENT FURNISHED AS PART OF THIS CONTRACT. ANCHOR ALL EQUIPMENT FURNISHED BY OTHERS WHEN INSTALLATION IS CLAIMED BY THIS CONTRACT. DUCTWORK SHALL HAVE SUPPORTS, HANGERS, VIBRATION ISOLATORS, AND SHALL BE SEISMICALLY RESTRAINED IN ACCORDANCE WITH CODE AND SMACNA STANDARDS.
16. 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.N.).
17. 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.
18. IT IS THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR TO PROVIDE CONTROL WIRING TO THE BMS SYSTEM. MECHANICAL CONTRACTOR TO FURNISH THE SERVICES OF CONTROL CONTRACTOR TO PREPARE CONTROL WIRING DIAGRAMS.
19. CONTRACTOR SHALL PROVIDE CURBS AND FACTORY ASSEMBLED PIPE CABINET FOR EACH AHU/PACKAGED RTU. REMOVE EXISTING GRAVEL AND COORDINATE NEW ROOF WORK WITH GC, SEE ARCHITECTURAL DRAWINGS.
20. PERFORM COMMISSIONING OF THE INSTALLED AIR HANDLING EQUIPMENT AS PER 2020 NYS IECC C408. SEE SPEC 019113. SERVICES ARE TO BE PERFORMED BY A THIRD PARTY APPROVED AGENCY
21. FOR SEQUENCE OF OPERATIONS, SEE SPECIFICATION SECTION 230993.
22. THE CONTRACTOR SHALL KEEP ALL EQUIPMENT AND MATERIALS, AND ALL PARTS OF THE BUILDING, EXTERIOR SPACE AND ADJACENT STREETS, SIDEWALKS AND PAVEMENTS, FREE FROM MATERIAL AND DEBRIS RESULTING FROM THE EXECUTION OF THIS WORK. EXCESS MATERIALS WILL NOT BE PERMITTED TO ACCUMULATE EITHER IN THE INTERIOR OR THE EXTERIOR.
23. ALL PRESENT MATERIAL, EQUIPMENT AND CONSTRUCTION DEBRIS TO BE REMOVED UNDER THIS CONTRACT SHALL BECOME THE PROPERTY OF THE CONTRACTOR WITH THE EXCEPTION OF SPECIFIC EQUIPMENT AND APPARATUS REQUESTED BY THE DISTRICT FACILITIES, OR AS NOTED TO BE RELOCATED ON THE DRAWINGS, AND SHALL BE PROPERLY DISPOSED OF BY THE CONTRACTOR.

CONTROLS:

1. THE BUILDING MANAGEMENT SYSTEM AND ALL DIRECT DIGITAL CONTROLS SHALL BE A BACNET BASED SYSTEM AND SHALL BE PROVIDED BY SIEMENS. THE CONTRACTOR SHALL RETAIN THE SERVICES OF SIEMENS TO PROVIDE THE SYSTEM. NO SUBSTITUTIONS ARE PERMITTED.

BALANCING

AT THE PROJECT INCEPTION THE CONTRACTOR SHALL RETAIN THE SERVICES OF A CERTIFIED TESTING AND BALANCING FIRM TO TEST AND DOCUMENT THE FOLLOWING PERFORMANCE DATA OF THE EXISTING EQUIPMENT DESIGNATED TO BE REMOVED, REUSED OR REPLACED AS PART OF THE SCOPE OF THIS PROJECT. THE TESTING AND DOCUMENTATION SHALL INCLUDE AS A MINIMUM:

AIR FLOW PERFORMANCE INCLUDING, OUTSIDE, SUPPLY, EXHAUST, RETURN AIR, SUCTION AND DISCHARGE STATIC PRESSURE AND OPERATING TEMPERATURE DIFFERENCE AIR FLOW PERFORMANCE INCLUDING WATER SIDE ENTERING AND LEAVING PRESSURE DROP.

ABBREVIATIONS

ABBREVIATION:	DESCRIPTION:
A	AMPERE
AC	AIR CONDITIONING
ACH	AIR CHANGES PER HOUR
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHRI	AIR-CONDITIONING, HEATING, AND REFRIGERATION INSTITUTE
AHU	AIR HANDLING UNIT
AI	ANALOG INPUT
AMP	AMPERE
AO	ANALOG OUTPUT
ASHRAE	AMERICAN SOCIETY OF HEATING, REFRIGERATING, AND AIR CONDITIONING ENGINEERS
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS
AUX	AUXILIARY
AVG	AVERAGE
BHP	BRAKE HORSEPOWER
BOD	BOTTOM OF DUCT
BOP	BOTTOM OF PIPE
BMS	BUILDING MANAGEMENT SYSTEM
BTU	BRITISH THERMAL UNIT
C	CONDENSATE LINE
CAP	CAPACITY
CD	CONDENSATE DRAIN
CF	CUBIC FEET
CFM	CUBIC FEET PER MINUTE
CHW	CHILLED WATER
CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
CI	CAST IRON, CUBIC INCHES
CO	CLEANOUT
CONC	CONCRETE
COP	COEFFICIENT OF PERFORMANCE
CW	COLD WATER
CWR	CONDENSER WATER RETURN
CWS	CONDENSER WATER SUPPLY
D	DRAIN, DEPTH
DB	DECIBELS
DB	DRY BULB
DBA	DECIBELS (A WEIGHTED)
DDC	DIRECT DIGITAL CONTROL
DEG, °	DEGREES
Ø	DIAMETER/ROUND
DI	DIGITAL INPUT
DN	DOWN
DO	DIGITAL OUTPUT
DP	DEW POINT
DR	DRAIN
DWG	DRAWING
DX	DIRECT EXPANSION
EA	EACH
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EER	ENERGY EFFICIENCY RATIO
EFF	EFFICIENCY
ERV	ENERGY RECOVERY VENTILATOR
ESP	EXTERNAL STATIC PRESSURE
EWT	ENTERING WATER TEMPERATURE
EX.	EXISTING
F	FAHRENHEIT
FA	FIRE ALARM
FC	FLEXIBLE CONNECTION
FCU	FAN COIL UNIT
FD	FIRE DAMPER
FD	FLOOR DRAIN
FF	FINISHED FLOOR
FG	FINISHED GRADE
FLA	FULL LOAD AMPS
FPI	FINS PER INCH
FPM	FEET PER MINUTE
FSD	COMBINATION FIRE/SMOKE DAMPER
FT	FEET
FTR	FINNED TUBE RADIATOR
FU	FIXTURE UNIT
G	NATURAL GAS
GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
H	HOUR, HEIGHT
H2O	WATER
HD	HEAD
HG	MERCURY
HOA	HAND/OFF/AUTO
HP	HEAT PUMP
HR	HOUR
HP	HORSEPOWER
HVAC	HEATING, VENTILATION, AND AIR CONDITIONING
HW	HOT WATER
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
HZ	HERTZ
ID	INSIDE DIAMETER
IEER	INTEGRATED ENERGY EFFICIENCY RATIO
IN	INCHES
IPLV	INTEGRATED PART LOAD VALUE
ISCOP	INTEGRATED SEASONAL COEFFICIENT OF PERFORMANCE
ISMRE	INTEGRATE SEASONAL MOISTURE REMOVAL EFFICIENCY
KW	KILOWATTS
LxWxH	LENGTH BY WIDTH BY HEIGHT
LAT	LEAVING AIR TEMPERATURE
LB	POUND
LEV	LINEAR EXPANSION VALVE
LF	LINEAR FEET
LH	LEFT HAND
LPR	LOW PRESSURE STEAM RETURN
LPS	LOW PRESSURE STEAM SUPPLY
LRA	LOCKED ROTOR AMPS
LWT	LEAVING WATER TEMPERATURE
MAT	MIXED AIR TEMPERATURE
MAX	MAXIMUM
MBH	1,000 BTU/H
MCA	MINIMUM CIRCUIT AMPACITY
MCDB	MEAN COINCIDENT DRY BULB
MCWB	MEAN COINCIDENT WET BULB
MERV	MINIMUM EFFICIENCY REPORTING VALUE
MHP	MOTOR HORSEPOWER
MIN	MINIMUM, MINUTE
MM	MILLIMETER
MOP	MAXIMUM OVER-CURRENT PROTECTION
NPSHA	NET POSITIVE SUCTION HEAD (ACTUAL)
NPSHR	NET POSITIVE SUCTION HEAD (REQUIRED)
OAT	OUTSIDE AIR TEMPERATURE
OC	ON CENTER
OD	OUTSIDE DIAMETER
ODP	OPEN DRIP-PROOF
NA	NOT APPLICABLE
NC	NOISE CRITERIA
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NK	NECK
NO	NORMALLY OPEN
NR	NOT REQUIRED
NTS	NOT TO SCALE
PC	PUMPED CONDENSATE
PD	PUMP DISCHARGE, PRESSURE DROP
PH	PHASE
PRESS	PRESSURE
PSIA	POUNDS PER SQUARE INCH, ABSOLUTE
PSIG	POUNDS PER SQUARE INCH, GAUGE
QTY	QUANTITY
R	REFRIGERANT
RA	RETURN AIR
RAT	RETURN AIR TEMPERATURE
RD	ROOF DRAIN
REQD	REQUIRED
REV	REVISION
RH	RELATIVE HUMIDITY, RIGHT HAND
RL	REFRIGERANT LIQUID
RLA	RUNNING LOAD AMPERES
RM	ROOM
RS	REFRIGERANT SUCTION
RTU	ROOFTOP UNIT
S	SECONDS
SA	SUPPLY AIR
SAT	SUPPLY AIR TEMPERATURE
SD	SMOKE DAMPER
SEER	SEASONAL ENERGY EFFICIENCY RATIO
SENS	SENSIBLE
SF	SQUARE FEET
SP	STATIC PRESSURE
SPEC	SPECIFICATION
SQ	SQUARE
SS	STAINLESS STEEL
SZVAV	SINGLE ZONE VARIABLE VOLUME
TB	TO BOTTOM
TDH	TOTAL DYNAMIC HEAD
TEFC	TOTALLY ENCLOSED, FAN COOLED
TEMP	TEMPERATURE
THK	THICK
TOD	TOP OF DUCT
TON	12,000 BTU/H COOLING CAPACITY
TSP	TOTAL STATIC PRESSURE
TYP	TYPICAL
UH	UNIT HEATER
UON	UNLESS OTHERWISE NOTED
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
W/	WITH
WB	WET BULB
WC	WATER COLUMN

SUMMARY OF WORK:

THE WORK OF THIS PROJECT INCLUDES HVAC UPGRADES AT WILLOW GROVE 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 UNIT VENTILATORS TO THE CHILLED WATER PIPING SYSTEM. EXISTING CHILLED WATER PIPING IS TO BE RE-USED WHEREVER POSSIBLE.
B. PROVIDE AN AIR-COOLED CHILLER COMPLETE WITH PUMPS, CONTROLS, AND APPURTENANCES AT THE NEW WING AND CONNECT THE EXISTING CHILLED WATER PIPING. THIS EXISTING CHILLED WATER PIPING WAS ORIGINALLY INSTALLED IN THE BUILDING FOR FUTURE CONNECTION, BUT WAS NOT CONNECTED TO A SOURCE OF CHILLED WATER AT THE TIME OF CONSTRUCTION. TEST THE EXISTING PIPING AS SPECIFIED PRIOR TO FABRICATION.
C. PROVIDE AN AIR COOLED CHILLER AT THE SAME LOCATION AS THE EXISTING COOLING TOWER. DEMOLISH THE EXISTING COOLING TOWER AND TWO WATER COOLED CENTRIFUGAL CHILLERS. PROVIDE PUMPS, CONTROLS, PIPING, AND APPURTENANCES.
D. REFURBISH THE TWO EXISTING AIR HANDLING UNITS AHU-1 AND AHU-2 ABOVE THE CEILING IN THE ORIGINAL WING. REPLACE THE VAV TERMINALS THROUGHOUT THIS AREA WITH PRESSURE INDEPENDENT, DDC VAV BOXES.
E. REPLACE THE AIR HANDLING UNIT AHU-20 AT THE CEILING OF THE CAFETERIA.
F. PROVIDE DX COOLING COILS AT THE FIVE EXISTING AIR HANDLING UNITS (AHU-3, 4, 5, 7, & 8) ADJACENT TO THE GYM. EACH COOLING COIL SHALL BE SERVED BY A DEDICATED SPLIT SYSTEM AIR CONDITIONING UNIT LOCATED ON THE ROOF DIRECTLY ABOVE.
G. REPLACE THE EXISTING CLIMATE CONTROL SYSTEM WITH A DIRECT DIGITAL BUILDING MANAGEMENT SYSTEM. THE BMS SHALL BE PROVIDED BY SIEMENS TO MATCH THE OTHER BUILDINGS IN THE DISTRICT.

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
- CHWS — CHILLED WATER SUPPLY (CHWS)
- CHWR — CHILLED WATER RETURN (CHWR)
- CWR — CONDENSER WATER RETURN
- CWS — CONDENSER WATER SUPPLY
- HWR — HOT WATER RETURN
- HWS — HOT WATER SUPPLY
- REFRIGERANT
- D — DRAIN
- MU — MAKE-UP WATER
- V — VENT
- T — TEMPERATURE SENSOR/THERMOSTAT
- H — HUMIDITY SENSOR
- VD — VOLUME DAMPER
- SUPPLY DIFFUSER
- RETURN OR EXHAUST GRILLE

HVAC DESIGN CRITERIA:

A. SITE (BASED ON NEAREST AVAILABLE DATA: ASHRAE HANDBOOK CLIMATIC DESIGN INFORMATION, WESTCHESTER CO, NY):
   1. 41.07°N, 73.71°W
   2. ELEVATION: 397 FT
   3. CLIMATE ZONE 5A.

B. OUTSIDE DESIGN CONDITIONS (BASED ON NEAREST AVAILABLE DATA: ASHRAE CLIMATIC DESIGN INFORMATION, WESTCHESTER CO, NY):
   1. HEATING DB (99.6%): 9.0°F DB
   2. COOLING DB/MCWB (1%): 86.5°F DB, 72.1°F WB

C. INSIDE DESIGN CONDITIONS (PER NYSED MANUAL OF PLANNING STANDARDS S602-6 B. AND 2015 ASHRAE HANDBOOK CH 7 TABLE 6):
   1. HEATING INDOOR SETPOINT: 72°F
   2. COOLING INDOOR SETPOINT: 78°F, 60% RH

D. ACOUSTICS (PER NYSED MANUAL OF PLANNING STANDARDS, TABLE S304-1):
   1. DESIGN REQUIREMENTS FOR HVAC SYSTEM NOISE FOR CLASSROOMS, 7-12: RC 25-30.

E. FILTRATION: MERV 13 (PER NYSED MANUAL OF PLANNING STANDARDS).

ALTERNATES:

INCLUDE IN THE BID A SEPARATE PRICE FOR THE FOLLOWING:

1. BASE BID: REUSE THE EXISTING UV'S SPECIFIED FOR REPLACEMENT AS PER ALT. NO. 200. REMOVE EXISTING COIL, FLIP AND CONNECT HEAT AND CHILLER LINES TO PROPER COILS. ALL OTHER EXISTING UV'S TO BE REPLACED WITH NEW.
2. ALT. NO. 200: REPLACE EXISTING UV'S IN LOCATION SPECIFIED ON THE PLANS. SEE PLANS FOR LOCATIONS. INCLUDE AN ALLOWANCE TO REPLACE EXISTING HEAT SUPPLY & RETURN PIPING AND INSULATION FOR 20 LINEAR FEET PER EACH UNIT VENTILATOR TO BE REPLACED.
3. ALT. NO. 201: REMOVE AND REPLACE CAFETERIA UNIT, AHU-20.
4. ALT. NO. 202: REFURBISH EXISTING PLENUM MOUNTED HVAC UNIT AND PROVIDE NEW ACCESS PANELS AND MAINTENANCE PLATFORMS FOR AHU-1 AND AHU-2.
5. ALT. NO. 203: REFER THE THE ARCHITECTURAL DRAWINGS.
6. ALT. NO. 204: REFER THE THE ARCHITECTURAL DRAWINGS.

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

REG. EXP. DATE: 04-30-24

Drawn by MEP
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Drawing Title
MECHANICAL GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS

Drawing No.
WGES-M-001

WATER PUMP SCHEDULE

UNIT #	SERVICE	LOCATION	TYPE	FLUID	PUMP DATA									MOTOR					SPEED CONTROL	BASE DIMENSIONS (LxW, IN)	OPERATING WEIGHT (LBS)	BASIS OF DESIGN	
					IMPELLER DIA. (IN)	CAPACITY (GPM)	TOTAL HEAD (FT H2O)	DUTY POINT POWER (HP)	NPSHr (FT H2O)	PART LOAD EFF. (PLEVv)	DUTY POINT EFF.	MAX. WWP (PSIG)	WATER TEMP. (°F)	TYPE	ENCLOSURE TYPE	HP	RPM	V/PH/Hz				MANUFACTURER	MODEL #
CHWP-1	CHILLED WATER	OUTDOORS	BASE MOUNTED, END SUCTION	30% PROPYLENE GLYCOL	8.625	320	50	6.13	9.2	70.3	67.5	175	44	NEMA PREMIUM, VFD READY	TEFC	7.5	1800	208/3/60	VARIABLE	34x14	367	BELL & GOSSETT	e-1510 2.5BB
CHWP-2	CHILLED WATER	OUTDOORS	BASE MOUNTED, END SUCTION	30% PROPYLENE GLYCOL	8.625	320	50	6.13	9.2	70.3	67.5	175	44	NEMA PREMIUM, VFD READY	TEFC	7.5	1800	208/3/60	VARIABLE	34x14	367	BELL & GOSSETT	e-1510 2.5BB
CHWP-3	CHILLED WATER	CHILLER ROOM	BASE MOUNTED, END SUCTION	30% PROPYLENE GLYCOL	5.25	320	80	9.12	11.8	70.9	72.4	175	44	NEMA PREMIUM, VFD READY	TEFC	10	1800	208/3/60	VARIABLE	34x14	328	BELL & GOSSETT	e-1510 2.5AC
CHWP-4	CHILLED WATER	CHILLER ROOM	BASE MOUNTED, END SUCTION	30% PROPYLENE GLYCOL	5.25	320	80	9.12	11.8	70.9	72.4	175	44	NEMA PREMIUM, VFD READY	TEFC	10	1800	208/3/60	VARIABLE	34x14	328	BELL & GOSSETT	e-1510 2.5AC

NOTES:
1. PROVIDE OPERATIONS AND MAINTENANCE MANUALS.
2. PROVIDE VARIABLE FREQUENCY DRIVE WITH HOA CONTROL.
3. PROVIDE INTERNALLY SELF-FLUSHING MECHANICAL SEALS.

CONDENSATE DRAIN PIPE SIZING SCHEDULE

SIZE (IN)	MAXIMUM CONNECTED COOLING CAPACITY (TONS)
3/4	20
1	40
1 1/4	90
1 1/2	125
2	250

NOTES:
1. SIZE CONDENSATE DRAIN PIPING PER THIS SCHEDULE WHERE NOT OTHERWISE INDICATED IN THE CONTRACT DOCUMENTS.

COOLING COIL SCHEDULE

TAG	SERVICE	REFRIGERANT	TOTAL COOLING CAPACITY (BTU/H)	SENSIBLE COOLING CAPACITY (BTU/H)	SUPPLY AIRFLOW (CFM)	OUTSIDE AIRFLOW (CFM)	PRESS. DROP (IN WC)	EAT (°F DB)	EAT (°F WB)	LAT (°F DB)	LAT (°F WB)	MAX. FACE VELOCITY (FPM)	MIN. FACE AREA (SF)	ROWS	OVERALL DIMENSIONS (WxH)(IN)	BASIS OF DESIGN
CC-3	AHU-3	R-410A	52,380	36,660	2000	1000	0.5	79.0	67.0	55.0	54.0	400	5.0	4-8	44x35.25	TRANE CSAA SIZE 6, TYPE UF COIL
CC-4	AHU-4	R-410A	115,605	80,900	7000	1360	0.5	75.0	65.0	55.0	54.0	400	17.5	4-8	80x52.75	TRANE CSAA SIZE 21, TYPE UF COIL
CC-5	AHU-5	R-410A	115,605	80,900	7000	1360	0.5	75.0	65.0	55.0	54.0	400	17.5	4-8	80x52.75	TRANE CSAA SIZE 21, TYPE UF COIL
CC-7	AHU-7	R-410A	52,380	36,660	2000	1000	0.5	79.0	67.0	55.0	54.0	400	5.0	4-8	44x35.25	TRANE CSAA SIZE 6, TYPE UF COIL
CC-8	AHU-8	R-410A	52,380	36,660	2000	1000	0.5	79.0	67.0	55.0	54.0	400	5.0	4-8	44x35.25	TRANE CSAA SIZE 6, TYPE UF COIL

NOTES:
1. THE COILS SHALL BE FACTORY INSTALLED WITHIN A DOUBLE-WALLED, INSULATED HOUSING COMPLETE WITH ACCESS DOORS AND DRAIN PLAN.
2. PROVIDE LINEAR EXPANSION VALVE KITS FOR EACH COIL. THE EXPANSION VALVES SHALL BE A PRODUCT OF THE VRF SYSTEM MANUFACTURER (REFER TO THE SPLIT SYSTEM AIR CONDITIONING UNIT SCHEDULE).

AIR COOLED WATER CHILLER SCHEDULE

CHILLER TAG		CH-1 AND CH-2
LOCATION		OUTDOORS
DIMENSIONS	LENGTH x WIDTH x HEIGHT (IN)	251 x 89 x 94
	HEIGHT (IN)	94
	OPERATING WEIGHT (LBS)	10691
REFRIGERATION CAPACITY (EACH CHILLER)(TONS)		116.81
COMPRESSORS (EACH MODULE)	QUANTITY	2
	CAPACITY CONTROL	VARIABLE
	RLA EACH	98
EVAPORATOR (TOTAL)	TEMP. ENT F.	54
	TEMP. LVG F.	44
	GPM	320
	MAX. P.D.-FT.	11.6
	FOULING FACTOR	0.0001
	WORKING FLUID	30% GLYCOL
CONDENSER (EACH MODULE)	AMBIENT AIR TEMP. °F	95
	FANS QUANTITY	10
	FANS FLA EACH	2.5
	FANS FAN TYPE	VARIABLE SPEED
ELECTRICAL	VOLTS/PH/HZ	208/3/60
	MCA (A) CIRCUIT #1	310.72
	MOP (A) CIRCUIT #1	500
	MCA (A) CIRCUIT #2	298.56
	MOP (A) CIRCUIT #2	500
REFRIGERANT DATA	REFRIGERANT	R-513A
	REFRIGERANT CHARGE CKT #1 (LB)	86.6
	REFRIGERANT CHARGE CKT #2 (LB)	84.9
	REFRIGERANT SAFETY CLASS	A1
A-WEIGHTED SOUND POWER (DBA AT 30 FEET FULL LOAD)		100
TOTAL SYSTEM EER, FULL LOAD, AHRI (BTU/W)		9.931
TOTAL SYSTEM EER, IPLV (BTU/W)		16.10

REMARKS:
1. PROVIDE OPERATIONS AND MAINTENANCE MANUALS.
2. PROVIDE MANUFACTURER'S STANDARD FREEZE PROTECTION PACKAGE AND SEPARATE 115V POWER SOURCE.
3. PROVIDE CONVENIENCE OUTLET WITH SEPARATE 115V POWER SOURCE.
4. THE POWER CONNECTIONS FOR EACH CIRCUIT SHALL BE PROVIDED IN TWO SEPARATE ENCLOSURES.
5. REFER TO THE CHILLER ACOUSTIC ACCESSORIES SCHEDULE BELOW FOR SOUND ATTENUATION TO BE PROVIDED UNDER THIS CONTRACT.
6. THE CHILLERS HAVE BE PRE-ORDERED (TRANE RTAF130EUAH) BY THE OWNER. INSTALL THE CHILLERS UNDER THIS CONTRACT.

WATER PIPE SIZING SCHEDULE

SIZE (IN)	MATERIAL	MAXIMUM FLOW (GPM)
3/4	TYPE L COPPER	3.5
1	TYPE L COPPER	7.4
1 1/4	TYPE L COPPER	13.2
1 1/2	TYPE L COPPER	21
2	TYPE L COPPER	44
2 1/2	TYPE L COPPER	79
3	SCHEDULE 40 STEEL	131
4	SCHEDULE 40 STEEL	270
6	SCHEDULE 40 STEEL	360
8	SCHEDULE 40 STEEL	620

NOTES:
1. SIZE HOT AND CHILLED WATER PIPING PER THIS SCHEDULE WHERE NOT OTHERWISE INDICATED IN THE CONTRACT DOCUMENTS.

SPLIT SYSTEM AIR CONDITIONING UNIT SCHEDULE

UNIT #	LOCATION	TOTAL COOLING CAPACITY (MBH)	EER	IEER	REFRIGERANT	CONDENSER	COMPRESSOR	ELECTRICAL					UNIT WEIGHT (LBS)	BASIS OF DESIGN	
						EA DB °F (COOLING/ HEATING)	TYPE	VOLTS	PHASE	Hz	MOCP (A)	MCA (A)		MANUFACTURER	MODEL #
AC-3	GRADE	72,000	11.9	27.2	R410A	95/0	SCROLL	208	3	60	40	24.0	470	MITSUBISHI	PUHY-P72TNU-A
AC-4	GRADE	240,000	12.2	23.2	R410A	95/0	SCROLL	208	3	60	80	49.0	649	MITSUBISHI	PUHY-P144TNU-A
AC-5	GRADE	240,000	12.2	23.2	R410A	95/0	SCROLL	208	3	60	80	49.0	649	MITSUBISHI	PUHY-P144TNU-A
AC-7	GRADE	72,000	11.9	27.2	R410A	95/0	SCROLL	208	3	60	40	24.0	470	MITSUBISHI	PUHY-P72TNU-A
AC-8	GRADE	72,000	11.9	27.2	R410A	95/0	SCROLL	208	3	60	40	24.0	470	MITSUBISHI	PUHY-P72TNU-A

NOTES:
1. PROVIDE DISCONNECT SWITCH.
2. PROVIDE LINEAR EXPANSION VALVE KIT FOR CONNECTION TO THE COOLING COILS (PAC-LV96AC-1/PAC-LV120AC-1 OR EQUAL).
3. PROVIDE AHU CONTROLLER (PAC0AH001-1 OR EQUAL).
4. PROVIDE TWINNING KIT WHERE REQUIRED BY THE MANUFACTURER.
5. PROVIDE FILTER DRIER KIT (PAC-SPRFCS OR EQUAL).

CHILLER ACOUSTIC ACCESSORIES

CHILLER TAG #	COMPRESSOR ACOUSTIC BLANKETS		CHILLER NOISE REDUCTION SYSTEM		
	QUANTITY	BASIS OF DESIGN	BASIS OF DESIGN	DIMENSIONS (LxWxH)(IN)	WEIGHT (LBS)
CH-1	2	BRD HUSH COVER	VERTICAL BY-PASS	242x98	300
CH-2	2	BRD HUSH COVER	NOT APPLICABLE		

NOTES:
1. THE CHILLERS HAVE BEEN PRE-ORDERED WITHOUT THE ACOUSTIC ACCESSORIES SPECIFIED IN THIS SCHEDULE. COORDINATE WITH THE CHILLER MANUFACTURER AND PROVIDE THE ITEMS LISTED IN THIS SCHEDULE UNDER THIS CONTRACT.

GLYCOL MAKEUP UNIT

UNIT #	LOCATION	FLOW RATE (GPM)	MAX. PRESS. (PSIG)	TANK SIZE (GAL)	ELECTRICAL					OVERALL DIMENSIONS (LxWxH, IN)	UNIT WEIGHT (LBS)	BASIS OF DESIGN	
					VOLTS	PHASE	Hz	MOP (A)	MCA (A)			MANUFACTURER	MODEL #
MU-1	CHILLER RM	1.4	85	100	115	1	60	15	0.9	33x33x60	900	AXIOM INDUSTRIES	SF-100-PRV-HP-L

NOTES:
1. PROVIDE A PACKAGED MAKE-UP UNIT WHICH SHALL BE CAPABLE OF MAINTAINING THE SYSTEM FILL PRESSURE AT 30 PSIG. PROVIDE A POLYETHYLENE TANK WITH REMOVABLE LID, STRAINER, ISOLATION VALVES, PUMP, CHECK/BALANCING VALVE, EXPANSION TANK, DISCHARGE PRESSURE GAUGE, STEEL PIPING, LOW LEVEL CUT-OUT, AND CONTROL/ALARM PANEL WITH INDICATOR LIGHTS IN A NEMA 4 ENCLOSURE.
2. PROVIDE WITH DUAL PRVS AND CONTROLS CAPABLE OF SUPPLYING TWO SEPARATE SYSTEMS.

CHEMICAL SHOT FEEDER SCHEDULE

UNIT #	SERVICE	LOCATION	TYPE	SIZE (GAL)	MAX. PRESS. (PSIG)	WEIGHT (LBS)	BASIS OF DESIGN	
							MANUFACTURER	MODEL #
CF-1	CHW	OUTDOORS	VERTICAL BY-PASS	5	300	38	NEPTUNE	DBF-5HP
CF-2	CHW	CHILLER RM	VERTICAL BY-PASS	5	300	38	NEPTUNE	DBF-5HP

EXPANSION TANK SCHEDULE

UNIT #	LOCATION	SYSTEM	APPROX. SYSTEM VOLUME (GAL)	SYSTEM TEMP. RANGE		INITIAL TANK PRESS (PSIG)	MIN. VOLUME (GAL)	MIN. ACCEPT-ANCE VOLUME (GAL)	PIPE SIZE TO TANK (IN)	UNIT WEIGHT WHEN FULL (LBS)	BASIS OF DESIGN	
				MIN. (°F)	MAX (°F)						MANUFACTURER	MODEL #
ET-1	OUTDOORS	CHW	2000	40	100	12	50	25	1	700	BELL & GOSSETT	200-L
ET-2	CHILLER RM	CHW	2000	40	100	12	50	25	1	700	BELL & GOSSETT	200-L

NOTES:
1. PROVIDE VERTICAL ASME BLADDER EXPANSION TANK.

VAV BOX SCHEDULE

TAG	SERVICE	INLET SIZE	CFM		MAX NC LEVEL	DESIGN BASIS	REMARKS
			MAX	MIN		TRANE	
V-01	CLASSROOM	12	1520	460	20	VCCF	SEE NOTES
V-02	CLASSROOM	10	1220	365	20	VCCF	SEE NOTES
V-03	CLASSROOM	10	1220	365	20	VCCF	SEE NOTES
V-04	CLASSROOM	10	1220	365	20	VCCF	SEE NOTES
V-05	CLASSROOM	10	1200	360	20	VCCF	SEE NOTES
V-06	CLASSROOM	10	1200	360	20	VCCF	SEE NOTES
V-07	CLASSROOM	10	1200	360	20	VCCF	SEE NOTES
V-08	CLASSROOM	10	1040	315	20	VCCF	SEE NOTES
V-09	CLASSROOM	10	1200	360	20	VCCF	SEE NOTES
V-10	CLASSROOM	10	1340	400	20	VCCF	SEE NOTES
V-11	CLASSROOM	14	2000	600	20	VCCF	SEE NOTES
V-12	CLASSROOM	10	950	285	20	VCCF	SEE NOTES
V-13	CLASSROOM	10	950	285	20	VCCF	SEE NOTES
V-14	CLASSROOM	12	1500	450	20	VCCF	SEE NOTES
V-15	CLASSROOM	10	1140	340	20	VCCF	SEE NOTES
V-16	CLASSROOM	8	400	120	20	VCCF	SEE NOTES
V-21	KITCHEN	14	1990	600	20	VCCF	SEE NOTES
V-21D	FAC ROOM	10	1230	365	20	VCCF	SEE NOTES

NOTES:
1. PROVIDE CONTROLS CABINET WITH CONTROL TRANSFORMER AND 120V TO CONTROL VOLTAGE.
2. PROVIDE REMOVABLE FLOW SENSOR.
3. PROVIDE HANGER BRACKET SUPPORTS, SIDE ACCESS DOOR, FIBER-FREE LINER.

AIR SEPARATOR SCHEDULE

UNIT #	SERVICE	LOCATION	TYPE	AIR SEPARATOR			OPERATING WEIGHT (LBS)	BASIS OF DESIGN	
				SIZE (IN)	FLOW (GPM)	PRESS. DROP (FT H20)		MANUFACTURER	MODEL #
AS-1	CHW	BASEMENT	COALESCING AIR & DIRT	6	320	0.81	366	BELL & GOSSETT	CRSN-6F
AS-2	CHW	BASEMENT	COALESCING AIR & DIRT	6	320	0.81	366	BELL & GOSSETT	CRSN-6F

WATER FILTER SCHEDULE

UNIT #	SERVICE	LOCATION	TYPE	SIZE (IN)	FLOW (GPM)	FILTER MEDIA (MICRON)	BASIS OF DESIGN	
							MANUFACTURER	MODEL #
WF-1	CHW	OUTDOORS	SIDE STREAM	1	10	5	AXIOM INDUSTRIES	SFP-10
WF-2	CHW	CHILLER RM	SIDE STREAM	1	10	5	AXIOM INDUSTRIES	SFP-10

WATER FILTER SCHEDULE NOTES:
1. PROVIDE WITH 304SS FILTER HOUSING WITH BRASS HEAD, SIGHT GLASS, BALL VALVES, BALANCING VALVE, BRASS DRAIN VALVE, AND BRASS NIPPLES. FILTER MEDIA SHALL BE COTTON WOUND WITH TIN CORE (25 MICRON).
2. REPLACE THE FILTER MEDIA WITH A NEW 25 MICRON CARTRIDGE AFTER SYSTEM START-UP AND BALANCING. PROVIDE ATTIC STOCK OF TWO 25 MICRON AND TWO 5 MICRON FILTERS.

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
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Drawing Title
MECHANICAL SCHEDULES - 1

Drawing No.
WGES-M-002

UNIT VENTILATOR SCHEDULE

UNIT TAG	LOCATION	CONFIGUR-ATION	TOTAL SUPPLY AIRFLOW (CFM)	MINIMUM OUTSIDE AIRFLOW		MAXIMUM OUTSIDE AIRFLOW (CFM)	COOLING									HEATING							FILTER	ELECTRICAL			UNIT WEIGHT LBS	UNIT DIMENSIONS (LxH, IN) (V.I.F.)	UNIT DEPTH (IN)	BASIS OF DESIGN	BASE BID: REPLACE THE COILS FOR THE EXISTING UNIT VENTILATOR IN NORTH WING AS INDICATED BELOW, EXISTING UNIT VENTILATOR TO REMAIN. ALL OTHER UNIT VENTILATORS TO BE REPLACED.			ALTERNATE NO. 200 REPLACE UNIT VENTILATORS IN NORTH WING
				COOLING	HEATING		EADB (°F)	EAWB (°F)	LADB (°F)	LAWB (°F)	EWT	LWT	WATER FLOW (GPM)	WATER PRESS-URE DROP FT H2O	MIN TOTAL CAPACITY (BTU/H)	EADB (°F)	LADB (°F)	EWT	LWT	WATER FLOW (GPM)	WATER PRESS-URE DROP FT H2O	REQUIRED TOTAL CAPACITY (BTU/H)	MERV	MCA	MAX. FUSE SIZE	V/PH/HZ					HANDING OF EX. COIL	HANDING OF NEW COIL	EX. UNIT VENTILATOR MODEL NUMBER (TRANE)	
UV-101	RM 101	VERTICAL	1250	390	390	1250	80.7	69.3	55	54	44	54	7.42	7.0	37,100	52.3	90	180	160	5.08	4.0	50,800	13	8.75	15	115/1/60	450	93x30	21.25	TRANE VUVE125	RH COOLING/LH HEATING	LH COOLING/RH HEATING	VUVB12510G0DAD0000011CG100001510	REPLACE UNIT VENTILATOR
UV-102	RM 102	VERTICAL	1250	390	390	1250	80.7	69.3	55	54	44	54	7.42	7.0	37,100	52.3	90	180	160	5.08	4.0	50,800	13	8.75	15	115/1/60	450	93x30	21.25	TRANE VUVE125	RH COOLING/LH HEATING	LH COOLING/RH HEATING	VUVB12510G0DAD0000011CG100001510	REPLACE UNIT VENTILATOR
UV-103	RM 103	VERTICAL	1250	405	405	1250	80.8	69.3	55	54	44	54	7.42	7.0	37,100	51.6	90	180	160	5.19	4.0	51,900	13	8.75	15	115/1/60	450	93x30	21.25	TRANE VUVE125	RH COOLING/LH HEATING	LH COOLING/RH HEATING	VUVB12510G0DAD0000011CG100001510	REPLACE UNIT VENTILATOR
UV-104	RM 104	HORIZONTAL	1500	460	460	1500	80.6	69.3	55	54	44	54	8.92	7.0	44,600	52.7	90	180	160	6.05	4.0	60,500	13	12	15	115/1/60	500	106.25x39	21.25	TRANE HUVC150	VIF	VIF	HUV_150	REPLACE UNIT VENTILATOR
UV-105	RM 105	VERTICAL	1250	405	405	1250	80.8	69.3	55	54	44	54	7.42	7.0	37,100	51.6	90	180	160	5.19	4.0	51,900	13	8.75	15	115/1/60	450	93x30	21.25	TRANE VUVE125	RH COOLING/LH HEATING	LH COOLING/RH HEATING	VUVB12510G0DAD0000011CG100001510	REPLACE UNIT VENTILATOR
UV-106	RM 106	VERTICAL	1250	400	400	1250	80.7	69.3	55	54	44	54	7.42	7.0	37,100	51.8	90	180	160	5.15	4.0	51,500	13	8.75	15	115/1/60	450	93x30	21.25	TRANE VUVE125	RH COOLING/LH HEATING	LH COOLING/RH HEATING	VUVB12510G0DAD0000011CG100001510	REPLACE UNIT VENTILATOR
UV-107	RM 107	HORIZONTAL	1500	450	450	1500	80.6	69.2	55	54	44	54	8.92	7.0	44,600	53.1	90	180	160	5.98	4.0	59,800	13	12	15	115/1/60	500	106.25x39	21.25	TRANE HUVC150	VIF	VIF	HUV_150	REPLACE UNIT VENTILATOR
UV-108	RM 108	VERTICAL	1250	405	405	1250	80.8	69.3	55	54	44	54	7.42	7.0	37,100	51.6	90	180	160	5.19	4.0	51,900	13	8.75	15	115/1/60	450	93x30	21.25	TRANE VUVE125	RH COOLING/LH HEATING	LH COOLING/RH HEATING	VUVB12510G0DAD0000011CG100001510	REPLACE UNIT VENTILATOR
UV-109	RM 109	VERTICAL	1250	405	405	1500	80.8	69.3	55	54	44	54	7.42	7.0	37,100	51.6	90	180	160	5.19	4.0	51,900	13	8.75	15	115/1/60	450	93x30	21.25	TRANE VUVE125	RH COOLING/LH HEATING	LH COOLING/RH HEATING	VUVB12510G0DAD0000011CG100001510	REPLACE UNIT VENTILATOR
UV-110	RM 110	HORIZONTAL	1500	415	415	1250	80.4	69.1	55	54	44	54	8.92	7.0	44,600	54.6	90	180	160	5.74	4.0	57,400	13	12	15	115/1/60	500	106.25x39	21.25	TRANE HUVC150	VIF	VIF	HUV_150	REPLACE UNIT VENTILATOR
UV-111	RM 111	VERTICAL	1250	405	405	1250	80.8	69.3	55	54	44	54	7.42	7.0	37,100	51.6	90	180	160	5.19	4.0	51,900	13	8.75	15	115/1/60	450	93x30	21.25	TRANE VUVE125	RH COOLING/LH HEATING	LH COOLING/RH HEATING	VUVB12510G0DAD0000011CG100001510	REPLACE UNIT VENTILATOR
UV-112	RM 112	VERTICAL	1250	390	390	1250	80.7	69.3	55	54	44	54	7.42	7.0	37,100	52.3	90	180	160	5.08	4.0	50,800	13	8.75	15	115/1/60	450	93x30	21.25	TRANE VUVE125	RH COOLING/LH HEATING	LH COOLING/RH HEATING	VUVB12510G0DAD0000011CG100001510	REPLACE UNIT VENTILATOR
UV-113	RM 113	VERTICAL	1250	390	390	1250	80.7	69.3	55	54	44	54	7.42	7.0	37,100	52.3	90	180	160	5.08	4.0	50,800	13	8.75	15	115/1/60	450	93x30	21.25	TRANE VUVE125	RH COOLING/LH HEATING	LH COOLING/RH HEATING	VUVB12510G0DAD0000011CG100001510	REPLACE UNIT VENTILATOR
UV-114A	RM 114	VERTICAL	1250	365	365	1250	80.5	69.2	55	54	44	54	7.42	7.0	37,100	53.6	90	180	160	4.91	4.0	49,100	13	8.75	15	115/1/60	450	93x30	21.25	TRANE VUVE125	RH COOLING/LH HEATING	LH COOLING/RH HEATING	VUVB12510G0DAD0000011CG100001510	REPLACE UNIT VENTILATOR
UV-114B	RM 115	VERTICAL	1250	365	365	1250	80.5	69.2	55	54	44	54	7.42	7.0	37,100	53.6	90	180	160	4.91	4.0	49,100	13	8.75	15	115/1/60	450	93x30	21.25	TRANE VUVE125	RH COOLING/LH HEATING	LH COOLING/RH HEATING	VUVB12510G0DAD0000011CG100001510	REPLACE UNIT VENTILATOR
UV-117A	RM 117	HORIZONTAL	1250	280	280	1250	79.9	68.9	55	54	44	54	7.42	7.0	37,100	57.9	90	180	160	4.34	4.0	43,400	13	12	15	115/1/60	435	94.25x38	21.25	TRANE HUVC125	VIF	VIF	HUV_150	REPLACE UNIT VENTILATOR
UV-117B	RM 117	HORIZONTAL	1250	280	280	1250	79.9	68.9	55	54	44	54	7.42	7.0	37,100	57.9	90	180	160	4.34	4.0	43,400	13	12	15	115/1/60	435	94.25x38	21.25	TRANE HUVC125	VIF	VIF	HUV_150	REPLACE UNIT VENTILATOR
UV-118	RM 118	HORIZONTAL	750	90	90	750	79.0	68.5	55	54	44	54	4.46	7.0	22,300	64.4	90	180	160	2.07	4.0	20,700	13	12	15	115/1/60	340	70.25x36	21.25	TRANE HUVC075	VIF	VIF	HUV_150	REPLACE UNIT VENTILATOR
UV-119	RM 119	HORIZONTAL	750	195	195	750	80.2	69.1	55	54	44	54	4.46	7.0	22,300	55.6	90	180	160	2.78	4.0	27,800	13	12	15	115/1/60	340	70.25x36	21.25	TRANE HUVC075	VIF	VIF	HUV_150	REPLACE UNIT VENTILATOR
UV-LL19	RM LL19	VERTICAL	1500	450	450	1250	80.6	69.2	55	54	44	54	8.92	7.0	44,600	53.1	90	180	160	5.98	4.0	59,800	13	8.75	15	115/1/60	470	105x30	21.25	TRANE VUVE150	REPLACE UNIT VENTILATOR			NOT APPLICABLE
UV-LL21A	RM LL21	VERTICAL	1500	325	325	1500	79.8	68.9	55	54	44	54	8.92	7.0	44,600	58.4	90	180	160	5.13	4.0	51,300	13	8.75	15	115/1/60	470	105x30	21.25	TRANE VUVE150	REPLACE UNIT VENTILATOR			NOT APPLICABLE
UV-LL21B	RM LL21	VERTICAL	1500	325	325	1500	79.8	68.9	55	54	44	54	8.92	7.0	44,600	58.4	90	180	160	5.13	5.0	51,300	14	8.75	15	115/1/60	470	105x30	21.25	TRANE VUVE150	REPLACE UNIT VENTILATOR			NOT APPLICABLE
UV-200	RM 200	VERTICAL	750	75	75	750	78.9	68.4	55	54	44	54	4.46	7.0	22,300	65.7	90	180	160	1.97	6.0	19,700	15	4.38	15	115/1/60	320	69x30	21.25	TRANE VUVE075	RH COOLING/LH HEATING	LH COOLING/RH HEATING	VUVB12510G0DAD0000011CG100001510	REPLACE UNIT VENTILATOR
UV-201	RM 201	VERTICAL	1250	390	390	1250	80.7	69.3	55	54	44	54	7.42	7.0	37,100	52.3	90	180	160	5.08	4.0	50,800	13	8.75	15	115/1/60	450	93x30	21.25	TRANE VUVE125	RH COOLING/LH HEATING	LH COOLING/RH HEATING	VUVB12510G0DAD0000011CG100001510	REPLACE UNIT VENTILATOR
UV-202	RM 202	VERTICAL	1250	390	390	1250	80.7	69.3	55	54	44	54	7.42	7.0	37,100	52.3	90	180	160	5.08	4.0	50,800	13	8.75	15	115/1/60	450	93x30	21.25	TRANE VUVE125	RH COOLING/LH HEATING	LH COOLING/RH HEATING	VUVB12510G0DAD0000011CG100001510	REPLACE UNIT VENTILATOR
UV-203	RM 203	VERTICAL	1250	405	405	1250	80.8	69.3	55	54	44	54	7.42	7.0	37,100	51.6	90	180	160	5.19	4.0	51,900	13	8.75	15	115/1/60	450	93x30	21.25	TRANE VUVE125	RH COOLING/LH HEATING	LH COOLING/RH HEATING	VUVB12510G0DAD0000011CG100001510	REPLACE UNIT VENTILATOR
UV-204	RM 204	HORIZONTAL	1500	460	460	1500	80.6	69.3	55	54	44	54	8.92	7.0	44,600	52.7	90	180	160	6.05	4.0	60,500	13	12	15	115/1/60	500	106.25x39	21.25	TRANE HUVC150	VIF	VIF	HUV_150	REPLACE UNIT VENTILATOR
UV-205	RM 205	VERTICAL	1250	405	405	1250	80.8	69.3	55	54	44	54	7.42	7.0	37,100	51.6	90	180	160	5.19	4.0	51,900	13	8.75	15	115/1/60	450	93x30	21.25	TRANE VUVE125	RH COOLING/LH HEATING	LH COOLING/RH HEATING	VUVB12510G0DAD0000011CG100001510	REPLACE UNIT VENTILATOR
UV-206	RM 206	VERTICAL	1250	400	400	1250	80.7	69.3	55	54	44	54	7.42	7.0	37,100	51.8	90	180	160	5.15	4.0	51,500	13	8.75	15	115/1/60	450	93x30	21.25	TRANE VUVE125	RH COOLING/LH HEATING	LH COOLING/RH HEATING	VUVB12510G0DAD0000011CG100001510	REPLACE UNIT VENTILATOR
UV-207	RM 207	HORIZONTAL	1500	450	450	1500	80.6	69.2	55	54	44	54	8.92	7.0	44,600	53.1	90	180	160	5.98	4.0	59,800	13	12	15	115/1/60	500	106.25x39	21.25	TRANE HUVC150	VIF	VIF	HUV_150	REPLACE UNIT VENTILATOR
UV-208	RM 208	VERTICAL	1250	405	405	1250	80.8	69.3	55	54	44	54	7.42	7.0	37,100	51.6	90	180	160	5.19	4.0	51,900	13	8.75	15	115/1/60	450	93x30	21.25	TRANE VUVE125	RH COOLING/LH HEATING	LH COOLING/RH HEATING	VUVB12510G0DAD0000011CG100001510	REPLACE UNIT VENTILATOR
UV-209	RM 209	VERTICAL	1250	405	405	1250	80.8	69.3	55	54	44	54	7.42	7.0	37,100	51.6	90	180	160	5.19	4.0	51,900	13	8.75	15	115/1/60	450	93x30	21.25	TRANE VUVE125	RH COOLING/LH HEATING	LH COOLING/RH HEATING	VUVB12510G0DAD0000011CG100001510	REPLACE UNIT VENTILATOR
UV-210	RM 210	HORIZONTAL	1500	450	450	1500	80.6	69.2	55	54	44	54	8.92	7.0	44,600	53.1	90	180	160	5.98	4.0	59,800	13	12	15	115/1/60	500	106.25x39	21.25	TRANE HUVC150	VIF	VIF	HUV_150	REPLACE UNIT VENTILATOR
UV-211	RM 211	VERTICAL	1250	405	405	1250	80.8	69.3	55	54	44	54	7.42	7.0	37,100	51.6	90	180	160	5.19	4.0	51,900	13	8.75	15	115/1/60	450	93x30	21.25	TRANE VUVE125	RH COOLING/LH HEATING	LH COOLING/RH HEATING	VUVB12510G0DAD0000011CG100001510	REPLACE UNIT VENTILATOR
UV-212	RM 212	VERTICAL	1250	390	390	1250	80.7	69.3	55	54	44	54	7.42	7.0	37,100	52.3	90	180	160	5.08	4.0	50,800	13	8.75	15	115/1/60	450	93x30	21.25	TRANE VUVE125	RH COOLING/LH HEATING	LH COOLING/RH HEATING	VUVB12510G0DAD0000011CG100001510	REPLACE UNIT VENTILATOR
UV-213	RM 213	VERTICAL	1250	390	390	1250	80.7	69.3	55	54	44	54	7.42	7.0	37,100	52.3	90	180	160	5.08	4.0	50,800	13	8.75	15	115/1/60	450	93x30	21.25	TRANE VUVE125	RH COOLING/LH HEATING	LH COOLING/RH HEATING	VUVB12510G0DAD0000011CG100001510	REPLACE UNIT VENTILATOR
UV-213A	RM 213A	VERTICAL	750	105	105	750	79.2	68.6	55	54	44	54	4.46	7.0	22,300	63.2	90	180	160	2.17	4.0	21,700	13	4.38	15	115/1/60	320	69x30	21.25	TRANE VUVE075	RH COOLING/LH HEATING	LH COOLING/RH HEATING	VUVB12510G0DAD0000011CG100001510	REPLACE UNIT VENTILATOR
UV-214A	RM 214	VERTICAL	1250	325	325	1250	80.2	69.1	55	54	44	54	7.42	7.0	37,100	55.6	90	180	160	4.64	4.0	46,400	13	8.75	15	115/1/60	450	93x30	21.25	TRANE VUVE125	RH COOLING/LH HEATING	LH COOLING/RH HEATING	VUVB12510G0DAD0000011CG100001510	REPLACE UNIT VENTILATOR
UV-214B	RM 214	VERTICAL	1250	280	280	1250	79.9	68.9	55	54	44	54	7.42	7.0	37,100	57.9	90	180	160	4.34	4.0	43,400	13	8.75	15	115/1/60	450	93x30	21.25	TRANE VUVE125	RH COOLING/LH HEATING	LH COOLING/RH HEATING	VUVB12510G0DAD0000011CG100001510	REPLACE UNIT VENTILATOR
UV-217A	RM 217	VERTICAL	1250	240	240	1250	79.6	68.8	55	54	44	54	7.42	7.0	37,100	59.9	90	180	160	4.06	4.0	40,600	13	8.75	15	115/1/60	450	93x30	21.25	TRANE VUVE125	RH COOLING/LH HEATING	LH COOLING/RH HEATING	VUVB12510G0DAD0000011CG100001510	REPLACE UNIT VENTILATOR
UV-217B	RM 217	VERTICAL	1250	240	240	1250	79.6	68.8	55	54	44	54	7.42	7.0	37,100	59.9	90	180	160	4.06	4.0	40,600	13	8.75	15	115/1/60	450	93x30	21.25	TRANE VUVE125	RH COOLING/LH HEATING	LH COOLING/RH HEATING	VUVB12510G0DAD0000011CG100001510	REPLACE UNIT VENTILATOR
UV-218	RM 218	VERTICAL	750	90	90	750	79.0	68.5	55	54	44	54	4.46	7.0	22,300	64.4	90	180	160	2.07	4.0	20,700	13	4.38	15	115/1/60	320	69x30	21.25	TRANE VUVE075	RH COOLING/LH HEATING	LH COOLING/RH HEATING	VUVB12510G0DAD0000011CG100001510	REPLACE UNIT VENTILATOR
UV-219	RM-219	VERTICAL	750	150	150	750	79.7	68.8	55	54	44	54	4.46	7.0	22,300	59.4	90	180	160	2.48	4.0	24,800	13	4.38	15	115/1/60	320	69x30	21.25	TRANE VUVE075	RH COOLING/LH HEATING	LH COOLING/RH HEATING	VUVB12510G0DAD0000011CG100001510	REPLACE UNIT VENTILATOR
UV-17A	RM 17	VERTICAL	1250	270	270	1250	79.8	68.9	55	54	44	54	7.42	7.0	37,100	58.4	90	180	160	4.27	4.0	42,700	13	8.75	15	115/1/60	450	93x30	21.25	TRANE VUVE125	REPLACE UNIT VENTILATOR			NOT APPLICABLE
UV-17B	RM 17	VERTICAL	1250	270	270	1250	79.8	68.9	55	54	44	54	7.42	7.0	37,100	58.4	90	180	160	4.27	4.0	42,700	13	8.75	15	115/1/60	450	93x30	21.25	TRANE VUVE125	REPLACE UNIT VENTILATOR			NOT APPLICABLE
UV-18A	RM 18	VERTICAL	1000	180	180	1000	79.5	68.7	55	54	44	54	5.94	7.0	29,700	60.7	90	180	160	3.17	4.0	31,700	13	4.38	15	115/1/60	405	81x30	21.25	TRANE VUVE100	REPLACE UNIT VENTILATOR			NOT APPLICABLE
UV-18B	RM 18	VERTICAL	1000	180	180	1000	79.5	68.7	55	54	44	54	5.94	7.0	29,700	60.7	90	180	160	3.17	4.0	31,700	13	4.38	15	115/1/60	405	81x30	21.25	TRANE VUVE100	REPLACE UNIT VENTILATOR			NOT APPLICABLE
UV-23	RM 23	VERTICAL	1500	300	300	1250	79.7	68.8	55	54	44	54	8.92	7.0	44,600	59.4	90	180	160	4.96	4.0	49,600	13	8.75	15	115/1/60	470	105x30	21.25	TRANE VUVE150	REPLACE UNIT VENTILATOR			NOT APPLICABLE
UV-24	RM 24	VERTICAL	1500	165	165	1250	78.9	68.5	55	54	44	54	8.92	7.0	44,600	65.1	90	180	160	4.04	4.0	40,400	13	8.75	15	115/1/60	470	105x30	21.25	TRANE VUVE150	REPLACE UNIT VENTILATOR			NOT APPLICABLE

