

BEN LOMOND ELEM. SCHOOL

621 E. COVINA BLVD COVINA, CA 91722

COVID-19 COVINA VALLEY DISTRICT WIDE HVAC REPLACEMENT

100% CONSTRUCTION DOCUMENT

11/08/2022

DLR GROUP PROJECT NUMBER: 75-22605

DSA APPLICATION #
A# 03-122228

SHEET INDEX

GENERAL	
G0.1	COVER SHEET
G1.1	GENERAL NOTES, SYMBOLS AND ABBREVIATIONS
ARCHITECTURAL	
A1.0	ARCHITECTURAL SITE PLAN
A1.1A	BUILDING B FLOOR PLANS
A1.1C	BUILDINGS CDGH AND I FLOOR PLANS
A1.1D	BUILDING J FLOOR PLANS
A1.3	OVERALL ROOF PLAN
A1.3A	BUILDINGS B ROOF PLAN
A1.3C	BUILDINGS CDGH AND I ROOF PLANS
A1.3D	BUILDINGS J AND Q ROOF PLANS
A3.0	OVERALL REFLECTIVE CEILING PLAN
A3.1A	BUILDINGS B REFLECTED CEILING PLANS
A3.1C	BUILDINGS CDGH AND I REFLECTED CEILING PLANS
A3.1D	BUILDINGS J AND Q REFLECTED CEILING PLANS
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
M1.1	OVERALL MECHANICAL FLOOR PLAN
M1.1A	BUILDING A AND B - MECHANICAL FLOOR PLAN
M1.1C	BUILDINGS C, D, G, H, I AND J MECHANICAL FLOOR PLANS
M1.3C	BUILDINGS C, D, G, H, I AND J 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
M7.5	MECHANICAL DETAILS
MP1.1	MECHANICAL PLUMBING SITE PLAN
ELECTRICAL	
E0.1	ELECTRICAL SYMBOLS, ABBREVIATIONS & NOTES
E2.1	ROOF ELECTRICAL PLAN
E5.1	ELECTRICAL DIAGRAMS AND SCHEDULES
E6.1	ELECTRICAL DETAILS
TOTAL: 37 SHEETS	

VICINITY MAP



PROJECT DIRECTORY

OWNER
COVINA VALLEY UNIFIED
SCHOOL DISTRICT
918 E SHOULO STREET
COVINA, CA 91723
CONTACT: BRIAN JOHNSON
PH: 626.974.7000
BJOHNSON@CVUSD.ORG

MECHANICAL ENGINEER
DLR GROUP
700 FLOWER ST 22ND FLOOR
LOS ANGELES, CA 90017
CONTACT: TONG FANG DONNA ZHAO
PH: 213.444.0610
DZHAO@DLRGROUP.COM

ARCHITECT
DLR GROUP
700 FLOWER ST. 22ND FLR.
LOS ANGELES, CA 90017
CONTACT: JESSE MILLER
PH: 213.800.9400
JMILLER@DLRGROUP.COM

STRUCTURAL ENGINEER
DLR GROUP
700 FLOWER ST 22ND FLOOR
LOS ANGELES, CA 90017
CONTACT: DANIEL AHKIAM
PH: 213.800.9400
DAHKIAM@DLRGROUP.COM

ELECTRICAL ENGINEER
DLR GROUP
700 FLOWER ST 22ND FLOOR
LOS ANGELES, CA 90017
CONTACT: NORMAN PATENA
PH: 213.800.9400
NPATENA@DLRGROUP.COM

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. 03-122228 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, AND:

1) DESIGN INTENT AND APPEARS TO MEET THE APPROPRIATE REQUIREMENTS OF
TITLE 24, CALIFORNIA CODE OF REGULATIONS, AND THE PROJECT
SPECIFICATIONS PREPARED BY ME, AND

2) 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 81138 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(d)).

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 INTENT,
AND
 HAVE BEEN COORDINATED WITH THE
PROJECT PLANS AND SPECIFICATIONS.

05/05/2022
JESSE MILLER
C-32306
10/31/2023

05/05/2022
JESSE MILLER
C-32306
10/31/2023

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 1603A.1.5)
- SEISMIC DESIGN CATEGORY: D
- SITE CLASS: D
- S_s = 1.646
- S₁ = 0.6
- S_{m1} = 1.646
- S_{m2} = 1.039
- S_{m3} = 1.037
- S_{m4} = 1.333
- I_e (IMPORTANCE FACTOR) = 1.00
- F_p (CONTROLLING HOR. SEISMIC FORCE) = 1822 LBS
- DESIGN LOAD BEARING VALUES OF SOILS (CBC 1603A.1.6)
- ALLOWABLE SOIL BEARING PRESSURE: 1,500 PSF
- ALLOWABLE LATERAL BEARING PRESSURE: 100 PSF MIN.

SCOPE OF WORK

SCOPE OF WORK SHALL BE AS FOLLOWS:
EXISTING HVAC SYSTEM REPLACEMENT TO BUILDINGS B, C, D, G, H, I, AND J

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 7, 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
TITLE 19 CCR, PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS
2016 ASME A17.1/CSA B44-13 SAFETY CODE FOR ELEVATORS AND ESCALATORS
(PER 2019 CBC PART 2 CH 35)
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 SPRINKLERS SYSTEMS (CA AMENDED)	2016 ADDITION
NFPA 14	- STANDARD FOR INSTALLATION OF SAND PIPE AND HOSE SYSTEMS (CA AMENDED)	2013 ADDITION
NFPA 17	- STANDARD FOR DRY CHEMICAL EXTINGUISHING SYSTEMS	2016 ADDITION
NFPA 17A	- STANDARD FOR WET CHEMICAL EXTINGUISHING SYSTEMS	2017 ADDITION
NFPA 20	- STANDARD FOR INSTALLATION OF STATIONARY PUMPS FOR FIRE PROTECTION	2017 ADDITION
NFPA 22	- STANDARD FOR WATER TANKS FOR PRIVATE FIRE PROTECTION	2013 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)	2016 ADDITION
UL 300	- STANDARD FOR FIRE TESTING OF FIRE EXTINGUISHING SYSTEMS FOR PROTECTION OF COMMERCIAL COOKING EQUIPMENT	2005 (R2010)
UL 464	- AUDIBLE SIGNALING DEVICES FOR FIRE ALARM AND SIGNALING SYSTEMS, INCLUDING ACCESSORIES	2005 (R2010)
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

