

# ROWLAND ELEMENTARY SCHOOL

1355 E. ROWLAND AVE. WEST COVINA, CA 91790

## COVID 19- COVINA VALLEY DISTRICT WIDE HVAC REPLACEMENT

### 100% CONSTRUCTION DOCUMENTS

05/05/2022

DLR GROUP PROJECT NUMBER: 75-22605-00

DSA APPLICATION #

A# 03-122233

IDENTIFICATION STAMP  
DIV. OF THE STATE ARCHITECT  
APP: 03-122233 INC:  
REVIEWED FOR  
SS  FLS  ACS   
DATE: 03/14/2023

DLR Group  
© DLR Group



#### SHEET INDEX

GENERAL		ELECTRICAL	
G0.1	COVER SHEET	E0.1	ELECTRICAL SYMBOLS, ABBREVIATIONS & NOTES
G1.1	GENERAL NOTES, SYMBOLS AND ABBREVIATIONS	E2.1	ROOF ELECTRICAL PLAN
ARCHITECTURAL			
A1.1	ARCHITECTURAL SITE PLAN	E5.1	ELECTRICAL DIAGRAMS AND SCHEDULE
A1.1A	FLOOR PLANS	E6.1	ELECTRICAL DETAILS
A1.3A	ROOF PLANS		
A3.1A	REFLECTED CEILING PLANS		TOTAL: 32 SHEETS
MECHANICAL			
M0.1	MECHANICAL SYMBOLS, ABBREVIATIONS & NOTES		
M0.2	TITLE 24 COMPLIANCE		
M0.3	TITLE 24 COMPLIANCE		
M0.4	TITLE 24 COMPLIANCE		
M0.5	TITLE 24 COMPLIANCE		
M0.6	TITLE 24 COMPLIANCE		
M0.7	TITLE 24 COMPLIANCE		
M1.1	MECHANICAL SITE PLAN		
M1.1A	MECHANICAL FLOOR PLANS		
M1.1B	MECHANICAL FLOOR PLANS		
M2.1A	MECHANICAL ROOF PLANS		
M5.1	CONTROLS DIAGRAMS		
M5.2	CONTROLS DIAGRAMS		
M7.1	MECHANICAL DETAILS		
M7.2	MECHANICAL DETAILS		
M7.3	MECHANICAL DETAILS		
M7.4	MECHANICAL DETAILS		
M7.5	MECHANICAL DETAILS		
M8.1	MECHANICAL SCHEDULES		
MD1.1	MECHANICAL DEMOLITION PLANS		
MD1.2	MECHANICAL DEMOLITION PLANS		
MP1.1	MECHANICAL PLUMBING SITE PLAN		

#### Statement of General Conformance

FOR ARCHITECTS/ENGINEERS WHO UTILIZE PLANS, INCLUDING BUT NOT LIMITED TO SHOP DRAWINGS, PREPARED BY OTHER LICENSED DESIGN PROFESSIONALS AND/OR CONSULTANTS

(Application No. 03-122233 File No. 19-25)

HAVE BEEN PREPARED BY OTHER DESIGN PROFESSIONALS OR CONSULTANTS WHO ARE LICENSED AND/OR AUTHORIZED TO PREPARE SUCH DRAWINGS IN THIS STATE. IT HAS BEEN EXAMINED BY ME FOR:

- DESIGN INTENT AND APPEARS TO MEET THE APPROPRIATE REQUIREMENTS OF TITLE 24, CALIFORNIA CODE OF REGULATIONS, AND THE PROJECT SPECIFICATIONS PREPARED BY ME, AND
- COORDINATION WITH MY PLANS AND SPECIFICATIONS, AND IS ACCEPTABLE FOR INCORPORATION INTO THE CONSTRUCTION OF THIS PROJECT.

THE STATEMENT OF GENERAL CONFORMANCE "SHALL NOT BE CONSTRUED AS RELIEVING ME OF MY RIGHTS, DUTIES, AND RESPONSIBILITIES UNDER SECTIONS 17302 AND 8138 OF THE EDUCATION CODE AND SECTIONS 4-336, 4-341 AND 4-344" OF TITLE 24, PART 1, (TITLE 24, PART 1, SECTION 4-317(b)).

I FIND THAT:  ALL DRAWINGS OR SHEETS LISTED ON THE COVER OR INDEX SHEET FOR EACH DISCIPLINE (SEE SHEET INDEX FOR LIST OF DISCIPLINES)  THIS DRAWING OR PAGE

ARE IN GENERAL CONFORMANCE WITH THE PROJECT DESIGN, AND  HAVE BEEN COORDINATED WITH THE PROJECT PLANS AND SPECIFICATIONS.

ARE IN GENERAL CONFORMANCE WITH THE PROJECT DESIGN INTENT, AND  HAVE BEEN COORDINATED WITH THE PROJECT PLANS AND SPECIFICATIONS.

Signature: [Signature] Date: 05/05/2022  
Signature: [Signature] Date: [Blank]  
Print Name: JESSE MILLER  
Print Name: [Blank]  
License Number: C-32306 Expiration Date: 10-31-23  
License Number: [Blank] Expiration Date: [Blank]

#### SCOPE OF WORK

SCOPE OF WORK SHALL BE AS FOLLOWS:

REMOVAL OF EXISTING SPLIT SYSTEM UNITS INCLUDING GROUND MOUNTED CONDENSING UNITS AND ALL ASSOCIATED CONDUNITS, PIPING, SUPPORTS, ETC. REPLACEMENT WITH NEW ROOF MOUNTED HVAC UNITS AT ALL CLASSROOM BUILDINGS TO INCLUDE: NEW CURBS, CONTROLS, ELECTRICAL, ROOF PATCHING, FLASHING, CEILING TILES, WINDOW GLAZING, AND MISC SITE WORK AS REQUIRED.

IN ADDITION REMOVAL AND REPLACEMENT OF EXISTING MFR UNIT WITH NEW HVAC SYSTEM

REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR ADDITIONAL SCOPE AS REQUIRED

#### APPLICABLE CODES

- 2019 CALIFORNIA ADMINISTRATIVE CODE (CAC), PART 1, TITLE 24 CCR
- 2019 CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24 CCR
- (2018 INTERNATIONAL BUILDING CODE - VOL. 1 & 2 AND 2019 CALIFORNIA AMENDMENTS)
- 2019 CALIFORNIA ELECTRICAL CODE (CEC), PART 3, TITLE 24 CCR
- (2017 NATIONAL ELECTRICAL CODE AND 2019 CALIFORNIA AMENDMENTS)
- 2019 CALIFORNIA MECHANICAL CODE (CMC), PART 4, TITLE 24 CCR
- (2018 IAPMO UNIFORM MECHANICAL CODE AND 2019 CALIFORNIA AMENDMENTS)
- 2019 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24 CCR
- (2018 IAPMO UNIFORM PLUMBING CODE AND 2019 CALIFORNIA AMENDMENTS)
- 2019 CALIFORNIA ENERGY CODE (CEC), PART 6, TITLE 24 CCR
- 2019 CALIFORNIA FIRE CODE (CFC), PART 9, TITLE 24 CCR
- (2018 INTERNATIONAL FIRE CODE AND 2019 CALIFORNIA AMENDMENTS)
- 2019 CALIFORNIA EXISTING BUILDING CODE (CEBC), PART 10, TITLE 24 CCR
- (2018 INTERNATIONAL EXISTING BUILDING CODE AND 2019 CALIFORNIA AMENDMENTS)
- 2019 CALIFORNIA GREEN BUILDING STANDARDS CODE (CAL GREEN), PART 11, TITLE 24 CCR
- 2019 CALIFORNIA REFERENCED STANDARDS CODE (CECS), PART 12, TITLE 24 CCR
- TITLE 19 CCR, PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS
- 2018 ASME A17.1 CSA B44-13 SAFETY CODE FOR ELEVATORS AND ESCALATORS (PER 2018 CCR PART 12.04.50)
- NOTE: CALIFORNIA ELEVATOR UNIT ENFORCES CCR TITLE 8 AND USES THE 2004 ASME A17.1 BY ADOPTION
- 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN

- NFPA 13 - STANDARD FOR INSTALLATION OF SPRINKLER SYSTEMS (CA AMENDED) 2016 ADDITION
- NFPA 14 - STANDARD FOR INSTALLATION OF SAND PIPE AND HOSE SYSTEMS (CA AMENDED) 2016 ADDITION
- NFPA 17 - STANDARD FOR DRY CHEMICAL EXTINGUISHING SYSTEMS 2017 ADDITION
- NFPA 17A - STANDARD FOR WET CHEMICAL EXTINGUISHING SYSTEMS 2017 ADDITION
- NFPA 20 - STANDARD FOR INSTALLATION OF STATIONARY PUMPS FOR FIRE PROTECTION 2013 ADDITION
- NFPA 22 - STANDARD FOR WATER TANKS FOR PRIVATE FIRE PROTECTION (CA AMENDED) 2016 ADDITION
- NFPA 24 - STANDARD FOR THE INSTALLATION OF PRIVATE FIRE SERVICE MAINS AND THEIR APPURTENANCES 2016 ADDITION
- NFPA 72 - NATIONAL FIRE ALARM AND SIGNALING CODE (CA AMENDED) 2016 ADDITION
- NFPA 80 - STANDARD FOR FIRE DOORS AND OTHER OPENINGS PROTECTIVE 2016 ADDITION
- NFPA 2001 - STANDARD ON CLEAN AGENT FIRE EXTINGUISHING SYSTEMS (CA AMENDED) 2015 ADDITION
- UL 300 - STANDARD FOR FIRE RESISTING SYSTEMS FOR PROTECTION OF COMMERCIAL COOKING EQUIPMENT 2005 (R2010)
- UL 464 - AUDIBLE SIGNALING DEVICES FOR FIRE ALARM AND SIGNALING SYSTEMS, INCLUDING ACCESSORIES 2003 ADDITION
- UL 521 - STANDARD FOR HEAT DETECTORS FOR FIRE PROTECTIVE SIGNALING SYSTEMS 1999 ADDITION
- UL 1971 - STANDARD FOR SIGNALING DEVICES FOR THE HEARING IMPAIRED 2002 (R2010)
- ICC 300 - STANDARD FOR BLEACHERS, FOLDING AND TELESCOPIC SEATING, AND GRANDSTANDS 2017 ADDITION

#### DESIGN ANALYSIS DATA

- WIND DESIGN CRITERIA (CBC 1603A.1.4) - STRUCTURAL DESIGN PARAMETERS
  - RISK CATEGORY: II
  - WIND DESIGN SPEED: V:110 MPH
  - WIND EXPOSURE CATEGORY: B (PER ASCE 7-16)
- EARTHQUAKE DESIGN CRITERIA (CBC 1603A1.5)
  - SEISMIC DESIGN CATEGORY: D
  - SITE CLASS: D
  - S<sub>v</sub> = 1.660
  - S<sub>w</sub> = 0.610
  - S<sub>u</sub> = 1.992
  - S<sub>u</sub> = 1.037
  - S<sub>u</sub> = 1.329
  - S<sub>u</sub> = 0.691
  - L<sub>r</sub> (COMPONENT IMPORTANCE FACTOR) = 1.0
- DESIGN LOAD BEARING VALUES OF SOILS (CBC 1603A1.6)
  - ALLOWABLE SOIL BEARING PRESSURE: 1,500 PSF
  - ALLOWABLE LATERAL BEARING PRESSURE: 100 PSF MIN.

#### DSA GENERAL NOTES

- CHANGES TO THE APPROVED DRAWINGS AND SPECIFICATIONS SHALL BE MADE BY AN ADDENDUM OR A CONSTRUCTION CHANGE DOCUMENT APPROVED BY THE DIVISION OF THE STATE ARCHITECT (DSA) AS REQUIRED BY SECTION 4-338(b), PART 1, TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR), NOT WITHSTANDING OTHER PROVISIONS OF THE PROJECT SPECIFICATIONS, COMPLY WITH ALL PROVISIONS OF THE CALIFORNIA BUILDING STANDARDS ADMINISTRATIVE CODE (PART 1, TITLE 24, CCR), SECTION 4-338, FOR ALL ADDENDUM AND CONSTRUCTION CHANGE DOCUMENTS.
- CONSTRUCTION CHANGE DOCUMENTS MUST BE SIGNED BY ALL THE FOLLOWING: ARCHITECT OR ENGINEER HAVING GENERAL RESPONSIBLE CHARGE OF THE PROJECT, AND STRUCTURAL ENGINEER OF RECORD OR DELEGATED PROFESSIONAL ENGINEER (WHEN APPLICABLE).
- SUBSTITUTIONS AFFECTING DSA REGULATED ITEMS ACCESSIBILITY, STRUCTURAL ENGINEER, AND FIRE/SAFETY SHALL BE CONSIDERED AS A CONSTRUCTION CHANGE DOCUMENT, AND SHALL BE APPROVED BY DSA PRIOR TO FABRICATION AND INSTALLATION IN ACCORDANCE WITH DSA IR A-6 AND SECTION 4-338(b), PART 1, TITLE 24, CCR. SUBSTITUTIONS SHALL BE FOR ANY MATERIALS, SYSTEMS OR PRODUCT THAT WOULD OTHERWISE BE REGULATED BY DSA.
- A DSA-CERTIFIED PROJECT INSPECTOR WITH CLASS 3 CERTIFICATION, EMPLOYED BY THE DISTRICT (OWNER) AND APPROVED BY THE ARCHITECT AND BY THE DIVISION OF THE STATE ARCHITECT, SHALL PROVIDE CONTINUOUS INSPECTION OF THE WORK. THE DUTIES OF THE PROJECT INSPECTOR ARE DEFINED IN SECTION 4-342, CALIFORNIA BUILDING ADMINISTRATIVE CODE (PART 1, TITLE 24, CCR).
- A DSA-ACCEPTED TESTING LAB, EMPLOYED BY THE DISTRICT (OWNER), SHALL CONDUCT ALL REQUIRED TESTS AND INSPECTIONS OF THE WORK.
- THE DSA-CERTIFIED PROJECT INSPECTOR AND DSA-ACCEPTED TESTING LAB SHALL BE EMPLOYED AND PAID BY THE OWNER (DISTRICT) AND APPROVED BY ALL OF THE FOLLOWING: ARCHITECT OR ENGINEER HAVING GENERAL RESPONSIBLE CHARGE OF THE PROJECT, STRUCTURAL ENGINEER OF RECORD, AND DIVISION OF THE STATE ARCHITECT (DSA). THE INSPECTOR OF RECORD FOR THIS PROJECT SHALL BE CLASS 3 OR BETTER.
- ALL WORK SHALL CONFORM TO 2019 TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR).
- A DSA-ACCEPTED TESTING LABORATORY DIRECTLY EMPLOYED BY THE DISTRICT (OWNER) SHALL CONDUCT ALL THE REQUIRED TESTS AND INSPECTIONS FOR THE PROJECT.
- THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS IS THAT THE WORK OF THE ALTERATION, REHABILITATION OR RECONSTRUCTION IS TO BE IN ACCORDANCE WITH TITLE 24, CCR. SHOULD ANY EXISTING CONDITIONS SUCH AS DETERIORATION OR NON-COMPLYING CONSTRUCTION BE DISCOVERED WHICH IS NOT COVERED BY THE CONTRACT DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH TITLE 24, CCR, A CONSTRUCTION CHANGE DOCUMENT (CCD), OR A SEPARATE SET OF PLANS AND SPECIFICATIONS, DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED TO AND APPROVED BY DSA BEFORE PROCEEDING WITH THE WORK.
- FABRICATION AND INSTALLATION OF DEFERRED SUBMITTAL ITEMS SHALL NOT BE STARTED UNTIL CONTRACTOR'S DRAWINGS, SPECIFICATIONS, AND ENGINEERING CALCULATIONS FOR THE ACTUAL SYSTEMS TO BE INSTALLED HAVE ACCEPTED AND SIGNED BY THE ARCHITECT OR STRUCTURAL ENGINEER AND APPROVED BY DSA. LIST DEFERRED SUBMITTAL ITEMS FOR THIS PROJECT. (IF THIS PROJECT HAS NO DEFERRED SUBMITTAL ITEMS, PLEASE INDICATE AS SUCH).
- GRADING PLANS, DRAINAGE IMPROVEMENTS, ROAD AND ACCESS REQUIREMENTS AND ENVIRONMENTAL HEALTH CONSIDERATIONS SHALL COMPLY WITH ALL LOCAL ORDINANCES.
- THE CALIFORNIA ENERGY CODE SECTION 10-103 REQUIRES ACCEPTANCE TESTING ON ALL NEWLY INSTALLED LIGHTING CONTROLS, MECHANICAL SYSTEMS, ENVELOPES, AND PROCESS EQUIPMENT AFTER INSTALLATION AND BEFORE PROJECT COMPLETION. AN ACCEPTANCE TEST IS A FUNCTIONAL PERFORMANCE TEST TO HELP ENSURE THAT NEWLY INSTALLED EQUIPMENT IS OPERATING AND IN COMPLIANCE WITH THE ENERGY CODE.
- LIGHTING CONTROLS ACCEPTANCE TESTS MUST BE PERFORMED BY CERTIFIED LIGHTING CONTROLS ACCEPTANCE TEST TECHNICIAN (ATT).
- MECHANICAL SYSTEM ACCEPTANCE TEST MUST BE PERFORMED BY A CERTIFIED MECHANICAL ATT FOR PROJECTS SUBMITTED ON OR AFTER OCTOBER 1, 2021.
- ENVELOPE AND PROCESS EQUIPMENT ACCEPTANCE TESTS SHALL BE PERFORMED BY THE INSTALLING CONTRACTOR, ENGINEER/ARCHITECT OR RECORD OR THE OWNER'S AGENT.
- A LISTING OF CERTIFIED ATT CAN BE FOUND AT <https://www.energy.ca.gov/programs-and-topics/programs/acceptance-testing-technician-certification-provider-program/acceptance-testing-technician>.
- THE ACCEPTANCE TESTING PROCEDURES MUST BE REPEATED, AND DEFICIENCIES MUST BE CORRECTED BY THE BUILDER OR INSTALLING CONTRACTOR UNTIL THE CONSTRUCTION/INSTALLATION OF THE SPECIFIED SYSTEMS CONFORM AND PASS THE REQUIRED ACCEPTANCE CRITERIA.
- PROJECT INSPECTORS WILL COLLECT THE FORMS TO CONFIRM THAT THE REQUIRED ACCEPTANCE TESTS HAVE BEEN COMPLETED.

#### VICINITY MAP



#### PROJECT DIRECTORY

**OWNER**  
COVINA VALLEY UNIFIED SCHOOL DISTRICT  
519 E. BADILLO ST.  
COVINA, CA 91723  
CONTACT: BRIAN JOHNSON  
PH: 626 974 7000  
BJOHNSON@CVUSD.ORG

**ARCHITECT**  
DLR GROUP  
700 S. FLOWER ST.  
LOS ANGELES, CA 90017  
CONTACT: JESSE MILLER  
PH: 213 800 9400  
JMILLER@DLRGROUP.COM

**STRUCTURAL ENGINEER**  
ORON STRUCTURAL ENGINEERING, INC.  
11305 RANCHO BERNARDO ROAD, SUITE  
121 SAN DIEGO, CA 92127  
CONTACT: RYAN OMER  
PH: 858 679 1974  
RYAN@ORONSE.COM

**ELECTRICAL ENGINEER**  
DLR GROUP  
700 S. FLOWER ST 22ND FLOOR  
LOS ANGELES, CA 90017  
CONTACT: NORMAN PATENA  
PH: 213 800 9400  
NPATENA@DLRGROUP.COM

**MECHANICAL ENGINEER**  
DLR GROUP  
700 FLOWER ST 22ND FLOOR  
LOS ANGELES, CA 90017  
CONTACT: TONG FANG (DONNA) ZHAO  
PH: 213 444 8010  
DZHANG@DLRGROUP.COM

ROWLAND ELEMENTARY SCHOOL  
COVID 19- COVINA VALLEY DISTRICT WIDE HVAC REPLACEMENT  
1355 E. ROWLAND AVE. WEST COVINA, CA 91790

100% CONSTRUCTION DOCUMENTS  
05/05/2022 REVISIONS

75-22605-00  
DSA A#03-122233  
DSA File #: 19-25  
COVER SHEET

G0.1

GENERAL ABBREVIATIONS

Table with 2 columns: Abbreviation and Full Name. Includes entries like # NUMBER AND @, ADA AMERICANS WITH DISABILITY ACT, BLDG BUILDING, etc.

ARCHITECTURAL ABBREVIATIONS

Table with 2 columns: Abbreviation and Full Name. Includes entries like A/E ARCHITECT/ENGINEER, AB AIR BARRIER, ABS ASBESTOS, etc.

Table with 2 columns: Abbreviation and Full Name. Includes entries like SD SOAP DISPENSER, SECRETARY, SQUARE FEET, SPANDEL GLASS, etc.

GENERAL SYMBOLS

Diagram showing various symbols for building elevations, interior elevations, wall sections, detail references, building sections, sheet notes, reference keynotes, room names, revision numbers, level elevations, finish floor elevations, and spot elevations.

SITE SYMBOLS

Diagram showing various symbols for site features including property lines, easment lines, building lines, contours, drainage, street centerlines, curbs, paving, fences, foundations, subdrains, sanitary sewers, force mains, water, fire, gas, steam, underground utilities, and lawn features.

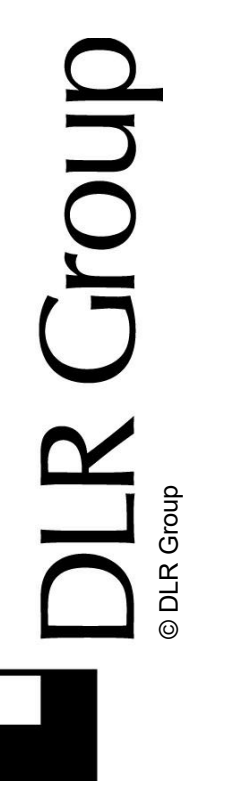
ARCHITECTURAL SYMBOLS

Diagram showing symbols for casework elevations, door numbers, interior window numbers, exterior window/curtain wall numbers, wall types, and ceiling types/heights.

IDENTIFICATION STAMP DIV. OF THE STATE ARCHITECT APP: 03-122233 INC. REVIEWED FOR DATE: 03/14/2023

GENERAL NOTES

- A. GENERAL NOTES APPLY TO ALL SHEETS. B. DIMENSIONS ARE ACTUAL AND ARE TO FACE OF STUDS, FACE OF CONCRETE WALLS, FACE OF CMU WALLS, FACE OF FRAMES, OR CENTERLINE OF COLUMNS, UNLESS NOTED OTHERWISE. C. INCLUDE ALL OWNER-FURNISHED AND INSTALLED ITEMS AND OWNER-FURNISHED AND CONTRACTOR-INSTALLED ITEMS IN THE CONSTRUCTION SCHEDULE AND SHALL COORDINATE WITH THE OWNER TO ACCOMMODATE THESE ITEMS. D. COORDINATE ALL MECHANICAL CHASE SIZES WITH THE MECHANICAL CONTRACTOR. E. ARCHITECTURAL FINISH FLOOR ELEVATION 100'-0" EQUALS ACTUAL SITE REFERENCE ELEVATION OF FINISH FLOOR 7777 FEET. F. SEE FLOOR PLANS FOR LOCATION OF (E) WALLS OF FIRE-RESISTANCE-RATED CONSTRUCTION. ALL WALLS OF FIRE-RESISTANCE-RATED CONSTRUCTION SHALL EXTEND TO UNDERSIDE OF FLOOR OR ROOF DECK ABOVE. G. ALL PENETRATIONS THROUGH WALLS SHALL BE SEALED WITH PENETRATION FIRE STOPPING MATERIAL AS REQUIRED TO ACHIEVE THE RESPECTIVE FIRE-RESISTANCE RATING AND SMOKE STOPPAGE. SEE SPECIFICATION SECTION 07413. H. COORDINATE WITH MECHANICAL AND ELECTRICAL CONTRACTORS THE SIZE AND LOCATION OF EQUIPMENT PADS SHOWN ON PLANS. I. CONSTRUCTION DOCUMENTS ARE COMPLEMENTARY. SEE DRAWINGS FOR QUANTITIES AND LOCATION OF WORK. SEE SPECIFICATIONS FOR QUALITIES AND CONDITIONS OF WORK. J. WORK ALL ASPECTS OF THE WORK AND ITEMS NOT SPECIFICALLY MENTIONED, BUT NECESSARY TO MAKE A COMPLETE WORKING INSTALLATION, SHALL BE INCLUDED AND INDICATED IN THE CONTRACTOR'S BID. K. GENERAL SHEET NOTES ONLY APPLY TO PARTICULAR DRAWING OR SERIES OF DRAWINGS. L. NO ASBESTOS OR PCB CONTAINING MATERIALS SHALL BE USED ON THIS PROJECT. M. DO NOT SCALE DRAWINGS. DIMENSIONS NOTED PREVIOUSLY NOTIFY ARCHITECT IN CASE OF DISCREPANCY. N. HORIZONTAL AND VERTICAL DIMENSIONS ARE MINIMUM DIMENSIONS. CLEARANCES ARE GIVEN TO FINISH SURFACES. GO TO VERIFY ALL CLEARANCES. NOTIFY ARCHITECT IN CASE OF DISCREPANCY.



ROWLAND ELEMENTARY SCHOOL COVID 19- COVINA VALLEY DISTRICT WIDE HVAC REPLACEMENT 135E E. ROWLAND AVE. WEST COVINA, CA 91790

100% CONSTRUCTION DOCUMENTS 05/05/2022 REVISIONS

75-22605-00 DSA A#03-122233 DSA File #: 19-25

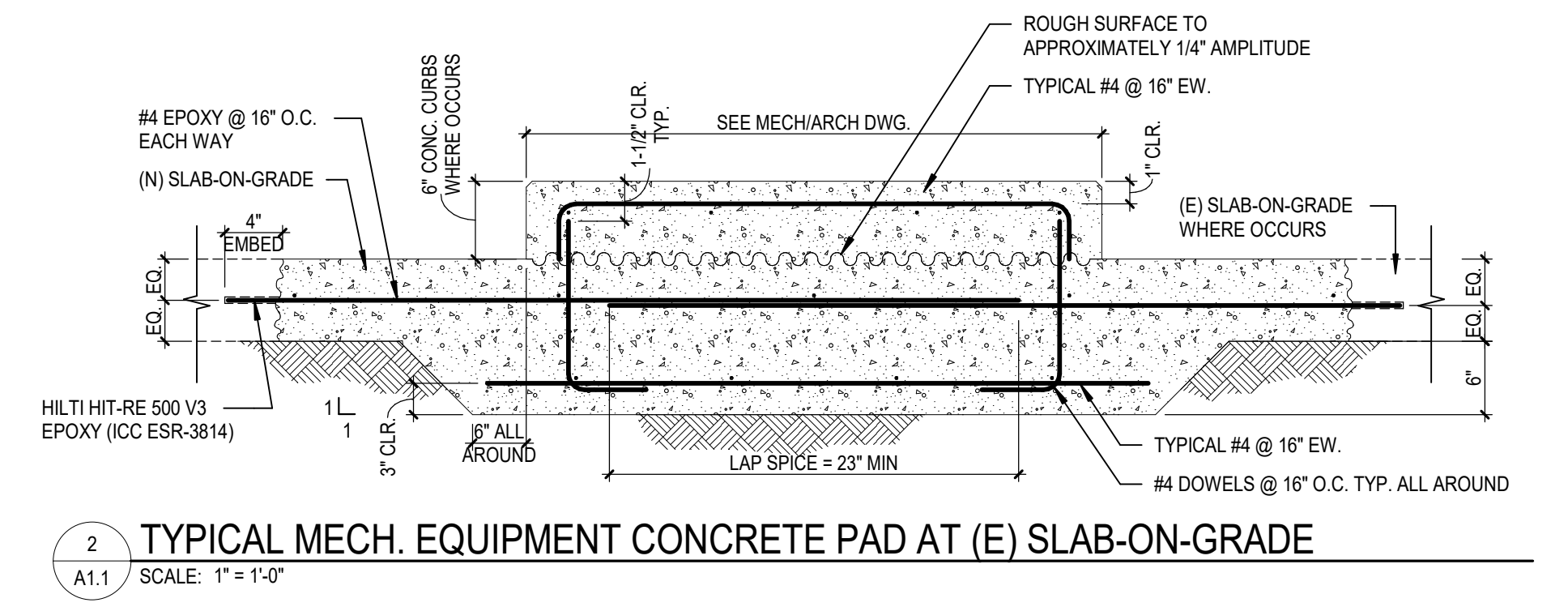
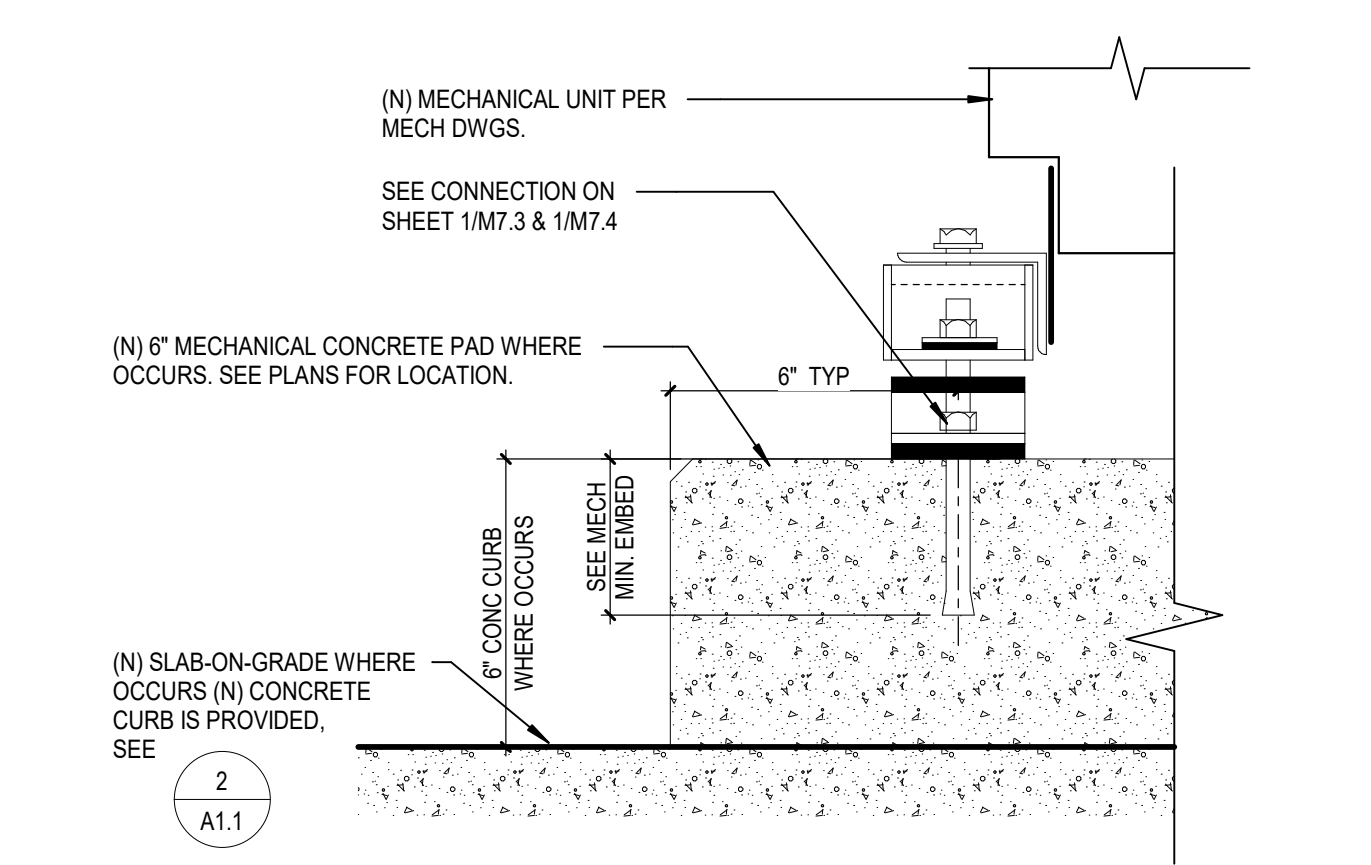
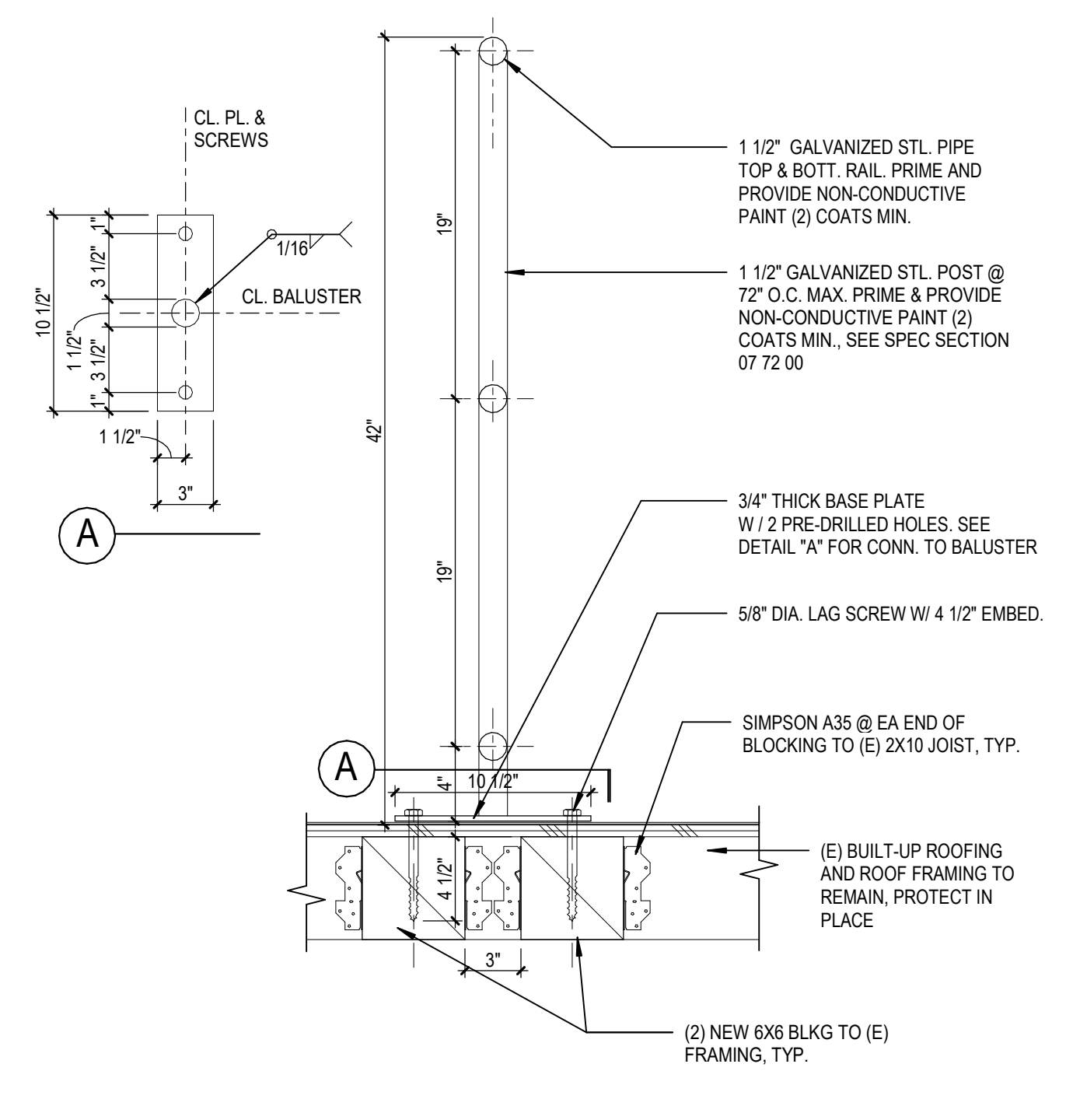
GENERAL NOTES, SYMBOLS AND ABBREVIATIONS

G1.1

Autodesk Docu75-22605-00 CVUSD - District Web - HVAC Replacement/75-22605-00 CVUSD - Rowland ES\_A#\_2022.rvt 2/1/2023 10:51:09 AM

**SITE LEGEND**

	EXISTING BUILDING NOT IN SCOPE
	EXISTING BUILDING - SCOPE OF WORK UNDER THIS DSA APPLICATION
	(E) RESTROOMS - NOT IN SCOPE



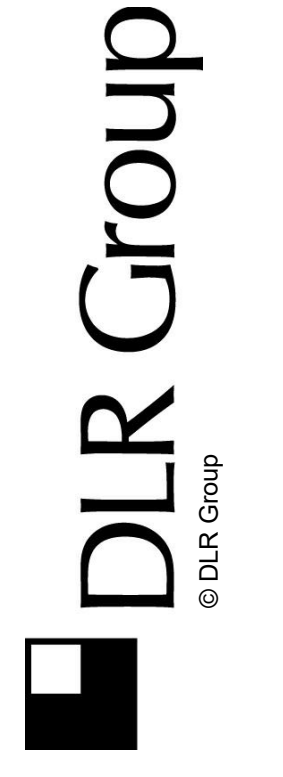
1  
2  
3  
4  
5

Autodesk Docs: 75-22605-00 CVUSD - District: West Valley HVAC Replacement/75-22605-00 CVUSD\_Rowland ES\_A1\_2022.rvt  
 2/1/2023 10:51:02 AM

IDENTIFICATION STAMP  
 DIV. OF THE STATE ARCHITECT  
 APP: 03-122233 INC.  
 REVIEWED FOR  
 SS  FLS  ACS   
 DATE: 03/14/2023

**DEMOLITION GENERAL NOTES**

- DEMOLITION NOTES APPLY TO ALL DEMOLITION SHEETS.
- THE CONTRACTOR SHALL:
- COORDINATE ALL DEMOLITION AND PHASING EFFORTS WITH THE ARCHITECT AND OWNER'S REPRESENTATIVE. EVERY EFFORT SHALL BE MADE TO MINIMIZE DISRUPTION OF OWNER'S OPERATIONS. EXCESSIVE NOISE OR VIBRATION SHALL BE PRE-APPROVED AND COORDINATED WITH THE OWNER'S REPRESENTATIVE. IN ALL CASES, PROVISIONS SHALL BE MADE FOR USER'S SAFETY.
  - COORDINATE ANY DISRUPTION OF UTILITY SERVICES WITH THE OWNER AND AS SPECIFIED.
  - CONSTRUCT TEMPORARY CONSTRUCTION PARTITIONS WITHIN THE EXISTING BUILDING WHICH OFFER A ONE-HOUR ENCLOSURE TO ISOLATE ANY DEMOLITION/CONSTRUCTION WORK FROM THE GENERAL PUBLIC AND AS DEEMED NECESSARY BY THE OWNER AND CODE OFFICIAL HAVING JURISDICTION. COORDINATE LOCATIONS WITH THE OWNER AND MAINTAIN MEANS OF EGRESS THROUGHOUT THE WORK.
  - MAINTAIN A SECURE, WEATHER-TIGHT ENCLOSURE AT ALL TIMES.
  - VERIFY ALL EXISTING CONDITIONS, DIMENSIONS AND ELEVATIONS AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES.
  - REMOVE IN THEIR ENTIRETY ALL EXISTING WALLS, DOORS, MILLWORK, PLUMBING FIXTURES, CEILING, SOFFITS, MARKERBOARDS, AND OTHER ITEMS, AS REQUIRED TO EXECUTE THE DEMOLITION/CONSTRUCTION WORK DESCRIBED BY THE DRAWINGS.
  - THE OWNER SHALL RESERVE THE RIGHT TO SALVAGE ANY MATERIALS.
  - PROVIDE PROTECTION FOR ALL EXISTING BUILDING MATERIALS AND EQUIPMENT FROM DAMAGE DUE TO ANY DEMOLITION OR CONSTRUCTION-RELATED INCIDENT PERFORMED UNDER THIS CONTRACT.
  - REPAIR OR REPLACE ITEMS THAT ARE DAMAGED AS A RESULT OF DEMOLITION OR CONSTRUCTION TO MATCH EXISTING FINISH AND/OR CONDITION.
  - EXISTING MATERIALS SHALL NOT BE REUSED UNLESS NOTED OTHERWISE OR AS AUTHORIZED BY ARCHITECT.
  - VERIFY AND MAINTAIN THE LOCATION OF EXISTING POWER, COMMUNICATION AND DATA CABLES TO PREVENT INTERRUPTION OF THEIR SERVICE.
  - PATCH FLOOR, WALL AND CEILING PENETRATIONS RESULTING FROM REMOVAL OR RE-ROUTING OF NEW OR EXISTING PIPING, DUCTWORK, CONDUIT, AND OTHER ITEMS, AS REQUIRED TO MAINTAIN FIRE-RESISTANCE-RATED SEPARATIONS. FINISH AS REQUIRED FOR NEW OR EXISTING ADJACENT SURFACES.
  - CAP ALL DISCONNECTED MECHANICAL PIPING LINES WITHIN THE WALL OR FLOOR. PATCH AND FINISH AS REQUIRED TO MATCH NEW OR EXISTING ADJACENT SURFACES.
  - SEE MECHANICAL AND ELECTRICAL DRAWINGS AND NOTES FOR FURTHER SEQUENCING AND SCOPE OF WORK.
  - AVOID ANY DISTURBANCE OF SOILS WITHIN THE ZONE OF INFLUENCE AROUND EXISTING FOOTINGS AND FLOOR SLABS AS DIRECTED BY GEOTECHNICAL INSPECTOR.
  - NOT USED.
  - WHERE PLASTER/STUD WALLS ARE INDICATED TO BE REMOVED, PREPARE ADJACENT WALLS TO RECEIVE NEW PATCH/FINISH BY SAW-CUTTING ADJACENT PLASTER FINISH A MINIMUM OF 1'-0" BEYOND DEMOLITION.

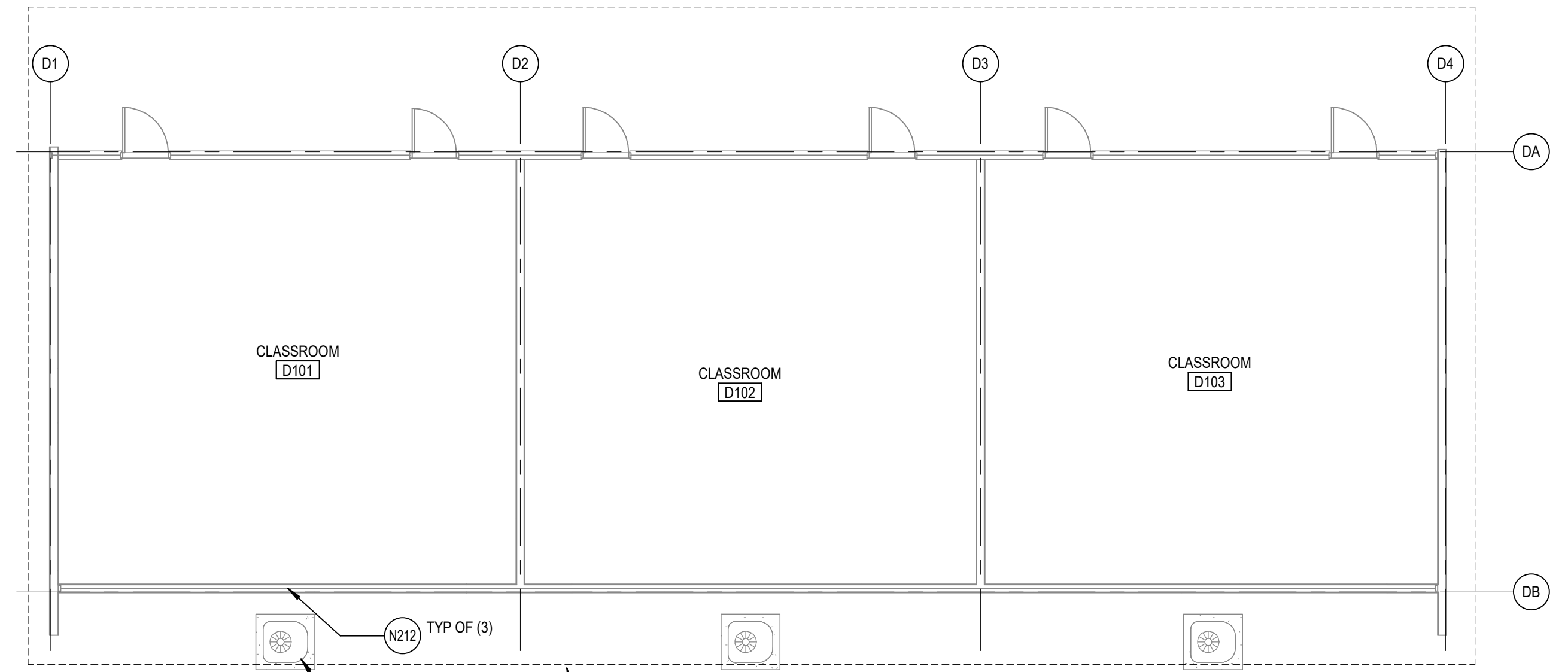


**ROWLAND ELEMENTARY SCHOOL**  
 COVID 19 - COVINA VALLEY DISTRICT WIDE HVAC REPLACEMENT  
 1355 E. ROWLAND AVE. WEST COVINA, CA 91790

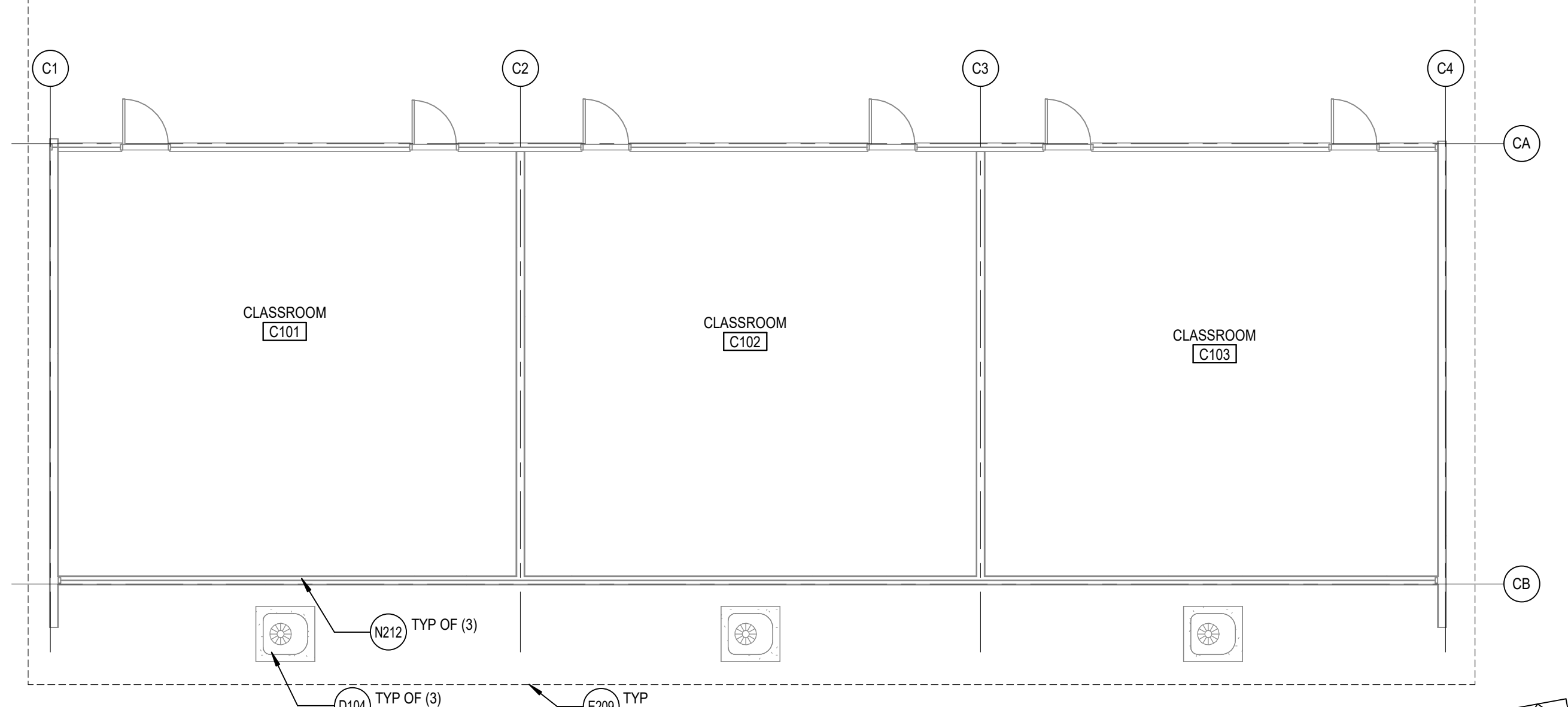
100% CONSTRUCTION DOCUMENTS  
 05/05/2022 REVISIONS

75-22605-00  
 DSA A#03-122233  
 DSA File #: 19-25  
 FLOOR PLANS

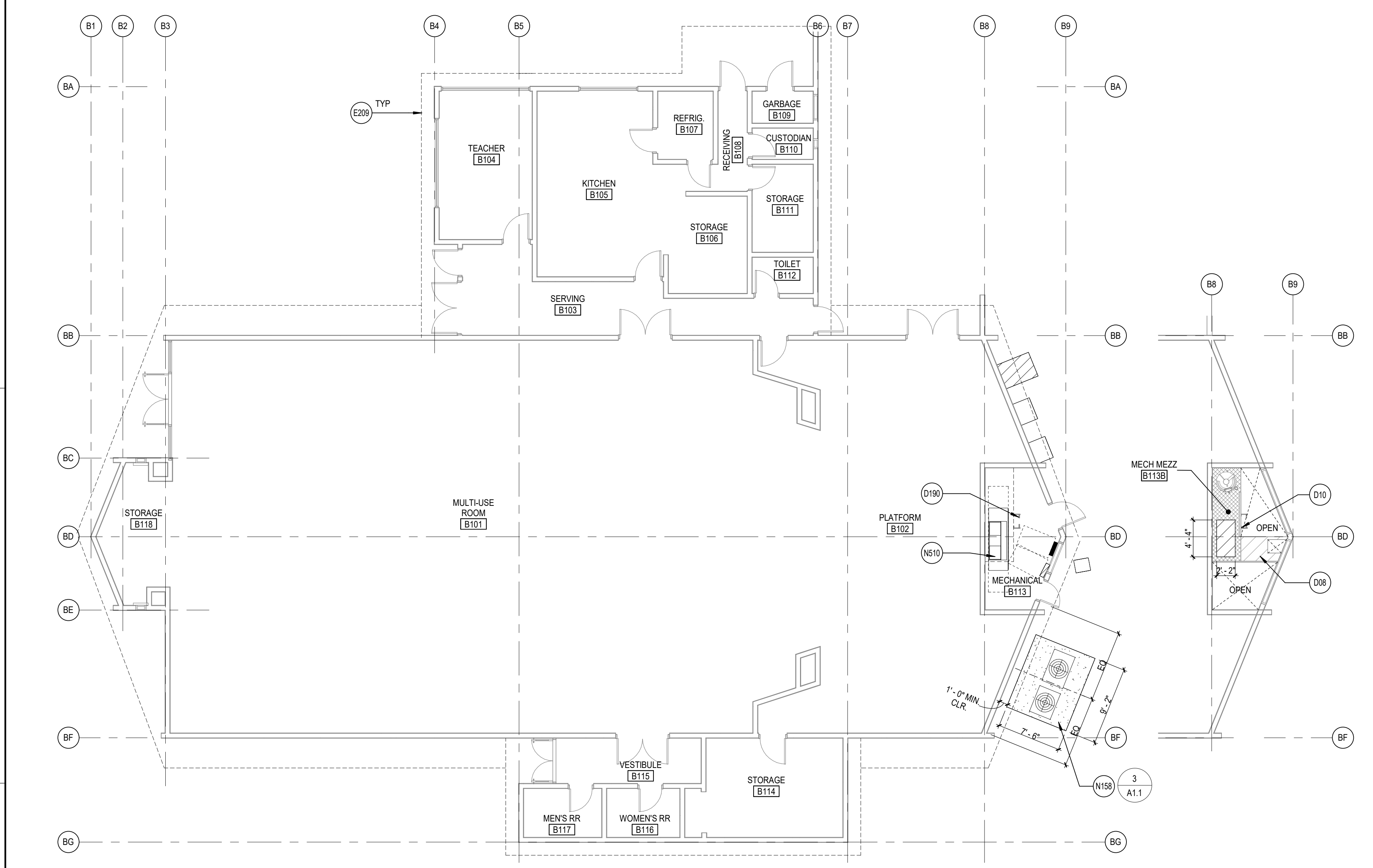
A1.1A



5 **BUILDING F FLOOR PLAN**  
 A1.1A SCALE: 1/8" = 1'-0"