NOTES:
1. PROVIDE 4-PIPE COIL. VERFIY COIL HANDING IN FIELD FOR EACH UNIT PRIOR TO FABRICATION. INCLUDE COIL HANDING IN THE UNIT VENTILATOR SUBMITTAL.
2. PROVIDE ECM FAN MOTOR AND SZVAV CONTROL.
3. PROVIDE A 3-WAY MODULATING CONTROL VALVE FOR HOT WATER AND A 2-WAY MODULATING CONTROL VALVE FOR CHILLED WATER FOR ALL UNIT VENTILATORS, EXISTING AND NEW.
4. PROVIDE LOW-LEAKGE OUTSIDE AIR DAMPER.
5. PROVIDE ECONOMIZER WITH FAULT DETECTION DIAGNOSIS.
6. UNIT VENTILATORS SHALL BE SELECTED TO MATCH THE FOOTPRINT OF THE EXISTING UNIT VENTILATOR WHEREVER POSSIBLE. VERFIY IN FIELD THE PHYSICAL DIMENSIONS OF ALL EXISTING UNIT VENTILATORS AND SUBMIT FOR APPROVAL PRIOR TO FABRICATION.
7. INCLUDE THE REPLACEMENT OF THE COILS IN THE EXISTING UNIT VENTILATORS AS SCHEDULED ABOVE IN THE BASE BID. PROVIDE AN ALTERNATE PRICE FOR THE REPLACEMENT OF THE UNIT VENTILATOR AS INDICATED IN THE SCHEDULE.
8. PROVIDE WITH SIEMENS CONTROLS.
9. PROVIDE WITH AN INTERNAL DISCONNECT SWITCH.

AIR HANDLING UNIT SCHEDULE

UNIT #	LOCATION / AREA SERVED	SUPPLY AIRFLOW (CFM)	OUTSIDE AIRFLOW (CFM)	OA DCV MIN (CFM)	SUPPLY FAN					HOT WATER PREHEAT COIL								CHILLED WATER COOLING COIL										FILTER				ELECTRICAL			UNIT WEIGHT (LBS)	BASIS OF DESIGN
					EXTERNAL STATIC PRESSURE (IN WC)	MOTOR HP	SPEED CONTROL	DRIVE TYPE	HOUSING TYPE	FACE VELOCITY (FPM)	PRESSURE DROP (IN WC)	MINIMUM CAPACITY (BTU/H)	WATER FLOW RATE (GPM)	WATER PRESS DROP (FT)	EWT (°F)	LWT (°F)	EAT DB (°F)	LAT DB (°F)	FACE VELOCITY (FPM)	PRESSURE DROP (IN WC)	MINIMUM CAPACITY (BTU/H)	WATER FLOW RATE (GPM)	WATER PRESS DROP (FT)	EWT (°F)	LWT (°F)	EAT DB (°F)	EAT WB (°F)	LAT DB (°F)	LAT WB (°F)	MERV	TYPE	PRESSURE DROP, CLEAN (IN WC)	PRESSURE DROP, MID-LIFE (IN WC)	PRESSURE DROP, DIRTY (IN WC)	MCA	MAX FUSE SIZE	VOLT/PH/HZ		
AHU-20	CAFETERIA	11,000	2,990	180	2.0	10	VARIABLE	DIRECT	PLENUM	500	1.0	376,600	37.7	5	180	160	58.3	90	500	1.0	363,000	72.6	10	54	44	76	65	55	55	13	12" CARTRIDGE	0.14	0.57	1.00	31.5	45	208/3/60	3500	TRANE CSAA, SIZE 25

ALT. NO. 201

AIR HANDLING UNIT SCHEDULE NOTES:
1. PROVIDE A VARIABLE FREQUENCY DRIVE FOR SUPPLY FAN CONTROL, DISCONNECT SWITCH, AND CONTROLS.
2. PROVIDE BASE RAIL AND MOUNTING HARDWARE AS REQUIRED FOR MOUNTING ON VIBRATION ISOLATORS.
3. EACH SECTION SHALL BE PROVIDED WITH AN ACCESS DOOR. VERIFY ACCESS DOOR LOCATIONS AND CONFIGURATIONS IN FIELD AND SUBMIT FOR APPROVAL PRIOR TO FABRICATION AND INSTALLATION.
4. AHUS SHALL BE CUSTOM FABRICATED AND SHIPPED KNOCKED DOWN TO FIT THROUGH EXISTING BUILDING OPENINGS (36" WIDE x 80" HIGH EXISTING DOORWAYS TO BE VIF).
5. PROVIDE WITH THE FOLLOWING SECTIONS AT A MINIMUM: MIXING SECTION, FILTER SECTION, PREHEAT COIL, ACCESS SECTION, COOLING COIL, ACCESS SECTION, FAN SECTION.
6. PROVIDE SCHEDULED OCCUPANCY DEMAND CONTROLLED VENTILATION.
7. REPLACE AHU-20 PER THE SCHEDULE UNDER ALTERNATE NO. 201. RETROFIT CONTROLS AND PIPING TO THE COILS UNDER THE BASE BID.

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

REG. EXP. DATE: 04-30-24

Drawn by MEP
Checked by PV
Project No. 42054
Scale NTS
Date 09-14-23

GREENMAN PEDERSEN, INC
2 BRIDGEVIEW BOULEVARD
SUITE 300
SUFFERN, NY 10901
Mechanical & Electrical Engineer:

GREENMAN PEDERSEN, INC
2 BRIDGEVIEW BOULEVARD
SUITE 300
SUFFERN, NY 10901
Structural Engineer:

UNIVENT REPLACEMENT AT WILLOW GROVE ELEMENTARY SCHOOL
SED# 50-02-01-06-0-030-016
153 STORMS RD
TRIBES, NY 10954
COUNTY OF ROCKLAND

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Drawing Title
MECHANICAL SCHEDULES - 2

Drawing No.
WGES-M-003

MECHANICAL VENTILATION SCHEDULE

GENERAL					PER 2020 MCNYS CHAPTER 4									
ROOM NUMBER	ROOM NAME	ROOM AREA (SF)	CEILING HEIGHT (IN)	ROOM VOLUME (CF)	OCCUPANCY	OCCUPANT LOAD/ 1,000 SF	# OF OCCUPANTS	REQUIRED CFM/ OCCUPANT	REQUIRED CFM/SF	REQUIRED EXHAUST CFM/SF	BREATHING ZONE OUTDOOR AIRFLOW	ZONE DISTRIBUTION EFFECTIVENESS	MIN. OA CFM	ACTUAL OA CFM
LOWER LEVEL														
101	CLASSROOM	733	108.0	6,597	CLASSROOMS (AGES 9 PLUS)	35	26	10	0.12	0	348	0.9	387	390
102	CLASSROOM	741	108.0	6,669	CLASSROOMS (AGES 9 PLUS)	35	26	10	0.12	0	349	0.9	388	390
103	CLASSROOM	756	108.0	6,804	CLASSROOMS (AGES 9 PLUS)	35	27	10	0.12	0	361	0.9	401	405
104	CLASSROOM	867	108.0	7,803	CLASSROOMS (AGES 9 PLUS)	35	31	10	0.12	0	414	0.9	460	460
105	CLASSROOM	755	108.0	6,795	CLASSROOMS (AGES 9 PLUS)	35	27	10	0.12	0	361	0.9	401	405
106	CLASSROOM	754	108.0	6,786	CLASSROOMS (AGES 9 PLUS)	35	27	10	0.12	0	360	0.9	400	400
107	CLASSROOM	843	108.0	7,587	CLASSROOMS (AGES 9 PLUS)	35	30	10	0.12	0	401	0.9	446	450
108	CLASSROOM	757	108.0	6,813	CLASSROOMS (AGES 9 PLUS)	35	27	10	0.12	0	361	0.9	401	405
109	CLASSROOM	755	108.0	6,795	CLASSROOMS (AGES 9 PLUS)	35	27	10	0.12	0	361	0.9	401	405
110	SCIENCE	843	108.0	7,587	SCIENCE LABORATORIES	25	22	10	0.18	1	372	0.9	413	415
111	CLASSROOM	757	108.0	6,813	CLASSROOMS (AGES 9 PLUS)	35	27	10	0.12	0	361	0.9	401	405
112	CLASSROOM	737	108.0	6,633	CLASSROOMS (AGES 9 PLUS)	35	26	10	0.12	0	348	0.9	387	390
113	CLASSROOM	734	108.0	6,606	CLASSROOMS (AGES 9 PLUS)	35	26	10	0.12	0	348	0.9	387	390
114	TECHNOLOGY	1,394	108.0	12,546	CLASSROOMS (AGES 9 PLUS)	35	49	10	0.12	0	657	0.9	730	730
117	CLASSROOM	1,343	108.0	12,087	COMPUTER LAB	25	34	10	0.12	0	501	0.9	557	560
118	CLASSROOM	163	108.0	1,467	CLASSROOMS (AGES 9 PLUS)	35	6	10	0.12	0	80	0.9	89	90
119	CLASSROOM	252	108.0	2,268	CLASSROOMS (AGES 9 PLUS)	35	9	10	0.12	0	120	0.9	133	135
LL19	TEMPORARY CLASSROOM	845	108.0	7,605	CLASSROOMS (AGES 9 PLUS)	35	30	10	0.12	0	401	0.9	446	450
LL21	TEMPORARY CLASSROOM	1,241	108.0	11,169	CLASSROOMS (AGES 9 PLUS)	35	44	10	0.12	0	589	0.9	654	655
MAIN LEVEL														
200	CLASSROOM	134	108.0	1,206	CLASSROOMS (AGES 9 PLUS)	35	5	10	0.12	0	66	0.9	73	75
201	CLASSROOM	733	108.0	6,597	CLASSROOMS (AGES 9 PLUS)	35	26	10	0.12	0	348	0.9	387	390
202	CLASSROOM	741	108.0	6,669	CLASSROOMS (AGES 9 PLUS)	35	26	10	0.12	0	349	0.9	388	390
203	CLASSROOM	756	108.0	6,804	CLASSROOMS (AGES 9 PLUS)	35	27	10	0.12	0	361	0.9	401	405
204	CLASSROOM	867	108.0	7,803	CLASSROOMS (AGES 9 PLUS)	35	31	10	0.12	0	414	0.9	460	460
205	CLASSROOM	755	108.0	6,795	CLASSROOMS (AGES 9 PLUS)	35	27	10	0.12	0	361	0.9	401	405
206	CLASSROOM	754	108.0	6,786	CLASSROOMS (AGES 9 PLUS)	35	27	10	0.12	0	360	0.9	400	400
207	CLASSROOM	843	108.0	7,587	CLASSROOMS (AGES 9 PLUS)	35	30	10	0.12	0	401	0.9	446	450
208	CLASSROOM	757	108.0	6,813	CLASSROOMS (AGES 9 PLUS)	35	27	10	0.12	0	361	0.9	401	405
209	CLASSROOM	755	108.0	6,795	CLASSROOMS (AGES 9 PLUS)	35	27	10	0.12	0	361	0.9	401	405
210	CLASSROOM	843	108.0	7,587	CLASSROOMS (AGES 9 PLUS)	35	30	10	0.12	0	401	0.9	446	450
211	CLASSROOM	757	108.0	6,813	CLASSROOMS (AGES 9 PLUS)	35	27	10	0.12	0	361	0.9	401	405
212	CLASSROOM	737	108.0	6,633	CLASSROOMS (AGES 9 PLUS)	35	26	10	0.12	0	348	0.9	387	390
213	CLASSROOM	733	108.0	6,597	CLASSROOMS (AGES 9 PLUS)	35	26	10	0.12	0	348	0.9	387	390
213A	CLASSROOM	180	108.0	1,620	CLASSROOMS (AGES 9 PLUS)	35	7	10	0.12	0	92	0.9	102	105
214A	COMP. LAB	749	108.0	6,741	COMPUTER LAB	25	19	10	0.12	0	280	0.9	311	315
214B	COMP. LAB	640	108.0	5,760	COMPUTER LAB	25	16	10	0.12	0	237	0.9	263	265
217	ART	1,121	108.0	10,089	ART CLASSROOM	20	23	10	0.18	0.7	432	0.9	480	480
218	CLASSROOM	161	108.0	1,449	CLASSROOMS (AGES 9 PLUS)	35	6	10	0.12	0	79	0.9	88	90
219	CLASSROOM	260	108.0	2,340	CLASSROOMS (AGES 9 PLUS)	35	10	10	0.12	0	131	0.9	146	150
1	CLASSROOM	764	108.0	6,876	CLASSROOMS (AGES 9 PLUS)	35	27	10	0.12	0	362	0.8	453	455
2	CLASSROOM	764	108.0	6,876	CLASSROOMS (AGES 9 PLUS)	35	27	10	0.12	0	362	0.8	453	455
3	CLASSROOM	766	108.0	6,894	CLASSROOMS (AGES 9 PLUS)	35	27	10	0.12	0	362	0.8	453	455
4	CLASSROOM	765	108.0	6,885	CLASSROOMS (AGES 9 PLUS)	35	27	10	0.12	0	362	0.8	453	455
5	CLASSROOM	767	108.0	6,903	CLASSROOMS (AGES 9 PLUS)	35	27	10	0.12	0	362	0.8	453	455
6	CLASSROOM	767	108.0	6,903	CLASSROOMS (AGES 9 PLUS)	35	27	10	0.12	0	362	0.8	453	455
7	CLASSROOM	767	108.0	6,903	CLASSROOMS (AGES 9 PLUS)	35	27	10	0.12	0	362	0.8	453	455
8	MAIN OFFICE	720	108.0	6,480	OFFICE SPACES	5	4	5	0.06	0	63	0.8	79	80
9	CLASSROOM	771	108.0	6,939	CLASSROOMS (AGES 9 PLUS)	35	27	10	0.12	0	363	0.8	454	455
10	CLASSROOM	769	108.0	6,921	CLASSROOMS (AGES 9 PLUS)	35	27	10	0.12	0	362	0.8	453	455
11	CLASSROOM	903	108.0	8,127	CLASSROOMS (AGES 9 PLUS)	35	32	10	0.12	0	428	0.8	535	535
12	CLASSROOM	1,000	108.0	9,000	CLASSROOMS (AGES 9 PLUS)	35	35	10	0.12	0	470	0.8	588	590
14	CLASSROOM	987	108.0	8,883	CLASSROOMS (AGES 9 PLUS)	35	35	10	0.12	0	468	0.8	585	585
15	CLASSROOM	791	108.0	7,119	CLASSROOMS (AGES 9 PLUS)	35	28	10	0.12	0	375	0.8	469	470
16	CLASSROOM	495	108.0	4,455	CLASSROOMS (AGES 9 PLUS)	35	18	10	0.12	0	239	0.8	299	300
17	ORCHESTRA	1,157	108.0	10,413	MUSIC/THEATER/DANCE	35	41	10	0.06	0	479	0.9	532	535
18	CLASSROOM	658	108.0	5,922	CLASSROOMS (AGES 9 PLUS)	35	24	10	0.12	0	319	0.9	354	355
20	CAFETERIA	2,946	240.0	58,920	MULTIUSE ASSEMBLY	100	295	7.5	0.06	0	2389	1.0	2389	2390
23	CLASSROOM	552	108.0	4,968	CLASSROOMS (AGES 9 PLUS)	35	20	10	0.12	0	266	0.9	296	300
21	KITCHEN	458	108.0	4,122	KITCHENS (COOKING)	20	10	7.5	0.12	0.7	130	0.8	163	165
30	GYMNASIUM	8436	108.0	75,924	GYMNASIUM	7	60	20	0.18	0	2718	0.8	3398	3400

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

REG. EXP. DATE: 04-30-24

Drawn by MEP
Checked by PV
Project No. 42054
Scale NTS
Date 09-14-23

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Drawing Title
MECHANICAL SCHEDULES - 3

Drawing No.
WGES-M-004

EXISTING AIR HANDLING UNIT SCHEDULE

TAG	LOCATION	SERVICE	NOMINAL AIRFLOW (CFM)	COOLING TYPE	MANUFACTURER	MODEL	RELEVANT CONTROL DETAIL(S)
BASE BID							
AHU-1	LOWER LEVEL STORAGE RM	BAND ROOM	4000	DX	MCQUAY	LSL108CH	1/WGES-M-402
AHU-2	ELEVATOR MACHINE ROOM	LIBRARY	4000	DX	MCQUAY	LSL108CH	1/WGES-M-402
AHU-3	FAN ROOM	BOYS LOCKER	2000	DX	MCQUAY	LSL104CH	1/WGES-M-402
AHU-4	FAN ROOM	GYM	7000	DX	MCQUAY	LHD114CH	1/WGES-M-402
AHU-5	FAN ROOM	GYM	7000	DX	MCQUAY	LHD114CH	1/WGES-M-402
AHU-6	LOW ROOF OUTSIDE RM LL20	ROOM LL20	2000	DX	MCQUAY	LSL104CH	1/WGES-M-402
AHU-7	FAN ROOM	GIRLS LOCKER	2000	DX	MCQUAY	LSL104CH	1/WGES-M-402
AHU-8	FAN ROOM	LOBBY	2000	DX	MCQUAY	LSL104CH	1/WGES-M-402
AHU-X	MECH RM 5A	CAFETERIA	6000	DX	MCQUAY	CAH012FDAC	1/WGES-M-402
ALTERNATE NO. 202							
AHU-1	MAIN LEVEL (ABOVE CORRIDOR CLG)	CLASSROOMS	13000	CHW	SNYDER GENERAL	LSL128DH	2/WGES-M-402
AHU-2	MAIN LEVEL (ABOVE CORRIDOR CLG)	CLASSROOMS	13000	CHW	SNYDER GENERAL	LSL128DH	2/WGES-M-402

NOTES:
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EXISTING SPLIT SYSTEM AIR CONDITIONING UNIT SCHEDULE

TAG	LOCATION	SERVICE	NOMINAL CAPACITY (TONS)	MCA	VOLTS/PHASE	MANUFACTURER	MODEL	RELEVANT CONTROL DETAIL(S)
AC-1	COURTYARD	AHU-1 BAND ROOM	10	39	208/3	INTERNATIONAL COMFORT PRODUCTS	CAS120HDA0A00AA---	1/WGES-M-402
AC-2	ROOF (CLASSROOM ADDITION)	AHU-2 LIBRARY	10	39	208/3	INTERNATIONAL COMFORT PRODUCTS	CAS120HDA0A00AA---	1/WGES-M-402
AC-6	ROOF (CLASSROOM ADDITION)	AHU-6 GUIDANCE	4	-	208/3	TEMPSTAR	N4A348GHB200	1/WGES-M-402
AC-16	COURTYARD	CLASSROOM 16	3	-	208/1	-	-	NONE
AC-CAFE	ROOF (ORIGINAL BUILDING)	AHU-CAFE	15	64	208/3	RHEEM COMMERCIAL	RAWL-180CAZ	1/WGES-M-402
AC-LL20	LOW ROOF OUTSIDE RM LL20	ROOM LL20	1.5	-	208/1	FUJITSU	-	NONE
AC-A	ROOF (ORIGINAL BUILDING)	GENERAL	1	12	208/1	MITSUBISHI	MU12NN2	NONE
AC-B	ROOF (ORIGINAL BUILDING)	GENERAL	0.75	14	115/1	MITSUBISHI	MU09NW	NONE
AC-C	ROOF (ORIGINAL BUILDING)	GENERAL	2	17.1	208/1	MITSUBISHI	MUZ-GL24NA	NONE
AC-D	ROOF (ORIGINAL BUILDING)	GENERAL	2	17.1	208/1	FUJITSU	A0U24RLB	NONE

NOTES:
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EXISTING BOILER SCHEDULE

TAG	LOCATION	SERVICE	INPUT GAS (MBH)	INPUT #2 OIL (GPH)	GROSS OUTPUT (MBH)	BOILER MANUFACTURER	BOILER MODEL	BURNER MANUFACTURER	BURNER MODEL	RELEVANT CONTROL DETAIL(S)
B-1	BOILER ROOM	HOT WATER	6134	43.8	4940	WEIL MCLAIN	1894	POWER FLAME	CR4-GO-25	1/WGES-M-403
B-1	BOILER ROOM	HOT WATER	6134	43.8	4940	WEIL MCLAIN	1894	POWER FLAME	CR4-GO-25	1/WGES-M-403

NOTES:
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EXISTING PUMP SCHEDULE

TAG	LOCATION	SERVICE	NOMINAL CAPACITY (GPM)	MOTOR HP	VOLTS/PHASE	MANUFACTURER	MODEL	RELEVANT CONTROL DETAIL(S)
P-4	BOILER ROOM	HOT WATER	230	7.5	208/3	BELL & GOSSETT	2.5BB	1/WGES-M-403
P-5	BOILER ROOM	HOT WATER	230	7.5	208/3	BELL & GOSSETT	2.5BB	1/WGES-M-403
P-6	BOILER ROOM	HOT WATER	420	7.5	208/3	ARMSTRONG	5X4X80 4030	1/WGES-M-403
P-7	BOILER ROOM	HOT WATER	420	7.5	208/3	ARMSTRONG	5X4X80 4030	1/WGES-M-403
P-8	BOILER ROOM	HOT WATER	150	7.5	208/3	ARMSTRONG	3X2X10 4030	1/WGES-M-403
P-9	BOILER ROOM	HOT WATER	150	7.5	208/3	ARMSTRONG	3X2X10 4030	1/WGES-M-403
P-10	BOILER ROOM	HOT WATER	50	3	208/3	ARMSTRONG	2X1X10 4030	1/WGES-M-403
P-11	BOILER ROOM	HOT WATER	50	3	208/3	ARMSTRONG	2X1X10 4030	1/WGES-M-403

NOTES:
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EXISTING FINNED TUBE RADIATOR/ CONVECTOR SCHEDULE

ROOM	LOCATION	RELEVANT CONTROL DETAIL(S)
117	LOWER LEVEL (CLASSROOM)	2/WGES-M-404
1	MAIN LEVEL (CLASSROOM)	2/WGES-M-404
2	MAIN LEVEL (CLASSROOM)	2/WGES-M-404
3	MAIN LEVEL (CLASSROOM)	2/WGES-M-404
4	MAIN LEVEL (CLASSROOM)	2/WGES-M-404
5	MAIN LEVEL (CLASSROOM)	2/WGES-M-404
6	MAIN LEVEL (CLASSROOM)	2/WGES-M-404
7	MAIN LEVEL (CLASSROOM)	2/WGES-M-404
8	MAIN LEVEL (CLASSROOM)	2/WGES-M-404
8A	MAIN LEVEL (ASST. PRINC.)	2/WGES-M-404
8B	MAIN LEVEL (CONFERENCE)	2/WGES-M-404
8C	MAIN LEVEL (PRINCIPAL)	2/WGES-M-404
9	MAIN LEVEL (CLASSROOM)	2/WGES-M-404
10	MAIN LEVEL (CLASSROOM)	2/WGES-M-404
11	MAIN LEVEL (CLASSROOM)	2/WGES-M-404
12	MAIN LEVEL (CLASSROOM)	2/WGES-M-404
13A	MAIN LEVEL (GUIDANCE)	2/WGES-M-404
13B	MAIN LEVEL (GUIDANCE)	2/WGES-M-404
14A	MAIN LEVEL (LIBRARY)	2/WGES-M-404
17A	MAIN LEVEL	2/WGES-M-404
20A	MAIN LEVEL (GIRLS)	2/WGES-M-404
20B	MAIN LEVEL (BOYS)	2/WGES-M-404
-	MAIN LEVEL (VESTIBULE)	2/WGES-M-404
-	MAIN LEVEL (VESTIBULE)	2/WGES-M-404
20C	MAIN LEVEL (WOMEN)	2/WGES-M-404
20D	MAIN LEVEL (MEN)	2/WGES-M-404
26	MAIN LEVEL (LOCKER ROOM)	2/WGES-M-404

NOTES:
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EXISTING CABINET HEATER / UNIT HEATER SCHEDULE

TAG	LOCATION	RELEVANT CONTROL DETAIL(S)
CH-1	LOWER LEVEL	1/WGES-M-404
CH-2	LOWER LEVEL	1/WGES-M-404
CH-3	LOWER LEVEL	1/WGES-M-404
CH-4	LOWER LEVEL	1/WGES-M-404
CH-5	LOWER LEVEL	1/WGES-M-404
CH-6	LOWER LEVEL	1/WGES-M-404
CH-7	LOWER LEVEL	1/WGES-M-404
CH-8	LOWER LEVEL	1/WGES-M-404
CH-9	LOWER LEVEL	1/WGES-M-404
CH-10	LOWER LEVEL	1/WGES-M-404
CH-11	LOWER LEVEL	1/WGES-M-404
CH-12	MAIN LEVEL	1/WGES-M-404
CH-13	MAIN LEVEL	1/WGES-M-404
CH-14	MAIN LEVEL	1/WGES-M-404
CH-15	MAIN LEVEL	1/WGES-M-404
CH-16	MAIN LEVEL	1/WGES-M-404
CH-17	MAIN LEVEL	1/WGES-M-404
CH-18	MAIN LEVEL	1/WGES-M-404
CH-19	MAIN LEVEL	1/WGES-M-404
CH-20	MAIN LEVEL	1/WGES-M-404
CH-21	MAIN LEVEL	1/WGES-M-404
CH-22	MAIN LEVEL	1/WGES-M-404
CH-23	LOWER LEVEL	1/WGES-M-404
UH-EMR	ELEVATOR MACHINE ROOM	4/WGES-M-404
UH-GYM	GYM STORAGE ROOM	4/WGES-M-404
FCU-7	MAIN LEVEL (17C)	1/WGES-M-401
FCU-8	MAIN LEVEL (17B)	1/WGES-M-401
FCU-8C	MAIN LEVEL (LOBBY)	1/WGES-M-401
FCU-9	MAIN LEVEL (CORRIDOR)	1/WGES-M-401
FCU-10	MAIN LEVEL (CORRIDOR)	1/WGES-M-401
FCU-11	MAIN LEVEL (CORRIDOR)	1/WGES-M-401
FCU-12	MAIN LEVEL (CHILLER ROOM)	1/WGES-M-401
FCU-LOBBY	MAIN LEVEL (MAIN ENTRANCE)	1/WGES-M-401
UV-9	MAIN LEVEL (19)	1/WGES-M-401

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EXISTING EXHAUST FAN SCHEDULE

TAG	LOCATION	SERVICE	TYPE	MOTOR HP	VOLTS/PHASE	MANUFACTURER	MODEL	RELEVANT CONTROL DETAIL(S)
EF-1	ROOF (ORIGINAL BUILDING)	GENERAL	DOWNBLAST	-	-	PENN	BX11R	3/WGES-M-404
EF-2	ROOF (ORIGINAL BUILDING)	GENERAL	DOWNBLAST	-	-	PENN	-	3/WGES-M-404
E-2A	ROOF (ORIGINAL BUILDING)	GENERAL	UPBLAST	3/4	208/3	GREENHECK	CUBE-HP-24-7G	3/WGES-M-404
EF-2B	ROOF (ORIGINAL BUILDING)	GENERAL	DOWNBLAST	-	-	-	-	3/WGES-M-404
EF-3	ROOF (ORIGINAL BUILDING)	GENERAL	DOWNBLAST	-	-	PENN	DX18B	3/WGES-M-404
EF-4	ROOF (ORIGINAL BUILDING)	GENERAL	DOWNBLAST	-	-	PENN	D13B	3/WGES-M-404
EF-4A	ROOF (ORIGINAL BUILDING)	GENERAL	DOWNBLAST	1/2	-	-	C-1809-B	3/WGES-M-404
EF-4B	ROOF (ORIGINAL BUILDING)	TOILETS	DOWNBLAST	1/12	-	-	C-1111	3/WGES-M-404
EF-8	MAIN LEVEL (NEAR RM 20D ABOVE CLG)	TOILETS	CENTRIFGUAL	-	-	-	-	3/WGES-M-404
EF-9	ROOF (ORIGINAL BUILDING)	GENERAL	SIDEWALL	-	-	-	-	3/WGES-M-404
EF-10	ROOF (ORIGINAL BUILDING)	GENERAL	SIDEWALL	-	-	-	-	3/WGES-M-404
EF-13	ROOF (ORIGINAL BUILDING)	GENERAL	DOWNBLAST	-	-	-	-	3/WGES-M-404
EF-14	ROOF (ORIGINAL BUILDING)	GENERAL	DOWNBLAST	-	-	-	-	3/WGES-M-404
EF-14A	ROOF (ORIGINAL BUILDING)	GENERAL	DOWNBLAST	-	-	PENN	DX30B	3/WGES-M-404
PRE-1	ROOF (CLASSROOM ADDITION)	GENERAL	DOWNBLAST	1/2	208/3	LOREN COOK	18005B	3/WGES-M-404
PRE-2	ROOF (CLASSROOM ADDITION)	GENERAL	DOWNBLAST	3/4	208/3	LOREN COOK	16506B	3/WGES-M-404
PRE-3	ROOF (CLASSROOM ADDITION)	GENERAL	DOWNBLAST	3/4	208/3	LOREN COOK	18006B	3/WGES-M-404
PRE-4	ROOF (CLASSROOM ADDITION)	GENERAL	DOWNBLAST	1/4	115/1	LOREN COOK	15003B	3/WGES-M-404
PRE-5	ROOF (CLASSROOM ADDITION)	GENERAL	DOWNBLAST	1/4	115/1	LOREN COOK	12003B	3/WGES-M-404
PRE-6	ROOF (CLASSROOM ADDITION)	GENERAL	DOWNBLAST	1/4	115/1	LOREN COOK	8003B	3/WGES-M-404
PRE-7	ROOF (CLASSROOM ADDITION)	GENERAL	DOWNBLAST	1/4	115/1	LOREN COOK	6003B	3/WGES-M-404
PRE-8	ROOF (CLASSROOM ADDITION)	GENERAL	DOWNBLAST	1/4	115/1	LOREN COOK	10003B	3/WGES-M-404
PRE-9	ROOF (CLASSROOM ADDITION)	GENERAL	DOWNBLAST	3/4	208/3	LOREN COOK	18006E	3/WGES-M-404
PRE-10	ROOF (CLASSROOM ADDITION)	GENERAL	DOWNBLAST	1/4	115/1	LOREN COOK	17003B	3/WGES-M-404
PRE-11	ROOF (CLASSROOM ADDITION)	GENERAL	DOWNBLAST	1/4	115/1	LOREN COOK	12003B	3/WGES-M-404
PRE-12	ROOF (GYM)	GENERAL	DOWNBLAST	1/6	115/1	LOREN COOK	100002B	3/WGES-M-404
PRE-13	ROOF (GYM)	GENERAL	DOWNBLAST	1/4	115/1	LOREN COOK	15003B	3/WGES-M-404
PRE-15	ROOF (CLASSROOM ADDITION)	GENERAL	DOWNBLAST	1/4	115/1	LOREN COOK	7003B	3/WGES-M-404
RF-20	CAFETERIA FAN ROOM	CAFETERIA RETURN	UTILITY FAN	-	-	-	-	1/WGES-M-402

NOTES:
1. THIS SCHEDULE IDENTIFIES EXISTING EQUIPMENT THAT IS TO REMAIN. EQUIPMENT CONTROLS ARE TO BE UPGRADED AND INTEGRATED WITH THE BMS. REFER TO THE REFERENCED CONTROL DETAIL FOR MORE INFORMATION.
2. INFORMATION IN THIS SCHEDULE IS PROVIDED FOR REFERENCE ONLY. VERIFY ALL INFORMATION IN FIELD PRIOR TO FABRICATION.

EXISTING 3-WAY VALVE SCHEDULE

TAG	LOCATION	SERVICE	PIPE SIZE (IN)	CV	MANUFACTURER	MODEL	RELEVANT CONTROL DETAIL(S)
CV-A	BOILER ROOM	HOT WATER	3	100	LANDIS & GYR	599-06161	1/WGES-M-403
CV-B	BOILER ROOM	HOT WATER	4	160	LANDIS & GYR	599-06167	1/WGES-M-403

NOTES:
1. REPLACE THE EXISTING ACTUATOR WITH AN ELECTRONIC ACTUATOR AND INTEGRATE WITH THE BMS. THE EXISTING VALVE BODY SHALL REMAIN. REFER TO THE REFERENCED CONTROL DETAIL FOR MORE INFORMATION.
2. INFORMATION IN THIS SCHEDULE IS PROVIDED FOR REFERENCE ONLY. VERIFY ALL INFORMATION IN FIELD PRIOR TO FABRICATION.

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

REG. EXP. DATE: 04-30-24

Drawn by MEP
Checked by PV
Project No. 42054
Scale NTS
Date 09-14-23

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Drawing Title
MECHANICAL SCHEUDLES - 4

Drawing No.
WGES-M-005

KEYED NOTES:

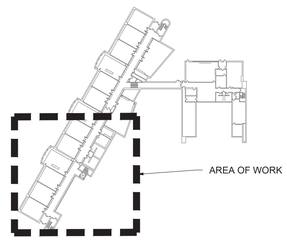
1. BASE BID: UNIT VENTILATOR TO REMAIN. REMOVE THE FOUR-PIPE COIL ONLY.

   ALT NO. 200: DEMOLISH VERTICAL UNIT VENTILATOR (TRANE MODEL VUVB125). DISCONNECT AND TEMPORARILY CAP HOT WATER PIPING. TEMPORARILY COVER OA INTAKE.

2. BASE BID: EXISTING UNIT VENTILATOR TO REMAIN.

   ALT NO. 200: DEMOLISH HORIZONTAL UNIT VENTILATOR ABOVE CEILING (TRANE MODEL HUVB150). DISCONNECT AND TEMPORARILY CAP HOT WATER PIPING. TEMPORARILY COVER OA INTAKE.

3. FINNED TUBE RADIATOR TO REMAIN
4. DEMOLISH 1/2" AND 7/8" REFRIGERANT PIPING.
5. 1 1/4" CHWS & R UP THROUGH FLOOR TO UNIT VENTILATOR ON SECOND FLOOR.
6. 2" CHWS & R DN TO CRAWLSPACE.
7. PERFORM A HYDROSTATIC TEST ON THE EXISTING CHILLED WATER PIPING AT THE CRAWLSPACE AND SUBMIT FOR APPROVAL PRIOR TO FABRICATION OR INSTALLATION OF THE CHILLED WATER PIPING IN THIS WING. UPON COMPLETION OF THE WORK, PERFORM TESTING AND BALANCING OF THE COMPLETED SYSTEM AS PER THE SPECIFICATIONS.
8. EXISTING RECESSED CABINET HEATER TO REMAIN.