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 WITH STANDING 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. (SECTION 4-317C), PART 1, TITLE 24, CCR.
- 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 A CERTIFIED LIGHTING CONTROLS ACCEPTANCE TEST TECHNICIAN (ATT).
- MECHANICAL SYSTEM ACCEPTANCE TESTS 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](https://www.energy.ca.gov/PROGRAMS-AND-TOPICS/PROGRAMS/ACCEPTANCE-TESTING-TECHNICIAN-CERTIFICATION-PROVIDER-PROGRAM/ACCEPTANCE)
- THE ACCEPTANCE TESTING PROCEDURES MUST BE REPEATED, AND DEFICIENCIES MUST BE CORRECTED BY THE BUILDER OR INSTALLING CONTRACTOR UNTIL THE CONSTRUCTIONAL INSTALLATION OF THE DEFICED SYSTEMS COMPLY AND PASS THE REQUIRED ACCEPTANCE CRITERIA.
- PROJECT INSPECTORS WILL COLLECT THE FORMS TO CONFIRM THAT THE REQUIRED ACCEPTANCE TESTS HAVE BEEN COMPLETED.

GENERAL ABBREVIATIONS

Table with 2 columns: Abbreviation and Full Name. Includes items like ADA, ADON, AF, AFG, AHJ, ALT, ANS, ARCH, BLDG, BSMT, CL, CLG, CM, CONC, CONNS, CONST, CONT, CTR, D, DEG, DEMO, DIA, DIM, DIV, DN, DTL, DWG(S), E, EA, EC, EL, ELEC, ENG, EQ, EQUIP, EXST, EXT, FN, FL, FT, FUT, GC, GOV, H, HORIZ, HT, I, IBC, IN, INT, LB(S), M, MAX, MC, MECH, MEZZ, MFR, MIN, MISC, MM, N, N/A, NIC, NTS, OC, OPP, OVHD, PAR, PENT, PLYWD, QTY, REV(D), RM, RND, S, SCHED, SECT, SH, SM, SPEC, STD, STL, STOR, STRUCT, SYM, TEMP, TYP, UNEX, UNFN, UNO, VERT, VEST, VIF, W, WTH, W/O.

GENERAL ABBREVIATIONS

Table with 2 columns: Abbreviation and Full Name. Includes items like A/E, AB, ABS, ACC, ACR, ACT, AD, ADJ, ADJT, ADMN, AEC, AL, ALUM, ALUMN, AP, APC, ASPH, AUTO, AVG, AWP, B.O., BCS, BO, BRK, BLKG, BLKHD, BMS(S), BOT, BRDG, BRG, BRKT, BT, BTWN, CAB, CBD, CER, CF, CFI, CFM, CG, CI, CIG, CIP, CJ, CJA, CLO, CLR, CMU, COL, COM, COMB, COMM, COMPR, CONF, CONFIG, CORR, CPT, CR, CS, CSTJ, CSWK, CT, CTG, CU, CUJ, CV, CY, DB, DBL, DC, DEPR, DEPT, DET, DF, DG, DAG, DAP, DR, DSN, DW, DWL(S), DWR, EB, EE, EEW, EEWs, EFF, EJ, ELAS, ELEV, EMER, ENCL, ENTR, ERF, ESI, EW, EWC, EXP, F, F.O., FAB, FB, FD, FDN, FE, FEC, FF, FH, FHC, FIG, FIX, FLASH, FLEX, FLG, FLM, FLOR, FOC, FOF, FOM, FOS, FOW, FP, FR, FRP, FRT, FS, FSS, FTG, FVC, FWC, G, GA, GAL, GALV, GB, GD, GEN, GFA.

Table with 2 columns: Abbreviation and Full Name. Includes items like GL, GMP, GR, GRG, GRS, GSB, GYP, HC, HD, HGF, HDR, HDWR, HM, HR, HS, HSS, HVAC, IAW, ID, IF, IJ, ISOL, IUS, INC, INCL, INSUL, JAN, JBE, JCT, JFB, JST, JNT, L, LAB, LAM, LAV, LBR, LDG, LE, LG, LGL, LIN, LNO, LNR, LOC, LONG, LSC, LTG, LV, LVT, MAG, MAINT, MAN, MAS, MATL, MB, MBD, MBH, MC, MEMB, MH, MHS, MTD, MTG, MUL, NC, NFPA, NOM, O to O, OAT, OFCG, OFCI, OFF, OFO, OH, OPR(S), OSHA, OTB, OVFL, P, PAN, PB, PC, PCD, PCT, PD, PERF, PERP, PG, PIC, PIG, PL, PLM, PLGB, PR, PREFAB, PRQJ, PS, PT, PTD, PTR, PTN, PVC, PVL, Q, QTR, R, RAD, RB, RC, RCP, RD, REF, REFL, REM, RESIL, RESL, RF, RFM, RH, RHC, S, SAT, SAW, SB, SC, SCB, SCH, SCR, SD, SECY, SF, SG, SGL, SLD, SH, SHM, SLT, SM, SND, SNV, SPL, SQ, SS, SSA, SSS, SST, ST, STAGD, STC, STR, SUBFL, SURF, SUSP, SVF, T, TAG, TAN, TB, TCB, TCP, TERR, TGT, TH, THK, TI, TIL, TMR, TOL, TOP, TRANS, TT, TTD, TTG, TTIG, TW, UL, URN, US, UTIL, V, VAP, VNB, VCB, VCL, VOL, VPC, VPL, VTL, VWC, W, WB, WC, WCL, WCV, WDF, WDW, WG, WIR, WRB, WW, WWF, YD.

Table with 2 columns: Abbreviation and Full Name. Includes items like SD, SECY, SF, SG, SGL, SLD, SH, SHM, SLT, SM, SND, SNV, SPL, SQ, SS, SSA, SSS, SST, ST, STAGD, STC, STR, SUBFL, SURF, SUSP, SVF, T, TAG, TAN, TB, TCB, TCP, TERR, TGT, TH, THK, TI, TIL, TMR, TOL, TOP, TRANS, TT, TTD, TTG, TTIG, TW, UL, URN, US, UTIL, V, VAP, VNB, VCB, VCL, VOL, VPC, VPL, VTL, VWC, W, WB, WC, WCL, WCV, WDF, WDW, WG, WIR, WRB, WW, WWF, YD.