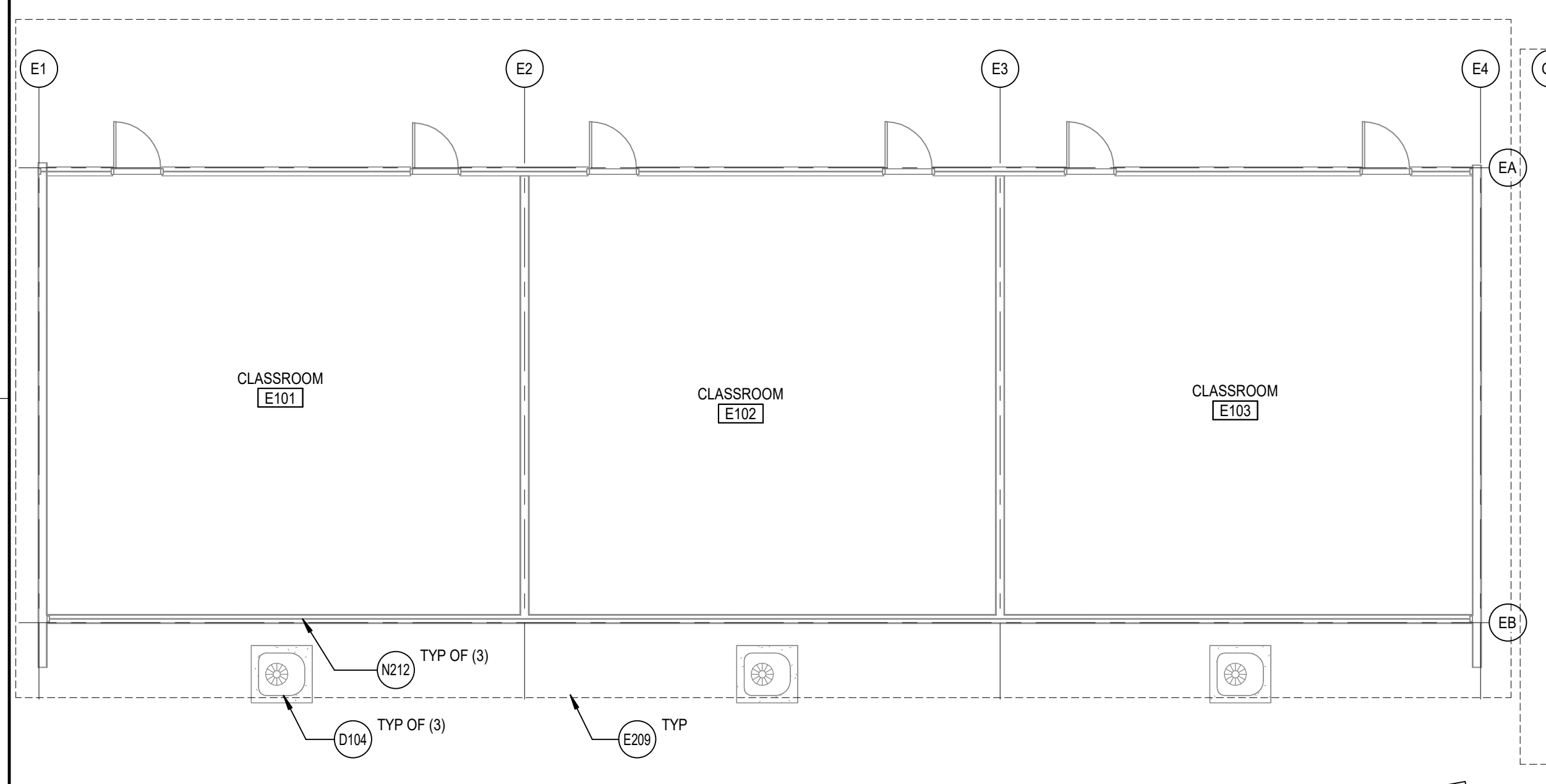


6 **BUILDING D FLOOR PLAN**  
 A1.1A SCALE: 1/8" = 1'-0"

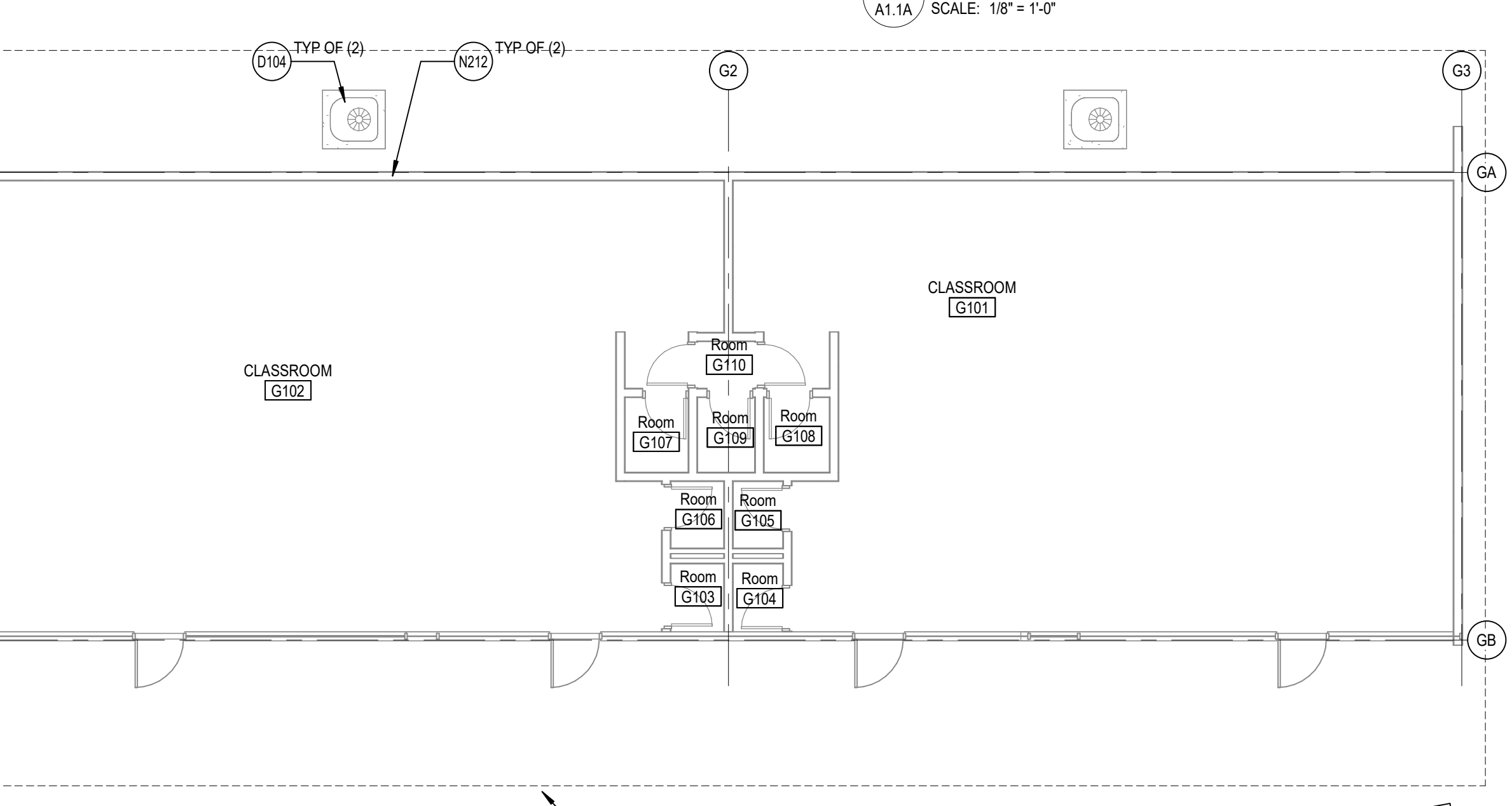


4 **BUILDING B FLOOR PLAN**  
 A1.1A SCALE: 1/8" = 1'-0"

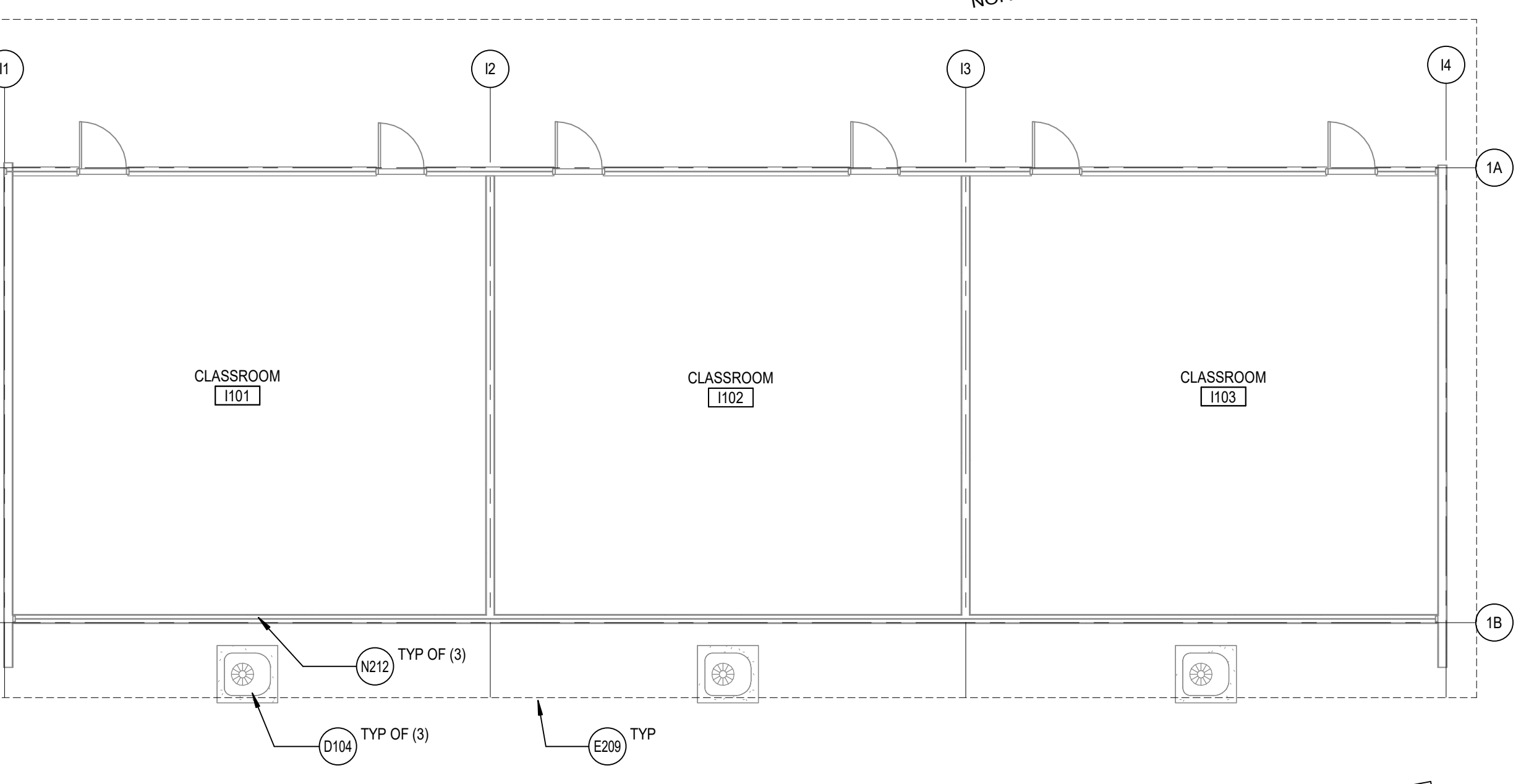
4B **MECH. MEZZANINE**  
 A1.1A SCALE: 1/8" = 1'-0"



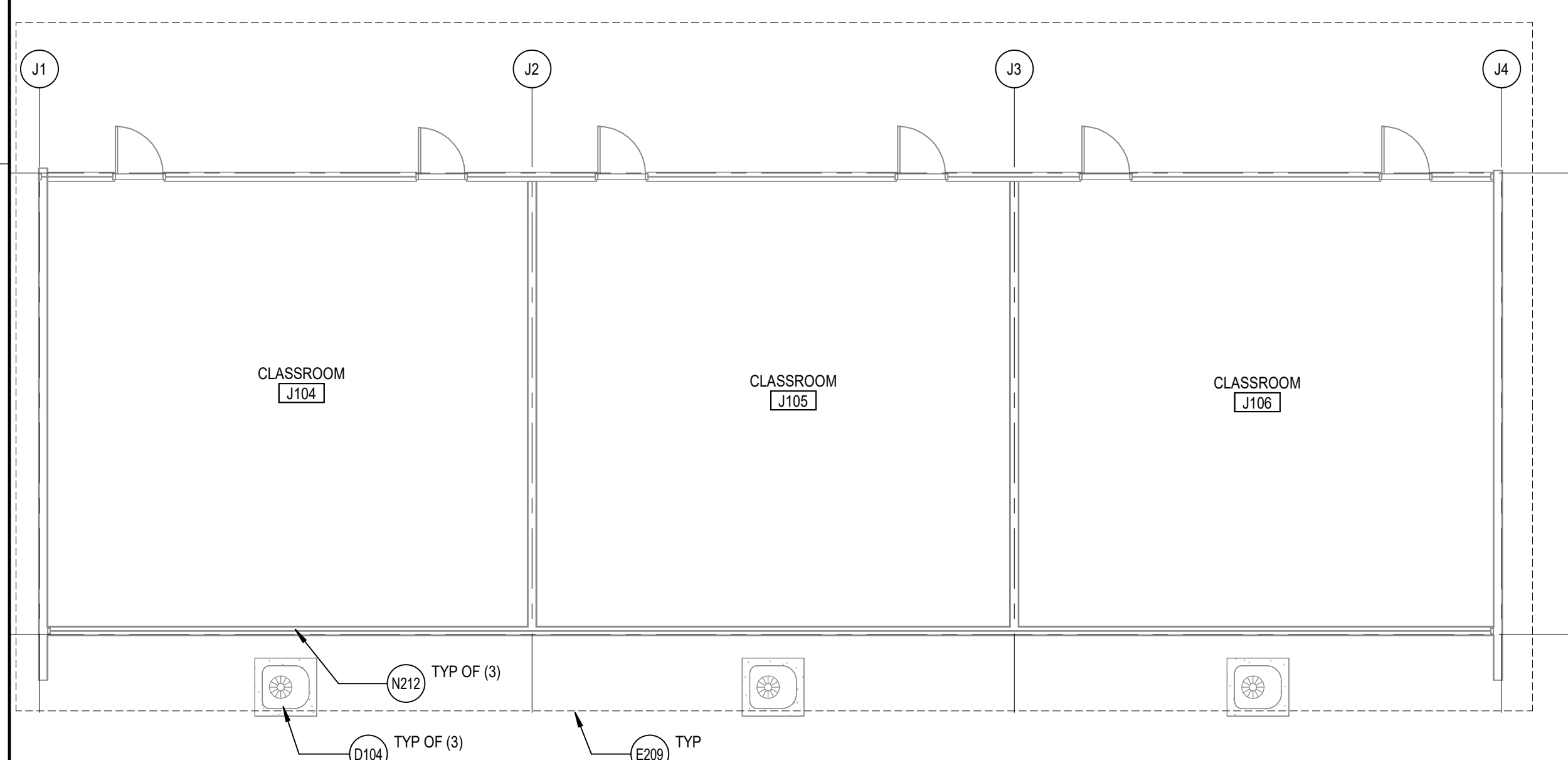
7 **BUILDING H FLOOR PLAN**  
 A1.1A SCALE: 1/8" = 1'-0"



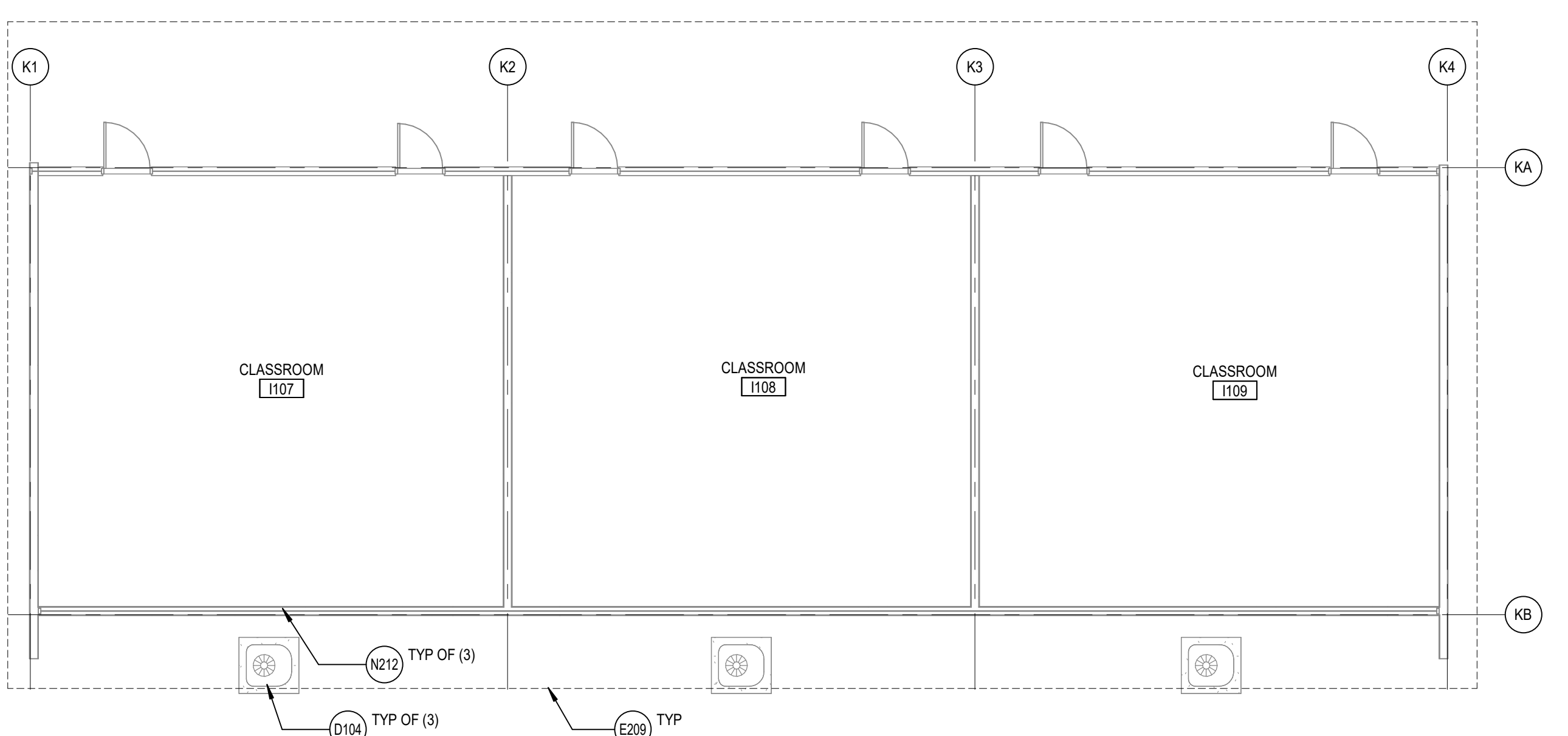
8 **BUILDING C FLOOR PLAN**  
 A1.1A SCALE: 1/8" = 1'-0"



9 **BUILDING I FLOOR PLAN**  
 A1.1A SCALE: 1/8" = 1'-0"



10 **BUILDING J FLOOR PLAN**  
 A1.1A SCALE: 1/8" = 1'-0"



11 **BUILDING K FLOOR PLAN**  
 A1.1A SCALE: 1/8" = 1'-0"

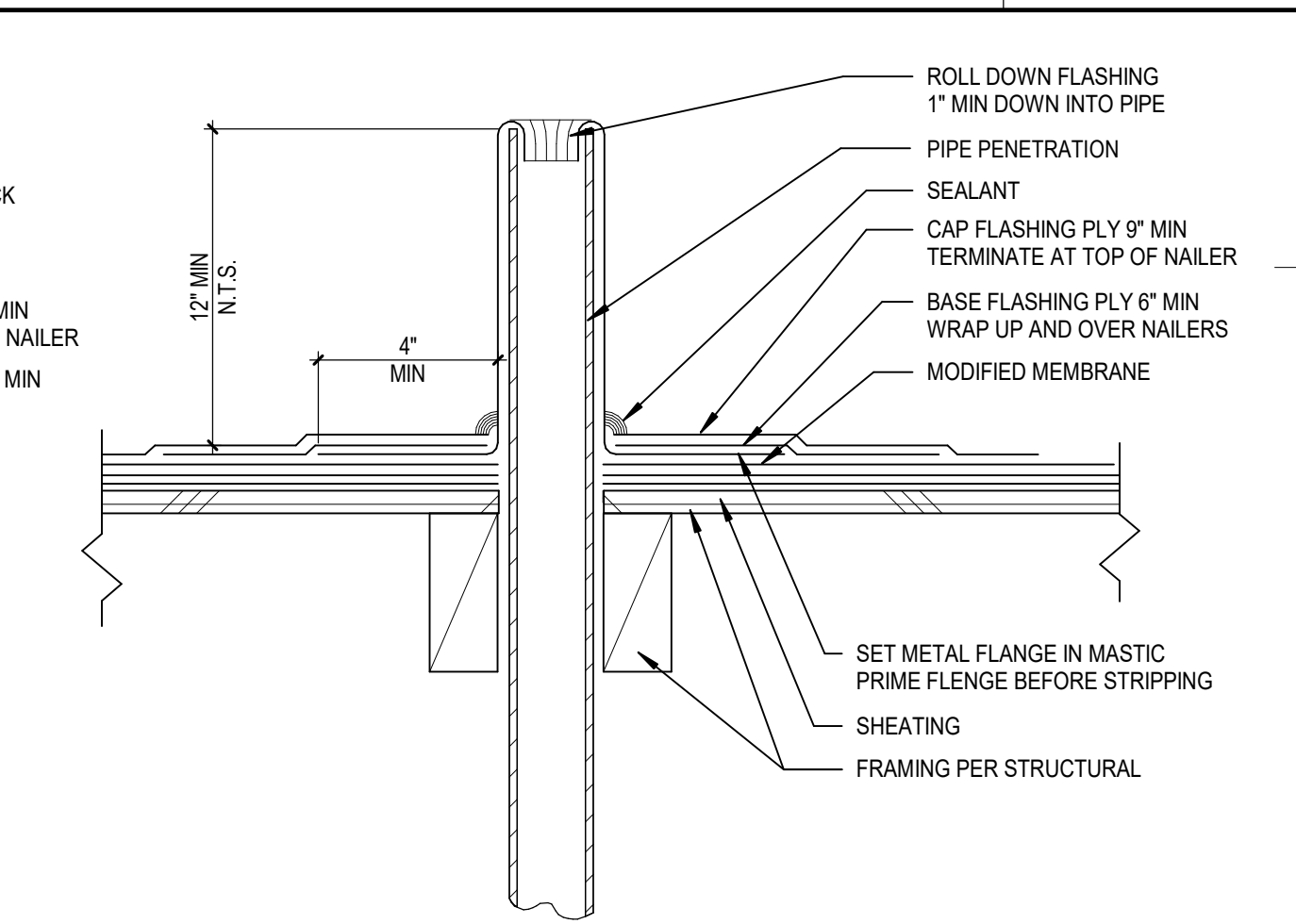
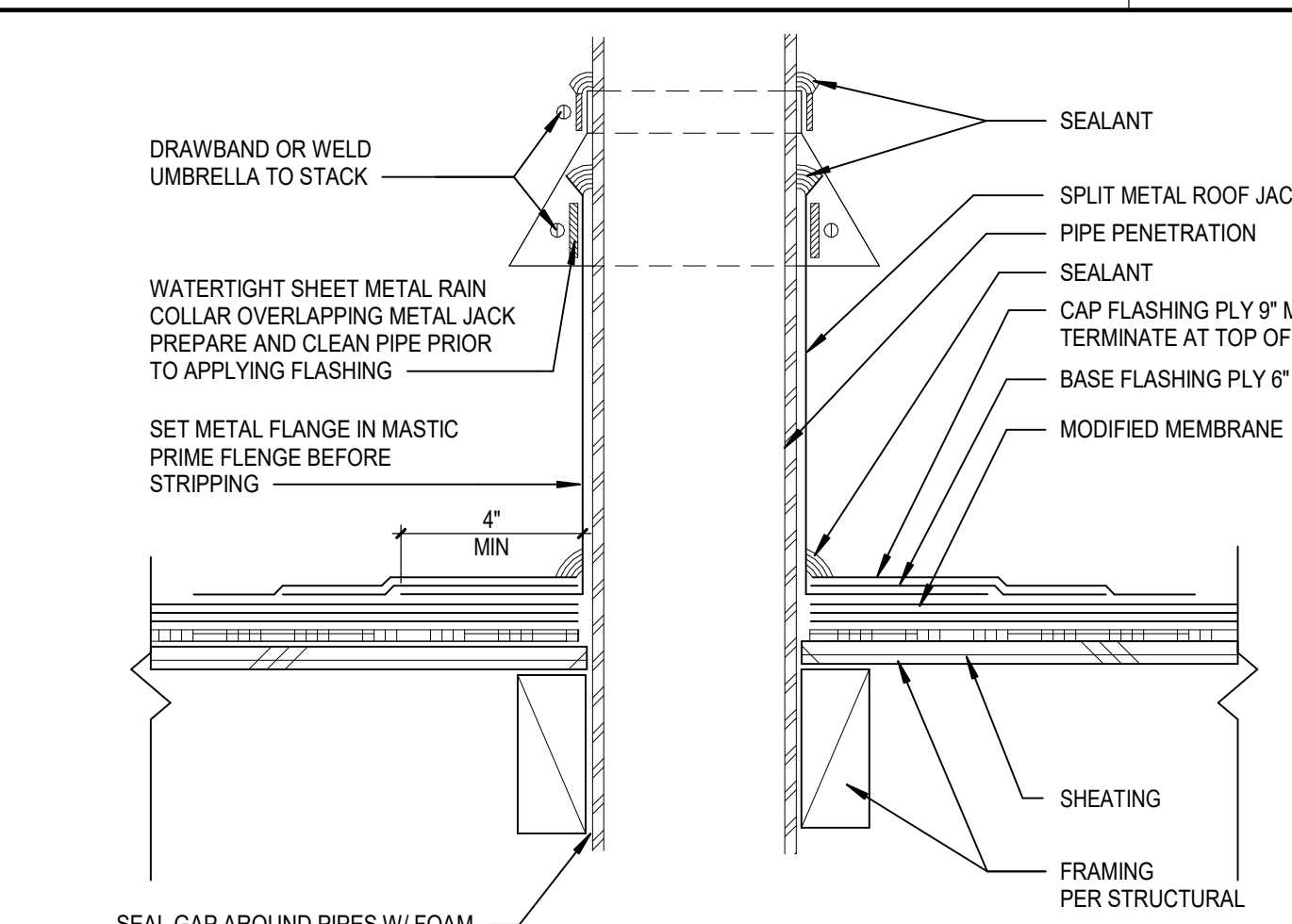
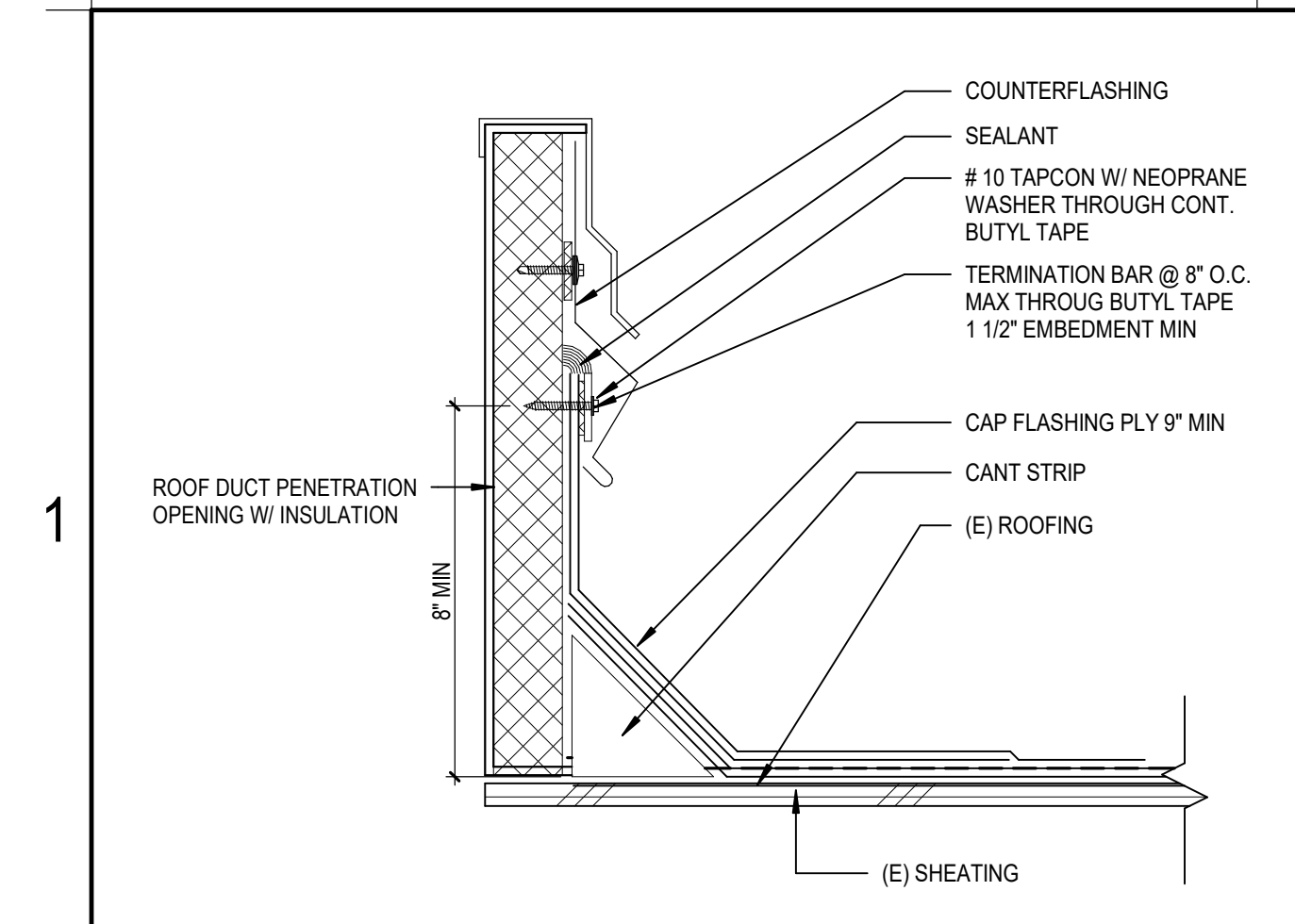
**REFERENCE KEYNOTES**

- D08 DEMO PORTION OF (E) MEZZANINE FLOOR AND FRAMING. SEE STRUCTURAL DWGS.
- D10 ENLARGE (E) OPENING AT (E) MEZZANINE FLOOR TO ALLOW FOR NEW MECH. EQUIPMENT. COORDINATE W/ MECH AND STRUCTURAL.
- D104 REMOVE (E) MECHANICAL EQUIP., EQUIP. CONC. PAD, & ITS ASSOCIATED PARTS. SEE MECHANICAL & PLUMBING DWG. CONTRACTOR TO PATCH AND REPAIR AREA OF DEMO WITH (N) ASPHALT, (N) CONCRETE OR (N) LANDSCAPING TO MATCH ADJACENT SURFACE.
- D190 REMOVE (E) LADDER.
- N158 NEW MECHANICAL EQUIPMENT O' NEW 6" THK. TOP LEVELED CONCRETE PAD & PLACED 6" FROM EDGE OF PAD. SEE MECH DWGS.
- N212 REPLACE (E) INFILL PANEL AT CONDENSER UNIT PENETRATIONS WITH GLAZING TO MATCH ADJACENT. PAINT FRAME TO MATCH ADJACENT.
- N510 NEW MECH. EQUIPMENT. SEE MECHANICAL DWGS.

**GENERAL ARCHITECTURAL NOTES**

- ALL INTERIOR CMU WALLS SHALL ARE TO REMAIN U.N.O.
- NOT USED.
- FURNISH AND INSTALL FIRE-TREATED WOOD BLOCKING OR METAL BACKING PLATE IN METAL STUD PARTITIONS FOR THE PROPER ANCHORAGE OF ALL WALL ATTACHED ITEMS. I.E. TOILET ACCESSORIES, CASEWORK, MILLWORK, WALL-MOUNTED FIXTURES, MARKER BOARDS, TACK BOARDS, DOOR STOPS, AUDIO VISUAL BRACKETS, AND OTHER WALL ATTACHED ITEMS WHERE OCCUR.
- GYPSON BOARD SURFACES SHALL BE ISOLATED WITH CONTROL JOINTS WHERE SHOWN ON DRAWINGS AND AS DESCRIBED IN THE SPECIFICATIONS.
- NOT USED.
- SCRIBE GYPSON WALL BOARD OF WALLS AND PARTITIONS TO IRREGULARITIES OF DECK ABOVE. SEAL TIGHTLY AROUND ALL PENETRATIONS.
- MAINTAIN (E) SEISMIC BRACING FOR SUSPENDED CEILING OR AS SHOWN ON THE DRAWINGS.

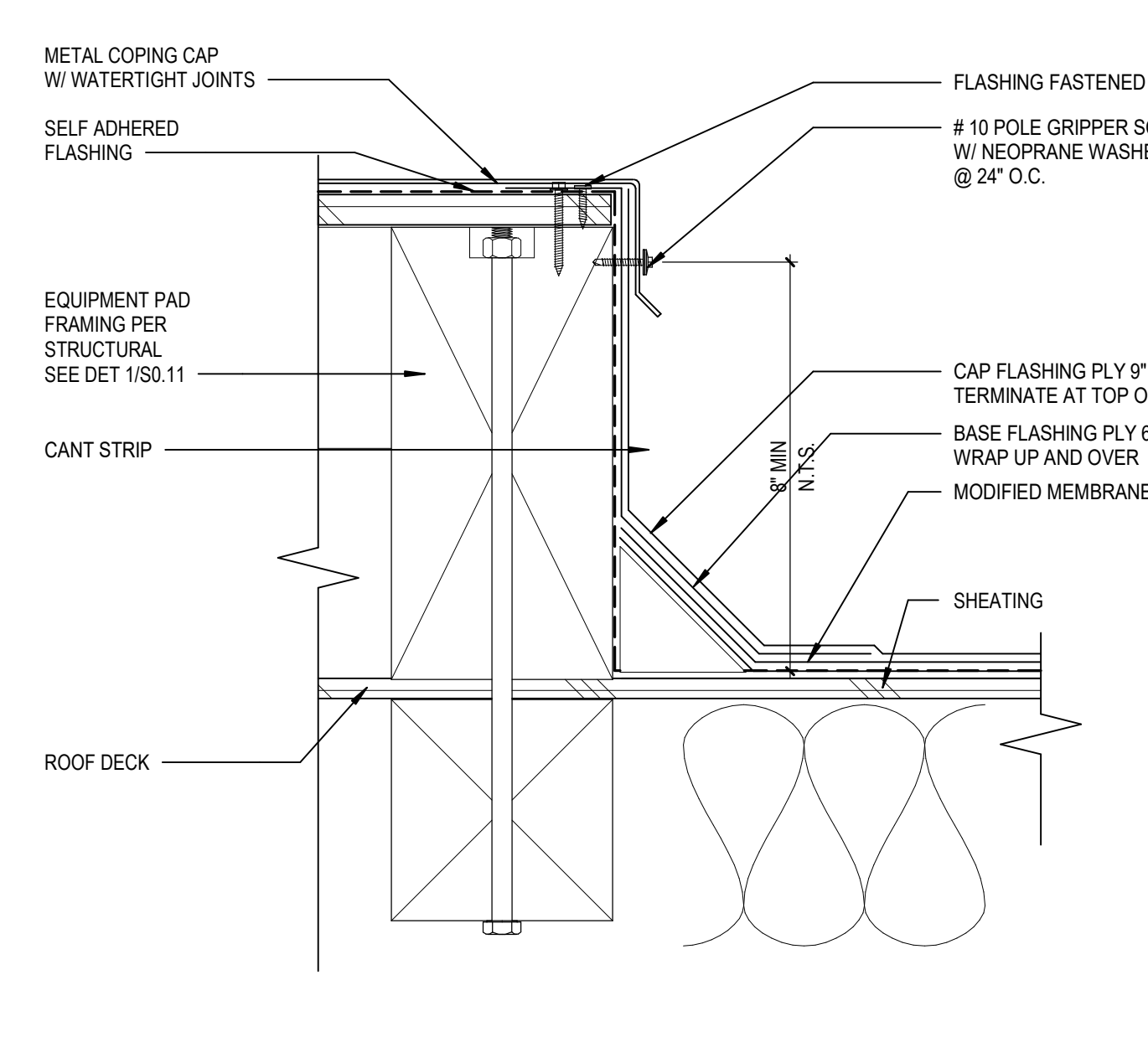
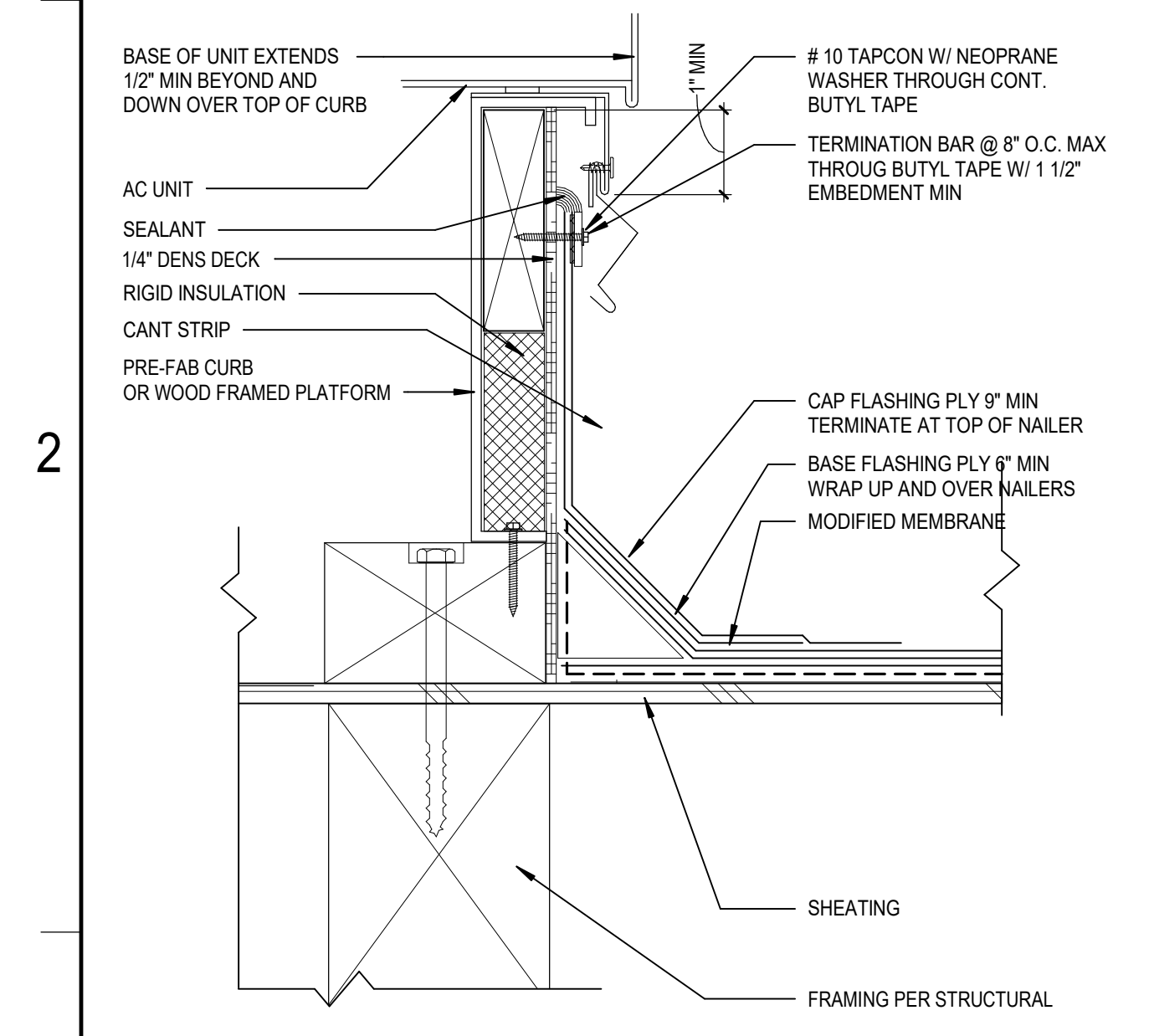
Autodesk Docu/75-22605-00 CVUSD - District Web - HVAC Replacement/75-22605-00 CVUSD - Rowland ES\_A1.1A\_2022.rvt  
 2/1/2023 10:51:05 AM



1A TYPICAL MECHANICAL DUCT PENETRATION FLASHING  
SCALE: 3" = 1'-0"

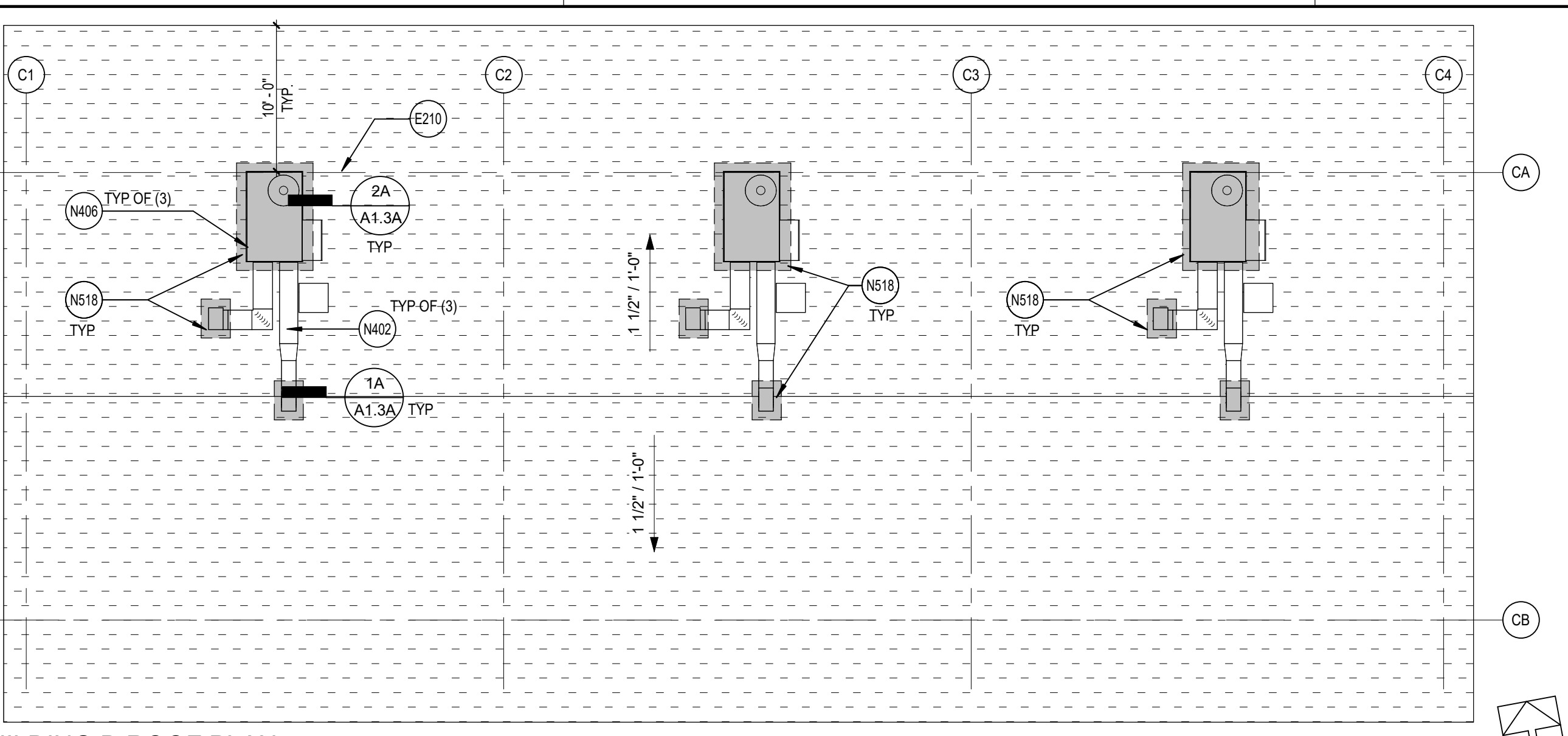
1B MOD BITUM - PIPE PENETRATION FLASHING  
SCALE: 3" = 1'-0"

1C MOD BITUM - VENT PIPE FLASHING  
SCALE: 3" = 1'-0"

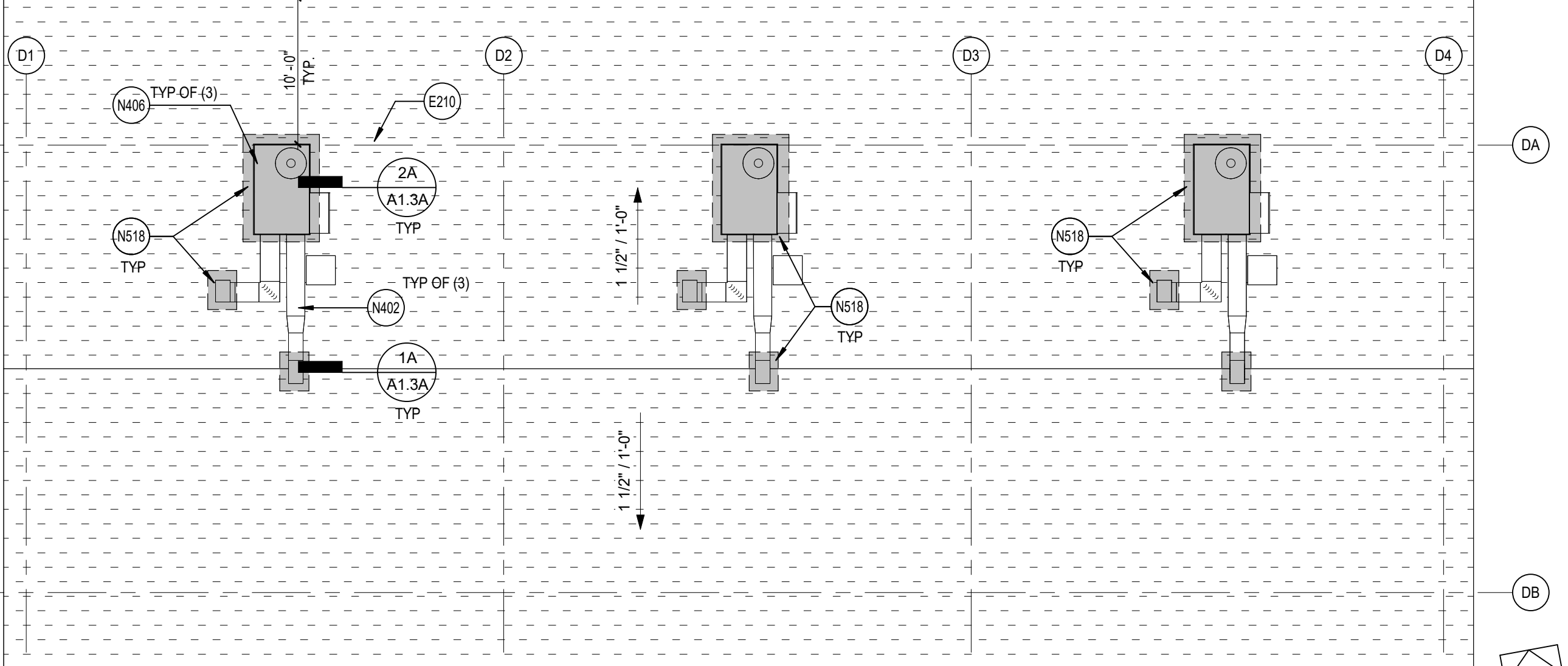


2A MOD BITUM - ACU CURB FLASHING  
SCALE: 3" = 1'-0"

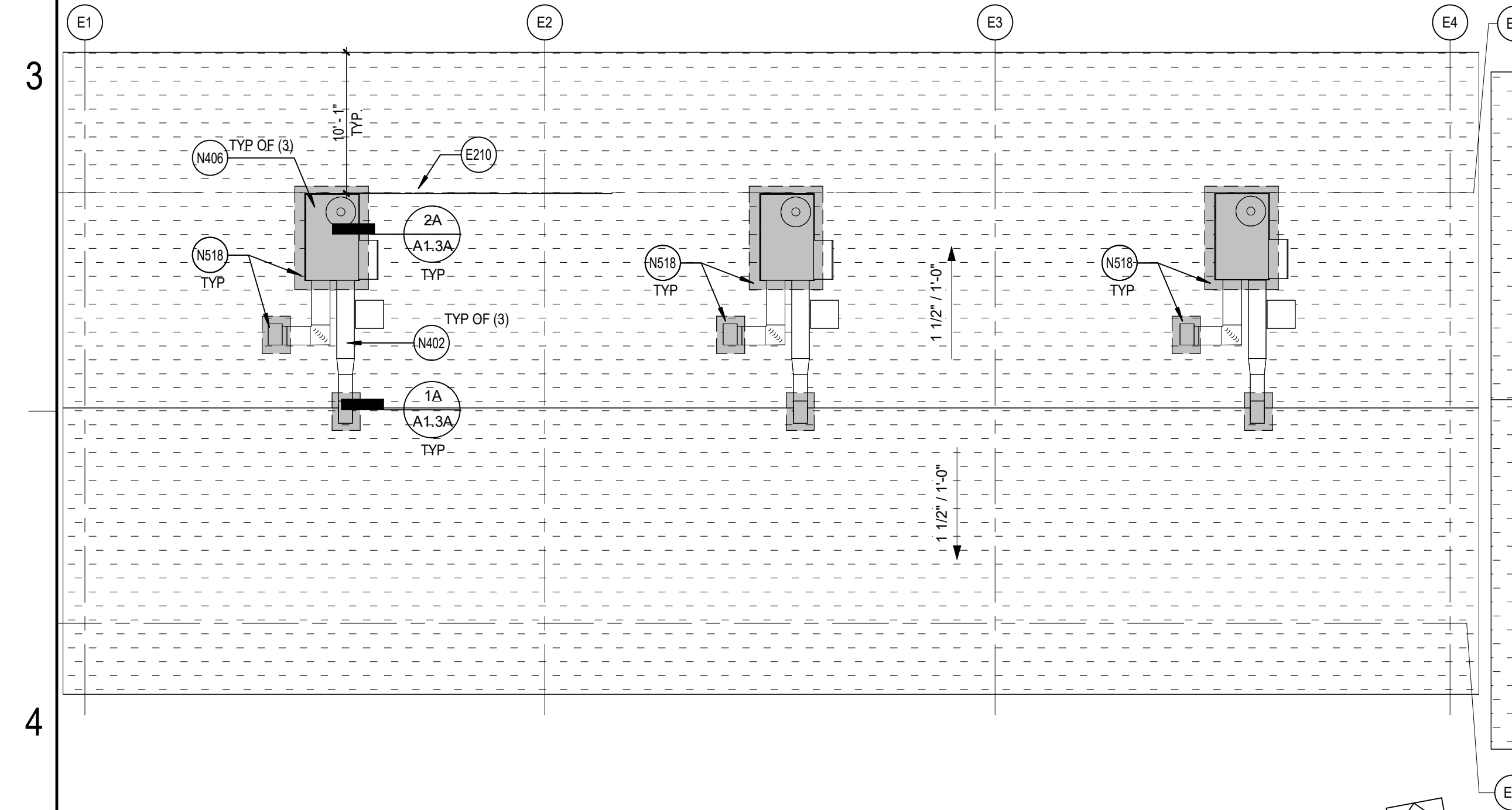
2B MOD BITUM - EQUIPMENT PAD  
SCALE: 3" = 1'-0"