1 LOWER LEVEL FLOOR PLAN DEMOLITION
SCALE: 1/8" = 1' - 0"

2 LOWER LEVEL KEY PLAN
SCALE: NONE

PLAN NORTH

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

REG. EXP. DATE: 04-30-24

Drawn by MEP
Checked by PV
Project No. 42054
Scale AS NOTED
Date 09-14-23

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UNIVENT REPLACEMENT
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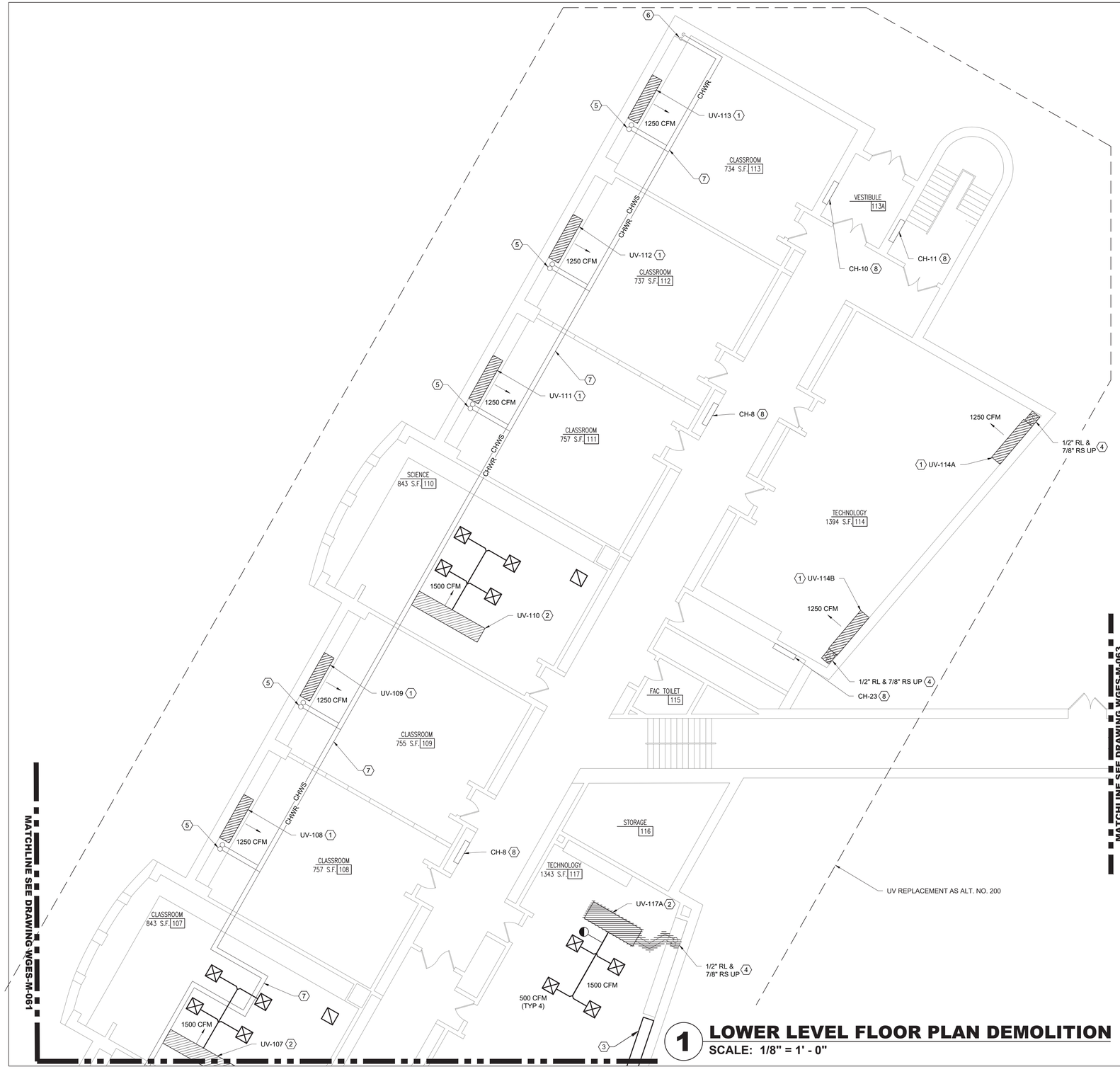
Drawing Title
MECHANICAL LOWER LEVEL DEMOLITION - 1

Drawing No.
WGES-M-061



KEYED NOTES:

1. BASE BID: UNIT VENTILATOR TO REMAIN. REMOVE THE FOUR-PIPE COIL ONLY.

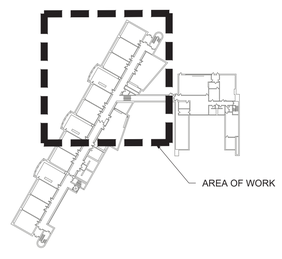
   ALT NO. 200: DEMOLISH VERTICAL UNIT VENTILATOR (TRANE MODEL VUVB125). DISCONNECT AND TEMPORARILY CAP HOT WATER PIPING. TEMPORARILY COVER OA INTAKE.

2. BASE BID: EXISTING UNIT VENTILATOR TO REMAIN.

   ALT NO. 200: DEMOLISH HORIZONTAL UNIT VENTILATOR ABOVE CEILING (TRANE MODEL HUVB150). DISCONNECT AND TEMPORARILY CAP HOT WATER PIPING. TEMPORARILY COVER OA INTAKE.

3. FINNED TUBE RADIATOR TO REMAIN.
4. DEMOLISH 1/2" AND 7/8" REFRIGERANT PIPING.
5. 1 1/4" CHWS & R UP THROUGH FLOOR TO UNIT VENTILATOR ON SECOND FLOOR.
6. 2" CHWS & R DN TO CRAWLSPACE.
7. PERFORM A HYDROSTATIC TEST ON THE EXISTING CHILLED WATER PIPING AT THE CRAWLSPACE AND SUBMIT FOR APPROVAL PRIOR TO FABRICATION OR INSTALLATION OF THE CHILLED WATER PIPING IN THIS WING. UPON COMPLETION OF THE WORK, PERFORM TESTING AND BALANCING OF THE COMPLETED SYSTEM AS PER THE SPECIFICATIONS.
8. EXISTING RECESSED CABINET HEATER TO REMAIN.

1 LOWER LEVEL FLOOR PLAN DEMOLITION
SCALE: 1/8" = 1' - 0"



2 LOWER LEVEL KEY PLAN
SCALE: NONE

PLAN NORTH

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

REG. EXP. DATE: 04-30-24

Drawn by MEP
Checked by PV
Project No. 42054
Scale AS NOTED
Date 09-14-23

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WILLOW GROVE
ELEMENTARY SCHOOL
SED# 50-02-01-06-0-030-016
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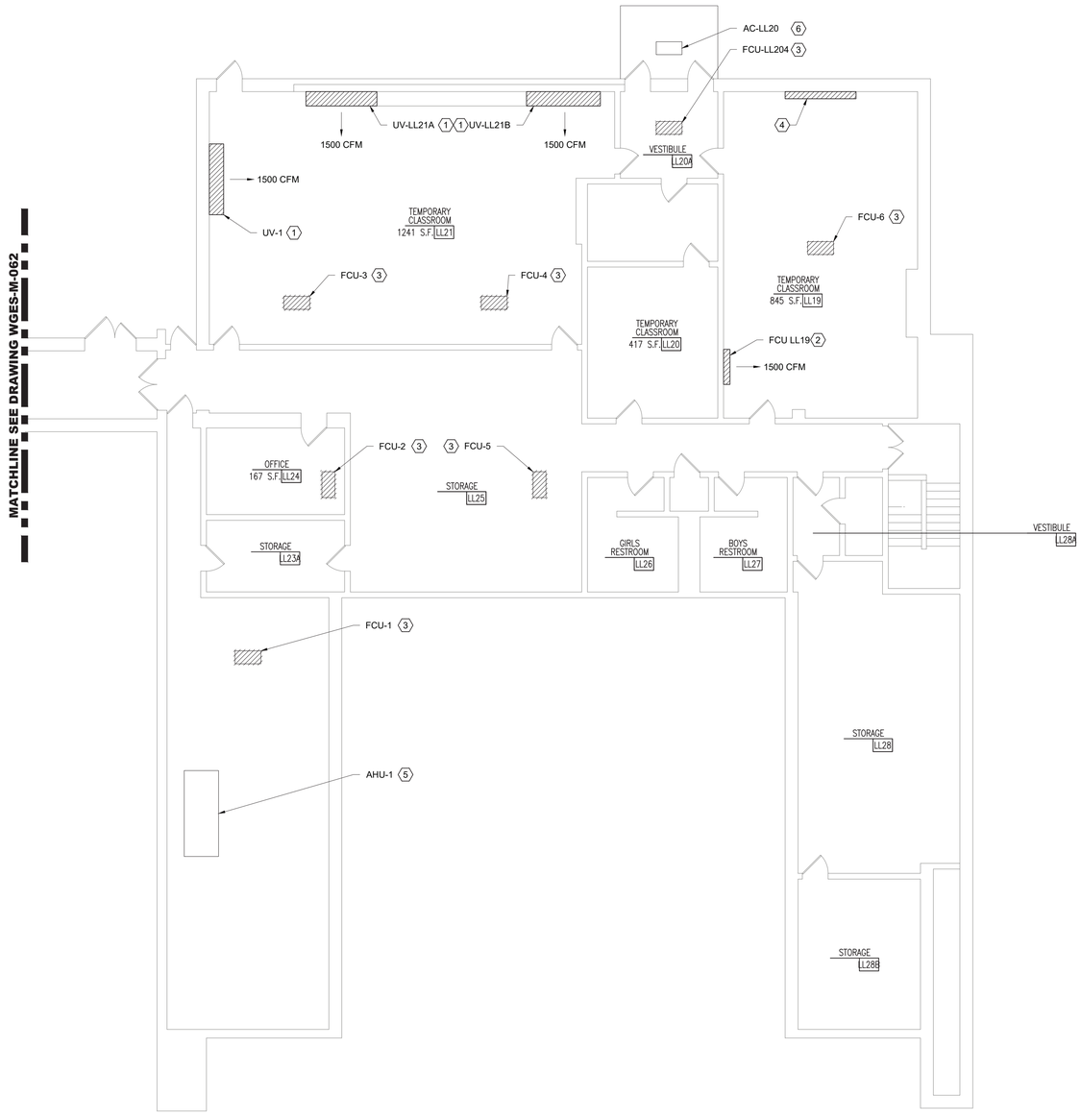
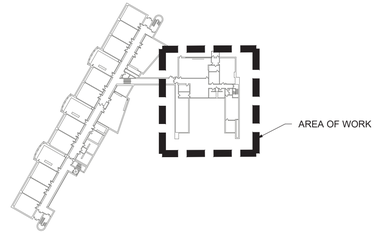
Drawing Title
MECHANICAL LOWER LEVEL DEMOLITION - 2

Drawing No.
WGES-M-062



KEYED NOTES:

1. DEMOLISH VERTICAL UNIT VENTILATOR (TRANE MODEL VUVB150). DISCONNECT AND TEMPORARILY CAP CD, CHW, AND HW PIPING. TEMPORARILY COVER OA INTAKE.
2. DEMOLISH VERTICAL FAN COIL UNIT. DEMOLISH CD, CHW, AND HW PIPING BACK TO THE MAIN.
3. DEMOLISH HORIZONTAL FAN COIL UNIT ABOVE THE CEILING. DEMOLISH CD, CHW, AND HW PIPING BACK TO THE MAIN.
4. DEMOLISH FINNED TUBE CONVECTOR ENCLOSURE TO ALLOW FOR THE INSTALLATION OF THE NEW UNIT VENTILATOR. TEMPORARILY CAP HW PIPING.
5. AIR HANDLING UNIT AHU-1 SERVING BAND ROOM TO REMAIN (MCQUAY MODEL LSL108CH TO REMAIN.
6. AIR COOLED CONDENSING UNIT ON AWNING ABOVE DOOR TO REMAIN.



1 LOWER LEVEL FLOOR PLAN DEMOLITION
SCALE: 1/8" = 1' - 0"

2 LOWER LEVEL KEY PLAN
SCALE: NONE

PLAN NORTH

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

REG. EXP. DATE: 04-30-24

Drawn by MEP
Checked by PV
Project No. 42054
Scale AS NOTED
Date 09-14-23

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Drawing Title
MECHANICAL LOWER LEVEL DEMOLITION - 3

Drawing No.
WGES-M-063

KEYED NOTES:

1. BASE BID: UNIT VENTILATOR TO REMAIN. REMOVE THE FOUR-PIPE COIL ONLY.

   ALT NO. 200: DEMOLISH VERTICAL UNIT VENTILATOR (TRANE MODEL VUVB125). DISCONNECT AND TEMPORARILY CAP HOT WATER PIPING. TEMPORARILY COVER OA INTAKE.

2. BASE BID: EXISTING UNIT VENTILATOR TO REMAIN.

   ALT NO. 200: DEMOLISH HORIZONTAL UNIT VENTILATOR ABOVE CEILING (TRANE MODEL HUVB150). DISCONNECT AND TEMPORARILY CAP HOT WATER PIPING. TEMPORARILY COVER OA INTAKE.

3. DEMOLISH VERTICAL UNIT VENTILATOR (TRANE MODEL VUVB075). DEMOLISH HW PIPING BACK TO THE MAIN. TEMPORARILY CAP THE PIPING AND OA INTAKE.

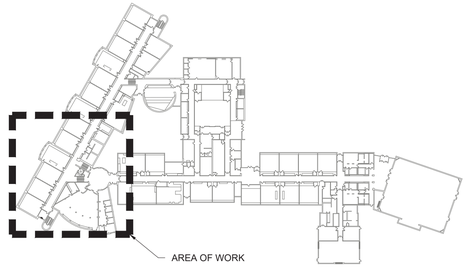
4. DEMOLISH TWO SETS OF 1/2" AND 7/8" REFRIGERANT PIPING.

5. RECESSED CABINET HEATER TO REMAIN.

6. FINNED TUBE RADIATOR TO REMAIN.

1 MAIN LEVEL FLOOR PLAN DEMOLITION

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



2 MAIN LEVEL KEY PLAN

SCALE: NONE

PLAN NORTH

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

REG. EXP. DATE: 04-30-24

Drawn by MEP
Checked by PV
Project No. 42054
Scale AS NOTED
Date 09-14-23

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Drawing Title
MECHANICAL MAIN LEVEL DEMOLITION - 1

Drawing No.
WGES-M-064

1 MAIN LEVEL FLOOR PLAN DEMOLITION

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

KEYED NOTES:

1. BASE BID: UNIT VENTILATOR TO REMAIN. REMOVE THE FOUR-PIPE COIL ONLY.

   ALT NO. 200: DEMOLISH VERTICAL UNIT VENTILATOR (TRANE MODEL VUVB125). DISCONNECT AND TEMPORARILY CAP HOT WATER PIPING. TEMPORARILY COVER OA INTAKE.

2. BASE BID: EXISTING UNIT VENTILATOR TO REMAIN.

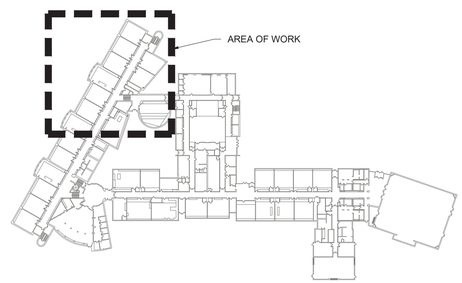
   ALT NO. 200: DEMOLISH HORIZONTAL UNIT VENTILATOR ABOVE CEILING (TRANE MODEL HUVB150). DISCONNECT AND TEMPORARILY CAP HOT WATER PIPING. TEMPORARILY COVER OA INTAKE.

3. DEMOLISH CABINET HEATER.DISCONNECT HW PIPING. TEMPORARILY CAP THE PIPING AND OA INTAKE.

4. DEMOLISH 2 SETS OF 1/2" AND 7/8" REFRIGERANT PIPING.

5. RECESSED CABINET HEATER TO REMAIN.

6. FINNED TUBE RADIATOR TO REMAIN.



2 MAIN LEVEL KEY PLAN

SCALE: NONE

PLAN NORTH

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

REG. EXP. DATE: 04-30-24

Drawn by MEP
Checked by PV
Project No. 42054
Scale AS NOTED
Date 09-14-23

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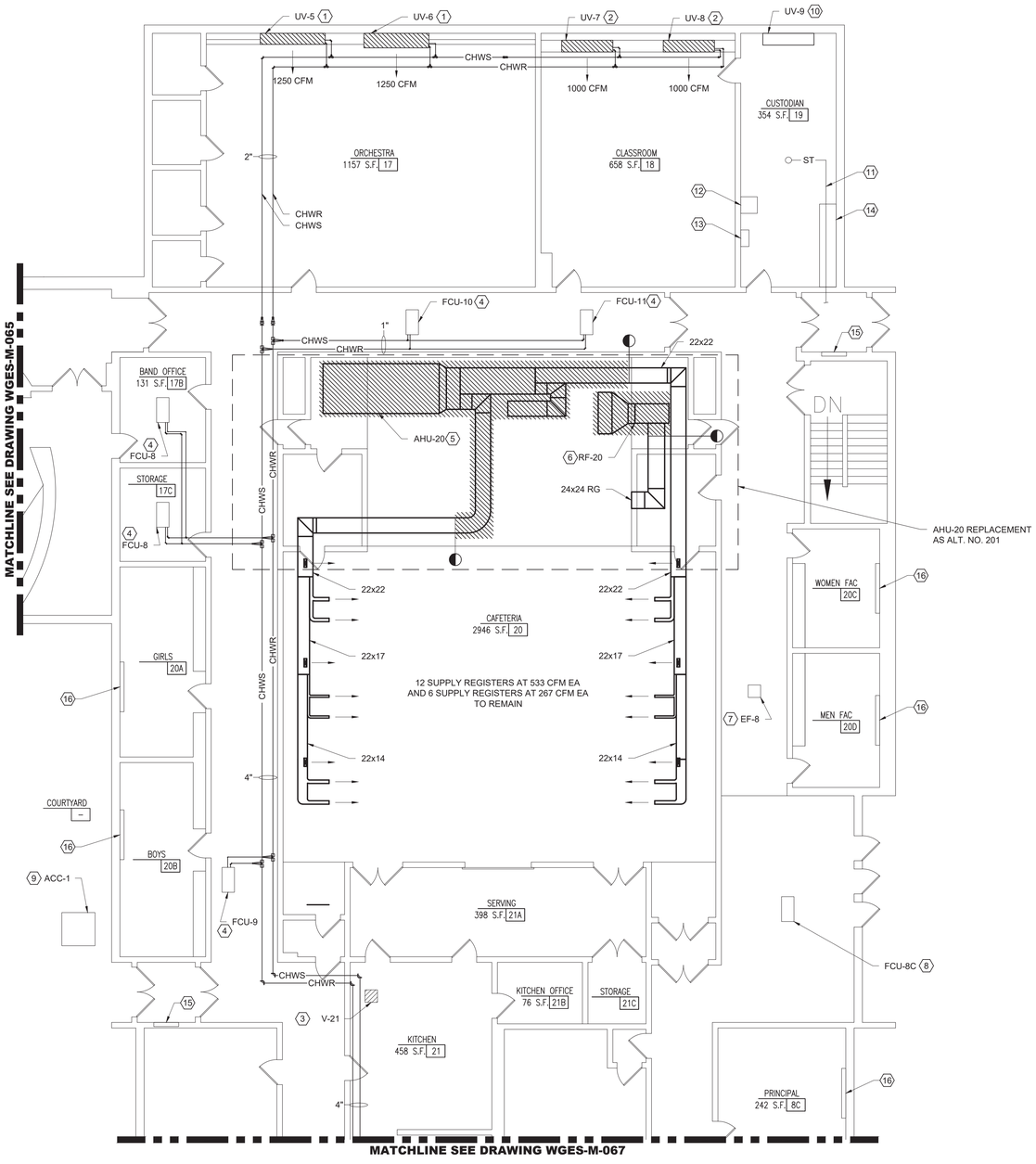
Drawing Title
MECHANICAL MAIN LEVEL DEMOLITION - 2

Drawing No.
WGES-M-065



KEYED NOTES:

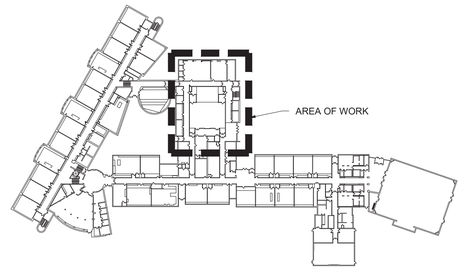
1. DEMOLISH VERTICAL UNIT VENTILATOR (TRANE MODEL VUVB125).
2. DEMOLISH VERTICAL UNIT VENTILATOR (TRANE MODEL VUVB100).
3. DEMOLISH VAV BOX ABOVE THE CEILING (TRANE MODEL VCCD).
4. HORIZONTAL FAN COIL UNIT ABOVE THE CEILING TO REMAIN.
5. BASE BID: EXISTING CAFETERIA AIR HANDLING UNIT AHU-20 TO REMAIN.

   ALT. NO. 201: CAFETERIA AIR HANDLING UNIT AT CEILING. DEMOLISH CONTROLS ONLY UNDER BASE BID, AND DEMOLISH ENTIRE UNIT UNDER ALTERNATE NO. 201.
6. BASE BID: EXISTING RETURN FAN TO REMAIN.

   ALT. NO. 201: AUDITORIUM RETURN FAN. DEMOLISH CONTROLS ONLY UNDER BASE BID, AND DEMOLISH ENTIRE UNIT UNDER ALTERNATE NO. 201.
7. TOILET EXHAUST FAN ABOVE THE CEILING TO REMAIN.
8. FAN COIL UNIT ABOVE THE CEILING TO REMAIN.
9. SPLIT SYSTEM AC UNIT ACC-1 INTERLOCKED WITH THE BAND ROOM AHU-1 TO REMAIN (INTERNATIONAL COMFORT MODEL CAS120HDA0A00AA, 10 TONS COOLING).
10. VERTICAL UNIT VENTILATOR TO REMAIN.
11. 4" STORM PIPE AT CEILING TO REMAIN.
12. DEMOLISH PRIMARY OPERATOR'S TERMINAL FOR THE BMS.
13. FUEL OIL TANK GAUGING AND LEAK DETECTION SYSTEM PANEL TO REMAIN (ONMTEC PROTEUS).
14. ELECTRICAL SWITCHGEAR TO REMAIN.
15. RECESSED CONVECTOR TO REMAIN.
16. FINNED TUBE RADIATOR TO REMAIN.

1 MAIN LEVEL FLOOR PLAN DEMOLITION

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



2 MAIN LEVEL KEY PLAN

SCALE: NONE

PLAN NORTH

No.	Date	Revisions
3	09–14–23	BIDDING DOCUMENTS
2	06–09–23	SED ADDENDUM #1
1	12–28–22	BIDDING DOCUMENTS

REG. EXP. DATE: 04–30–24

Drawn by MEP
Checked by PV
Project No. 42054
Scale AS NOTED
Date 09–14–23

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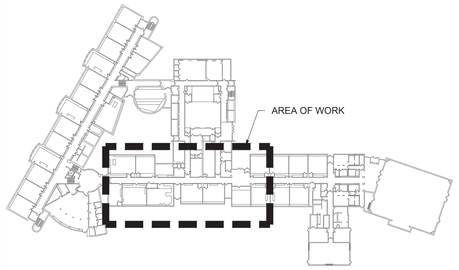
Drawing Title
MECHANICAL MAIN LEVEL DEMOLITION - 3

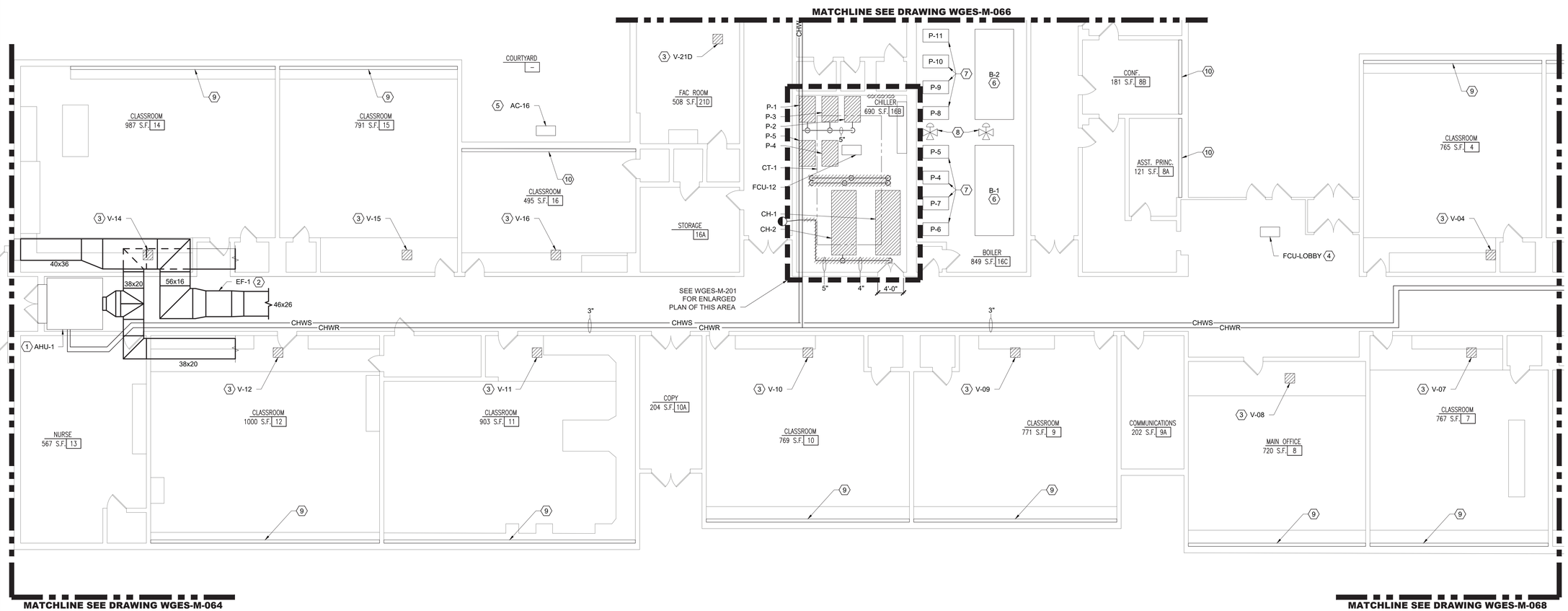
Drawing No.
WGES-M-066



2 MAIN LEVEL KEY PLAN
SCALE: NONE

KEYED NOTES:

1. REFURBISH AIR HANDLING UNIT, AHU-1, ABOVE THE CEILING IN THE CORRIDOR (ALT. NO. 202).
2. REFURBISH EXHAUST FAN, EF-1, ABOVE THE CEILING IN THE CORRIDOR (ALT. NO. 202).
3. DEMOLISH THE VAV BOX ABOVE THE CEILING (TRANE MODEL VCCD).
4. FAN COIL UNIT ABOVE THE CEILING TO REMAIN.
5. AIR COOLED CONDENSING UNIT TO REMAIN.
6. BOILER TO REMAIN (WEIL MCLAIN MODEL 1894).
7. HOT WATER PUMP TO REMAIN.
8. 4" 3-WAY CONTROL VALVE WITH PNEUMATIC ACTUATOR TO REMAIN.
9. EXISTING FINNED TUBE HEATING ELEMENT RECESSED WITHIN WOODEN CASEWORK TO REMAIN.
10. EXISTING FINNED TUBE RADIATOR TO REMAIN.



1 MAIN LEVEL FLOOR PLAN DEMOLITION
SCALE: 1/8" = 1' - 0"

PLAN NORTH

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

REG. EXP. DATE: 04-30-24

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Checked by PV
Project No. 42054
Scale AS NOTED
Date 09-14-23

GREENMAN PEDERSEN, INC
2 EXECUTIVE BOULEVARD SUITE 202 SUFFERN, NY 10901
Mechanical & Electrical Engineer:

GREENMAN PEDERSEN, INC
2 EXECUTIVE BOULEVARD SUITE 202 SUFFERN, NY 10901
Structural Engineer:

UNIVENT REPLACEMENT AT WILLOW GROVE ELEMENTARY SCHOOL
SED# 50-02-01-06-0-030-016
185 STORMS RD
THIELLS, NY 10984
COUNTY OF ROCKLAND

MICHAEL SHILALE ARCHITECTS, L.L.P.
140 Park Avenue New City, NY 10956 Tel 845-708-9200
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Drawing Title
MECHANICAL MAIN LEVEL DEMOLITION - 4

Drawing No.
WGES-M-067

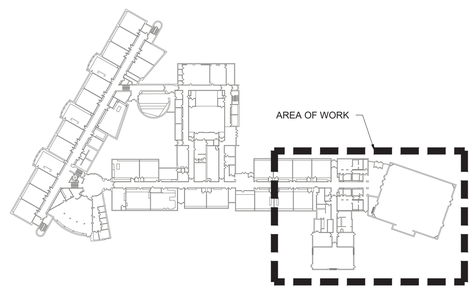
MATCHLINE SEE DRAWING WGES-M-067

KEYED NOTES:

1. REFURBISH AIR HANDLING UNIT, AHU-2, ABOVE THE CEILING IN THE CORRIDOR (ALT. NO. 202).
2. REFURBISH EXHAUST FAN, EF-2 ABOVE THE CEILING IN THE CORRIDOR (ALT. NO. 202).
3. DEMOLISH THE VAV BOX ABOVE THE CEILING (TRANE MODEL VCCD).
4. AIR HANDLING UNIT (MCQUAY MODEL CAH012FDAC, 15 TON) TO REMAIN.
5. DEMOLISH VERTICAL UNIT VENTILATOR.
6. FINNED TUBE HEATING ELEMENT RECESSED WITHIN WOODEN CASEWORK TO REMAIN.
7. FINNED TUBE RADIATOR TO REMAIN.
8. UNIT HEATER TO REMAIN.

1 MAIN LEVEL FLOOR PLAN DEMOLITION

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



2 MAIN LEVEL KEY PLAN

SCALE: NONE

PLAN NORTH

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

REG. EXP. DATE: 04-30-24

Drawn by
Checked by
Project No. 42054
Scale
Date 09-14-23

GREENMAN PEDERSEN, INC
2 EXECUTIVE BOULEVARD
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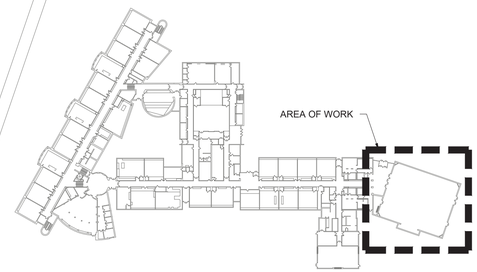
Drawing Title
MECHANICAL MAIN LEVEL DEMOLITION - 5

Drawing No.
WGES-M-068

KEYED NOTES:

1. AIR HANDLING UNIT (MCQUAY MODEL LHD) TO REMAIN.
2. DEMOLISH SECTION OF SUPPLY DUCT AND TEMPORARILY CAP OPENINGS.



1 UPPER LEVEL FLOOR PLAN DEMOLITION
SCALE: 1/8" = 1' - 0"

2 UPPER LEVEL KEY PLAN
SCALE: NONE

PLAN NORTH

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

REG. EXP. DATE: 04-30-24

Drawn by	MEP
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Project No.	42054
Scale	AS NOTED
Date	09-14-23

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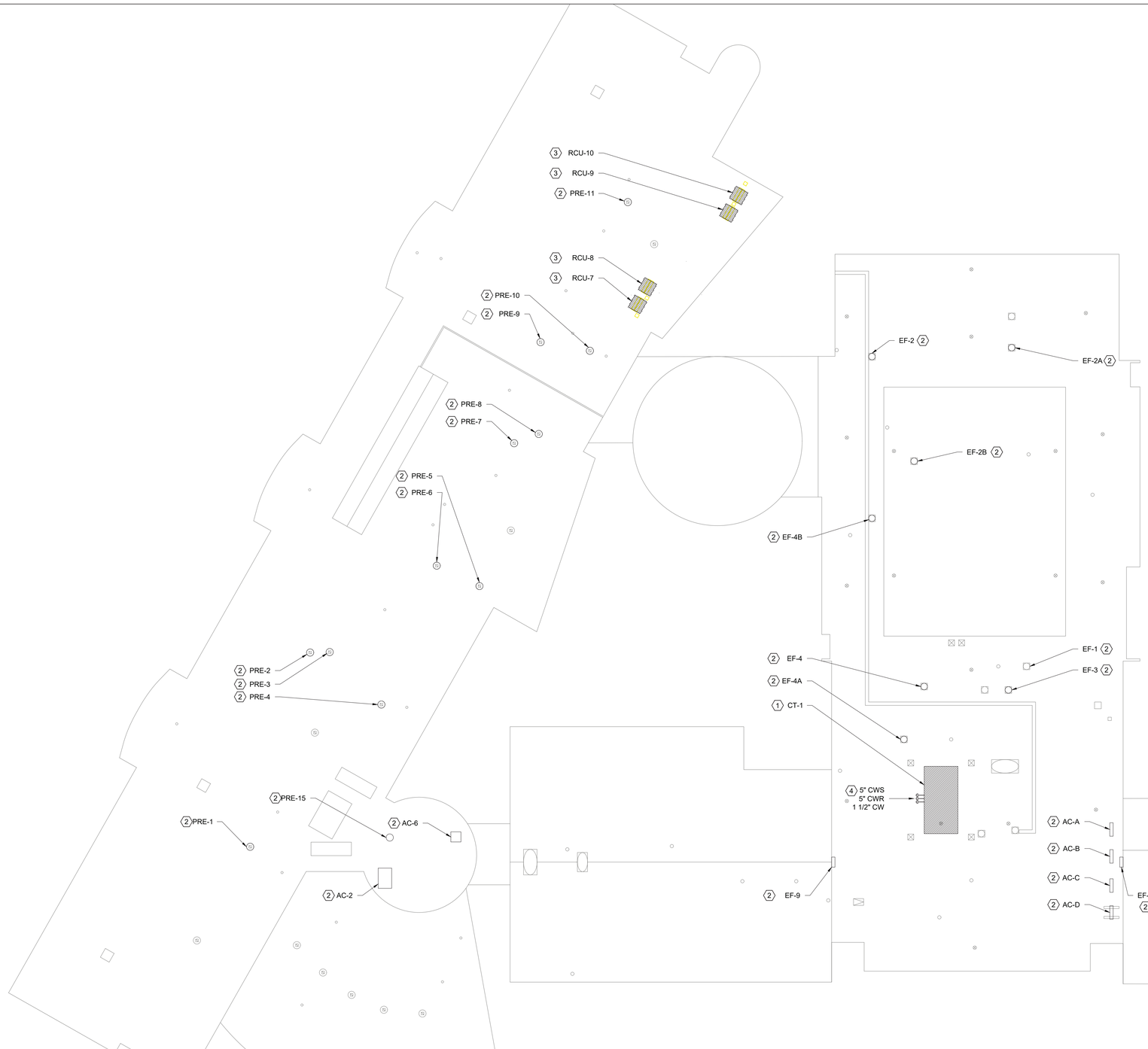
Drawing Title
MECHANICAL UPPER LEVEL DEMOLITION

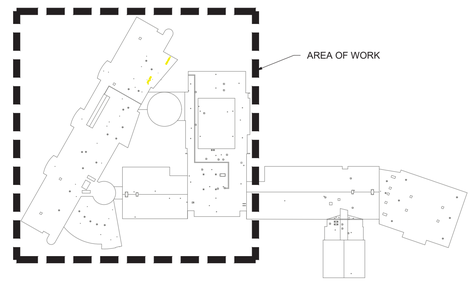
Drawing No.
WGES-M-069

KEYED NOTES:

1. DEMOLISH THE COOLING TOWER ON THE ROOF ABOVE INCLUDING PIPING, CONTROLS, AND APPURTENANCES (BAC MODEL 35470R).
2. EXISTING MECHANICAL EQUIPMENT. PROVIDE DIRECT DIGITAL CONTROLS INTEGRATED WITH THE BMS. REFER TO THE CONTROL DIAGRAMS FOR MORE DETAILS.
3. DEMOLISH SPLIT SYSTEM AC UNITS SERVING UNIT VENTILATORS BELOW.
4. DEMOLISH CWS,CWR, AND CW PIPING DOWN THRU ROOF.



1 ROOF PLAN DEMOLITION
SCALE: 1/16" = 1' - 0"



2 ROOF KEY PLAN
SCALE: NONE

PLAN NORTH

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

REG. EXP. DATE: 04-30-24

Drawn by MEP
Checked by PV
Project No. 42054
Scale AS NOTED
Date 09-14-23

Mechanical & Electrical Engineer:
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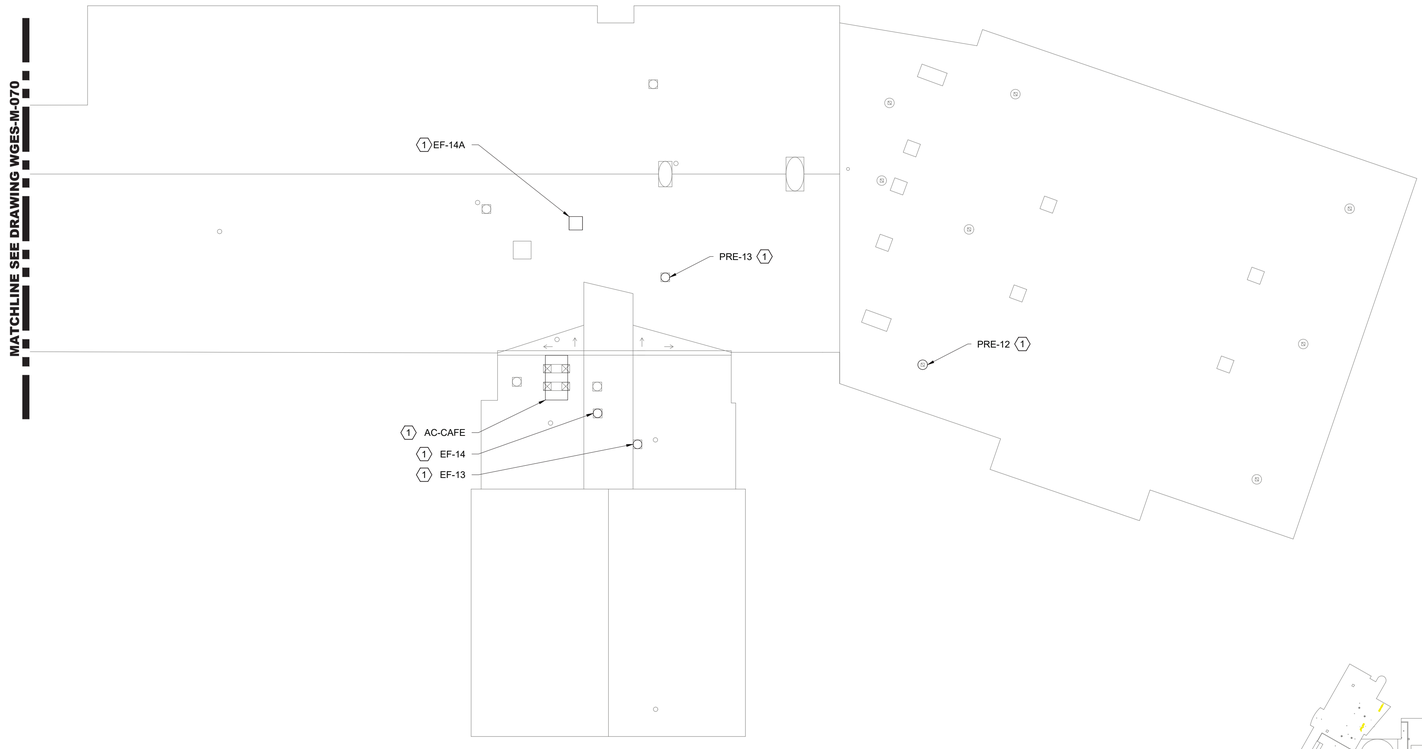
Drawing Title
MECHANICAL ROOF PLAN DEMOLITION - 1

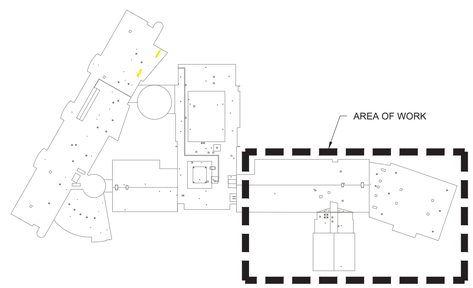
Drawing No.
WGES-M-070

KEYED NOTES:

1. EXISTING MECHANICAL EQUIPMENT TO REMAIN. DEMOLISH THE EXISTING CONTROLS. REFER TO THE CONTROL DIAGRAMS FOR MORE DETAILS.



1 ROOF LEVEL FLOOR PLAN DEMOLITION
SCALE: 1/16" = 1' - 0"



2 ROOF KEY PLAN
SCALE: NONE

PLAN NORTH

Drawing Title
MECHANICAL ROOF PLAN DEMOLITION - 2

Drawing No.
WGES-M-071

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SED# 50-02-01-06-0-030-016
COUNTY OF ROCKLAND
155 STORES RD
THIELLS, NY 10984

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

REG. EXP. DATE: 04-30-24

Drawn by	MEP
Checked by	PV
Project No.	42054
Scale	AS NOTED
Date	09-14-23

Mechanical & Electrical Engineer:
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SUFFERN, NY 10901

Structural Engineer:
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SUITE 202
SUFFERN, NY 10901

KEYED NOTES:

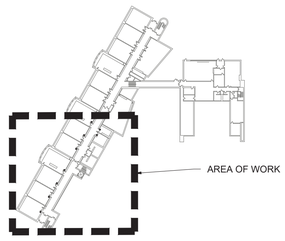
1. BASE BID: RETROFIT THE EXISTING UNIT VENTILATOR BY PROVIDING A FOUR PIPE COIL AS SPECIFIED IN THE UNIT VENTILATOR SCHEDULE ON M003.

   ALT NO. 200: VERTICAL UNIT VENTILATOR. CONNECT D, CHW, AND HW PIPING.

2. BASE BID: PROVIDE CHILLED WATER PIPING AS SHOWN ON THE PLAN AND CONNECT TO THE EXISTING UNIT VENTILATOR.

   ALT NO. 200: HORIZONTAL UNIT VENTILATOR ABOVE CEILING.CONNECT CD, CHW, AND HW PIPING.

3. EX. 1 1/4" CHWS & R UP THROUGH FLOOR TO UNIT VENTILATOR ON SECOND FLOOR TO REMAIN.
4. EX. 2" CHWS & R DN TO CRAWLSPACE TO REMAIN.
5. 1 1/4" CHWS & R UP THROUGH FLOOR TO UNIT VENTILATOR ON SECOND FLOOR.
6. EXISTING CABINET HEATER. PROVIDE DIRECT DIGITAL CONTROLS INTEGRATED WITH THE BMS.
7. 3/4" CONDENSATE DRAIN TO SPLASH BLOCK AT GRADE.
8. CONNECT TO EXISTING OA LOUVER.
9. TERMINATE 1 1/2" CONDENSATE DRAIN AT THE EXISTING SERVICE SINK.



1 LOWER LEVEL FLOOR PLAN INSTALLATION
SCALE: 1/8" = 1' - 0"

2 LOWER LEVEL KEY PLAN
SCALE: NONE

PLAN NORTH

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
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1	12-28-22	BIDDING DOCUMENTS

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Project No. 42054
Scale AS NOTED
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GREENMAN PEDERSEN, INC
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SUFFERN, NY 10901

Mechanical & Electrical Engineer:

Structural Engineer:

UNIVENT REPLACEMENT
AT
WILLOW GROVE
ELEMENTARY SCHOOL
SED# 50-02-01-06-0-030-016
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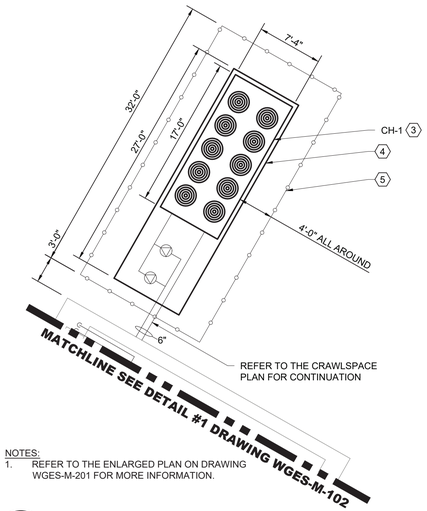
Drawing Title
MECHANICAL LOWER LEVEL INSTALLATION PLAN - 1

Drawing No.
WGES-M-101



NOTES:
1. REFER TO THE ENLARGED PLAN ON DRAWING WGES-M-201 FOR MORE INFORMATION.

2 LOWER LEVEL FLOOR PLAN 2
SCALE: 1/8" = 1' - 0"

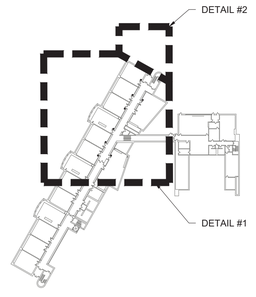
1 LOWER LEVEL FLOOR PLAN 1
SCALE: 1/8" = 1' - 0"

KEYED NOTES:

1. BASE BID: RETROFIT THE EXISTING UNIT VENTILATOR BY PROVIDING A FOUR PIPE COIL AS SPECIFIED IN THE UNIT VENTILATOR SCHEDULE ON M003.

   ALT NO. 200: VERTICAL UNIT VENTILATOR. CONNECT D, CHW, AND HW PIPING.
2. BASE BID: PROVIDE CHILLED WATER PIPING AS SHOWN ON THE PLAN AND CONNECT TO THE EXISTING UNIT VENTILATOR.

   ALT NO. 200: HORIZONTAL UNIT VENTILATOR ABOVE CEILING.CONNECT CD, CHW, AND HW PIPING.
3. AIR COOLED CHILLER (CH-1) SUPPORTED ON DUNNAGE AT GRADE.
4. NEW CONCRETE PAD ON GRADE, SEE STRUCTURAL.
5. CHAIN LINK FENCE ENCLOSURE AT CHILLER BY GC. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.
6. EX.1 1/4" CHWS & R UP THROUGH FLOOR TO UNIT VENTILATOR ON SECOND FLOOR.
7. EX. 2" CHWS & R DN TO CRAWLSPACE.
8. 1 1/4" CHWS & R UP THROUGH FLOOR TO UNIT VENTILATOR ON SECOND FLOOR.
9. EXISTING RECESSED CABINET HEATER. PROVIDE DIRECT DIGITAL CONTROLS INTEGRATED WITH THE BMS.
10. 3/4" CONDENSATE DRAIN TO SPLASH BLOCK AT GRADE.
11. CONNECT TO EXISTING OA LOUVER.
12. CUT AND PATCH THE EXISTING CMU SHAFT TO INSTALL THE PIPE RISER.