GENERAL SYMBOLS

Table of symbols for general construction elements. Includes Building Elevation, Interior Elevation, Wall Section, Detail Reference, Building Section, Sheet Note, Reference Keynote, Room Number, Level Elevation, Finish Floor Elevation, Spot Elevation, Earth, Gravel, Sand, Concrete, Precast Concrete, Steel, Stone, Concrete Masonry Unit, Brick Veneer, Steel (Large Scale), Gym Floor, Wood (Continuous Blocking), Wood (Non-Continuous Blocking), Glass, Shingles, Plywood (Large Scale), Gypsum Wall Board, Blanket Insulation, Rigid Insulation, Spray Foam Insulation, Mineral Wool Insulation, Protection Board, Carpet (Large Scale), Acoustic Tile (Large Scale), Tile (Large Scale).

SITE SYMBOLS

Table of symbols for site plan elements. Includes Property Line, Lot Line, Easment Line, Building Line, Primary/Secondary Contour, Slope/Pavement, Drainage Ditch, Street Centerline, Curbs, Foundation Drains, Sanitary Sewer, Water, Fire, Gas, High/Medium/Low Pressure Steam, Underground Telephone, Overhead Power, Lawn Sprinkler, and Area Inlet, Curb Inlet, Manhole, Head Wall, Flared End, Clean Out, Cap, Thrust Block, Valve, Post Indicator Valve, Reducer, Fire Hydrant, Power Pole, Telephone Manhole, Telephone Box, Sprinkler Head, Quick Coupling, Tree, Shade Tree, Ornamental Tree, Deciduous Tree, Shrub, Clipped Shrub.

ARCHITECTURAL SYMBOLS

Table of symbols for architectural elements. Includes Casework Elevation, Door Number, Interior Window Number, Exterior Window/Curtain Wall Number, Wall Type, Ceiling Type, Ceiling Height.

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. 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.
F. 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.
G. COORDINATE WITH MECHANICAL AND ELECTRICAL CONTRACTORS THE SIZE AND LOCATION OF EQUIPMENT PADS SHOWN ON PLANS.
H. CONSTRUCTION DOCUMENTS ARE COMPLEMENTARY. SEE DRAWING FOR QUANTITIES AND LOCATION OF WORK. SEE SPECIFICATIONS FOR QUALITIES AND CONDITIONS OF WORK.
I. 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.
J. GENERAL SHEET NOTES ONLY APPLY TO PARTICULAR DRAWING OR SERIES OF DRAWINGS.
K. NO ASBESTOS OR PCB CONTAINING MATERIALS SHALL BE USED ON THIS PROJECT.
L. DO NOT SCALE DRAWINGS. DIMENSIONS NOTED PREVAIL. NOTIFY ARCHITECT IN CASE OF DISCREPANCY.
M. HORIZONTAL AND VERTICAL DIMENSIONS ARE MINIMUM DIMENSIONS. CLEARANCES ARE GIVEN TO FINISH SURFACES. GO TO VERIFY ALL CLEARANCES. NOTIFY ARCHITECT IN CASE OF DISCREPANCY.

DLR Group logo and seal with text: LICENSED ARCHITECT, JESSIE MILLER, No. C-52306, 10/31/2023, STATE OF CALIFORNIA.

USO logo.

BEN LOMOND ELEM. SCHOOL
COVID-19 COVINA VALLEY DISTRICT WIDE HVAC REPLACEMENT
687 E. COVINA BLVD COVINA, CA 91722

100% CONSTRUCTION DOCUMENT
11/08/2022 REVISIONS

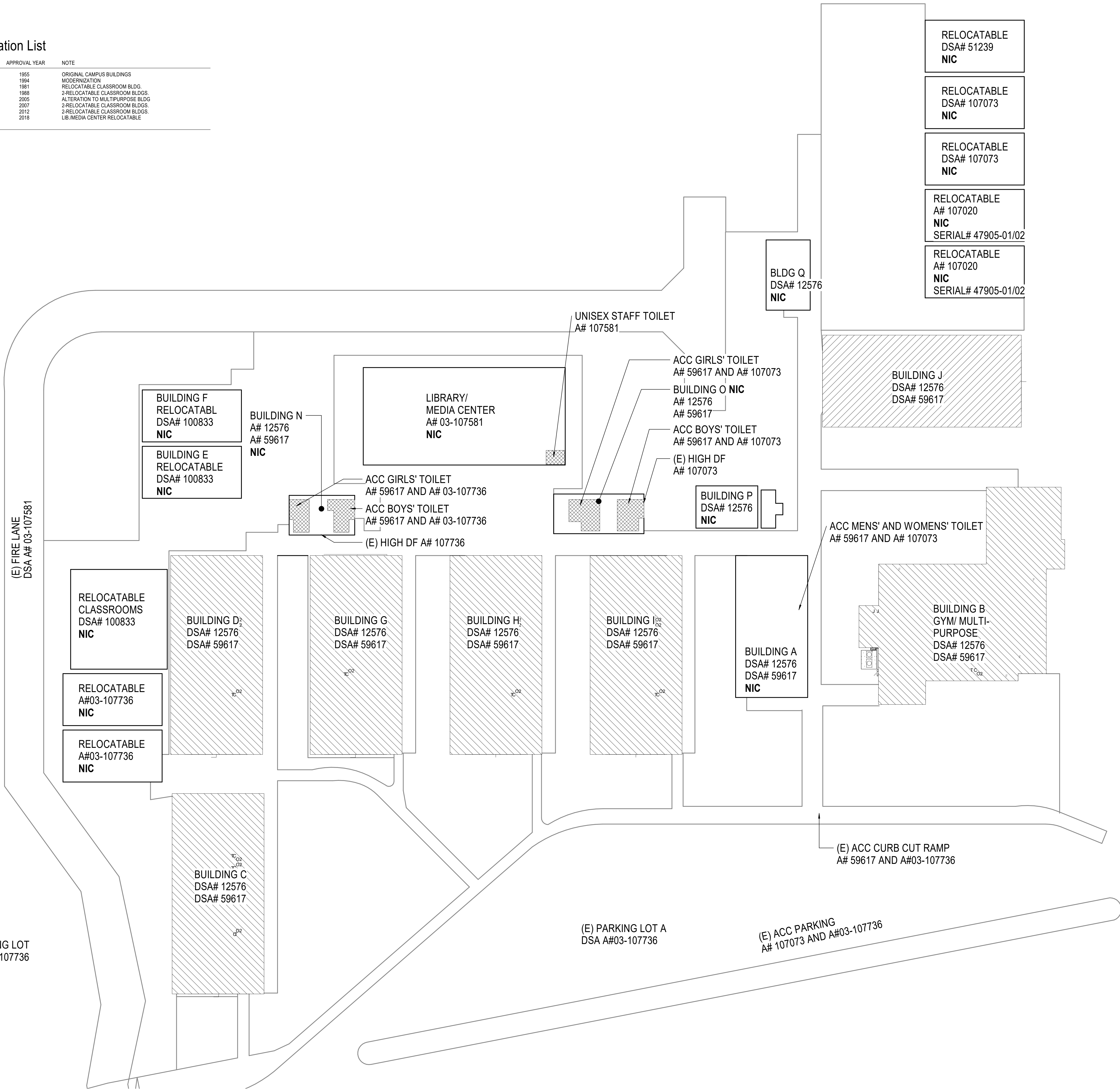
75-22605
DSA A#03-122228
DSA File #: 19-25
GENERAL NOTES, SYMBOLS AND ABBREVIATIONS