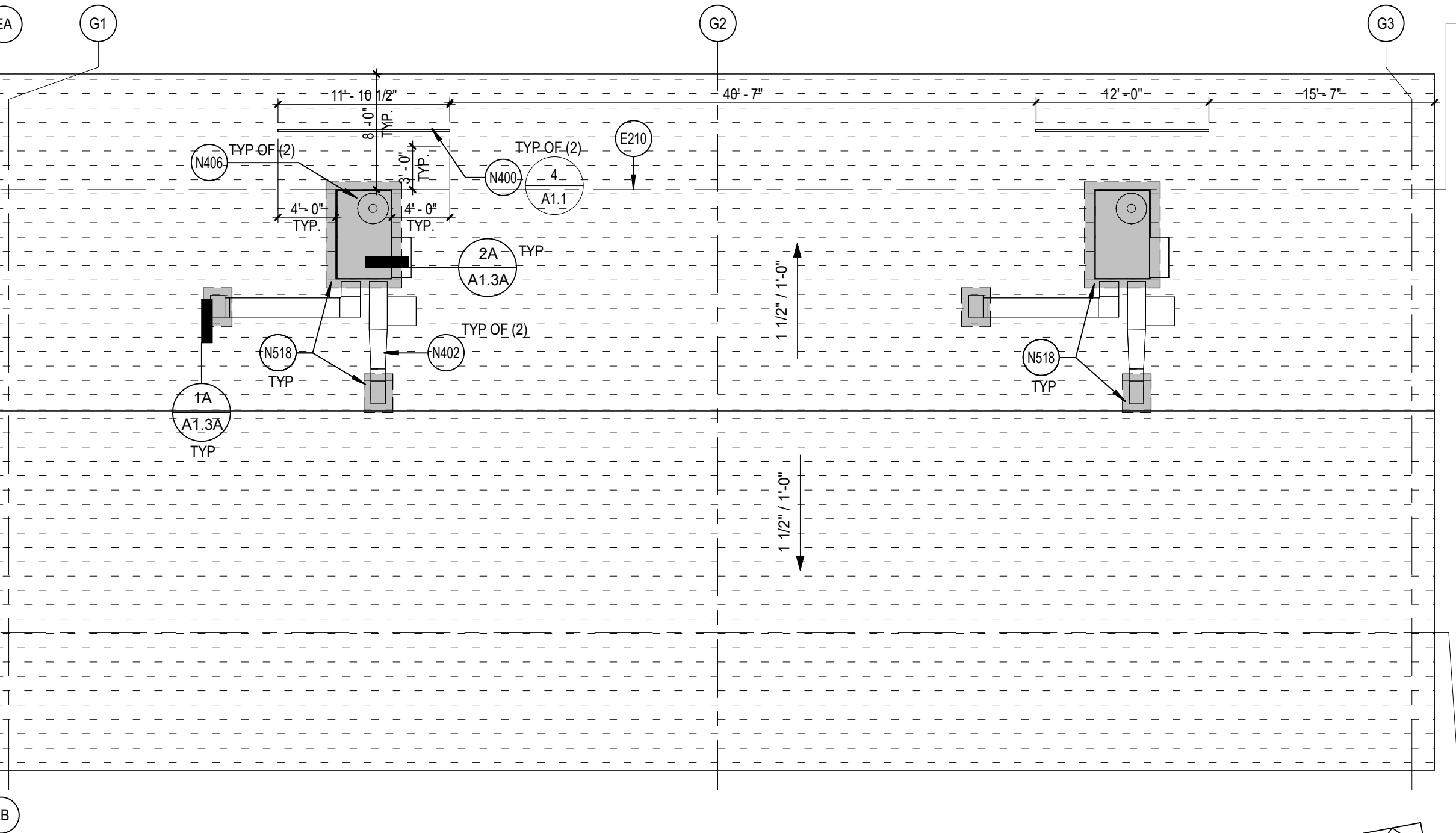
5 BUILDING D ROOF PLAN  
SCALE: 1/8" = 1'-0"



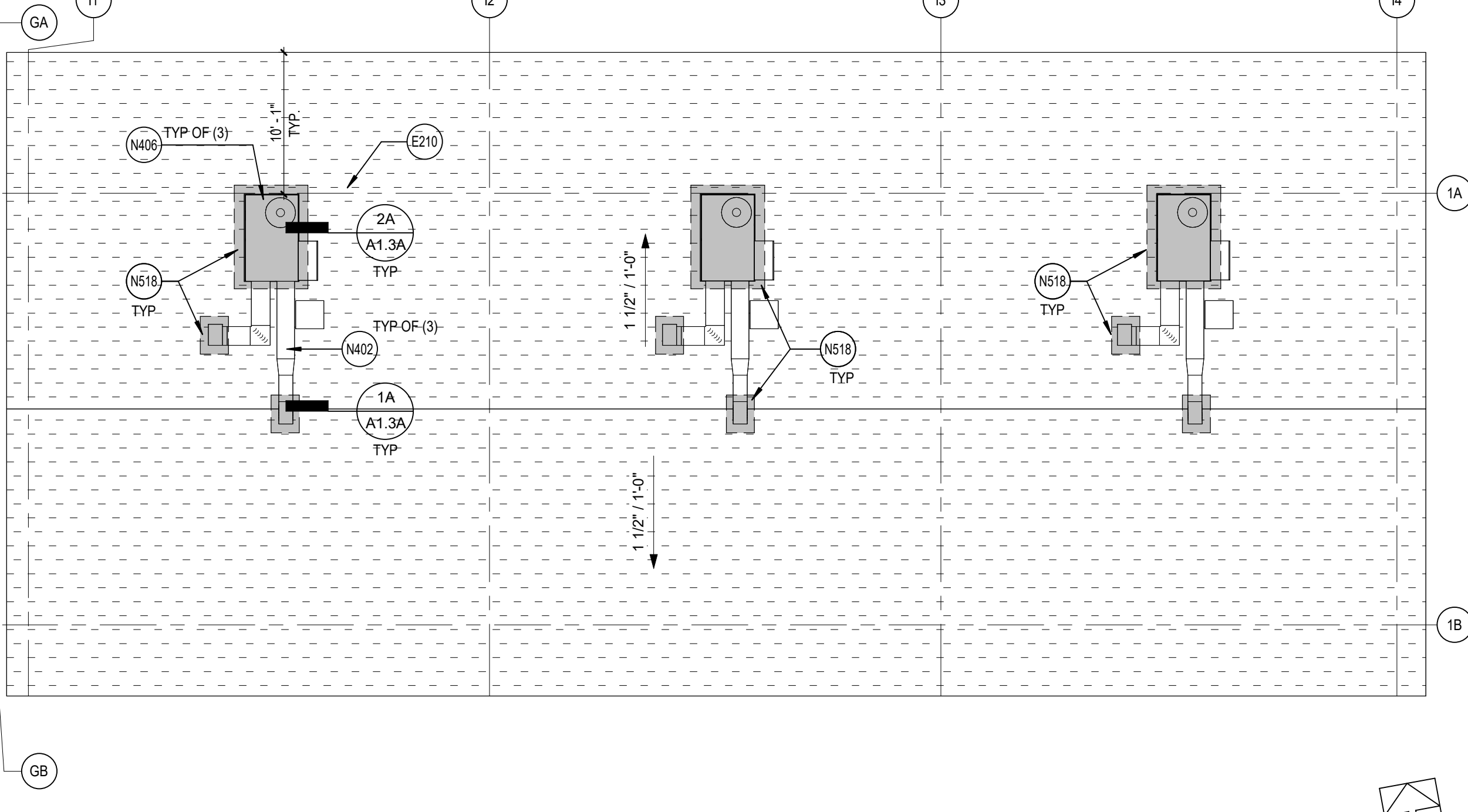
6 BUILDING F ROOF PLAN  
SCALE: 1/8" = 1'-0"



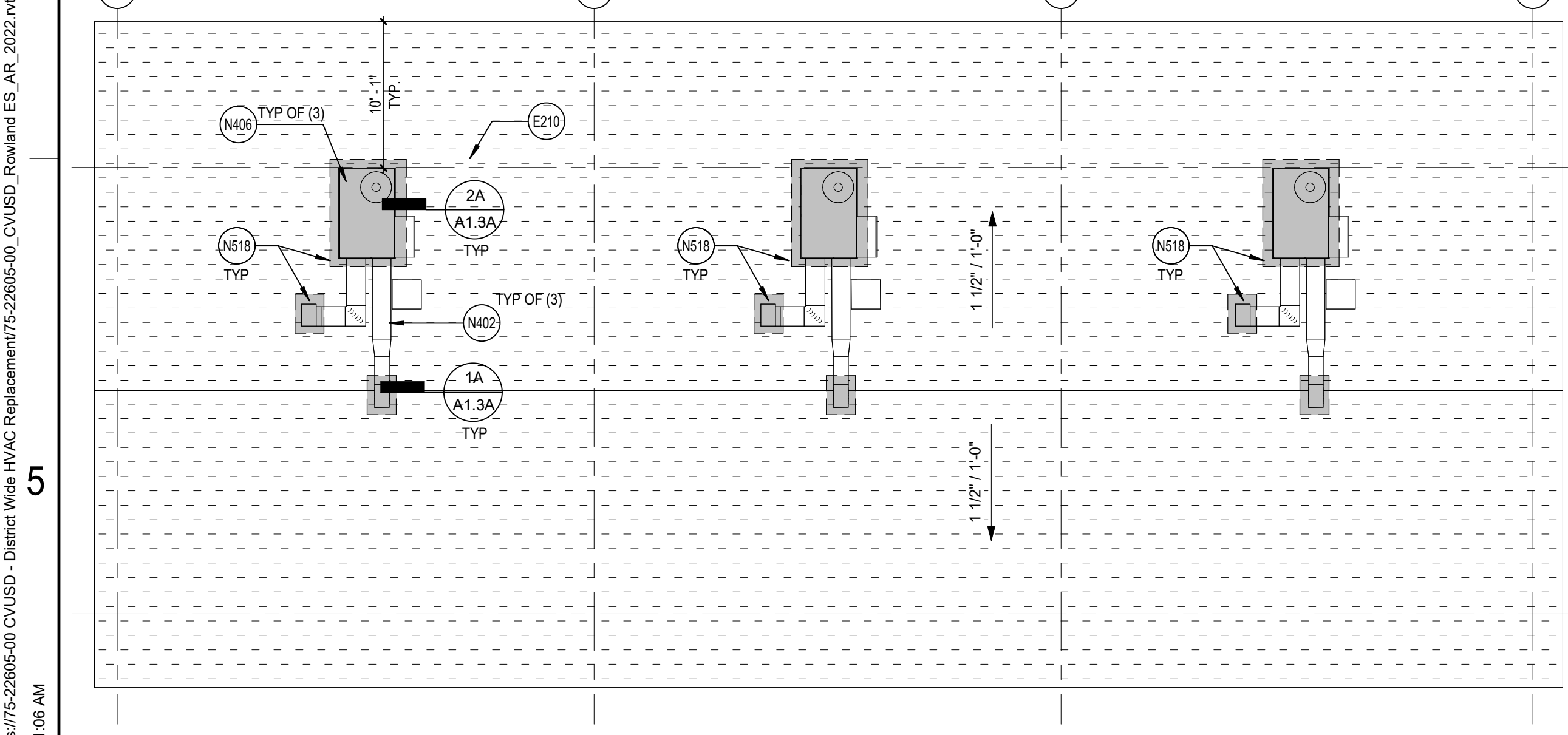
7 BUILDING H ROOF PLAN  
SCALE: 1/8" = 1'-0"



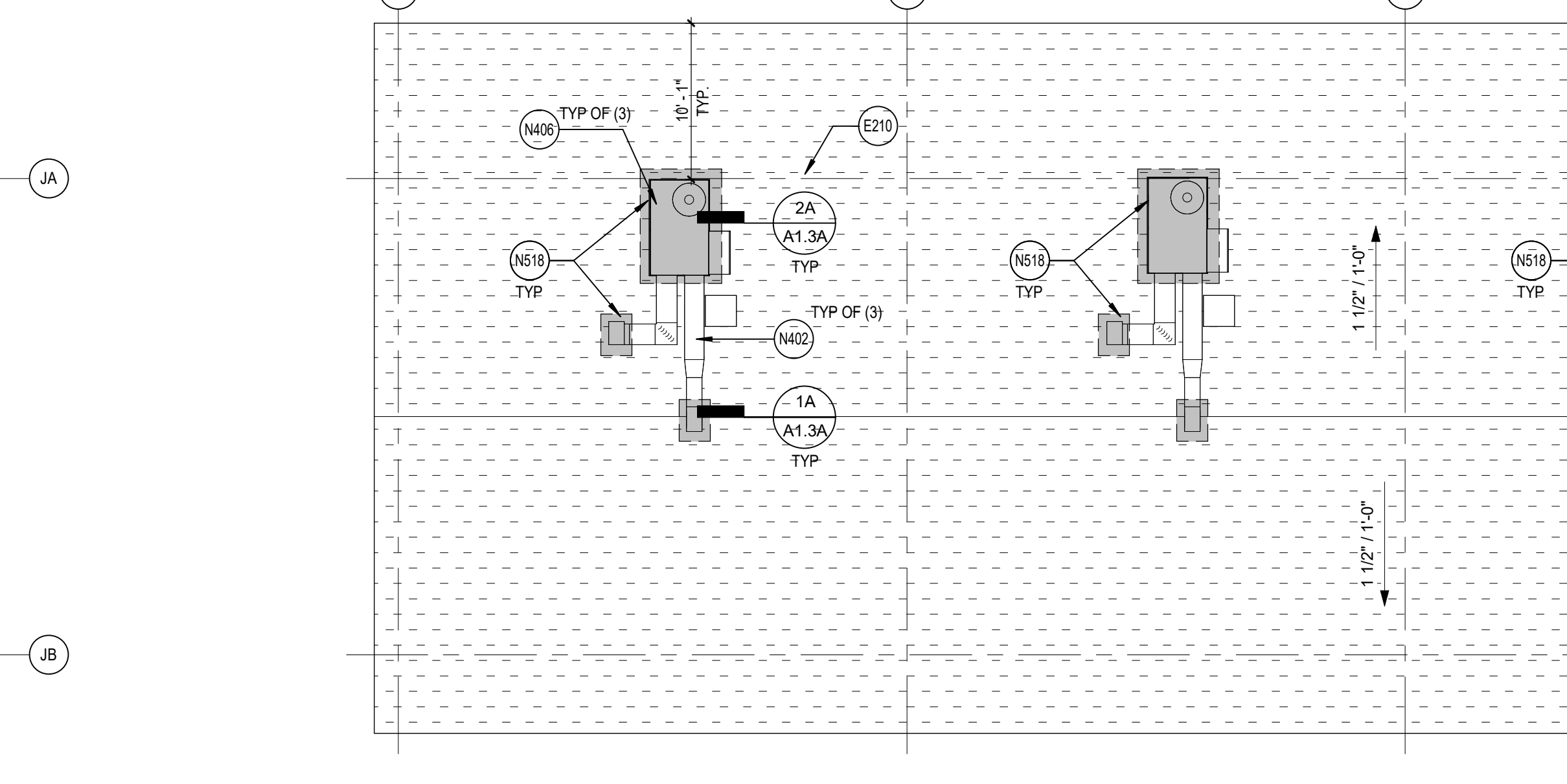
8 BUILDING C ROOF PLAN  
SCALE: 1/8" = 1'-0"



9 BUILDING I ROOF PLAN  
SCALE: 1/8" = 1'-0"



10 BUILDING J ROOF PLAN  
SCALE: 1/8" = 1'-0"



11 BUILDING K ROOF PLAN  
SCALE: 1/8" = 1'-0"

DEMOLITION GENERAL NOTES

- DEMOLITION NOTES APPLY TO ALL DEMOLITION SHEETS.
- THE CONTRACTOR SHALL:
- COORDINATE ALL DEMOLITION AND PHASING EFFORTS WITH THE ARCHITECT AND OWNER'S REPRESENTATIVE. EVERY EFFORT SHALL BE MADE TO MINIMIZE DISRUPTION OF OWNER'S OPERATIONS. EXCESSIVE NOISE OR VIBRATION SHALL BE PRE-APPROVED AND COORDINATED WITH THE OWNER'S REPRESENTATIVE. IN ALL CASES, PROVISIONS SHALL BE MADE FOR USER'S SAFETY.
  - COORDINATE ANY DISRUPTION OF UTILITY SERVICES WITH THE OWNER AND AS SPECIFIED.
  - CONSTRUCT TEMPORARY CONSTRUCTION PARTITIONS WITHIN THE EXISTING BUILDING WHICH OFFER A ONE-HOUR ENCLOSURE TO ISOLATE ANY DEMOLITION/CONSTRUCTION WORK FROM THE GENERAL PUBLIC AND AS DEEMED NECESSARY BY THE OWNER AND CODE OFFICIAL HAVING JURISDICTION. COORDINATE LOCATIONS WITH THE OWNER AND MAINTAIN MEANS OF EGRESS THROUGHOUT THE WORK.
  - MAINTAIN A SECURE, WEATHER-TIGHT ENCLOSURE AT ALL TIMES.
  - VERIFY ALL EXISTING CONDITIONS, DIMENSIONS AND ELEVATIONS AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES.
  - REMOVE IN THEIR ENTIRETY ALL EXISTING WALLS, DOORS, MILLWORK, PLUMBING FIXTURES, CEILING, SOFFITS, MARKERBOARDS, AND OTHER ITEMS, AS REQUIRED TO EXECUTE THE DEMOLITION/CONSTRUCTION WORK DESCRIBED BY THE DRAWINGS.
  - THE OWNER SHALL RESERVE THE RIGHT TO SALVAGE ANY MATERIALS.
  - PROVIDE PROTECTION FOR ALL EXISTING BUILDING MATERIALS AND EQUIPMENT FROM DAMAGE DUE TO ANY DEMOLITION OR CONSTRUCTION-RELATED INCIDENT PERFORMED UNDER THIS CONTRACT.
  - REPAIR OR REPLACE ITEMS THAT ARE DAMAGED AS A RESULT OF DEMOLITION OR CONSTRUCTION TO MATCH EXISTING FINISH AND/OR CONDITION.
  - EXISTING MATERIALS SHALL NOT BE REUSED UNLESS NOTED OTHERWISE OR AS AUTHORIZED BY ARCHITECT.
  - VERIFY AND MAINTAIN THE LOCATION OF EXISTING POWER, COMMUNICATION AND DATA CABLES TO PREVENT INTERRUPTION OF THEIR SERVICE.
  - PATCH FLOOR, WALL AND CEILING PENETRATIONS RESULTING FROM REMOVAL OR RE-ROUTING OF NEW OR EXISTING PIPING, DUCTWORK, CONDUIT, AND OTHER ITEMS, AS REQUIRED TO MAINTAIN FIRE-RESISTANCE-RATED SEPARATIONS. FINISH AS REQUIRED FOR NEW OR EXISTING ADJACENT SURFACES.
  - CAP ALL DISCONNECTED MECHANICAL PIPING LINES WITHIN THE WALL OR FLOOR. PATCH AND FINISH AS REQUIRED TO MATCH NEW OR EXISTING ADJACENT SURFACES.
  - SEE MECHANICAL AND ELECTRICAL DRAWINGS AND NOTES FOR FURTHER SEQUENCING AND SCOPE OF WORK.
  - AVOID ANY DISTURBANCE OF SOILS WITHIN THE ZONE OF INFLUENCE AROUND EXISTING FOOTINGS AND FLOOR SLABS AS DIRECTED BY GEOTECHNICAL INSPECTOR.
  - NOT USED.
  - WHERE PLASTER/STUD WALLS ARE INDICATED TO BE REMOVED, PREPARE ADJACENT WALLS TO RECEIVE NEW PATCH/FINISH BY SAWCUTTING ADJACENT PLASTER FINISH A MINIMUM OF 1'-0" BEYOND DEMOLITION.

REFERENCE KEYNOTES

- E210 LINE OF (E) BLDG BELOW SHOWN DASHED
- N400 NEW METAL GUARDRAIL SYSTEM SEE DET. 4/A1.1 FOR ANCHORAGE AND SPEC SECTION 05 52 00
- N402 NEW DUCTWORK. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION
- N408 (N) MECHANICAL UNITS ATTACHED TO THE (E) UNIT CURB. SEE MECHANICAL DRAWING SHEET M7.3, M7.4 AND M7.5
- N518 (N) ROOF PATCHING IN AREA OF WORK

ROOF PLAN GENERAL NOTES

- (E) ROOF CURBS TO REMAIN U.N.O., SEE MECHANICAL DRAWINGS SHEET M1.32 FOR ADDITIONAL INFORMATION
- COORDINATE THE SIZE AND LOCATION OF WALL PENETRATIONS FOR MECHANICAL AND ELECTRICAL EQUIPMENT. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR PENETRATIONS NOT SHOWN ON THIS DRAWING.
- (E) DRAINS, CURBS, VENTS AND STACKS TO REMAINS.

IDENTIFICATION STAMP  
DIV. OF THE STATE ARCHITECT  
APP: 03-122333 INC.  
REVIEWED FOR:  
DATE: 03/14/2023



ROWLAND ELEMENTARY SCHOOL  
COVID 19 - COVINA VALLEY DISTRICT WIDE HVAC REPLACEMENT  
135E E. ROWLAND AVE. WEST COVINA, CA 91790

100% CONSTRUCTION DOCUMENTS  
05/05/2022  
REVISIONS

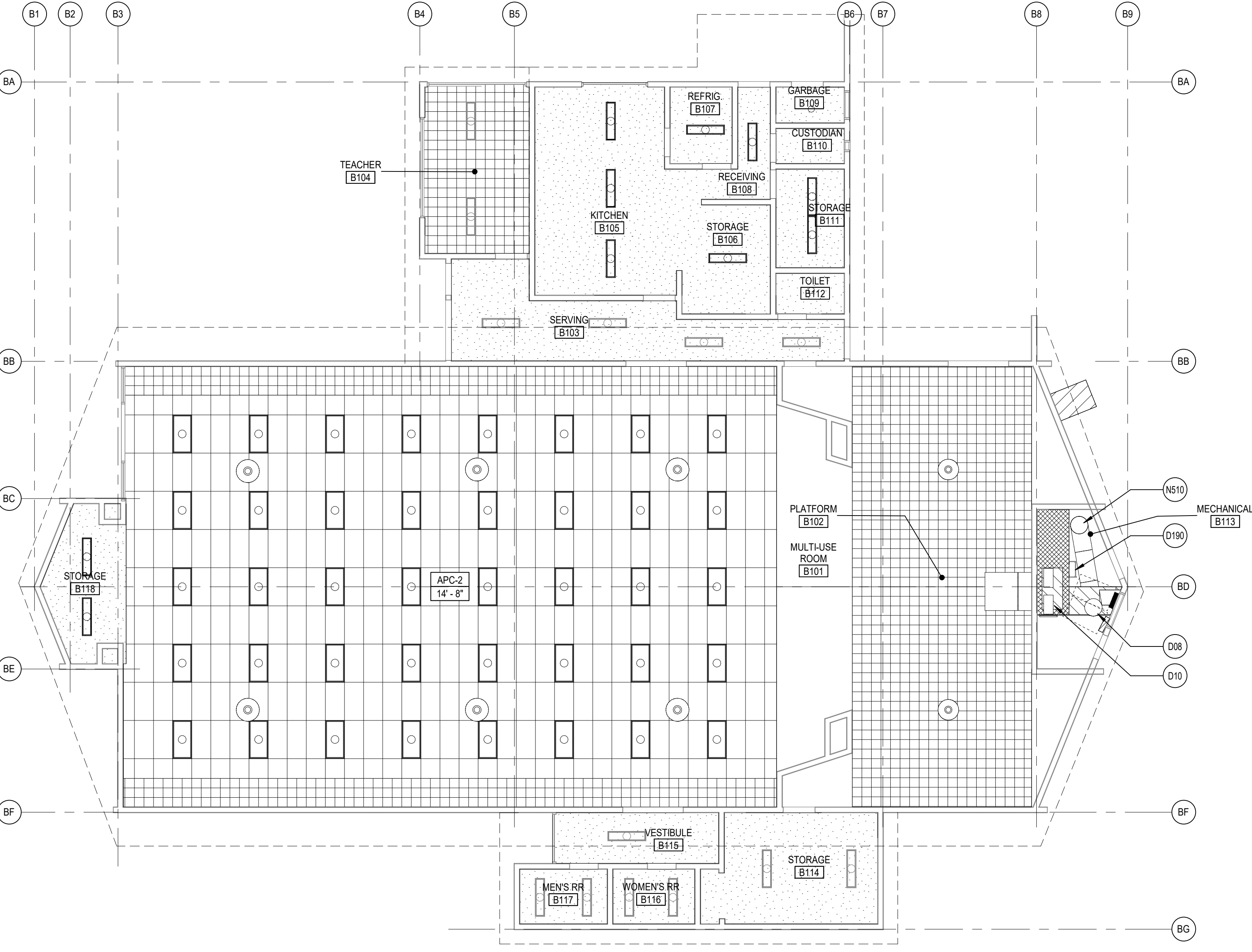
75-22605-00  
DSA A#03-122333  
DSA File #: 19-25  
ROOF PLANS

A1.3A

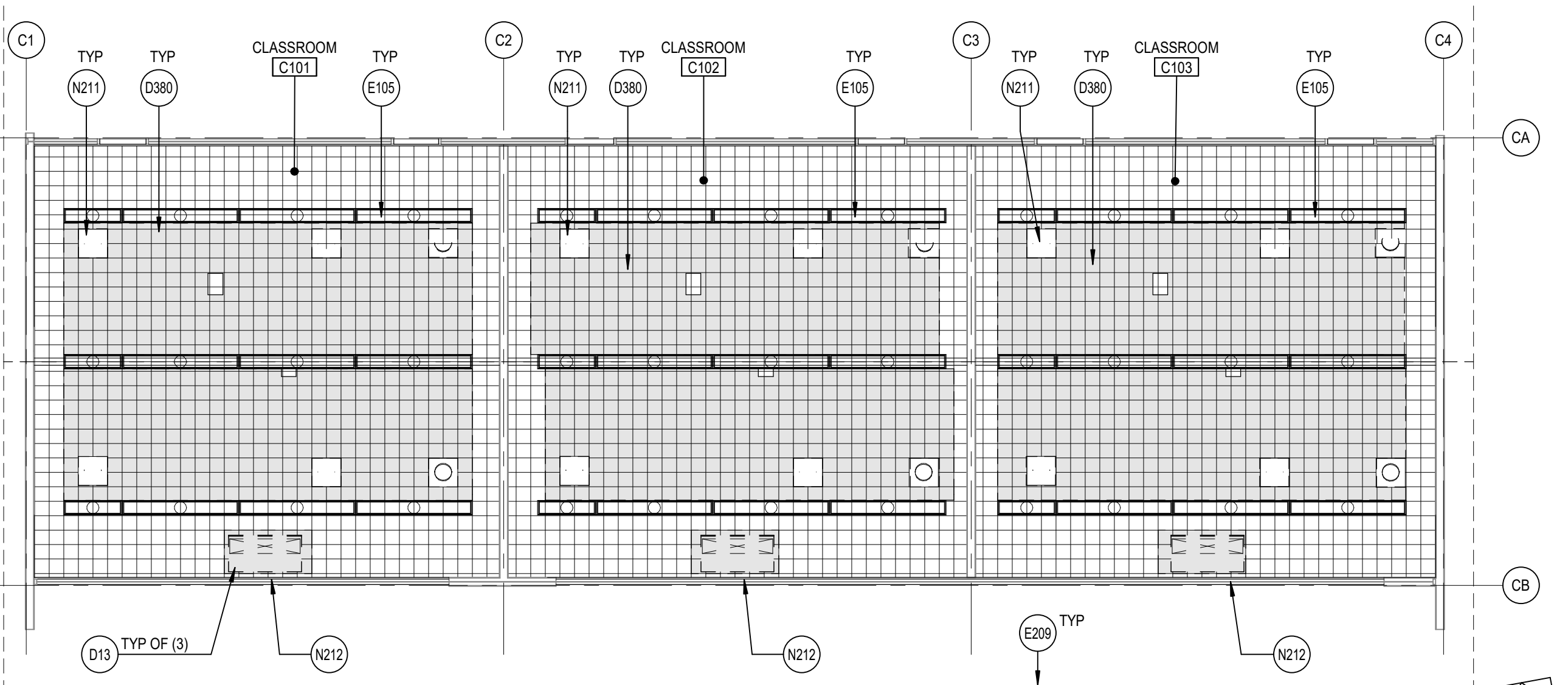
Autodesk Docu75-22605-00 CVUSD - District Wide HVAC Replacement/75-22605-00 CVUSD\_Rowland ES\_AE\_2022.rvt 2/1/2023 10:51:06 AM

**DEMOLITION GENERAL NOTES**

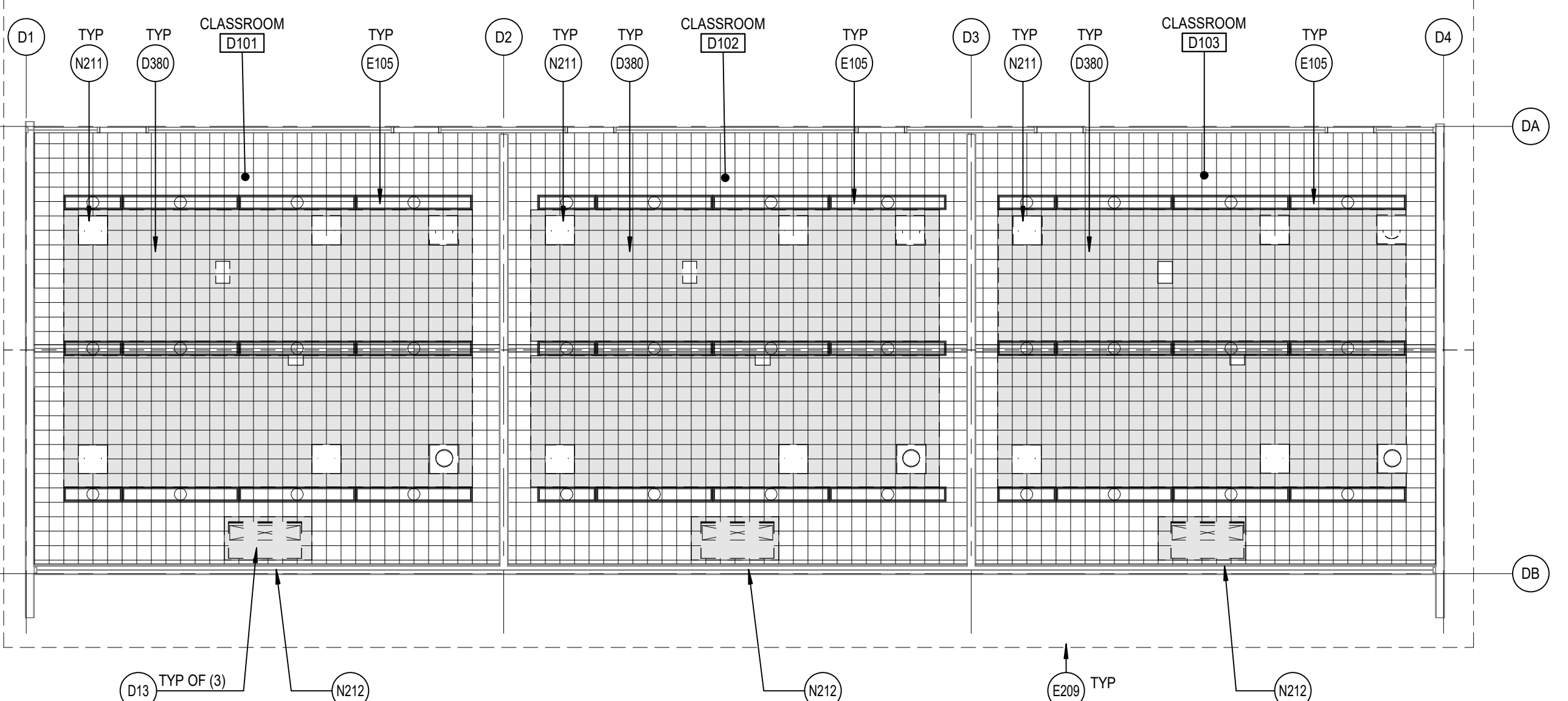
- DEMOLITION NOTES APPLY TO ALL DEMOLITION SHEETS.
- THE CONTRACTOR SHALL:
- COORDINATE ALL DEMOLITION AND PHASING EFFORTS WITH THE ARCHITECT AND OWNER'S REPRESENTATIVE. EVERY EFFORT SHALL BE MADE TO MINIMIZE DISRUPTION OF OWNER'S OPERATIONS. EXCESSIVE NOISE OR VIBRATION SHALL BE PRE-APPROVED AND COORDINATED WITH THE OWNER'S REPRESENTATIVE. IN ALL CASES, PROVISIONS SHALL BE MADE FOR USER'S SAFETY.
  - COORDINATE ANY DISRUPTION OF UTILITY SERVICES WITH THE OWNER AND AS SPECIFIED.
  - CONSTRUCT TEMPORARY CONSTRUCTION PARTITIONS WITHIN THE EXISTING BUILDING WHICH OFFER A ONE-HOUR ENCLOSURE TO ISOLATE ANY DEMOLITION/CONSTRUCTION WORK FROM THE GENERAL PUBLIC AND AS DEEMED NECESSARY BY THE OWNER AND CODE OFFICIAL HAVING JURISDICTION. COORDINATE LOCATIONS WITH THE OWNER AND MAINTAIN MEANS OF EGRESS THROUGHOUT THE WORK.
  - MAINTAIN A SECURE, WEATHER-TIGHT ENCLOSURE AT ALL TIMES.
  - VERIFY ALL EXISTING CONDITIONS, DIMENSIONS AND ELEVATIONS AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES.
  - REMOVE IN THEIR ENTIRETY ALL EXISTING WALLS, DOORS, MILLWORK, PLUMBING FIXTURES, CEILINGS, SOFFITS, MARKERBOARDS, AND OTHER ITEMS, AS REQUIRED TO EXECUTE THE DEMOLITION/CONSTRUCTION WORK DESCRIBED BY THE DRAWINGS.
  - THE OWNER SHALL RESERVE THE RIGHT TO SALVAGE ANY MATERIALS.
  - PROVIDE PROTECTION FOR ALL EXISTING BUILDING MATERIALS AND EQUIPMENT FROM DAMAGE DUE TO ANY DEMOLITION OR CONSTRUCTION-RELATED INCIDENT PERFORMED UNDER THIS CONTRACT.
  - REPAIR OR REPLACE ITEMS THAT ARE DAMAGED AS A RESULT OF DEMOLITION OR CONSTRUCTION TO MATCH EXISTING FINISH AND/OR CONDITION.
  - EXISTING MATERIALS SHALL NOT BE REUSED UNLESS NOTED OTHERWISE OR AS AUTHORIZED BY ARCHITECT.
  - VERIFY AND MAINTAIN THE LOCATION OF EXISTING POWER, COMMUNICATION AND DATA CABLES TO PREVENT INTERRUPTION OF THEIR SERVICE.
  - PATCH FLOOR, WALL AND CEILING PENETRATIONS RESULTING FROM REMOVAL OR RE-ROUTING OF NEW OR EXISTING PIPING, DUCTWORK, CONDUIT, AND OTHER ITEMS, AS REQUIRED TO MAINTAIN FIRE-RESISTANCE-RATED SEPARATIONS. FINISH AS REQUIRED FOR NEW OR EXISTING ADJACENT SURFACES.
  - CAP ALL DISCONNECTED MECHANICAL PIPING LINES WITHIN THE WALL OR FLOOR. PATCH AND FINISH AS REQUIRED TO MATCH NEW OR EXISTING ADJACENT SURFACES.
  - SEE MECHANICAL AND ELECTRICAL DRAWINGS AND NOTES FOR FURTHER SEQUENCING AND SCOPE OF WORK.
  - AVOID ANY DISTURBANCE OF SOILS WITHIN THE ZONE OF INFLUENCE AROUND EXISTING FOOTINGS AND FLOOR SLABS AS DIRECTED BY GEOTECHNICAL INSPECTOR.
  - NOT USED.
  - WHERE PLASTER/STUD WALLS ARE INDICATED TO BE REMOVED, PREPARE ADJACENT WALLS TO RECEIVE NEW PATCH-FINISH BY SAWING CUT ADJACENT PLASTER FINISH A MINIMUM OF 1'-0" BEYOND DEMOLITION.



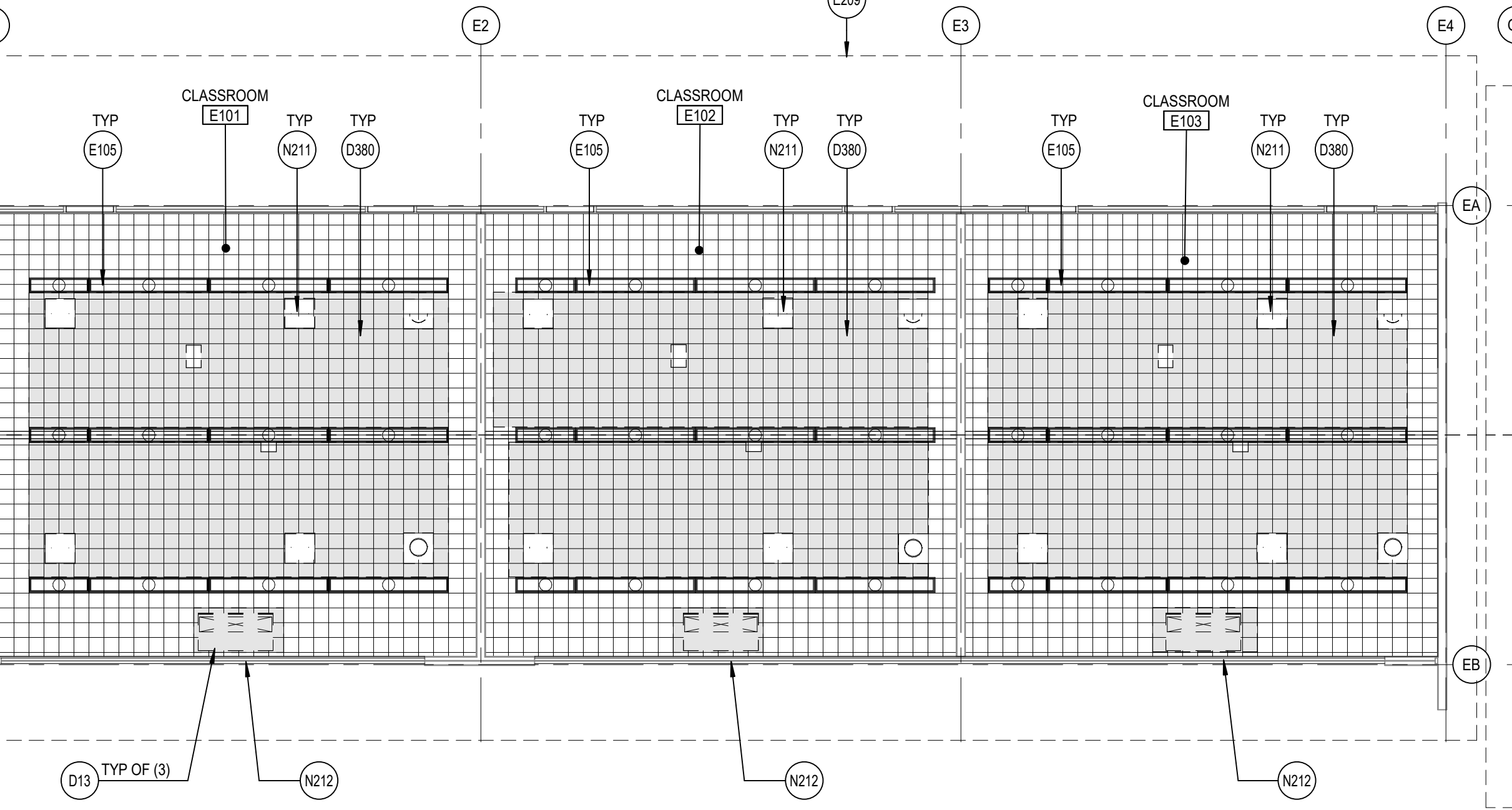
4 BUILDING B REFLECTED CEILING PLAN  
 A3.1A SCALE: 1/8" = 1'-0"



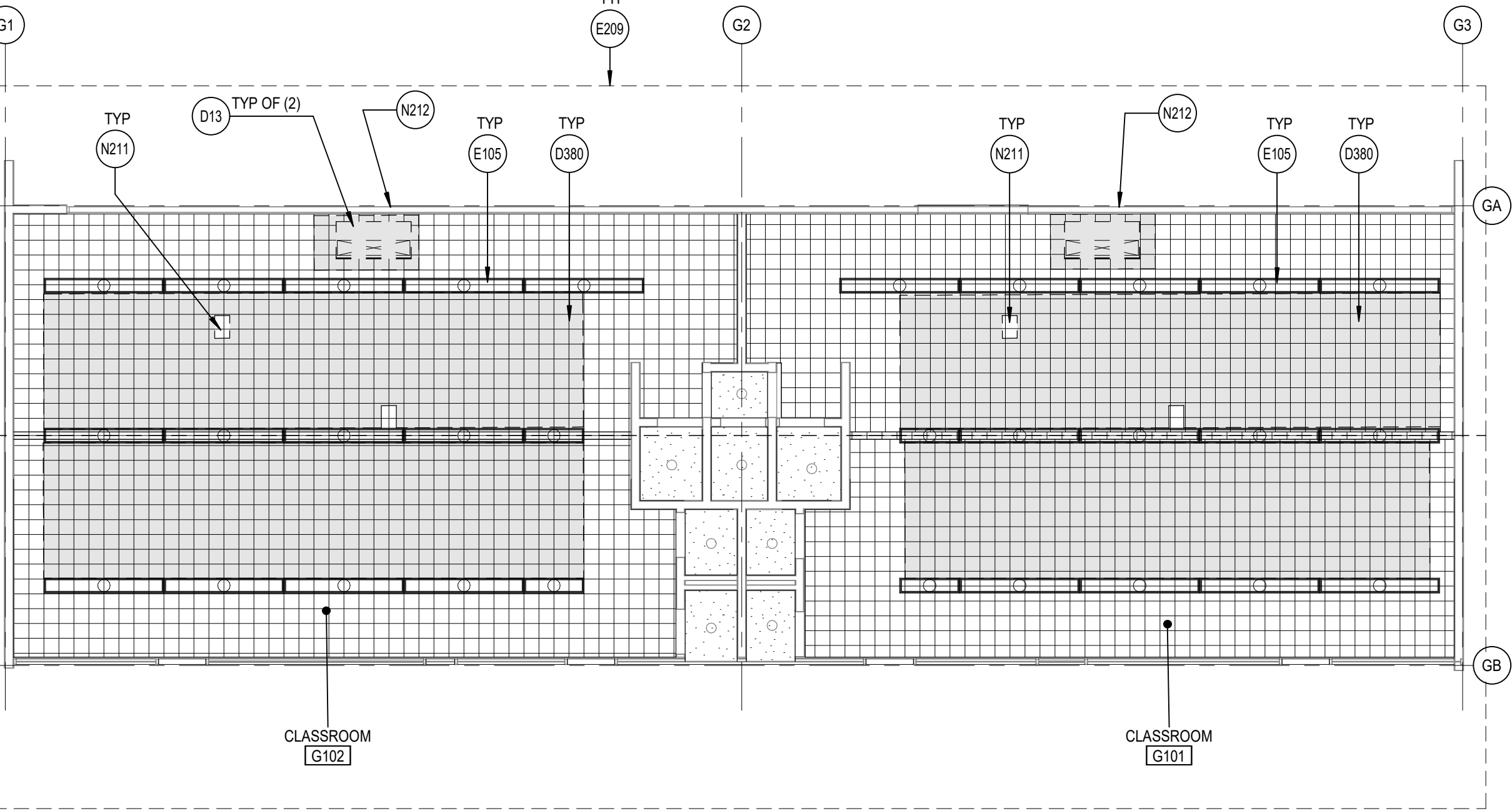
5 BUILDING C REFLECTED CEILING PLAN  
 A3.1A SCALE: 1/8" = 1'-0"



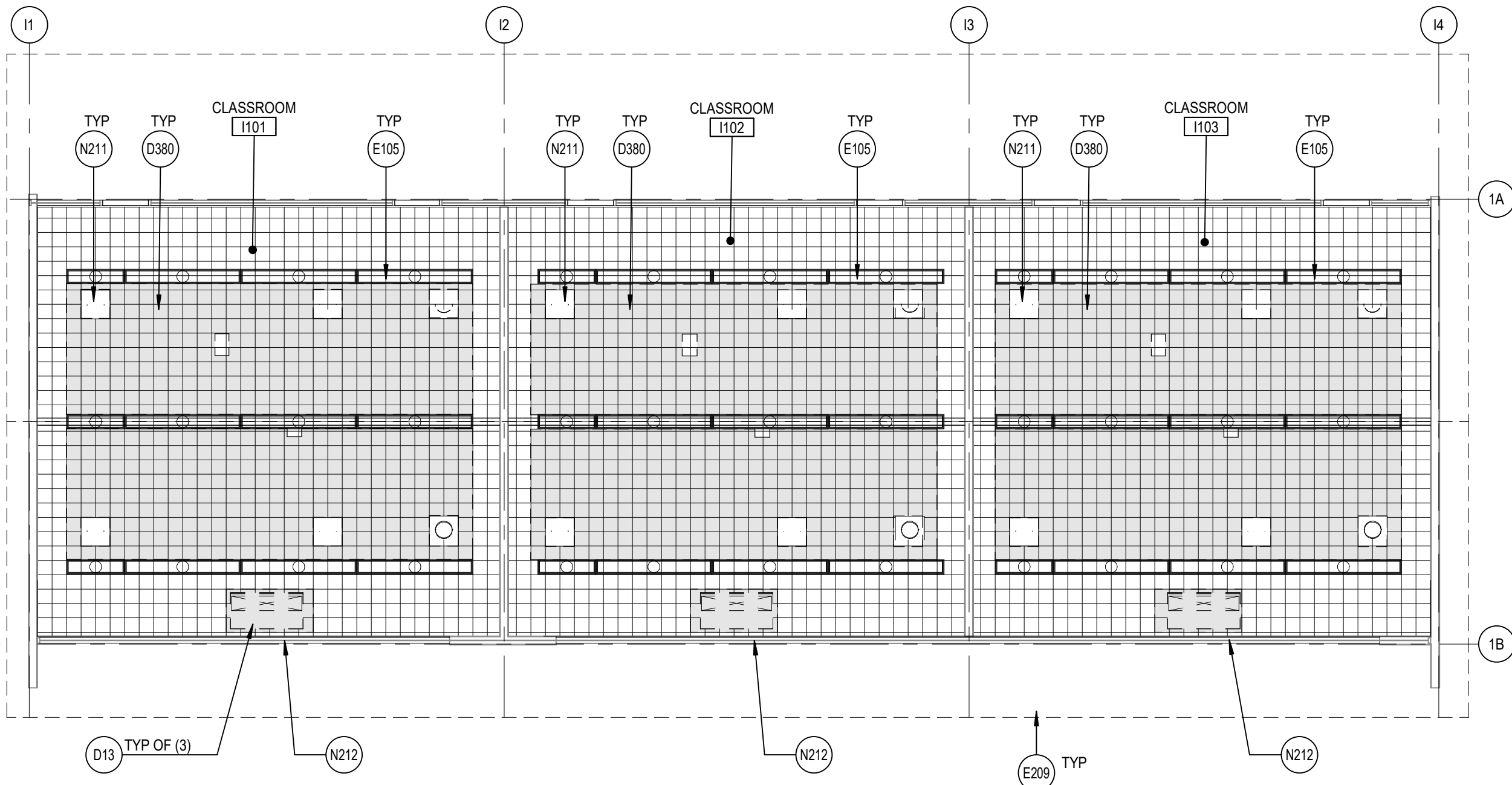
6 BUILDING D REFLECTED CEILING PLAN  
 A3.1A SCALE: 1/8" = 1'-0"



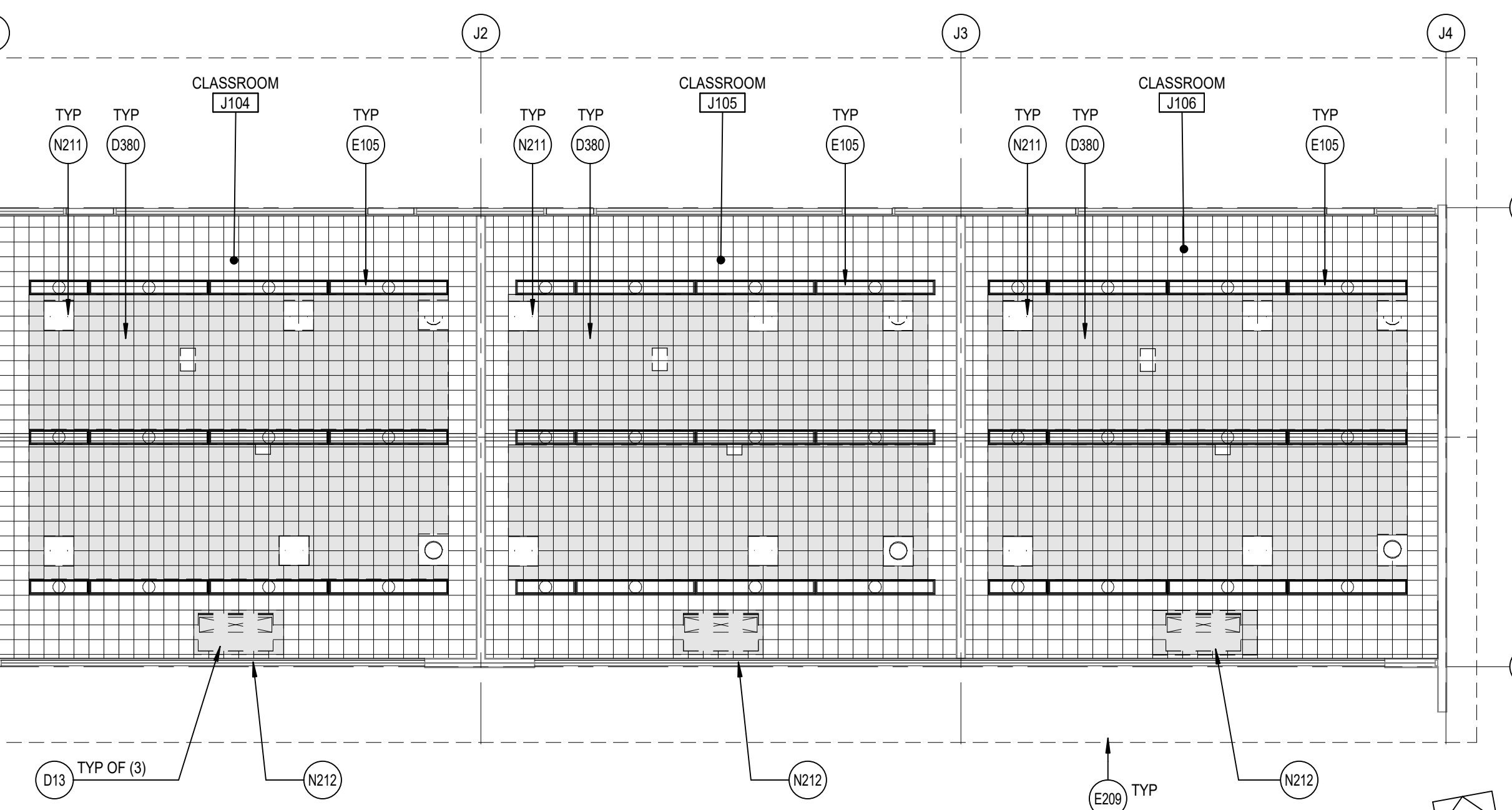
7 BUILDING E REFLECTED CEILING PLAN  
 A3.1A SCALE: 1/8" = 1'-0"



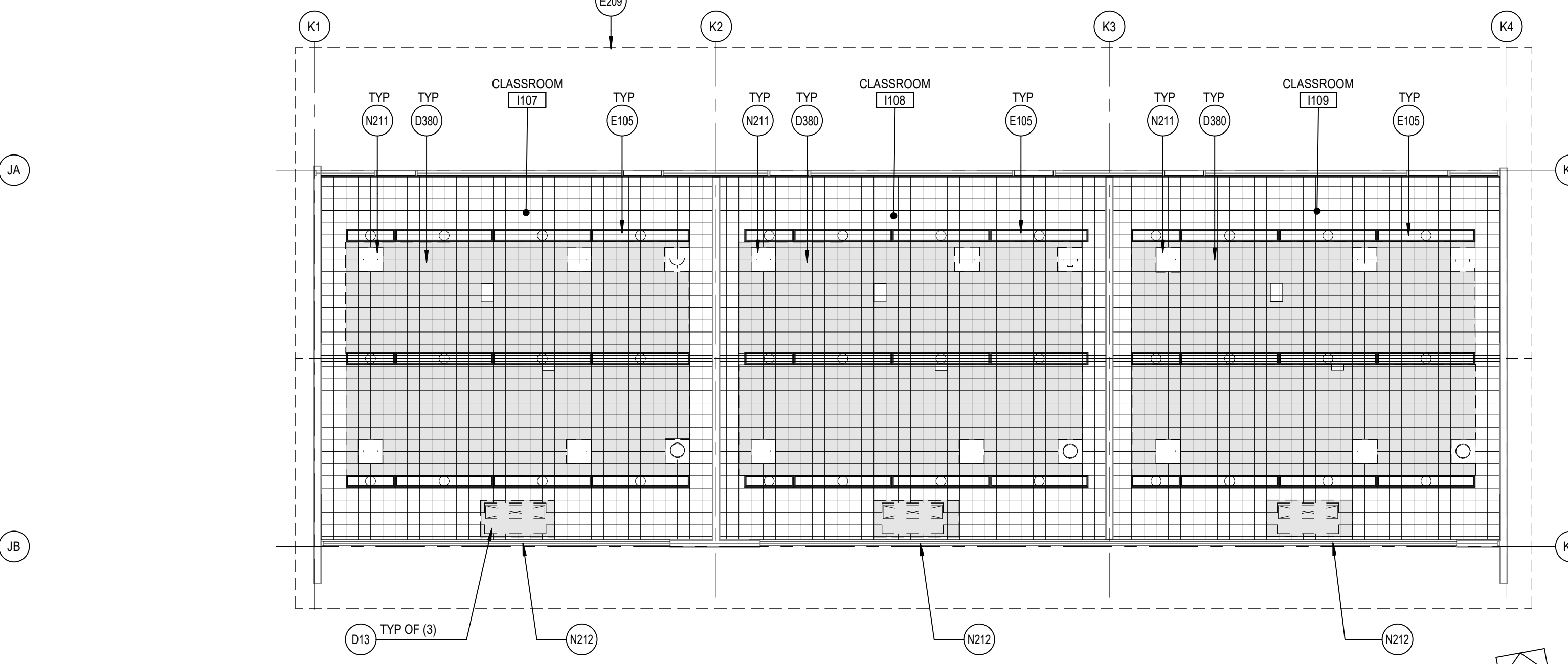
8 BUILDING G REFLECTED CEILING PLAN  
 A3.1A SCALE: 1/8" = 1'-0"



9 BUILDING I REFLECTED CEILING PLAN  
 A3.1A SCALE: 1/8" = 1'-0"



10 BUILDING J REFLECTED CEILING PLAN  
 A3.1A SCALE: 1/8" = 1'-0"



11 BUILDING K REFLECTED CEILING PLAN  
 A3.1A SCALE: 1/8" = 1'-0"

**REFERENCE KEYNOTES**

- D08 DEMO PORTION OF (E) MEZZANINE FLOOR AND FRAMING. SEE STRUCTURAL DWGS
- D10 ENLARGE (E) OPENING AT (E) MEZZANINE FLOOR TO ALLOW FOR NEW MECH. EQUIPMENT. COORDINATE W/ MECH AND STRUCTURAL
- D13 REMOVE (E) CEILING MOUNTED FAN COIL UNIT INCLUDING ALL SUPPORTS, CONDUITS, CONDENSATE LINES, ETC. - SEE MECHANICAL DRAWINGS
- D190 REMOVE (E) LADDER
- D380 DEMO (E) CEILING TILES TO ALLOW FOR MECHANICAL DUCT WORK INSTALLATION. REPLACE WITH (N) SIMILAR TO EXISTING
- E105 (E) LIGHT FIXTURES TO REMAIN, PROTECT IN PLACE
- E209 LINE OF (E) ROOF ABOVE SHOWN DASHED
- N211 REPLACE (E) DIFFUSERS AND GRILLES TO MATCH (E) CEILING TILES. REFER TO MECHANICAL DRAWINGS
- N212 REPLACE (E) INFILL PANEL AT CONDENSER UNIT PENETRATIONS WITH GLAZING TO MATCH ADJACENT. PAINT FRAME TO MATCH ADJACENT
- N510 NEW MECH. EQUIPMENT. SEE MECHANICAL DWGS.