3 LOWER LEVEL KEY PLAN
SCALE: NONE

PLAN NORTH

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

REG. EXP. DATE: 04-30-24

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Checked by PV
Project No. 42054
Scale AS NOTED
Date 09-14-23

GREENMAN PEDERSEN, INC
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Structural Engineer:

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SED# 50-02-01-06-0-030-016
COUNTY OF ROCKLAND
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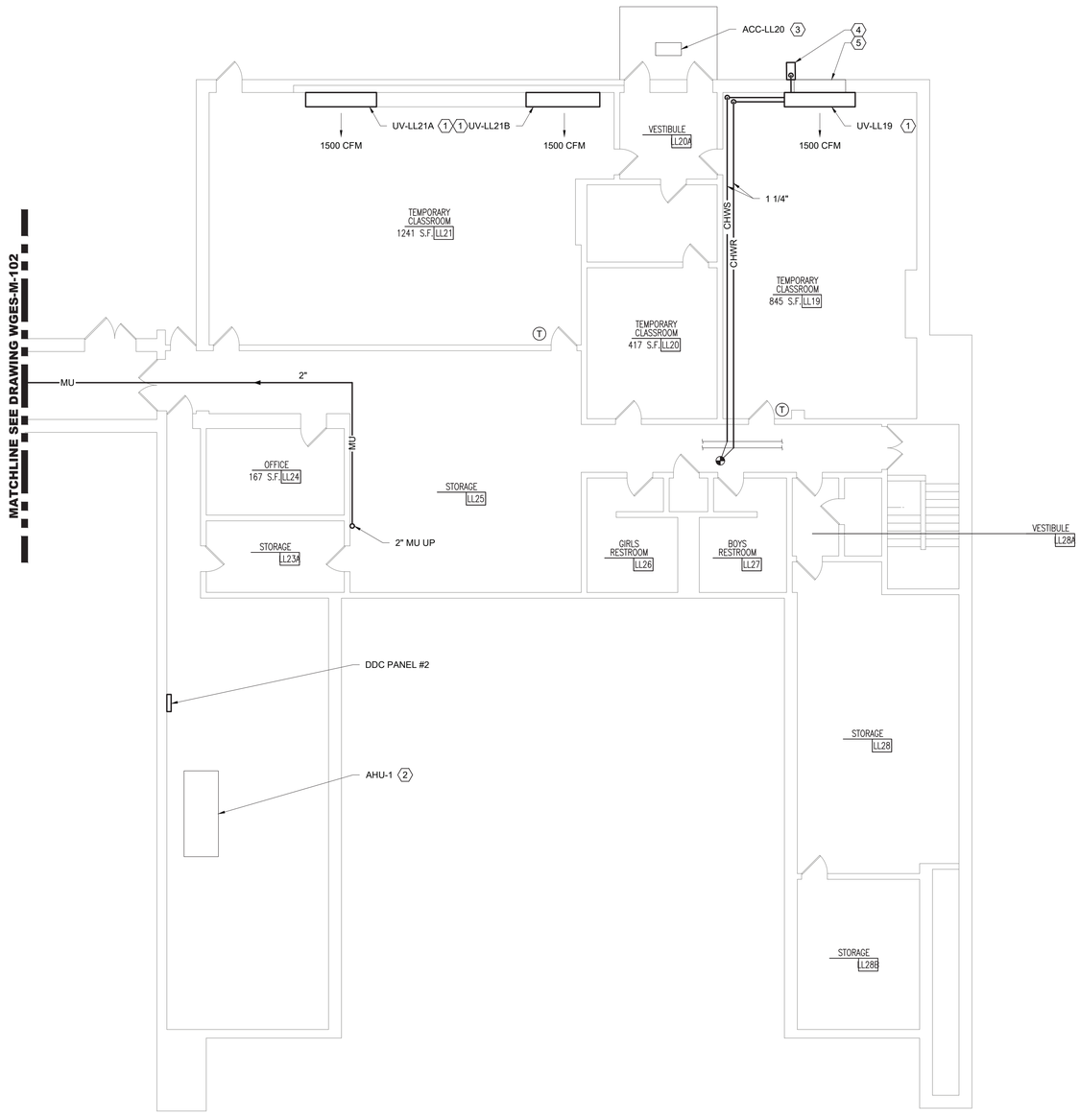
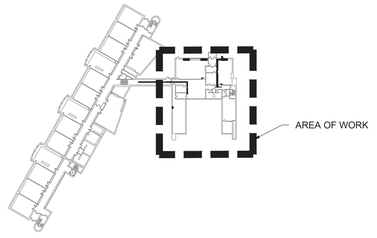
Drawing Title
MECHANICAL LOWER LEVEL INSTALLATION PLAN - 2

Drawing No.
WGES-M-102



KEYED NOTES:

1. VERTICAL UNIT VENTILATOR. CONNECT TO D, CHW, AND HW PIPING AND OA INTAKE LOUVER.
2. EXISTING BAND ROOM AHU-1 TO BE INTEGRATED WITH THE BMS.
3. EXISTING ACC-1 ON AWNING ABOVE DOOR TO REMAIN.
4. 3/4" CONDENSATE DRAIN TERMINATES AT SPLASH BLOCK AT GRADE.
5. CONNECT TO THE EXISTING OA INTAKE LOUVER.



1 LOWER LEVEL FLOOR PLAN INSTALLATION
SCALE: 1/8" = 1' - 0"

2 LOWER LEVEL KEY PLAN
SCALE: NONE

PLAN NORTH

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

REG. EXP. DATE: 04-30-24

Drawn by MEP
Checked by PV
Project No. 42054
Scale AS-NOTED
Date 09-14-23

GREENMAN PEDERSEN, INC
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Structural Engineer:

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Drawing Title
MECHANICAL LOWER LEVEL INSTALLATION PLAN - 3

Drawing No.
WGES-M-103

KEYED NOTES:

1. BASE BID: RETROFIT THE EXISTING UNIT VENTILATOR BY PROVIDING A FOUR PIPE COIL AS SPECIFIED IN THE UNIT VENTILATOR SCHEDULE ON M003.

   ALT NO. 200: VERTICAL UNIT VENTILATOR. CONNECT D, CHW, AND HW PIPING.

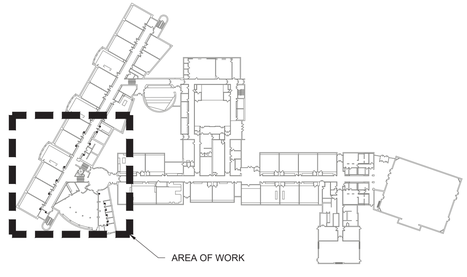
2. BASE BID: PROVIDE CHILLED WATER PIPING AS SHOWN ON THE PLAN AND CONNECT TO THE EXISTING UNIT VENTILATOR.

   ALT NO. 200: HORIZONTAL UNIT VENTILATOR ABOVE CEILING.CONNECT CD, CHW, AND HW PIPING.

3. EXISTING RECESSED CABINET HEATER. PROVIDE DIRECT DIGITAL CONTROLS INTEGRATED WITH THE BMS.
4. EXISTING FINNED TUBE RADIATOR. PROVIDE DIRECT DIGITAL CONTROLS INTEGRATED WITH THE BMS.
5. TERMINATE 1 1/2" CONDENSATE DRAIN AT THE EXISTING SERVICE SINK.
6. CONNECT TO THE EXISTING OA INTAKE LOUVER.

1 MAIN LEVEL FLOOR PLAN INSTALLATION

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



2 MAIN LEVEL KEY PLAN

SCALE: NONE

PLAN NORTH

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

REG. EXP. DATE: 04-30-24

Drawn by	MEP
Checked by	PV
Project No.	42054
Scale	AS NOTED
Date	09-14-23

GREENMAN PEDERSEN, INC
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Structural Engineer:

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Drawing Title
MECHANICAL MAIN LEVEL INSTALLATION PLAN - 1

Drawing No.
WGES-M-104

1 MAIN LEVEL FLOOR PLAN INSTALLATION
SCALE: 1/8" = 1' - 0"

KEYED NOTES:

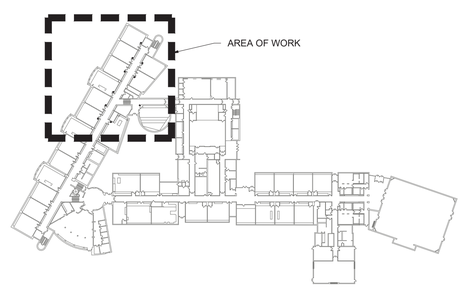
1. BASE BID: RETROFIT THE EXISTING UNIT VENTILATOR BY PROVIDING A FOUR PIPE COIL AS SPECIFIED IN THE UNIT VENTILATOR SCHEDULE ON M003.

   ALT NO. 200: VERTICAL UNIT VENTILATOR. CONNECT D, CHW, AND HW PIPING.

2. BASE BID: PROVIDE CHILLED WATER PIPING AS SHOWN ON THE PLAN AND CONNECT TO THE EXISTING UNIT VENTILATOR.

   ALT NO. 200: HORIZONTAL UNIT VENTILATOR ABOVE CEILING.CONNECT CD, CHW, AND HW PIPING.

3. VERTICAL FAN COIL UNIT. CONNECT D, CHW, AND HW PIPING.
4. EXISTING RECESSED CABINET HEATER. PROVIDE DIRECT DIGITAL CONTROLS INTEGRATED WITH THE BMS.
5. EXISTING FINNED TUBE RADIATOR. PROVIDE DIRECT DIGITAL CONTROLS INTEGRATED WITH THE BMS.
6. CONNECT TO THE EXISTING OA INTAKE LOUVER.
7. CUT AND PATCH THE EXISTING CMU SHAFT TO INSTALL THE PIPE RISER.



2 MAIN LEVEL KEY PLAN
SCALE: NONE

PLAN NORTH

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

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Project No. 42054
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Date 09-14-23

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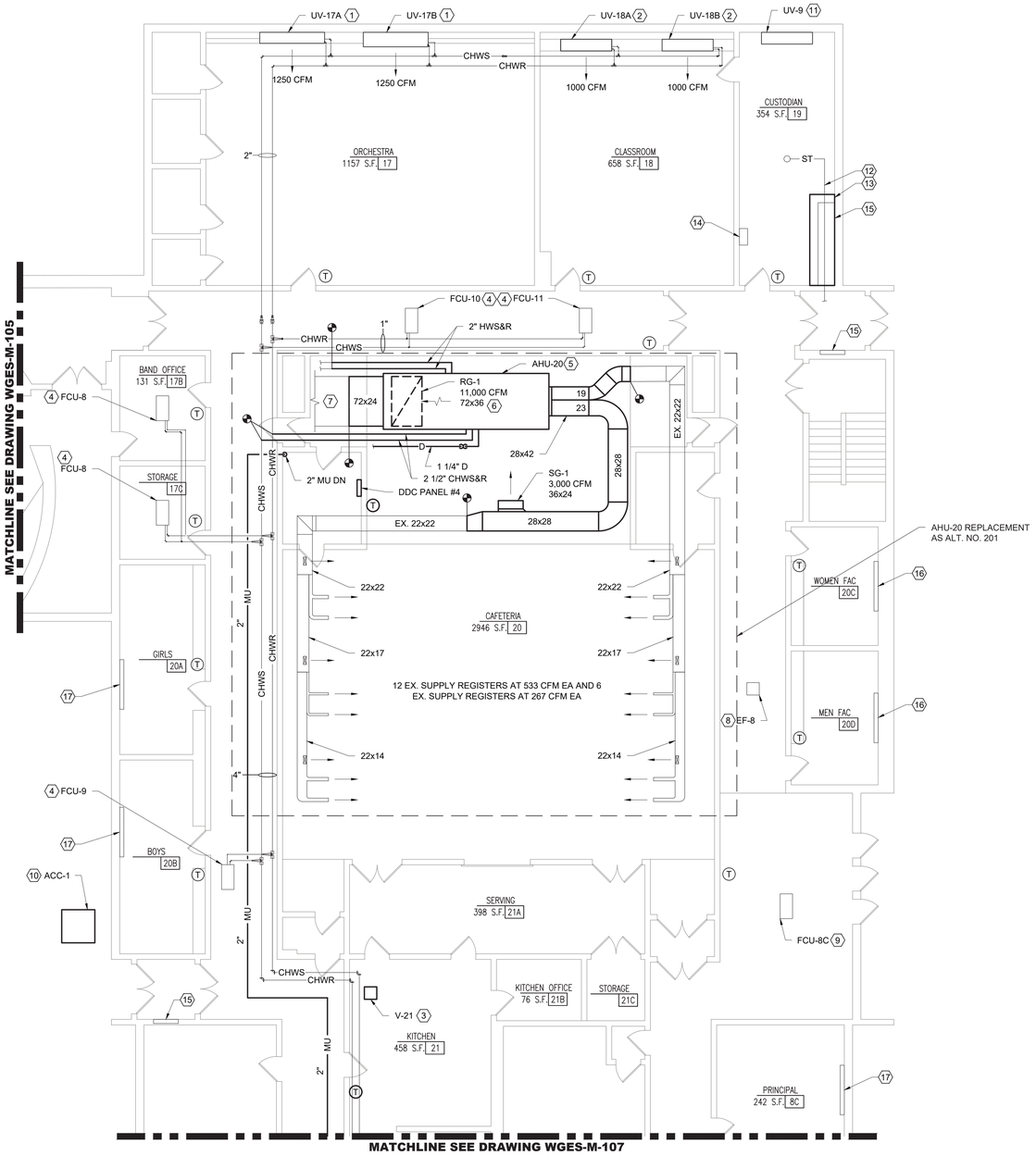
Drawing Title
MECHANICAL MAIN LEVEL INSTALLATION PLAN - 2

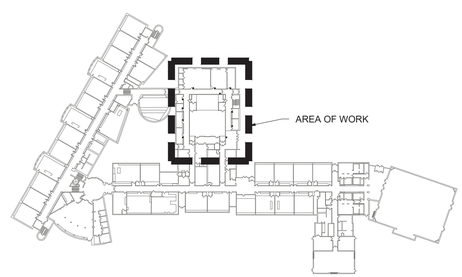
Drawing No.
WGES-M-105



KEYED NOTES:

1. VERTICAL UNIT VENTILATOR (1250 CFM). CONNECT D, CHW, AND HW PIPING. CONNECT TO EXISTING OA INTAKE LOUVER.
2. VERTICAL UNIT VENTILATOR (1000 CFM). CONNECT D, CHW, AND HW PIPING. CONNECT TO EXISTING OA INTAKE LOUVER.
3. VAV BOX ABOVE THE CEILING.
4. EX. HORIZONTAL FAN COIL UNIT ABOVE THE CEILING. PROVIDE DIRECT DIGITAL CONTROLS INTEGRATED WITH THE BMS. REFER TO THE CONTROL DIAGRAMS FOR MORE DETAILS.
5. BASE BID: INTEGRATE THE EXISTING AHU-20 AND RETURN FAN INTO THE BMS.

   ALT. NO. 201: CAFETERIA AIR HANDLING UNIT (AHU-20) AT CEILING. PROVIDE DIRECT DIGITAL CONTROLS INTEGRATED WITH THE BMS. REFER TO THE CONTROL DIAGRAMS FOR MORE DETAILS. CONNECT D, CHW, AND HW PIPING. REPLACE CONTROLS ONLY UNDER THE BASE BID AND REPLACE THE ENTIRE UNIT UNDER ALTERNATE NO. 201.
6. RETURN GRILL AT BOTTOM OF AHU.
7. CONNECT TO THE EXISTING OA DUCT IN THE ROOM ABOVE.
8. EX. TOILET EXHAUST FAN ABOVE THE CEILING. PROVIDE DIRECT DIGITAL CONTROLS INTEGRATED WITH THE BMS. REFER TO THE CONTROL DIAGRAMS FOR MORE DETAILS.
9. EX. FAN COIL UNIT ABOVE THE CEILING. PROVIDE DIRECT DIGITAL CONTROLS INTEGRATED WITH THE BMS. REFER TO THE CONTROL DIAGRAMS FOR MORE DETAILS.
10. SPLIT SYSTEM AC UNIT ACC-1 INTERLOCKED WITH THE BAND ROOM AHU-1. PROVIDE DIRECT DIGITAL CONTROLS INTEGRATED WITH THE BMS (INTERNATIONAL COMFORT MODEL CAS120HDA0A00AA, 10 TONS COOLING).
11. EXISTING VERTICAL UNIT VENTILATOR PROVIDE DIRECT DIGITAL CONTROLS INTEGRATED WITH THE BMS.
12. EXISTING 4" STORM PIPE AT CEILING.
13. PROVIDE A DRIP PAN BELOW THE EXISTING STORM PIPE THAT RUNS ABOVE THE SWITCHGEAR. THE DRIP PAN SHALL BE AT LEAST 12" LARGER THE THE FOOTPRINT OF THE SWITCHGEAR IN ALL DIRECTIONS. PROVIDE 22 GAUGE GALVANIZED PAN WITH 2" HIGH SIDES AND A 3/4" COPPER DRAIN TERMINATING 6" AFF.
14. EXISTING FUEL OIL TANK GAUGING AND LEAK DETECTION SYSTEM TO BE INTERGRATED WITH THE BMS (ONMTEC PROTEUS).
15. EXISTING ELECTRICAL SWITCHGEAR. REFER TO THE ELECTRICAL DRAWINGS.
16. EXISTING RECESSED CONVECTOR. PROVIDE DIRECT DIGITAL CONTROLS INTEGRATED WITH THE BMS.
17. EXISTING FINNED TUBE RADIATOR. PROVIDE DIRECT DIGITAL CONTROLS INTEGRATED WITH THE BMS.



1 MAIN LEVEL FLOOR PLAN INSTALLATION
SCALE: 1/8" = 1' - 0"

2 MAIN LEVEL KEY PLAN
SCALE: NONE

PLAN NORTH

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

REG. EXP. DATE: 04-30-24

Drawn by MEP
Checked by PV
Project No. 42054
Scale AS NOTED
Date 09-14-23

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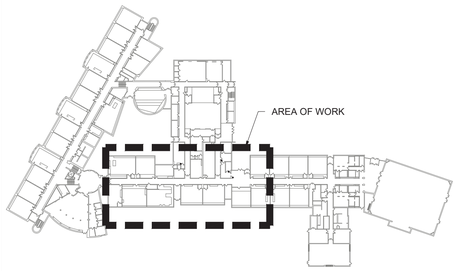
Drawing Title
MECHANICAL MAIN LEVEL INSTALLATION PLAN - 3

Drawing No.
WGES-M-106



2 MAIN LEVEL KEY PLAN
SCALE: NONE

KEYED NOTES:

1. BASE BID: INTEGRATE THE EXISTING AIR HANDLING UNIT INTO THE BMS.

   ALT NO. 202: EX. AIR HANDLING UNIT, AHU-1, ABOVE THE CEILING IN THE CORRIDOR TO BE REFURBISHED.
   - THE WORK INCLUDES:
   - PROVIDE DIRECT DIGITAL CONTROLS. REFER TO THE CONTROL DIAGRAMS.
   - REPLACE OA, EA, AND RA DAMPERS.
   - REPLACE FAN SHAFT BEARINGS.
   - REMOVE THE INLET VANE DAMPERS
   - REPLACE THE EX. 15 HP MOTOR WITH A 15 HP NEMA PREMIUM VFD READY MOTOR.
   - REPLACE V-BELTS AND FAN AND MOTOR SHEAVES.

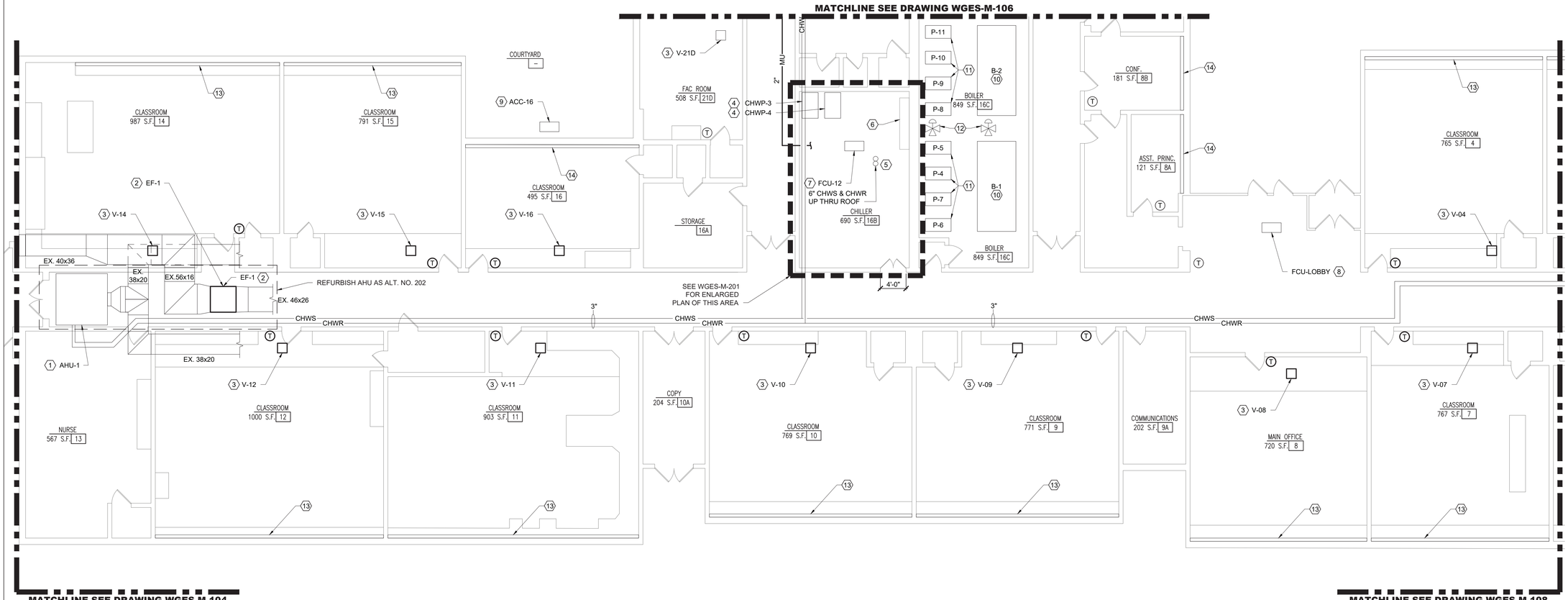
2. BASE BID: INTEGRATE THE EXISTING EXHAUST FAN INTO THE BMS.

   ALT NO. 202: EX. EXHAUST FAN, EF-1, ABOVE THE CEILING IN THE CORRIDOR TO BE REFURBISHED.
   - THE WORK INCLUDES:
   - PROVIDE DIRECT DIGITAL CONTROLS. REFER TO THE CONTROL DIAGRAMS.
   - REPLACE THE FAN SHAFT BEARINGS.
   - REPLACE THE EX. 3 HP MOTOR WITH A 3 HP NEMA PREMIUM, VFD READY MOTOR.
   - REPLACE THE V-BELTS AND FAN AND MOTOR SHEAVES.

3. VAV BOX ABOVE THE CEILING.
4. BASE-MOUNTED, END-SUCTION CHILLED WATER PUMPS INCLUDING PIPING, CONTROLS, AND APPURTENANCES.
5. 6" CHWS AND CHWR PIPES UP THRU ROOF.
6. EXISTING ELECTRICAL EQUIPMENT. PROVIDE DIRECT DIGITAL CONTROLS INTEGRATED WITH THE BMS. REFER TO THE CONTROL DIAGRAMS FOR MORE DETAILS.
7. EX. FAN COIL UNIT AT THE CEILING. PROVIDE DIRECT DIGITAL CONTROLS INTEGRATED WITH THE BMS. REFER TO THE CONTROL DIAGRAMS FOR MORE DETAILS.

KEYED NOTES (CONTINUED):

8. EX. FAN COIL UNIT ABOVE THE CEILING. PROVIDE DIRECT DIGITAL CONTROLS INTEGRATED WITH THE BMS. REFER TO THE CONTROL DIAGRAMS FOR MORE DETAILS.
9. EXISTING AIR COOLED CONDENSING UNIT TO REMAIN.
10. EXISTING BOILER. PROVIDE DIRECT DIGITAL CONTROLS INTEGRATED WITH THE BMS. (WEIL MCLAIN MODEL 1894).
11. EXISTING HOT WATER PUMPS. PROVIDE DIRECT DIGITAL CONTROLS INTEGRATED WITH THE BMS.
12. EXISTING 4" 3-WAY CONTROL VALVE. PROVIDE AN ELECTRONIC ACTUATOR AND DIRECT DIGITAL CONTROLS INTEGRATED WITH THE BMS.
13. EXISTING FINNED TUBE HEATING ELEMENT RECESSED WITHIN WOODEN CASEWORK. PROVIDE AND ELECTRONIC ACTUATOR AND DIRECT DIGITAL CONTROLS INTEGRATED WITH THE BMS.
14. EXISTING FINNED TUBE RADIATOR. PROVIDE AND ELECTRONIC ACTUATOR AND DIRECT DIGITAL CONTROLS INTEGRATED WITH THE BMS.



1 MAIN LEVEL FLOOR PLAN INSTALLATION
SCALE: 1/8" = 1' - 0"

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

REG. EXP. DATE: 04-30-24

Drawn by	MEP
Checked by	PV
Project No.	42054
Scale	AS NOTED
Date	09-14-23

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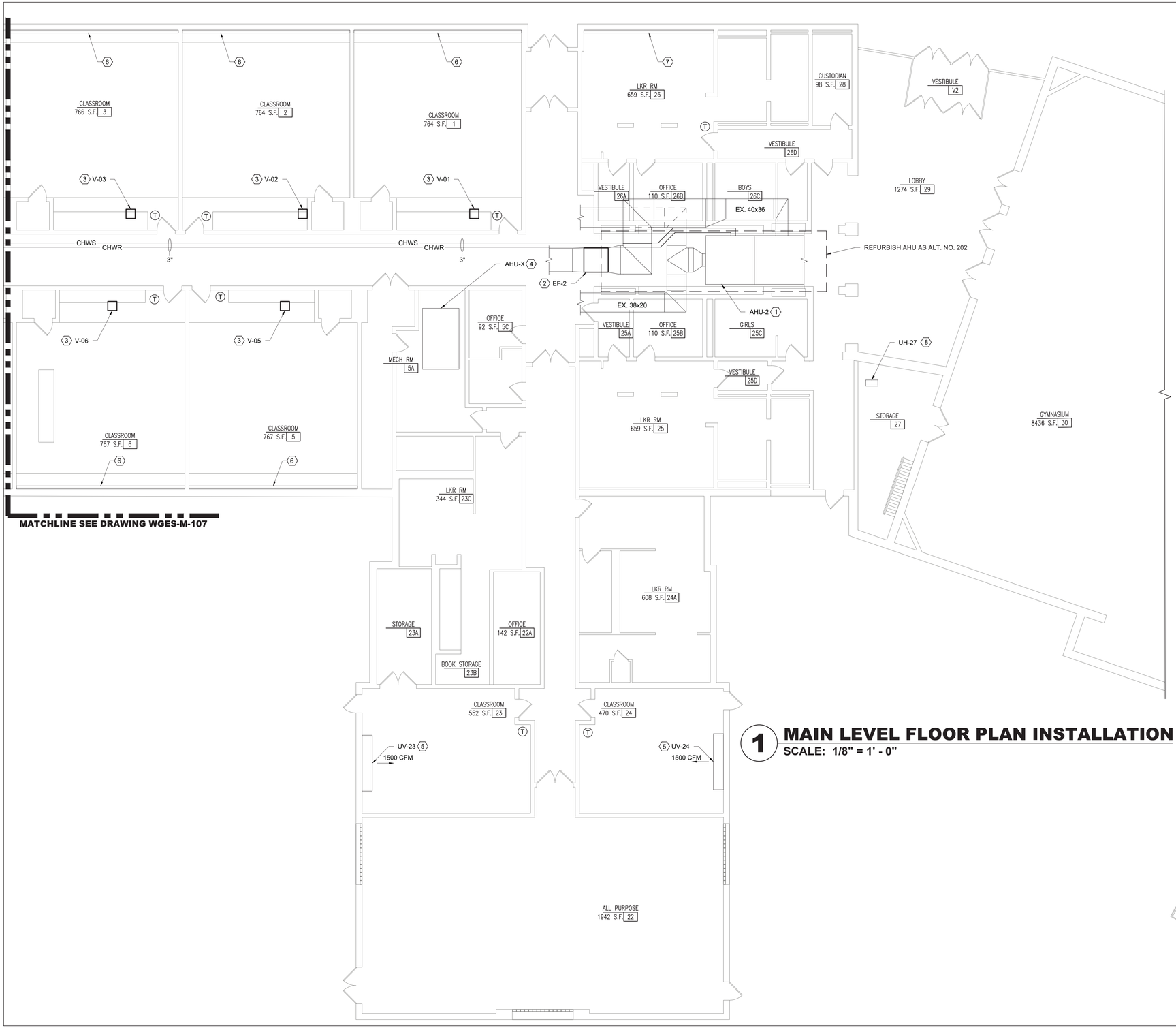
Drawing Title
MECHANICAL MAIN LEVEL INSTALLATION PLAN - 4

Drawing No.
WGES-M-107



MATCHLINE SEE DRAWING WGES-M-107

KEYED NOTES:

1. BASE BID: INTEGRATE THE EXISTING AIR HANDLING UNIT INTO THE BMS.

   ALT. NO. 202: EX. AIR HANDLING UNIT, AHU-2, ABOVE THE CEILING IN THE CORRIDOR TO BE REFURBISHED.
   - THIS WORK INCLUDES
   - PROVIDE DIRECT DIGITAL CONTROLS. REFER TO THE CONTROL DIAGRAM.
   - REPLACE OA, EA, AND RA DAMPERS.
   - REPLACE FAN SHAFT BEARINGS.
   - REMOVE THE INLET VANE DAMPERS.
   - REPLACE THE EX. 15 HP MOTOR WITH A 15 HP NEMA PREMIIUM, VFD READY MOTOR.
   - REPLACE V-BELTS AND FAN AND MOTOR SHEAVES.

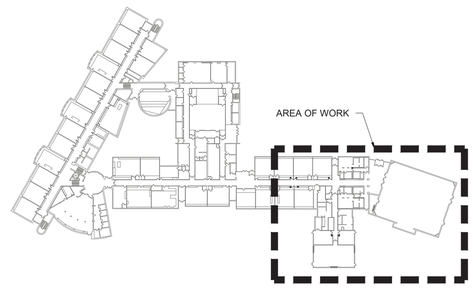
2. BASE BID: INTEGRATE THE EXISTING EXHAUST FAN INTO THE BMS

   ALT. NO. 202: EX. EXHAUST FAN, EF-2 ABOVE THE CEILING IN THE CORRIDOR TO BE REFURBISHED.
   - THIS WORK INCLUDES
   - PROVIDE DIRECT DIGITAL CONTROLS. REFER TO THE CONTROL DIAGRAMS.
   - REPLACE THE FAN SHAFT BEARINGS.
   - REPLACE THE EX. 3 HP MOTOR WITH A 3 HP NEMA PREMIUM, VFD READY MOTOR.
   - REPLACE THE V-BELTS AND FAN AND MOTOR SHEAVES.

3. VAV BOX ABOVE THE CEILING.
4. EX. AIR HANDLING UNIT. PROVIDE DIRECT DIGITAL CONTROLS INTEGRATED WITH THE BMS. REFER TO THE CONTROL DIAGRAMS FOR MORE DETAILS.
5. VERTICAL UNIT VENTILATOR. CONNECT D, CHW, AND HW PIPING. CONNECT TO THE EXISTING OA INTAKE LOUVER.
6. EXISTING FINNED TUBE HEATING ELEMENT RECESSED WITHIN WOODEN CASEWORK. PROVIDE DIRECT DIGITAL CONTROLS INTEGRATED WITH THE BMS.
7. EXISTING FINNED TUBE RADIATOR. PROVIDE DIRECT DIGITAL CONTROLS INTEGRATED WITH THE BMS.
8. EXISTING UNIT HEATER. PROVIDE DIRECT DIGITAL CONTROLS INTEGRATED WITH THE BMS.

1 MAIN LEVEL FLOOR PLAN INSTALLATION

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



2 MAIN LEVEL KEY PLAN

SCALE: NONE

PLAN NORTH

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

REG. EXP. DATE: 04-30-24

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Project No.	42054
Scale	AS NOTED
Date	09-14-23

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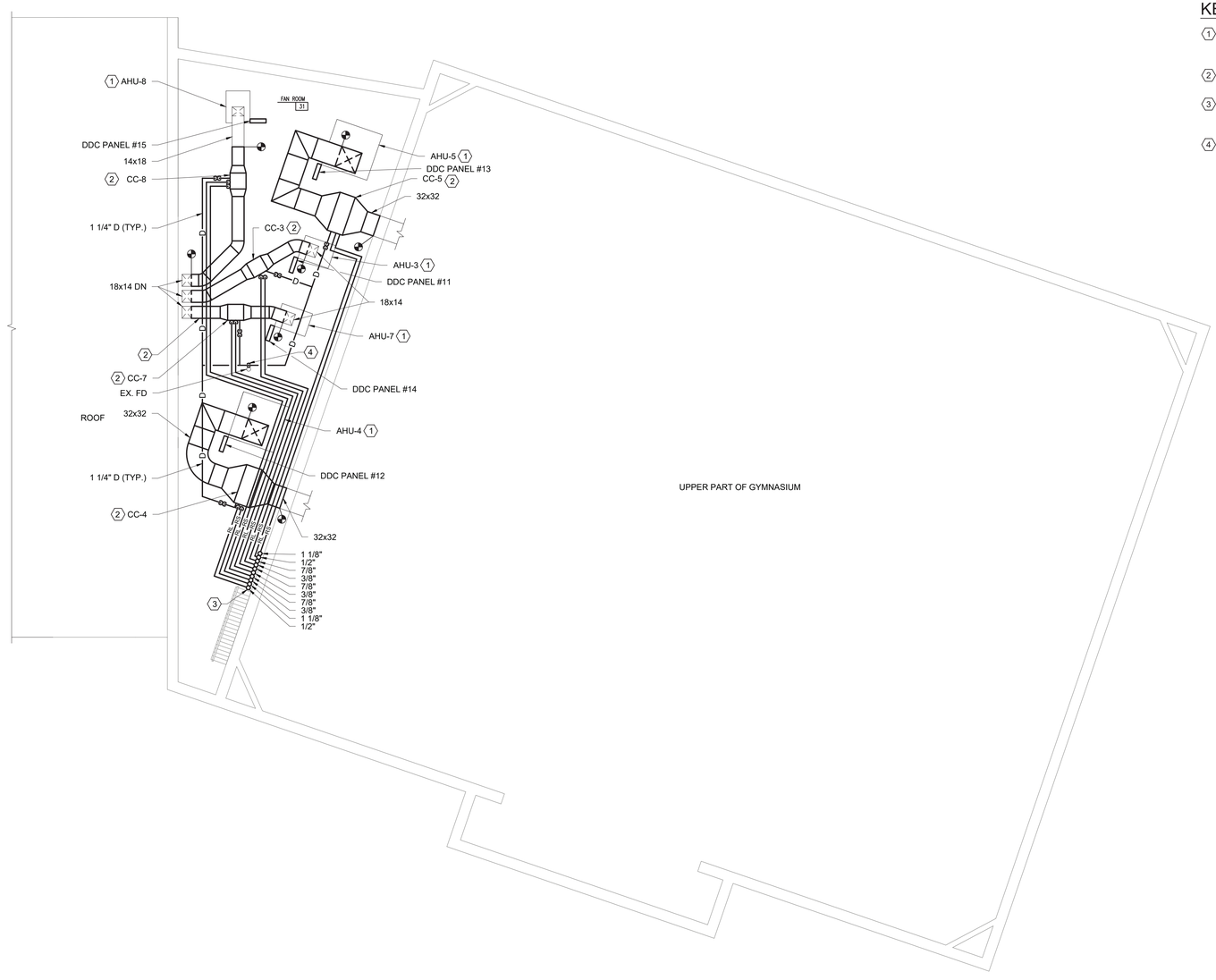
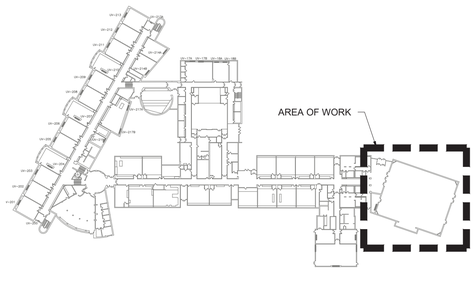
Drawing Title
MECHANICAL MAIN LEVEL INSTALLATION PLAN - 5

Drawing No.
WGES-M-108



KEYED NOTES:

1. EX. AIR HANDLING UNIT (MCQUAY MODEL LHD). PROVIDE DIRECT DIGITAL CONTROLS INTEGRATED WITH THE BMS. REFER TO THE CONTROL DIAGRAMS FOR MORE DETAILS.
2. PROVIDE DX COIL IN SUPPLY DUCTWORK AT EXISTING AIR HANDLING UNITS.
3. PROVIDE REFRIGERANT PIPING UP THROUGH THE ROOF TO THE SPLIT SYSTEM AC UNITS AT GRADE BELOW. REFER TO DRAWING WGES-M-111 FOR CONTINUATION.
4. PROVIDE 1 1/4" CONDENSATE DRAIN PIPING TERMINATES AT EXISTING FLOOR DRAIN.



1 UPPER LEVEL FLOOR PLAN INSTALLATION
SCALE: 1/8" = 1' - 0"

2 UPPER LEVEL KEY PLAN
SCALE: NONE

PLAN NORTH

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

REG. EXP. DATE: 04-30-24

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Checked by	PV
Project No.	42054
Scale	AS NOTED
Date	09-14-23

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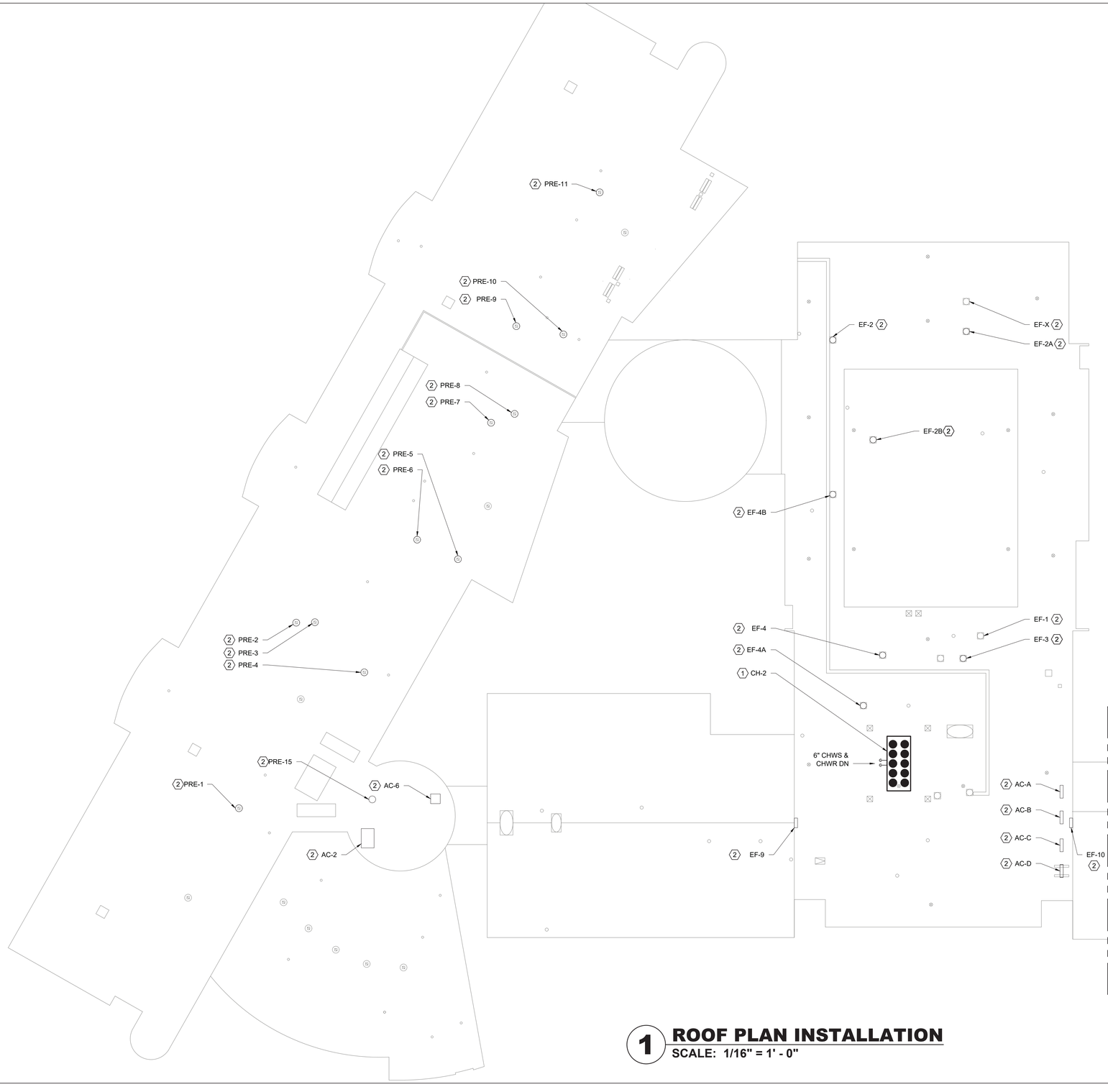
Drawing Title
MECHANICAL UPPER LEVEL INSTALLATION PLAN

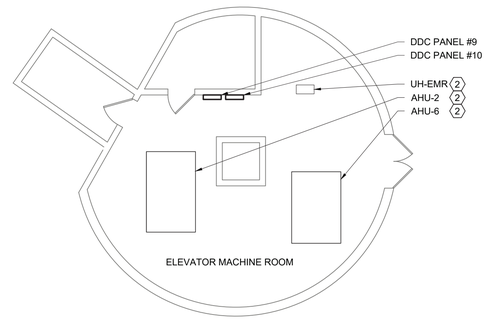
Drawing No.
WGES-M-109

KEYED NOTES:

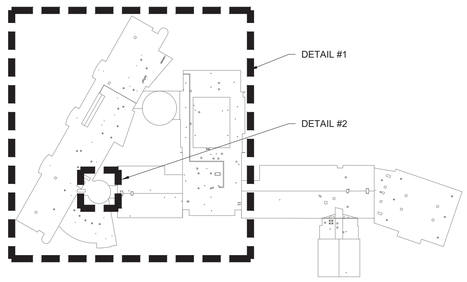
1. AIR-COOLED CHILLER ON THE ROOF. PROVIDE STEEL DUNNAGE TO SUIT THE FOOTPRINT OF THE CHILLER. REFER TO THE STRUCTURAL DRAWINGS FOR DETAILS.
2. EXISTING MECHANICAL EQUIPMENT. PROVIDE DIRECT DIGITAL CONTROLS INTEGRATED WITH THE BMS. REFER TO THE CONTROL DIAGRAMS FOR MORE DETAILS.