G1.1

Autodesk Docs / 75-22605-00_CVUSD - District Wide HVAC Replacement / 75-22605-00_CVUSD_Ben Lomond ES_AR_2020.rvt
11/2/2022 11:18:00 AM

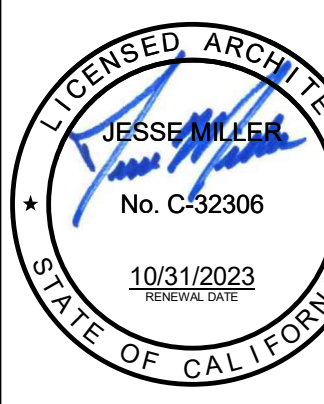
DSA Certification List

APPLICATION #	FILE #	APPROVAL YEAR	NOTE
03-12576	19-25	1955	ORIGINAL CAMPUS BUILDINGS
03-59617	19-25	1994	MODERNIZATION
03-43653	19-25	1981	RELOCATABLE CLASSROOM BLDG.
03-49745	19-25	1986	2 RELOCATABLE CLASSROOM BLDGS.
03-108338	19-25	2005	ALTERATION TO MULTIPURPOSE BLDG.
03-107073	19-25	2007	2 RELOCATABLE CLASSROOM BLDGS.
03-114877	56-9	2012	2 RELOCATABLE CLASSROOM BLDGS.
03-107581	19-25	2018	LIB/MEDIA CENTER RELOCATABLE



SITE LEGEND

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



BEN LOMOND ELEM. SCHOOL
 COVID-19 COVINA VALLEY DISTRICT WIDE HVAC REPLACEMENT
 681 E. COVINA BLVD COVINA, CA 91722

100%
 CONSTRUCTION
 DOCUMENT
 11/08/2022
 REVISIONS

75-22605
 DSA A#03-122228
 DSA File #: 19-25
 ARCHITECTURAL
 SITE PLAN

Autodesk Docs/75-22605-00_CVUSD - District Wide HVAC Replacement/75-22605-00_CVUSD_Ben Lomond ES_AR_2020.rvt
 11/2/2022 11:17:49 AM

SITE PLAN
 SCALE: 1" = 20'-0"