**REFLECTED CEILING PLAN GENERAL NOTES**

- REFLECTED CEILING PLAN GENERAL NOTES APPLY TO ALL REFLECTED CEILING PLAN SHEETS.
- ALL CEILING GRID/PANELS SHALL BE CENTERED IN EACH ROOM UNLESS NOTED OTHERWISE.
- (E) CEILING HEIGHTS ARE TO REMAIN U.N.O. REFLECTED CEILING PLANS ARE MEASURED FROM THE FINISH FLOOR OF THE ROOM.
- IN ACOUSTICAL CEILING PANELS WITH SCORE IN THE CENTER, CENTER DEVICES IN ONE HALF OF THE TILE. DO NOT LOCATE ON THE SCORE. FOR ACP WITH MULTIPLE SCORED PATTERNS, COORDINATE LOCATION WITH THE ARCHITECT.
- REMOVE (E) SUSPENSION SYSTEM AROUND ELECTRICAL FIXTURES, MECHANICAL GRILLES, DIFFUSERS, AND OTHER CEILING MOUNTED DEVICES. AT ACOUSTICAL PANEL CEILINGS, PROVIDE SUSPENSION SYSTEM AROUND ELECTRICAL FIXTURES, MECHANICAL GRILLES, DIFFUSERS, AND OTHER CEILING MOUNTED DEVICES. AT ACOUSTICAL PANEL CEILINGS, PROVIDE SUSPENSION SYSTEM AROUND ELECTRICAL FIXTURES, MECHANICAL GRILLES, DIFFUSERS, AND OTHER CEILING MOUNTED DEVICES. AT ACOUSTICAL PANEL CEILINGS, PROVIDE SUSPENSION SYSTEM AROUND ELECTRICAL FIXTURES, MECHANICAL GRILLES, DIFFUSERS, AND OTHER CEILING MOUNTED DEVICES.
- ALL DIMENSIONS ON REFLECTED CEILING PLANS ARE ACTUAL AND ARE TO THE FOLLOWING UNLESS NOTED OTHERWISE:
  - FACE OF FINISHED WALL
  - FACE OF FINISHED BULKHEADS
  - CENTERLINE OF COLUMNS
  - CENTERLINE OF TEES
- IN AREAS WITH EXPOSED STRUCTURE CEILINGS, COORDINATE EXACT LOCATIONS OF MECHANICAL GRILLES, DIFFUSERS, DUCTWORK AND ELECTRICAL FIXTURES WITH EACH REPRESENTATIVE SUBCONTRACTOR.

Autodesk Docu/75-22605-00 CVUSD - District Web - HVAC Replacement/75-22605-00 CVUSD - Rowland ES\_A3\_2022.rvt  
 2/20/2023 10:51:08 AM

ABBREVIATIONS

ABBREVIATIONS

SHEET INDEX

Table of abbreviations for mechanical symbols, including terms like DEMOLISHED, EXISTING, RELOCATED, etc., and their corresponding symbols.

Table of sheet index abbreviations, including MO.1 MECHANICAL SYMBOLS, MO.2 TITLE 24 COMPLIANCE, etc.

Table of sheet index abbreviations, including N.C. NORMALLY CLOSED, N.O. NORMALLY OPEN, etc.

Table of sheet index abbreviations, including O&M OPERATION AND MAINTENANCE, OA OUTSIDE AIR, etc.

Table of sheet index abbreviations, including RA RETURN AIR, RAD RADIUS, etc.

Table of sheet index abbreviations, including S SMOKE DAMPER, SA SUPPLY AIR, etc.

Table of sheet index abbreviations, including T THERMOSTAT, TAB TOP AND BOTTOM, etc.

ABBREVIATIONS

Table of abbreviations for mechanical symbols, including terms like HTR HEATER, HTWR HIGH TEMPERATURE HOT WATER RETURN, etc.

ABBREVIATIONS

Table of abbreviations for mechanical symbols, including terms like M0.1 MECHANICAL SYMBOLS, M0.2 TITLE 24 COMPLIANCE, etc.

ABBREVIATIONS

Table of abbreviations for mechanical symbols, including terms like N.C. NORMALLY CLOSED, N.O. NORMALLY OPEN, etc.

ABBREVIATIONS

Table of abbreviations for mechanical symbols, including terms like O&M OPERATION AND MAINTENANCE, OA OUTSIDE AIR, etc.

ABBREVIATIONS

Table of abbreviations for mechanical symbols, including terms like RA RETURN AIR, RAD RADIUS, etc.

ABBREVIATIONS

Table of abbreviations for mechanical symbols, including terms like S SMOKE DAMPER, SA SUPPLY AIR, etc.

ABBREVIATIONS

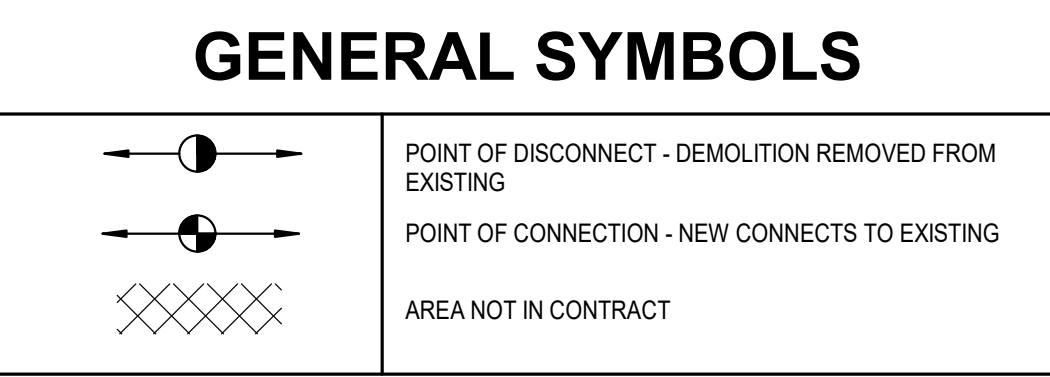
Table of abbreviations for mechanical symbols, including terms like T THERMOSTAT, TAB TOP AND BOTTOM, etc.

ABBREVIATIONS

Table of abbreviations for mechanical symbols, including terms like V VOLT, VA VOLT-AMPERE, etc.

ABBREVIATIONS

Table of abbreviations for mechanical symbols, including terms like W WATT, WB WET BULB, etc.



GENERAL NOTES

- 1. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING, PRIOR TO FINAL BID, ALL EXISTING CONDITIONS FOR PLUMBING AND MECHANICAL SYSTEMS.
2. WHERE FLOOR DRAINS OCCUR WITHIN THE LIMITS OF CONSTRUCTION, PREVENT CONSTRUCTION DEBRIS FROM ENTERING DRAIN BODY BY SEALING DRAIN OPENING PRIOR TO START OF WORK. UNSEAL DRAINS AT COMPLETION OF CONSTRUCTION.
3. COORDINATE INSTALLATION OF PIPING, DUCTWORK, CONDUIT, LIGHTS, CABLE TRAY, STRUCTURE AND EQUIPMENT TO PREVENT CONFLICTS.
4. THE CONTRACTOR SHALL BE FAMILIAR WITH ALL THE CONDITIONS BOTH EXISTING AND THOSE ILLUSTRATED BY THESE DOCUMENTS AS WELL AS THOSE WHICH CAN BE REASONABLY ANTICIPATED INCLUDING, BUT NOT LIMITED TO ARCHITECTURAL, ELECTRICAL, VENTILATION, PLUMBING, AND OTHER SYSTEMS INVOLVED ON THIS PROJECT.
5. FINAL PROJECT SHALL BE A COMPLETE AND FUNCTIONING SYSTEM AND SHALL CONFORM TO ALL REQUIREMENTS OF APPLICABLE FEDERAL, STATE AND LOCAL CODES, INCLUDING BUT NOT LIMITED TO THE INTERNATIONAL BUILDING CODE AND INTERNATIONAL MECHANICAL CODE.
6. INSTALL ALL EQUIPMENT IN ACCORDANCE WITH THE RESPECTIVE MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS, AT A LEVEL OF QUALITY AND WORKMANSHIP CONSISTENT WITH THE SPECIFICATIONS.
7. FOR DETAILS, EQUIPMENT CONNECTIONS, AND PIPE SIZES NOT SHOWN ON THE SEGMENTS, REFER TO DETAILS, SCHEDULES, AND SPECIFICATIONS.
8. LOCATIONS OF PIPING, DUCTWORK AND EQUIPMENT AS INDICATED ON THE DRAWING, ARE APPROXIMATE AND SUBJECT TO MINOR ADJUSTMENTS IN THE FIELD. WORK SHALL BE COORDINATED WITH ALL OTHER TRADES TO AVOID INTERFERENCE IN THE FIELD.
9. REFER TO MECHANICAL SERIES DRAWINGS FOR GAS AND A.C. CONDENSATE DRAIN PIPING.
10. ADJUST PIPING AND DUCTWORK SIZES TO PROPERLY CONNECT TO MECHANICAL EQUIPMENT.

GENERAL HVAC NOTES

- 1. CONDENSATE DRAINS SHALL BE SUPPLIED FOR ALL COOLING EQUIPMENT. CONTRACTOR SHALL ENSURE PROPER INSTALLATION AND DRAINAGE AS REQUIRED BY FEDERAL, STATE, AND LOCAL CODES. CONDENSATE PIPING SHALL BE TYPE "L" COPPER.
2. ALL SUPPLY, RETURN AND EXHAUST DUCTWORK SHALL BE RATED FOR PRESSURE CLASS OF 2" W.G. UNLESS NOTED OTHERWISE.
3. THIS CONTRACTOR SHALL BE REQUIRED TO REPLACE FILTERS ON HVAC EQUIPMENT AFTER ALL DUST PRODUCING CONSTRUCTION HAS BEEN COMPLETED AND PRIOR TO THE FINAL PUNCH.

EQUIPMENT ANCHORAGE NOTE

MEP COMPONENT ANCHORAGE NOTE

ALL MECHANICAL, PLUMBING, AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2019 CBC, SECTIONS 1617A.1.13 THROUGH 1617A.1.26 AND ASCE 7-16 CHAPTERS 13, 26 AND 30.

- 1. ALL PERMANENT EQUIPMENT AND COMPONENTS.
2. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT THAT IS PERMANENTLY ATTACHED (E.G. HARD WIRED) TO THE BUILDING UTILITY INFRASTRUCTURE (ELECTRICITY, GAS OR WATER). "PERMANENTLY ATTACHED" SHALL INCLUDE ALL ELECTRICAL CONNECTIONS EXCEPT PLUGS FOR 110/220 VOLT RECEPTACLES HAVING A FLEXIBLE CABLE.
3. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT WHICH IS HEAVIER THAN 400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET OR MORE ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT IS REQUIRED TO BE RESTRAINED IN A MANNER APPROVED BY DSA.

THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE BUT NEED NOT DEMONSTRATE DESIGN COMPLIANCE WITH THE REFERENCES NOTED ABOVE. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT. FLEXIBLE CONNECTIONS MUST ALLOW MOVEMENT IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTIONS:

- A. COMPONENTS WEIGHING LESS THAN 400 POUNDS AND HAVING A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT.
B. COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR IN THE CASE OF DISTRIBUTED SYSTEMS, LESS THAN 5 POUNDS PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.

THE ANCHORAGE OF ALL MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS SHALL BE SUBJECT TO THE APPROVAL OF THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE OR STRUCTURAL ENGINEER DELEGATED RESPONSIBILITY AND ACCEPTANCE BY DSA. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH THE ABOVE REQUIREMENTS.

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-16 SECTION 13.3 AS DEFINED IN ASCE 7-16 SECTIONS 13.6.5, 13.6.6, 13.6.7, 13.6.8, AND 2019 CBC, SECTIONS 1617A.1.24, 1617A.1.25 AND 1617A.1.26.

THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW. WHEN BRACING AND ATTACHMENTS ARE BASED ON A PRE-APPROVED INSTALLATION GUIDE (E.G., OSHPD OPM FOR 2019 CBC OR LATER), COPIES OF THE BRACING SYSTEM INSTALLATION GUIDE OR MANUAL, SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE START OF AND DURING THE HANGING AND BRACING OF THE DISTRIBUTION SYSTEMS. THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.

MECHANICAL PIPING (MP), MECHANICAL DUCTS (MD), PLUMBING PIPING (PP), ELECTRICAL DISTRIBUTION SYSTEMS (E):

- MP, MD, PP, E OPTION 1: DETAILED ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS.
MP, MD, PP, E OPTION 2: SHALL COMPLY WITH THE APPLICABLE OSHPD PRE-APPROVAL, (OPM#) #0043-13.

ACCEPTANCE TESTING

MANDATORY ACCEPTANCE TESTING PER TITLE 24, PART 6 SHALL BE AS FOLLOWS: AN AABC AGENCY SHALL ACT AS THE ACCEPTANCE AGENT AND PERFORM WORK REQUIRED IN THE FOLLOWING ACCEPTANCE TESTS AS DESCRIBED IN CHAPTER 13 OF THE 2019 NONRESIDENTIAL COMPLIANCE MANUAL. THIS SHALL INCLUDE FILLING OUT, SIGNING, AND SUBMITTING APPLICABLE FORMS LISTED HEREIN.

- NRCA-MCH-02-A - OUTDOOR AIR ACCEPTANCE
NRCA-MCH-03-A - CONSTANT VOLUME, SINGLE ZONE, UNITARY AIR CONDITIONER AND HEAT PUMP SYSTEMS.
NRCA-MCH-04-A - AIR DISTRIBUTION SYSTEMS ACCEPTANCE
NRCA-MCH-05-A - AIR ECONOMIZER CONTROLS ACCEPTANCE
NRCA-MCH-06-A - DEMAND CONTROL VENTILATION SYSTEMS ACCEPTANCE
NRCA-MCH-07-A - SUPPLY FAN VFD ACCEPTANCE
NRCA-MCH-08-A - VALVE LEAKAGE TEST
NRCA-MCH-11-A - AUTOMATIC DEMAND SHED CONTROL ACCEPTANCE
NRCA-MCH-12-A - FAULT DETECTION & DIAGNOSTICS (FDD) FOR PACKAGED DIRECT EXPANSION UNITS
NRCA-MCH-13-A - AUTOMATIC FAULT DETECTION & DIAGNOSTICS (FDD) FOR AIR HANDLING UNITS & ZONE TERMINAL UNITS
NRCA-MCH-16-A - SUPPLY AIR TEMPERATURE RESET CONTROLS ACCEPTANCE
NRCA-MCH-18-A - ENERGY MANAGEMENT CONTROL SYSTEM ACCEPTANCE

Table of HVAC symbols, including schematic, 3D, and description columns for various components like diffusers, grilles, registers, and dampers.

Table of piping valves and fittings symbols, including schematic, 3D, and description columns for various components like pipe drops, tees, elbows, and valves.

IDENTIFICATION STAMP DIV. OF THE STATE ARCHITECT APP: 03-122333 INC. REVIEWED FOR DATE: 03/14/2023

DLR Group logo and contact information.

Professional Engineer Seal for Michael J. M. No. 1279724.

USO logo.

Rowland Elementary School logo and address: 1835 E ROWLAND AVE, WEST COVINA, CA 91790.

Rowland Elementary School logo and address: 1835 E ROWLAND AVE, WEST COVINA, CA 91790.

DSA Submitted Set 1/13/2023 REVISIONS

MECHANICAL SYMBOLS, ABBREVIATIONS & NOTES MO.1

STATE OF CALIFORNIA  
**Mechanical Systems**  
NRCC-MCH-E CALIFORNIA ENERGY COMMISSION

**CERTIFICATE OF COMPLIANCE** NRCC-MCH-E  
Project Name: CVUSD Rowland | Report Page: (Page 3 of 47)  
Project Address: 1355 E Rowland Ave | Date Prepared: 7/29/2022

**F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)**  
This table is used to demonstrate compliance for mechanical equipment with mandatory requirements found in §110.1 and §110.2(a), and prescriptive requirements found in §140.4(a), §140.4(b), and §140.4(c) or §141.0(b)2 for alterations.

Table with 11 columns (O1-O11) and 11 rows. Columns represent equipment categories from 01 to 11. Rows list equipment tags, categories, and various efficiency metrics like Heating Output, Cooling Output, and Load Calculations.

Registration Number: Registration Date/Time: Registration Provider: Energysoft  
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003  
Schema Version: rev 20200601 Report Generated: 2022-07-29 10:57:02

STATE OF CALIFORNIA  
**Mechanical Systems**  
NRCC-MCH-E CALIFORNIA ENERGY COMMISSION

**CERTIFICATE OF COMPLIANCE** NRCC-MCH-E  
Project Name: CVUSD Rowland | Report Page: (Page 6 of 47)  
Project Address: 1355 E Rowland Ave | Date Prepared: 7/29/2022

**F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)**  
Dry System Equipment Efficiency (other than Package Terminal Air Conditioners (PTAC) and Package Terminal Heat Pumps (PTHP))

Table with 9 columns (O1-O9) and 9 rows. Columns represent equipment categories from 01 to 09. Rows list equipment tags, size categories, heating mode efficiency, and cooling mode efficiency.

**G. PUMPS**  
This section does not apply to this project.

**H. FAN SYSTEMS & AIR ECONOMIZERS**  
This table is used to demonstrate compliance with prescriptive requirements found in §140.4(i), §140.4(j), and §140.4(m) for fan systems. Fan systems serving only process loads are exempt from these requirements and do not need to be included in Table H.

Table with 8 columns (O1-O8) and 8 rows. Columns represent equipment categories from 01 to 08. Rows list system names, fan functions, quantities, and design parameters like supply airflow and fan power.

Registration Number: Registration Date/Time: Registration Provider: Energysoft  
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003  
Schema Version: rev 20200601 Report Generated: 2022-07-29 10:57:02

STATE OF CALIFORNIA  
**Mechanical Systems**  
NRCC-MCH-E CALIFORNIA ENERGY COMMISSION

**CERTIFICATE OF COMPLIANCE** NRCC-MCH-E  
Project Name: CVUSD Rowland | Report Page: (Page 9 of 47)  
Project Address: 1355 E Rowland Ave | Date Prepared: 7/29/2022

**H. FAN SYSTEMS & AIR ECONOMIZERS**

Table with 8 columns (O1-O8) and 8 rows. Columns represent equipment categories from 01 to 08. Rows list system names, fan functions, quantities, and design parameters like supply airflow and fan power.

Registration Number: Registration Date/Time: Registration Provider: Energysoft  
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003  
Schema Version: rev 20200601 Report Generated: 2022-07-29 10:57:02

STATE OF CALIFORNIA  
**Mechanical Systems**  
NRCC-MCH-E CALIFORNIA ENERGY COMMISSION

**CERTIFICATE OF COMPLIANCE** NRCC-MCH-E  
Project Name: CVUSD Rowland | Report Page: (Page 2 of 47)  
Project Address: 1355 E Rowland Ave | Date Prepared: 7/29/2022

**C. COMPLIANCE RESULTS**  
Table C will indicate if the project data input into the compliance document is compliant with mechanical requirements. This table is not editable by the user. If this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D., or the table indicated as not compliant for guidance.

Table with 9 columns (O1-O9) and 9 rows. Columns represent equipment categories from 01 to 09. Rows show compliance status for various system components like Pumps, Economizers, Ventilation, etc.

**D. EXCEPTIONAL CONDITIONS**  
This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

**E. ADDITIONAL REMARKS**  
This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

Registration Number: Registration Date/Time: Registration Provider: Energysoft  
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003  
Schema Version: rev 20200601 Report Generated: 2022-07-29 10:57:02

STATE OF CALIFORNIA  
**Mechanical Systems**  
NRCC-MCH-E CALIFORNIA ENERGY COMMISSION

**CERTIFICATE OF COMPLIANCE** NRCC-MCH-E  
Project Name: CVUSD Rowland | Report Page: (Page 5 of 47)  
Project Address: 1355 E Rowland Ave | Date Prepared: 7/29/2022

**F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)**  
Dry System Equipment Sizing (includes air conditioners, condensers, heat pumps, VRF, furnaces and unit heaters)

Table with 9 columns (O1-O9) and 9 rows. Columns represent equipment categories from 01 to 09. Rows list equipment tags, size categories, heating mode efficiency, and cooling mode efficiency.

Registration Number: Registration Date/Time: Registration Provider: Energysoft  
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003  
Schema Version: rev 20200601 Report Generated: 2022-07-29 10:57:02

STATE OF CALIFORNIA  
**Mechanical Systems**  
NRCC-MCH-E CALIFORNIA ENERGY COMMISSION

**CERTIFICATE OF COMPLIANCE** NRCC-MCH-E  
Project Name: CVUSD Rowland | Report Page: (Page 8 of 47)  
Project Address: 1355 E Rowland Ave | Date Prepared: 7/29/2022

**H. FAN SYSTEMS & AIR ECONOMIZERS**

Table with 8 columns (O1-O8) and 8 rows. Columns represent equipment categories from 01 to 08. Rows list system names, fan functions, quantities, and design parameters like supply airflow and fan power.

Registration Number: Registration Date/Time: Registration Provider: Energysoft  
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003  
Schema Version: rev 20200601 Report Generated: 2022-07-29 10:57:02

STATE OF CALIFORNIA  
**Mechanical Systems**  
NRCC-MCH-E CALIFORNIA ENERGY COMMISSION

**CERTIFICATE OF COMPLIANCE** NRCC-MCH-E  
Project Name: CVUSD Rowland | Report Page: (Page 1 of 47)  
Project Address: 1355 E Rowland Ave | Date Prepared: 7/29/2022

**A. GENERAL INFORMATION**  
O1 Project Location (city): West Covina  
O2 Climate Zone: 10  
O3 Occupancy Types Within Project: 06 # of Stories (Habitable Above Grade): 1

**B. PROJECT SCOPE**  
This table includes mechanical systems or components that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in §140.4, or §141.0(b)2 for alterations.

Registration Number: Registration Date/Time: Registration Provider: Energysoft  
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003  
Schema Version: rev 20200601 Report Generated: 2022-07-29 10:57:02

STATE OF CALIFORNIA  
**Mechanical Systems**  
NRCC-MCH-E CALIFORNIA ENERGY COMMISSION

**CERTIFICATE OF COMPLIANCE** NRCC-MCH-E  
Project Name: CVUSD Rowland | Report Page: (Page 4 of 47)  
Project Address: 1355 E Rowland Ave | Date Prepared: 7/29/2022

**F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)**  
Dry System Equipment Sizing (includes air conditioners, condensers, heat pumps, VRF, furnaces and unit heaters)

Table with 11 columns (O1-O11) and 11 rows. Columns represent equipment categories from 01 to 11. Rows list equipment tags, categories, and various efficiency metrics like Heating Output, Cooling Output, and Load Calculations.

**FOOTNOTES:** Equipment shall be the smallest size, within the available options of the desired equipment line, necessary to meet the design heating and cooling loads of the building per §140.4(a). Healthcare facilities are exempt.  
\* Is common practice to show rated output capacity on the equipment schedule. Sensible cooling output comes from specification sheet tables.  
† If equipment is heating only, leave cooling output and load blank. If equipment is cooling only, leave heating output and load blank.

Registration Number: Registration Date/Time: Registration Provider: Energysoft  
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003  
Schema Version: rev 20200601 Report Generated: 2022-07-29 10:57:02

STATE OF CALIFORNIA  
**Mechanical Systems**  
NRCC-MCH-E CALIFORNIA ENERGY COMMISSION

**CERTIFICATE OF COMPLIANCE** NRCC-MCH-E  
Project Name: CVUSD Rowland | Report Page: (Page 7 of 47)  
Project Address: 1355 E Rowland Ave | Date Prepared: 7/29/2022

**H. FAN SYSTEMS & AIR ECONOMIZERS**

Table with 8 columns (O1-O8) and 8 rows. Columns represent equipment categories from 01 to 08. Rows list system names, fan functions, quantities, and design parameters like supply airflow and fan power.

Registration Number: Registration Date/Time: Registration Provider: Energysoft  
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003  
Schema Version: rev 20200601 Report Generated: 2022-07-29 10:57:02

1  
2  
3  
4  
5





MECHANICAL SYSTEMS

CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE
Project Name: CVUSD Rowland
Project Address: 1355 E Rowland Ave

Table with columns for Space Name, Occupancy Type, Mechanical Ventilation, and Exh. Vent per §120.1(c)(4). Includes rows for Classroom and System Name RTU-F3.

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance
Registration Date/Time: Report Version: 2019.1.003
Registration Provider: Energysoft Report Generated: 2022-07-29 10:57:02

MECHANICAL SYSTEMS

CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE
Project Name: CVUSD Rowland
Project Address: 1355 E Rowland Ave

Table with columns for Space Name, Occupancy Type, Mechanical Ventilation, and Exh. Vent per §120.1(c)(4). Includes rows for Classroom and System Name RTU-H1.

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance
Registration Date/Time: Report Version: 2019.1.003
Registration Provider: Energysoft Report Generated: 2022-07-29 10:57:02

MECHANICAL SYSTEMS

CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE
Project Name: CVUSD Rowland
Project Address: 1355 E Rowland Ave

Table with columns for Space Name, Occupancy Type, Mechanical Ventilation, and Exh. Vent per §120.1(c)(4). Includes rows for Classroom and System Name RTU-K1.

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance
Registration Date/Time: Report Version: 2019.1.003
Registration Provider: Energysoft Report Generated: 2022-07-29 10:57:02

MECHANICAL SYSTEMS

CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE
Project Name: CVUSD Rowland
Project Address: 1355 E Rowland Ave

Table with columns for Space Name, Occupancy Type, Mechanical Ventilation, and Exh. Vent per §120.1(c)(4). Includes rows for Classroom and System Name RTU-H2.

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance
Registration Date/Time: Report Version: 2019.1.003
Registration Provider: Energysoft Report Generated: 2022-07-29 10:57:02

MECHANICAL SYSTEMS

CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE
Project Name: CVUSD Rowland
Project Address: 1355 E Rowland Ave

Table with columns for Space Name, Occupancy Type, Mechanical Ventilation, and Exh. Vent per §120.1(c)(4). Includes rows for Classroom and System Name RTU-H3.

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance
Registration Date/Time: Report Version: 2019.1.003
Registration Provider: Energysoft Report Generated: 2022-07-29 10:57:02

MECHANICAL SYSTEMS

CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE
Project Name: CVUSD Rowland
Project Address: 1355 E Rowland Ave

Table with columns for Space Name, Occupancy Type, Mechanical Ventilation, and Exh. Vent per §120.1(c)(4). Includes rows for Classroom and System Name RTU-K3.

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance
Registration Date/Time: Report Version: 2019.1.003
Registration Provider: Energysoft Report Generated: 2022-07-29 10:57:02

MECHANICAL SYSTEMS

CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE
Project Name: CVUSD Rowland
Project Address: 1355 E Rowland Ave

Table with columns for Space Name, Occupancy Type, Mechanical Ventilation, and Exh. Vent per §120.1(c)(4). Includes rows for Classroom and System Name RTU-C1.

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance
Registration Date/Time: Report Version: 2019.1.003
Registration Provider: Energysoft Report Generated: 2022-07-29 10:57:02

MECHANICAL SYSTEMS

CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE
Project Name: CVUSD Rowland
Project Address: 1355 E Rowland Ave

Table with columns for Space Name, Occupancy Type, Mechanical Ventilation, and Exh. Vent per §120.1(c)(4). Includes rows for Classroom and System Name RTU-J2.

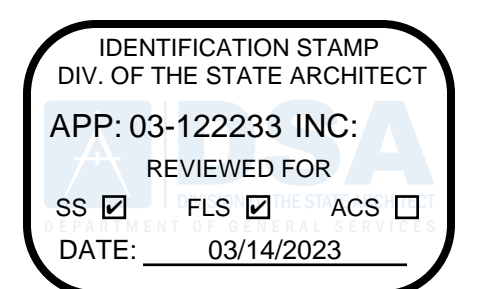
Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance
Registration Date/Time: Report Version: 2019.1.003
Registration Provider: Energysoft Report Generated: 2022-07-29 10:57:02

MECHANICAL SYSTEMS

CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE
Project Name: CVUSD Rowland
Project Address: 1355 E Rowland Ave

Table with columns for Space Name, Occupancy Type, Mechanical Ventilation, and Exh. Vent per §120.1(c)(4). Includes rows for Classroom and System Name RTU-J3.

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance
Registration Date/Time: Report Version: 2019.1.003
Registration Provider: Energysoft Report Generated: 2022-07-29 10:57:02



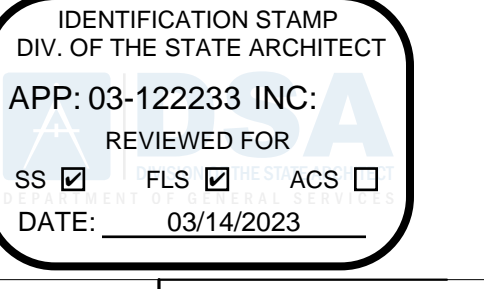
Rowland Elementary School
COVINA VALLEY USD
1355 E ROWLAND AVE, WEST COVINA, CA 91790

DSA Submitted Set
1/13/2023
REVISIONS

TITLE 24
COMPLIANCE

M0.4

1
2
3
4
5
Autodesk Docs/775-22605-00\_CVUSD - District Wide HVAC Replacement/75-22605-00\_CVUSD\_Rowland\_ES MEP\_2022.rvt
1/25/2023 4:14:04 PM



STATE OF CALIFORNIA Mechanical Systems CALIFORNIA ENERGY COMMISSION NRCC-MCH-E CERTIFICATE OF COMPLIANCE CVUSD Rowland Report Page: NRCC-MCH-E (Page 28 of 47) Project Name: 1355 E Rowland Ave Date Prepared: 7/29/2022

L DISTRIBUTION (DUCTWORK and PIPING) Table with 17 rows and 4 columns: Question ID, Answer (Yes/No), Description, and Duct Leakage Testing Status.

Registration Number: Registration Date/Time: Registration Provider: Energysoft CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Report Generated: 2022-07-29 10:57:02 Schema Version: rev 20200601

STATE OF CALIFORNIA Mechanical Systems CALIFORNIA ENERGY COMMISSION NRCC-MCH-E CERTIFICATE OF COMPLIANCE CVUSD Rowland Report Page: NRCC-MCH-E (Page 29 of 47) Project Name: 1355 E Rowland Ave Date Prepared: 7/29/2022

L DISTRIBUTION (DUCTWORK and PIPING) Table with 17 rows and 4 columns: Question ID, Answer (Yes/No), Description, and Duct Leakage Testing Status.

Registration Number: Registration Date/Time: Registration Provider: Energysoft CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Report Generated: 2022-07-29 10:57:02 Schema Version: rev 20200601

STATE OF CALIFORNIA Mechanical Systems CALIFORNIA ENERGY COMMISSION NRCC-MCH-E CERTIFICATE OF COMPLIANCE CVUSD Rowland Report Page: NRCC-MCH-E (Page 30 of 47) Project Name: 1355 E Rowland Ave Date Prepared: 7/29/2022

L DISTRIBUTION (DUCTWORK and PIPING) Table with 17 rows and 4 columns: Question ID, Answer (Yes/No), Description, and Duct Leakage Testing Status.

Registration Number: Registration Date/Time: Registration Provider: Energysoft CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Report Generated: 2022-07-29 10:57:02 Schema Version: rev 20200601

STATE OF CALIFORNIA Mechanical Systems CALIFORNIA ENERGY COMMISSION NRCC-MCH-E CERTIFICATE OF COMPLIANCE CVUSD Rowland Report Page: NRCC-MCH-E (Page 31 of 47) Project Name: 1355 E Rowland Ave Date Prepared: 7/29/2022

L DISTRIBUTION (DUCTWORK and PIPING) Table with 17 rows and 4 columns: Question ID, Answer (Yes/No), Description, and Duct Leakage Testing Status.

Registration Number: Registration Date/Time: Registration Provider: Energysoft CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Report Generated: 2022-07-29 10:57:02 Schema Version: rev 20200601

STATE OF CALIFORNIA Mechanical Systems CALIFORNIA ENERGY COMMISSION NRCC-MCH-E CERTIFICATE OF COMPLIANCE CVUSD Rowland Report Page: NRCC-MCH-E (Page 32 of 47) Project Name: 1355 E Rowland Ave Date Prepared: 7/29/2022

L DISTRIBUTION (DUCTWORK and PIPING) Table with 17 rows and 4 columns: Question ID, Answer (Yes/No), Description, and Duct Leakage Testing Status.

Registration Number: Registration Date/Time: Registration Provider: Energysoft CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Report Generated: 2022-07-29 10:57:02 Schema Version: rev 20200601

STATE OF CALIFORNIA Mechanical Systems CALIFORNIA ENERGY COMMISSION NRCC-MCH-E CERTIFICATE OF COMPLIANCE CVUSD Rowland Report Page: NRCC-MCH-E (Page 33 of 47) Project Name: 1355 E Rowland Ave Date Prepared: 7/29/2022

L DISTRIBUTION (DUCTWORK and PIPING) Table with 17 rows and 4 columns: Question ID, Answer (Yes/No), Description, and Duct Leakage Testing Status.

Registration Number: Registration Date/Time: Registration Provider: Energysoft CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Report Generated: 2022-07-29 10:57:02 Schema Version: rev 20200601

STATE OF CALIFORNIA Mechanical Systems CALIFORNIA ENERGY COMMISSION NRCC-MCH-E CERTIFICATE OF COMPLIANCE CVUSD Rowland Report Page: NRCC-MCH-E (Page 34 of 47) Project Name: 1355 E Rowland Ave Date Prepared: 7/29/2022

L DISTRIBUTION (DUCTWORK and PIPING) Table with 17 rows and 4 columns: Question ID, Answer (Yes/No), Description, and Duct Leakage Testing Status.

Registration Number: Registration Date/Time: Registration Provider: Energysoft CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Report Generated: 2022-07-29 10:57:02 Schema Version: rev 20200601

STATE OF CALIFORNIA Mechanical Systems CALIFORNIA ENERGY COMMISSION NRCC-MCH-E CERTIFICATE OF COMPLIANCE CVUSD Rowland Report Page: NRCC-MCH-E (Page 35 of 47) Project Name: 1355 E Rowland Ave Date Prepared: 7/29/2022

L DISTRIBUTION (DUCTWORK and PIPING) Table with 17 rows and 4 columns: Question ID, Answer (Yes/No), Description, and Duct Leakage Testing Status.

Registration Number: Registration Date/Time: Registration Provider: Energysoft CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Report Generated: 2022-07-29 10:57:02 Schema Version: rev 20200601

STATE OF CALIFORNIA Mechanical Systems CALIFORNIA ENERGY COMMISSION NRCC-MCH-E CERTIFICATE OF COMPLIANCE CVUSD Rowland Report Page: NRCC-MCH-E (Page 36 of 47) Project Name: 1355 E Rowland Ave Date Prepared: 7/29/2022

L DISTRIBUTION (DUCTWORK and PIPING) Table with 17 rows and 4 columns: Question ID, Answer (Yes/No), Description, and Duct Leakage Testing Status.

Registration Number: Registration Date/Time: Registration Provider: Energysoft CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Report Generated: 2022-07-29 10:57:02 Schema Version: rev 20200601



Rowland Elementary School COVINA VALLEY USD 1355 E ROWLAND AVE, WEST COVINA, CA 91790

DSA Submitted Set 1/13/2023 REVISIONS

75-22605-00 TITLE 24 COMPLIANCE

M0.5

1

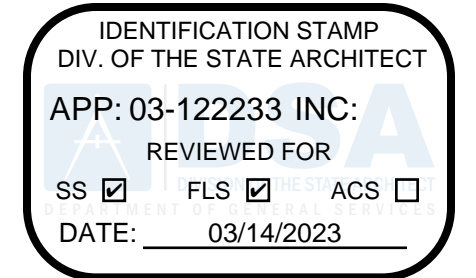
2

3

4

5

1:25:2023 4:14:05 PM Autodesk Docs/75-22605-00 CVUSD - District Wide HVAC Replacement/75-22605-00 CVUSD Rowland\_ES MEP\_2022.rvt



Rowland Elementary School  
COVINA VALLEY USD  
1855 E ROWLAND AVE, WEST COVINA, CA 91790

DSA Submitted Set  
1/13/2023  
REVISIONS

75-22605-00

TITLE 24  
COMPLIANCE

M0.6

STATE OF CALIFORNIA  
CALIFORNIA ENERGY COMMISSION  
Mechanical Systems  
NRCC-MCH-E  
CERTIFICATE OF COMPLIANCE  
Project Name: CVUSD Rowland  
Project Address: 1355 E Rowland Ave  
Report Page: (Page 39 of 47)  
Date Prepared: 7/29/2022

O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE  
Form/Title  
Systems/Spaces To Be Field Verified  
Field Inspector  
Pass Fail  
NRCA-MCH-02-A - Outdoor Air must be submitted for all newly installed HVAC units. Note: MCH-02-A can be performed in conjunction with MCH-07-A Supply Fan VFD Acceptance (if applicable) since testing activities overlap.

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance  
Registration Date/Time: Report Version: 2019.1.003  
Registration Provider: Energysoft  
Report Generated: 2022-07-29 10:57:02

STATE OF CALIFORNIA  
CALIFORNIA ENERGY COMMISSION  
Mechanical Systems  
NRCC-MCH-E  
CERTIFICATE OF COMPLIANCE  
Project Name: CVUSD Rowland  
Project Address: 1355 E Rowland Ave  
Report Page: (Page 42 of 47)  
Date Prepared: 7/29/2022

O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE  
Form/Title  
Systems/Spaces To Be Field Verified  
Field Inspector  
Pass Fail  
NRCA-MCH-04-A Demand Control Ventilation Systems must be submitted for all systems required to employ demand controlled ventilation (refer to §1201.1(c)) can vary outside ventilation flow rates based on maintaining interior carbon dioxide (CO2) concentration setpoints.

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance  
Registration Date/Time: Report Version: 2019.1.003  
Registration Provider: Energysoft  
Report Generated: 2022-07-29 10:57:02

STATE OF CALIFORNIA  
CALIFORNIA ENERGY COMMISSION  
Mechanical Systems  
NRCC-MCH-E  
CERTIFICATE OF COMPLIANCE  
Project Name: CVUSD Rowland  
Project Address: 1355 E Rowland Ave  
Report Page: (Page 45 of 47)  
Date Prepared: 7/29/2022

O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE  
Form/Title  
Systems/Spaces To Be Field Verified  
Field Inspector  
Pass Fail  
NRCA-MCH-18-A Energy Management Control Systems

P. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION  
There are no NRCV forms required for this project.

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance  
Registration Date/Time: Report Version: 2019.1.003  
Registration Provider: Energysoft  
Report Generated: 2022-07-29 10:57:02

STATE OF CALIFORNIA  
CALIFORNIA ENERGY COMMISSION  
Mechanical Systems  
NRCC-MCH-E  
CERTIFICATE OF COMPLIANCE  
Project Name: CVUSD Rowland  
Project Address: 1355 E Rowland Ave  
Report Page: (Page 38 of 47)  
Date Prepared: 7/29/2022

M. COOLING TOWERS  
This section does not apply to this project.  
N. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION  
Form/Title  
Field Inspector  
Pass Fail  
NRCC-MCH-01-E - Must be submitted for all buildings

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance  
Registration Date/Time: Report Version: 2019.1.003  
Registration Provider: Energysoft  
Report Generated: 2022-07-29 10:57:02

STATE OF CALIFORNIA  
CALIFORNIA ENERGY COMMISSION  
Mechanical Systems  
NRCC-MCH-E  
CERTIFICATE OF COMPLIANCE  
Project Name: CVUSD Rowland  
Project Address: 1355 E Rowland Ave  
Report Page: (Page 41 of 47)  
Date Prepared: 7/29/2022

O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE  
Form/Title  
Systems/Spaces To Be Field Verified  
Field Inspector  
Pass Fail  
NRCA-MCH-05-A - Air Economizer Controls

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance  
Registration Date/Time: Report Version: 2019.1.003  
Registration Provider: Energysoft  
Report Generated: 2022-07-29 10:57:02

STATE OF CALIFORNIA  
CALIFORNIA ENERGY COMMISSION  
Mechanical Systems  
NRCC-MCH-E  
CERTIFICATE OF COMPLIANCE  
Project Name: CVUSD Rowland  
Project Address: 1355 E Rowland Ave  
Report Page: (Page 44 of 47)  
Date Prepared: 7/29/2022

O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE  
Form/Title  
Systems/Spaces To Be Field Verified  
Field Inspector  
Pass Fail  
NRCA-MCH-16-A Supply Air Temperature Reset Controls

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance  
Registration Date/Time: Report Version: 2019.1.003  
Registration Provider: Energysoft  
Report Generated: 2022-07-29 10:57:02

STATE OF CALIFORNIA  
CALIFORNIA ENERGY COMMISSION  
Mechanical Systems  
NRCC-MCH-E  
CERTIFICATE OF COMPLIANCE  
Project Name: CVUSD Rowland  
Project Address: 1355 E Rowland Ave  
Report Page: (Page 37 of 47)  
Date Prepared: 7/29/2022

L. DISTRIBUTION (DUCTWORK AND PIPING)  
The answers to the questions below apply to the following duct systems: RTU-K2  
11 No The scope of the project includes only duct systems serving healthcare facilities  
12 Yes Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.  
13 Yes The space conditioning system serves less than 5,000 ft<sup>2</sup> of conditioned floor area.  
14 No The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:  
Outdoors  
In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the requirements of §40.3(a)18 or if the roof has fixed vents or openings to the outside/ unconditioned spaces  
In an unconditioned crawl space  
In other unconditioned spaces  
15 The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.  
16 The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.  
17 Yes Duct system shall be sealed in accordance with the California Mechanical Code

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance  
Registration Date/Time: Report Version: 2019.1.003  
Registration Provider: Energysoft  
Report Generated: 2022-07-29 10:57:02

STATE OF CALIFORNIA  
CALIFORNIA ENERGY COMMISSION  
Mechanical Systems  
NRCC-MCH-E  
CERTIFICATE OF COMPLIANCE  
Project Name: CVUSD Rowland  
Project Address: 1355 E Rowland Ave  
Report Page: (Page 40 of 47)  
Date Prepared: 7/29/2022

O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE  
Form/Title  
Systems/Spaces To Be Field Verified  
Field Inspector  
Pass Fail  
NRCA-MCH-03-A - Constant Volume Single Zone HVAC NOTE: This form does not automatically move to "Yes". If Constant Volume Single Zone HVAC Systems are included in the scope, permit applicant should move this form to "Yes".

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance  
Registration Date/Time: Report Version: 2019.1.003  
Registration Provider: Energysoft  
Report Generated: 2022-07-29 10:57:02

STATE OF CALIFORNIA  
CALIFORNIA ENERGY COMMISSION  
Mechanical Systems  
NRCC-MCH-E  
CERTIFICATE OF COMPLIANCE  
Project Name: CVUSD Rowland  
Project Address: 1355 E Rowland Ave  
Report Page: (Page 43 of 47)  
Date Prepared: 7/29/2022

O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE  
Form/Title  
Systems/Spaces To Be Field Verified  
Field Inspector  
Pass Fail  
NRCA-MCH-11-A Automatic Demand Shed Controls

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance  
Registration Date/Time: Report Version: 2019.1.003  
Registration Provider: Energysoft  
Report Generated: 2022-07-29 10:57:02

1  
2  
3  
4  
5

Audodesk Docs (7/5-22605-00) CVUSD - District Wide HVAC Replacement/75-22605-00 CVUSD Rowland ES MEP\_2022.rvt  
1/28/2023 4:14:06 PM



STATE OF CALIFORNIA  
**Mechanical Systems**  
 NRCC-MCH-E CALIFORNIA ENERGY COMMISSION

<b>CERTIFICATE OF COMPLIANCE</b>	CVUSD Rowland	Report Page:	NRCC-MCH-E
Project Name:	CVUSD Rowland	Report Page:	(Page 46 of 47)
Project Address:	1355 E Rowland Ave	Date Prepared:	7/29/2022

**Q. MANDATORY MEASURES DOCUMENTATION LOCATION**  
 This table is used to indicate where mandatory measures are documented in the plan set or construction documentation.

	01	02
Compliance with Mandatory Measures documented through MCH	Yes	M-Sheets
Mandatory Measures Note Block		

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance  
 Registration Date/Time: Report Version: 2019.1.003  
 Registration Provider: Energysoft  
 Schema Version: rev 20200601  
 Report Generated: 2022-07-29 10:57:02

STATE OF CALIFORNIA  
**Mechanical Systems**  
 NRCC-MCH-E CALIFORNIA ENERGY COMMISSION

<b>CERTIFICATE OF COMPLIANCE</b>	CVUSD Rowland	Report Page:	NRCC-MCH-E
Project Name:	CVUSD Rowland	Report Page:	(Page 47 of 47)
Project Address:	1355 E Rowland Ave	Date Prepared:	7/29/2022

**DOCUMENTATION AUTHOR'S DECLARATION STATEMENT**  
 I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Abhijit Rege	Documentation Author Signature: 
Company: DLR Group	Signature Date: 2022-07-29
Address: CEA/HERS Certification Identification (if applicable): 9F30-5A88-E6C4-7653-2F72-AS2E-9671-A2D4-7420-7AD7-DA3E-A59B-8F3B-18A3-B88E-17FE	
City/State/Zip: LOS ANGELES CA 90017	Phone: (949)-701-8533

**RESPONSIBLE PERSON'S DECLARATION STATEMENT**  
 I certify the following under penalty of perjury, under the laws of the State of California:

- The information provided on this Certificate of Compliance is true and correct.
- I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
- The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
- The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
- I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.