1 ROOF PLAN INSTALLATION
SCALE: 1/16" = 1' - 0"



2 ELEVATOR MACHINE ROOM PLAN
SCALE: 1/8" = 1' - 0"



3 ROOF KEY PLAN
SCALE: NONE

PLAN NORTH

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

REG. EXP. DATE: 04-30-24

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Date 09-14-23

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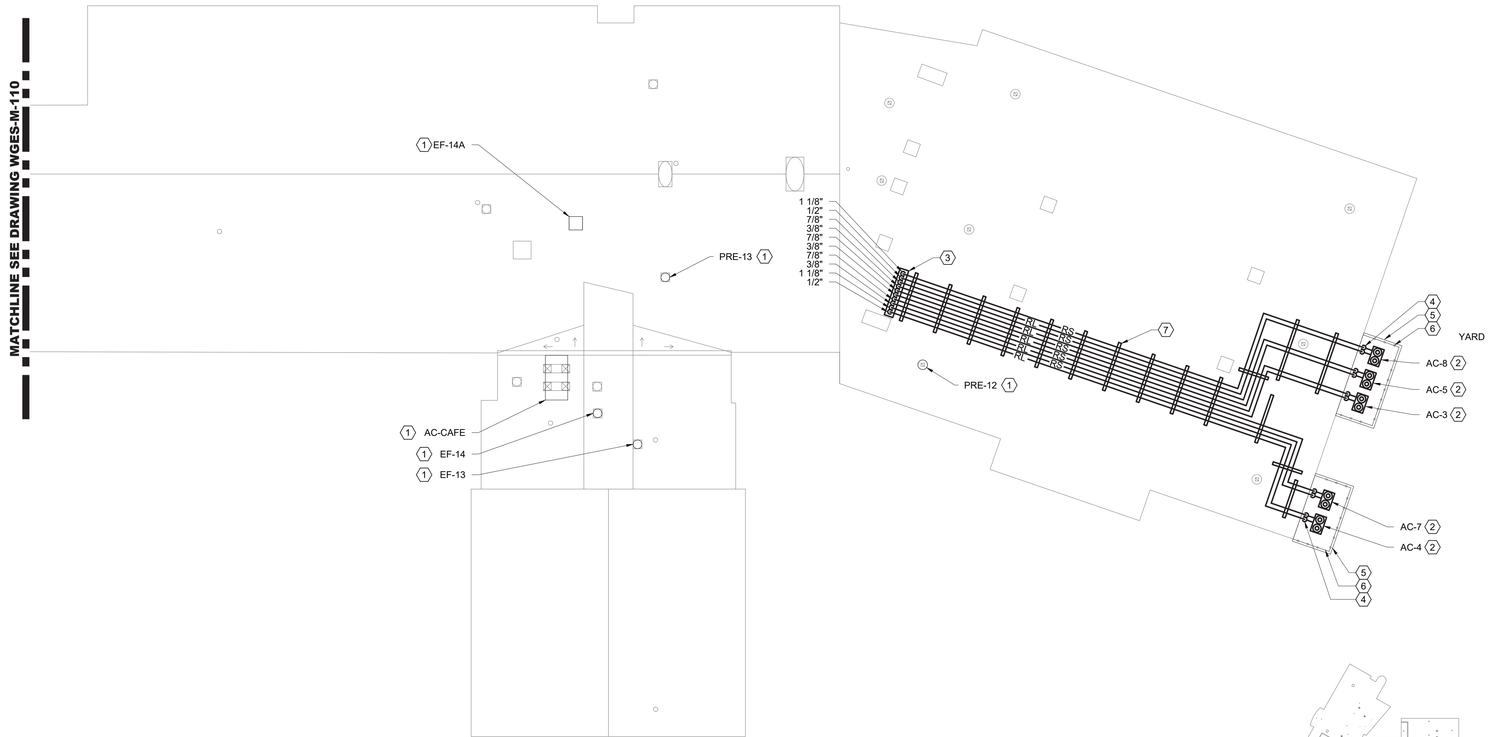
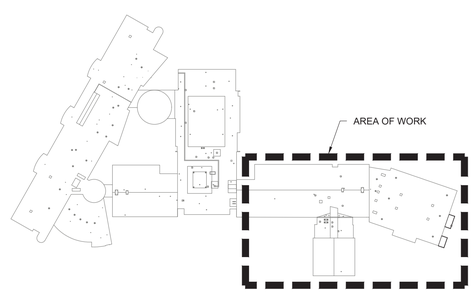
Drawing Title
MECHANICAL ROOF INSTALLATION PLAN - 1

Drawing No.
WGES-M-110

KEYED NOTES:

1. EXISTING MECHANICAL EQUIPMENT. PROVIDE DIRECT DIGITAL CONTROLS INTEGRATED WITH THE BMS. REFER TO THE CONTROL DIAGRAMS FOR MORE DETAILS.
2. PROVIDE SPLIT SYSTEM AIR CONDITIONING UNITS AS SHOWN.
3. PROVIDE ROOF CURB WITH PIPE PORTAL WHERE REFRIGERANT PIPING RUNS DOWN THROUGH THE ROOF. PROVIDE WATERTIGHT PENETRATION COMPATIBLE WITH THE EXISTING ROOFING SYSTEM. SEE DRAWING WGES-M-109 FOR CONTINUATION.
4. PROVIDE THREE (3) SETS 3/8" RL AND 7/8" RS AND TWO (2) SETS 1/2" RL AND 1-1/8" RS. INSTALL WITHIN LINESET COVER ALONG THE WALL AT 10'-0" AFF±. PAINT THE LINESET COVERS TO MATCH THE WALL IN A COLOR TO BE SELECTED BY THE OWNER.
5. PROVIDE CONCRETE PAD AT GRADE TO SUPPORT AC UNITS. VERIFY THE ACTUAL DIMENSIONS AGAINST THE MANUFACTURER'S RECOMMENDED CLEARANCES.
6. CHAIN LINK FENCE ENCLOSURE BY GC. VERIFY THE ACTUAL DIMENSIONS AGAINST THE MANUFACTURER'S RECOMMENDED CLEARANCES.
7. PROVIDE REFRIGERANT PIPING ALONG ROOF WITH CURB SUPPORTS SPACED AT 8'-0" O.C. MAXIMUM. SUPPORTS SHALL BE COMPATIBLE WITH THE EXISTING ROOFING SYSTEM.





1 ROOF LEVEL FLOOR PLAN INSTALLATION
SCALE: 1/16" = 1' - 0"

2 ROOF KEY PLAN
SCALE: NONE

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

REG. EXP. DATE: 04-30-24

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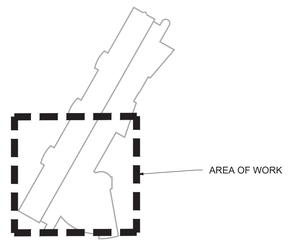
Drawing Title
MECHANICAL ROOF INSTALLATION PLAN - 2

Drawing No.
WGES-M-111

MATCHLINE SEE DRAWING WGES-M-113

KEYED NOTES:

1. PERFORM A HYDROSTATIC TEST ON THE EXISTING CHILLED WATER PIPING AT THE CRAWLSPACE AND SUBMIT FOR APPROVAL PRIOR TO FABRICATION OR INSTALLATION OF THE CHILLED WATER PIPING IN THIS WING. UPON COMPLETION OF THE WORK, PERFORM TESTING AND BALANCING OF THE COMPLETED SYSTEM AS PER THE SPECIFICATIONS.
2. EX. 1 1/4" CHWS & R UP THROUGH FLOOR TO UNIT VENTILATOR ON FIRST FLOOR.
3. EX. 2" CHWS & R UP TO 2ND FLOOR UNIT VENTILATORS.



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

2 CRAWLSPACE KEY PLAN
SCALE: NONE

PLAN NORTH

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

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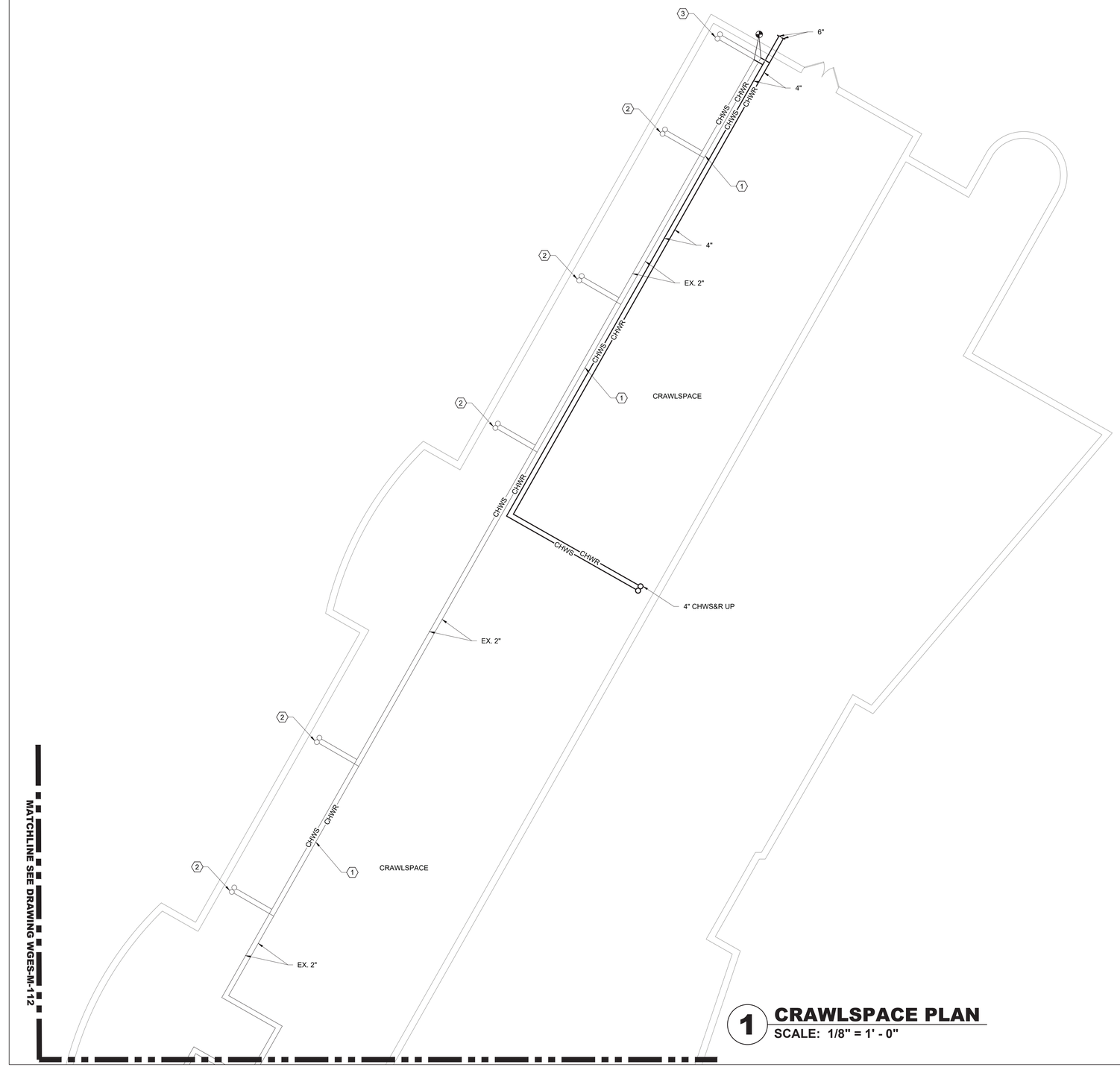
Drawing Title
MECHANICAL CRAWLSPACE INSTALLATION PLAN - 1

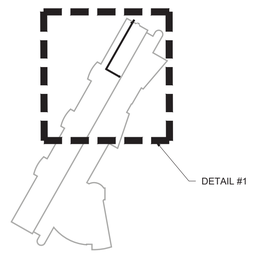
Drawing No.
WGES-M-112



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

KEYED NOTES:

1. PERFORM A HYDROSTATIC TEST ON THE EXISTING CHILLED WATER PIPING AT THE CRAWLSPACE AND SUBMIT FOR APPROVAL PRIOR TO FABRICATION OR INSTALLATION OF THE CHILLED WATER PIPING IN THIS WING. UPON COMPLETION OF THE WORK, PERFORM TESTING AND BALANCING OF THE COMPLETED SYSTEM AS PER THE SPECIFICATIONS.
2. EX. 1 1/4" CHWS & R UP THROUGH FLOOR TO UNIT VENTILATOR ON FIRST FLOOR.
3. EX. 2" CHWS & R UP TO 2ND FLOOR UNIT VENTILATORS.



2 CRAWLSPACE KEY PLAN
SCALE: NONE

PLAN NORTH

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

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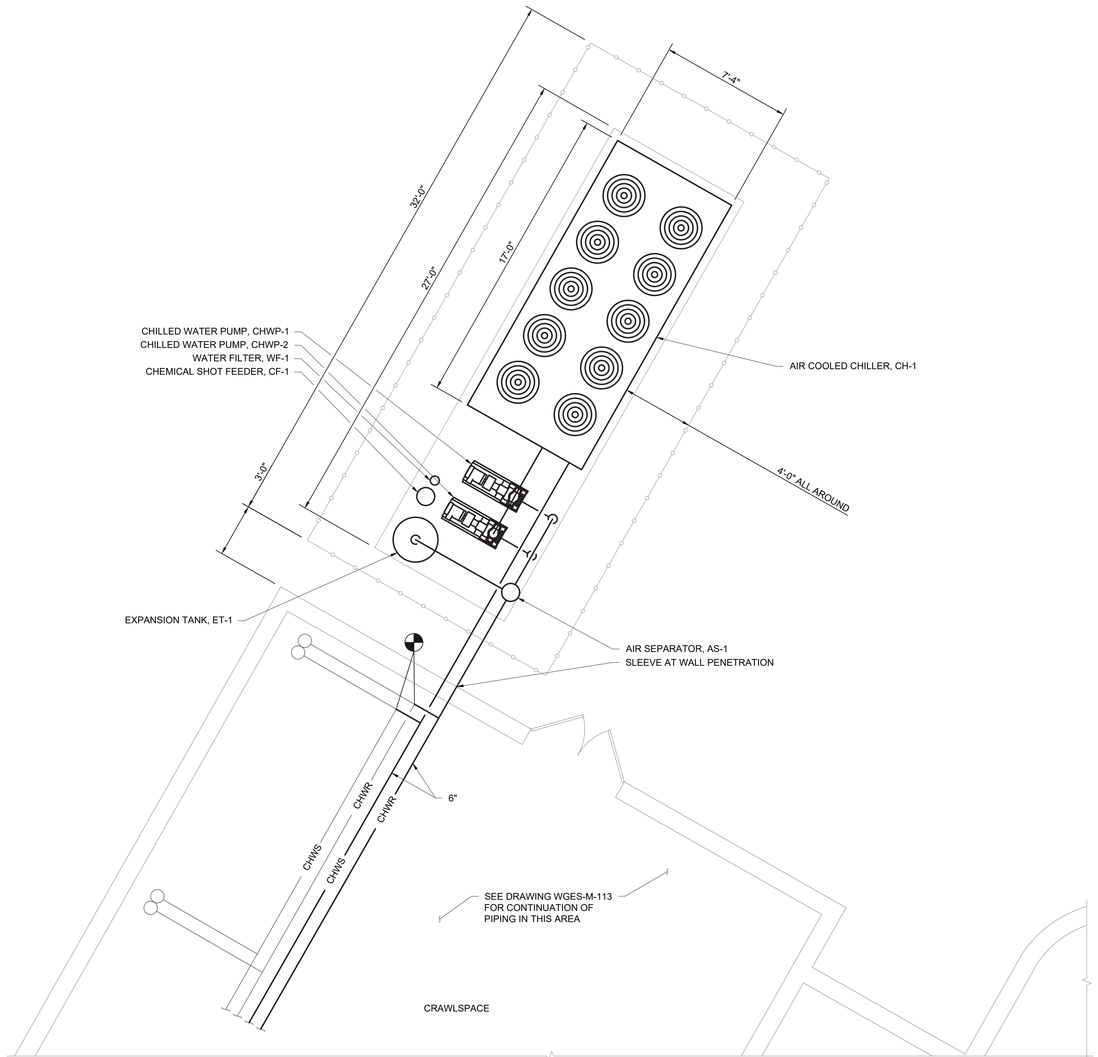
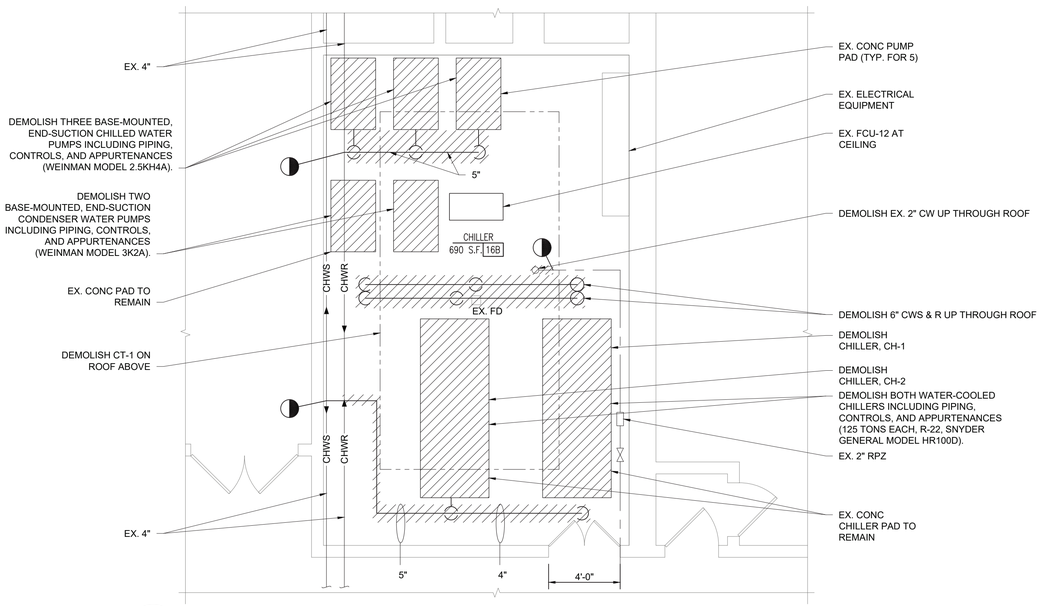
Drawing Title
MECHANICAL
CRAWLSPACE
INSTALLATION PLAN - 2

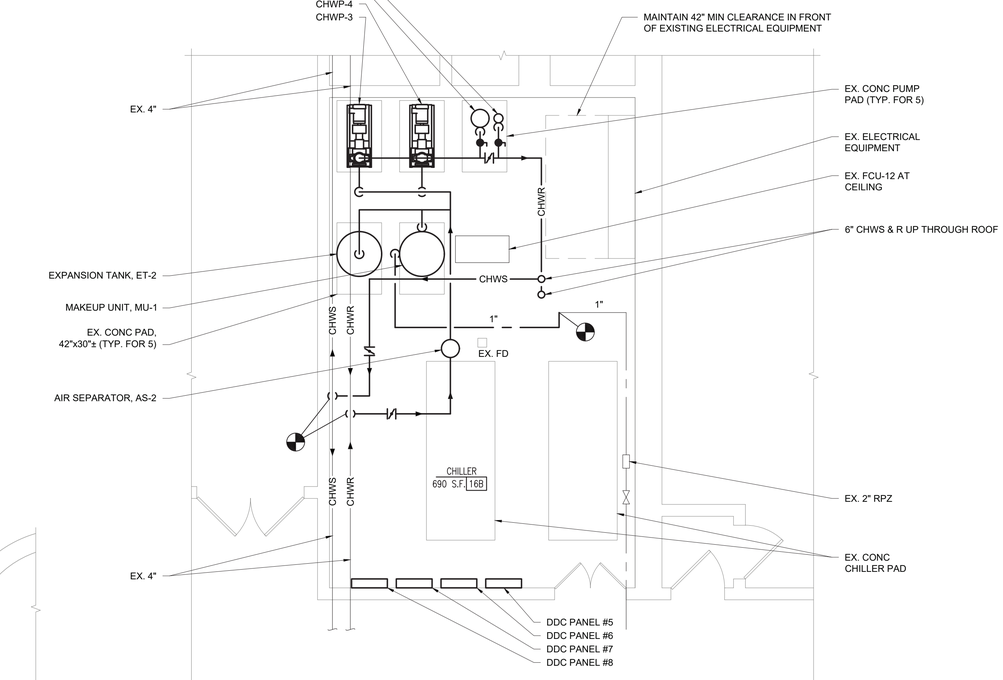
Drawing No.
WGES-M-113



1 CHILLER ROOM ENLARGED PLAN
SCALE: 1/4" = 1' - 0"



2 CHILLER ROOM ENLARGED PLAN DEMOLITION
SCALE: 1/4" = 1' - 0"



3 CHILLER ROOM ENLARGED PLAN - INSTALLATION
SCALE: 1/4" = 1' - 0"

PLAN NORTH

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

REG. EXP. DATE: 04-30-24

Drawn by	MEP
Checked by	PV
Project No.	42054
Scale	AS NOTED
Date	09-14-23

GREENMAN PEDERSEN, INC
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SUFFERN, NY 10901
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GREENMAN PEDERSEN, INC
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SUFFERN, NY 10901
Structural Engineer:

UNIVENT REPLACEMENT
AT
WILLOW GROVE
ELEMENTARY SCHOOL
SED# 50-02-01-06-0-030-016
153 270BBS RD
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COUNTY OF ROCKLAND

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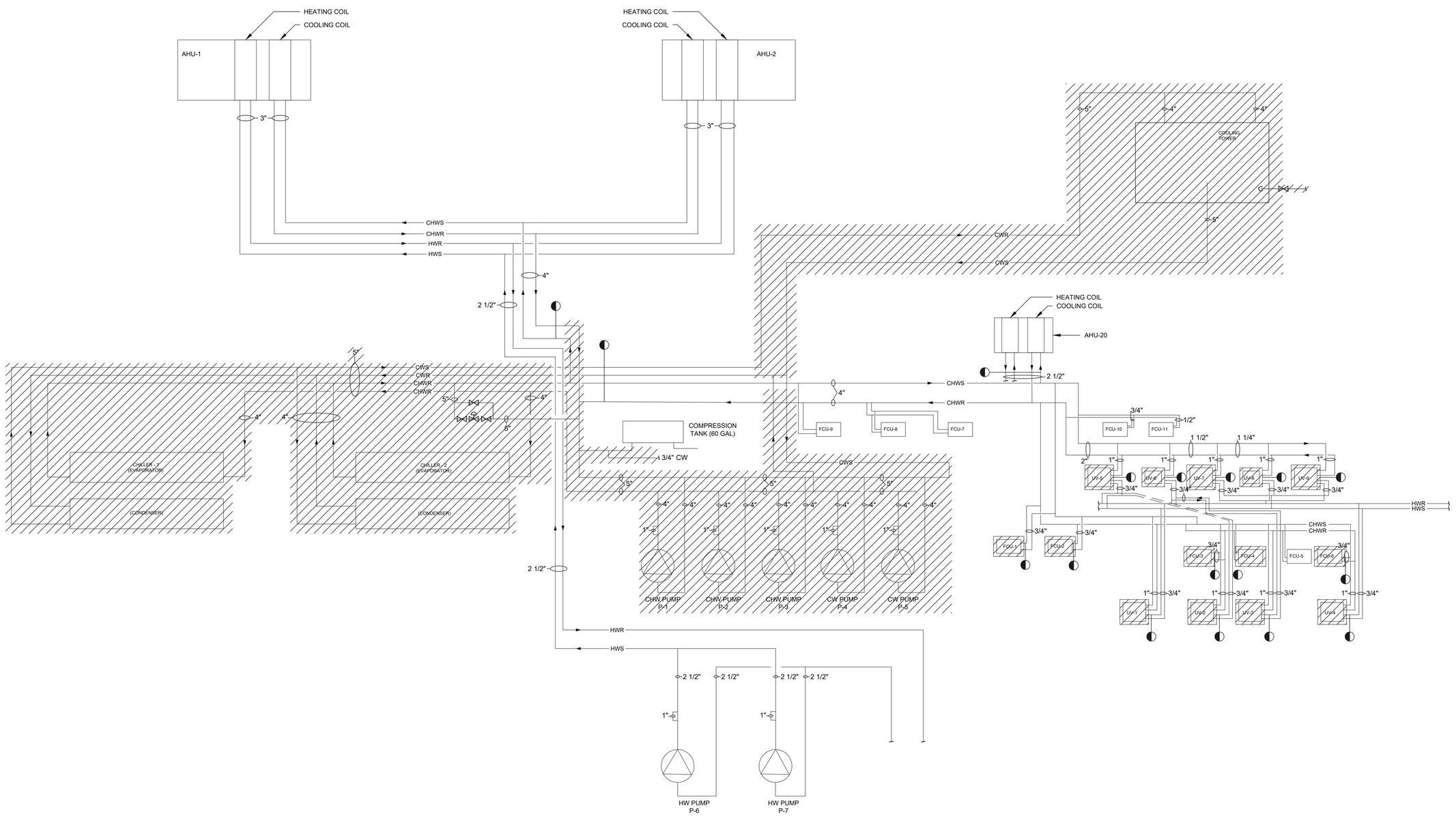
Drawing Title
MECHANICAL ENLARGED INSTALLATION PLANS

Drawing No.
WGES-M-201



1 CHILLED WATER SYSTEM PIPING DIAGRAM - ORIGINAL BUILDING - DEMOLITION

SCALE: N.T.S.

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

REG. EXP. DATE: 04-30-24

Drawn by	NY
Checked by	MP
Project No.	42054
Scale	NTS
Date	09-14-23

GREENMAN PEDERSEN, INC
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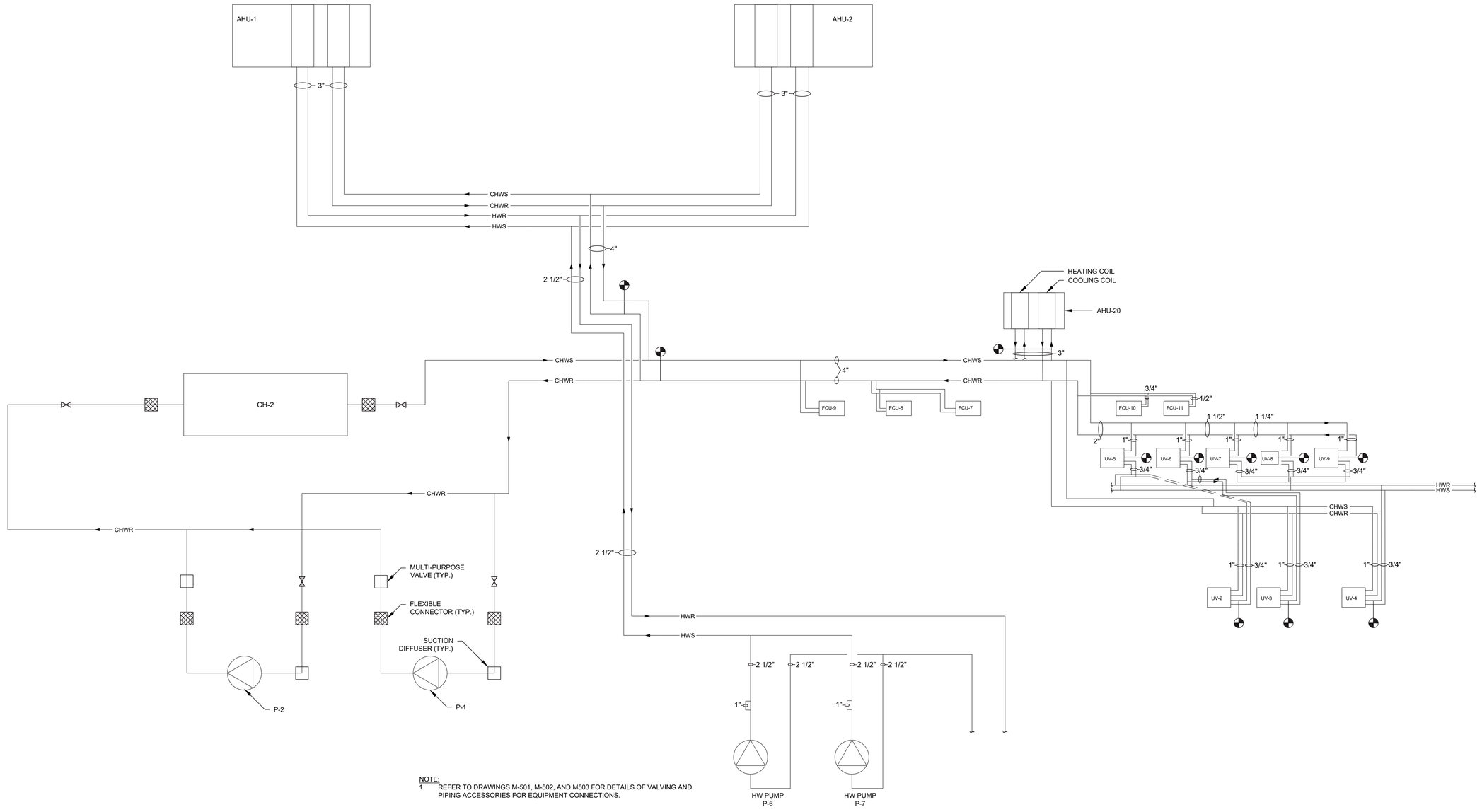
Drawing Title
HVAC PIPING DIAGRAM - DEMOLITION

Drawing No.
WGES-M-301



NOTE:
1. REFER TO DRAWINGS M-501, M-502, AND M503 FOR DETAILS OF VALVING AND PIPING ACCESSORIES FOR EQUIPMENT CONNECTIONS.

1 CHILLED WATER SYSTEM PIPING DIAGRAM - ORIGINAL BUILDING - INSTALLATION

SCALE: N.T.S.

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

REG. EXP. DATE: 04-30-24

Drawn by NY
Checked by MP
Project No. 42054
Scale NTS
Date 09-14-23

Mechanical & Electrical Engineer:
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SED# 50-02-01-06-0-030-016
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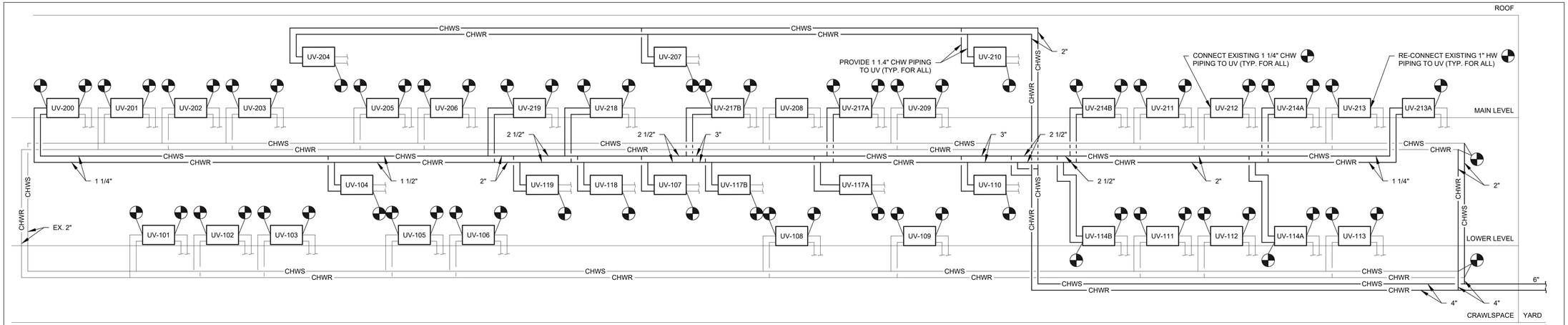
Drawing Title
HVAC PIPING DIAGRAM - INSTALLATION

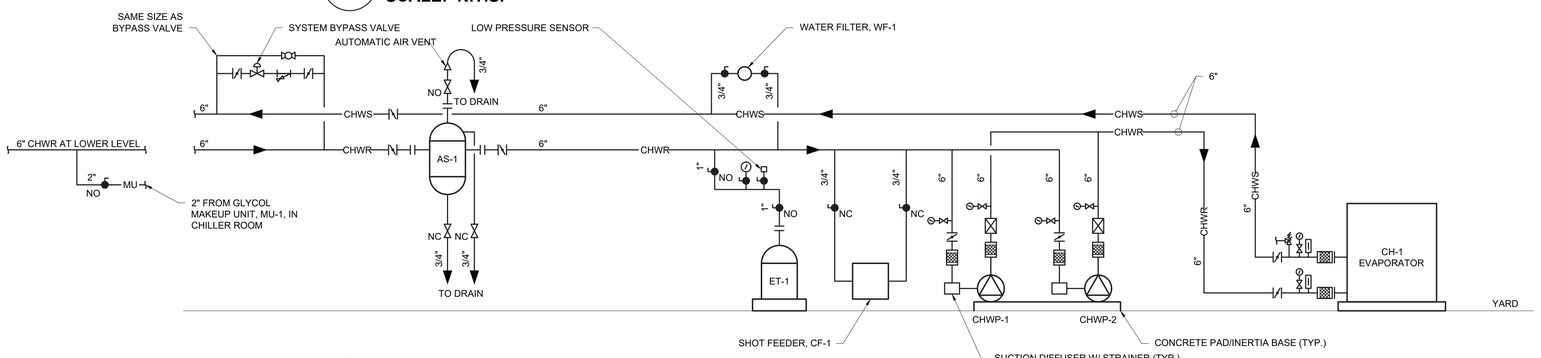
Drawing No.
WGES-M-302



NOTES:
1. CONDENSATE DRAIN AND SOME HOT WATER PIPING ARE NOT SHOWN FOR CLARITY. REFER TO THE PLANS FOR THE COMPLETE LAYOUT.
2. THE MINIMUM SIZE FOR CHILLED WATER PIPING IS 1 1/4". REFER TO THE PIPE SIZING SCHEDULES FOR ALL OTHER SIZES NOT SPECIFICALLY SHOWN HERE. VERIFY IN FIELD ALL SIZES FOR EXISTING PIPING PRIOR TO FABRICATION.
3. FOR VALVES AND ACCESSORIES AT UNIT VENTILATORS, SEE DETAILS ON M-503.

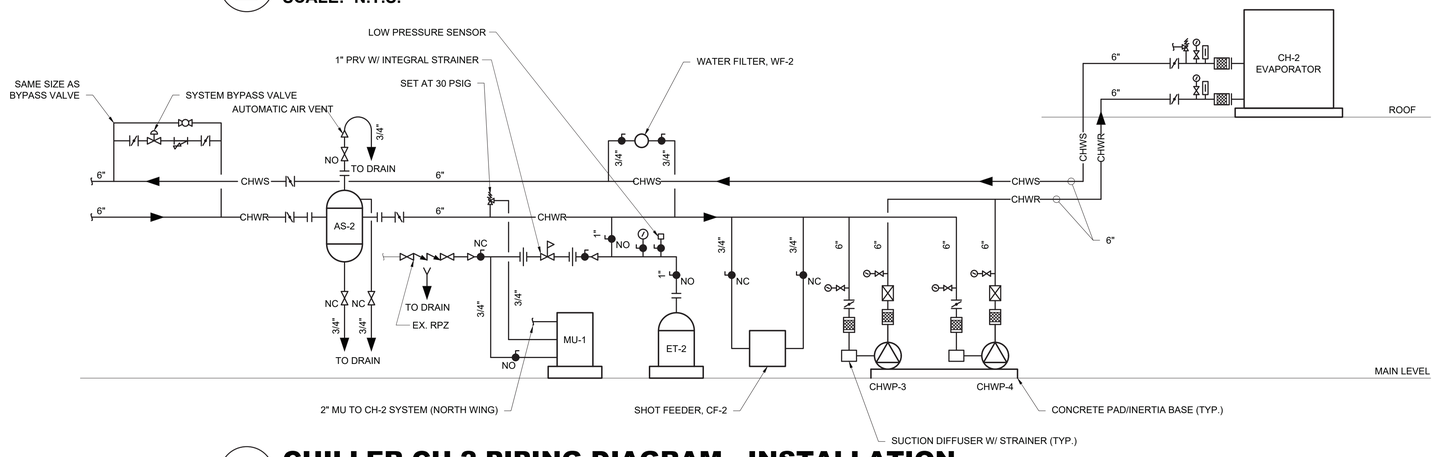
1 CHILLED WATER SYSTEM PIPING DIAGRAM - NORTH WING - INSTALLATION

SCALE: N.T.S.



2 CHILLER CH-1 PIPING DIAGRAM - NORTH WING - INSTALLATION

SCALE: N.T.S.



3 CHILLER CH-2 PIPING DIAGRAM - INSTALLATION

SCALE: N.T.S.

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

REG. EXP. DATE: 04-30-24

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Project No.	42054
Scale	NTS
Date	09-14-23

GREENMAN PEDERSEN, INC
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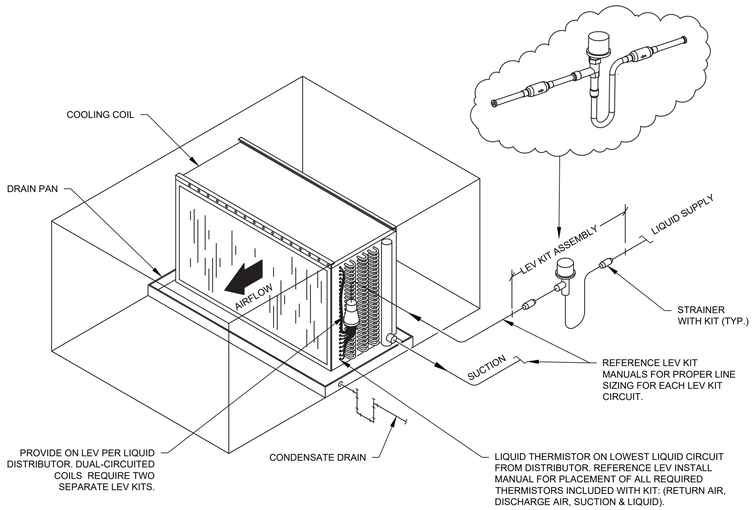
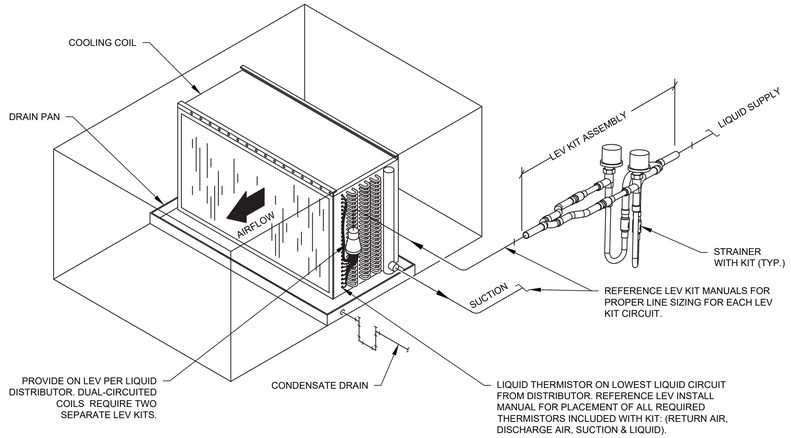
Drawing Title
CHILLER PIPING DIAGRAMS

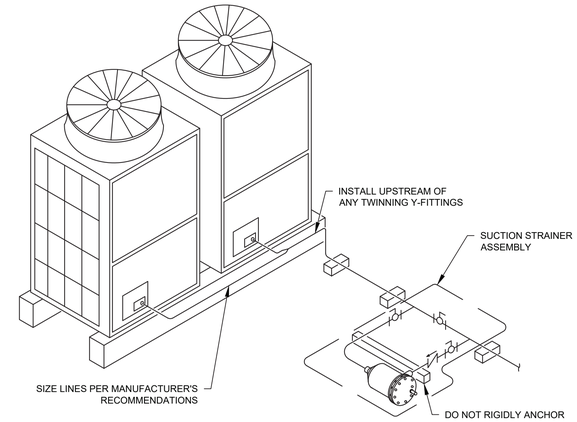
Drawing No.
WGES-M-303



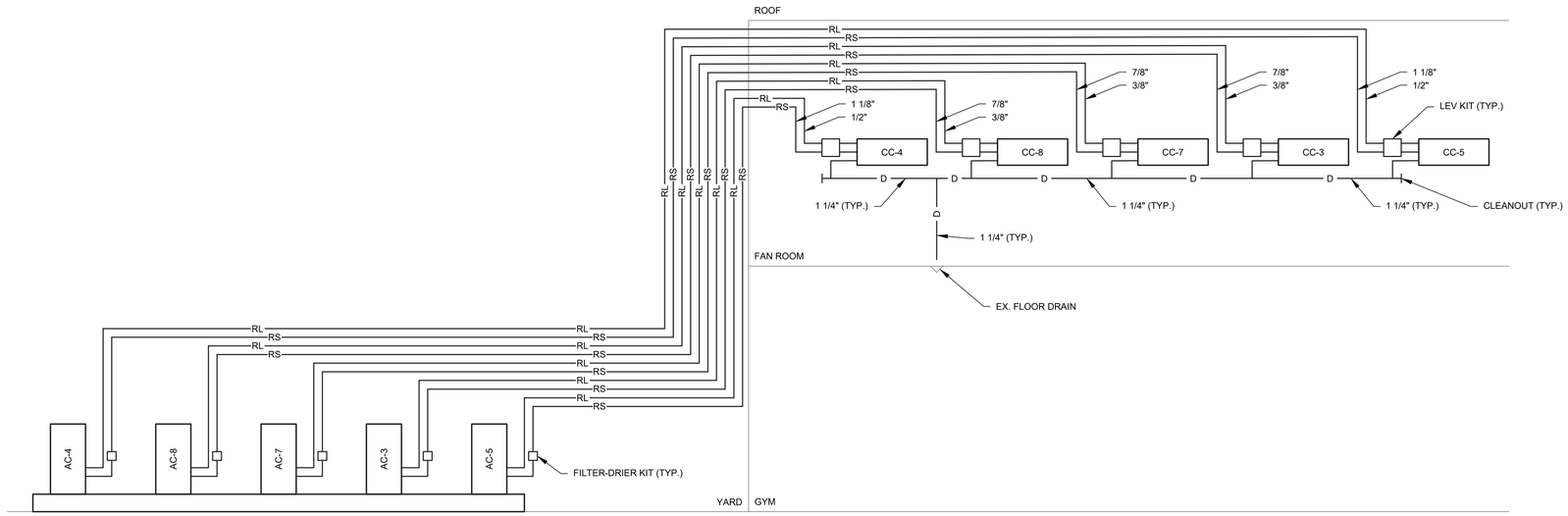
2 DX COOLING COIL PIPING - CC-3, CC-7, AND CC-8
SCALE: N.T.S.



3 DX COOLING COIL PIPING - CC-4 & CC-5
SCALE: N.T.S.



4 PIPING AT AC-3, AC-4, AC-5, AC-7, & AC-8
SCALE: N.T.S.



NOTE:
1. REFRIGERANT PIPE SIZES ARE SHOWN HERE FOR REFERENCE ONLY. PIPE SIZES SHALL BE CALCULATED BY THE VRF SYSTEM MANUFACTURER BASED ON THE ACTUAL LAYOUT, AND THE MANUFACTURER'S EQUIPMENT AND PIPING SELECTIONS SHALL BE SUBMITTED FOR APPROVAL PRIOR TO FABRICATION AND INSTALLATION.
2. RUN CONDENSATE PIPING AS PER THE AHU MANUFACTURER'S RECOMMENDATIONS. TERMINATE AT THE NEAREST FLOOR DRAIN OR CONNECT TO THE SANITARY DRAINAGE SYSTEM WITH AN AIR GAP FITTING UNLESS OTHERWISE NOTED.