REFERENCE KEYNOTES

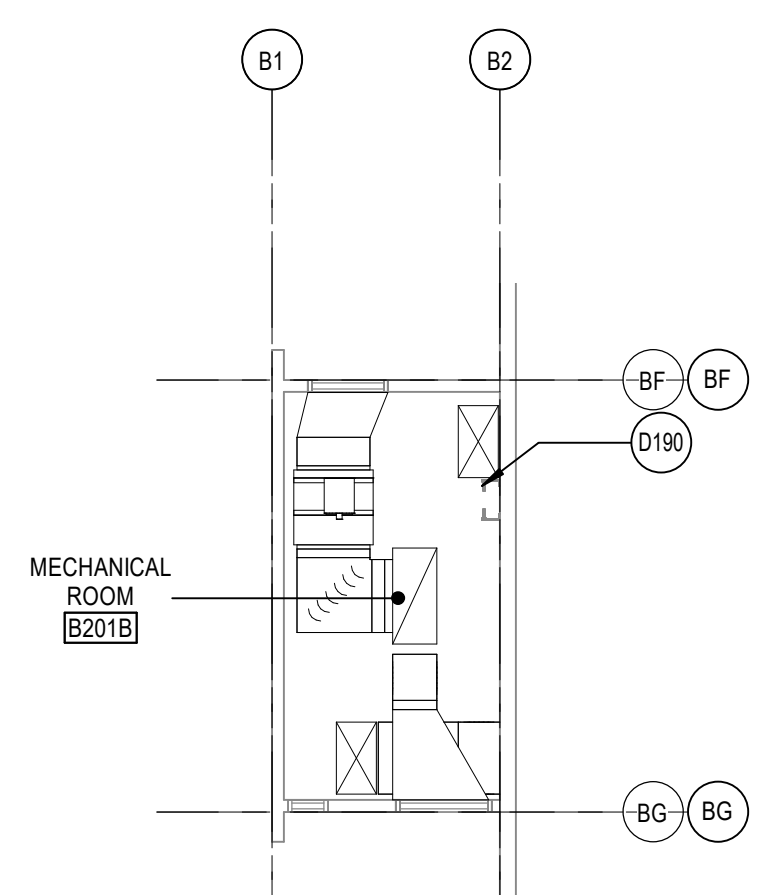
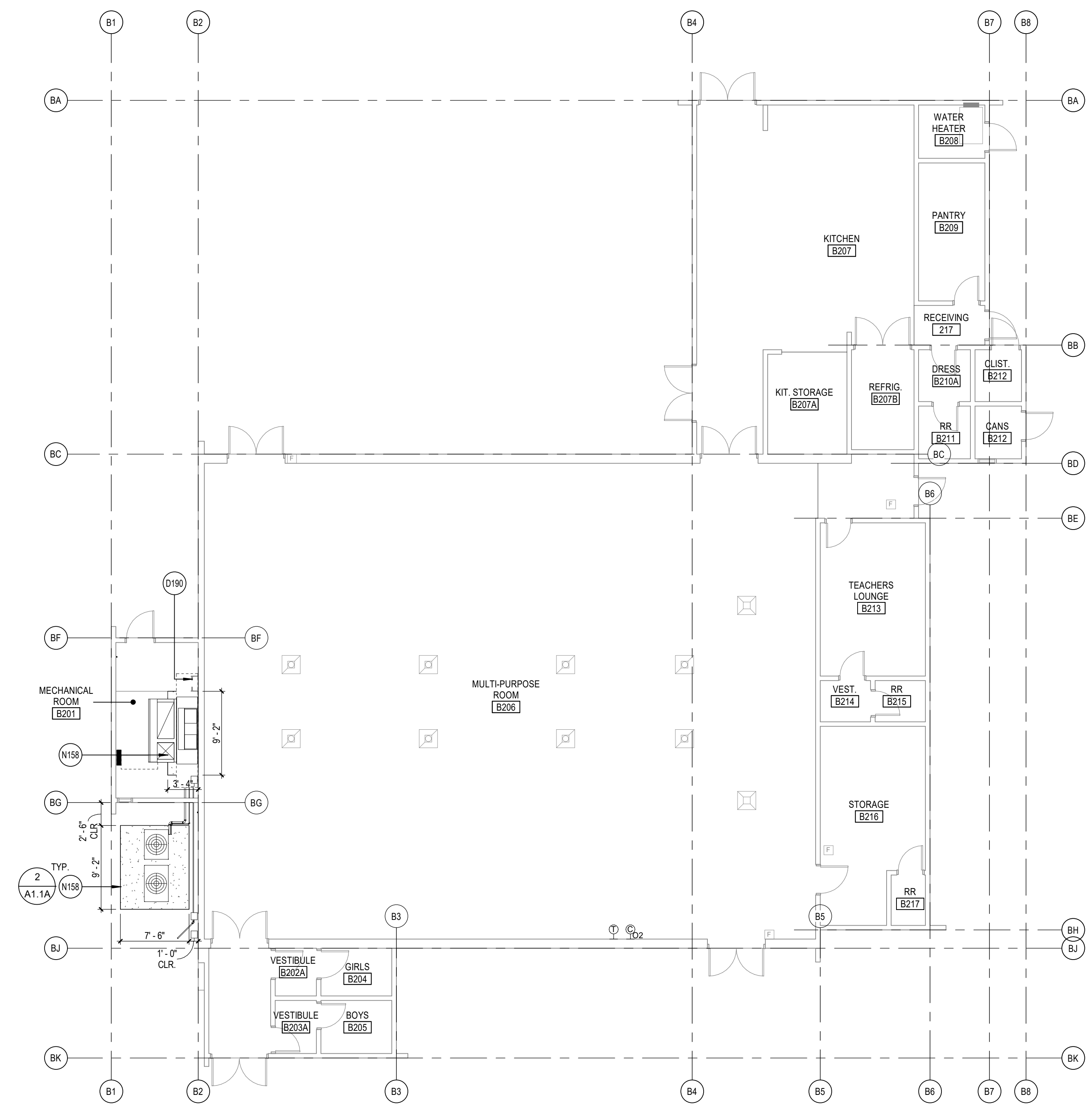
KEYNOTES
D190 REMOVE (E) LADDER
N158 NEW MECHANICAL EQUIPMENT ON NEW 6" THK. TOP LEVELED CONCRETE PAD & PLACED 6" FROM EDGE OF PAD. SEE MECH DWGS.

GENERAL ARCHITECTURAL NOTES

- ALL INTERIOR CMU WALLS SHALL REMAIN U.N.O.
- SEE STRUCTURAL DRAWINGS FOR BRACING OF NON-LOAD BEARING MASONRY WALLS.
- FURNISH AND INSTALL FIRE-TREATED WOOD BLOCKING OR METAL BAKING 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 OCCURS.
- GYPSUM BOARD SURFACES SHALL BE ISOLATED WITH CONTROL JOINTS WHERE SHOWN ON DRAWINGS AND AS DESCRIBED IN THE SPECIFICATIONS.
- MASONRY CONTROL JOINTS (CJ) AND CONTROL JOINTS ABOVE (CA) SHALL BE LOCATED AS SHOWN ON THE FLOOR PLAN AND BUILDING ELEVATIONS, AND WHERE LARGE PLUMBING VENTS OR RISERS OCCUR IN SINGLE WYTHE MASONRY WALLS, AND WHERE MASONRY WALLS BEARING ON THE CONCRETE FLOOR SLAB ABOUT MASONRY WALLS BEARING ON CONCRETE FOOTINGS OR AS INDICATED ON DRAWINGS.
- SCRIBE GYPSUM WALL BOARD OF WALLS AND PARTITIONS TO IRREGULARITIES OF DECK ABOVE. SEAL TIGHTLY AROUND ALL PENETRATIONS.
- MAINTAIN (E) SEISMIC BRACING FOR SUSPENDED CEILINGS OR AS SHOWN ON THE DRAWINGS.