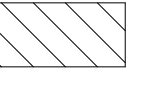
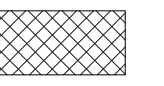
Responsible Designer Name: TONG FANG ZHAO	Responsible Designer Signature: 
Company: DLR GROUP	Date Signed: 2022-07-29
Address: 700 FLOWER STREET	License: M-34291
City/State/Zip: LOS ANGELES CA 90017	Phone:

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance  
 Registration Date/Time: Report Version: 2019.1.003  
 Registration Provider: Energysoft  
 Schema Version: rev 20200601  
 Report Generated: 2022-07-29 10:57:02

GENERAL NOTES

A FOR SYMBOLS AND ABBREVIATIONS SEE DRAWING M0.1

SITE LEGEND

-  EXISTING BUILDING NOT IN SCOPE
-  EXISTING BUILDING - SCOPE OF WORK UNDER THIS DSA APPLICATION
-  (E) RESTROOMS - NOT IN SCOPE



 **MECHANICAL SITE PLAN**  
 SCALE: 1/32" = 1'-0"



**Rowland Elementary School**  
 COVINA VALLEY USD  
 1855 E ROWLAND AVE. WEST COVINA, CA 91790

DSA Submitted Set  
 1/13/2023  
 REVISIONS

75-22605-00

MECHANICAL  
 SITE PLAN

M1.1

IDENTIFICATION STAMP  
 DIV. OF THE STATE ARCHITECT  
 APP: 03-122233 INC.  
 REVIEWED FOR  
 SS  FLS  ACS   
 DATE: 03/14/2023

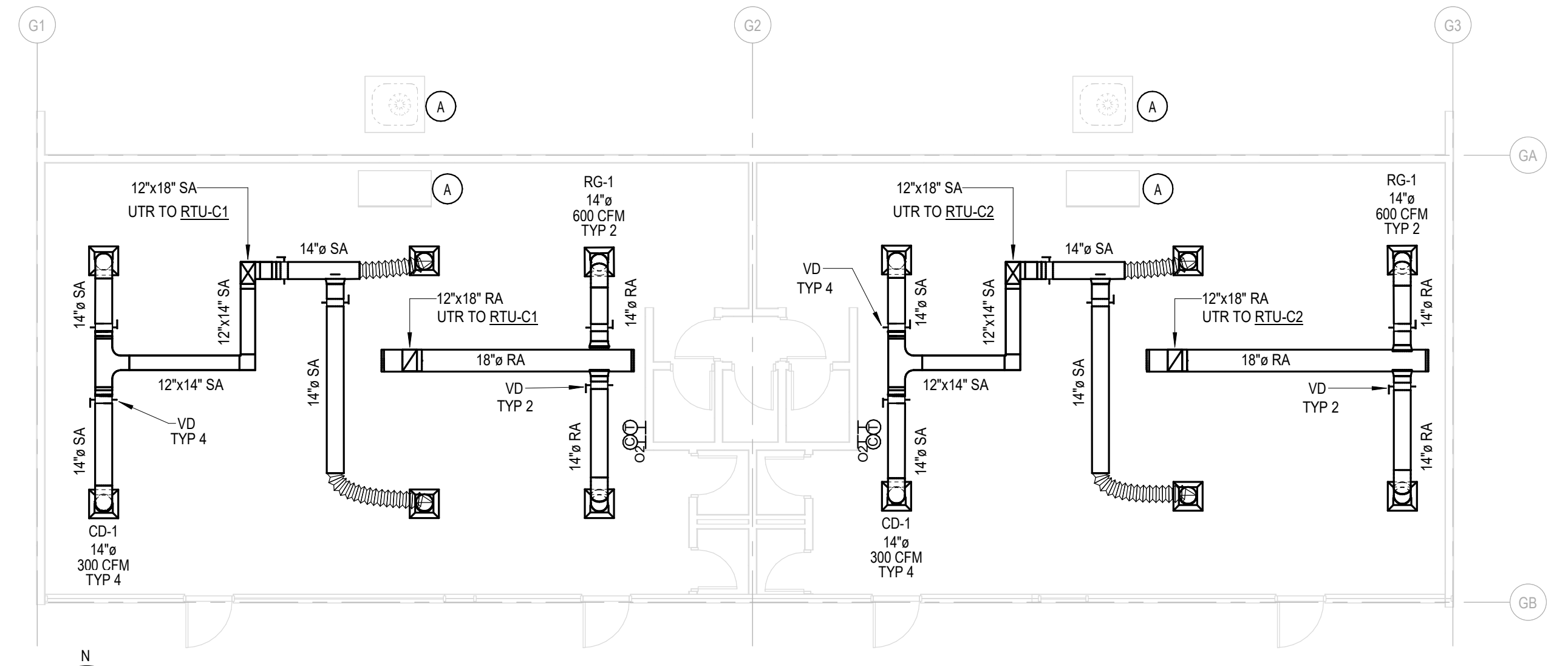


Rowland Elementary School  
 COVINA VALLEY USD  
 1855 E ROWLAND AVE, WEST COVINA, CA 91790

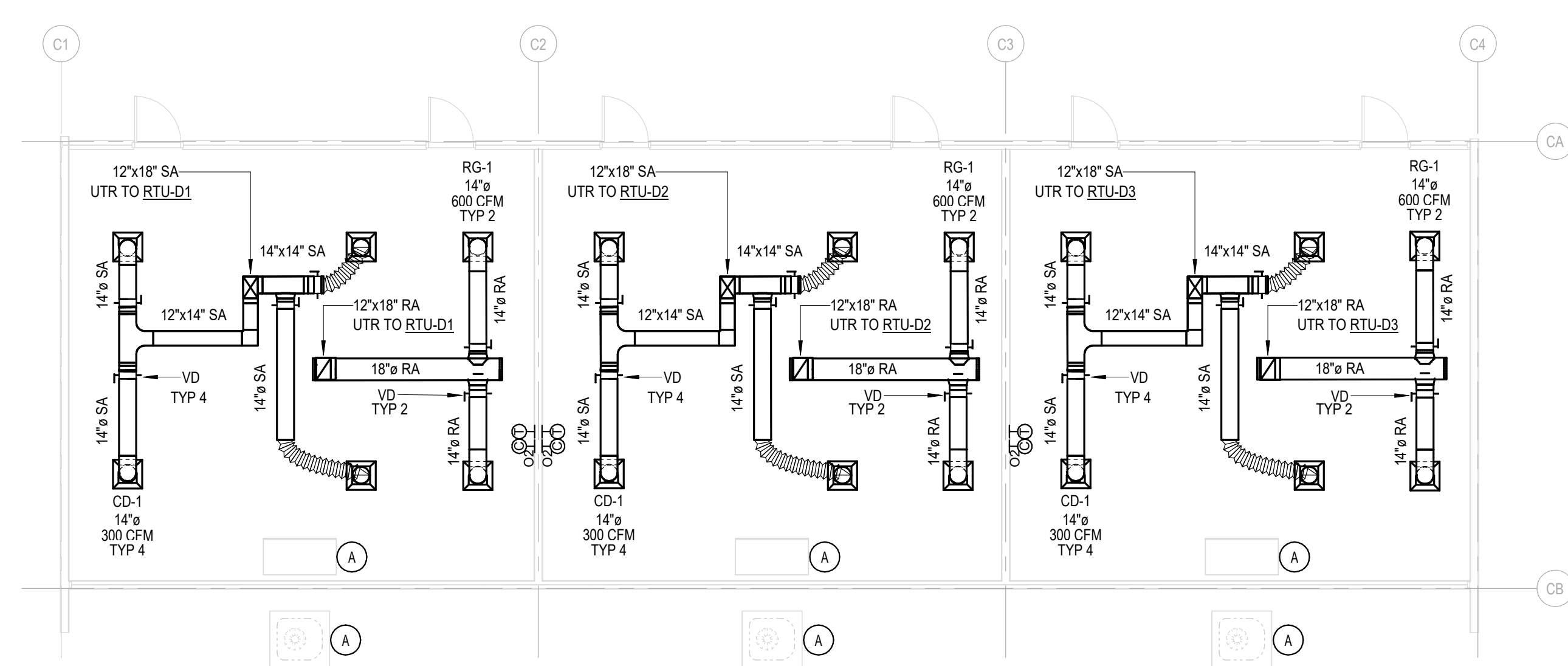
DSA Submitted Set  
 1/13/2023  
 REVISIONS  
 5 01/13/23  
 6 01/19/23

75-22605-00  
 MECHANICAL  
 FLOOR PLANS

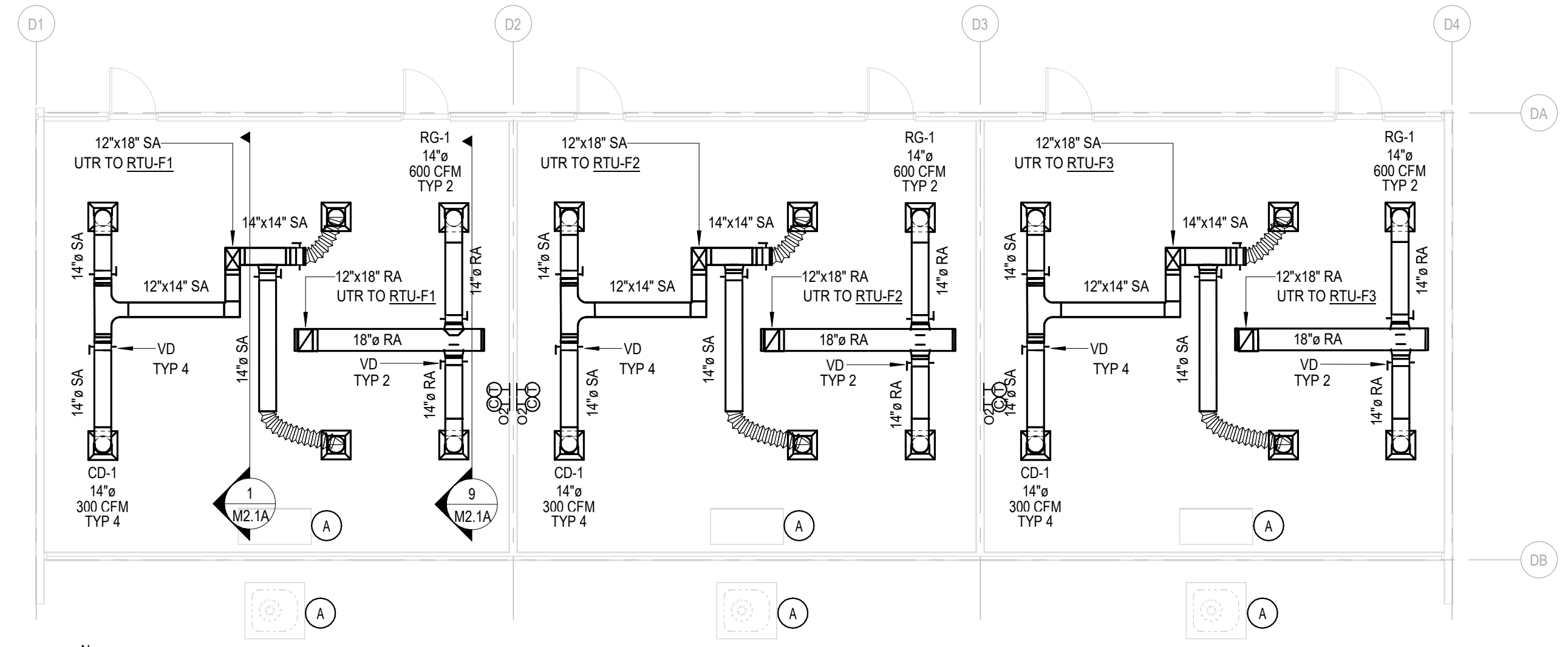
M1.1A



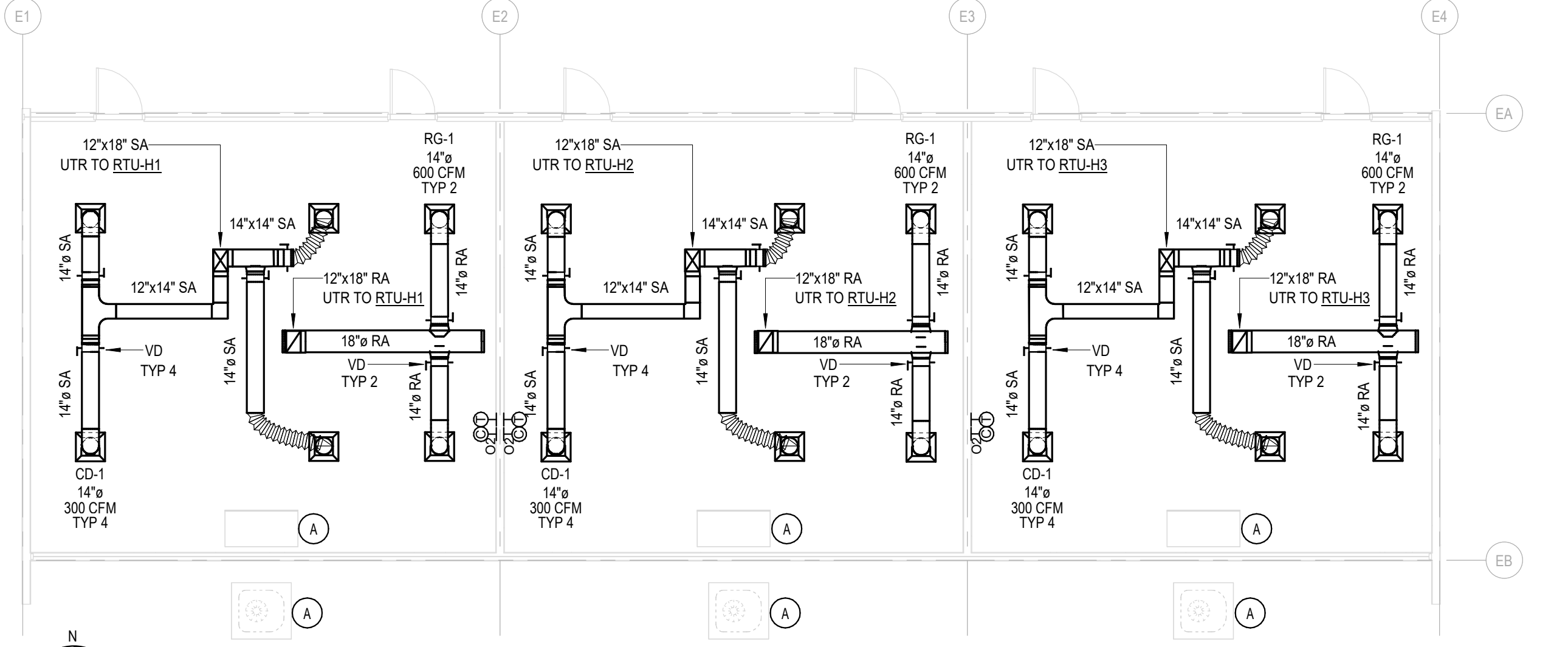
**BUILDING C MECHANICAL FLOOR PLAN**  
 SCALE: 1/8" = 1'-0"



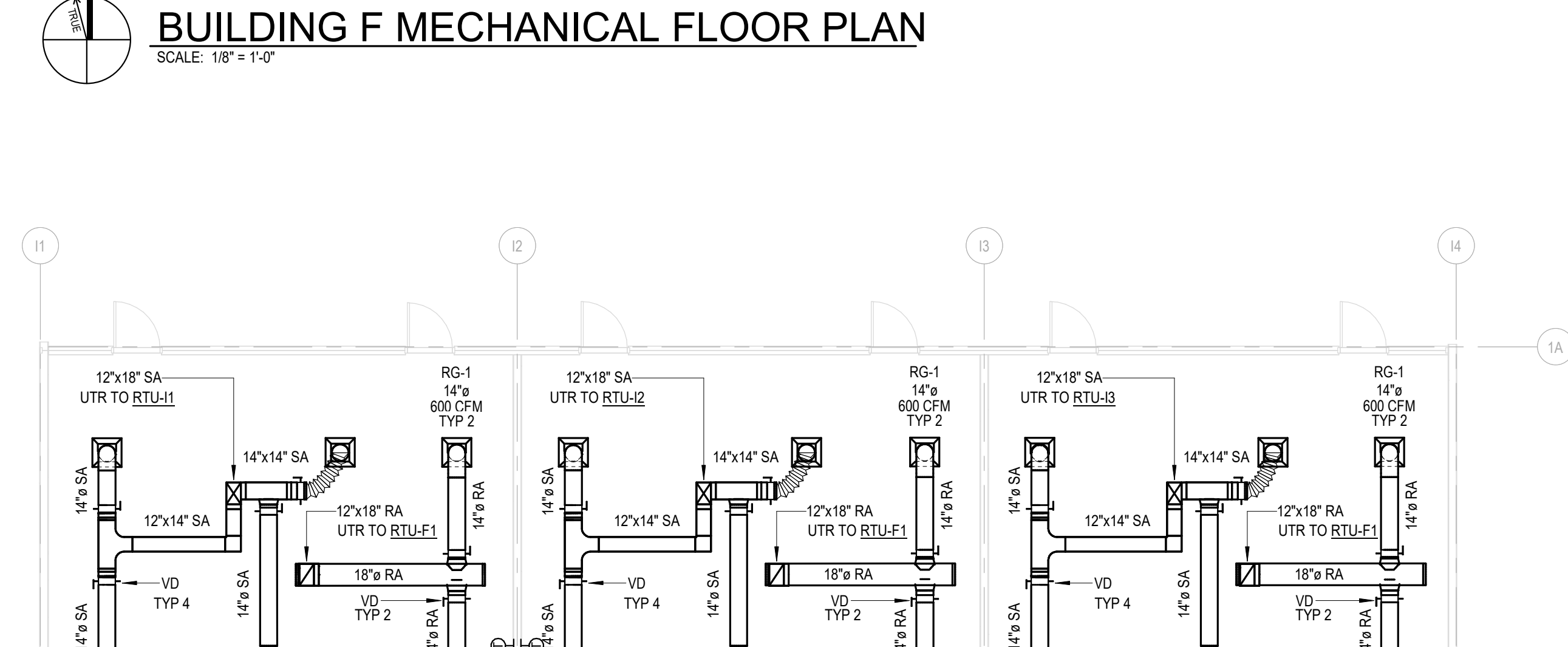
**BUILDING D MECHANICAL FLOOR PLAN**  
 SCALE: 1/8" = 1'-0"



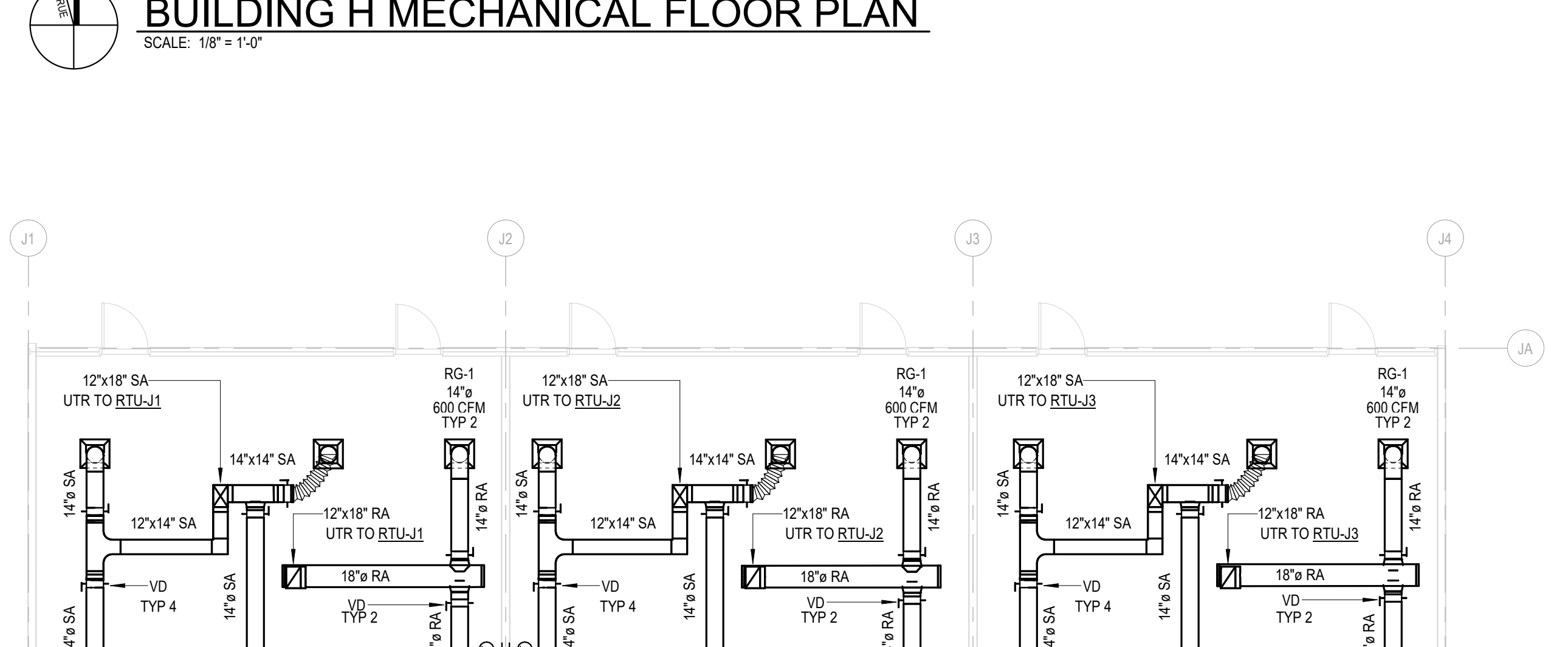
**BUILDING F MECHANICAL FLOOR PLAN**  
 SCALE: 1/8" = 1'-0"



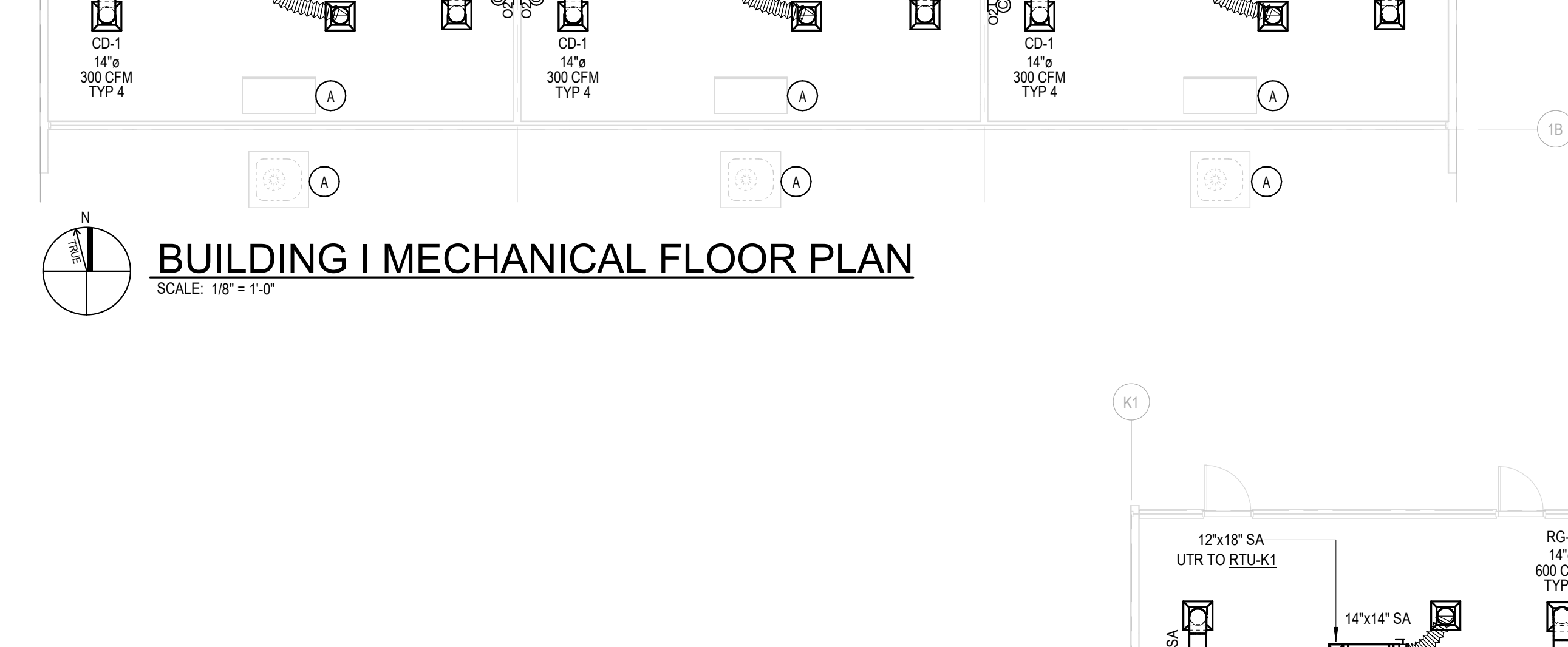
**BUILDING H MECHANICAL FLOOR PLAN**  
 SCALE: 1/8" = 1'-0"



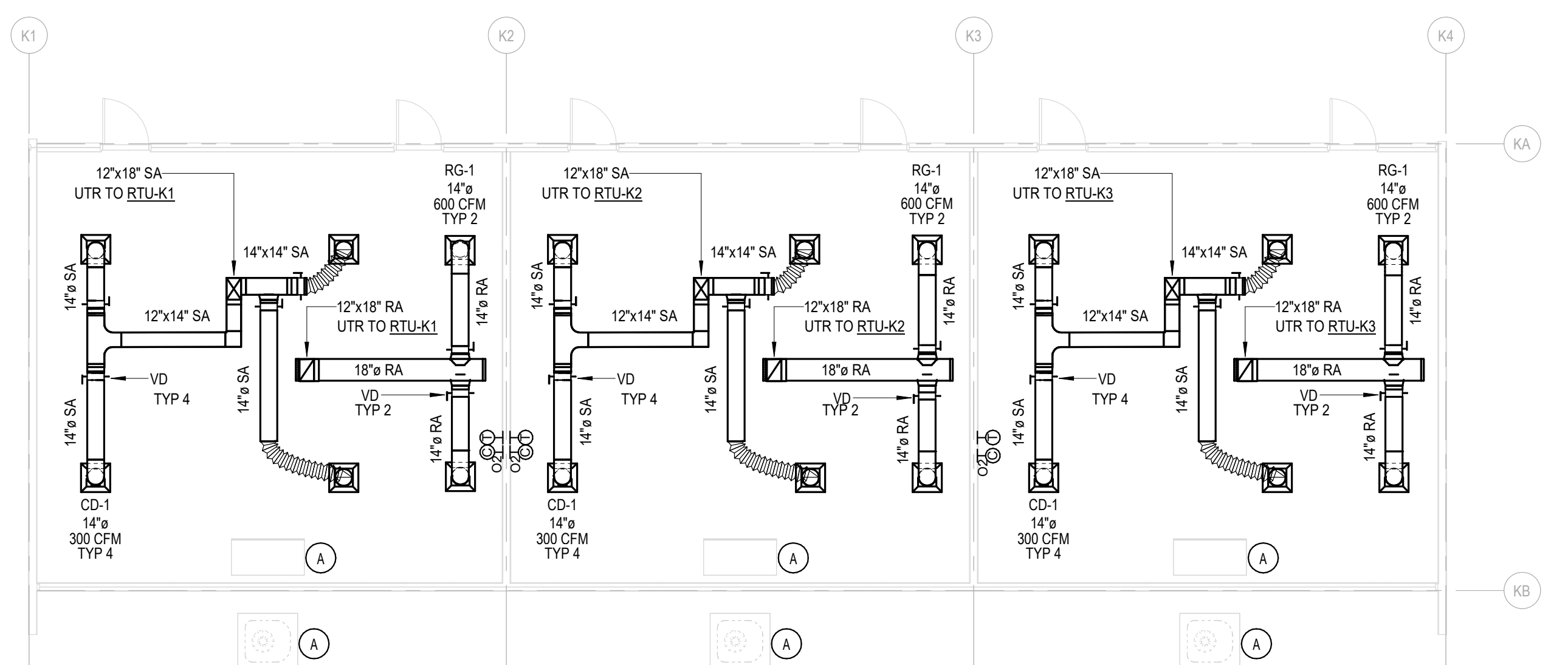
**BUILDING I MECHANICAL FLOOR PLAN**  
 SCALE: 1/8" = 1'-0"



**BUILDING J MECHANICAL FLOOR PLAN**  
 SCALE: 1/8" = 1'-0"



**BUILDING K MECHANICAL FLOOR PLAN**  
 SCALE: 1/8" = 1'-0"



**BUILDING K MECHANICAL FLOOR PLAN**  
 SCALE: 1/8" = 1'-0"

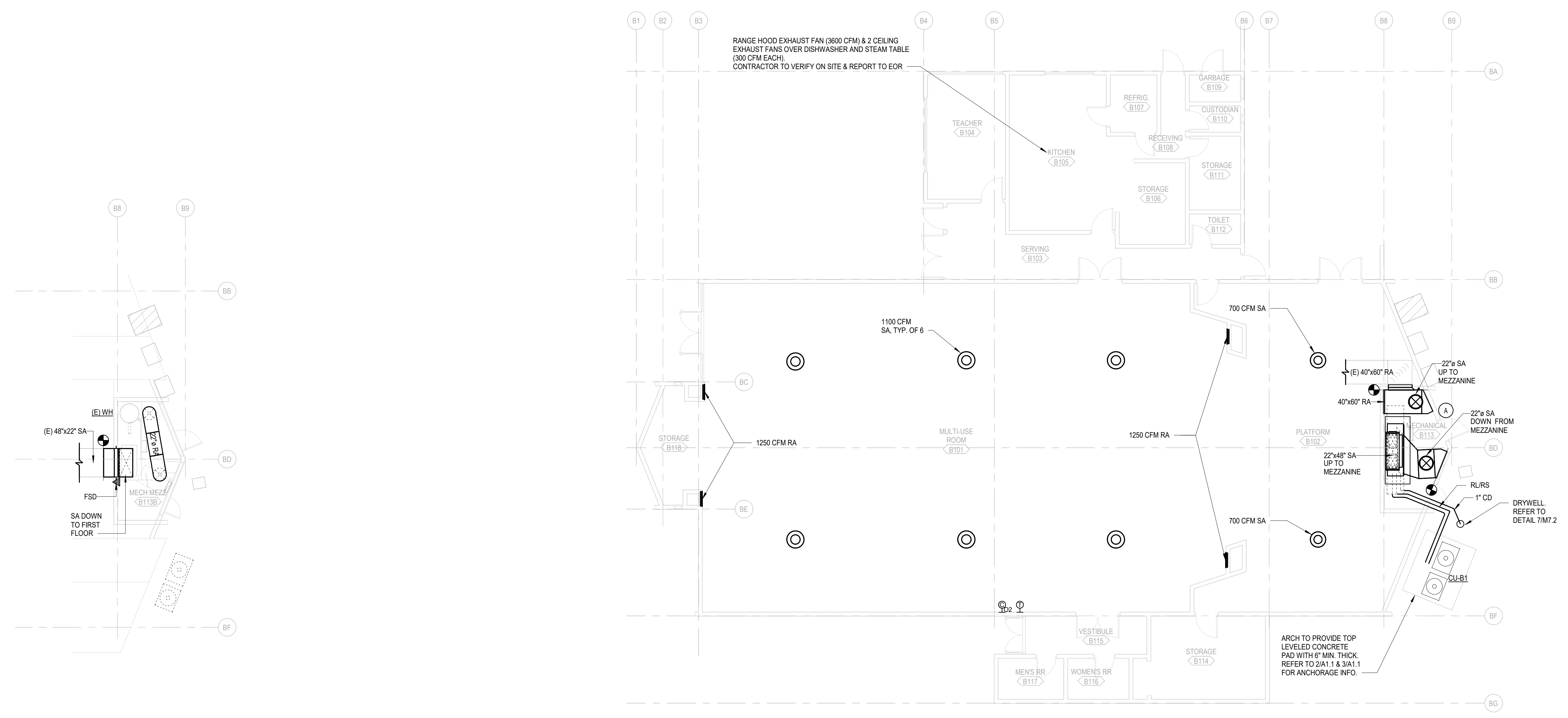
**DEMO NOTES**

A. DEMOLISH EXISTING OUTDOOR CONDENSING UNIT AND INDOOR FANCOIL UNITS, ALONG WITH RELATED CONCRETE PADS, PIPING, CONDUIT, FENCE, SUPPORTS AND OTHER APPURTENANCES. REFER TO ARCH PLANS OR SPECS FOR FILING HOLES AND MATCHING WALL TYPICAL FOR CLASSROOMS.

**GENERAL NOTES**

1. SCOPE OF WORK IS CLASSROOMS & MFR ONLY.  
 2. DIFFUSERS AND GRILLES TO MATCH (E) CEILING TILES. REFER TO RCP.

Autodesk Docs/175-22605-00\_CVUSD - District Wide HVAC Replacement/175-22605-00\_CVUSD\_Rowland ES MEP\_2022.rvt  
 1/25/2023 4:14:12 PM



**BUILDING B MECH. MEZZANINE**  
 SCALE: 1/8" = 1'-0"

**BUILDING B MECHANICAL FLOOR PLAN**  
 SCALE: 1/8" = 1'-0"

**DEMO NOTES**

A DEMO (E) EQUIPMENT AND SA & RA DUCTWORK IN THE SCOPE AREA UP TO FDC, ALONG WITH ALL THE SUPPORTS, PIPING, OTHER COMPONENTS, TYPICAL FOR MPR ROOM.

**GENERAL NOTES**

- SCOPE OF WORK IS CLASSROOMS & MPR ONLY.
- DIFFUSERS AND GRILLES TO MATCH (E) CEILING TILES. REFER TO RCP.

Autodesk Docs/75-22605-00\_CVUSD - District Wide HVAC Replacement/75-22605-00\_CVUSD\_Rowland ES MEP\_2022.rvt  
 1/25/2023 4:14:12 PM

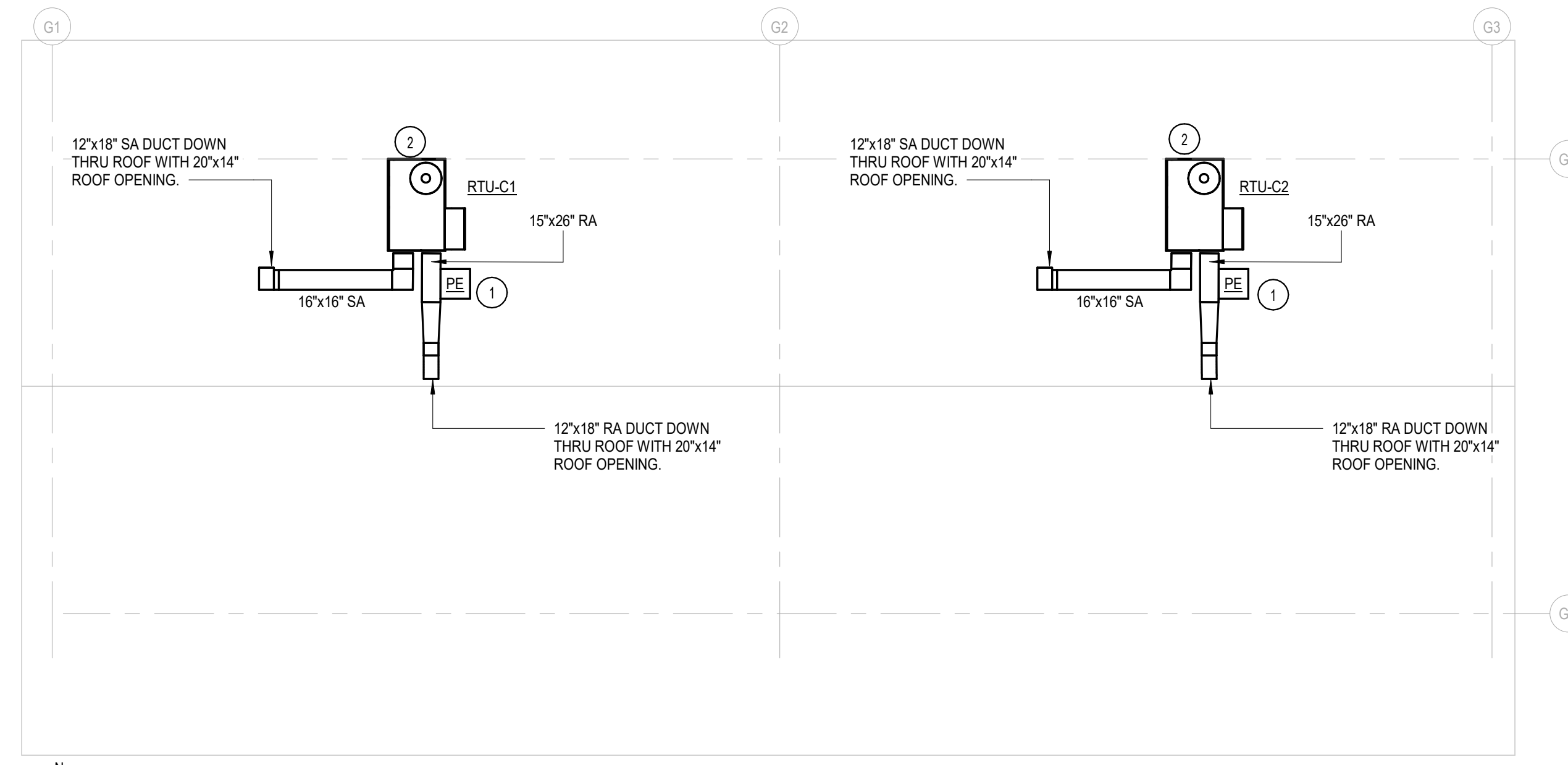


**GENERAL NOTES**

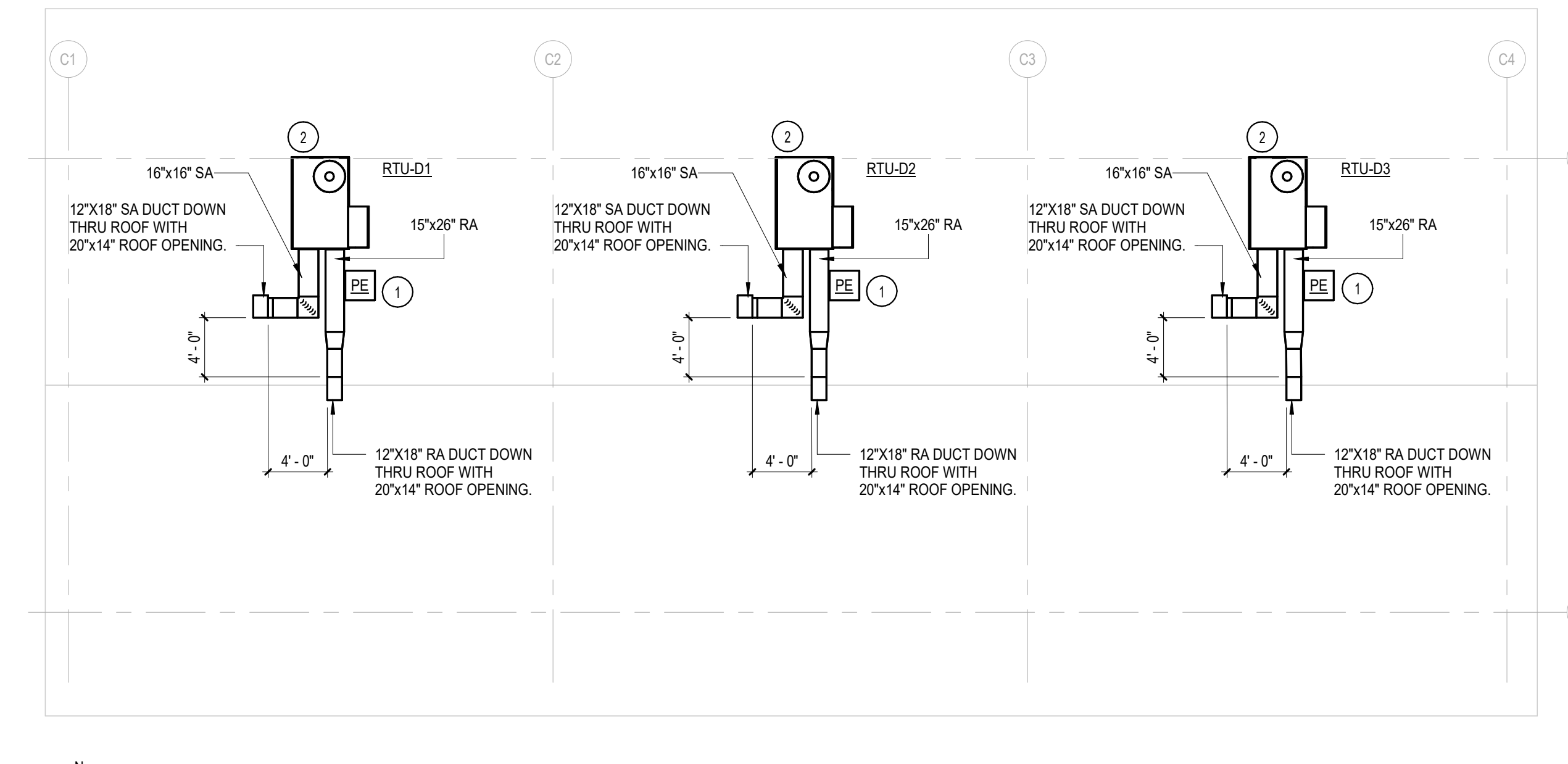
- SCOPE OF WORK IS CLASSROOMS & MPR ONLY.
- PROVIDE LINER TO DUCTWORK FOR 10 FEET FROM RTU.
- NEW OPENINGS FOR SUPPLY AND RETURN DUCTS SHOULD BE MADE BETWEEN THE ROOF JOISTS. DO NOT CUT THE JOISTS.

**KEY NOTES**

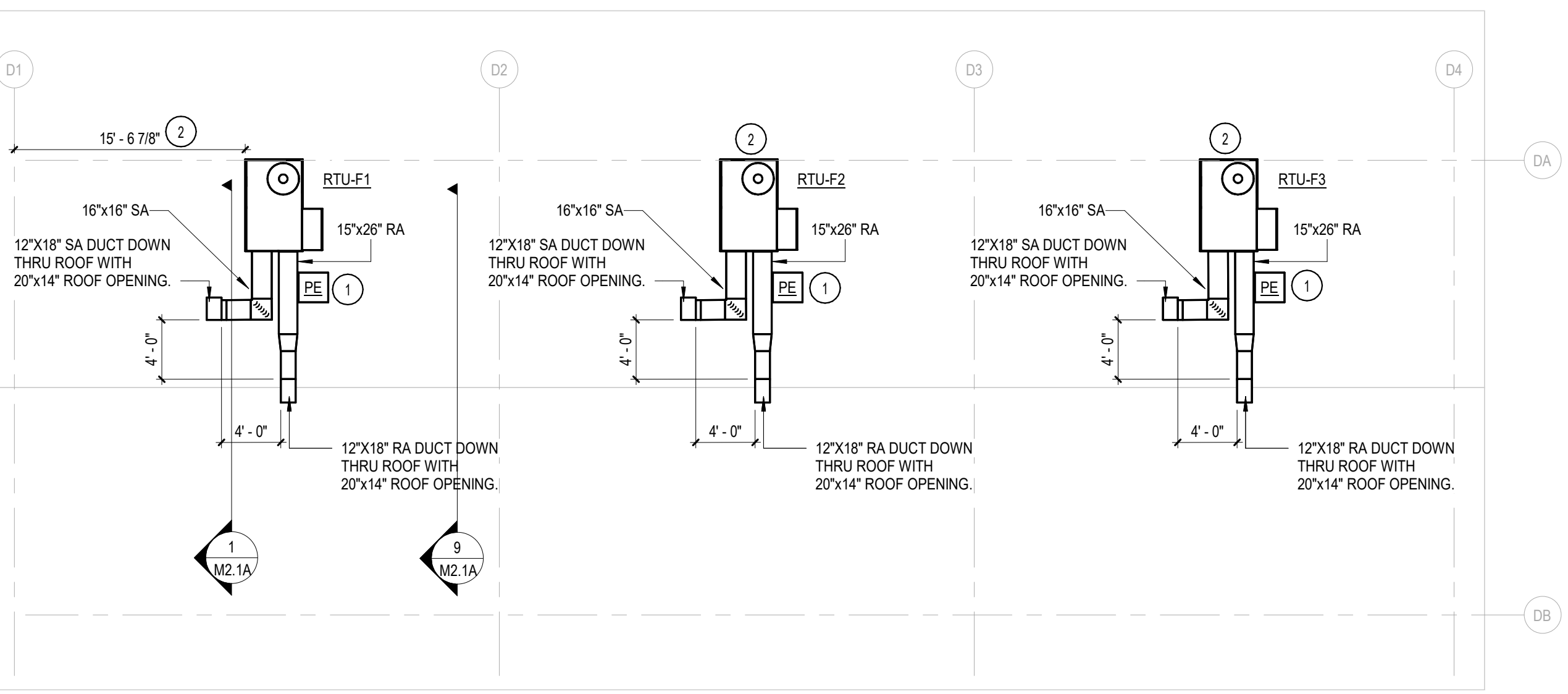
- PROVIDE POWER EXHAUST ON RETURN DUCT WITH LEG LENGTH TO FIT THE ROOF SLOPE. CONTRACTOR TO VERIFY ON SITE. TYP.
- RTU TO BE 10'-0" MIN. FROM ROOF EDGE. CONTRACTOR TO VERIFY ON SITE. TYP.
- RTU IS LESS THAN 10'-0" FROM ROOF EDGE. ARCH TO PROVIDE PROTECTION GUARDS. TYP.



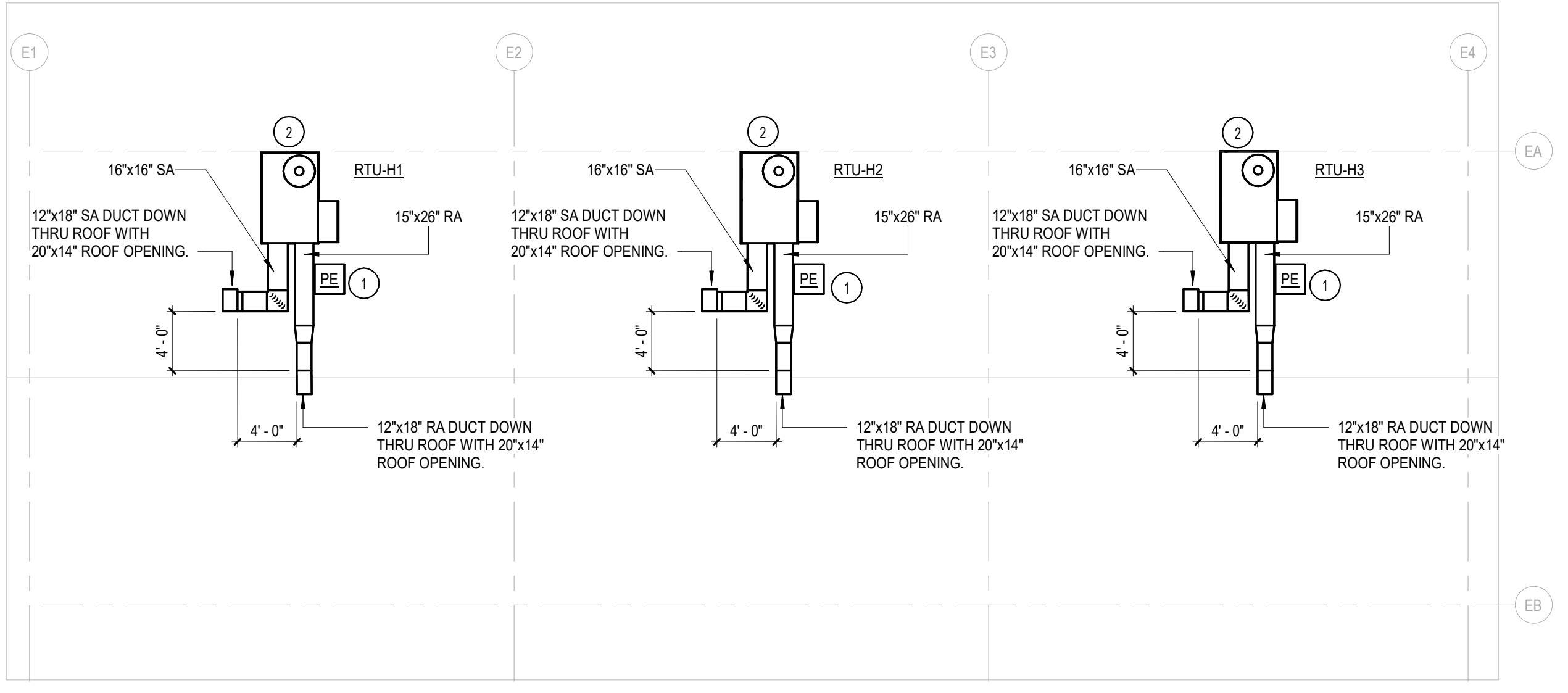
**BUILDING C MECHANICAL ROOF PLAN**  
 SCALE: 1/8" = 1'-0"



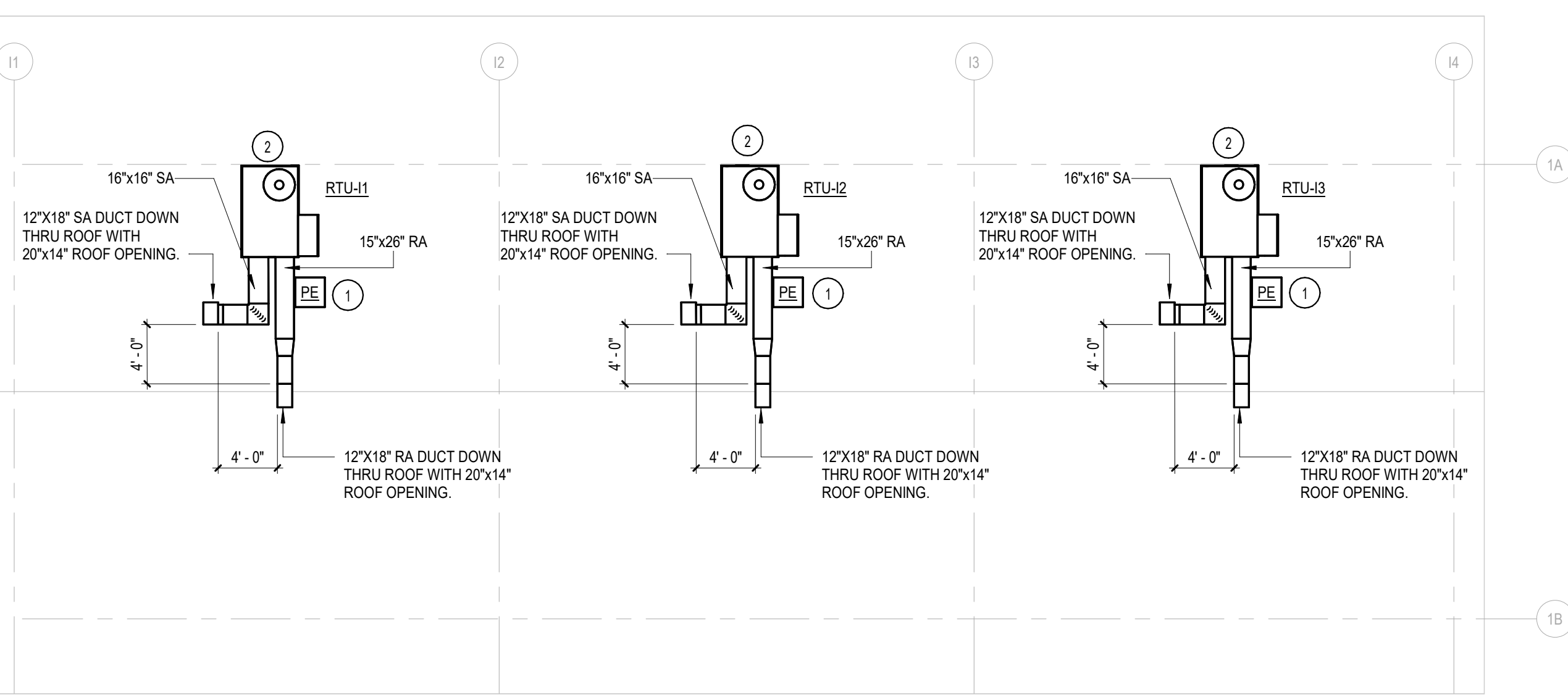
**BUILDING D MECHANICAL ROOF PLAN**  
 SCALE: 1/8" = 1'-0"



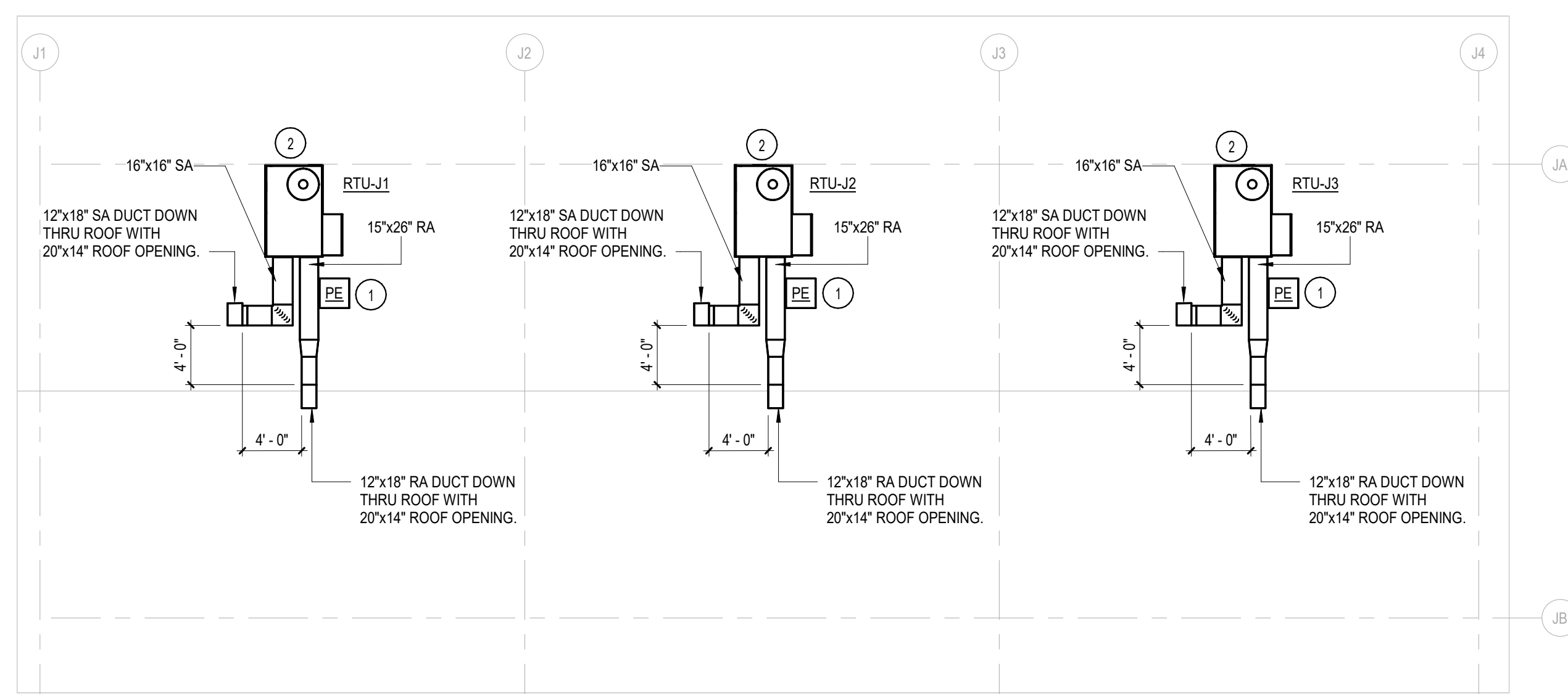
**BUILDING F MECHANICAL ROOF PLAN**  
 SCALE: 1/8" = 1'-0"