1 REFRIGERANT PIPING DIAGRAM
SCALE: N.T.S.

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

REG. EXP. DATE: 04-30-24

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Project No.	42054
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GREENMAN PEDERSEN, INC
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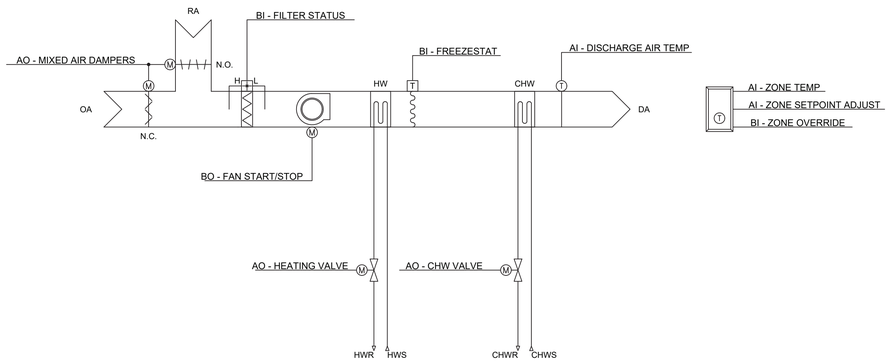
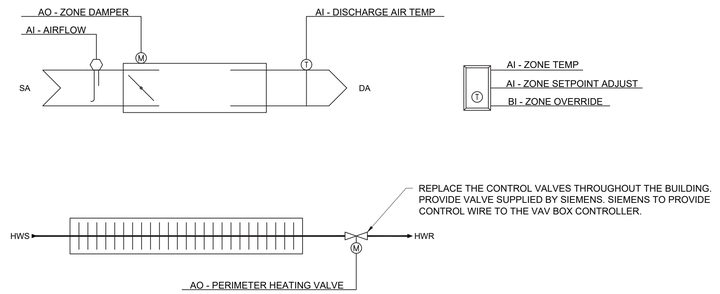
Drawing Title
REFRIGERANT PIPING DIAGRAMS

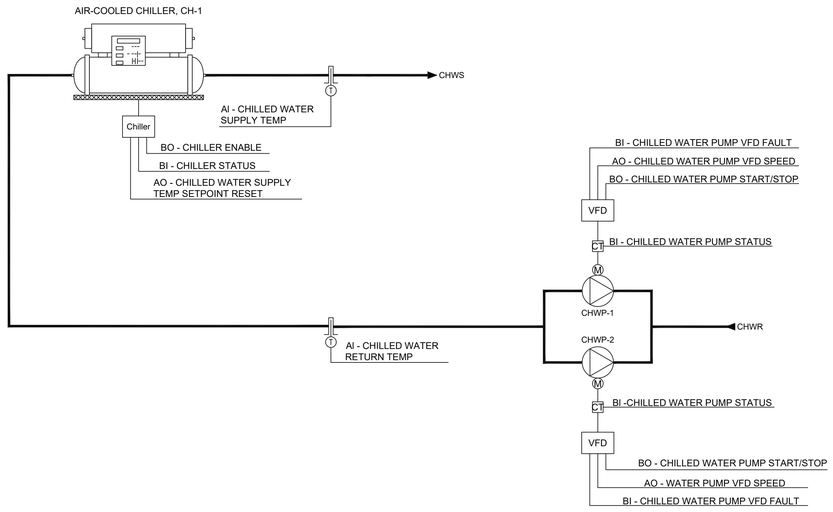
Drawing No.
WGES-M-304



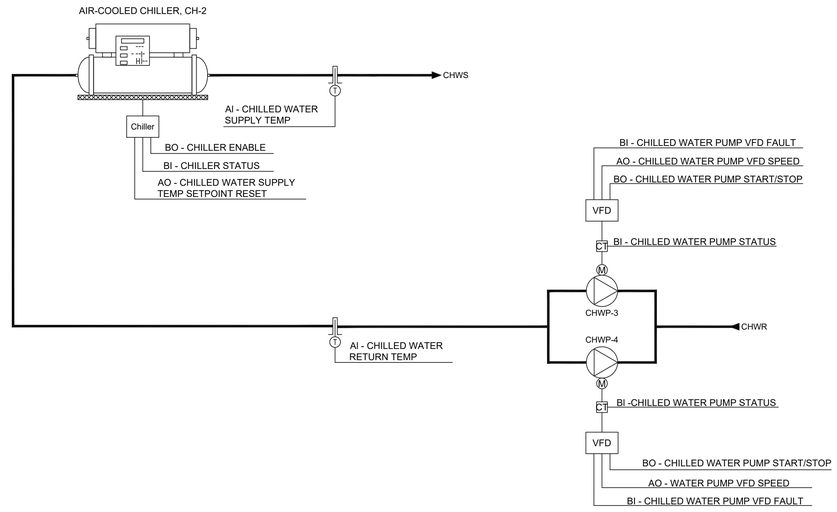
1 UNIT VENTILATOR CONTROL DIAGRAM
SCALE: NONE



2 VAV TERMINAL CONTROL DIAGRAM
SCALE: NONE



3 CHILLER CONTROL DIAGRAM (CH-1)
SCALE: NONE



4 CHILLER CONTROL DIAGRAM (CH-2)
SCALE: NONE

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

REG. EXP. DATE: 04-30-24

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Checked by PV
Project No. 42054
Scale NTS
Date 09-14-23

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www.shilale.com

Drawing Title
CONTROL DIAGRAMS - 1

Drawing No.
WGES-M-401

1 AIR HANDLING UNIT CONTROL DIAGRAM - DX COOLING

SCALE: NONE

2 AIR HANDLING UNIT CONTROL DIAGRAM - CHW COOLING

SCALE: NONE

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

REG. EXP. DATE: 04-30-24

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Scale	NTS
Date	09-14-23

GREENMAN PEDERSEN, INC
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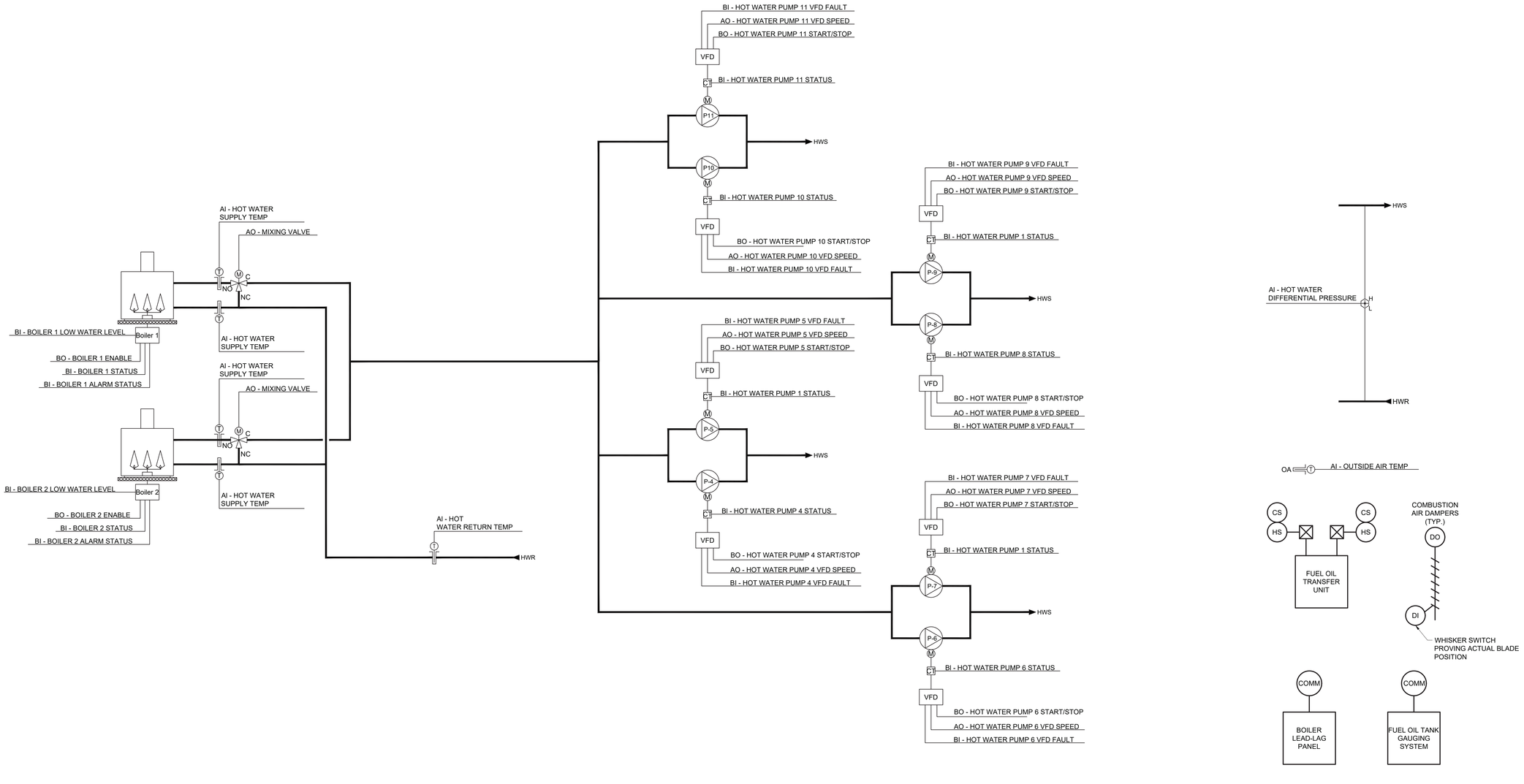
Drawing Title
CONTROL DIAGRAMS - 2

Drawing No.
WGES-M-402



1 HOT WATER BOILER SYSTEM CONTROL SCHEMATIC

SCALE: NTS

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

REG. EXP. DATE: 04-30-24

Drawn by	MEP
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Project No.	42054
Scale	NTS
Date	09-14-23

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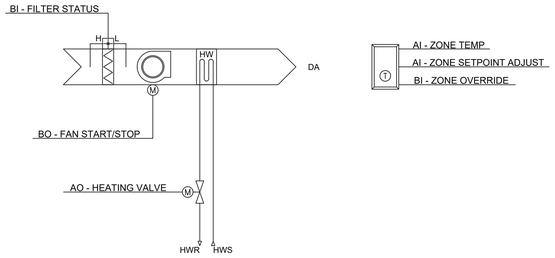
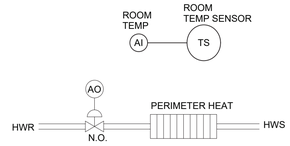
Drawing Title
CONTROL DIAGRAMS - 3

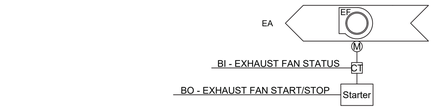
Drawing No.
WGES-M-403



1 CABINET HEATER CONTROLDIAGRAM
SCALE: NONE



2 RADIATOR CONTROL DIAGRAM
SCALE: NONE

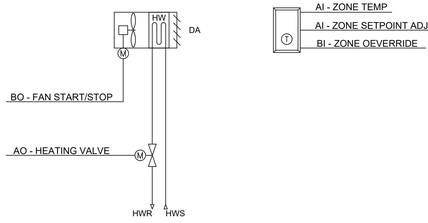


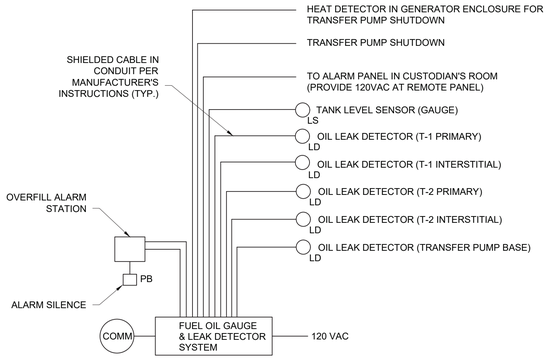
3 EXHAUST FAN CONTROL DIAGRAM
SCALE: NONE

THE FOLLOWING LIST IS PROVIDED FOR REFERENCE ONLY TO INDICATE WHICH MAJOR EQUIPMENT IS CONTROLLED BY EACH PANEL, AND MAY NOT BE A COMPLETE LIST OF ALL EQUIPMENT. DEVICES NOT SPECIFICALLY LISTED HERE SUCH AS UNIT VENTILATORS, RADIATORS, FAN COIL UNITS, CABINET HEATERS, UNIT HEATERS, EXHAUST FANS, AIR CONDITIONING UNITS, AND OTHER EQUIPMENT SHALL BE CONNECTED TO THE NEAREST PANELS.

1. DDC PANEL #1
   - 1.1. CH-1
   - 1.2. CHWP-1
   - 1.3. CHWP-2
   - 1.4. CABINET HEATERS
   - 1.5. UNIT VENTILATORS
2. DDC PANEL #2
   - 2.1. AHU-1
3. DDC PANEL #3
   - 3.1. CABINET HEATERS
   - 3.2. UNIT VENTILATORS
4. DDC PANEL #4
   - 4.1. AHU-20
   - 4.2. FAN COIL UNITS
   - 4.3. UNIT VENTILATORS
5. DDC PANEL #5
   - 5.1. AHU-1
   - 5.2. EF-1
   - 5.3. VAV TERMINALS
   - 5.4. RADIATORS
6. DDC PANEL #6
   - 6.1. CH-2
   - 6.2. CHWP-3
   - 6.3. CHWP-4
7. DDC PANEL #7
   - 7.1. BOILER ROOM EQUIPMENT
8. DDC PANEL #8
   - 8.1. AHU-2
   - 8.2. EF-2
   - 8.3. AHU-CAFE
   - 8.4. VAV TERMINALS
   - 8.5. RADIATORS
9. DDC PANEL #9
   - 9.1. AHU-2
10. DDC PANEL #10
    - 10.1. AHU-6
11. DDC PANEL #11
    - 11.1. AHU-3
    - 11.2. AC-3
12. DDC PANEL #12
    - 12.1. AHU-4
    - 12.2. AC-4
13. DDC PANEL #13
    - 13.1. AHU-5
    - 13.2. AC-5
14. DDC PANEL #14
    - 14.1. AHU-7
    - 14.2. AC-7
15. DDC PANEL #15
    - 15.1. AHU-8
    - 15.2. AC-8

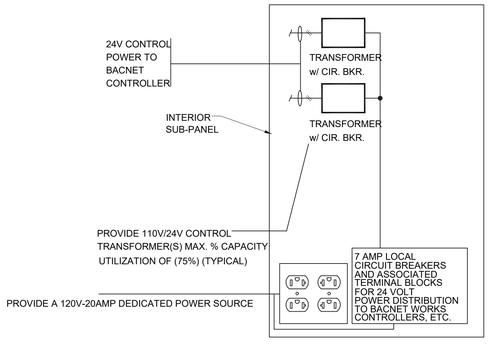
6 DDC CONTROL PANEL DESIGNATIONS
SCALE: NONE





NOTE:
1. VERIFY CABLE SIZES AND QUANTITIES WITH EQUIPMENT MANUFACTURERS.

5 FUEL OIL TANK GAUGING SYSTEM
SCALE: NONE



NOTE:

1. THE TCC SHALL PROVIDE 24VAC TO THOSE MISC. CONTROL DEVICES WHICH ARE NOT POWERED DIRECTLY FROM A UNITARY HVAC SYSTEM. COORDINATE WITH MECHANICAL CONTRACTOR AND EQUIPMENT VENDORS FOR CONTROL DEVICE POWER.
2. THE DISTRICT SHALL PROVIDE ETHERNET DROPS TO EACH PANEL.

4 UNIT HEATER CONTROL DIAGRAM
SCALE: NONE

7 DDC CONTROL PANEL INSTALLATION
SCALE: NONE

No.	Date	Revisions
.1	12-28-22	BIDDING DOCUMENTS
.2	06-09-23	SED ADDENDUM #1
.3	09-14-23	BIDDING DOCUMENTS

REG. EXP. DATE: 04-30-24

Drawn by MEP
Checked by PV
Project No. 42054
Scale NTS
Date 09-14-23

GREENMAN PEDERSEN, INC
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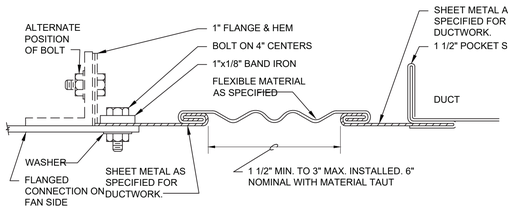
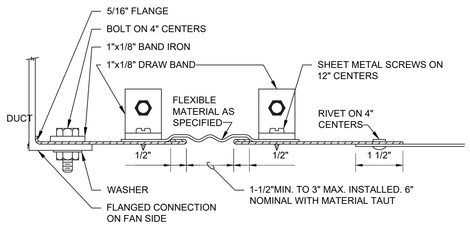
Drawing Title
CONTROL DIAGRAMS - 4

Drawing No.
WGES-M-404

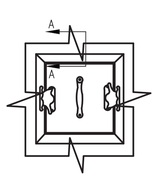


RECTANGULAR FLEXIBLE CONNECTION

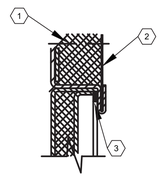


ROUND FLEXIBLE CONNECTION

1 DUCT FLEXIBLE CONNECTION
SCALE: NTS



ACCESS PANEL

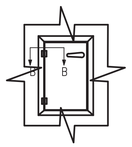


SECTION "A-A"

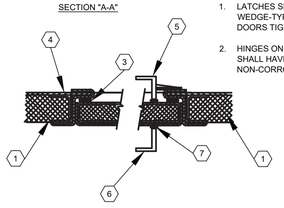
1. INSULATION
2. DUCT
3. GASKET
4. CASING
5. HANDLE INSIDE
6. FACTORY FABRICATED LATCH
7. FLEXIBLE

NOTES:

1. LATCHES SHALL BE OF THE WEDGE-TYPE TO CLOSE DOORS TIGHTLY
2. HINGES ON ACCESS DOORS SHALL HAVE NON-CORROSIVE PINS



ACCESS DOOR

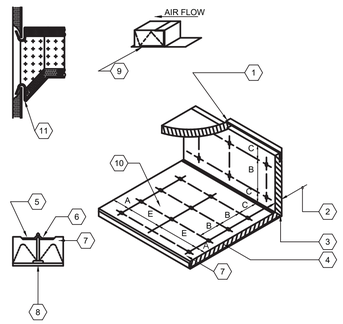


SECTION "B-B"

2 SQUARE DUCT ELBOW
SCALE: NTS

MAXIMUM SPACING FOR FASTENERS. ACTUAL INTERVALS ARE APPROXIMATE.

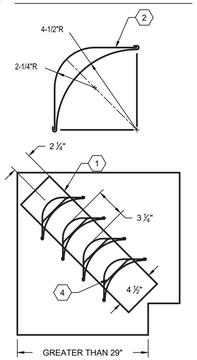
VELOCITY	DIMENSIONS			
	A	B	C	E
0-6000 FPM	3"	6"	4"	16"



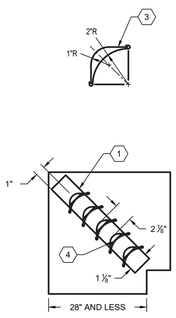
1. LAPPED AND BUTTED CORNER
2. 1" THICK LINER OR AS SPECIFIED
3. ALTERNATE FOLDED CORNER
4. ALL TRANSVERSE EDGES TO BE COATED WITH ADHESIVE
5. INTEGRAL OR PRESS-ON HEAD
6. WASHER
7. LINER ADHERED TO THE DUCT WITH A 100% AREA COVERAGE OF ADHESIVE
8. WELDED PIN
9. USE METAL NOSING ON INITIAL LEADING EDGE. NOSING MAY BE FORMED ON DUCT, BE CHANNEL OR ZEE ATTACHED BY SCREWS, RIVETS OR WELDS
10. THE VELOCITY RATED SIDE OF LINER MUST FACE THE AIR FLOW
11. LINED DUCT CONNECTION (NO EXPOSED LINER EDGES)

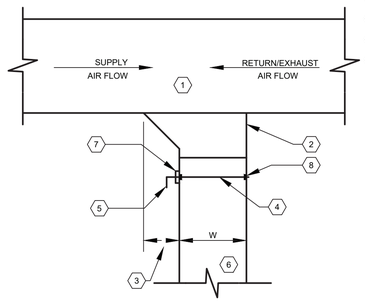
1. 22 GA VANE RUNNER BOLTED, SCREWED OR WELDED TO DUCT
2. LARGE DOUBLE VANE, MIN 24 GA, 72" MAX UNSUPPORTED VANE LENGTH
3. SMALL DOUBLE VANE, MIN 26 GA, 48" MAX UNSUPPORTED VANE LENGTH
4. TURNING VANE MOUNTED ON EACH TAB OF RUNNER. EVERY RUNNER TAB MUST RECEIVE A TURNING VANE.

DUCTS GREATER THAN 16" WIDE



DUCTS 16" WIDE AND LESS





1. RECTANGULAR MAIN DUCT
2. 45 DEG. TAKEOFF
3. 1/4 W. 5" MINIMUM
4. VOLUME DAMPER
5. LOCKING QUADRANT
6. RECTANGULAR BRANCH DUCT
7. PROVIDE HAT CHANNEL ON INSULATED DUCTWORK
8. BEARING (TYP)

GENERAL NOTES:

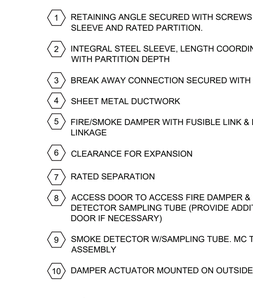
SINGLE-BLADE DAMPER SHAFT SHALL BE CONTINUOUS.

CONTRACTOR FABRICATED DAMPERS ARE NOT ACCEPTABLE ABOVE 11" IN HEIGHT.

SINGLE BLADE DAMPERS ARE NOT ACCEPTABLE FOR DUCTS OVER 11" IN HEIGHT. USE MANUFACTURED OPPOSED BLADE DAMPERS.

PROVIDE BEARINGS AT BOTH ENDS OF DAMPER BLADES WITH GASKETS AT DUCT PENETRATIONS

3 RECTANGULAR DUCT TAP
SCALE: NTS



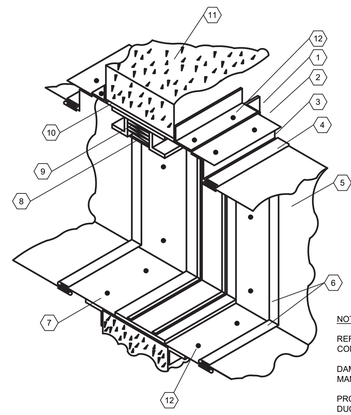
1. RETAINING ANGLE SECURED WITH SCREWS TO SLEEVE AND RATED PARTITION.
2. INTEGRAL STEEL SLEEVE, LENGTH COORDINATED WITH PARTITION DEPTH
3. BREAK AWAY CONNECTION SECURED WITH SCREWS
4. SHEET METAL DUCTWORK
5. FIRE/SMOKE DAMPER WITH FUSIBLE LINK & DAMPER LINKAGE
6. CLEARANCE FOR EXPANSION
7. RATED SEPARATION
8. ACCESS DOOR TO ACCESS FIRE DAMPER & SMOKE DETECTOR SAMPLING TUBE (PROVIDE ADDITIONAL DOOR IF NECESSARY)
9. SMOKE DETECTOR W/SAMPLING TUBE. MC TO INSTALL ASSEMBLY
10. DAMPER ACTUATOR MOUNTED ON OUTSIDE OF DUCT

NOTES:

REFER TO SMACNA FIRE DAMPER GUIDE FOR CONSTRUCTION DETAILS

DAMPERS TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURES PRINTED INSTRUCTIONS

PROVIDE DUCT ACCESS DOOR MINIMUM 16"X16" OR DUCT WIDTH BY 16" AT EACH FIRE DAMPER. LABEL EACH DOOR WITH ½" TALL LETTERS "FD". POSITION ACCESS DOOR TO PROVIDE SERVICE ACCESS OF THE DETECTOR AND DAMPER TO INCLUDE FUSIBLE LINK REPLACEMENT.



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)

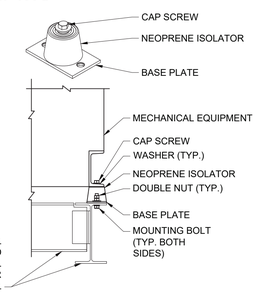
NOTES:

REFER TO SMACNA FIRE DAMPER GUIDE FOR CONSTRUCTION DETAILS

DAMPERS TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURES PRINTED INSTRUCTIONS

PROVIDE DUCT ACCESS DOOR MINIMUM 16"X16" OR DUCT WIDTH BY 16" AT EACH FIRE DAMPER. LABEL EACH DOOR WITH ½" TALL LETTERS "FD". POSITION ACCESS DOOR TO PROVIDE SERVICE ACCESS OF THE FIRE DAMPER TO INCLUDE FUSIBLE LINK REPLACEMENT.

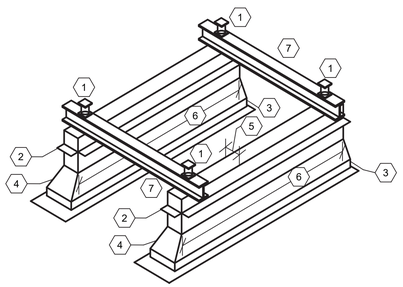
4 DUCT AT WALL PENETRATION
SCALE: NTS



NOTES:

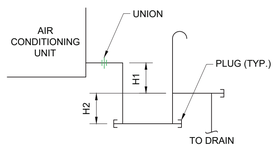
1. COORDINATE MOUNTING HOLE LOCATIONS AND QUANTITIES WITH OTHER TRADES PRIOR TO FABRICATION AND INSTALLATION OF STEEL AND EQUIPMENT.
2. COORDINATE EQUIPMENT DELIVERY WITH THE INSTALLATION OF THE VIBRATION ISOLATORS.
3. PROVIDE STAINLESS MOUNTING BOLTS OF THE GRADE, SIZE, AND QUANTITY REQUIRED BY THE ISOLATOR MANUFACTURER. ALIGN ISOLATOR WITH STEEL DUNNAGE SUCH THAT ALL ISOLATOR MOUNTING HOLES ARE UTILIZED. IF ISOLATORS WITH FOUR HOLES ARE FURNISHED, THEN FOUR MOUNTING BOLTS PER ISOLATOR SHALL BE REQUIRED.

5 DUCT ACCESS DOOR
SCALE: NTS



1. VIBRATION ISOLATOR PER SECTION 15504 BOLTED TO STEEL BEAM. PROVIDE ISOLATORS FOR USE OUTDOORS. (TYP OF 4)
2. COUNTER FLASHING OVER TREATED WOOD NAILER
3. GALVANIZED STEEL, MIN. 18 GAGE WITH WELDED SEAMS
4. RAIL
5. MINIMUM 3 5/8"
6. MINIMUM 102" U.O.N.
7. GALVANIZED STEEL BEAM OR STRUT CHANNEL ATTACHED TO RAIL.

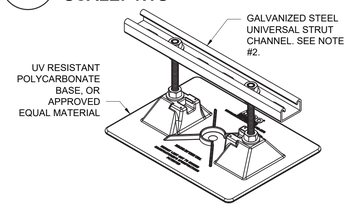
6 DUCT LINER INSTALLATION
SCALE: NTS



NOTE:

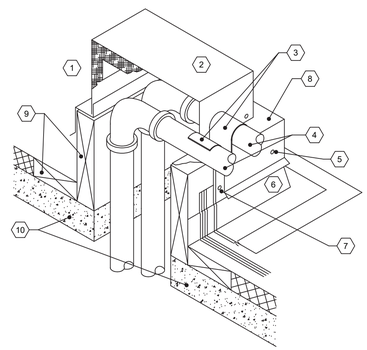
1. SLOPE PIPING 1/8" PER FOOT TOWARD DRAIN. TERMINATE WITHIN 6" OF THE NEAREST ROOF DRAIN.
2. FOR DRAW THROUGH UNITS: H1= NEGATIVE STATIC PRESSURE OF FAN + 1" MIN. H2=H1.
3. MINIMUM PIPE SIZES SHALL BE AS FOLLOWS:
   a. FOR EQUIPMENT UP TO 20 TONS REFRIGERATION: 3/4"
   b. FOR EQUIPMENT OVER 20 TONS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

7 FIRE/SMOKE/DAMPER
SCALE: NTS



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 MCNYS 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.



1. INSULATE INSIDE OF HOOD
2. SHEET METAL HOOD
3. SHEET METAL OR FLEX-TUBE COLLAR
4. SLOPE PIPES AWAY FROM HOOD
5. FASTENERS (BY GC)
6. BASE FLASHING
7. FASTENERS (BY GC)
8. CAP FLASHING
9. WOOD BLOCKING
10. EXISTING CONCRETE DECK

8 CHILLER MOUNTING DETAIL
SCALE: NTS

9 ROOFTOP EQUIPMENT MOUNTING DETAIL
SCALE: NTS

10 CONDENSATE DRAIN TRAP
SCALE: NTS

11 ROOFTOP CONDENSATE PIPE SUPPORT
SCALE: NTS

12 ROOFTOP PIPE PENETRATION
SCALE: NTS

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

REG. EXP. DATE: 04-30-24

Drawn by MEP
Checked by PV
Project No. 42054
Scale NTS
Date 09-14-23

GREENMAN PEDERSEN, INC
2 EXECUTIVE BOULEVARD SUITE 302 SUFFERN, NY 10901
Mechanical & Electrical Engineer:

GREENMAN PEDERSEN, INC
2 EXECUTIVE BOULEVARD SUITE 302 SUFFERN, NY 10901
Structural Engineer:

UNIVENT REPLACEMENT AT WILLOW GROVE ELEMENTARY
SED# 50-02-01-06-0-030-016
COUNTY OF ROCKLAND
###

MICHAEL SHILALE ARCHITECTS, L.L.P.
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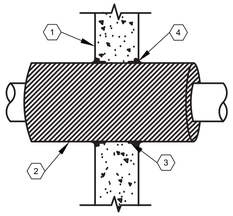
www.shilale.com

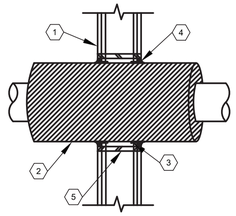
Drawing Title
MECHANICAL DETAILS - 1

Drawing No.
WGES-M-501



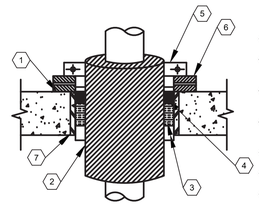
1. CONCRETE OR CONCRETE BLOCK WALL
2. STEEL OR IRON PIPE TO 12" OR COPPER PIPE UP TO 6" WITH UP TO 3" FIBERGLASS OR MINERAL WOOL INSULATION
3. WRAP STRIP. WRAP PRODUCT AROUND PIPE, SECURE WITH STEEL TIE WIRE, AND RECESS 1-3/4" INTO WALL CAVITY
4. SEALANT. INSTALL 1/4" BEAD AROUND WRAP STRIP/INSULATION INTERSTICES. ANNULUS AFTER INSTALLATION OF WRAP STRIP(S) SHALL RANGE FROM POINT CONTACT TO 1/4" MAXIMUM

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



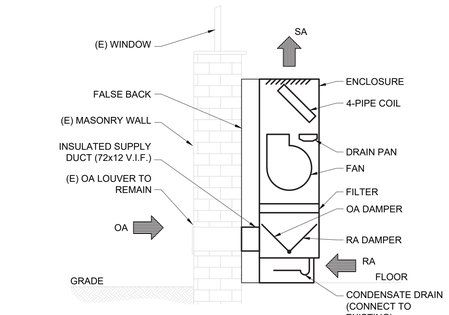
1. CONCRETE OR CONCRETE BLOCK WALL
2. STEEL OR IRON PIPE TO 12" OR COPPER PIPE UP TO 6" WITH UP TO 3" FIBERGLASS OR MINERAL WOOL INSULATION
3. WRAP STRIP. WRAP PRODUCT AROUND PIPE, SECURE WITH STEEL TIE WIRE, AND RECESS 1-⅜" INTO WALL CAVITY
4. SEALANT. INSTALL ¼" BEAD AROUND WRAP STRIP/INSULATION INTERSTICES. ANNULUS AFTER INSTALLATION OF WRAP STRIP(S) SHALL RANGE FROM POINT CONTACT TO ½" MAXIMUM
5. STEEL SLEEVE

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



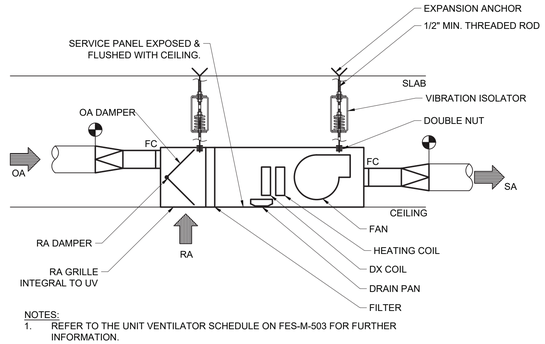
1. CONCRETE SLAB OR CONCRETE OVER STEEL DECK.
2. STEEL, IRON OR COPPER PIPE WITH UP TO 2" THICK FIBERGLASS INSULATION.
3. TIGHTLY PACKED MINERAL WOOL, NOMINAL 4 PCF, TO A 3" DEPTH.
4. SEALANT INSTALLED TO A 1" DEPTH. ANNULUS RANGING FROM 1/4" MINIMUM TO 3" MAXIMUM.
5. STANDARD PIPE CLAMP.
6. STEEL BEARING PLATE.
7. STEEL SLEEVE

3 PIPE THRU FLOOR
SCALE: N.T.S.



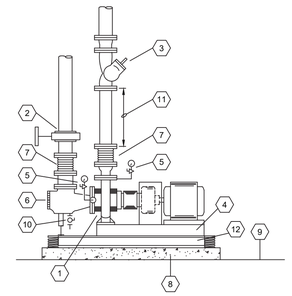
NOTES:
1. DEMOLITION: REMOVE THE EXISTING UNIT VENTILATOR WHERE SHOWN ON THE PLANS. THE EXISTING OUTSIDE AIR LOUVER AND WALL SLEEVE SHALL REMAIN.
2. CONSTRUCTION: PROVIDE THE UNIT VENTILATOR IN THE SAME LOCATION AS EXISTING WHERE SHOWN ON THE PLANS. CONNECT THE OUTSIDE AIR DUCT TO THE EXISTING OUTSIDE 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.

4 VERTICAL UNIT VENTILATOR
SCALE: N.T.S.



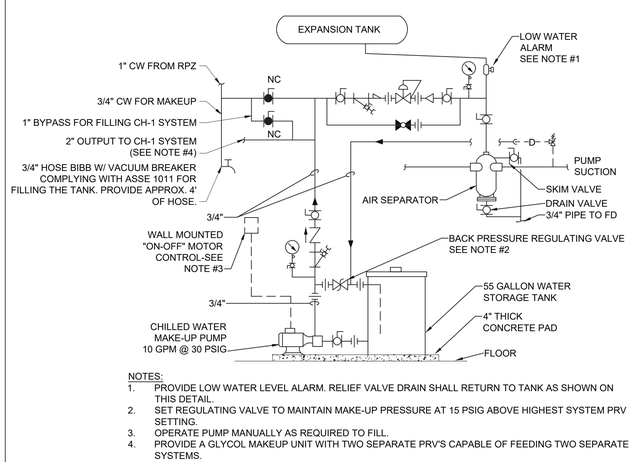
NOTES:
1. REFER TO THE UNIT VENTILATOR SCHEDULE ON FES-M-503 FOR FURTHER INFORMATION.

5 HORIZONTAL UNIT VENTILATOR
SCALE: N.T.S.



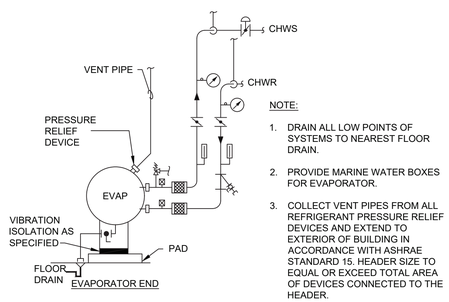
1. BASE MOUNTED PUMP
2. BUTTERFLY VALVE
3. TRIPLE DUTY VALVE
4. INFILL PUMP BASE WITH CONCRETE
5. PRESSURE GAUGE WITH NEEDLE VALVE
6. SUCTION DIFFUSER AND BASE LEG
7. FLEXIBLE CONNECTOR
8. 6" CONCRETE BASE
9. FINISHED FLOOR
10. 1" BALL VALVE
11. DISTANCE AS REQUIRED BY MFR.
12. CONCRETE FILLED INERTIA BASE (CHWP-3 & CHWP-4 ONLY).

6 CHILLED WATER PUMP PIPING
SCALE: N.T.S.



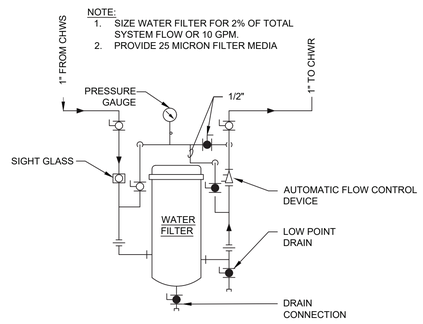
NOTES:
1. PROVIDE LOW WATER LEVEL ALARM. RELIEF VALVE DRAIN SHALL RETURN TO TANK AS SHOWN ON THIS DETAIL.
2. SET REGULATING VALVE TO MAINTAIN MAKE-UP PRESSURE AT 15 PSIG ABOVE HIGHEST SYSTEM PRV SETTING.
3. OPERATE PUMP MANUALLY AS REQUIRED TO FILL.
4. PROVIDE A GLYCOL MAKEUP UNIT WITH TWO SEPARATE PRV'S CAPABLE OF FEEDING TWO SEPARATE SYSTEMS.

7 GLYCOL MAEKUP UNIT PIPING
SCALE: N.T.S.



NOTE:
1. DRAIN ALL LOW POINTS OF SYSTEMS TO NEAREST FLOOR DRAIN.
2. PROVIDE MARINE WATER BOXES FOR EVAPORATOR.
3. COLLECT VENT PIPES FROM ALL REFRIGERANT PRESSURE RELIEF DEVICES AND EXTEND TO EXTERIOR OF BUILDING IN ACCORDANCE WITH ASHRAE STANDARD 15. HEADER SIZE TO EQUAL OR EXCEED TOTAL AREA OF DEVICES CONNECTED TO THE HEADER.

8 CHILLER PIPING CONNECTIONS
SCALE: N.T.S.



9 WATER FILTER PIPING
SCALE: N.T.S.

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

REG. EXP. DATE: 04-30-24

Drawn by	MEP
Checked by	PV
Project No.	42054
Scale	NTS
Date	09-14-23

GREENMAN PEDERSEN, INC
2 B EXECUTIVE BOULEVARD
SUITE 302
SUFFERN, NY 10901
Mechanical & Electrical Engineer:

GREENMAN PEDERSEN, INC
2 B EXECUTIVE BOULEVARD
SUITE 302
SUFFERN, NY 10901
Structural Engineer:

UNIVENT
REPLACEMENT AT
WILLOW GROVE
ELEMENTARY
SCHOOL
SED# 50-02-01-0-030-016
###
COUNTY OF ROCKLAND

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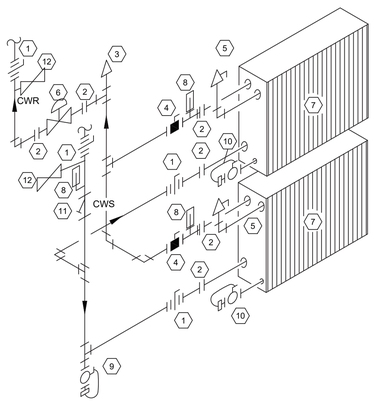
Drawing Title
MECHANICAL DETAILS - 2

Drawing No.
WGES-M-502

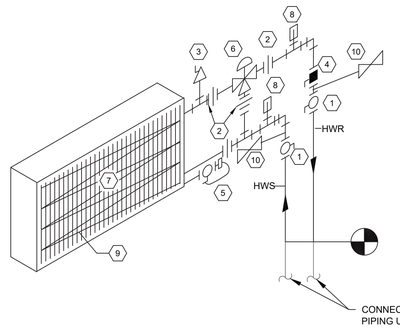


1. BUTTERFLY OR BALL VALVE (SEE SPECIFICATION)
2. FLANGE
3. MANUAL AIR VENT
4. CALIBRATED BALANCING VALVE
5. MANUAL COIL AIR VENT
6. TWO-WAY CONTROL VALVE (ELECTRIC OR PNEUMATIC AS SPECIFIED)
7. COOLING COIL
8. THERMOMETER
9. DRAIN VALVE
10. COIL DRAIN VALVE
11. STRAINER
12. GATE VALVE WITH HOSE CONNECTION

NOTE:

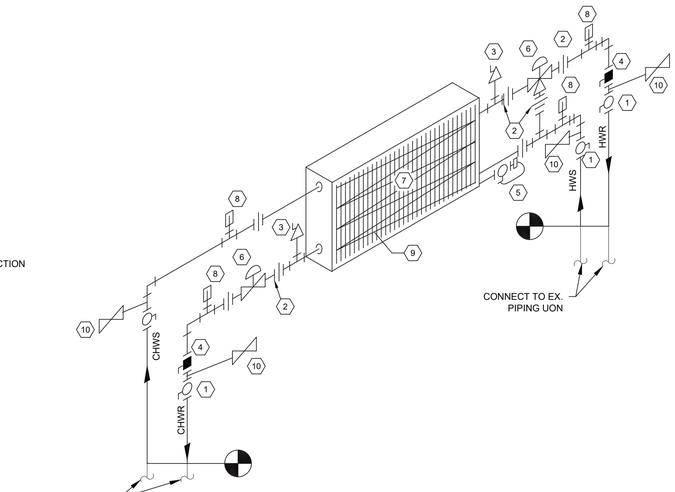
COIL HEIGHTS NOT TO EXCEED 45 INCHES. PROVIDE DRAIN PAN BETWEEN COILS.

1 CHILLED WATER COIL PIPING
SCALE: N.T.S.



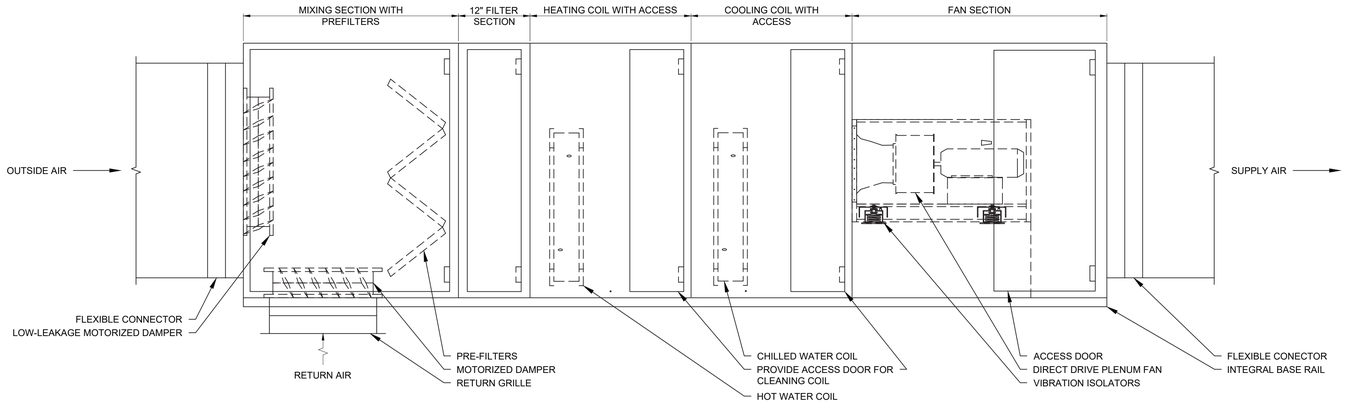
1. BALL VALVE
2. UNION
3. MANUAL AIR VENT
4. CALIBRATED BALANCING VALVE
5. DRAIN VALVE
6. THREE-WAY CONTROL VALVE
7. HEATING COIL
8. THERMOMETER
9. FREEZE STAT (SERPENTINE)
10. GATE VALVE WITH HOSE CONNECTION

2 HOT WATER COIL PIPING
SCALE: N.T.S.

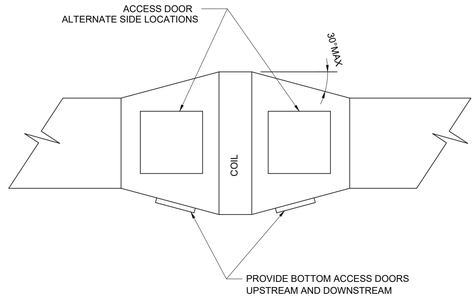


1. BALL VALVE (TYP.)
2. UNION (TYP.)
3. MANUAL AIR VENT
4. CALIBRATED BALANCING VALVE
5. DRAIN VALVE
6. CONTROL VALVE
7. 4-PIPE COOLING/HEATING COIL
8. THERMOMETER
9. FREEZE STAT (SERPENTINE)
10. GATE VALVE WITH HOSE CONNECTION

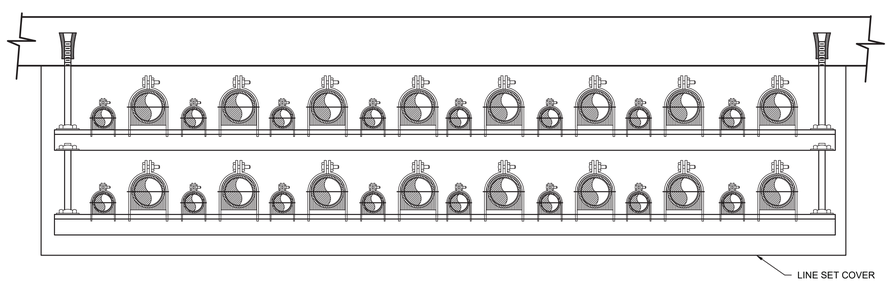
3 FOUR PIPE UNIT VENTILATOR COIL PIPING
SCALE: N.T.S.