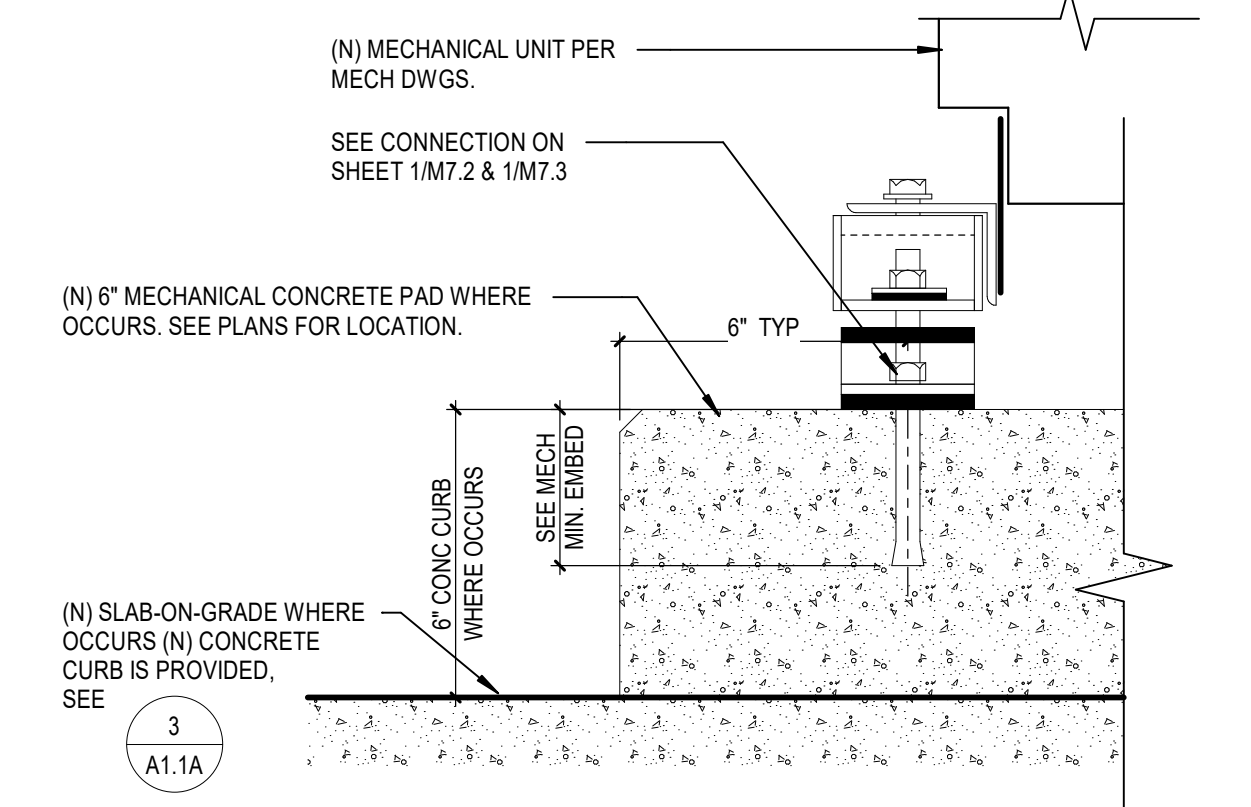
DEMOLITION GENERAL NOTES

- 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 ENGINEER.
 - WHERE CMU WALLS ARE INDICATED TO BE REMOVED, PREPARE ADJACENT WALLS TO RECEIVE NEW PATCH/FINISH BY REMOVING CMU IN TOOTH-IN PATTERN BOTH SIDES OF DEMOLITION FOR CONTRACTOR TO TOOTH-IN NEW CMU PATCHES.
 - 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.

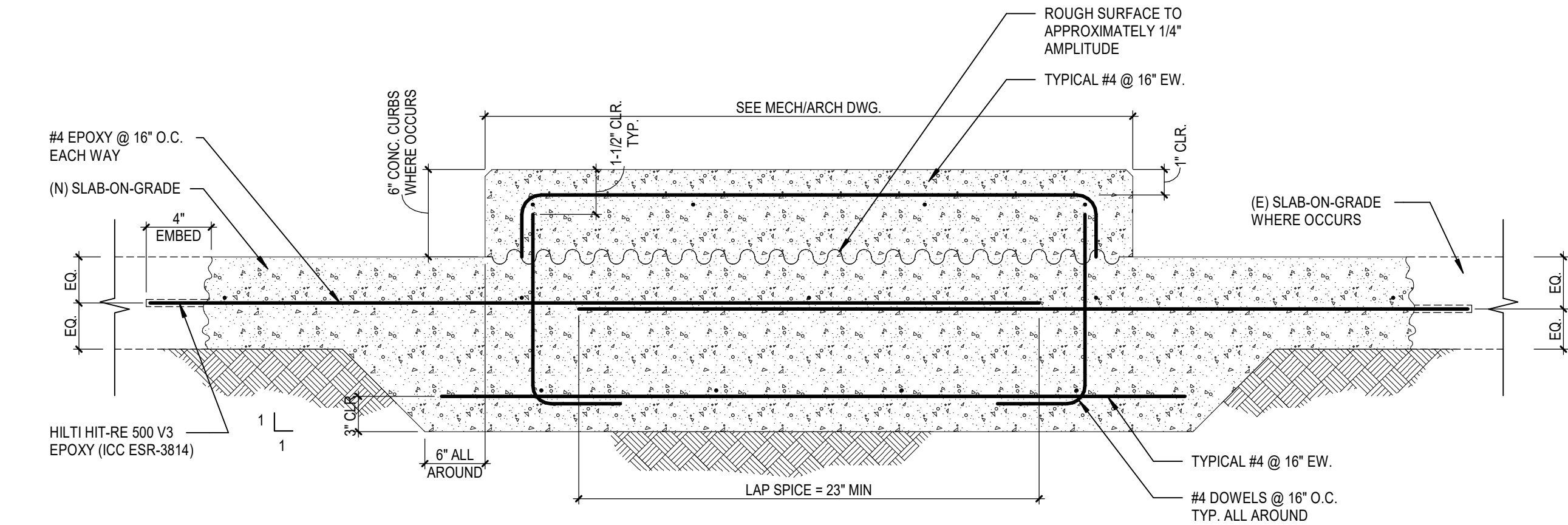


BLDG B - MEZZANINE LEVEL
SCALE: 1/8" = 1'-0"

BUILDING A AND B FLOOR PLANS - MPR
SCALE: 1/8" = 1'-0"



MECH. ANCHORAGE AT CONC. CURB
SCALE: 3" = 1'-0"



TYPICAL MECH. EQUIPMENT CONCRETE PAD AT (E) SLAB-ON-GRADE
SCALE: 1 1/2" = 1'-0"