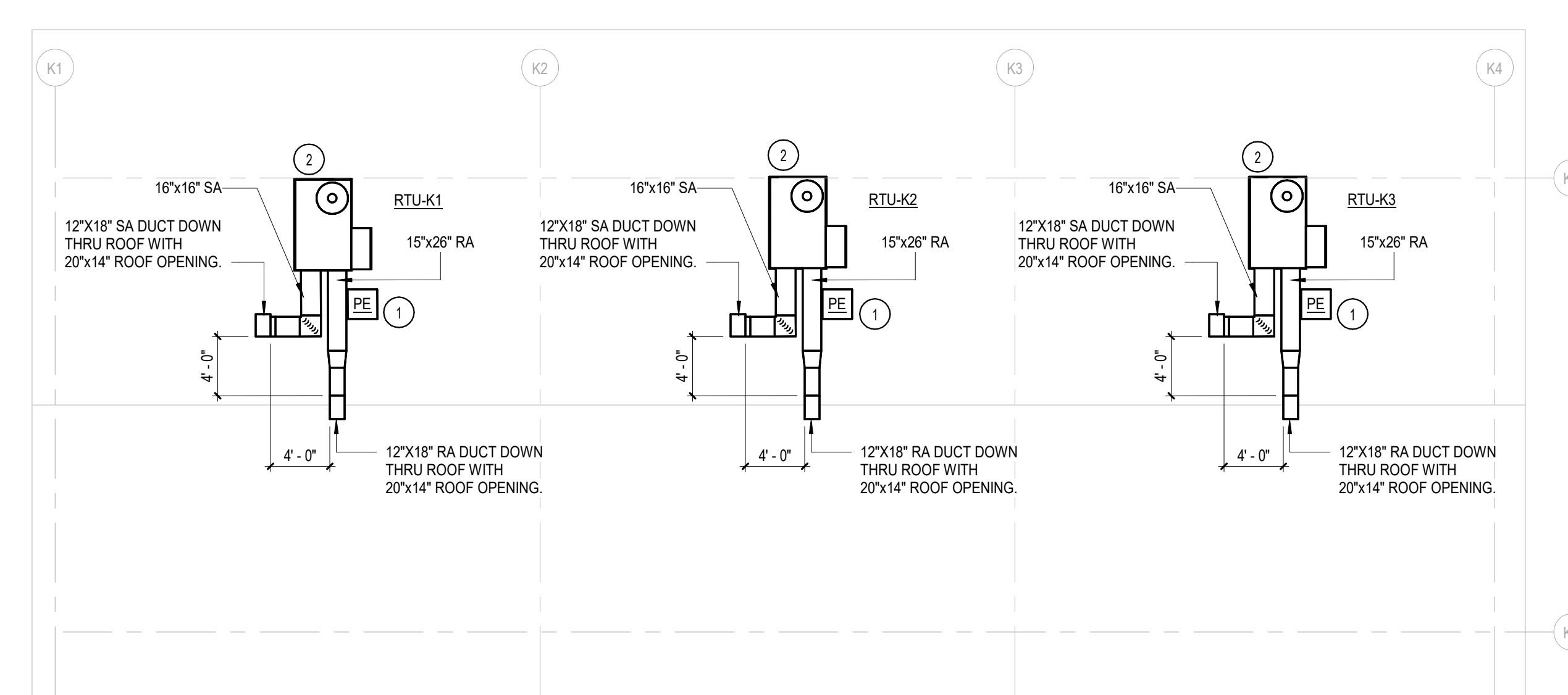
**BUILDING H MECHANICAL ROOF PLAN**  
 SCALE: 1/8" = 1'-0"



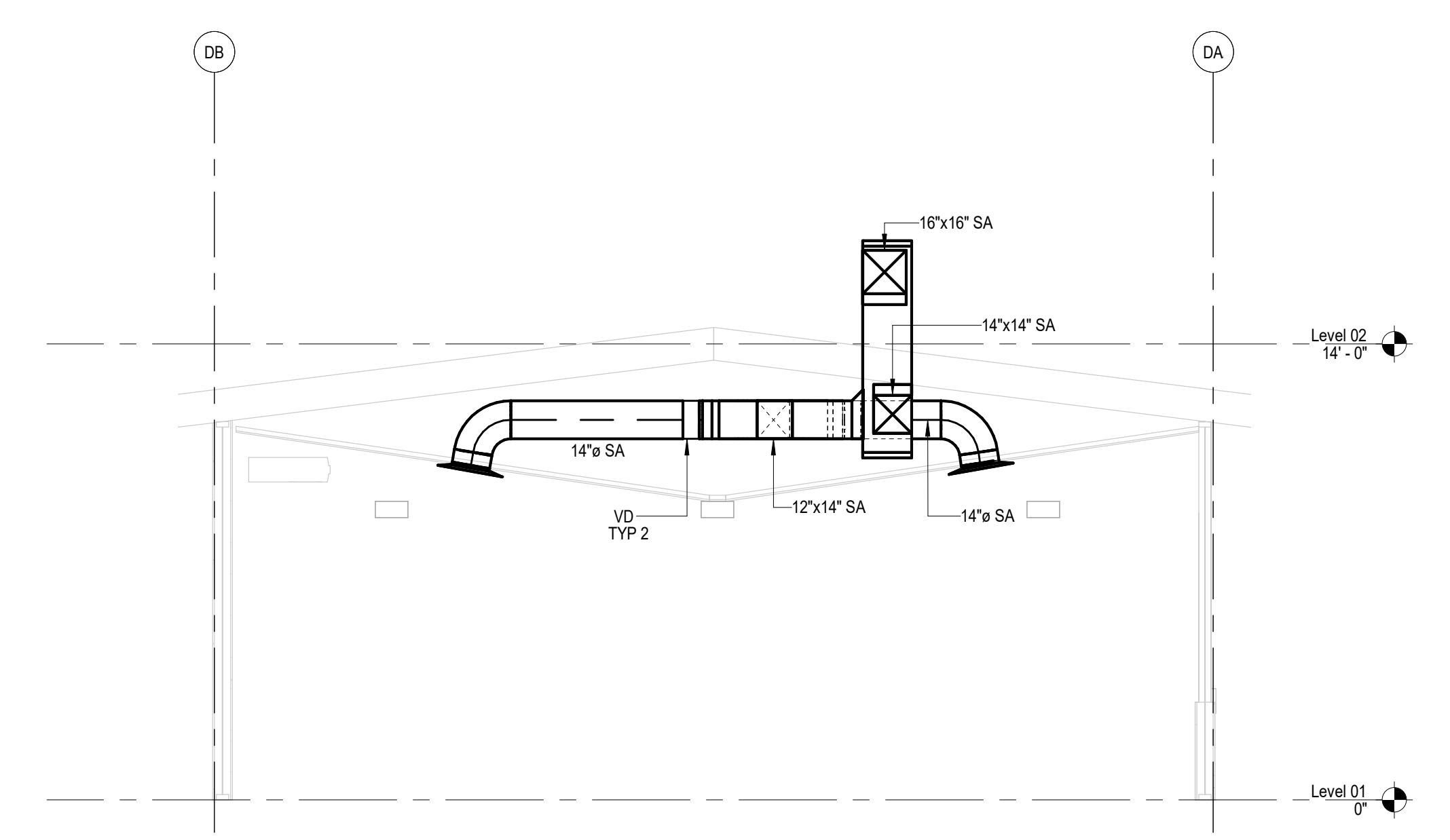
**BUILDING I MECHANICAL ROOF PLAN**  
 SCALE: 1/8" = 1'-0"



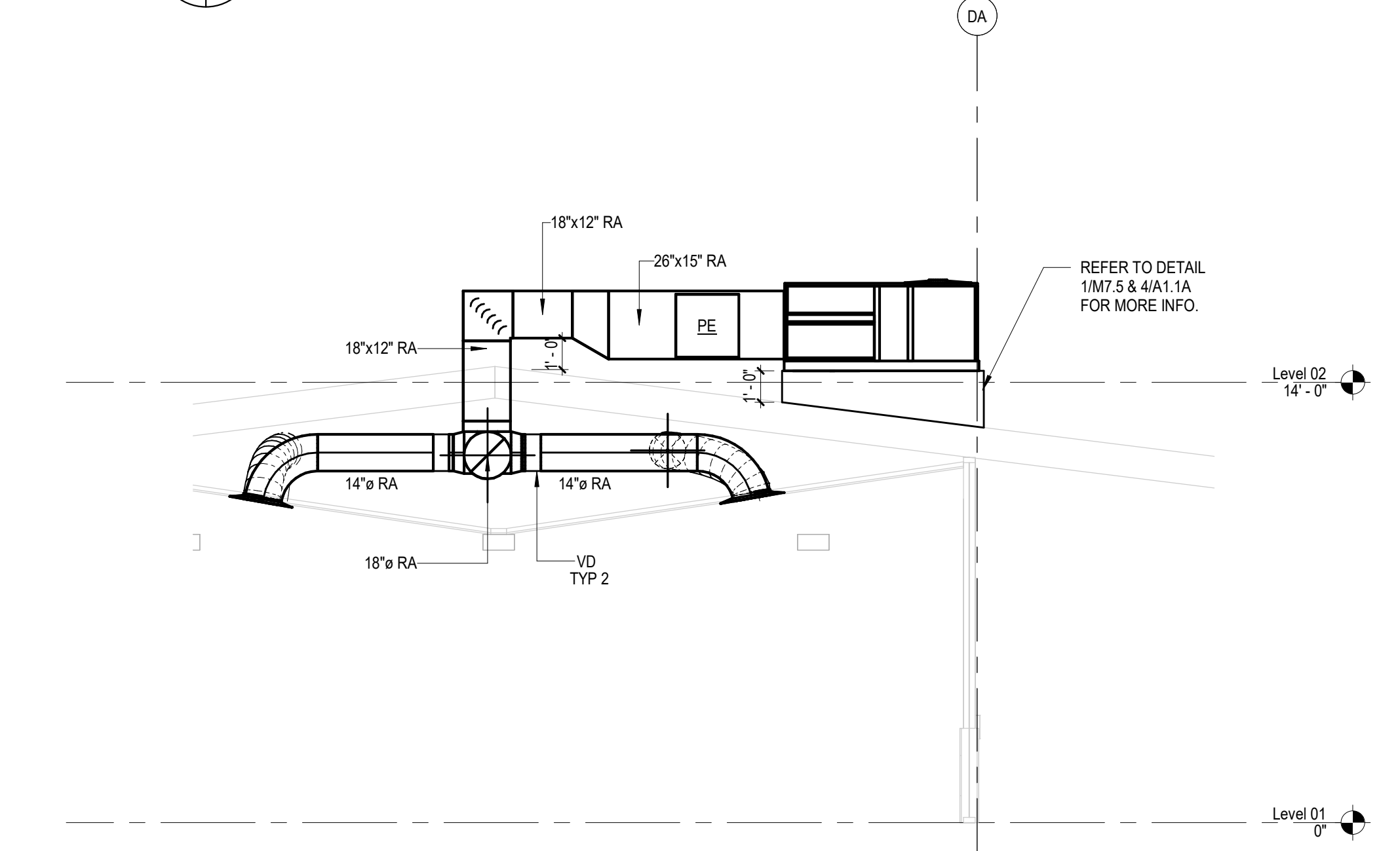
**BUILDING J MECHANICAL ROOF PLAN**  
 SCALE: 1/8" = 1'-0"



**BUILDING K MECHANICAL ROOF PLAN**  
 SCALE: 1/8" = 1'-0"



**BUILDING SECTION 1**  
 SCALE: 1/4" = 1'-0"



**BUILDING SECTION 2**  
 SCALE: 1/4" = 1'-0"

Autodesk Docs/175-22605-00\_CVUSD - District Wide HVAC Replacement/75-22605-00\_CVUSD\_Rowland ES MEP\_2022.rvt  
 1/25/2023 4:14:14 PM

1  
2  
3  
4  
5

A

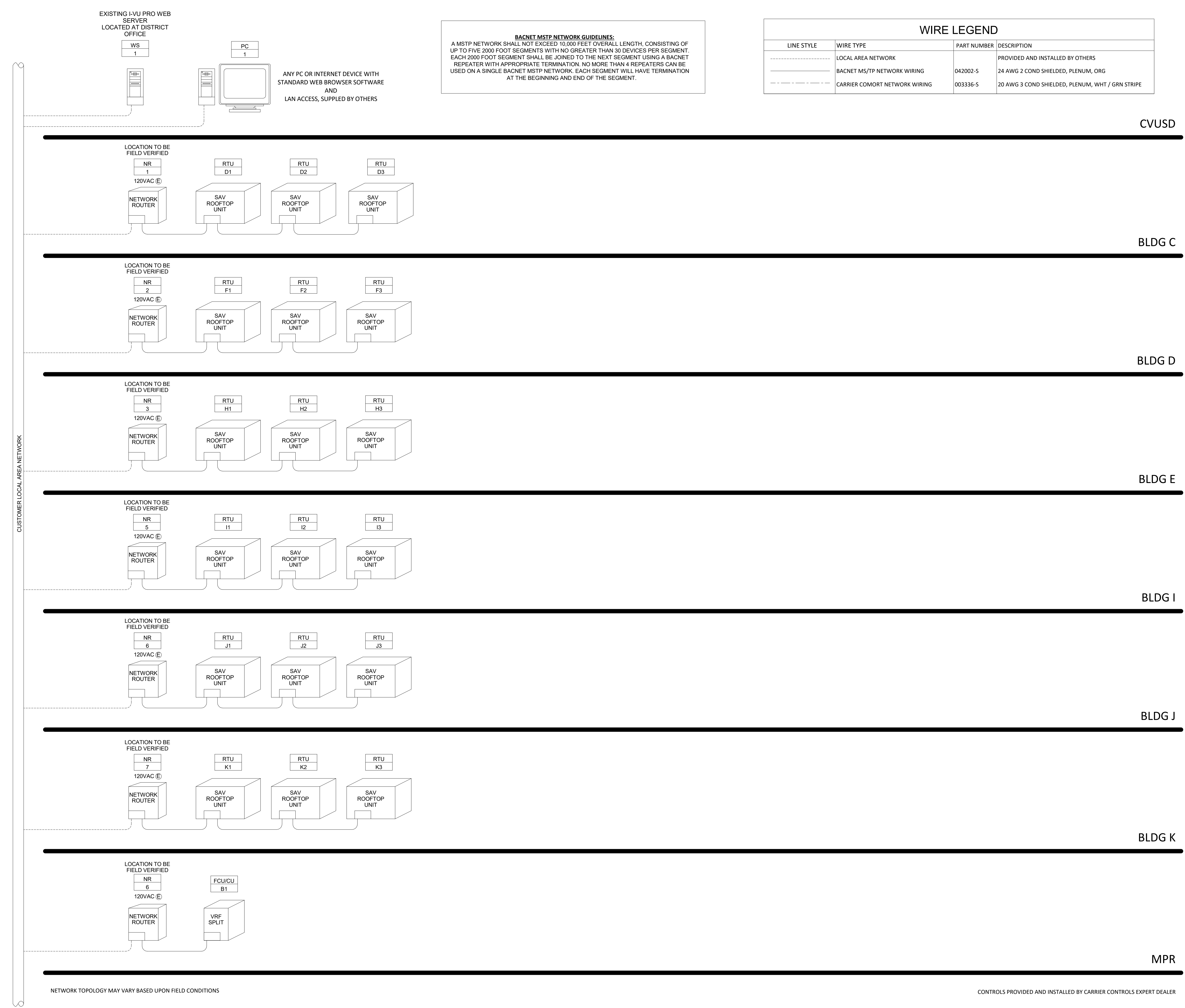
B

C

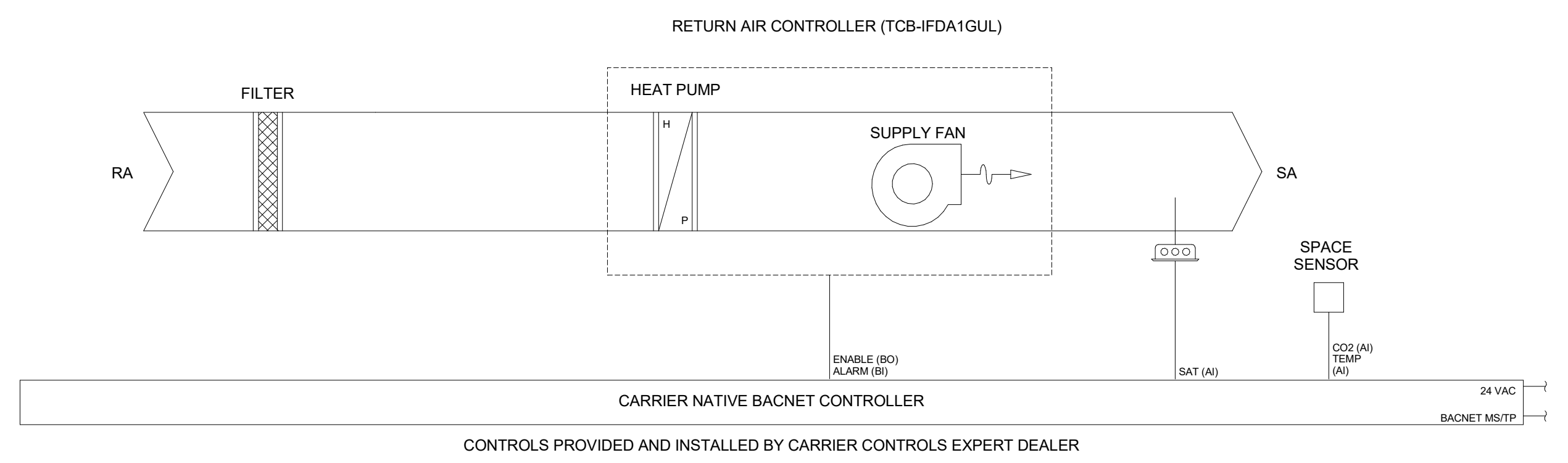
D

E

F



**BACS RISER DIAGRAM**  
 M5.1 NO SCALE



SPLIT SYSTEM DETAIL (FCU/CU-B1)

SCALE	1
NONE	

**SEQUENCE OF OPERATION FOR CVUSD ROWLAND ES**

**HEAT PUMP RTU CONTROLLER (RTU-C1 THRU C-3, RTU-D1 THRU D-3, RTU-E1 THRU E-3, RTU-H1 THRU I3, RTU-J1 THRU J3, RTU-K1 THRU K3, RTU-G1 AND G2)**

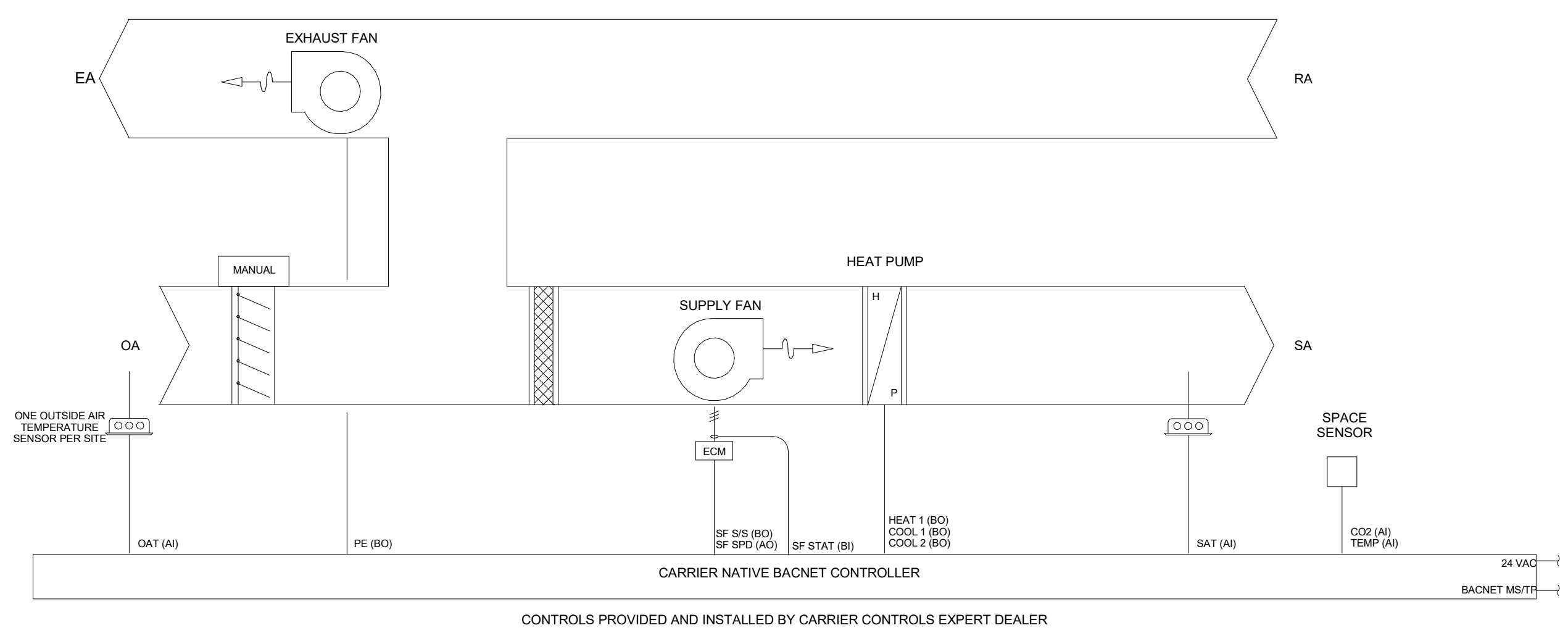
**Indoor Fan**  
 The fan operates at a variable speed to meet the load conditions and SAT safety requirements to provide maximum energy savings by minimizing fan horsepower consumption. Fan speed is NOT controlled by static pressure.

**Heating Mode**  
 When space temperature is below the occupied heating setpoint, unit shall operate in the heating mode. Unit shall stage available heat stages to satisfy demand in the occupied space.

**Cooling Mode**  
 When space temperature is above occupied cooling setpoint, unit shall operate in the cooling mode. Unit shall enable available cooling stages to satisfy demand in the occupied space.

**CO2 Control**  
 Unit shall monitor space CO2 when the supply fan is energized. When CO2 is above setpoint of 1000 PPM, an alarm shall be enabled through the EMS.

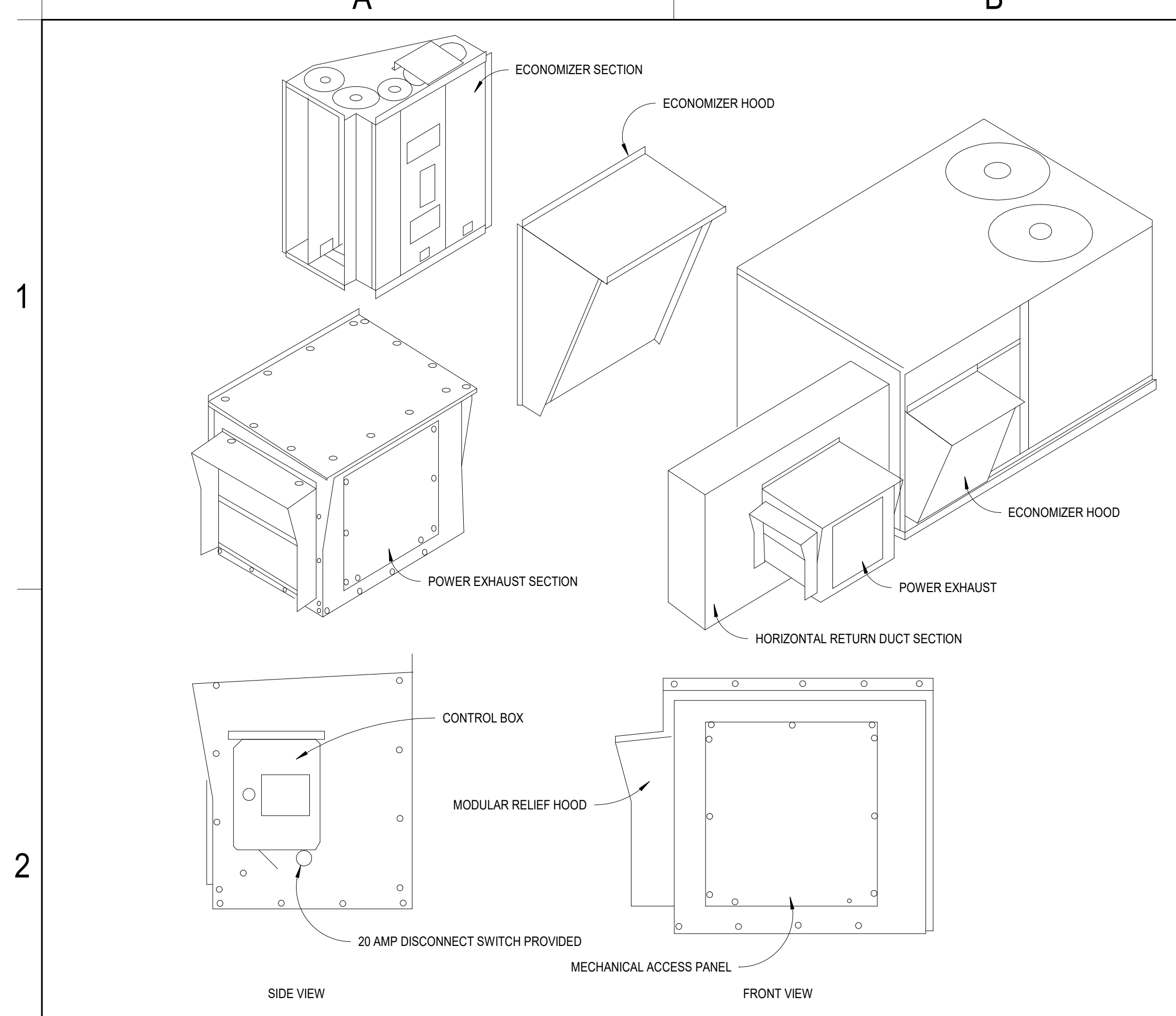
**Power Exhaust**  
 The exhaust fan shall run when the unit is occupied



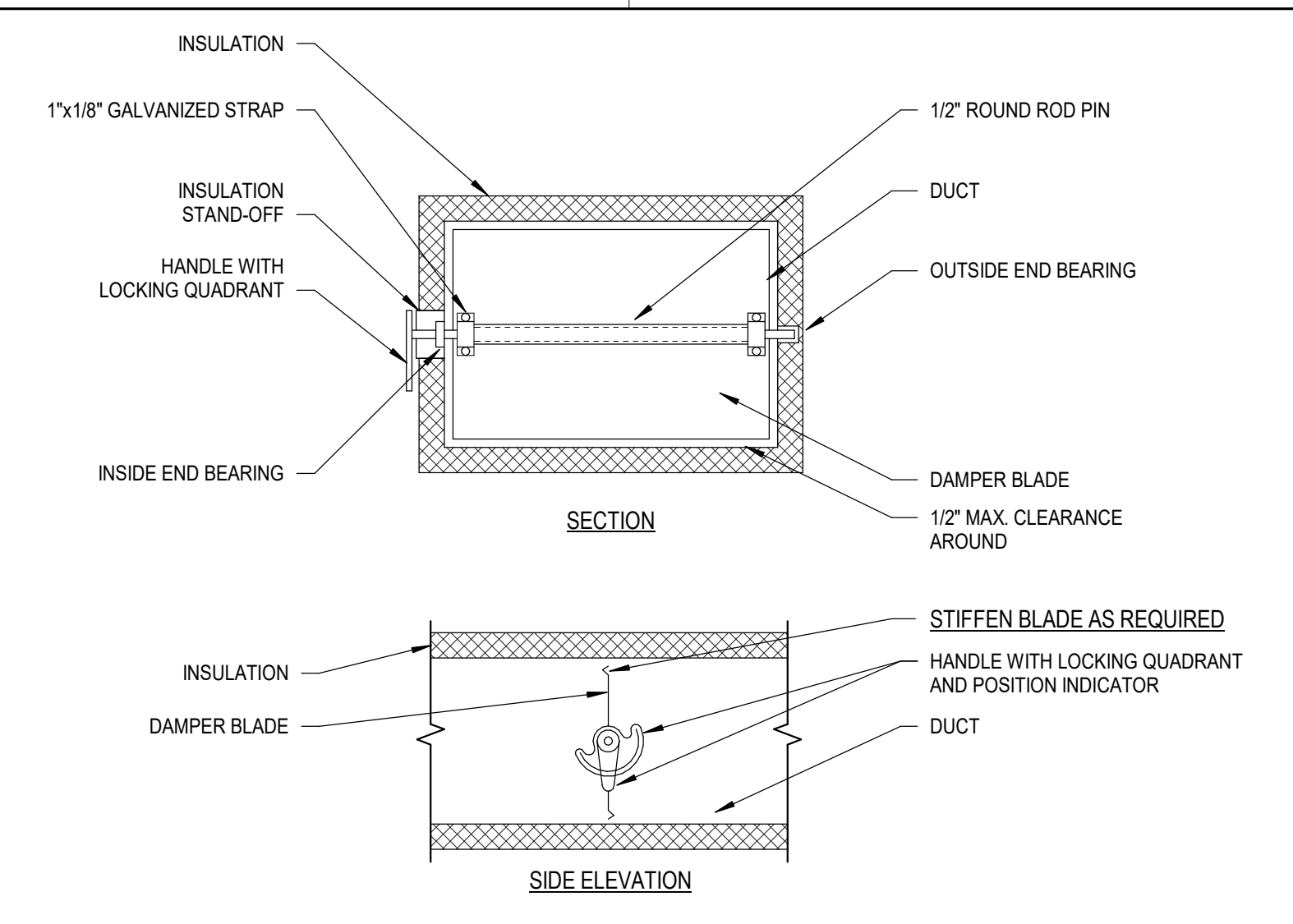
50FCQ HEAT PUMP RTU DETAIL (RTU-D1 THRU D-3, RTU-F1 THRU F3, RTU-I1 THRU I3, RTU-J1 THRU J3, RTU-K1 THRU K3, RTU-H1 AND H3)

SCALE	2
NONE	

1 DETAILS  
 M5.2 / NO SCALE

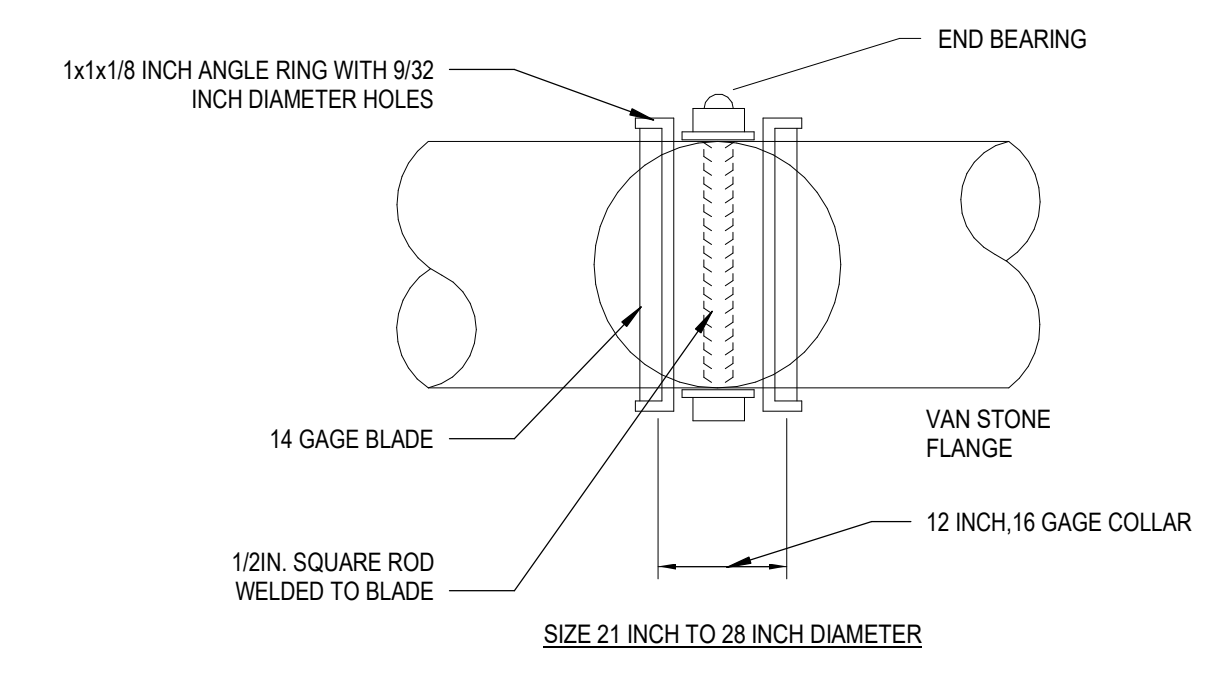
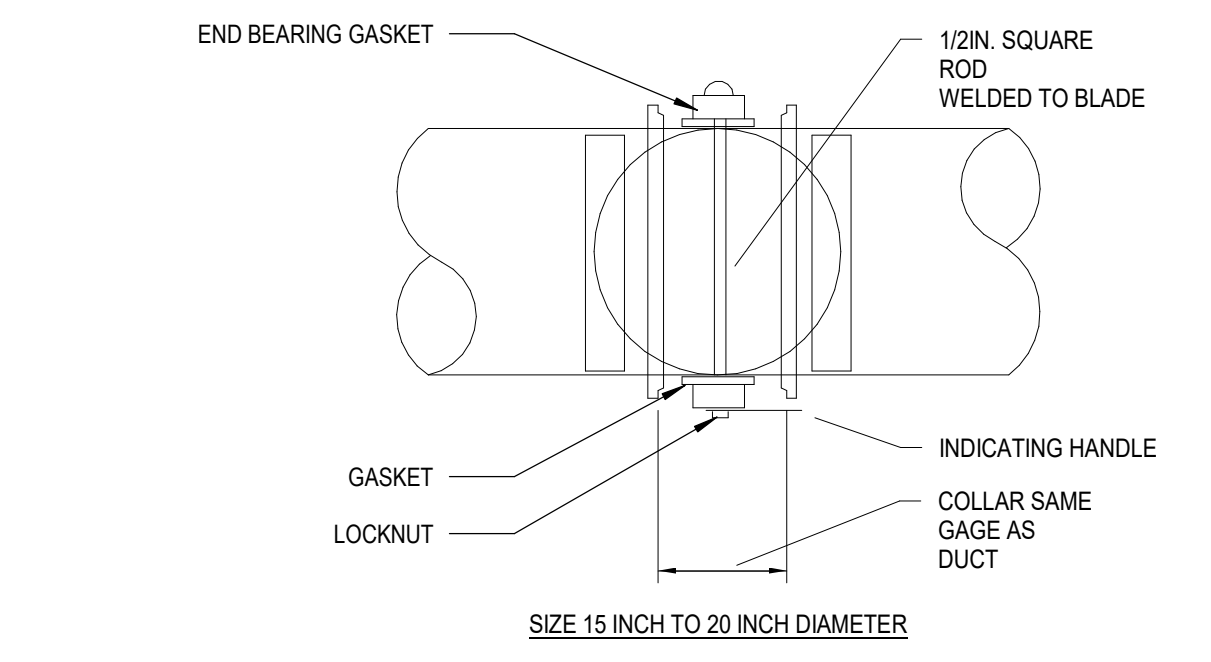


**1 ECONOMIZER AND POWER EXHAUST DETAIL - HORIZONTAL DISCHARGE RTU (LESS THAN 15 TONS)**  
 M7.1 NO SCALE

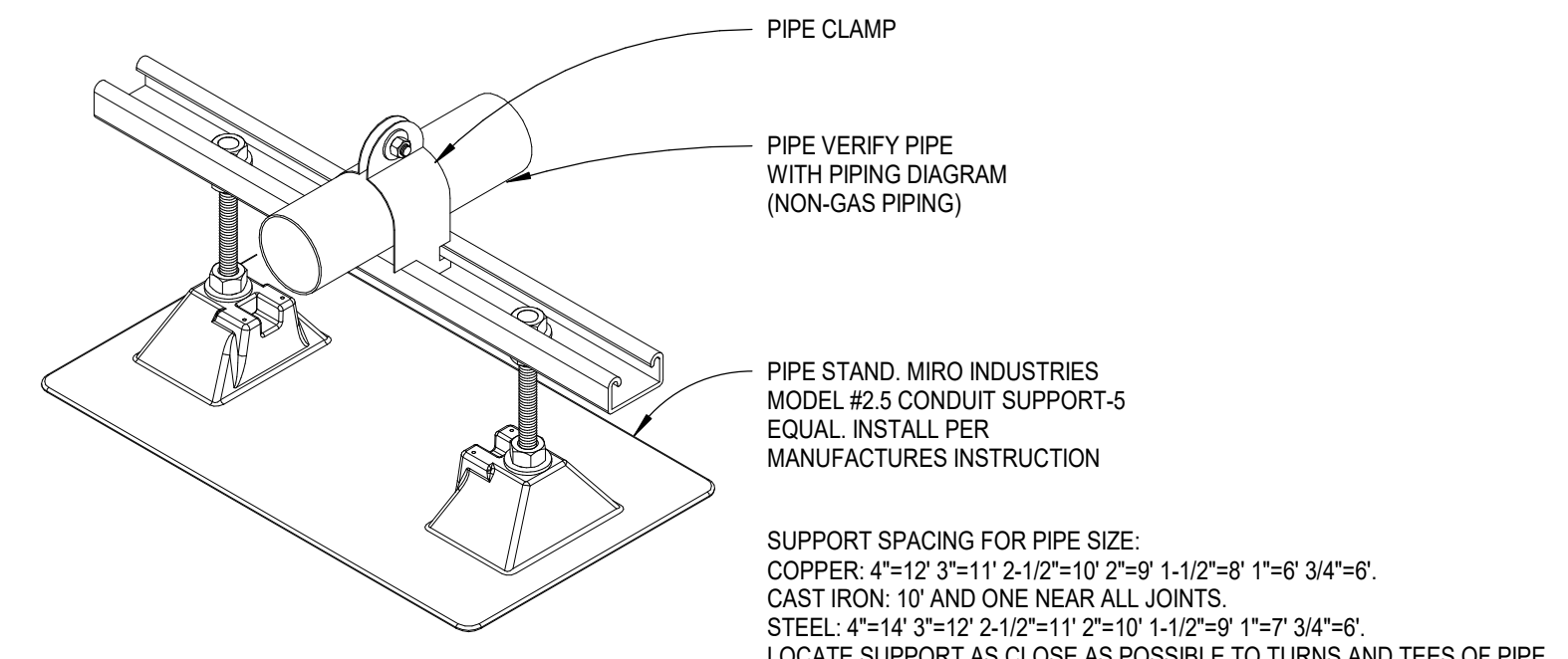


- DELETE INSULATION STAND-OFF ON DUCTWORK WITHOUT EXTERIOR INSULATION.
- DETAIL SHOWS SINGLE BLADE DAMPER. MULTI-BLADE DAMPERS INSTALLATIONS SHALL BE SIMILAR.
- LOCK DAMPER DURING AIR BALANCE AND MARK QUADRANT TO RECORD AIR BALANCED DAMPER POSITION.
- PROVIDE "HAT" SECTION AT QUADRANT FOR ALL EXTERNALLY INSULATED DUCTWORK.
- PROVIDE FLUORESCENT COLORED MARKERS ON CEILING AT ALL VOLUME DAMPER LOCATIONS.

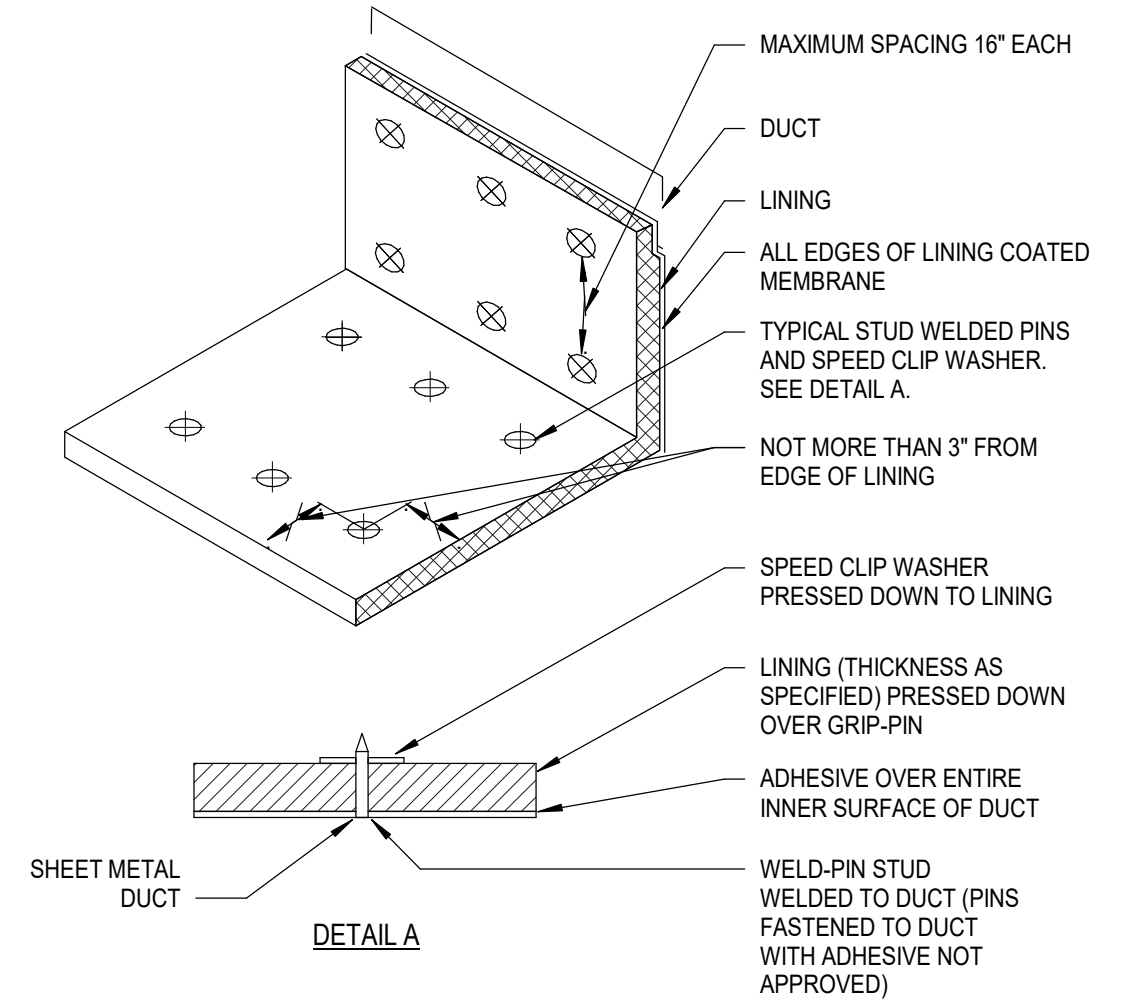
**2 RECTANGULAR VOLUME DAMPER DETAIL**  
 M7.1 NO SCALE



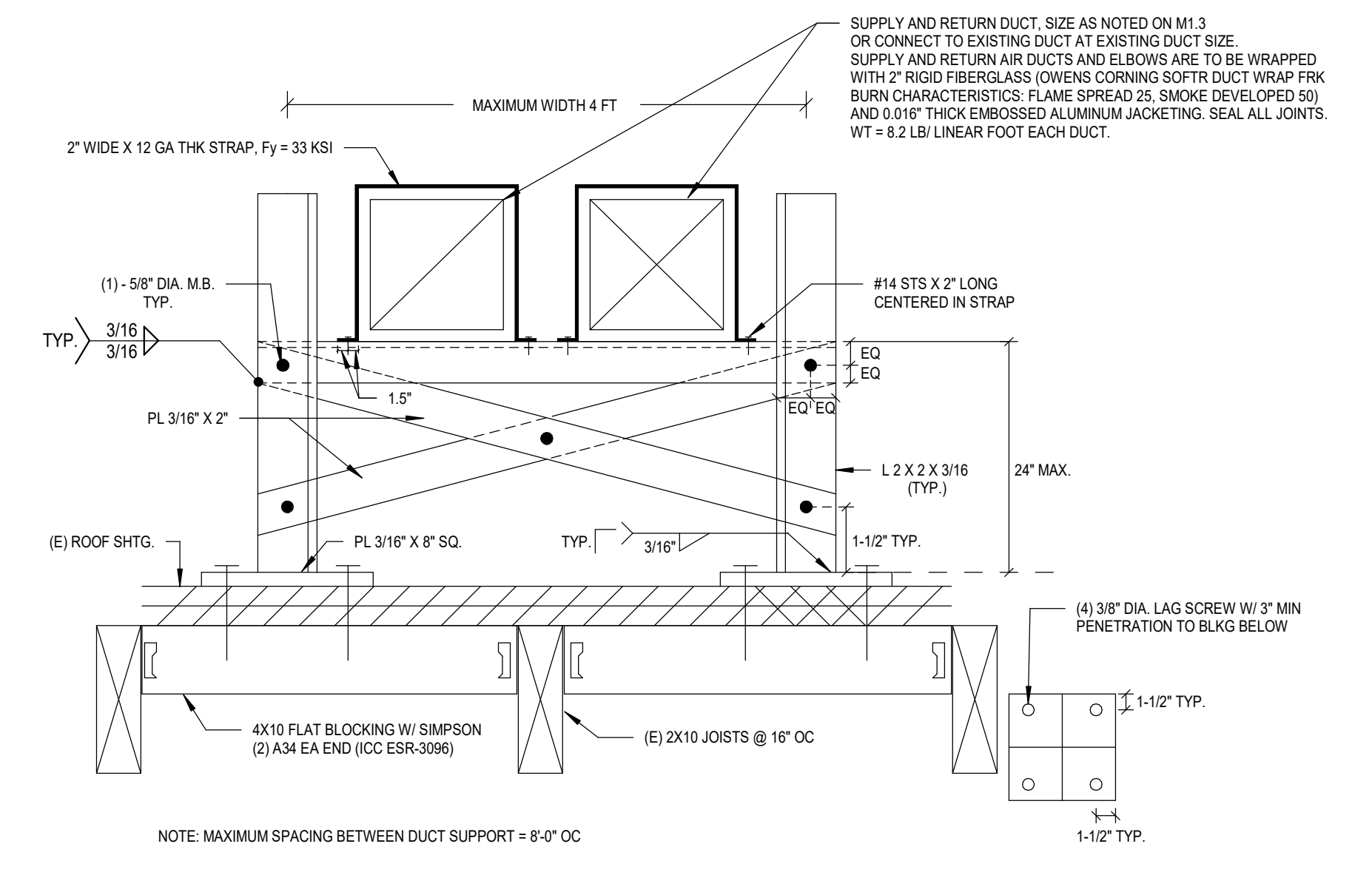
**3 ROUND VOLUME DAMPER (LARGER THAN 14" DIA.)**  
 M7.1 NO SCALE



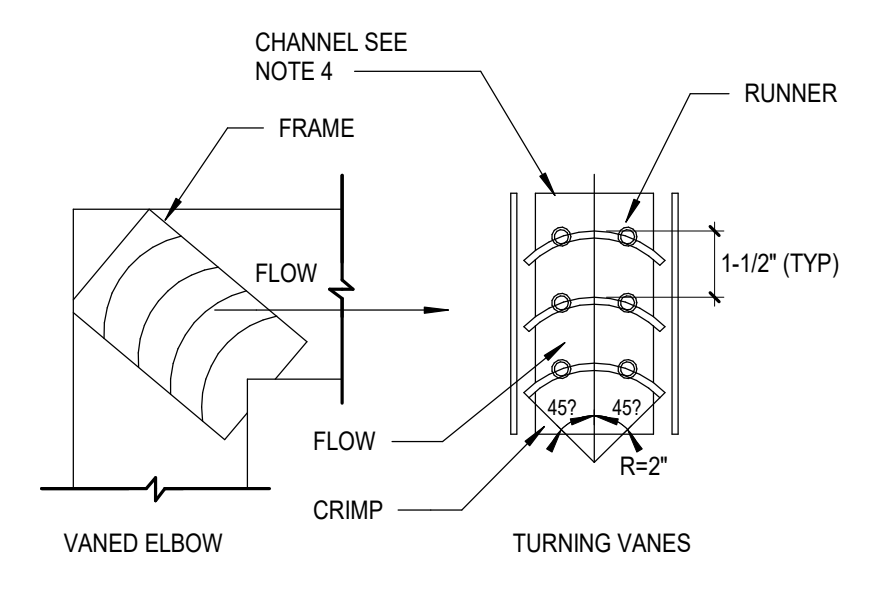
**5 PIPE SUPPORT ON ROOF DETAIL**  
 M7.1 NO SCALE



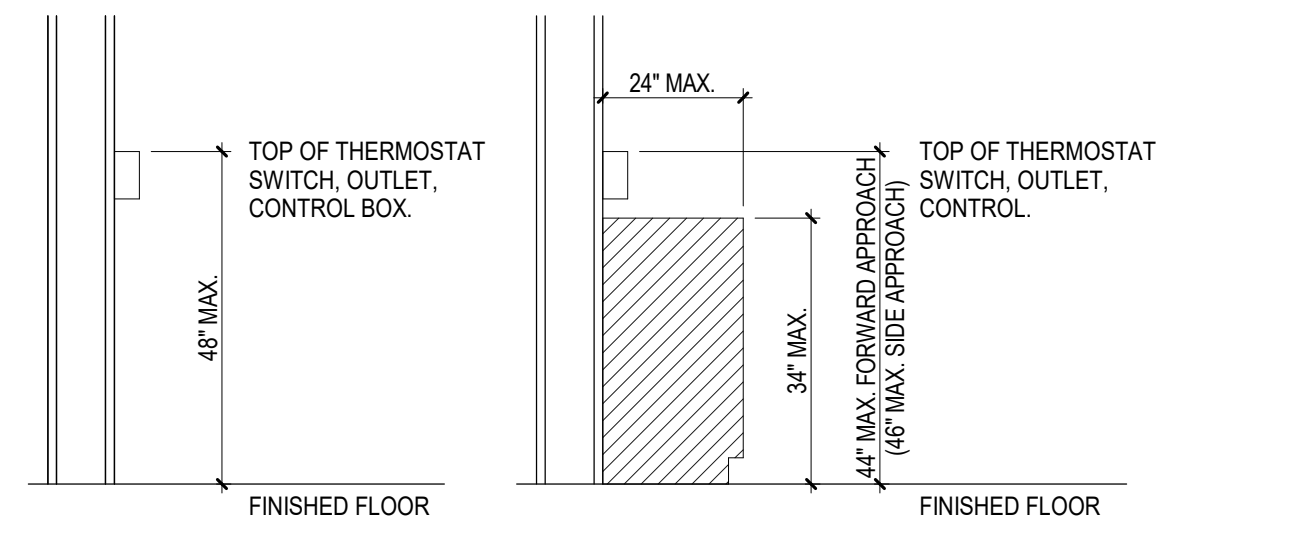
**6 ACOUSTICAL DUCT LINING INSTALLATION DETAIL**  
 M7.1 NO SCALE



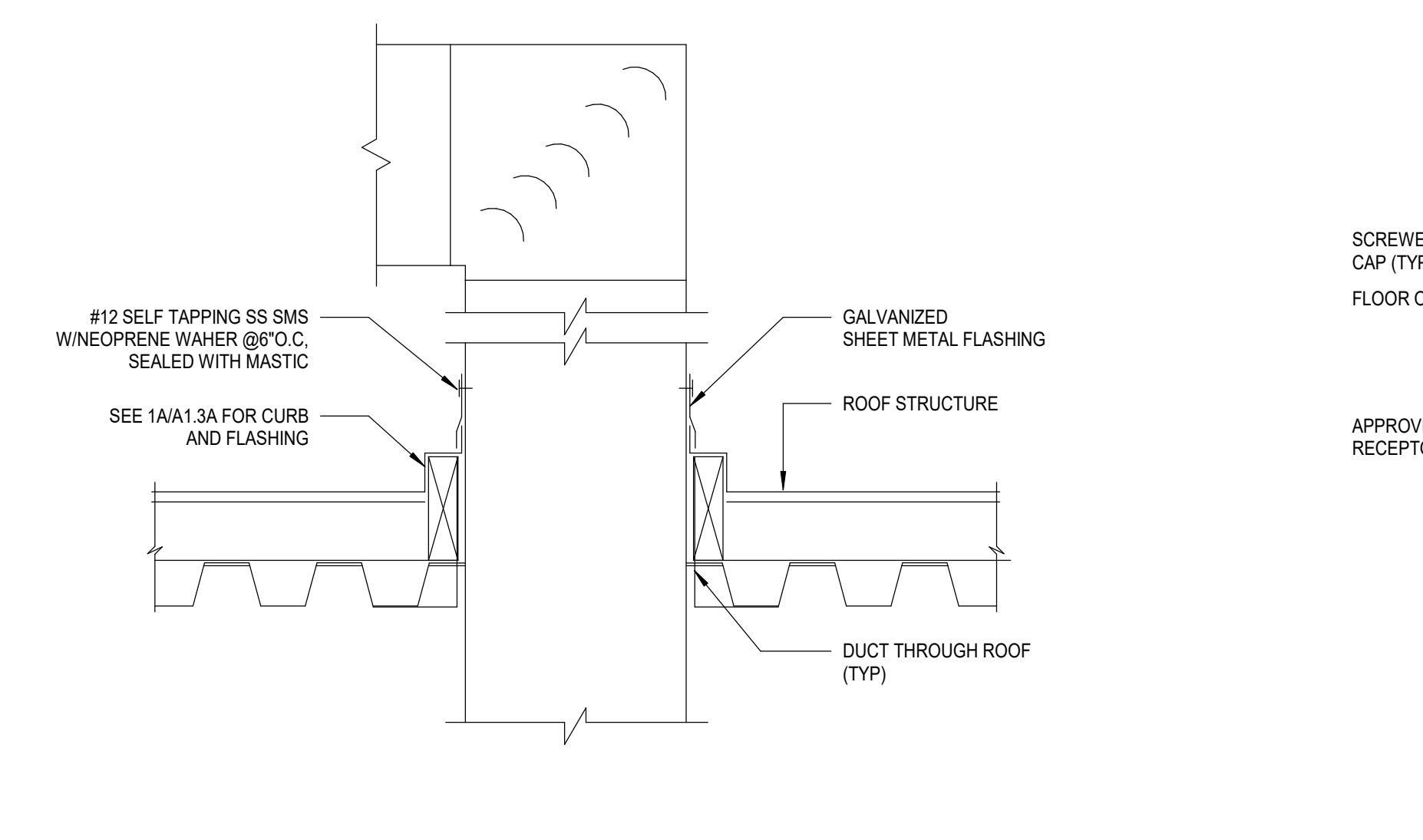
**4 DUCT SUPPORT ON ROOF DETAIL**  
 M7.1 NO SCALE