4 AHU-20 CONFIGURATION
SCALE: N.T.S.



5 DUCT-MOUNTED COIL ACCESS DOORS
SCALE: N.T.S.



6 REFRIGERANT PIPING SUPPORT
SCALE: N.T.S.

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

REG. EXP. DATE: 04-30-24

Drawn by	MEP
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Project No.	42054
Scale	NTS
Date	09-14-23

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Drawing Title
MECHANICAL DETAILS - 3

Drawing No.
WGES-M-503

POWER & SYSTEMS SYMBOL LIST

SYMBOL	DESCRIPTION
2,4	CONDUIT AND WIRE RUN CONCEALED IN FLOOR, CEILING OR WALL IN NEW CONSTRUCTION & SURFACE IN EXISTING CONSTRUCTION. HASH MARKS DENOTE NUMBER OF WIRES IF MORE THAN TWO ARE REQUIRED. ARROWS DENOTE HOMERUNS OF PARTICULAR CIRCUITS, MINIMUM 2#12 THHN/THWN IN 3/4" CONDUIT. ALL BRANCH CIRCUITS FOR 120V IF GREATER THAN 100 FEET SHALL BE ONE SIZE LARGER MINIMUM, AND FOR 277V IF MORE THAN 200 FEET ONE SIZE LARGER MINIMUM (BOTH TO MEET VOLTAGE DROP REQUIREMENTS) " " DENOTES GROUND CONDUCTOR TO MATCH CIRCUIT WIRES
— PNL-1	"PNL" INDICATES PANEL DESIGNATION, "1" INDICATES CIRCUIT NUMBER. CIRCUIT WIRE SHALL BE MINIMUM 2#12 THHN/THWN IN 3/4" CONDUIT, U.O.I. COMPUTER CIRCUIT SHALL ALSO BE PROVIDED WITH A SEPARATE NEUTRAL
	LIGHTING AND POWER PANEL BOARD, FLUSH MOUNTED IN WALL WITH COVER.
	LIGHTING AND POWER PANEL BOARD, SURFACE MOUNTED ON WALL.
	SAME AS ABOVE BUT WITH GUTTER TAP.
	WIRING TROUGH/SPLICE BOX, SIZE AS REQUIRED.
5	MOTOR. HORSEPOWER INSCRIBED, PHASES INDICATED BY CIRCUITING.
	CIRCUIT BREAKER.
	FUSED SWITCH, RATING AND FUSING INDICATED.
	UNFUSED SWITCH.
	AUTOMATIC TRANSFER SWITCH.
	GROUND
	JUNCTION BOX, SIZE IS REQUIRED.
WP	DUPLEX THREE WIRE GROUNDED RECEPTACLE, 20A, 125V. (NEMA 5-20R) MOUNTED 18" A.F.F. U.O.I. SUBSCRIPT "WP" INDICATES WEATHER PROOF. SUBSCRIPT "K" INDICATES SAFETY TYPE.
	DUPLEX THREE WIRE GROUNDED RECEPTACLE, 20A, 125V. (NEMA 5-20R) WITH "GFI" GROUND FAULT INTERRUPTER STANCION MOUNTED 18" A.F.F. U.O.I.
VFD	VARIABLE FREQUENCY DRIVE WITH INTEGRAL DISCONNECT
30 / 2 U — SWITCH RATING; FUSE SIZE ("U" IF UNFUSED); POLES	DISCONNECT SWITCH, RATING AND FUSING NOTED. HORSEPOWER RATING AS REQUIRED BY MOTOR LOAD. 'WP' INDICATES WEATHERPROOF NEMA 4X ENCLOSURE, OTHERWISE NEMA-1. SUBSCRIPT "L" INDICATES LOCKABLE TYPE.
	NEW UNIT VENTILATOR

EXISTING LIGHTING AND POWER SYSTEM LIST

SYMBOL	DESCRIPTION
	EXISTING JUNCTION BOX
	EXISTING DISCONNECT SWITCH/MOTOR STARTER
	EXISTING PANEL
	EXISTING UNIT VENTILATOR

NOTE - ALL THE ABOVE SYMBOLS MAY NOT BE USED

GENERAL NOTES:

1. FOR AN EXPLANATION OF ABBREVIATIONS AND SYMBOLS USED ON THESE DRAWINGS, SEE THE ABBREVIATION LIST AND SYMBOLS LIST ON THIS SHEET.
2. 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.
3. 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.
4. THE CONTRACTOR SHALL COORDINATE WITH THE HVAC, PLUMBING, ARCHITECTURAL AND STRUCTURAL TRADES FOR EXACT LOCATIONS OF MOTORS AND EQUIPMENT, IN ORDER TO AVOID INTERFERENCE.
5. 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.
6. 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.
7. IN THE BOILER ROOM, SYSTEM CONDUITS, SUCH AS FOR LIGHTING AND POWER FEEDERS, LOW VOLTAGE, FIRE SIGNAL, ETC., SHALL NOT BE RUN OVER BOILERS.
8. 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.
9. PULL AND JUNCTION BOXES SHALL BE SURFACE TYPE IN UNFINISHED AREAS AND FLUSH TYPE IN FINISHED AREAS (AT NEW WALLS/PARTIONS), 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.
10. 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.
11. 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.
12. CONTRACTOR SHALL PROVIDE SEPARATE RACEWAYS FOR CONDUCTORS ON NORMAL AND EMERGENCY CIRCUITS.
13. PROVIDE FIRE STOP SEALS TO ALL PENETRATIONS OF ALL EXISTING FLOORS, SLABS, AND WALLS/PATITIONS; AND ALL NEW FIRE RATED WALLS & PARTITIONS.
14. PROVIDE DEFLECTION FITTINGS AT ALL REQUIRED CROSSINGS OF EXPANSION POINTS.
15. 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.
16. 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

17. 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.
18. ALL COMPONENTS SHOWN ON RISER DIAGRAMS, BUT NOT ON THE PLAN OR VICE VERSA, SHALL BE INCLUDED AS IF SHOWN ON BOTH.
19. CONTRACTOR SHALL NOT INSTALL MORE THAN 3 CURRENT CARRYING CONDUCTORS IN A RACEWAY UNLESS OTHERWISE SPECIFICALLY INDICATED ON THE DRAWINGS.
20. THE ELECTRICAL CONTRACTOR SHALL REVIEW ALL TRADES CONTRACT DOCUMENTS TO DETERMINE SPECIFIC MOUNTING LOCATIONS FOR ELECTRICAL EQUIPMENT.
21. ALL MOUNTING HEIGHTS SHALL BE MEASURED FROM FINISHED FLOOR TO CENTERLINE OF DEVICES EXCEPT FOR EXIT SIGNS.
22. RIGID NONMETALLIC CONDUIT (RNMC) SHALL NOT BE INSTALLED WITHIN THE BUILDING FOOTPRINT. UNLESS OTHERWISE INDICATED.
23. NO CONDUIT IN THE BUILDING SHALL BE IN CONTACT WITH THE EARTH UNLESS OTHERWISE NOTED.
24. CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING EACH CKT IN ALL MANHOLES, HAND HOLES, WIRE WAYS & ALL OTHER ENCLOSURES & AT ALL TERMINATION.
25. 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.
26. 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.
28. 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.
29. 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.
30. 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.
31. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE TO COORDINATE WITH OTHER TRADES AT FIELD SO THAT NO FOREIGN SYSTEM SUCH AS PIPING, DUCT, LEAK PROTECTION APPARATUS, OR OTHER EQUIPMENT FOREIGN TO THE ELECTRICAL INSTALLATION SHALL BE RUN OVER THE ELECTRICAL EQUIPMENT INSTALLATION.
32. 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.

ABBREVIATIONS

A	AMPERE	KWH	KILOWATT HOUR
AC	ALTERNATING CURRENT	LP	LIGHTING PANEL
ACCU	A/C CONDENSING UNIT	LS	LOUDSPEAKER
AF	FUSE RATING IN AMPS	LTG	LIGHTING
AFF	ABOVE FINISHED FLOOR	MCC	MOTOR CONTROL CENTER
AHU	AIR HANDLING UNIT	MECH	MECHANICAL
ARCH	ARCHITECTURAL	MER	MECHANICAL EQUIPMENT ROOM
AS	SWITCH RATING IN AMPS	MIC	MICROPHONE
ATS	AUTOMATIC TRANSFER SWITCH	MLO	MAIN LUG ONLY
A/C	AIR CONDITIONING	MTD	MOUNTED
C	CONDUIT	N	NEUTRAL
CB	CIRCUIT BREAKER	N.C.	NORMALLY CLOSED
CLG	CEILING	N.O.	NORMALLY OPEN
CKT(S)	CIRCUIT(S)	P	POLE(S)
COL	COLUMN	PB	PULL BOX
DHWH	DOMESTIC HOT WATER HEATER	PNL	PANEL
DSP	DUPLEX SUMP PUMP	PPP	PORT PATCH PANEL
DWBS	DUPLEX WATER BOOSTER PUMP	POS	POINT OF SALE
DWG	DRAWING	PP	POWER PANEL
E	EXISITNG TO REMAIN	PWR	POWER
ER	EXISITNG TO BE REMOVED	RC	REMOTE CONTROL
ERR	EXISITNG TO BE RELOCATED	REL	RELOCATED
EBBH	ELECTRIC BASEBOARD HEATER	RGC	RIGID GALVANIZED CONDUIT
EC	EMPTY CONDUIT	RTU	ROOF TOP UNIT
ECC	ELECTRIC CABINET CONVECTOR	SECT	SECTION
ECH	ELECTRIC CABINET HEATER	SP	SPARE
EF	EXHAUST FAN	SPF	SMOKE PURGE FAN
EMR	ELEVATOR MECHANICAL ROOM	SPR	SPARE
EUH	ELECTRIC UNIT HEATER	STD	STANDARD
EXH	EXHAUST	SUR	SURFACE
FL	FLOOR	SW	SWITCH
FPB	FAN POWER BOX	SWBD	SWITCHBOARD
G	GUARD	TEF	TOILET EXHAUST FAN
GND	GROUND	TEL	TELEPHONE
GFI	GROUND FAULT INTERRUPTER	TV	TELEVISION
IG	ISOLATED GROUND	TYP	TYPICAL
IWB	INTERACTIVE WHITE BOARD	UOI	UNLESS OTHERWISE INDICATED
JB	JUNCTION BOX	V	VOLT
KEF	KITCHEN EXHAUST FAN	VAV	VARIABLE AIR VOLUME
KVA	KILOVOLT AMPERE	W	WATT
KW	KILOWATT	WP	WEATHER PROOF
AFCI	ARC FAULT CIRCUIT INTERRUPTER		

NOTE - ALL THE ABOVE ABBREVIATIONS MAY NOT BE USED

ALTERNATES:

INCLUDE IN THE BID A SEPARATE PRICE FOR THE FOLLOWING:

1. BASE BID: REUSE THE EXISTING UV'S SPECIFIED FOR REPLACEMENT AS PER ALT. NO. 200. REMOVE EXISTING COIL, FLIP AND CONNECT HEAT AND CHILLER LINES TO PROPER COILS. ALL OTHER EXISTING UV'S TO BE REPLACED WITH NEW.
2. ALT. NO. 200: REPLACE EXISTING UV'S IN LOCATION SPECIFIED ON THE PLANS. SEE PLANS FOR LOCATIONS. INCLUDE AN ALLOWANCE TO REPLACE EXISTING HEAT SUPPLY & RETURN PIPING AND INSULATION FOR 20 LINEAR FEET PER EACH UNIT VENTILATOR TO BE REPLACED.
3. ALT. NO. 201: REMOVE AND REPLACE CAFETERIA UNIT, AHU-20.
4. ALT. NO. 202: REFURBISH EXISTING PLENUM MOUNTED HVAC UNIT AND PROVIDE NEW ACCESS PANELS AND MAINTENANCE PLATFORMS FOR AHU-1 AND AHU-2.
5. ALT. NO. 203: REFER THE THE ARCHITECTURAL DRAWINGS.
6. ALT. NO. 204: REFER THE THE ARCHITECTURAL DRAWINGS.

ELECTRICAL CONSTRUCTION NOTES

1. 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.
2. 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.
3. 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.
4. 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.
5. THE CONTRACTOR SHALL GIVE THIRTY DAYS WRITTEN NOTICE IN ADVANCE TO THE SCA OF ANY REQUIRED SHUTDOWN, INCLUDING THE ESTIMATED PERIOD.
6. THE CONTRACTOR IS REQUIRED TO COORINATE WITH THE SCHOOL FACILITY TO ARRANAGE FOR A METERED POWER FOR CONSTRUCTION PURPOSE BASED ON A RATE DEFINED BY THE FACILITY. THE CONTRACTOR IS RESPONSIBLE FOR THE TEMPORARY CONSTRUCTION POWER.

ELECTRICAL DEMOLITION NOTES

1. THE DEMOLITION WORK SHALL BE CARRIED ON IN EVERY RESPECT IN A THOROUGH AND WORKMANLIKE MANNER.
2. ALL DEMOLITION, REMOVAL, AND DISPOSAL WORK SHALL BE IN COMPLIANCE WITH THE REQUIREMENTS OF THE BUILDING CODE AND WITH ALL STATE AND FEDERAL REGULATIONS.
3. REMOVE ALL DEBRIS NOT EXPLICITLY DESIGNATED TO BE SALVAGED (TO REMAIN) FROM THE PREMISES AND LEGALLY DISPOSE OFF AWAY FROM PREMISES.
4. 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.
5. 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.
6. 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.
7. 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.
8. 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
9. 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.
10. 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.
11. 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.
12. MAINTAIN CONTINUITY FOR ALL EQUIPMENT TO REMAIN. PROVIDE ALL REQUIRED ACCESSORIES, WIRING AND CONDUIT AS REQUIRED.
13. SUBSTANTIAL JOB COMPLETION INCORPORATES DEMOLITION OF EXISTING SYSTEMS IN CONTRACT.
14. THE EXISTING FIRE ALARM SYSTEM SHALL REMAIN OPERATIONAL AT ALL TIMES DURING CONSTRUCTION.
15. 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.

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

REG. EXP. DATE: 04-30-24

Drawn by DK
Checked by SH
Project No. 42054
Scale AS INDICATED
Date 09-14-23

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UNIVENT REPLACEMENT AT
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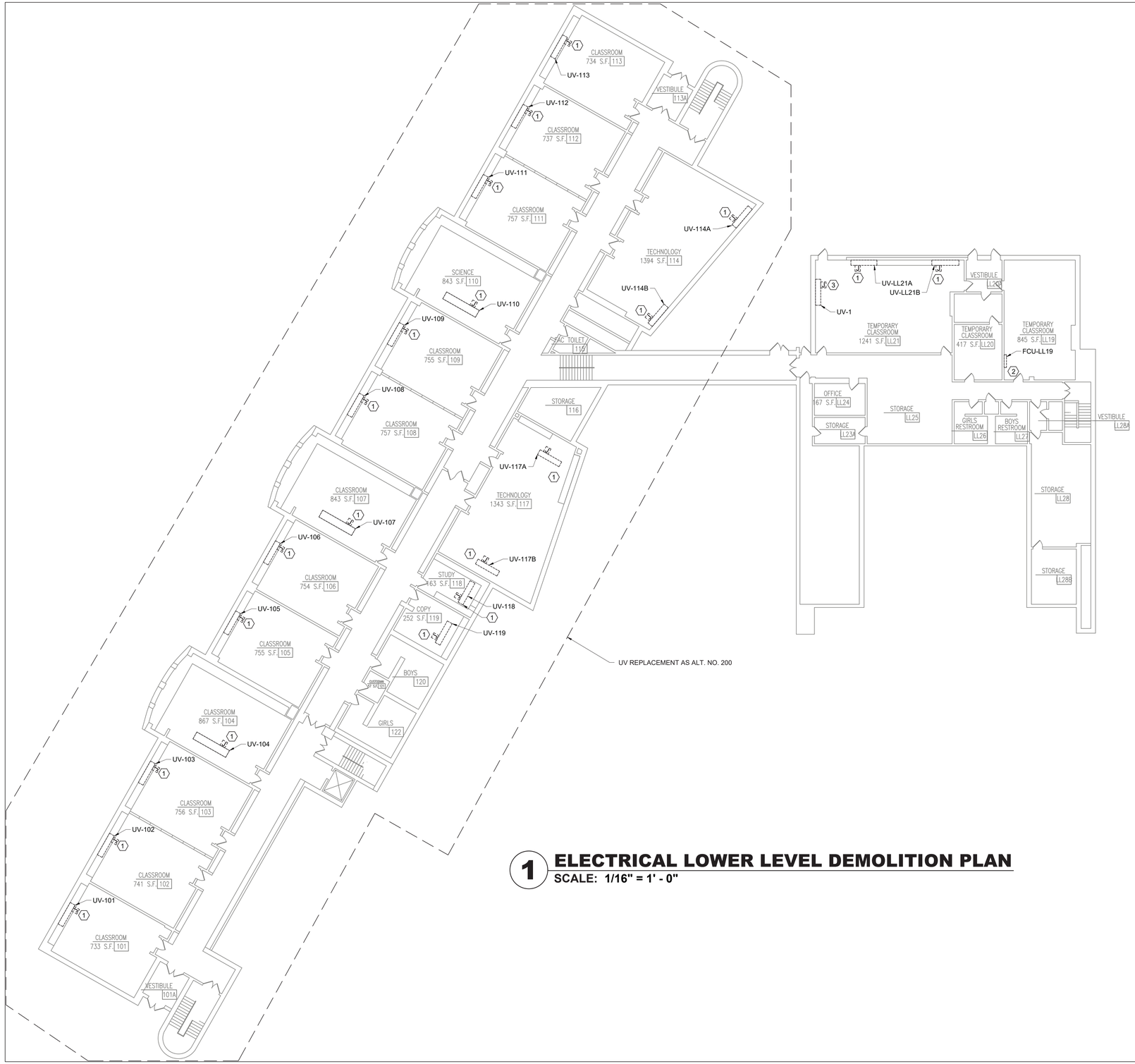
Drawing Title
ELECTRICAL NOTES & SCHEDULES

Drawing No.
WGES-E-001



1 ELECTRICAL LOWER LEVEL DEMOLITION PLAN

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

PLAN NORTH

DEMOLITION NOTES:

1. FOR ELECTRICAL SYMBOLS & LEGENDS, GENERAL NOTES AND ABBREVIATIONS DRAWING LIST REFER TO DWG E001.00
2. MAINTAIN CIRCUIT CONTINUITY TO AREAS NOT AFFECTED BY DEMOLITION.
3. THE CONTRACTOR IS TO COORDINATE ALL SHUTDOWNS AND DISRUPTIONS TO NORMAL SERVICES WITH THE SCHOOLS FIELD REPRESENTATIVE AND THE FACILITY.
4. COORDINATE REMOVAL OF POWER TO MECHANICAL EQUIPMENT WITH THE RESPECTIVE CONTRACTOR.
5. CONTRACTOR MUST FIELD VERIFY ALL CONNECTIONS PRIOR TO REMOVAL. PROTECT ALL FEEDER AND BRANCH CIRCUITS SERVING OTHER AREAS. CONTRACTOR WILL BE HELD RESPONSIBLE FOR ANY OUTAGES.
6. PATCH AND PAINT THE AREA AFTER REMOVALS HAVE BEEN DONE TO MATCH SURROUNDINGS.

KEYED NOTES:

1. EXISTING UNIT VENTILATORS WILL BE REMOVED BY HVAC CONTRACTOR. ELECTRICAL CONTRACTOR SHALL DISCONNECT THE WIRING, EXTEND AND RECONNECT IT TO THE NEW UNIT VENTILATORS. EXTEND WIRING & CONDUIT AS REQUIRED. SEE INSTALLATION PLAN FOR REFERENCE.
2. EXISTING HORIZONTAL FAN COIL UNIT ABOVE THE CEILING WILL BE REMOVED BY HVAC CONTRACTOR. ELECTRICAL CONTRACTOR SHALL DISCONNECT AND REMOVE THE CONDUIT AND WIRING BACK TO THE SOURCE.
3. EXISTING UNIT VENTILATORS WILL BE REMOVED BY HVAC CONTRACTOR. ELECTRICAL CONTRACTOR SHALL DISCONNECT AND REMOVE THE WIRING AND CONDUIT BACK TO SOURCE.

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

REG. EXP. DATE: 04-30-24

Drawn by	DK
Checked by	SH
Project No.	42054
Scale	AS INDICATED
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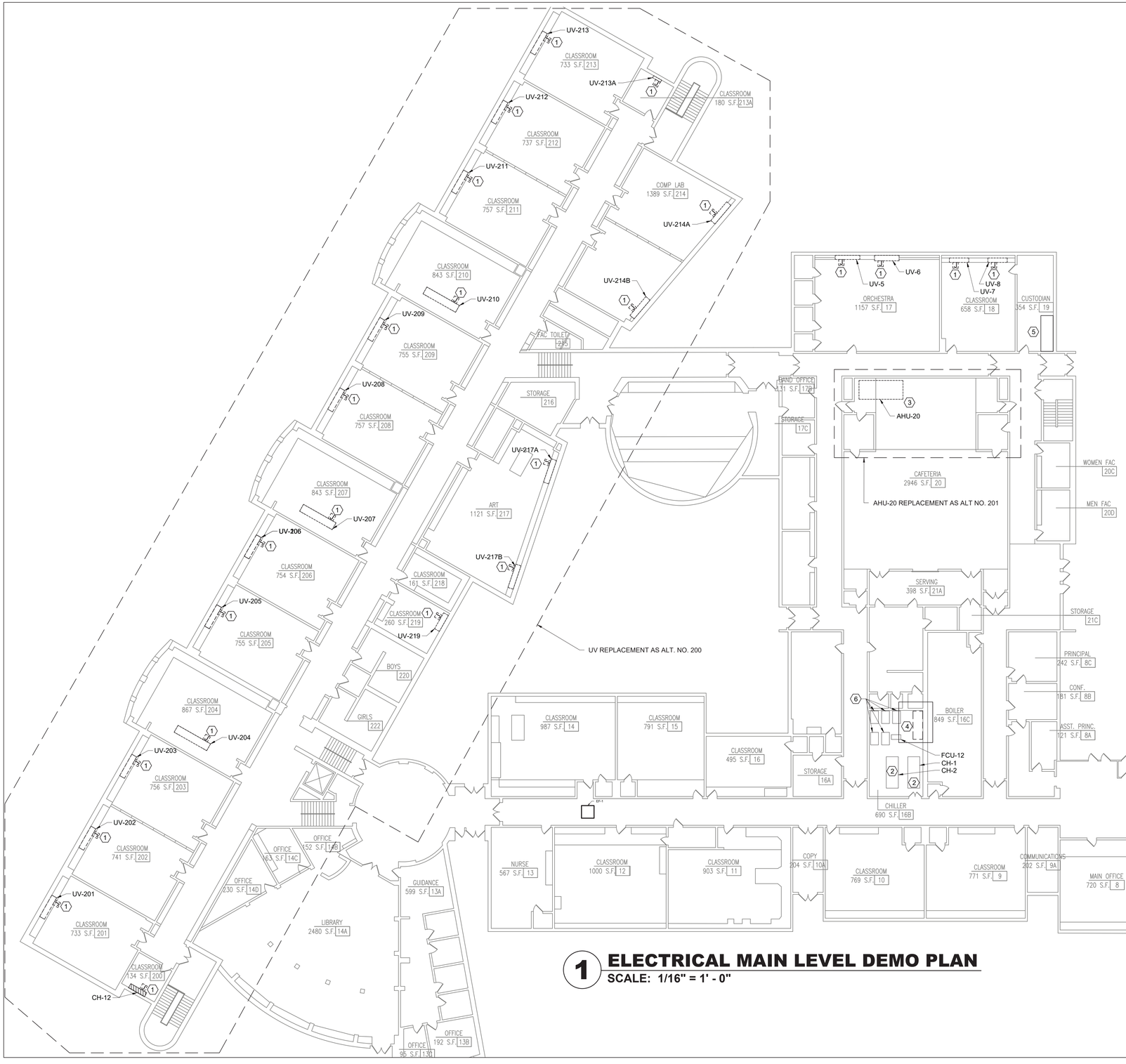
Drawing Title
ELECTRICAL LOWER LEVEL DEMO PLAN

Drawing No.
WGES-E-061



1 ELECTRICAL MAIN LEVEL DEMO PLAN

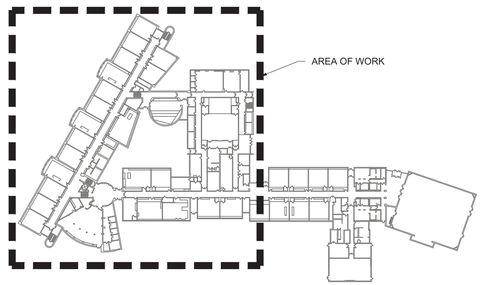
SCALE: 1/16" = 1' - 0"

DEMOLITION NOTES:

1. FOR ELECTRICAL SYMBOLS & LEGENDS, GENERAL NOTES AND ABBREVIATIONS DRAWING LIST REFER TO DWG E001.00
2. MAINTAIN CIRCUIT CONTINUITY TO AREAS NOT AFFECTED BY DEMOLITION.
3. THE CONTRACTOR IS TO COORDINATE ALL SHUTDOWNS AND DISRUPTIONS TO NORMAL SERVICES WITH THE SCHOOLS FIELD REPRESENTATIVE AND THE FACILITY.
4. COORDINATE REMOVAL OF POWER TO MECHANICAL EQUIPMENT WITH THE RESPECTIVE CONTRACTOR.
5. CONTRACTOR MUST FIELD VERIFY ALL CONNECTIONS PRIOR TO REMOVAL. PROTECT ALL FEEDER AND BRANCH CIRCUITS SERVING OTHER AREAS. CONTRACTOR WILL BE HELD RESPONSIBLE FOR ANY OUTAGES.
6. PATCH AND PAINT THE AREA AFTER REMOVALS HAVE BEEN DONE TO MATCH SURROUNDINGS.

KEYED NOTES:

1. EXISTING UNIT VENTILATORS WILL BE REMOVED BY HVAC CONTRACTOR. ELECTRICAL CONTRACTOR SHALL DISCONNECT THE WIRING, EXTEND AND RECONNECT IT TO THE NEW UNIT VENTILATORS. EXTEND WIRING & CONDUIT AS REQUIRED. SEE INSTALLATION PLAN FOR REFERENCE.
2. DISCONNECT POWER TO CHILLERS - 1 AND 2, REMOVE DISCONNECT SWITCHES, PULL BOXES, DISCONNECT SWITCHES, SUPPORTS, ETC. BACK TO SOURCE TO FACILITATE REMOVAL OF UNIT BY MECHANICAL CONTRACTOR.
3. EXISTING AIR HANDLING UNIT WILL BE REMOVED. ELECTRICAL CONTRACTOR SHALL DISCONNECT AND REMOVE THE CONDUIT AND WIRING BACK TO THE SOURCE.
4. EXISTING MOTOR CONTROL CENTER WILL BE REMOVED ALONG WITH ITS PULL BOXES. DISCONNECT SWITCHES, SUPPORTS, ETC. BACK TO SOURCE. REFER TO E-400 FOR EXISTING LOADS TO REMAIN AND TO BE RECONNECTED TO THE NEW SWITCHBOARD "CHDB".
5. EXISTING 2000A MAIN SWITCHBOARD TO REMAIN. REPLACE EXISTING 400A, 3P SPARE CIRCUIT BREAKER WITH A NEW 600A, 3P CIRCUIT BREAKER. SEE E-400 FOR ADDITIONAL INFORMATION.
6. EXISTING PUMPS SHALL BE DISCONNECTED AND REMOVED BY HVAC CONTRACTOR. DISCONNECT AND REMOVE ALL ASSOCIATED ELECTRICAL WIRING AND CONDUITS BACK TO SOURCE.



2 MAIN LEVEL KEY PLAN

SCALE: NTS

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

REG. EXP. DATE: 04-30-24

Drawn by DK
Checked by SH
Project No. 42054
Scale AS INDICATED
Date 09-14-23

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Structural Engineer:
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2 EXECUTIVE BOULEVARD SUITE 302 SUFFERN, NY 10901

UNIVENT REPLACEMENT AT WILLOW GROVE ELEMENTARY SCHOOL
SED# 50-02-01-06-0-030-016
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Drawing Title: ELECTRICAL MAIN LEVEL DEMO PLAN

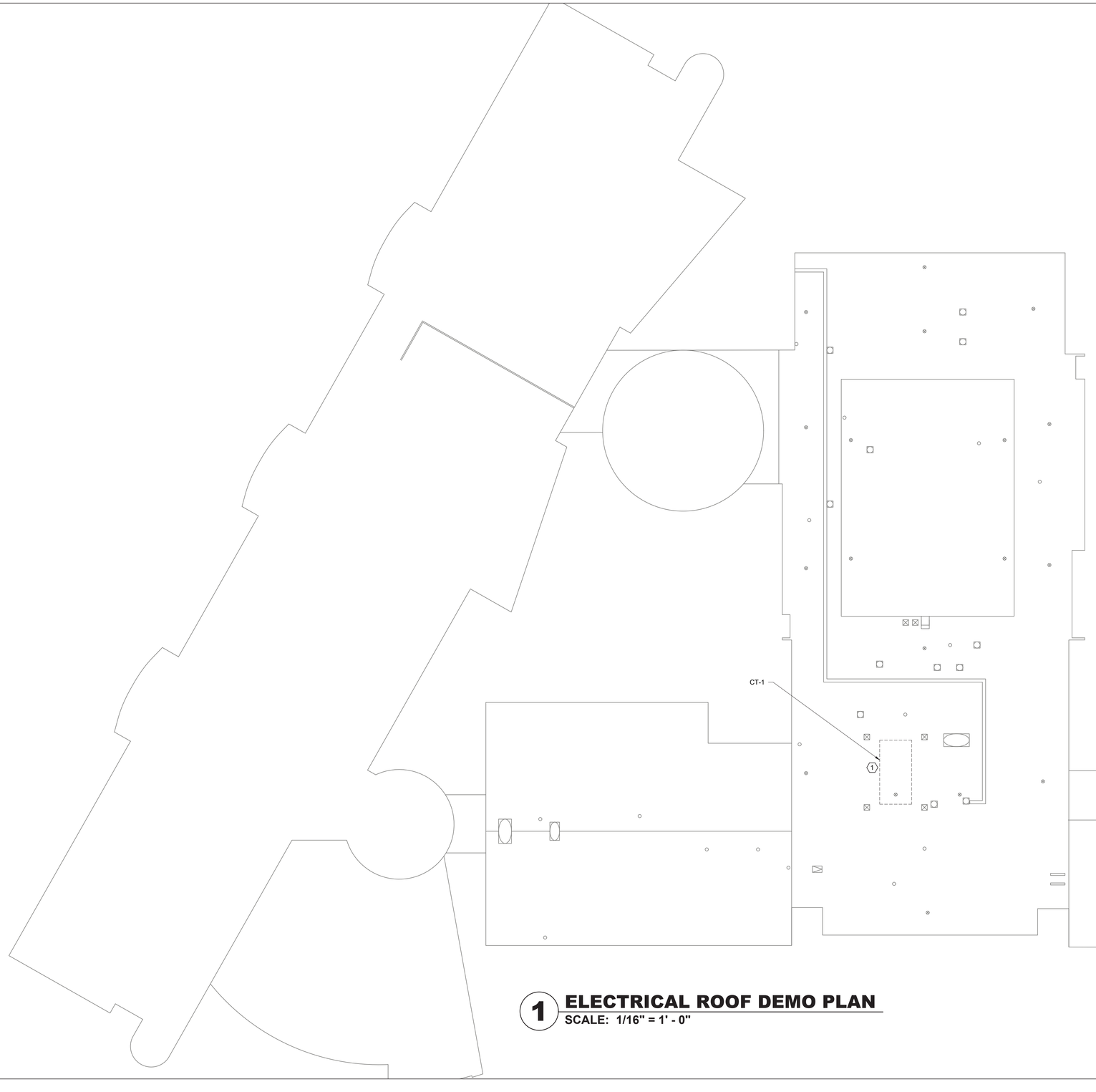
Drawing No. WGES-E-062

DEMOLITION NOTES:

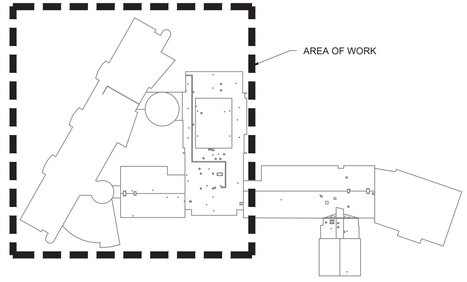
1. FOR ELECTRICAL SYMBOLS & LEGENDS, GENERAL NOTES AND ABBREVIATIONS DRAWING LIST REFER TO DWG E001.00
2. MAINTAIN CIRCUIT CONTINUITY TO AREAS NOT AFFECTED BY DEMOLITION.
3. THE CONTRACTOR IS TO COORDINATE ALL SHUTDOWNS AND DISRUPTIONS TO NORMAL SERVICES WITH THE SCHOOLS FIELD REPRESENTATIVE AND THE FACILITY.
4. COORDINATE REMOVAL OF POWER TO MECHANICAL EQUIPMENT WITH THE RESPECTIVE CONTRACTOR.
5. CONTRACTOR MUST FIELD VERIFY ALL CONNECTIONS PRIOR TO REMOVAL. PROTECT ALL FEEDER AND BRANCH CIRCUITS SERVING OTHER AREAS. CONTRACTOR WILL BE HELD RESPONSIBLE FOR ANY OUTAGES.
6. PATCH AND PAINT THE AREA AFTER REMOVALS HAVE BEEN DONE TO MATCH SURROUNDINGS.

KEYED NOTES:

1. EXISTING COOLING TOWER TO BE REMOVED BY HVAC CONTRACTOR . ELECTRICAL CONTRACTOR SHALL DISCONNECT AND REMOVE ALL WIRING, JUNCTION BOXES AND CONDUITS BACK TO SOURCE.



1 ELECTRICAL ROOF DEMO PLAN
SCALE: 1/16" = 1' - 0"



2 ROOF KEY PLAN
SCALE: NTS

PLAN NORTH

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

REG. EXP. DATE: 04-30-24

Drawn by DK
Checked by SH
Project No. 42054
Scale
Date 09-14-23

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UNIVENT
REPLACEMENT AT
WILLOW GROVE
ELEMENTARY
SCHOOL
SED# 50-02-04-08-0-030-016
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COUNTY OF ROCKLAND

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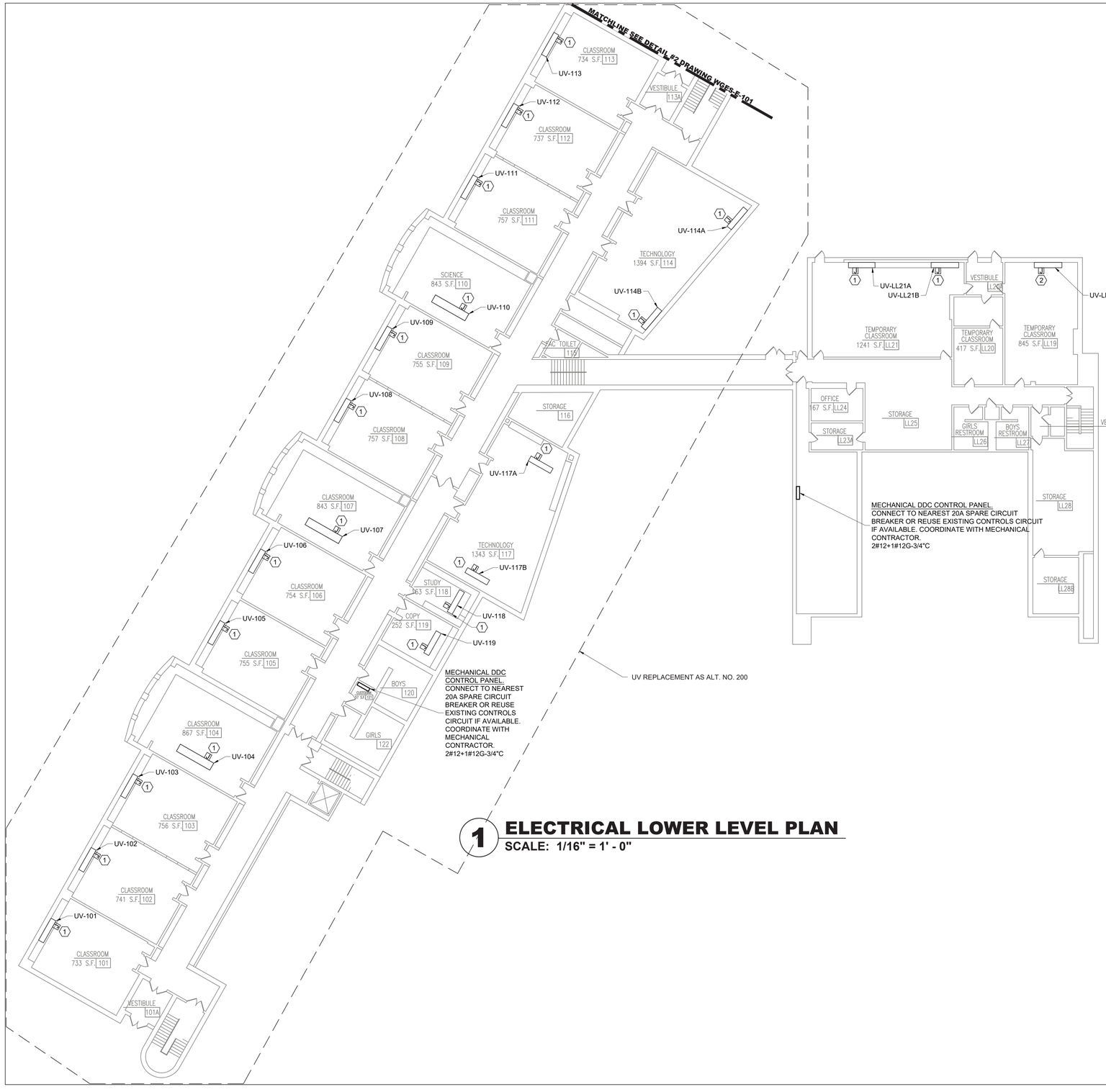
Drawing Title
ELECTRICAL ROOF DEMO PLAN

Drawing No.
WGES-E-063



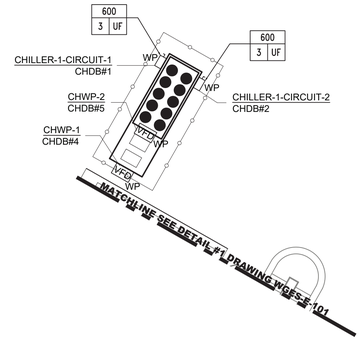
1 ELECTRICAL LOWER LEVEL PLAN
SCALE: 1/16" = 1' - 0"

PLAN NOTES:

1. REFER TO ADDITIONAL INSTALLATION NOTES ON DRAWING E-001.
2. ALL NEW BRANCH CIRCUIT SHALL BE RUN WITH MINIMUM OF 2#12+1#12G IN 3/4" CONDUIT, UNLESS OTHERWISE NOTED. FOR LIGHTING AND POWER BRANCH CIRCUIT, MC CABLE SHALL BE INSTALLED FOR RECESSED INSTALLATION ONLY, EITHER IN NEW WALLS OR ABOVE HUNG CEILING WHERE POSSIBLE. REFER TO PANEL SCHEDULES IN DRAWING E-201 FOR ALL OTHER FEEDER AND BRANCH CIRCUIT SIZE INFORMATION.
3. PROVIDE LABELS ON ALL ELECTRICAL EQUIPMENT INDICATING CIRCUIT ORIGINATION.
4. INVESTIGATE ALL EXISTING BRANCH CIRCUITS AND UPDATE ALL EXISTING PANEL DIRECTORIES AFFECTED BY NEW WORK.
5. CONTRACTOR SHALL PERFORM AMP PROBE READINGS ON EXISTING SERVICE EQUIPMENT BEFORE AND AFTER WORK TO ENSURE EQUIPMENT WILL NOT BE LOADED BEYOND ITS MAX AMPACITY.
6. CONTRACTOR SHALL MAINTAIN CONTINUITY TO ALL EXISTING CIRCUITRY TO REMAIN WHICH ARE AFFECTED BY THE SCOPE OF WORK; CONTRACTOR SHALL FURNISH ALL NECESSARY JUNCTION BOXES, CONDUIT, AND WIRES AS REQUIRED TO KEEP CONTINUITY.
7. REFER TO MECHANICAL PLANS FOR EQUIPMENT TO BE SUPPLIED BY OTHER TRADES AND INSTALLED/WIRED UNDER THIS SECTION. COORDINATE LOCATION OF DEVICES WITH OTHER CONTRACTORS.
8. PROVIDE FIRESTOPPING FOR ALL PENETRATIONS TO MATCH EXISTING FIRE RATING WHERE APPLICABLE. ALL CORE DRILLS SHALL BE VERIFIED BY BUILDING REPRESENTATIVE PRIOR TO COMMENCING WORK. XRAY ALL FLOOR SLABS PRIOR TO ROUGH-INS FOR CORE DRILL WORK.
9. THE CONTRACTOR SHALL FIELD ROUTE FEEDER FOR NEW POWER PANELS. COORDINATE EXACT ROUTING PATH WITH OWNER. SUBMIT A PROPOSED ROUTING PATH TO ENGINEER OF RECORD FOR APPROVAL PRIOR TO RUNNING ANY CONDUIT OR WIRE ASSOCIATED WITH THIS FEEDER.
10. DISCONNECT SWITCH FOR UNIT VENTILATORS IS PROVIDED BY HVAC CONTRACTOR. COORDINATE WITH HVAC CONTRACTOR.
11. ALL GROUNDING SHALL BE PROVIDED BY THE CONTRACTOR AS PER NEC 2017.
12. THE VDF WITH DISCONNECT SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR AND INSTALLED BY THE ELECTRICAL CONTRACTOR. COORDINATE WITH THE MECHANICAL CONTRACTOR.

KEYED NOTES:

1. EXTEND EXISTING WIRING AND CONDUIT, RECONNECT EXISTING WIRING TO THE NEW UNIT VENTILATORS.
2. CONNECT THE NEW UNIT VENTILATOR TO AN EXISTING 20A, 1P SPARE CIRCUIT BREAKER OR PROVIDE A 20A, 1P CIRCUIT BREAKER IN EXISTING SPACE FROM THE NEAREST AVAILABLE PANEL.



2 ELECTRICAL LOWER LEVEL PLAN 2
SCALE: 1/16" = 1' - 0"

PLAN NORTH

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

REG. EXP. DATE: 04-30-24

Drawn by	DK
Checked by	SH
Project No.	42054
Scale	AS INDICATED
Date	09-14-23

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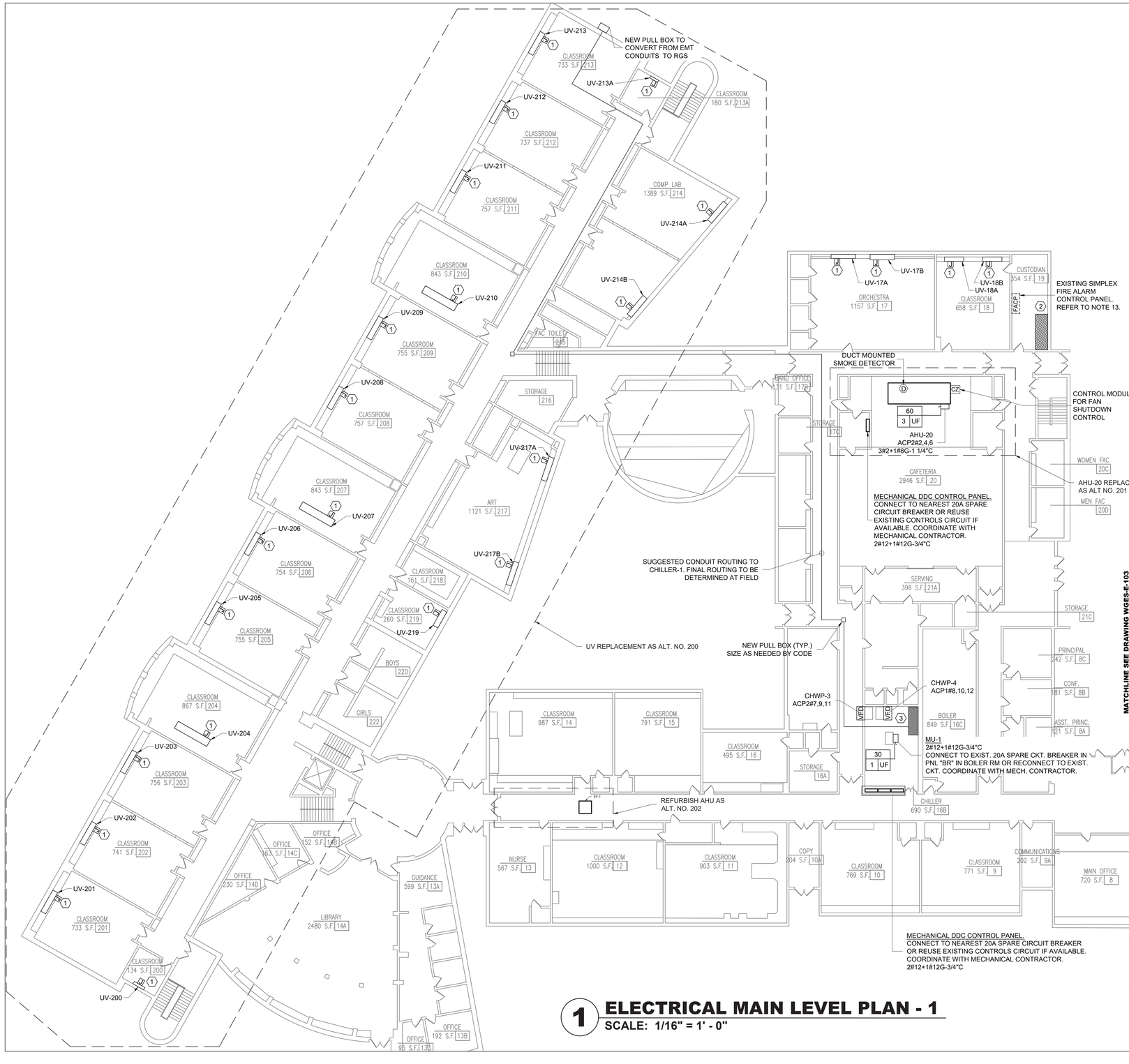
Drawing Title
ELECTRICAL LOWER LEVEL PLAN

Drawing No.
WGES-E-101



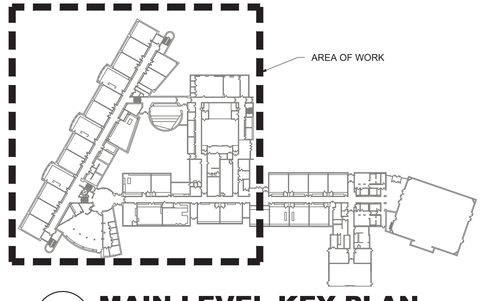
1 ELECTRICAL MAIN LEVEL PLAN - 1
SCALE: 1/16" = 1' - 0"

PLAN NOTES:

1. REFER TO ADDITIONAL INSTALLATION NOTES ON DRAWING E-001.
2. ALL NEW BRANCH CIRCUIT SHALL BE RUN WITH MINIMUM OF 2#12+1#12G IN 3/4" CONDUIT, UNLESS OTHERWISE NOTED. FOR LIGHTING AND POWER BRANCH CIRCUIT, MC CABLE SHALL BE INSTALLED FOR RECESSED INSTALLATION ONLY, EITHER IN NEW WALLS OR ABOVE HUNG CEILING WHERE POSSIBLE. REFER TO PANEL SCHEDULES IN DRAWING E-201 FOR ALL OTHER FEEDER AND BRANCH CIRCUIT SIZE INFORMATION.
3. PROVIDE LABELS ON ALL ELECTRICAL EQUIPMENT INDICATING CIRCUIT ORIGINATION.
4. INVESTIGATE ALL EXISTING BRANCH CIRCUITS AND UPDATE ALL EXISTING PANEL DIRECTORIES AFFECTED BY NEW WORK.
5. CONTRACTOR SHALL PERFORM AMP PROBE READINGS ON EXISTING SERVICE EQUIPMENT BEFORE AND AFTER WORK TO ENSURE EQUIPMENT WILL NOT BE LOADED BEYOND ITS MAX AMPACITY.
6. CONTRACTOR SHALL MAINTAIN CONTINUITY TO ALL EXISTING CIRCUITRY TO REMAIN WHICH ARE AFFECTED BY THE SCOPE OF WORK; CONTRACTOR SHALL FURNISH ALL NECESSARY JUNCTION BOXES, CONDUIT, AND WIRES AS REQUIRED TO KEEP CONTINUITY.
7. REFER TO MECHANICAL PLANS FOR EQUIPMENT TO BE SUPPLIED BY OTHER TRADES AND INSTALLED/WIRED UNDER THIS SECTION. COORDINATE LOCATION OF DEVICES WITH OTHER CONTRACTORS.
8. PROVIDE FIRESTOPPING FOR ALL PENETRATIONS TO MATCH EXISTING FIRE RATING WHERE APPLICABLE. ALL CORE DRILLS SHALL BE VERIFIED BY BUILDING REPRESENTATIVE PRIOR TO COMMENCING WORK. XRAY ALL FLOOR SLABS PRIOR TO ROUGH-INS FOR CORE DRILL WORK.
9. THE CONTRACTOR SHALL FIELD ROUTE FEEDER FOR NEW POWER PANELS. COORDINATE EXACT ROUTING PATH WITH OWNER. SUBMIT A PROPOSED ROUTING PATH TO ENGINEER OF RECORD FOR APPROVAL PRIOR TO RUNNING ANY CONDUIT OR WIRE ASSOCIATED WITH THIS FEEDER.
10. DISCONNECT SWITCH FOR UNIT VENTILATORS IS PROVIDED BY HVAC CONTRACTOR. COORDINATE WITH HVAC CONTRACTOR.
11. ALL GROUNDING SHALL BE PROVIDED BY THE CONTRACTOR AS PER NEC 2017.
12. THE VDF WITH DISCONNECT SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR AND INSTALLED BY THE ELECTRICAL CONTRACTOR. COORDINATE WITH THE MECHANICAL CONTRACTOR.
13. NEW FIRE ALARM DEVICES SHALL BE COMPATIBLE WITH EXISTING FACP. CONTRACTOR TO REPROGRAM FACP TO ACCOMMODATE NEW DEVICES

KEYED NOTES:

1. EXTEND EXISTING WIRING AND CONDUIT, RECONNECT EXISTING WIRING TO THE NEW UNIT VENTILATORS.
2. EXISTING 2000A,120/208V,4W,3P SWITCHBOARD TO REMAIN. INSTALL A NEW 600A, 3P CIRCUIT BREAKER TO EXISTING SPACE AND A NEW 225A, 3P CIRCUIT BREAKER TO AN EXISTING SPARE. REFER TO E-400 FOR ADDITIONAL INFORMATION
3. NEW 1200A, 120/208V, 4W, 3P CIRCUIT BREAKER TYPE SWITCHBOARD "CHDB" ON A NEW 4" THICK CONCRETE PAD. PROVIDE AND INSTALL NEW WIRING AND CONDUIT AS NECESSARY. REFER TO E-400 FOR EXISTING LOADS TO BE RECONNECTED TO NEW SWITCHBOARD "CHDB".
4.