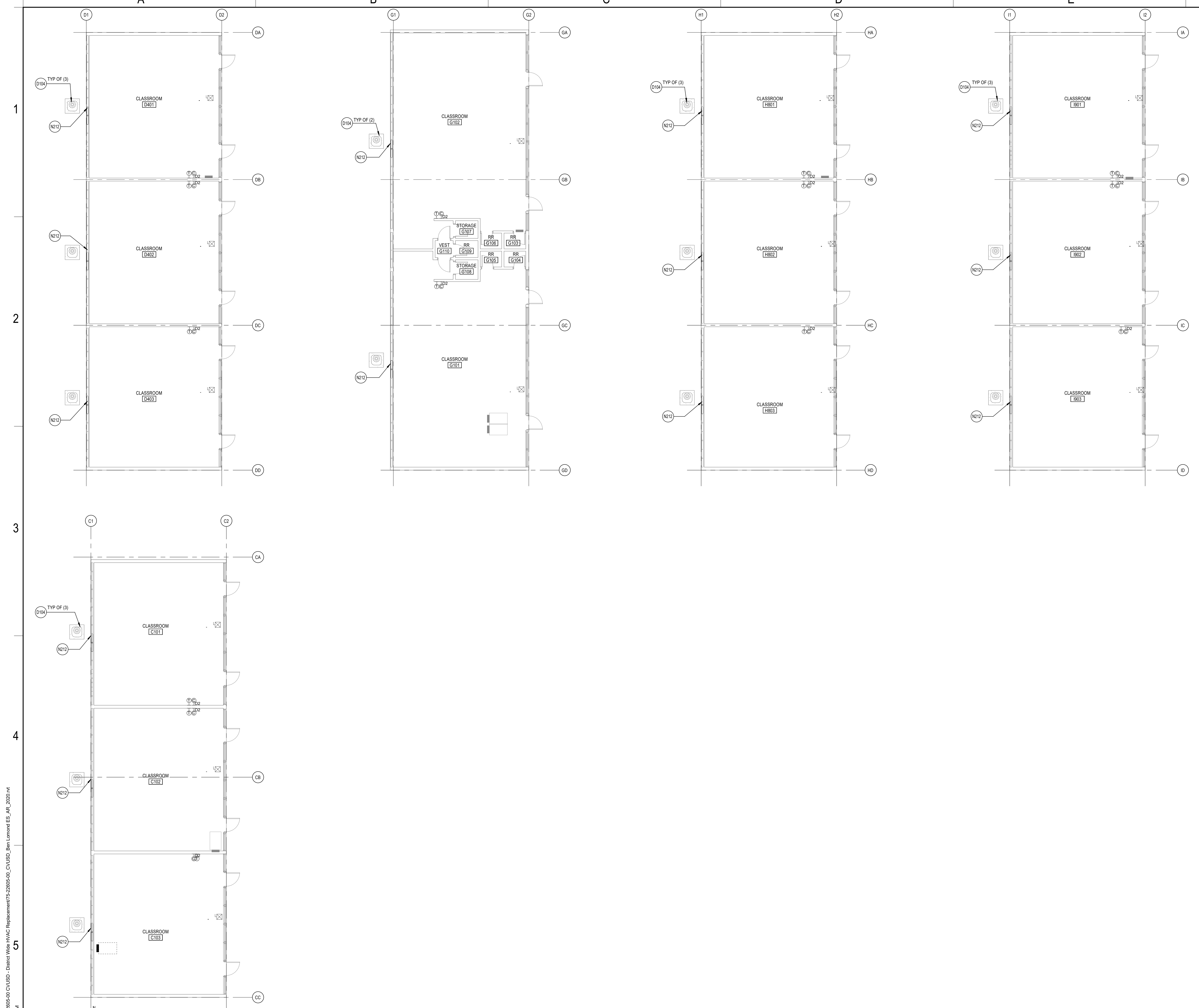
BEN LOMOND ELEM. SCHOOL
COVID-19 COVINA VALLEY DISTRICT WIDE HVAC REPLACEMENT
681 E. COVINA BLVD COVINA, CA 91722

100% CONSTRUCTION DOCUMENT
11/08/2022 REVISIONS

75-22605
DSA AH03-122228
DSA File #: 19-25

BUILDING B FLOOR PLANS

A1.1A



REFERENCE KEYNOTES

KEYNOTES
D104 REMOVE (E) MECHANICAL EQUIP., EQUIP. CONC. PAD, & ITS ASSOCIATED PARTS. SEE MECHANICAL & PLUMBING DWG.
N212 REPLACE (E) INFILL PANEL AT CONDENSER UNIT PENETRATIONS WITH GLAZING TO MATCH ADJACENT. PAINT FRAME TO MATCH ADJACENT.

GENERAL ARCHITECTURAL NOTES

- ALL INTERIOR CMU WALLS SHALL REMAIN TO REMAIN UNO.
- SEE STRUCTURAL DRAWINGS FOR BRACING OF NON-LOAD BEARING MASONRY WALLS.
- 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 OCCURS.
- GYPSUM BOARD SURFACES SHALL BE ISOLATED WITH CONTROL JOINTS WHERE SHOWN ON DRAWINGS AND AS DESCRIBED IN THE SPECIFICATIONS.
- MASONRY CONTROL JOINTS (CJ) AND CONTROL JOINTS ABOVE (CA) SHALL BE LOCATED AS SHOWN ON THE FLOOR PLAN AND BUILDING ELEVATIONS, AND WHERE LARGE PLUMBING VENTS OR RISERS OCCUR IN SINGLE WYTHE MASONRY WALLS, AND WHERE MASONRY WALLS BEARING ON THE CONCRETE FLOOR SLABS ABOUT MASONRY WALLS BEARING ON CONCRETE FOOTINGS OR AS INDICATED ON DRAWINGS.
- SCRIBE GYPSUM 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.

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 ENGINEER.
 - WHERE CMU WALLS ARE INDICATED TO BE REMOVED, PREPARE ADJACENT WALLS TO RECEIVE NEW PATCH/FINISH BY REMOVING CMU IN TOOTH-IN PATTERN BOTH SIDES OF DEMOLITION FOR CONTRACTOR TO TOOTH-IN NEW CMU PATCHES.
 - 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.