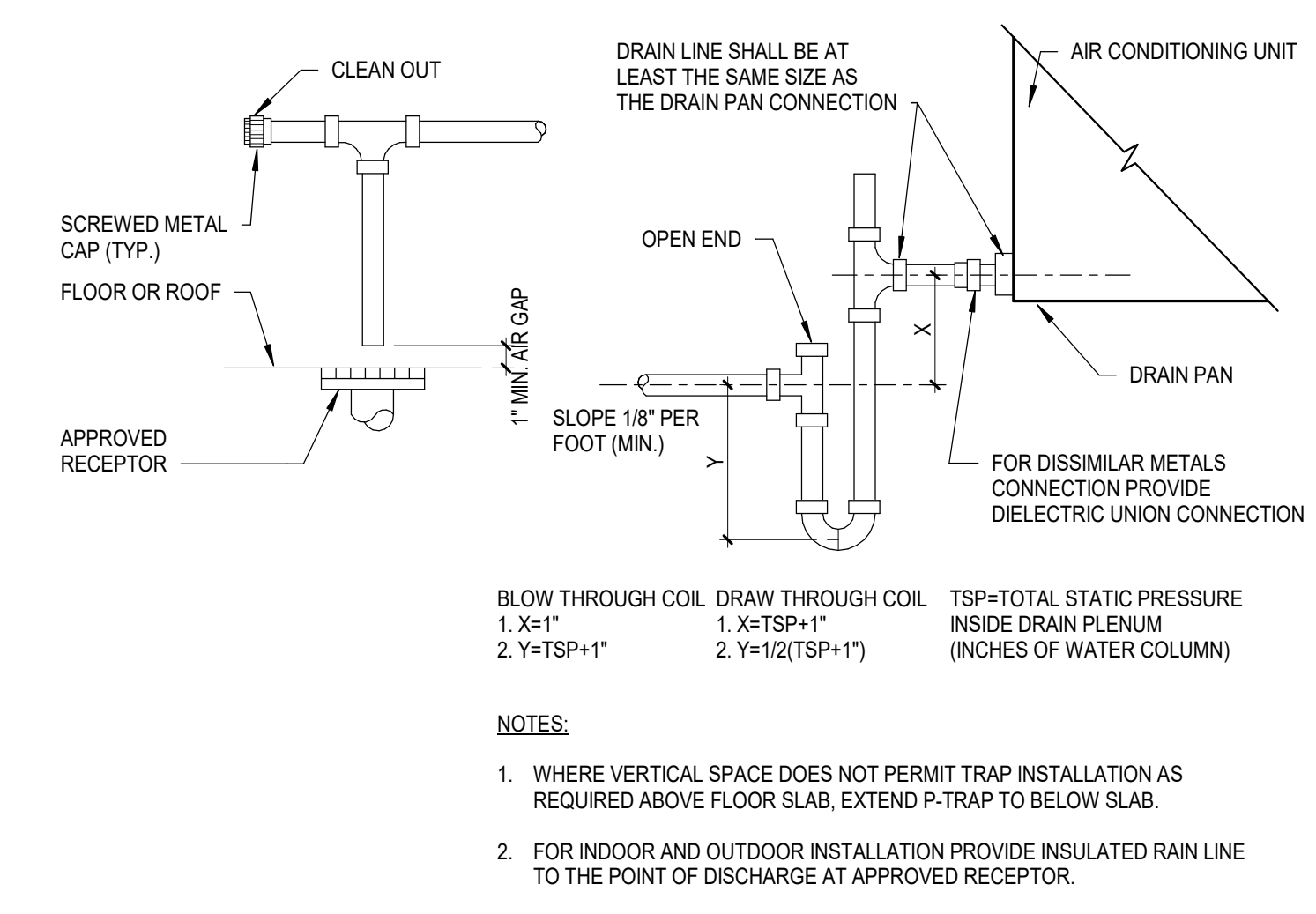
**7 RECTANGULAR ELBOW W/ TURNING VANES DETAIL**  
 M7.1 NO SCALE



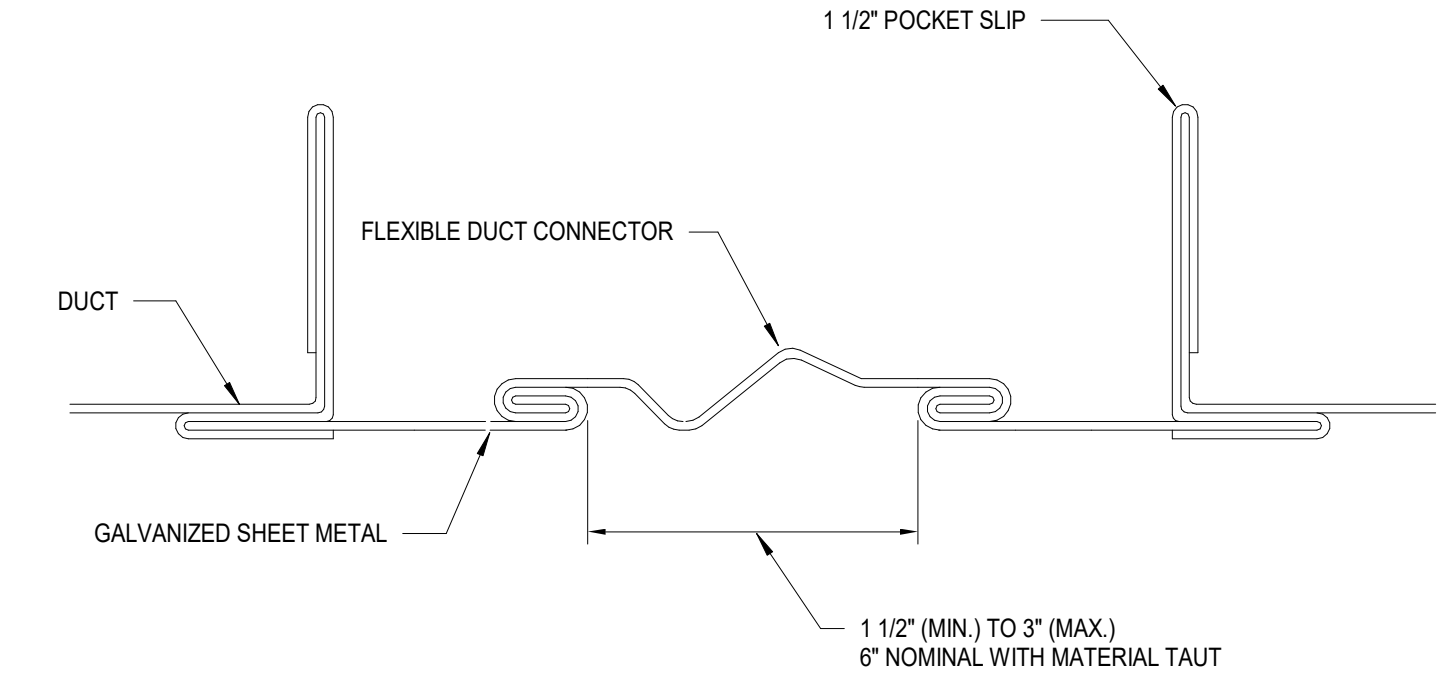
**8 THERMOSTAT MOUNTING**  
 M7.1 NO SCALE



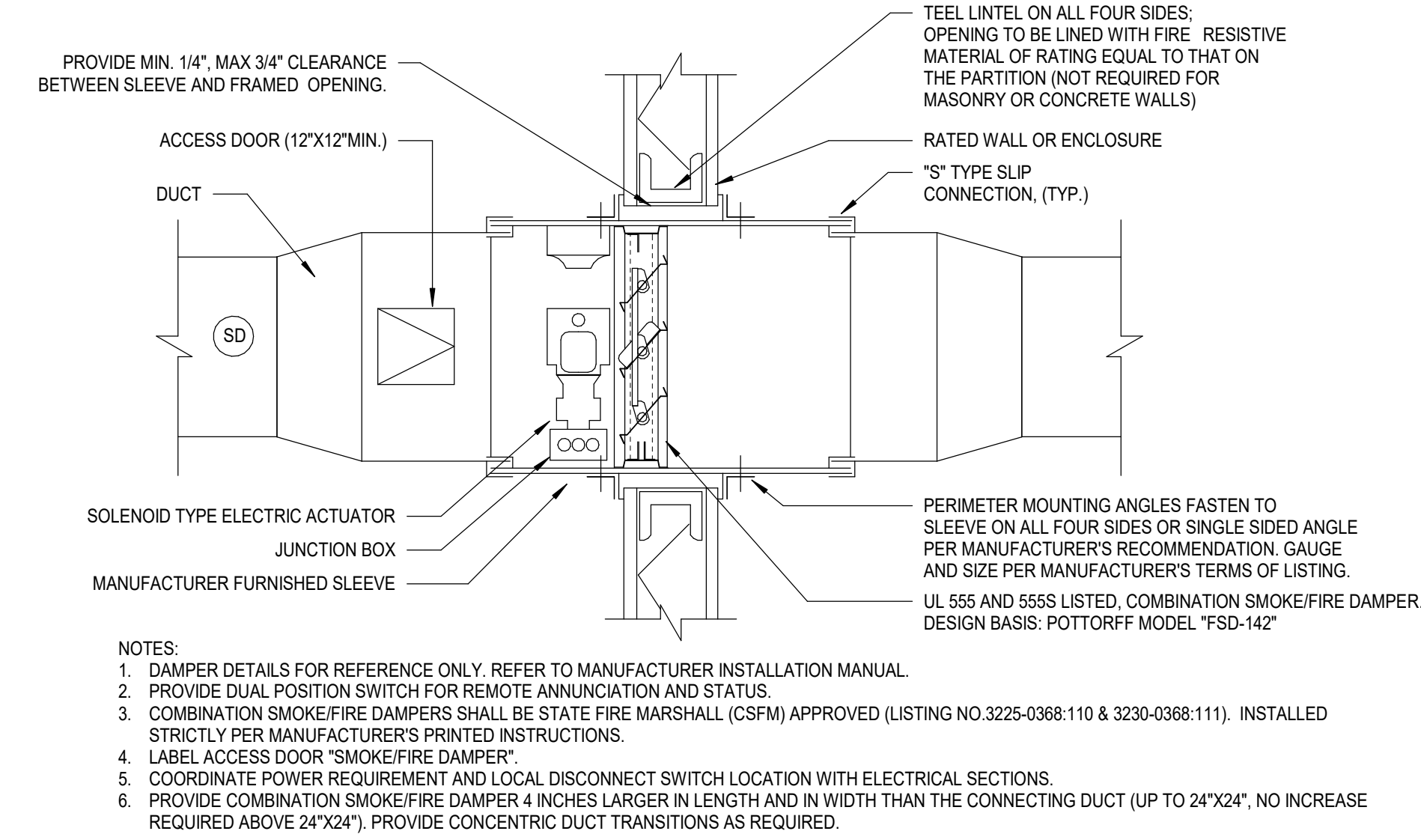
**9 DUCT THRU ROOF PENETRATION**  
 M7.1 NO SCALE



**10 CONDENSATE DRAIN CONNECTION DETAIL**  
 M7.1 NO SCALE



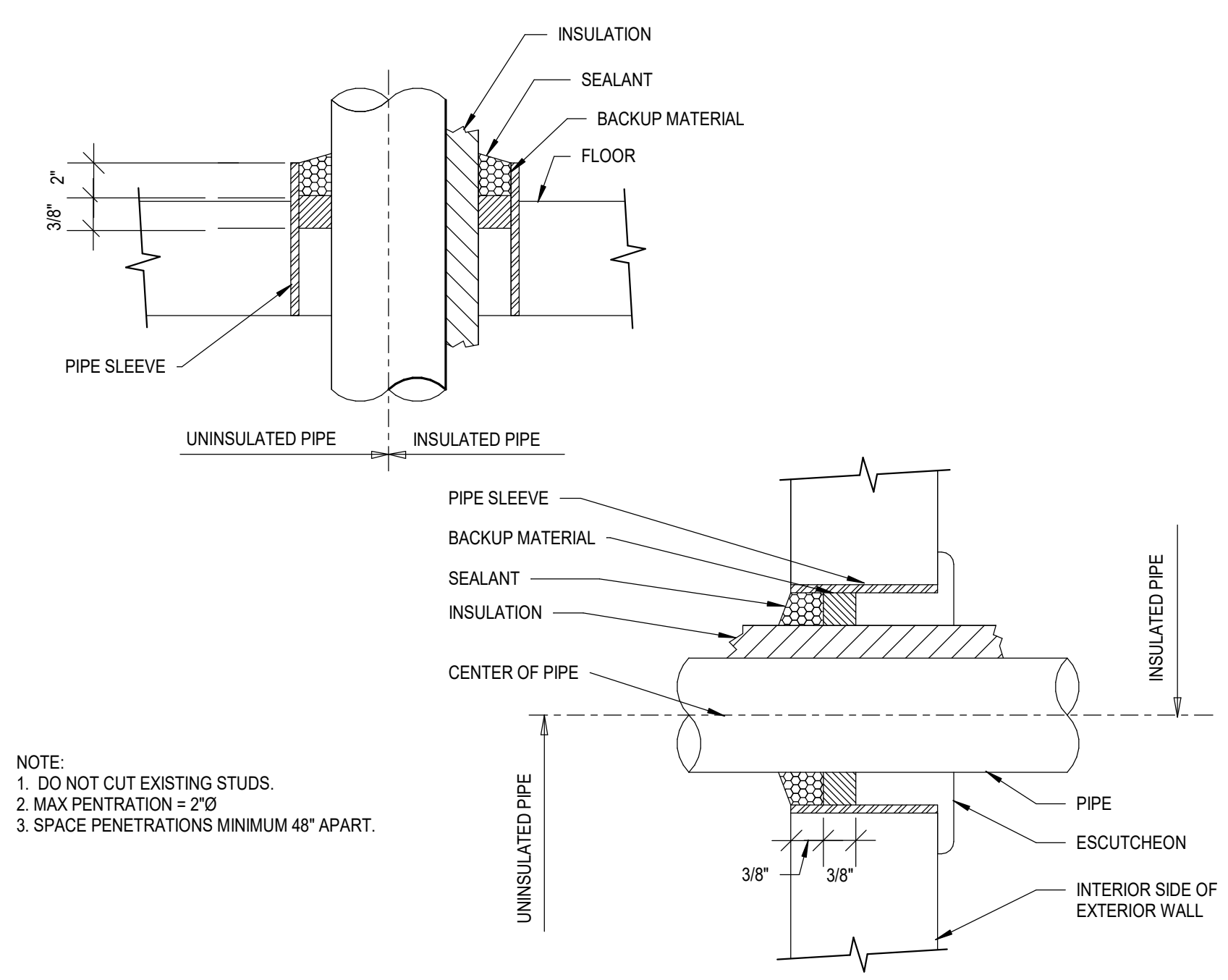
**11 FLEXIBLE DUCT CONNECTION**  
 M7.1 NO SCALE



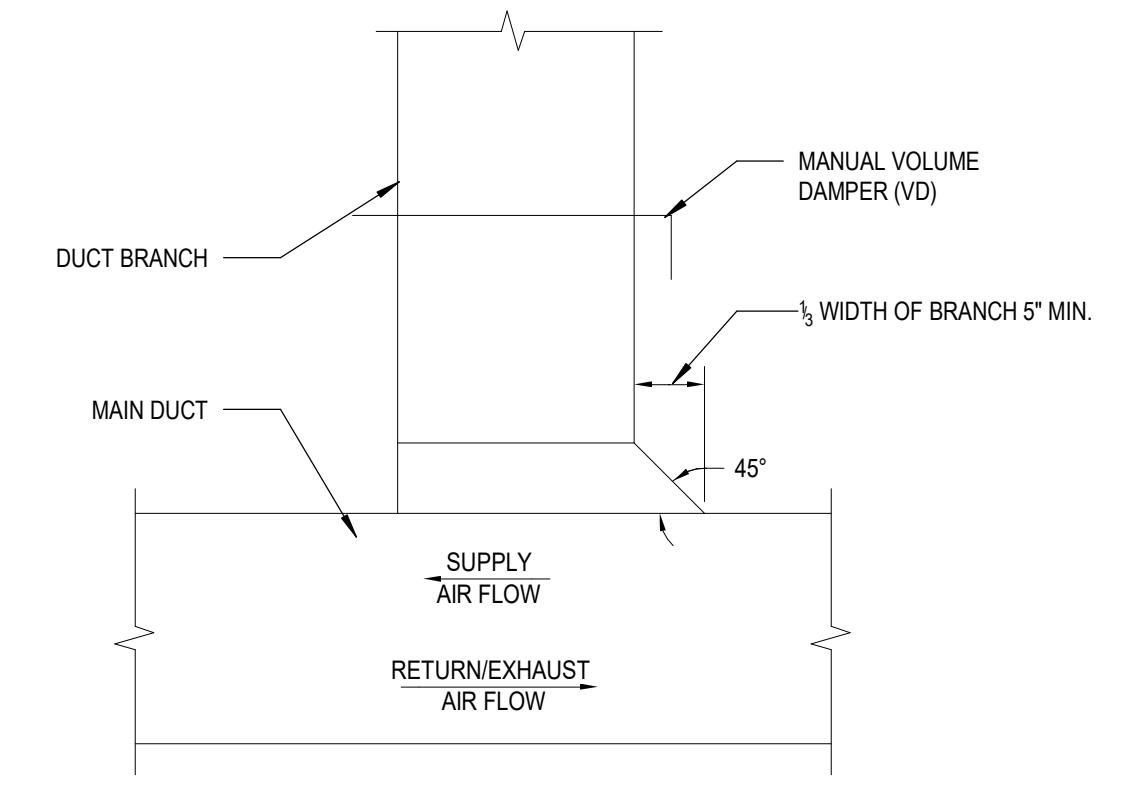
**12 COMBINATION FIRE/SMOKE DAMPER INSTALLATION**  
 M7.1 SCALE: 1/2" = 1'-0"

Autodesk Docs/175-22605-00\_CVUSD - District Wide HVAC Replacement/75-22605-00\_CVUSD\_Rowland ES MEP\_2022.rvt  
 1/25/2023 4:14:16 PM

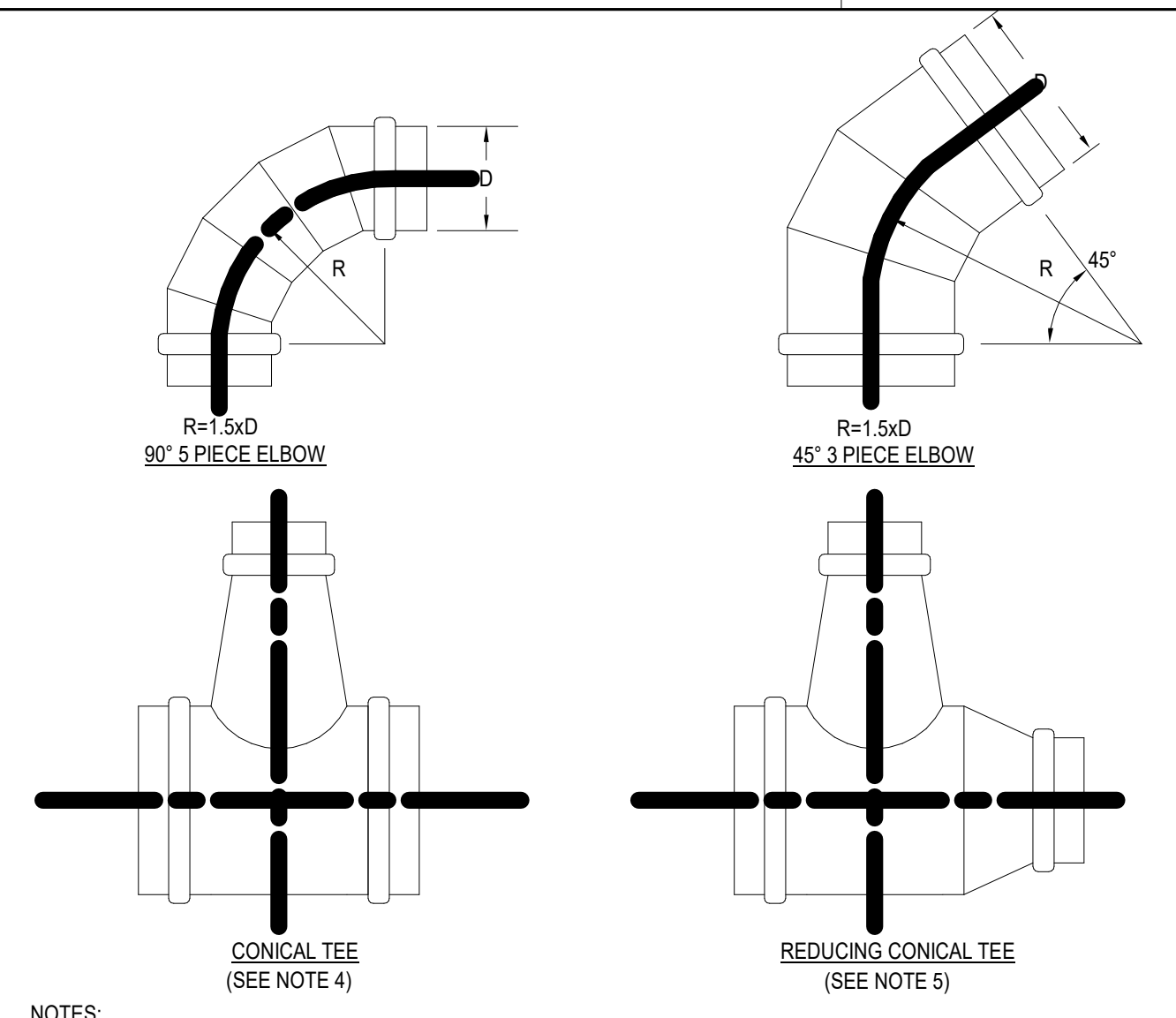
1  
2  
3  
4  
5



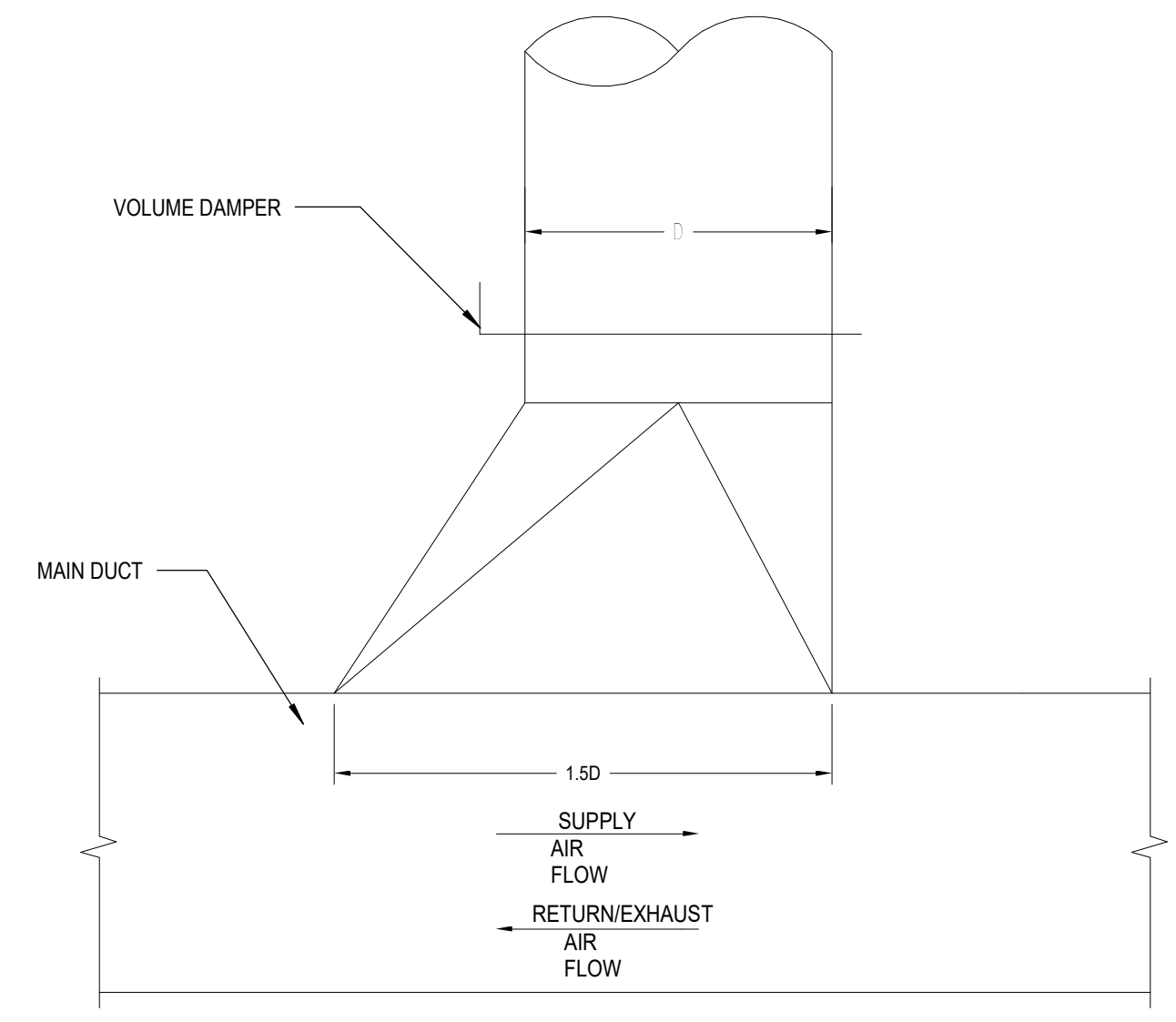
**1 PIPE PENETRATION DETAILS**  
 M7.2 / NO SCALE



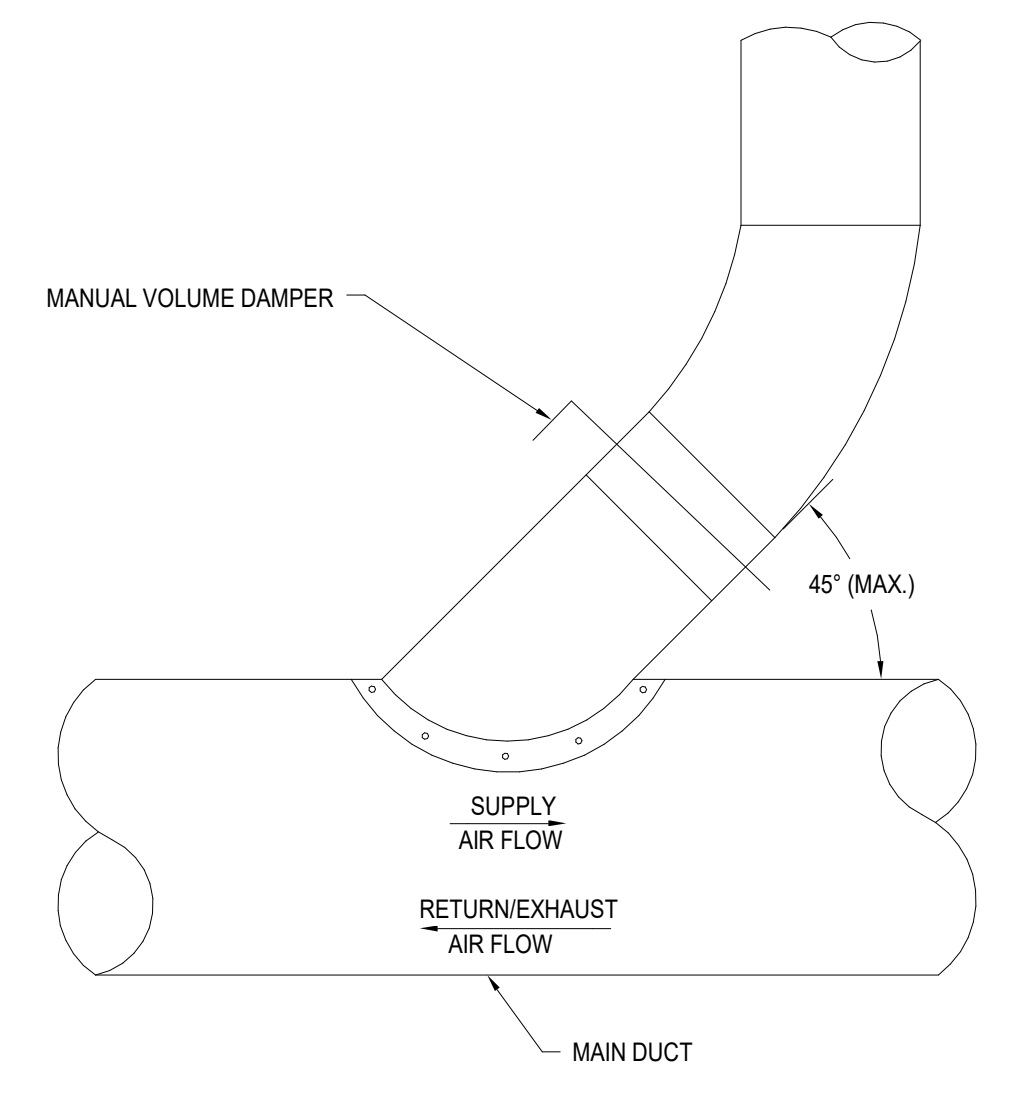
**2 RECTANGULAR DUCT BRANCH TO RECTANGULAR DUCT**  
 M7.2 / NO SCALE



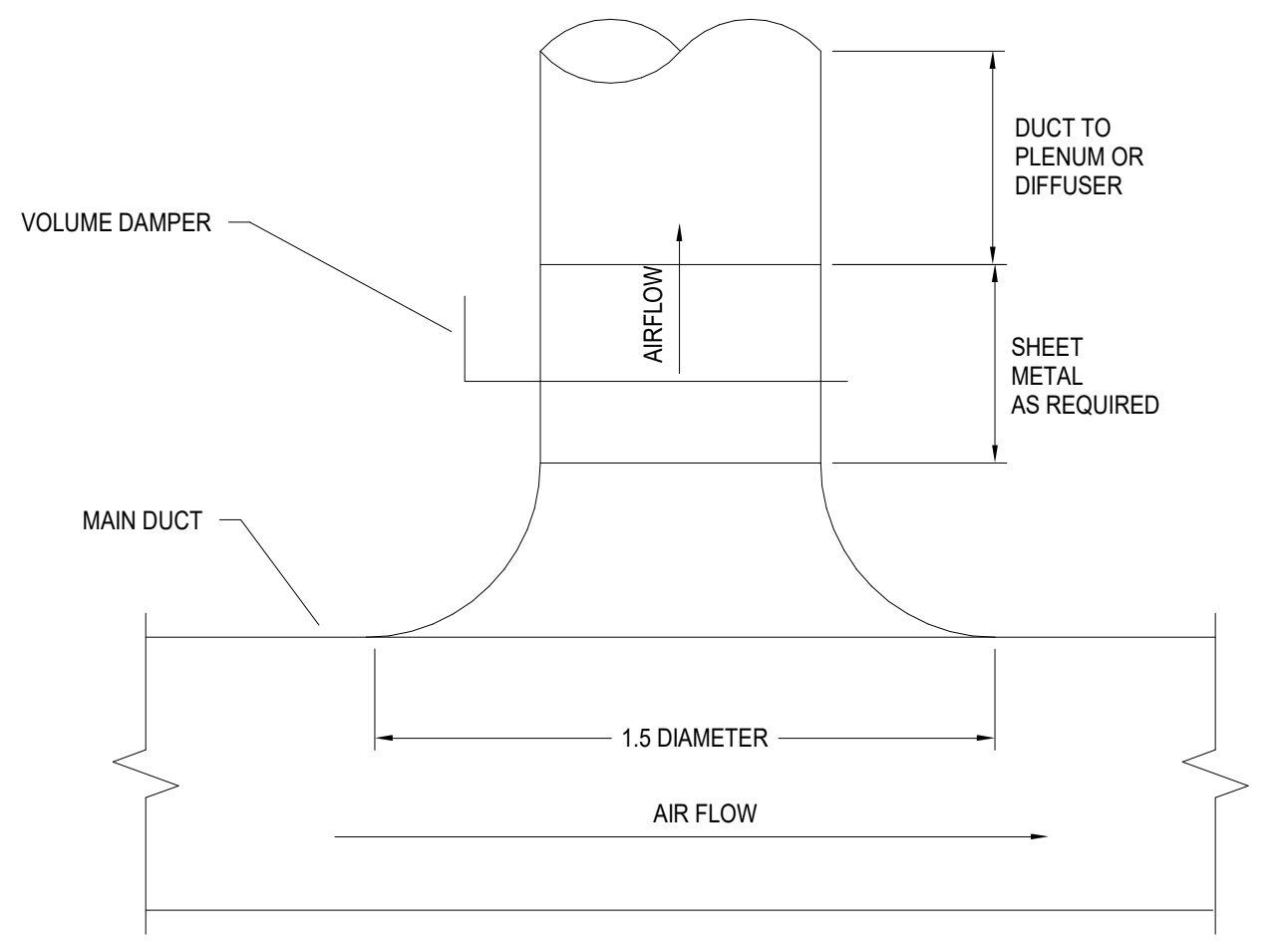
**3 ROUND DUCT FITTINGS**  
 M7.2 / NO SCALE



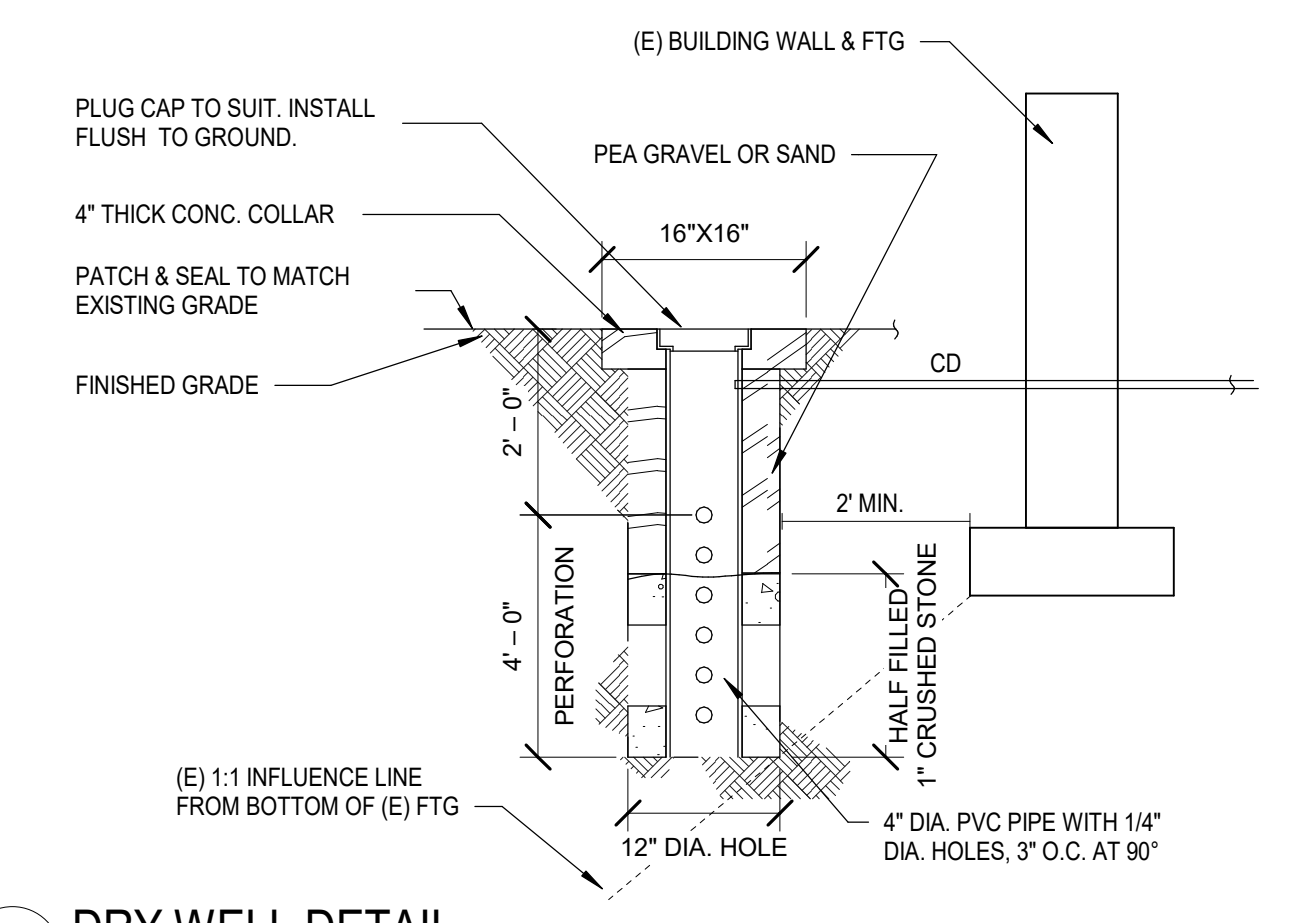
**4 ROUND DUCT BRANCH TO MAIN RECT. CONNECTION**  
 M7.2 / NO SCALE



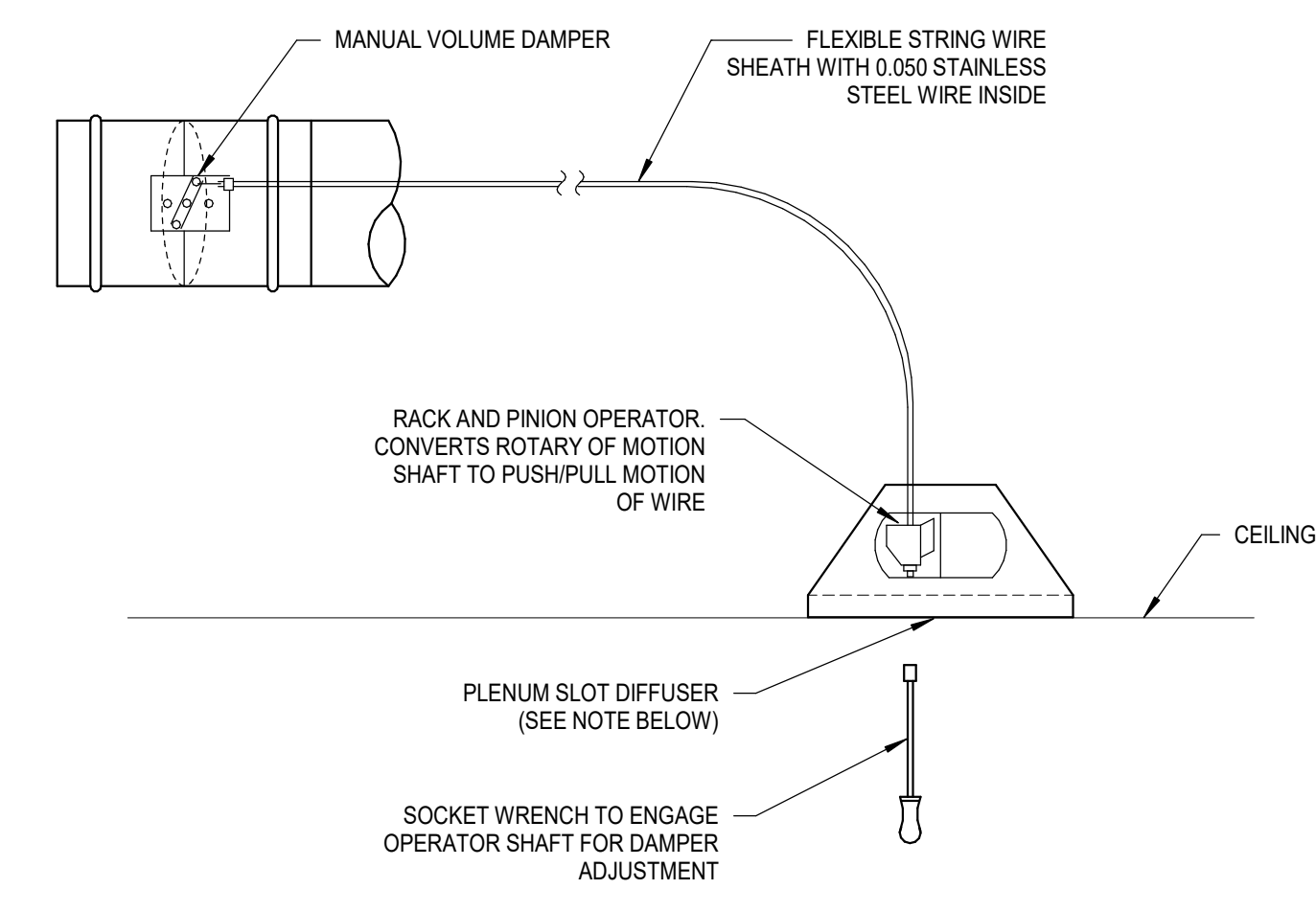
**5 ROUND DUCT BRANCH TO ROUND MAIN CONNECTION**  
 M7.2 / NO SCALE



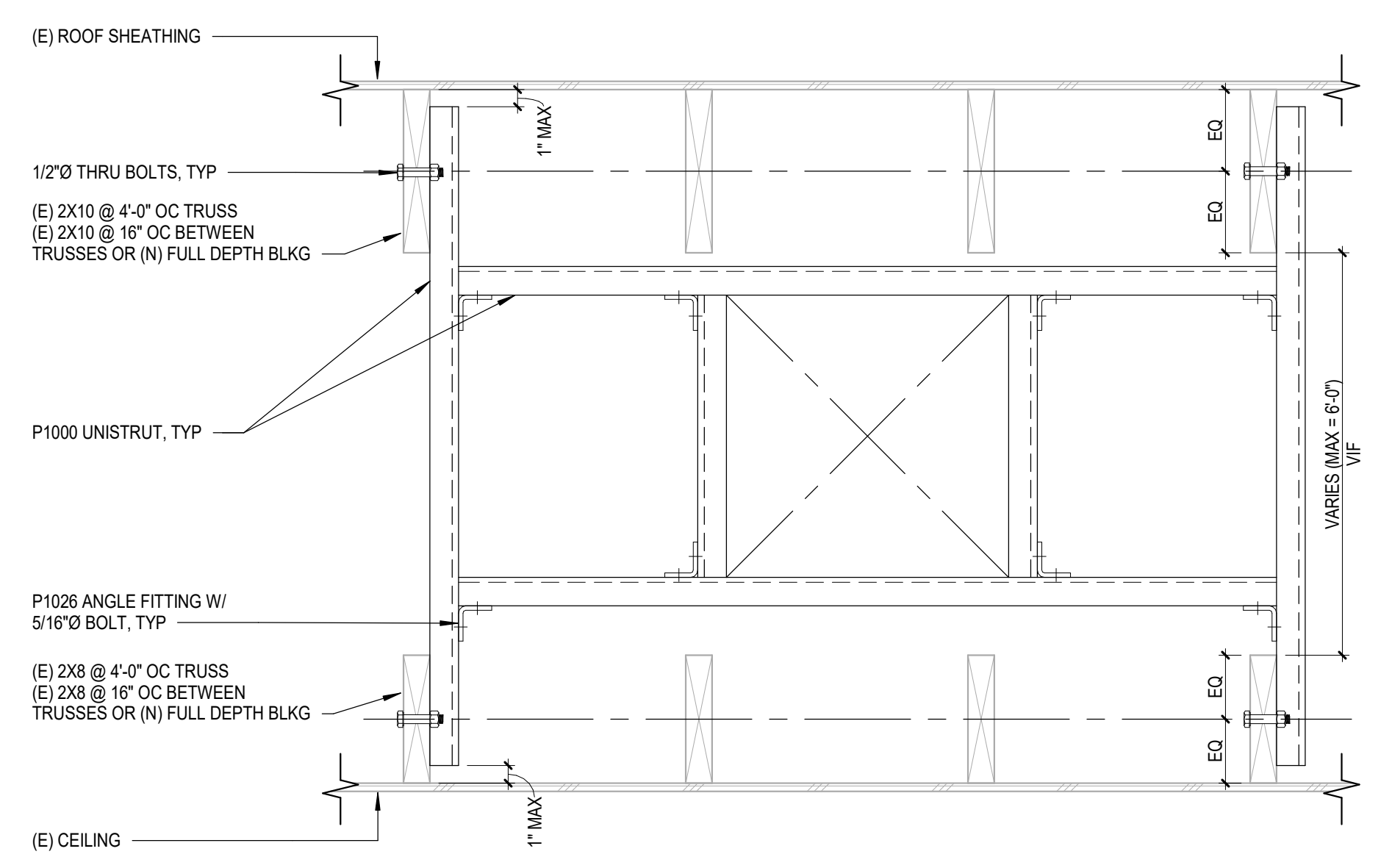
**6 ROUND SUPPLY DUCT BRANCH TO RECTANGULAR DUCT**  
 M7.2 / NO SCALE



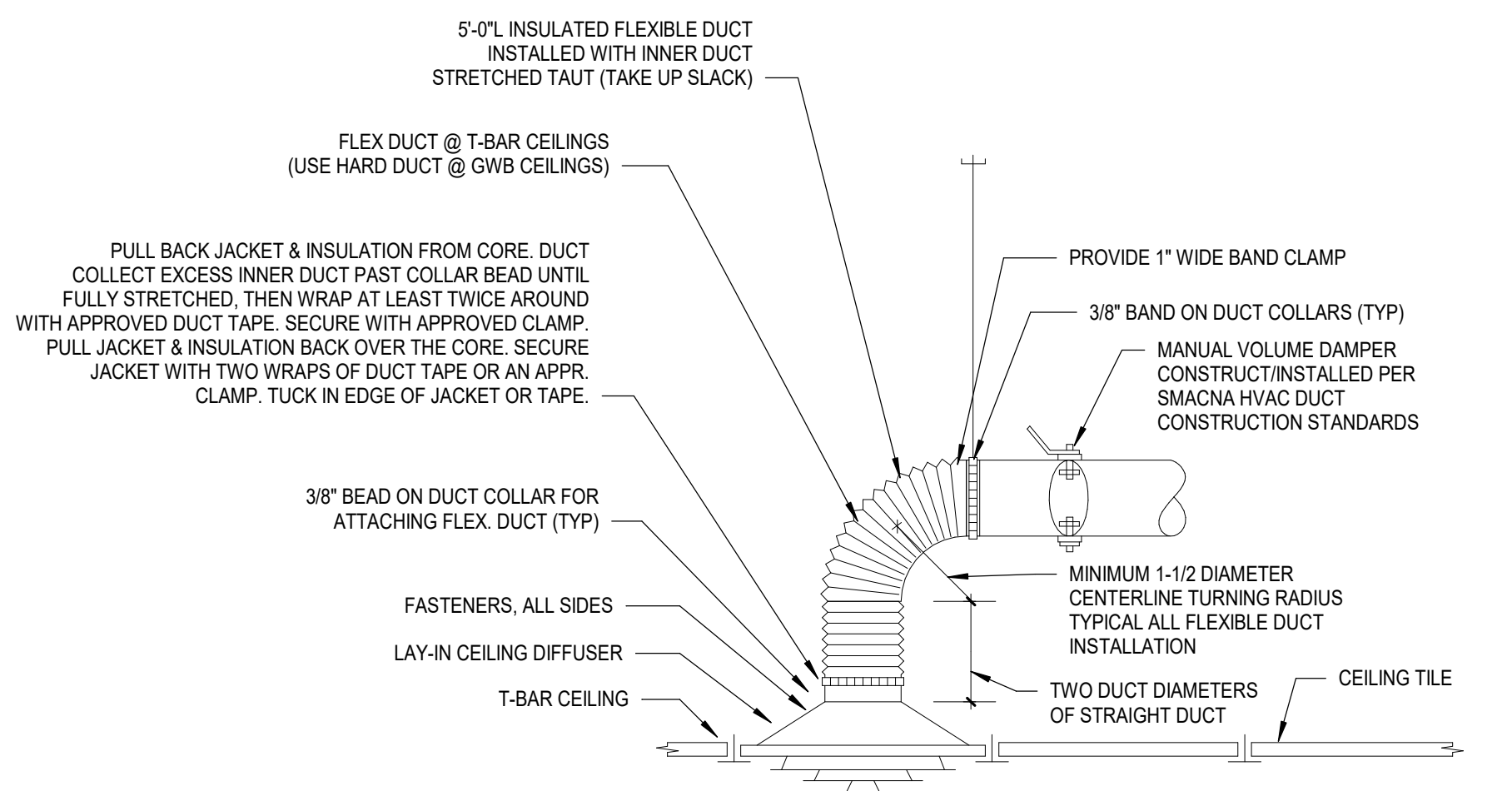
**7 DRY WELL DETAIL**  
 M7.2 / NO SCALE



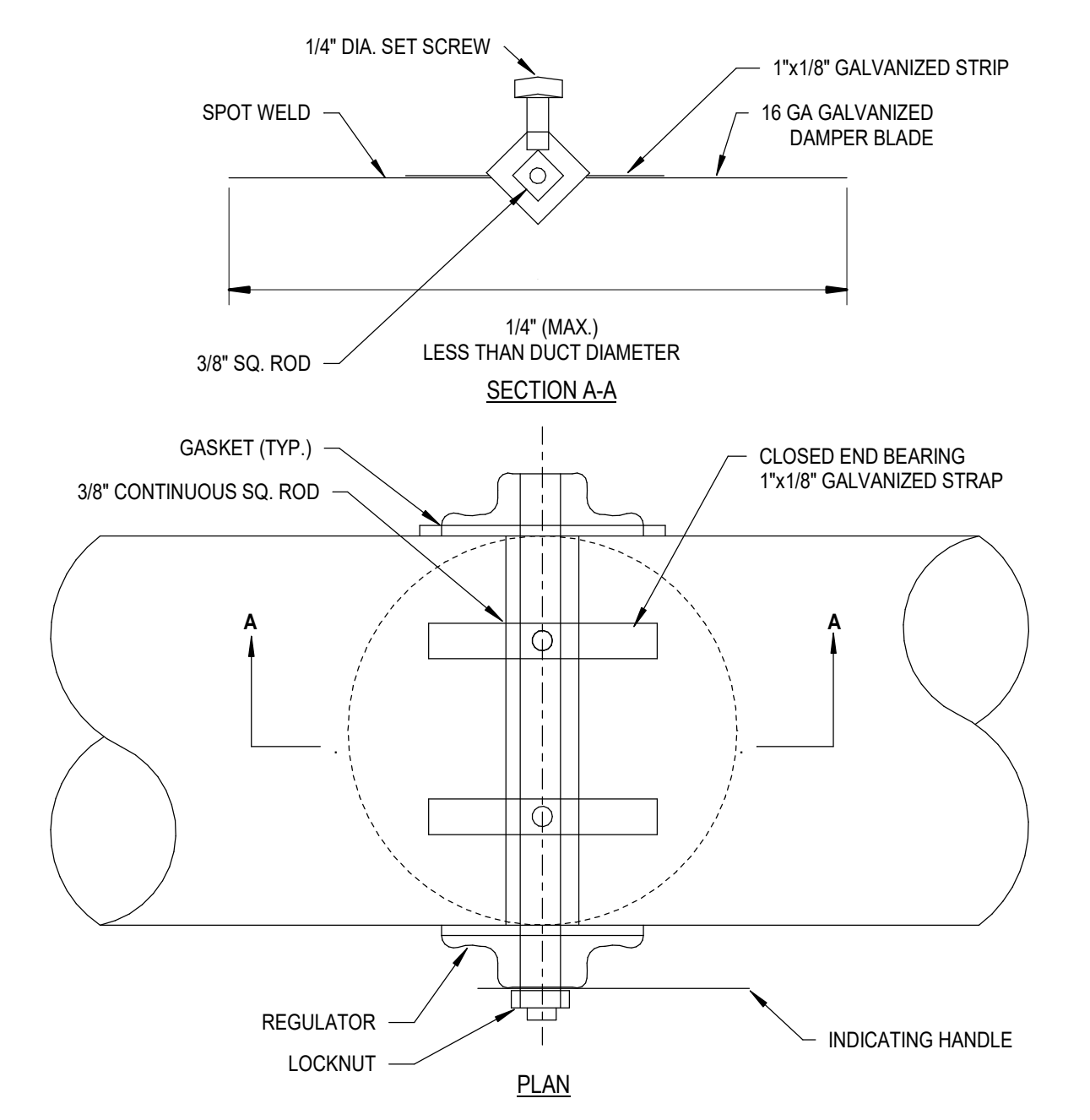
**8 BOWDEN TYPE CABLE CONTROL (YOUNG'S REGULATOR)**  
 M7.2 / NO SCALE



**9 DUCT SUPPORT IN CEILING SPACE**  
 M7.2 / NO SCALE



**10 CEILING SUPPLY DIFFUSER CONNECTION DETAIL**  
 M7.2 / NO SCALE



**11 ROUND VOLUME DAMPER (UP TO 14")**  
 M7.2 / NO SCALE

Autodesk Docs // 75-22605-00\_CVUSD - District Wide HVAC Replacement // 75-22605-00\_CVUSD\_Rowland ES MEP\_2022.rvt  
 1/25/2023 4:14:16 PM

MARK FCU-B1	MAKE CARRIER	MODEL 40RUAQ25	STEEL FRAME ASTM A36, L 3 X 3 X 1/4	DETAIL-1	DETAIL-3		MTG 1-6	SPRING OD 2"	DEFL 1"
----------------	-----------------	-------------------	--	----------	----------	--	------------	-----------------	------------

ATTACHMENT OF SPRING ISOLATORS TO CONCRETE PAD ON GRADE  
 9/16" DIA. HOLE (2) PLACES  
 USE 1/2" DIA. HILTI KB T22 ANCHORS IN 3000 PSI HR CONCRETE, MIN  
 3" NORMAL EMBEDMENT, MIN 6" CONCRETE THICKNESS & MIN 6" EDGE DISTANCE.  
 INSTALL ANCHORS WITH SPECIAL INSPECTION PER ICC ESR-4266.