2 MAIN LEVEL KEY PLAN
SCALE: NTS

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

REG. EXP. DATE: 04-30-24

Drawn by DK
Checked by SH
Project No. 42054
Scale AS INDICATED
Date 09-14-23

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Structural Engineer:

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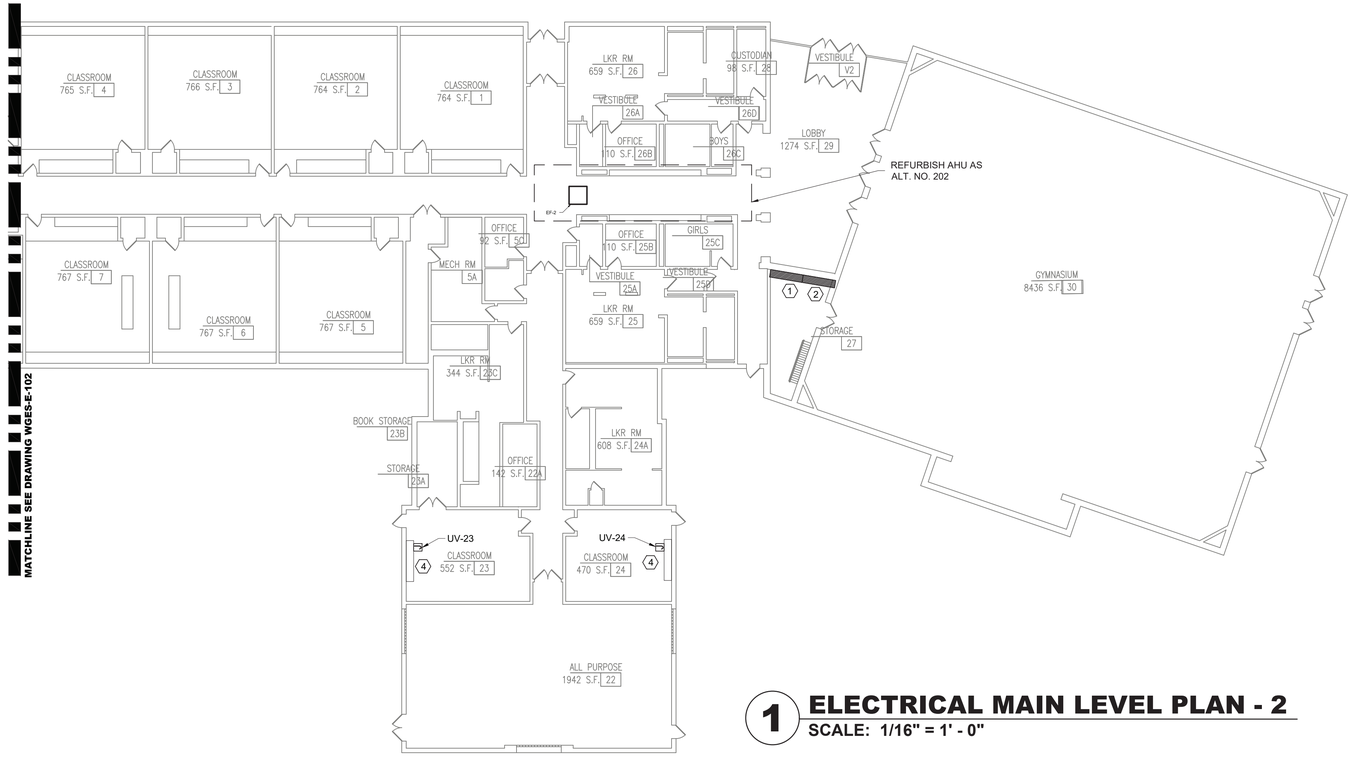
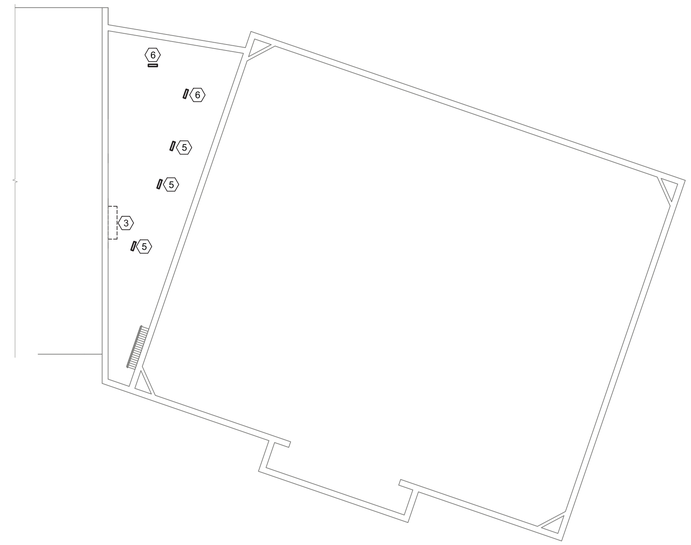
Drawing Title
ELECTRICAL MAIN LEVEL PLAN - 1

Drawing No.
WGES-E-102

MATCHLINE SEE DRAWING WGES-E-102



1 ELECTRICAL MAIN LEVEL PLAN - 2
SCALE: 1/16" = 1' - 0"



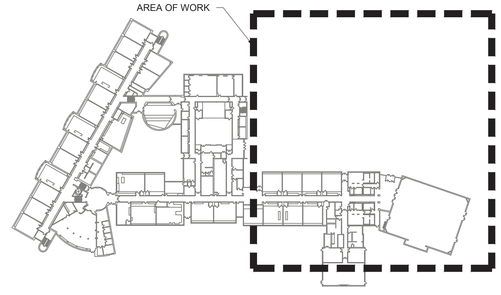
2 UPPER LEVEL PLAN
SCALE: 1/16" = 1' - 0"

PLAN NOTES:

1. REFER TO ADDITIONAL INSTALLATION NOTES ON DRAWING E-001.
2. ALL NEW BRANCH CIRCUIT SHALL BE RUN WITH MINIMUM OF 2#12+1#12G IN 3/4" CONDUIT, UNLESS OTHERWISE NOTED. FOR LIGHTING AND POWER BRANCH CIRCUIT, MC CABLE SHALL BE INSTALLED FOR RECESSED INSTALLATION ONLY, EITHER IN NEW WALLS OR ABOVE HUNG CEILING WHERE POSSIBLE. REFER TO PANEL SCHEDULES IN DRAWING E-201 FOR ALL OTHER FEEDER AND BRANCH CIRCUIT SIZE INFORMATION.
3. PROVIDE LABELS ON ALL ELECTRICAL EQUIPMENT INDICATING CIRCUIT ORIGINATION.
4. INVESTIGATE ALL EXISTING BRANCH CIRCUITS AND UPDATE ALL EXISTING PANEL DIRECTORIES AFFECTED BY NEW WORK.
5. CONTRACTOR SHALL PERFORM AMP PROBE READINGS ON EXISTING SERVICE EQUIPMENT BEFORE AND AFTER WORK TO ENSURE EQUIPMENT WILL NOT BE LOADED BEYOND ITS MAX AMPACITY.
6. CONTRACTOR SHALL MAINTAIN CONTINUITY TO ALL EXISTING CIRCUITRY TO REMAIN WHICH ARE AFFECTED BY THE SCOPE OF WORK; CONTRACTOR SHALL FURNISH ALL NECESSARY JUNCTION BOXES, CONDUIT, AND WIRES AS REQUIRED TO KEEP CONTINUITY.
7. REFER TO MECHANICAL PLANS FOR EQUIPMENT TO BE SUPPLIED BY OTHER TRADES AND INSTALLED/WIRED UNDER THIS SECTION. COORDINATE LOCATION OF DEVICES WITH OTHER CONTRACTORS.
8. PROVIDE FIRESTOPPING FOR ALL PENETRATIONS TO MATCH EXISTING FIRE RATING WHERE APPLICABLE. ALL CORE DRILLS SHALL BE VERIFIED BY BUILDING REPRESENTATIVE PRIOR TO COMMENCING WORK. XRAY ALL FLOOR SLABS PRIOR TO ROUGH-INS FOR CORE DRILL WORK.
9. THE CONTRACTOR SHALL FIELD ROUTE FEEDER FOR NEW POWER PANELS. COORDINATE EXACT ROUTING PATH WITH OWNER. SUBMIT A PROPOSED ROUTING PATH TO ENGINEER OF RECORD FOR APPROVAL PRIOR TO RUNNING ANY CONDUIT OR WIRE ASSOCIATED WITH THIS FEEDER.
10. ALL GROUNDING SHALL BE PROVIDED BY THE CONTRACTOR AS PER NEC 2017.

KEYED NOTES:

1. NEW 200A, 120/208V, 3P, 4W, SURFACE MOUNTED PANEL "ACP1". PROVIDE WIRING AND CONDUIT AS NECESSARY PER NEC SEE RISER ON E400 FOR SOURCE.
2. NEW 200A, 120/208V, 3P, 4W, SURFACE MOUNTED PANEL "ACP2". PROVIDE WIRING AND CONDUIT AS NECESSARY PER NEC SEE RISER ON E400 FOR SOURCE.
3. EXISTING 225A PANEL HV-3. INSTALL A NEW 20A, 1P CIRCUIT BREAKER AT EACH SPACE #32,33,34.
4. CONNECT THE NEW UNIT VENTILATORS TO THE EXISTING PANEL HV-3 CIRCUIT #32. PROVIDE 2#12+1#12G-3/4"C.
5. CONNECT THE NEW DDC PANELS TO HV-3 CIRCUIT #33. PROVIDE 2#12+1#12G-3/4"C. COORDINATE WITH MECHANICAL CONTRACTOR.
6. CONNECT THE NEW DDC PANELS TO HV-3 CIRCUIT #34. PROVIDE 2#12+1#12G-3/4"C. COORDINATE WITH MECHANICAL CONTRACTOR.



2 MAIN LEVEL KEY PLAN
SCALE: NTS

PLAN NORTH

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

REG. EXP. DATE: 04-30-24

Drawn by	DK
Checked by	SH
Project No.	42054
Scale	AS INDICATED
Date	09-14-23

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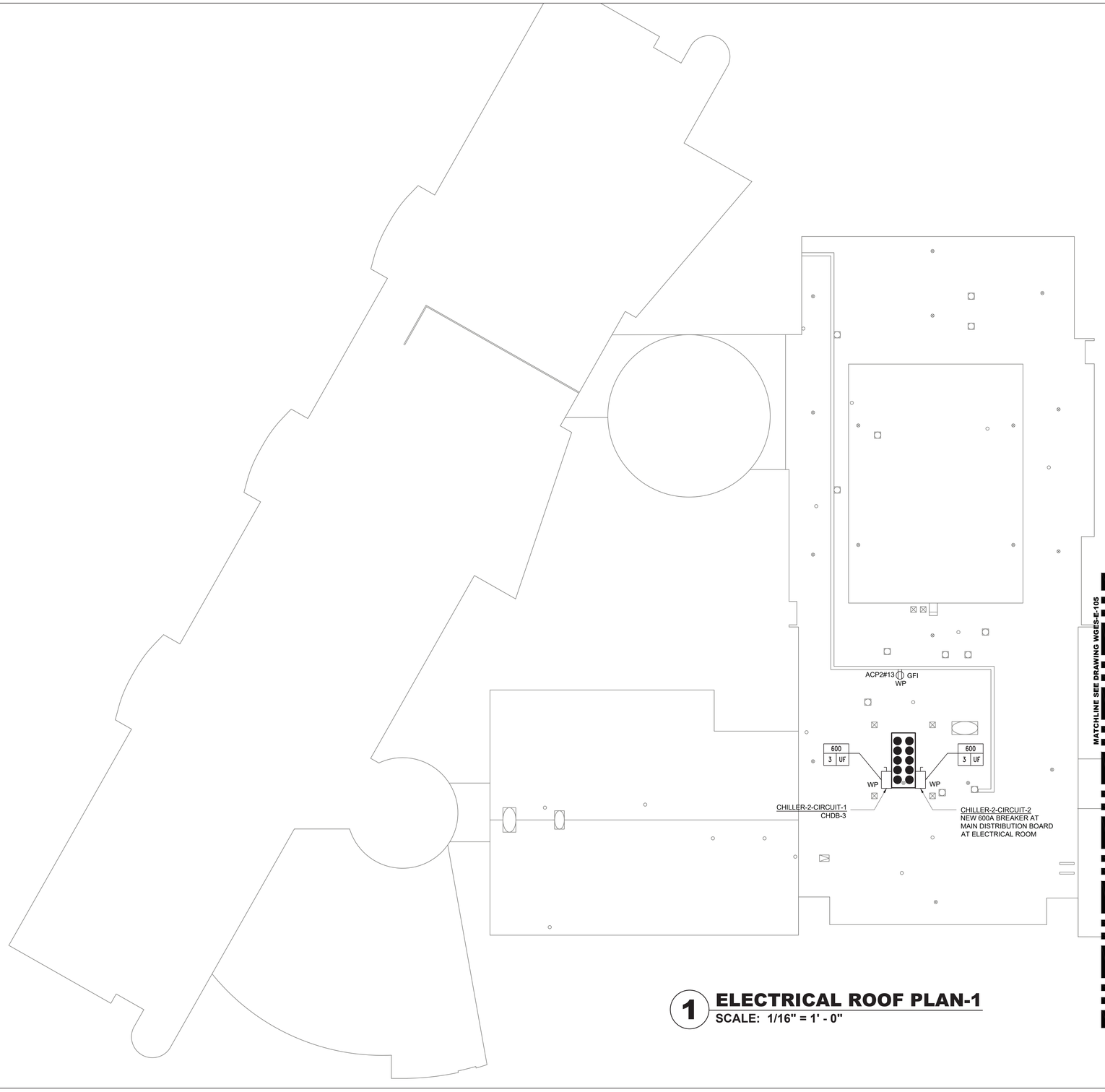
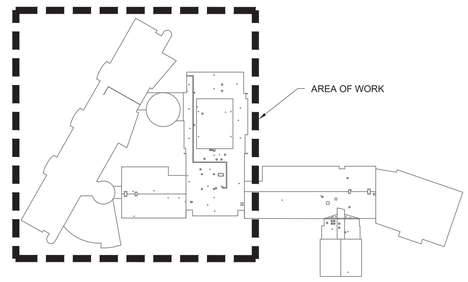
Drawing Title
ELECTRICAL MAIN LEVEL PLAN - 2

Drawing No.
WGES-E-103



1 ELECTRICAL ROOF PLAN-1
SCALE: 1/16" = 1' - 0"



2 ROOF KEY PLAN
SCALE: NTS

PLAN NORTH

PLAN NOTES:

1. REFER TO ADDITIONAL INSTALLATION NOTES ON DRAWING E-001.
2. ALL NEW BRANCH CIRCUIT SHALL BE RUN WITH MINIMUM OF 2#12+1#12G IN 3/4" CONDUIT, UNLESS OTHERWISE NOTED. FOR LIGHTING AND POWER BRANCH CIRCUIT, MC CABLE SHALL BE INSTALLED FOR RECESSED INSTALLATION ONLY, EITHER IN NEW WALLS OR ABOVE HUNG CEILING WHERE POSSIBLE. REFER TO PANEL SCHEDULES IN DRAWING E-201 FOR ALL OTHER FEEDER AND BRANCH CIRCUIT SIZE INFORMATION.
3. PROVIDE LABELS ON ALL ELECTRICAL EQUIPMENT INDICATING CIRCUIT ORIGINATION.
4. INVESTIGATE ALL EXISTING BRANCH CIRCUITS AND UPDATE ALL EXISTING PANEL DIRECTORIES AFFECTED BY NEW WORK.
5. CONTRACTOR SHALL PERFORM AMP PROBE READINGS ON EXISTING SERVICE EQUIPMENT BEFORE AND AFTER WORK TO ENSURE EQUIPMENT WILL NOT BE LOADED BEYOND ITS MAX AMPACITY.
6. CONTRACTOR SHALL MAINTAIN CONTINUITY TO ALL EXISTING CIRCUITRY TO REMAIN WHICH ARE AFFECTED BY THE SCOPE OF WORK; CONTRACTOR SHALL FURNISH ALL NECESSARY JUNCTION BOXES, CONDUIT, AND WIRES AS REQUIRED TO KEEP CONTINUITY.
7. REFER TO MECHANICAL PLANS FOR EQUIPMENT TO BE SUPPLIED BY OTHER TRADES AND INSTALLED/WIRED UNDER THIS SECTION. COORDINATE LOCATION OF DEVICES WITH OTHER CONTRACTORS.
8. PROVIDE FIRESTOPPING FOR ALL PENETRATIONS TO MATCH EXISTING FIRE RATING WHERE APPLICABLE. ALL CORE DRILLS SHALL BE VERIFIED BY BUILDING REPRESENTATIVE PRIOR TO COMMENCING WORK. XRAY ALL FLOOR SLABS PRIOR TO ROUGH-INS FOR CORE DRILL WORK.
9. THE CONTRACTOR SHALL FIELD ROUTE FEEDER FOR NEW POWER PANELS. COORDINATE EXACT ROUTING PATH WITH OWNER. SUBMIT A PROPOSED ROUTING PATH TO ENGINEER OF RECORD FOR APPROVAL PRIOR TO RUNNING ANY CONDUIT OR WIRE ASSOCIATED WITH THIS FEEDER.
10. DISCONNECT SWITCH FOR UNIT VENTILATORS IS PROVIDED BY HVAC CONTRACTOR. COORDINATE WITH HVAC CONTRACTOR.
11. ALL GROUNDING SHALL BE PROVIDED BY THE CONTRACTOR AS PER NEC 2017.
12. REFER TO E-400 FOR RISER AND FEEDER SIZES.

No.	Date	Revisions
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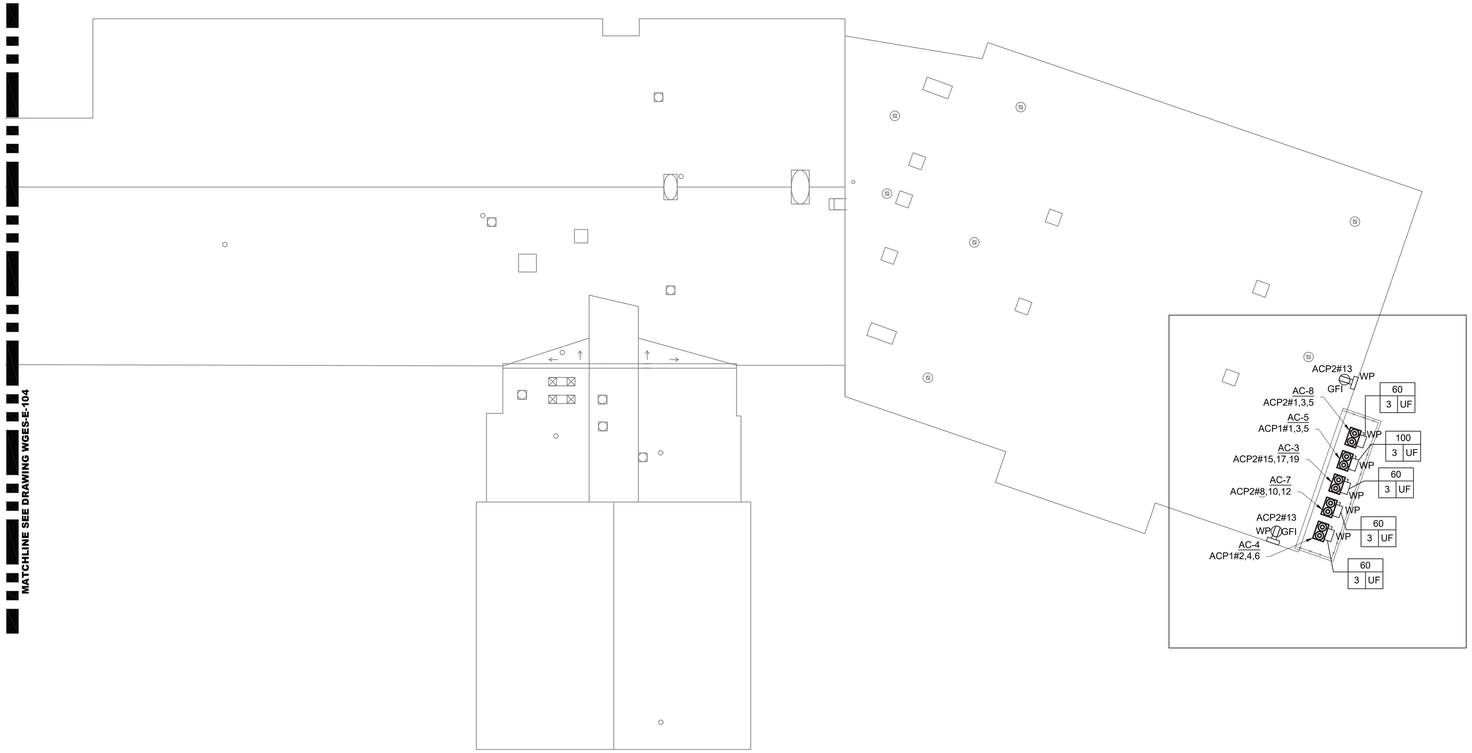
Drawing Title
ELECTRICAL ROOF PLAN - 1

Drawing No.
WGES-E-104

MATCHLINE SEE DRAWING WGES-E-104

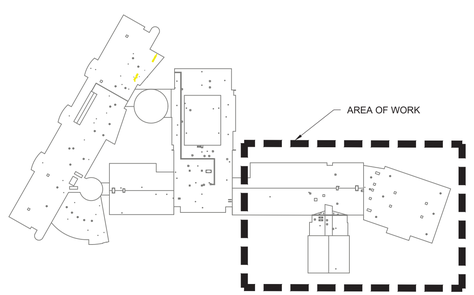


1 ELECTRICAL ROOF PLAN - 2

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

PLAN NOTES:

1. REFER TO ADDITIONAL INSTALLATION NOTES ON DRAWING E-001.
2. ALL NEW BRANCH CIRCUIT SHALL BE RUN WITH MINIMUM OF 2#12+1#12G IN 3/4" CONDUIT, UNLESS OTHERWISE NOTED. FOR LIGHTING AND POWER BRANCH CIRCUIT, MC CABLE SHALL BE INSTALLED FOR RECESSED INSTALLATION ONLY, EITHER IN NEW WALLS OR ABOVE HUNG CEILING WHERE POSSIBLE. REFER TO PANEL SCHEDULES IN DRAWING E-201 FOR ALL OTHER FEEDER AND BRANCH CIRCUIT SIZE INFORMATION.
3. PROVIDE LABELS ON ALL ELECTRICAL EQUIPMENT INDICATING CIRCUIT ORIGINATION.
4. INVESTIGATE ALL EXISTING BRANCH CIRCUITS AND UPDATE ALL EXISTING PANEL DIRECTORIES AFFECTED BY NEW WORK.
5. CONTRACTOR SHALL PERFORM AMP PROBE READINGS ON EXISTING SERVICE EQUIPMENT BEFORE AND AFTER WORK TO ENSURE EQUIPMENT WILL NOT BE LOADED BEYOND ITS MAX AMPACITY.
6. CONTRACTOR SHALL MAINTAIN CONTINUITY TO ALL EXISTING CIRCUITRY TO REMAIN WHICH ARE AFFECTED BY THE SCOPE OF WORK; CONTRACTOR SHALL FURNISH ALL NECESSARY JUNCTION BOXES, CONDUIT, AND WIRES AS REQUIRED TO KEEP CONTINUITY.
7. REFER TO MECHANICAL PLANS FOR EQUIPMENT TO BE SUPPLIED BY OTHER TRADES AND INSTALLED/WIRED UNDER THIS SECTION. COORDINATE LOCATION OF DEVICES WITH OTHER CONTRACTORS.
8. PROVIDE FIRESTOPPING FOR ALL PENETRATIONS TO MATCH EXISTING FIRE RATING WHERE APPLICABLE. ALL CORE DRILLS SHALL BE VERIFIED BY BUILDING REPRESENTATIVE PRIOR TO COMMENCING WORK. XRAY ALL FLOOR SLABS PRIOR TO ROUGH-INS FOR CORE DRILL WORK.
9. THE CONTRACTOR SHALL FIELD ROUTE FEEDER FOR NEW POWER PANELS. COORDINATE EXACT ROUTING PATH WITH OWNER. SUBMIT A PROPOSED ROUTING PATH TO ENGINEER OF RECORD FOR APPROVAL PRIOR TO RUNNING ANY CONDUIT OR WIRE ASSOCIATED WITH THIS FEEDER.
10. DISCONNECT SWITCH FOR UNIT VENTILATORS IS PROVIDED BY HVAC CONTRACTOR. COORDINATE WITH HVAC CONTRACTOR.
11. ALL GROUNDING SHALL BE PROVIDED BY THE CONTRACTOR AS PER NEC 2017.



2 ROOF KEY PLAN

SCALE: NTS

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

REG. EXP. DATE: 04-30-24

Drawn by DK
Checked by SH
Project No. 42054
Scale
Date 09-14-23

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UNIVENT
REPLACEMENT AT
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ELEMENTARY
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SED# 50-02-01-06-0-030-016
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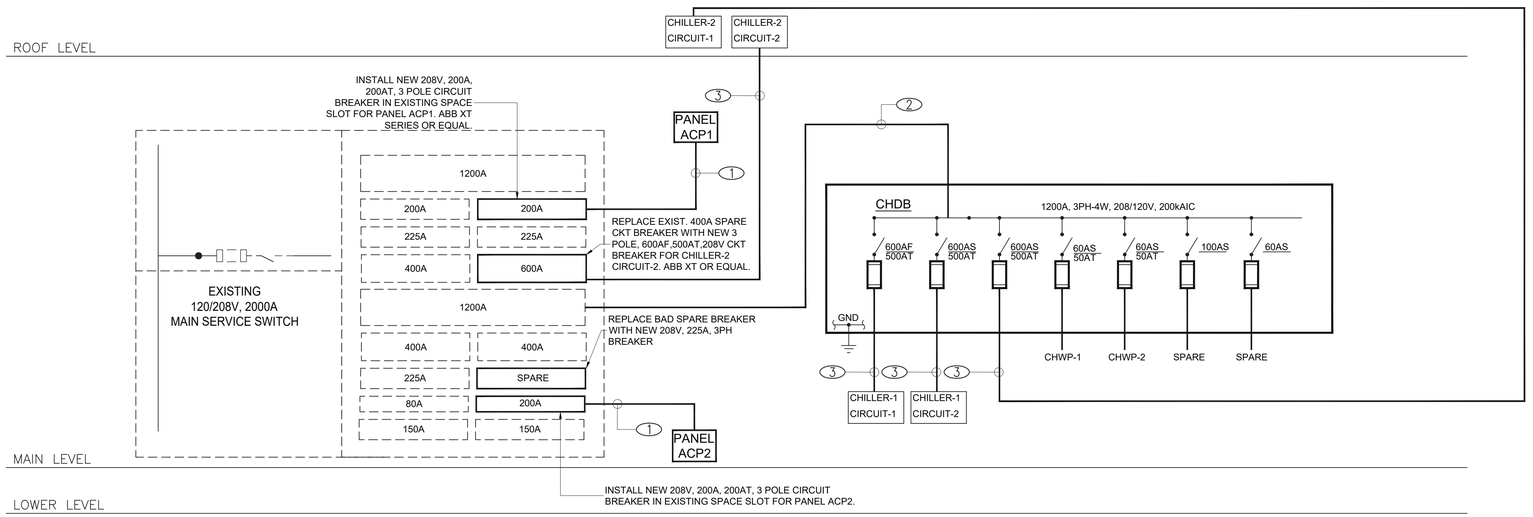
Drawing Title
ELECTRICAL ROOF PLAN - 2

Drawing No.
WGES-E-105



1 ELECTRICAL POWER RISER DIAGRAM

SCALE: N.T.S.

NOTES:

1. ALL EXTERIOR WIRING SHALL BE INSTALLED WITHIN RIGID GALVANIZED STEEL CONDUIT.
2. ALL NEW EQUIPMENT LOCATED OUTDOORS SHALL BE IN NEMA 3R ENCLOSURES.
3. PROVIDE AND INSTALL ALL PULL/JUNCTION BOXES FOR A CODE COMPLIANT INSTALLATION IN A NEAT AND WORKMANLIKE MANNER. ALL BOXES SHALL BE PROPERLY SIZED AS REQUIRED BY NEC.
4. PROVIDE TEMPORARY POWER AS REQUIRED TO MINIMIZE DISRUPTION AND ANY DOWNTIME FOR THE FACILITY OPERATION.
5. RUN ALL WIRING IN CONDUITS TERMINATED WITH BUSHINGS.

WIRE SIZE LEGEND:

(1)	4#300MCM, 1#2G IN 3" C
(2)	3 SETS OF 4#600MCM, 1#2/0G IN EXISTING (3) 4" C
(3)	2 SETS OF 3#350MCM, 1#1/0G IN (2) 3" C

LEGEND:

- - - - - EXISTING TO REMAIN

——— NEW

PANEL SCHEDULE

PANEL NAME:	ACP1	LOCATION:	STORAGE	MOUNTING:	SURFACE
VOLTAGE/PHASE:	120/208V, 3 Phase, 4W & G	PANEL (AMP)	200A	FREQUENCY:	60 Hz
PANEL SHORT CIRCUIT RATING(KA):	22 KA	FEEDER SIZE	4#300MCM + 1#2G IN 3"C	FEEDING SOURCE:	EXISTING SWITCHBOARD - NEW 200A CIRCUIT BREAKER
MAIN BREAKER TYPE	MLO	MAIN BREAKER RATING (A):	MLO	BRANCH C.B TYPE	MCB

Load Designation	Wiring & Conduit	C/B (A)	CT NO	Phase Load in VA AØ	BØ	CØ	CT NO	C/B (A)	Wiring & Conduit	Load Designation
AC-5	3#4+1#8G-1 1/4"RGC	80	1	5880			2	80	3#4+1#8G-1 1/4"RGC	AC-4
			3		5880		4			
			5			5880	6			
SPARE		80	7	3864			8			
			9		3864		10	60	3#3+1#8G-1 1/4"EMT	CHWP-4
			11			3864	12			
SPARE		60	13				14	20		SPARE
			15				16	20		SPARE
			17				18	20		SPARE
SPARE		20	19				20	20		SPARE
SPARE		20	21				22	20		SPARE
SPARE		20	23				24	20		SPARE
SPACE			25				26			SPACE
SPACE			27				28			SPACE
SPACE			29				30			SPACE

CONNECTED LOAD PER PHASE IN VA	15624	15624	15624
TOTAL CONNECTED LOAD IN KVA	46.872		
TOTAL CONNECTED LOAD IN AMPS	130.11		

PANEL TYPE: NEMA 1 MOUNTING: SURFACE
COPPER BUS, EQUIP. GROUND BAR
DOOR: INDOOR TYPE

PANEL SCHEDULE

PANEL NAME:	ACP2	LOCATION:	STORAGE	MOUNTING:	SURFACE
VOLTAGE/PHASE:	120/208V, 3 Phase, 4W & G	PANEL (AMP)	200A	FREQUENCY:	60 Hz
PANEL SHORT CIRCUIT RATING(KA):	22 KA	FEEDER SIZE	4#300MCM + 1 # 2G IN 3"C	FEEDING SOURCE:	EXISITNG MAIN SWITCHBOARD - NEW 200A CIRCUIT BREAKER
MAIN BREAKER TYPE	MLO	MAIN BREAKER RATING (A):	MLO	BRANCH C.B TYPE	MCB

Load Designation	Wiring & Conduit	C/B (A)	CT NO	Phase Load in VA AØ	BØ	CØ	CT NO	C/B (A)	Wiring & Conduit	Load Designation
AC-8	3#6+1#8G-1"RGC	40	1	2880			2			
			3	3780			4	45	3#2+1#8G-1 1/4"EMT	AHU-20
			5		2880		6			
CHWP-3	3#3+1#8G-1 1/4" EMT	60	7		3780		8			
			9	3864			10	40	3#6+1#8G-1"RGC	AC-7
			11	2880			12			
MAINT. REC	2#12+1#12G-3/4"C	20	13	540			14			
AC-3	3#6+1#8G-1"RGC	40	15		2880		16	60		SPARE
			17			2880	18			
			19	2880			20			
SPARE		20	21				22	45		SPARE
SPARE		20	23				24			
SPACE			25				26			SPACE
SPACE			27				28			SPACE
SPACE			29				30			SPACE

CONNECTED LOAD PER PHASE IN VA	16824	16284	16284
TOTAL CONNECTED LOAD IN KVA	49.392		
TOTAL CONNECTED LOAD IN AMPS	137.10		

PANEL TYPE: NEMA 1 MOUNTING: SURFACE
COPPER BUS, EQUIP. GROUND BAR
DOOR: INDOOR TYPE

DIST. BOARD: CHDB VOLT: 120/208v, 3Ø, 4W. LOC. EX. MECH RM.

MOUNTING: FLOOR AMP RATING: 1200 MAIN: M.L.O

DESIGN AMP: 969 AIC RATING: 65kA TYPE: NEW

CIRCUIT No.	LOAD SVD	POLES	FRAME (A)	TRIP (A)	LOAD (A)	FEEDERS
1	CHILLER-1 CIRCUIT 1	3	600	500	310	2 SETS OF (3#350MCM+1#1/0G) IN 2-3"C
2	CHILLER-1 CIRCUIT 2	3	600	500	298	2 SETS OF (3#350MCM+1#1/0G) IN 2-3"C
3	CHILLER-2 CIRCUIT-1	3	600	500	310	2 SETS OF (3#350MCM+1#1/0G) IN 2-3"C
4	CHWP-1	3	60	50	25	3#2+1#8G IN 1 1/4"C
5	CHWP-2	3	60	50	25	3#2+1#8G IN 1 1/4"C
6	SPARE	3	100			
7	SPARE	3	60			

2 ELECTRICAL PANEL SCHEDULES

SCALE: N.T.S.

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

REG. EXP. DATE: 04-30-24

Drawn by	DK
Checked by	SH
Project No.	42054
Scale	NTS
Date	09-14-23

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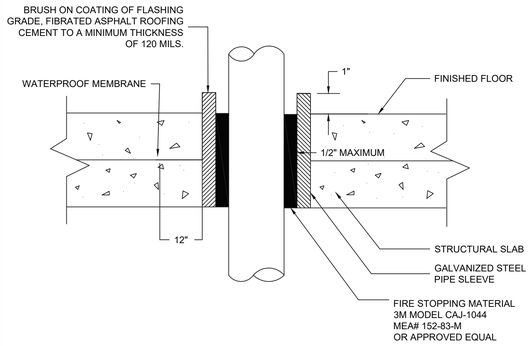
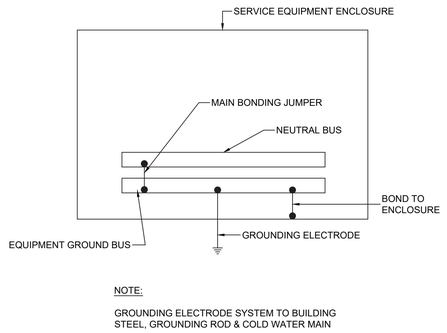
Drawing Title
ELECTRICAL SCHEDULES & RISER

Drawing No.
WGES-E-400



1 CONDUIT PENETRATION THRU WATERPROOF SLAB

SCALE: NTS

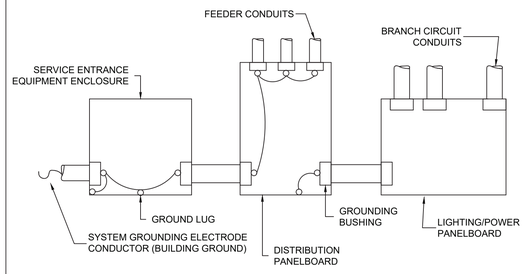


NOTE:

GROUNDING ELECTRODE SYSTEM TO BUILDING STEEL, GROUNDING ROD & COLD WATER MAIN

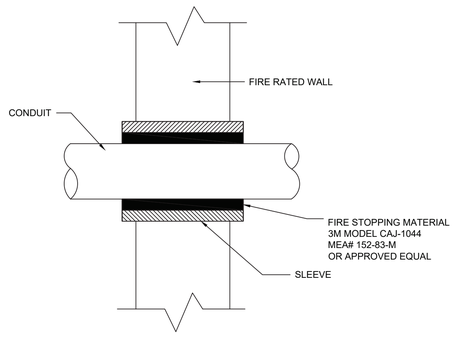
2 GROUNDING SYSTEM WITH GROUND BUS & NEUTRAL BUS

SCALE: NTS



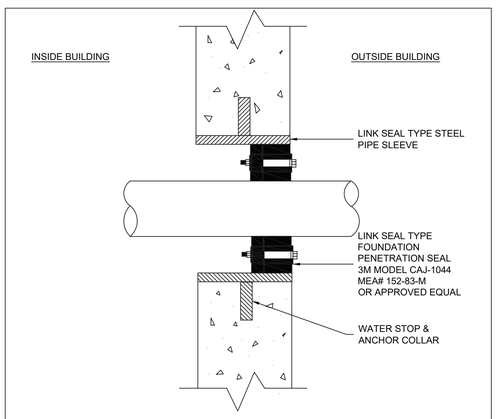
3 GROUNDING RACEWAY EQUIPMENT GROUNDING SYSTEM

SCALE: NTS



4 CONDUIT PENETRATION THRU THRU FIRE RATED WALL

SCALE: NTS



5 CONDUIT PENETRATION THRU THRU FOUNDATION WALL

SCALE: NTS

No.	Date	Revisions
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REG. EXP. DATE: 04-30-24

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Drawing Title
ELECTRICAL DETAILS SHEET#1

Drawing No.
WGES-E-500

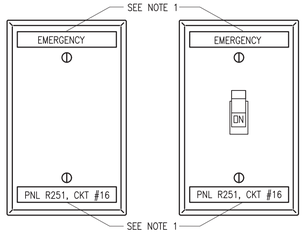
BRANCH CIRCUIT VOLTAGE DROP

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:

1. INCREASE BRANCH CIRCUIT CONDUCTOR AS REQUIRED.
2. BASED ON 20 AMP CIRCUIT LOADED TO 10 AMP USING SINGLE PHASE, 2 WIRE CIRCUITS.
3. 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.
4. 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.

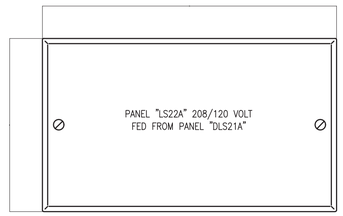
1 BRANCH CIRCUIT VOLTAGE DROP
SCALE: NTS



NOTES:

1. 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.

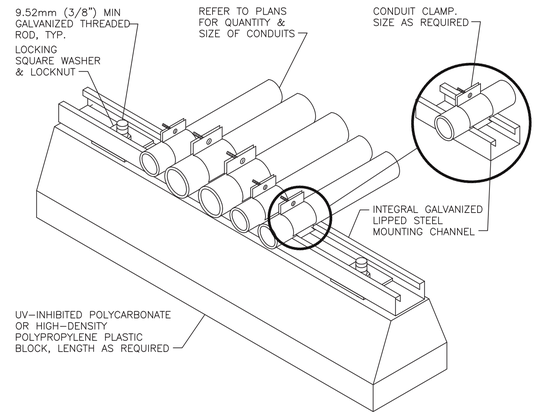
3 TYPICAL COVERPLATE AND SWITCH
SCALE: NTS



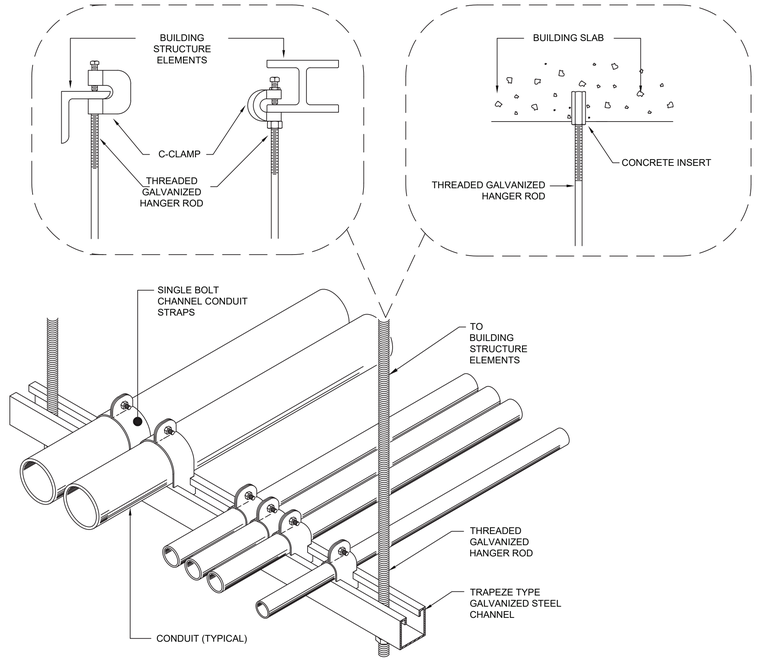
NOTES:

1. NAMEPLATES SHALL HAVE WHITE LETTERS ON BLACK BACKGROUND.
2. NAMEPLATES SHALL BE FASTENED BY MACHINE SCREWS. ADHESIVES WILL NOT BE ALLOWED.
3. 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.

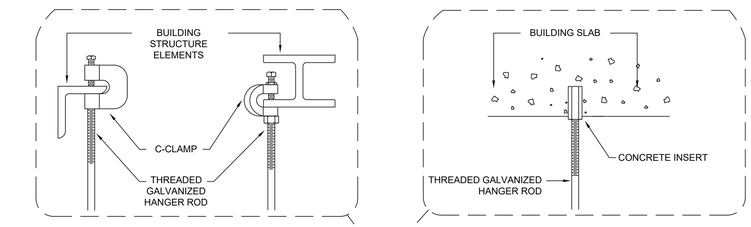
2 TYPICAL ENGRAVED NAME PLATE
SCALE: NTS



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



5 SUSPENDED SYSTEM MULTIPLE CONDUITS
SCALE: NTS



NOTES :

1. CONTRACTOR MAY USE A CONDUIT SUSPENSION SYSTEM EQUIVALENT TO THAT WHICH IS DETAILED, HAVING THE FEATURES SHOWN AND APPROVED IN ADVANCE BY THE ENGINEER.
2. 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.
3. 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

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
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Drawing Title
ELECTRICAL DETAILS SHEET#2

Drawing No.
WGES-E-501