7 GA. PLATE  
 NEOPRENE GROMMET  
 1/4" THICK NEOPRENE  
 3/8" DIA. TAP  
 SIDE PLATE  
 7 GA. PLATE  
 LEVELING BOLT 3/8 DIA.  
 STABILIZER BOLT  
 1/2" DIA.  
 10 GA. PLATE  
 1/2" x 1" FLAT BAR (WELDED)  
 1/4" THICK NEOPRENE

MAX. ALLOW. LOADS: HORIZ. 1100 lbs. VERT. (UP) 1400 lbs.  
**RMU-BQ-SH-1**

NOTES:  
 1. APPROX. STEEL WEIGHT INCLUDING ISOLATORS: 200 LBS.  
 2. — INDICATES TIE-DOWN STRAP. SEE DETAIL 3.  
 3. ALL DIMENSIONS REQUIRE FINAL REVIEW AT COMMENCEMENT OF PROJECT.

DETAIL-2

LEVELING BOLT 3/8 DIA.  
 & ATTACHMENT OF STEEL BASE  
 TO SPRING ISOLATOR  
 7/16" DIA. HOLE  
 APPROX. OPER. HT. 1-1/2  
 3-3/4  
 ASTM A36, L 3 X 3 X 1/4  
 NOTCH @ EA.  
 ISOLATOR  
 LOCATION

TIE DOWN STRAP DETAIL

UNIT BASE  
 3 #12 TEK SCREWS  
 TO UNIT BASE RAIL  
 3/16" DIA. PILOT HOLE  
 FOR #12 TEK SCREWS  
 18 GA. GALV. SHEET METAL  
 (6) #12 TEK SCREWS  
 TO STEEL SUPPORT FRAME  
 CONNECTION DETAIL

<b>M. W. SAUSSE &amp; CO., INC.</b> 28744 Whitherspoon Pkwy, Valencia, CA 91355 Phone: (661) 257-3311 Fax: (661) 257-7673 	<b>JOB NAME:</b> COVINA USD - ROWLAND <b>CUST.:</b> <b>CUST. P.O.:</b> <b>MECH. ENGR.:</b> DLRG <b>MARK:</b> FCU-B1 (HORIZONTAL)	<b>REVISIONS:</b> A: CALL OUT ALL ATTACHMENTS (9-2-22) B: SPECS ANGLE (9-20-22) C: D:	<b>DRW:</b> TDT <b>DATE:</b> 7-29-22 <b>DRAWING NO.:</b> -2B
---	--	---	---

1 FCU-B1  
 M7.3 NO SCALE

**A LONGITUDINAL DIRECTION**

UNISTRUT P1000H3  
 LONGITUDINAL BRACE EA SIDE  
 OF UNISTRUT TRAPEZE  
 SUPPORT. MAX BRACE LENGTH =  
 8'-0"

UNISTRUT SPF200 HINGE

**B.1 TRANSVERSE DIRECTION - WOOD ROOF**

UNISTRUT P1001

UNISTRUT P1000H3 TRANSVERSE  
 BRACE EA UNISTRUT TRAPEZE  
 ASSEMBLY. BRACE MAX LENGTH =  
 8'-0"

UNISTRUT SPF200  
 HINGE

**B.2 TRANSVERSE DIRECTION - WOOD WALL  
 TIEBACK**

UNISTRUT P1001

UNISTRUT P1000H3 TRANSVERSE  
 BRACE EA UNISTRUT TRAPEZE  
 ASSEMBLY. BRACE MAX LENGTH =  
 8'-0"

UNISTRUT SPF200  
 HINGE

NOTE: IF MAX BRACE LENGTH OF 8'-0" IS  
 USED, BRACE VERTICAL COMPONENT  
 WILL BE SUBSTANTIALLY LOWER THAN  
 7'-0" MAX VERTICAL CONSTRAINT.

2 DUCT SUPPORTS  
 M7.3 NO SCALE

<b>MARK</b> CU-B1	<b>MAKE</b> TOSHIBA	<b>MODEL</b> MMY-AP240	<b>STEEL FRAME</b> ASTM A36, L 4 X 3 X 1/4	<b>DETAIL-1</b>	<b>DETAIL-3</b>	<b>MTG</b> 1-6	<b>SPRING OD</b> 4"	<b>DEFL.</b> 2"
----------------------	------------------------	---------------------------	---	-----------------	-----------------	-------------------	------------------------	--------------------

**DETAIL-3: ATTACHMENT OF SPRING ISOLATORS TO CONCRETE PAD ON GRADE**  
 1 1/16" DIA. HOLE (2) PLACES  
 USE 5/8" DIA. STAINLESS HILTI KB TZZ ANCHORS IN MIN 3000 PSI HR CONCRETE,  
 MIN 3-3/4" NOMINAL EMBEDMENT, MIN 6" CONCRETE THICKNESS & MIN  
 6" EDGE DISTANCE. INSTALL ANCHORS WITH SPECIAL INSPECTION PER ICC ESR-4266.

**DETAIL-2: LEVelling BOLT 1/2" DIA. & ATTACHMENT OF STEEL BASE TO SPRING ISOLATOR**

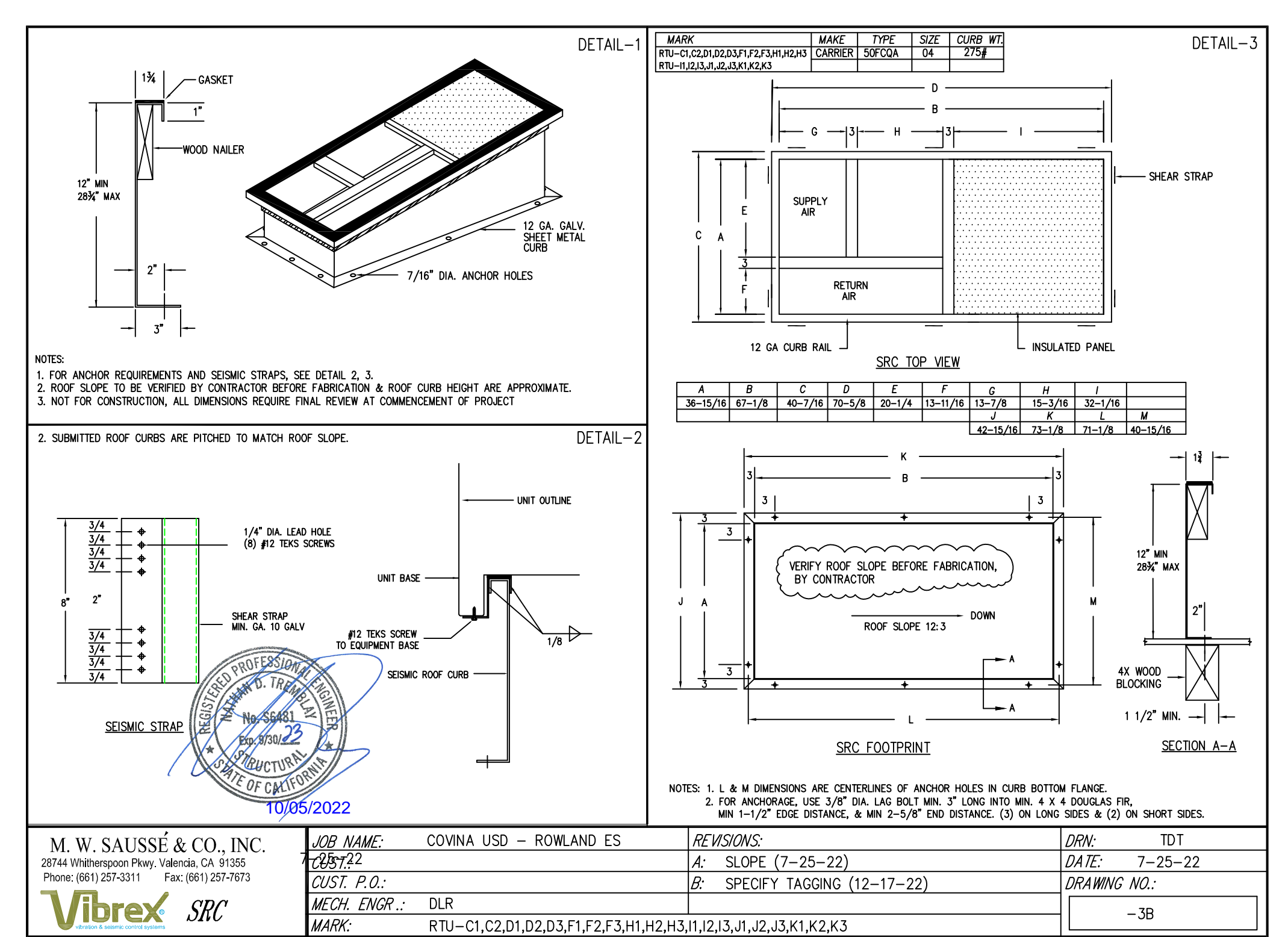
**NOTES:**  
 1. APPROX. STEEL WEIGHT INCLUDING ISOLATORS: 450 LBS.  
 2. FOR ISOLATORS. SEE DETAIL 3.  
 3. M.W. SAUSSE & CO. INC. IS NOT RESPONSIBLE FOR THE STRUCTURAL INTEGRITY OF THE EQUIPMENT WHEN ANCHORED AS SHOWN.  
 4. NOT FOR CONSTRUCTION, ALL DIMENSIONS REQUIRE FINAL REVIEW AT COMMENCEMENT OF PROJECT.

**VIEW B-B**      **VIEW A-A**

**MAX. ALLOW. LOADS: HORIZ: 2200 LBS      VERT. (UP): 2820 LBS**

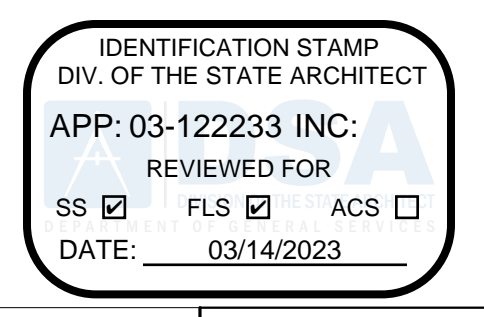
<b>M. W. SAUSSE &amp; CO., INC.</b> 28744 Whitherspoon Pkwy. Valencia, CA 91355 Phone: (661) 257-3311 Fax: (661) 257-7673	<b>JOB NAME:</b> COVINA USD - RAWLAND ES <b>CUST.:</b> <b>CUST. P.O.:</b> <b>MECH. ENGR.:</b> DLR <b>MARK:</b> CU-B1	<b>REVISIONS:</b> A: CALL OUT ALL ATTACHMENT (9-2-22) B: CHANGED UNIT (9-6-22) C: SPECS ANGLE (9-20-22) D:	<b>DRN:</b> TDT <b>DATE:</b> 9-7-22 <b>DRAWING NO.:</b> -1C
---	--	--	--

1 CU-B1  
 M7.4 NO SCALE



1 RTU ANCHORAGE DETAIL  
 M7.5 NO SCALE





ROWLAND AVE. E.S. AC UNIT REPLACEMENT

ROWLAND AVE. E.S. EXISTING UNIT

NEW UNIT

TAGS	MAKE	MODEL	GAS INPUT/OUTPUT (BTU/HR)	ELECTRICAL (SINGLE CIRCUIT)			WEIGHT (LBS)	ECONOMIZER		POWER EXHAUST		OPERATING WEIGHT (LBS)	DIRECT REPLACEMENT? Y/N	CARRIER MODEL #	NET COOLING CAPACITY				AIRFLOW (CFM)		ESP (IN WG)	SEER	EER	HEATING CAPACITY (MBH)	NEW MERV RATING	FILTER QUANTITY & SIZE (W" X H" X D")	ELECTRICAL			WEIGHT (LBS)	OUTSIDE AIR HOOD WEIGHT (LBS)	ECONOMIZER			POWER EXHAUST				ROOF CURB WEIGHT (LBS)	TOTAL WEIGHT (LBS)	UNIT DIMENSIONS (L" X W" X H")	ANCHORAGE DETAIL REFERENCE		
				V/PH	MCA	FLA		EXISTING	WEIGHT	EXISTING	WEIGHT				NOMINA...	TOTAL (BTU/H)	SENSIBLE...	SUPPLY	MIN OSA	V-PH							MCA	MOC	LBS			REQUIRED?	WEIGHT	REQUIRED?	MODEL #	MCA	MOC	WEIGHT						
RTU-C1, RTU-C2 (BLDG. C)	SANYO	36THS22 (CHS3622)	36000	208/1	50	18.3	218	-	0	NO	0	218	Y	50FCQA04A2A3	3	35000	26150	1200	250	1	14.3	11.32	34.1	13	2 (16 X 25 X 2)	240-1	26	30	469	12	NO	NA	YES	PCD-SRT12CA	NA	NA	152	275	756	75 X 47 X 34	1/M7.5			
RTU-K1 THRU RTU-K3 (BLDG. K)	SANYO	36THS22 (CHS3622)	36000	208/1	50	18.3	218	-	0	NO	0	218	Y	50FCQA04A2A3	3	35000	26150	1200	250	1	14.3	11.32	34.1	13	2 (16 X 25 X 2)	240-1	26	30	469	12	NO	NA	YES	PCD-SRT12CA	NA	NA	152	275	756	75 X 47 X 34	1/M7.5			
RTU-J1 THRU RTU-J3 (BLDG. J)	SANYO	36THS22 (CHS3622)	36000	208/1	50	18.3	218	-	0	NO	0	218	Y	50FCQA04A2A3	3	35000	26150	1200	250	1	14.3	11.32	34.1	13	2 (16 X 25 X 2)	240-1	26	30	469	12	NO	NA	YES	PCD-SRT12CA	NA	NA	152	275	756	75 X 47 X 34	1/M7.5			
RTU-I1 THRU RTU-I3 (BLDG. I)	SANYO	36THS22 (CHS3622)	36000	208/1	50	18.3	218	-	0	NO	0	218	Y	50FCQA04A2A3	3	35000	26150	1200	250	1	14.3	11.32	34.1	13	2 (16 X 25 X 2)	240-1	26	30	469	12	NO	NA	YES	PCD-SRT12CA	NA	NA	152	275	756	75 X 47 X 34	1/M7.5			
RTU-H1 THRU RTU-H3 (BLDG. H)	SANYO	36THS22 (CHS3622)	36000	208/1	50	18.3	218	-	0	NO	0	218	Y	50FCQA04A2A3	3	35000	26150	1200	250	1	14.3	11.32	34.1	13	2 (16 X 25 X 2)	240-1	26	30	469	12	NO	NA	YES	PCD-SRT12CA	NA	NA	152	275	756	75 X 47 X 34	1/M7.5			
RTU-F1 THRU RTU-F3 (BLDG. F)	SANYO	36THS22 (CHS3622)	36000	208/1	50	18.3	218	-	0	NO	0	218	Y	50FCQA04A2A3	3	35000	26150	1200	250	1	14.3	11.32	34.1	13	2 (16 X 25 X 2)	240-1	26	30	469	12	NO	NA	YES	PCD-SRT12CA	NA	NA	152	275	756	75 X 47 X 34	1/M7.5			
RTU-D1 THRU RTU-D3 (BLDG. D)	SANYO	36THS22 (CHS3622)	36000	208/1	50	18.3	218	-	0	NO	0	218	Y	50FCQA04A2A3	3	35000	26150	1200	250	1	14.3	11.32	34.1	13	2 (16 X 25 X 2)	240-1	26	30	469	12	NO	NA	YES	PCD-SRT12CA	NA	NA	152	275	756	75 X 47 X 34	1/M7.5			
CU-B1 (BLDG. B)														MMY-AP240S6HT6P	20																										1368	104 X 31 X 73	1/M7.4	
FCU-B1 (BLDG. B)														40RUQA25T3A6-0A0A0		234500	166000	7440	2000	1.2																						720	89 X 29 X 57	1/M7.3

- NOTES:
1. PROVIDE MECHANICAL UNIT WITH INTEGRAL CONVENIENCE RECEPTACLE.
  2. ALL ROOFTOP UNITS SHALL BE PROVIDED WITH UNPOWERED CONVENIENCE OUTLET.
  3. ALL ROOFTOP UNITS ARE HORIZONTALLY DISCHARGED CONFIGURATION. UNO. FIELD VERIFY PRIOR TO ORDERING.
  4. PROVIDE HINGED ACCESS PANEL FOR ALL ROOFTOP UNITS.
  5. FINAL WEIGHT (LBS) IS SUMMATION OF RTU WEIGHT, AND OUTSIDE AIR HOOD, AS APPLICABLE.
  6. SCOR RATING OF UNITS SHALL BE MINIMUM OF 10KA FOR CLASSROOM RTU's & MPR FCU-B1 AND 25 KA FOR MPR CU-B1.

DIFFUSER AND GRILLE SCHEDULE

MARK NO.	MANUFACTURER & MODEL NO.	TYPE	OVERALL DIMENSIONS	NECK SIZE	CFM RANGE	MAX NC	MAX SP	NOTES
CD-1	TITUS PAS	CEILING SUPPLY	24"X24"	6"Ø	0 - 110	25	0.1	1,2,3
				8"Ø	111 - 190	25	0.1	
				10"Ø	191 - 280	25	0.1	
				12"Ø	281 - 350	25	0.1	
				14"Ø	351 - 450	25	0.1	
				16"Ø	451 - 550	25	0.1	
RG-1	TITUS PAR	CEILING RETURN	24"X24"	6"Ø	0 - 100	20	0.1	1,2,3
				8"Ø	101 - 175	20	0.1	
				10"Ø	176 - 275	20	0.1	
				12"Ø	276 - 380	20	0.1	
				14"Ø	381 - 500	20	0.1	
				16"Ø	501 - 570	20	0.1	

- NOTES:
1. OBTAIN ARCHITECT'S APPROVAL FOR COLOR AND FINISH.
  2. MATCH THE BORDER TYPE TO THE CEILING.

DUCT SIZING SCHEDULE \*\*\* FOR LOW VELOCITY SUPPLY, RETURN AND EXHAUST

CFM RANGE	ROUND DUCT DIAMETER OR EQUIVALENT RECTANGULAR DUCT	CFM RANGE	ROUND DUCT DIAMETER OR EQUIVALENT RECTANGULAR DUCT
0-110	6" OR 8" X 4"	1400-1900	18" OR 24" X 12"
101-180	8" OR 10" X 6"	1900-2500	20" OR 24" X 14"
181-270	10" OR 10" X 8"	2500-3300	22" OR 32" X 14"
271-400	10" OR 12" X 8"	3300-4100	24" OR 36" X 14"
401-600	12" OR 12" X 10"	4100-5000	26" OR 40" X 16"
601-900	14" OR 16" X 10"	5000-6200	28" OR 48" X 16"
901-1400	16" OR 18" X 12"	6200-7500	30" OR 48" X 18"

REMARKS:

DUCT SIZES INDICATED ARE INSIDE DIMENSIONS WHICH MAY BE ALTERED BY CONTRACTOR TO OTHER DIMENSIONS TO AVOID INTERFERENCES AND CLEARANCE REQUIREMENTS. USE EQUAL FRICTION METHOD, 0.1"WG PER 100FT. OF DUCT TO DETERMINE DUCT SIZES.

VERIFY ALL DIMENSIONS AT THE SITE. MAKE ALL FIELD MEASUREMENTS AND SHOP DRAWINGS NECESSARY FOR FABRICATION AND ERECTION OF SHEET METAL WORK. MAKE ALLOWANCES FOR BEAMS, PIPE OR OTHER OBSTRUCTION AND FOR WORK BY OTHER TRADES AND NOTIFY THE ARCHITECT IN THE EVENT OF ANY POTENTIAL INTERFERENCE. MAKE AN INITIAL VERIFICATION OF BEAM PENETRATIONS SHOWN ON STRUCTURAL DRAWINGS AND ADVISE OF ANY POTENTIAL INTERFERENCES.

LOCATION	AIR VELOCITY GUIDELINES (FPM)					
	NOISE CRITERIA (NC)					
	40	35	30	25	20	15
MAIN SUPPLY DUCT	1700	1500	1000	800	700	600
MAIN RETURN DUCT	1200	1000	750	600	500	400
DUCT TO GRILLE SUPPLY	600	500	400	300	250	200
DUCT TO GRILLE RETURN	600	500	400	300	250	200

DUCT SIZING \*\*\* MEDIUM PRESSURE DUCTWORK

CFM	ROUND DUCT (IN)	RECTANGULAR DUCT (IN) (W IS DUCT WIDTH)				
		WX4	WX6	WX8	WX10	WX12
UP TO 150	6	8	6	X	X	X
151-280	8	10	10	8	X	X
281-500	10	X	16	12	10	X
501-800	12	X	X	16	12	X
801-1200	14	X	X	22	16	14

REMARKS:

DUCT SIZES INDICATED ARE INSIDE DIMENSIONS WHICH MAY BE ALTERED BY CONTRACTOR TO OTHER DIMENSIONS TO AVOID INTERFERENCES AND CLEARANCE REQUIREMENTS. USE EQUAL FRICTION METHOD, 0.1"WG PER 100FT. OF DUCT TO DETERMINE DUCT SIZES.

VERIFY ALL DIMENSIONS AT THE SITE. MAKE ALL FIELD MEASUREMENTS AND SHOP DRAWINGS NECESSARY FOR FABRICATION AND ERECTION OF SHEET METAL WORK. MAKE ALLOWANCES FOR BEAMS, PIPE OR OTHER OBSTRUCTION AND FOR WORK BY OTHER TRADES AND NOTIFY THE ARCHITECT IN THE EVENT OF ANY POTENTIAL INTERFERENCE. MAKE AN INITIAL VERIFICATION OF BEAM PENETRATIONS SHOWN ON STRUCTURAL DRAWINGS AND ADVISE OF ANY POTENTIAL INTERFERENCES.



Rowland Elementary School  
COVINA VALLEY USD  
1855 E ROWLAND AVE. WEST COVINA, CA 91790

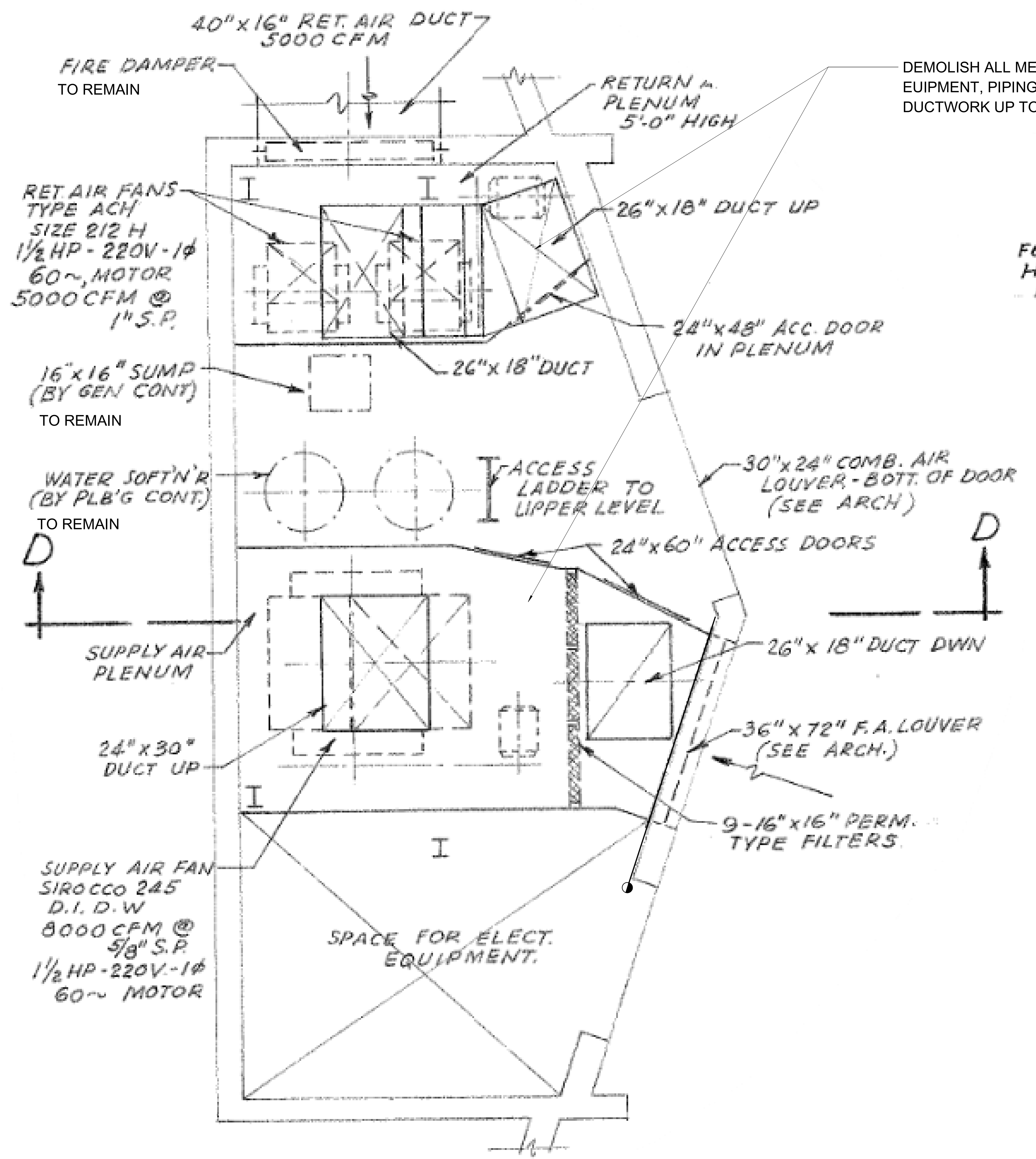
DSA Submitted Set  
1/13/2023  
REVISIONS  
5 01/13/23

75-22605-00

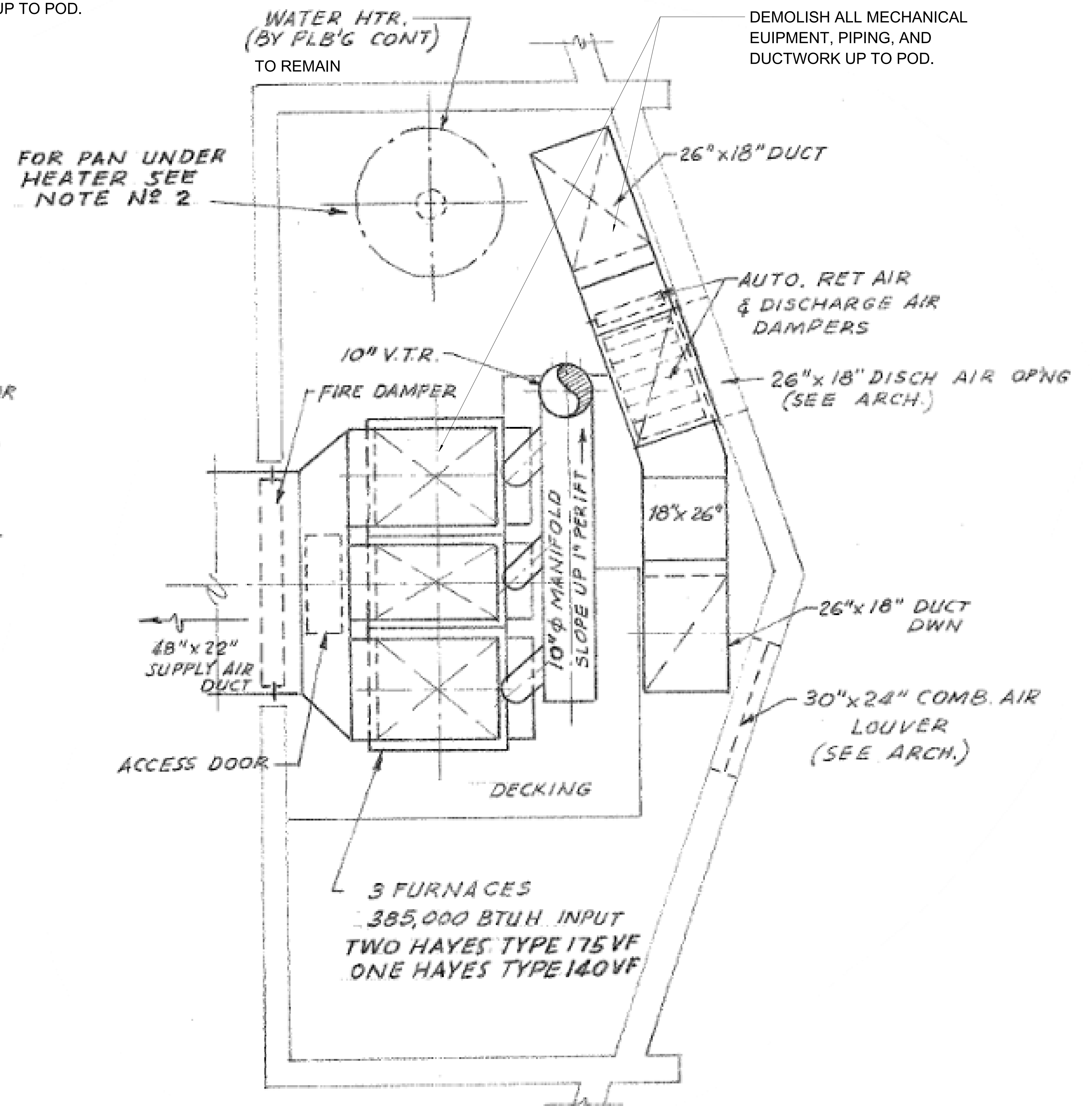
MECHANICAL SCHEDULES

M8.1

1  
2  
3  
4  
5

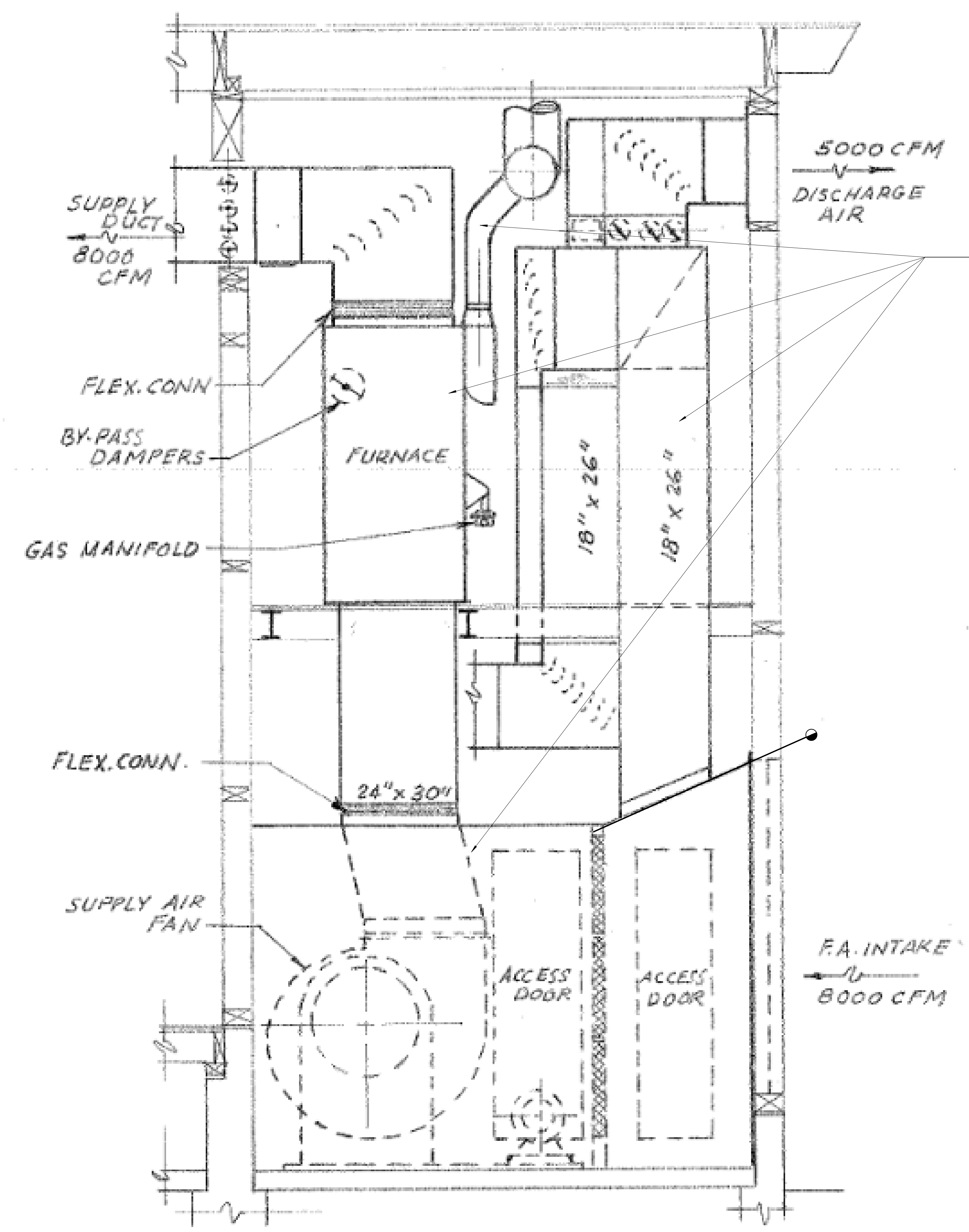


1 HEATER ROOM LOWER LEVEL  
 MD1.1 SCALE: 1/4" = 1'-0"



2 HEATER ROOM UPPER LEVEL  
 MD1.1 SCALE: 1/4" = 1'-0"

Autodesk Docs/75-22605-00\_CVUSD - District Wide HVAC Replacement/75-22605-00\_CVUSD\_Rowland ES MEP\_2022.rvt  
 1/25/2023 4:14:18 PM



1 HEATER ROOM SECTION "D-D"  
 MD1.2 SCALE: 1/4" = 1'-0"

Autodesk Docs/75-22605-00\_CVUSD - District Wide HVAC Replacement/75-22605-00\_CVUSD\_Rowland ES MEP\_2023.rvt 1/25/2023 4:14:18 PM

IDENTIFICATION STAMP  
 DIV. OF THE STATE ARCHITECT  
 APP: 03-122233 INC:  
 REVIEWED FOR  
 SS  FLS  ACS   
 DATE: 03/14/2023


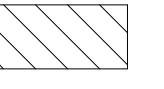

**GENERAL NOTES**

---

**KEY NOTES**

A. DRYWELL TYP. REFER TO 7/M7.2 TYP.

**SITE LEGEND**

-  EXISTING BUILDING NOT IN SCOPE
-  EXISTING BUILDING - SCOPE OF WORK UNDER THIS DSA APPLICATION
-  (E) RESTROOMS - NOT IN SCOPE



**Rowland Elementary School**  
 COVINA VALLEY USD  
 1855 E ROWLAND AVE. WEST COVINA, CA 91790

DSA Submitted Set  
 1/13/2023  
 REVISIONS  
 5 01/13/23

75-22605-00

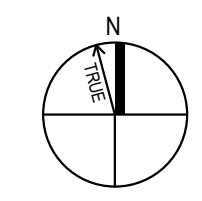
MECHANICAL  
 PLUMBING SITE  
 PLAN

MP1.1

1  
2  
3  
4  
5



**MECHANICAL PLUMBING SITE PLAN**  
 SCALE: 1/32" = 1'-0"



N

Autodesk Docs://75-22605-00\_CVUSD - District Wide HVAC Replacement/75-22605-00\_CVUSD\_Rowland ES MEP\_2022.rvt  
 1/25/2023 4:14:20 PM



**GENERAL NOTES**

- A WORK TO INCLUDE REMOVAL OF EXISTING FEEDER TO EXISTING HVAC EQUIPMENT THAT ARE TO BE REMOVED AND REPLACED. FEEDER TO EXISTING INDOOR FAN COIL UNIT TO BE REMOVED IN ITS ENTIRETY.
- B DISCONNECTING MEANS TO BE NEMA 3R RATED, FURNISHED AND INSTALLED BY DIVISION 26.
- C CARBON MONOXIDE DETECTION SYSTEM NOT REQUIRED. ELECTRIC HEATING IS BEING PROVIDED.
- D SEE SCHEDULE ON SHEET E5.1 FOR ADDITIONAL INFORMATION.
- E FUSES SHALL BE PROVIDED PER EQUIPMENT NAMEPLATE RATING.
- F ELECTRICAL PANELS LOCATED AT GRADE LEVEL DIRECTLY BELOW WHERE SHOWN.
- G ENERGY MANAGEMENT SYSTEM (EMS) BUILDING AUTOMATION SYSTEM (BAS) IS A DELEGATED DESIGN SCOPE BY CONTRACTOR. CONTRACTOR TO FIELD COORDINATE WITH SCHOOL DISTRICT FOR LOCATIONS OF EMS ROUTER AND EMS PANEL AS WELL AS CONDUIT ROUTING.
- H CARBON MONOXIDE DETECTION SYSTEM WILL NOT BE PROVIDED AT THIS TIME UNDER CIBC 903.15.1.  
 EXCEPTION 2: THE GROUP BUILDING WAS CONSTRUCTED BEFORE THE ADOPTION OF THE 2016 CALIFORNIA BUILDING STANDARDS CODE.  
 EXISTING HVAC UNITS ARE BEING REPLACED IN KIND THROUGHOUT.
- J CONTRACTOR TO PROVIDE CONNECTION FROM LOAD SIDE OF HVAC EQUIPMENT DISCONNECT SWITCH TO FEED POWER EXHAUST DISCONNECT SWITCH. PROVIDE SAME SIZE FEEDER. PROVIDE FUSES PER EQUIPMENT NAMEPLATE RATING.

**KEYNOTES**

No.	DESCRIPTION
1	EXISTING HVAC EQUIPMENT AT GRADE TO BE DISCONNECTED AND REPLACED AS PART OF THIS SCOPE OF WORK WITH ROOF TOP EQUIPMENT. EXTEND EXISTING FEEDER AS REQUIRED. SEE TABLE ON SHEET E5.1 FOR OTHER INFORMATION. PROVIDE ALL REQUIRED CONNECTION.
2	EXISTING HVAC EQUIPMENT AT GRADE TO BE DISCONNECTED AND REPLACED AS PART OF THIS SCOPE OF WORK. PROVIDE NEW FEEDER PER TABLE ON SHEET E5.1. PROVIDE ALL REQUIRED CONNECTION.
3	NEW HVAC EQUIPMENT AT GRADE. PROVIDE NEW FEEDER PER TABLE ON SHEET E5.1. PROVIDE ALL REQUIRED CONNECTION.
4	DUCT SMOKE DETECTOR FOR COMPLIANCE TO CALIFORNIA MECHANICAL CODE SECTION 608 IS NOT REQUIRED PER CODE EXCEPTION NO.2. ROOM HAVE DIRECT EXIT TO EXTERIOR AND TRAVEL DISTANCE DOES NOT EXCEED 100 FEET.
5	EXISTING ELECTRICAL EQUIPMENT TO REMAIN AND TO BE PROTECTED IN PLACE.
6	PROVIDE GFCI OUTLET WITH WEATHERPROOF-IN USE COVER
7	(N) PANELBOARD 5 277480 VOLTS, 3-PHASE, W-WIRE, 225 AMP BUS AT GRADE LEVEL.
8	GFCI TYPE RECEPTACLE PROVIDED BY HVAC EQUIPMENT MANUFACTURER. FOR CIRCUITING, SEE TABLE PROVIDED ON SHEET E5.1, GENERAL NOTE NO.2. PROVIDE WEATHERPROOF COVER.
9	FUSED DISCONNECT SIZE PER TABLE SHOWN ON E5.1.
10	PROVIDE 120V CIRCUIT FOR EMS ROUTER AND EMS PANEL. FIELD VERIFY EXACT LOCATION OF EMS ROUTER AND EMS PANEL.
11	JUNCTION BOX WITH TOGGLE TYPE DISCONNECT SWITCH FOR COMBINATION FIRE SMOKE DAMPER. PROVIDE REQUIRED CONNECTION TO EXISTING FIRE ALARM SYSTEM FOR CONTROL. SEE SHEET E2.2 FOR REFERENCE. PROVIDE ALL REQUIRED PARTS AND LABOR FOR A FULLY OPERATIONAL SYSTEM.

**SITE LEGEND**

- EXISTING BUILDING NOT IN SCOPE
- EXISTING BUILDING - SCOPE OF WORK UNDER THIS DSA APPLICATION
- (E) RESTROOMS - NOT IN SCOPE



**OVERALL ELECTRICAL POWER PLAN**  
 SCALE: 1/16" = 1'-0"



### ALTERNATE ARRANGEMENT OF SEISMIC BRACES FOR CONDUITS ON TRAPEZE

**ELEVATION VIEW**  
SOLID BRACE INSTALLED IN-BETWEEN HANGERS (TRANSVERSE OR ALL-DIRECTIONAL BRACE)

**ELEVATION VIEW**  
CABLE BRACE INSTALLED IN-BETWEEN HANGERS

**ELEVATION VIEW**  
CABLE BRACE INSTALLED AT SINGLE HANGER (TRANSVERSE BRACES ONLY)

**PLAN VIEW**  
LONGITUDINAL SOLID BRACES INSTALLED IN ALTERNATING DIRECTIONS

**PLAN VIEW**  
ALL-DIRECTIONAL SOLID BRACES INSTALLED IN ALTERNATING DIRECTIONS

**PLAN VIEW**  
CABLE X-PATTERN BRACE INSTALLED IN-BETWEEN HANGERS

**NOTES:**  
1) REFER TO APPROPRIATE DETAIL PAGES FOR DIMENSIONS AND NOTATIONS NOT SHOWN.

**MASON WEST, INC.**  
1601 E. Miraloma Ave. Placentia, CA 92670  
TEL (714) 630-0701, www.masonwest.com

**Jiefu "Jeff" Zhang, SE**  
California SE No. 55270

**PAGE A25.1**

08/16/2019 OPM-0043-13: Reviewed for Code Compliance by Jeffrey Kikumoto Page 130 of 812

### SEISMIC BRACKET ATTACHMENT TO STRUCTURAL TIMBER WITH (1) THRU BOLT OR THREADED ROD

**SEISMIC BRACE BRACKET PERPENDICULAR TO JOIST**

**SEISMIC BRACE BRACKET PARALLEL TO JOIST**

**TABLE:**

BRACE BRACKET ATTACHMENT TYPE	ALLOWABLE LATERAL LOAD Fp (LBS)	MAX BRACE RANGE (INCH)	DIA (INCH)	MIN. EDGE Cmin1 (INCH)	MIN. EDGE Cmin2 (INCH)
38A TO 38D	250	30'-45'	1/2	1 1/2	1 1/2
38A TO 38B	150	48'-60'	3/4	1 1/2	1 1/2
58A TO 58D	300	30'-45'	1/2	1 1/2	2
58A TO 58B	170	48'-60'	3/4	1 1/2	2
63A TO 63D	340	30'-45'	1/2	1 1/2	2 1/2
63A TO 63C	200	48'-60'	3/4	1 1/2	2 1/2

**MASON WEST, INC.**  
1601 E. Miraloma Ave. Placentia, CA 92670  
TEL (714) 630-0701, www.masonwest.com

**Jiefu "Jeff" Zhang, SE**  
California SE No. 55270

**PAGE N4.10**

08/16/2019 OPM-0043-13: Reviewed for Code Compliance by Jeffrey Kikumoto Page 697 of 812

### SEISMIC BRACKET ATTACHMENT TO WOOD I-JOISTS WITH (1) THRU BOLT OR THREADED ROD

**PERPENDICULAR TO JOIST**

**PARALLEL TO JOIST**

**TABLE:**

BRACE BRACKET ATTACHMENT TYPE	ALLOWABLE LATERAL LOAD Fp (LBS)	MAX BRACE RANGE (INCH)	DIA (INCH)
38A TO 38B	150	30'-45'	1/2
38A TO 38A	80	48'-60'	3/4
58A TO 58C	180	30'-45'	1/2
58A TO 58A	100	48'-60'	3/4
63A TO 63C	210	30'-45'	1/2
63A TO 63A	120	48'-60'	3/4

**MASON WEST, INC.**  
1601 E. Miraloma Ave. Placentia, CA 92670  
TEL (714) 630-0701, www.masonwest.com

**Jiefu "Jeff" Zhang, SE**  
California SE No. 55270

**PAGE N4.11**

08/16/2019 OPM-0043-13: Reviewed for Code Compliance by Jeffrey Kikumoto Page 698 of 812

### SEISMIC BRACKET ATTACHMENT TO WOOD JOIST

**AT JOIST**

**VIEW A-A**

**TABLE:**

BRACE BRACKET ATTACHMENT TYPE	ALLOWABLE LATERAL LOAD Fp (LBS)	MAX BRACE RANGE (INCH)	DIA (INCH)
38A TO 38E	420	30'-45'	1/2
38A TO 38D	300	48'-60'	3/4
58A TO 58E	420	30'-45'	1/2
58A TO 58D	300	48'-60'	3/4
63A TO 63E	420	30'-45'	1/2
63A TO 63D	300	48'-60'	3/4

**MASON WEST, INC.**  
1601 E. Miraloma Ave. Placentia, CA 92670  
TEL (714) 630-0701, www.masonwest.com

**Jiefu "Jeff" Zhang, SE**  
California SE No. 55270

**PAGE N4.13**

08/16/2019 OPM-0043-13: Reviewed for Code Compliance by Jeffrey Kikumoto Page 700 of 812

### CONDUIT ELECTRICAL METALLIC TUBING (EMT) MAXIMUM SEISMIC BRACE SPACINGS

VERTICAL FORCE Fpv = 0.375g (ASD)

TRADE SIZE	MAX WEIGHT PER FOOT (LBS/FT)	MAX GRAVITY SUPPORT SPACING (FT)	MAX TRANSVERSE BRACE SPACING BASED ON TRADE SIZE AND g FORCE (FT)						
			g FORCE						
3	8.26	10	45	41	38	36	35	33	31
3.5	10.98	10	48	44	41	39	37	35	33
4	13.64	10	50	45	42	40	38	36	34

**NOTES:**  
1. MAXIMUM BRACE SPACING IS BASED ON ASCE 7-10 SECTION 13.6.3. NOTE 1, 75 PERCENT OF THE MATERIAL MINIMUM SPECIFIED TENSILE STRENGTH FOR STEEL TUBING.  
2. EMT CONSIDERED FULL OF CONDUCTORS WHEN DETERMINING WEIGHT (REFER TO APPENDIX).  
3. FOR LONGITUDINAL AND ALL-DIRECTIONAL BRACE SPACING MULTIPLY THE TABULATED VALUES BY 3. BRACE AND OR CONNECTION CAPACITY MAY COVER MAXIMUM SPACING IN SOME CASES.  
4. BRACE SPACINGS ARE BASED ON EMT STEEL TUBING CONSTRUCTED TO UL-97 OR ANSI C-88.3 WITH A MINIMUM YIELD STRENGTH OF 36,000 PSI.  
5. COUPLERS FOR UP TO 2" EMT TO MEET PRODUCT SPECIFICATIONS. HOWEVER, COMPRESSION COUPLINGS OR COUPLINGS WITH MIN. (2) SCREWS AT EACH END, i.e., CONDUIT CAN BE PUSHED INTO COUPLING - 2" AND SET WITH MIN. (2) SCREWS, SHALL BE USED FOR 3", 3 1/2", AND 4" EMT.

**MASON WEST, INC.**  
1601 E. Miraloma Ave. Placentia, CA 92670  
TEL (714) 630-0701, www.masonwest.com

**Jiefu "Jeff" Zhang, SE**  
California SE No. 55270

**PAGE S2.0**

08/16/2019 OPM-0043-13: Reviewed for Code Compliance by Jeffrey Kikumoto Page 715 of 812

### ELECTRICAL CONDUIT WEIGHT TABLES

CONDUIT DIAMETER (IN)	PIPE TYPE	CONDUIT WEIGHTS		
		PIPE	CONDUCTORS	TOTAL
1/2	ELECTRICAL METALLIC TUBING (EMT) WEIGHT	0.29	0.22	0.51
3/4		0.44	0.40	0.84
1		0.64	0.66	1.30
1 1/4		0.95	1.17	2.12
1 1/2		1.10	1.60	2.70
2		1.40	2.62	4.02
2 1/2		2.05	3.74	5.79
3		2.50	5.76	8.26
3 1/2		3.25	7.73	10.98
4		3.70	9.94	13.64
5	---	---	---	
6	---	---	---	
1/2	INTERMEDIATE METAL CONDUIT (IMC) WEIGHT	0.60	0.22	0.82
3/4		0.82	0.41	1.23
1		1.16	0.66	1.82
1 1/4		1.50	1.17	2.67
1 1/2		1.82	1.60	3.42
2		2.42	2.62	5.04
2 1/2		3.28	3.47	6.75
3		5.26	5.43	10.69
3 1/2		6.12	7.34	13.46
4		6.82	9.50	16.32
5	---	---	---	
6	---	---	---	
1/2	RIGID METAL CONDUIT (RMC) WEIGHT	0.79	0.22	1.01
3/4		1.05	0.41	1.46
1		1.83	0.66	2.49
1 1/4		2.01	1.17	3.18
1 1/2		2.48	1.61	4.09
2		3.32	2.62	5.94
2 1/2		5.27	3.74	9.01
3		6.82	5.77	12.59
3 1/2		8.31	7.73	16.04
4		9.72	9.55	19.27
5	13.14	15.62	28.76	
6	17.45	22.58	40.03	

**MASON WEST, INC.**  
1601 E. Miraloma Ave. Placentia, CA 92670  
TEL (714) 630-0701, www.masonwest.com

**Jiefu "Jeff" Zhang, SE**  
California SE No. 55270

**PAGE APP3.0**

08/16/2019 OPM-0043-13: Reviewed for Code Compliance by Jeffrey Kikumoto Page 811 of 812

### ROOF PENETRATION DETAIL

**SECTION**

**ELEVATION**

**NOTES:**  
1. MAXIMUM WEIGHT OF EQUIPMENT UNIT NOT TO EXCEED 500 LBS.  
2. COORDINATE EXACT LOCATIONS WITH MECHANICAL, ELECTRICAL AND ARCHITECTURAL DRAWINGS.

**NON-STRUCTURAL EQUIPMENT WEIGHT**

WEIGHT < 250 LBS	SINGLE 2x STUD
250 LBS & WEIGHT	DOUBLE 2x STUD

2 ROOF PENETRATION DETAIL NO SCALE  
1 TYP WALL EQUIPMENT BACKING NO SCALE

IDENTIFICATION STAMP  
DIV. OF THE STATE ARCHITECT  
APP: 03-122233 INC.  
REVIEWED FOR  
SS  FLS  ACS   
DATE: 03/14/2023

**DLR Group**  
© DLR Group

**USG**

**Rowland Elementary School**  
COVINA VALLEY USD  
1855 E ROWLAND AVE. WEST COVINA, CA 91790

DSA Submitted Set  
1/13/2023  
REVISIONS

75-22605-00  
ELECTRICAL  
DETAILS

E6.1

Autodesk Docs/175-22605-00\_CVUSD - District Wide HVAC Replacement/75-22605-00\_CVUSD\_Rowland ES MEP\_2022.rvt  
9/21/2023 4:23:55 PM