BEN LOMOND ELEM. SCHOOL
 COVID-19 COVINA VALLEY DISTRICT WIDE HVAC REPLACEMENT
 671 E. COVINA BLVD COVINA, CA 91722

100%
CONSTRUCTION DOCUMENT
 11/08/2022
 REVISIONS

75-22605
 DSA A#03-122228
 DSA File #: 19-25
BUILDINGS CDGH AND I FLOOR PLANS

A1.1C

Autodesk Docs/75-22605-00_CVUSD - District Wide HVAC Replacement/75-22605-00_CVUSD_Ben Lomond ES_AR_2020.rvt
 11/2/2022 11:17:51 AM

BUILDINGS CDGH AND I FLOOR PLANS
 SCALE: 1/8" = 1'-0"

A

B

C

D

E

F

1

2

3

4

5

REFERENCE KEYNOTES

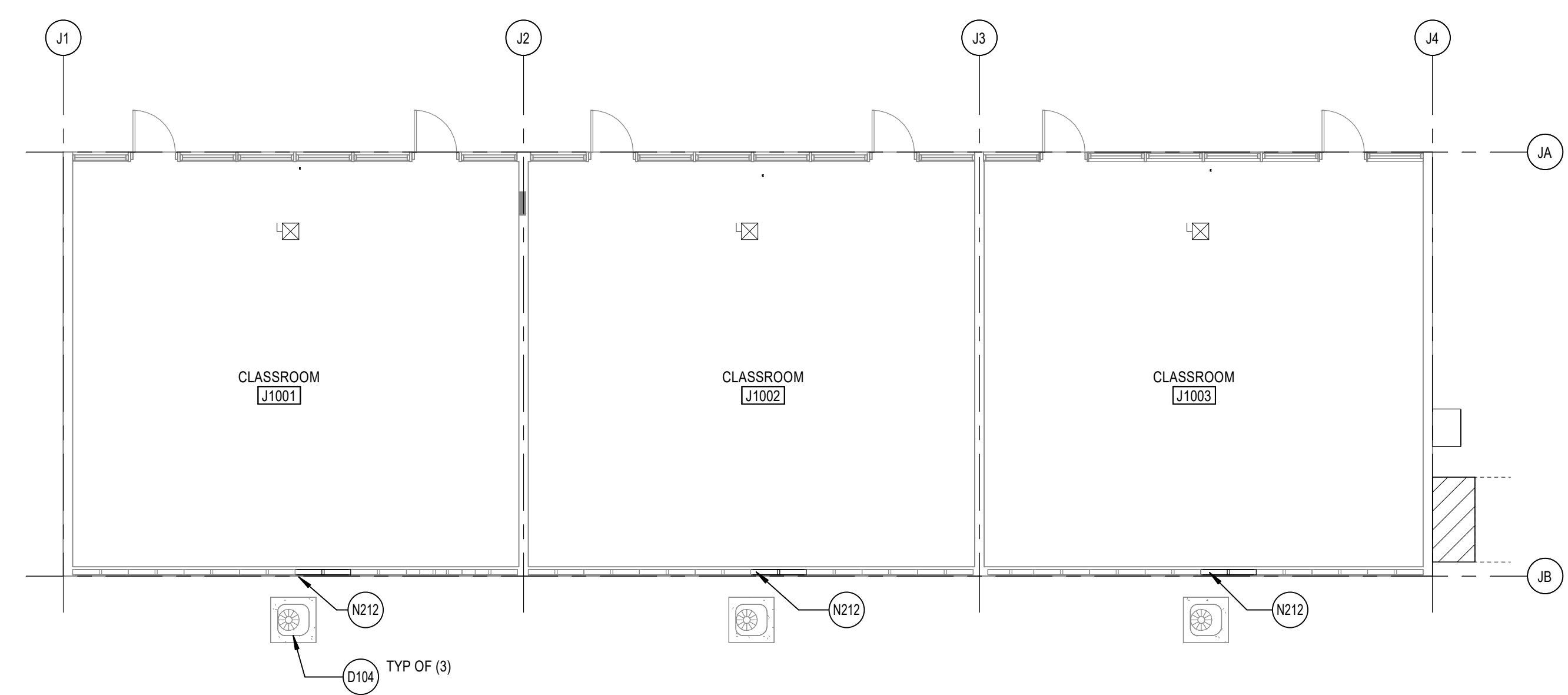
KEYNOTES	
D104	REMOVE (E) MECHANICAL EQUIP., EQUIP. CONC. PAD, & ITS ASSOCIATED PARTS. SEE MECHANICAL & PLUMBING DWG.
N212	REPLACE (E) INFILL PANEL AT CONDENSER UNIT PENETRATIONS WITH GLAZING TO MATCH ADJACENT. PAINT FRAME TO MATCH ADJACENT.

GENERAL ARCHITECTURAL NOTES

- ALL INTERIOR CMU WALLS SHALL REMAIN U.N.O.
- SEE STRUCTURAL DRAWINGS FOR BRACING OF NON-LOAD BEARING MASONRY WALLS.
- 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 OCCURS.
- GYPSUM BOARD SURFACES SHALL BE ISOLATED WITH CONTROL JOINTS WHERE SHOWN ON DRAWINGS AND AS DESCRIBED IN THE SPECIFICATIONS.
- MASONRY CONTROL JOINTS (CJ) AND CONTROL JOINTS ABOVE (CA) SHALL BE LOCATED AS SHOWN ON THE FLOOR PLAN AND BUILDING ELEVATIONS, AND WHERE LARGE PLUMBING VENTS OR RISERS OCCUR IN SINGLE WYTHE MASONRY WALLS, AND WHERE MASONRY WALLS BEARING ON THE CONCRETE FLOOR SLAB ABOUT MASONRY WALLS BEARING ON CONCRETE FOOTINGS OR AS INDICATED ON DRAWINGS.
- SCRIBE GYPSUM WALL BOARD OF WALLS AND PARTITIONS TO IRREGULARITIES OF DECK ABOVE. SEAL TIGHTLY AROUND ALL PENETRATIONS.
- MAINTAIN (E) SEISMIC BRACING FOR SUSPENDED CEILINGS OR AS SHOWN ON THE DRAWINGS.

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 ENGINEER.
 - WHERE CMU WALLS ARE INDICATED TO BE REMOVED, PREPARE ADJACENT WALLS TO RECEIVE NEW PATCH/FINISH BY REMOVING CMU IN TOOTH-IN PATTERN BOTH SIDES OF DEMOLITION FOR CONTRACTOR TO TOOTH-IN NEW CMU PATCHES.
 - 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.



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

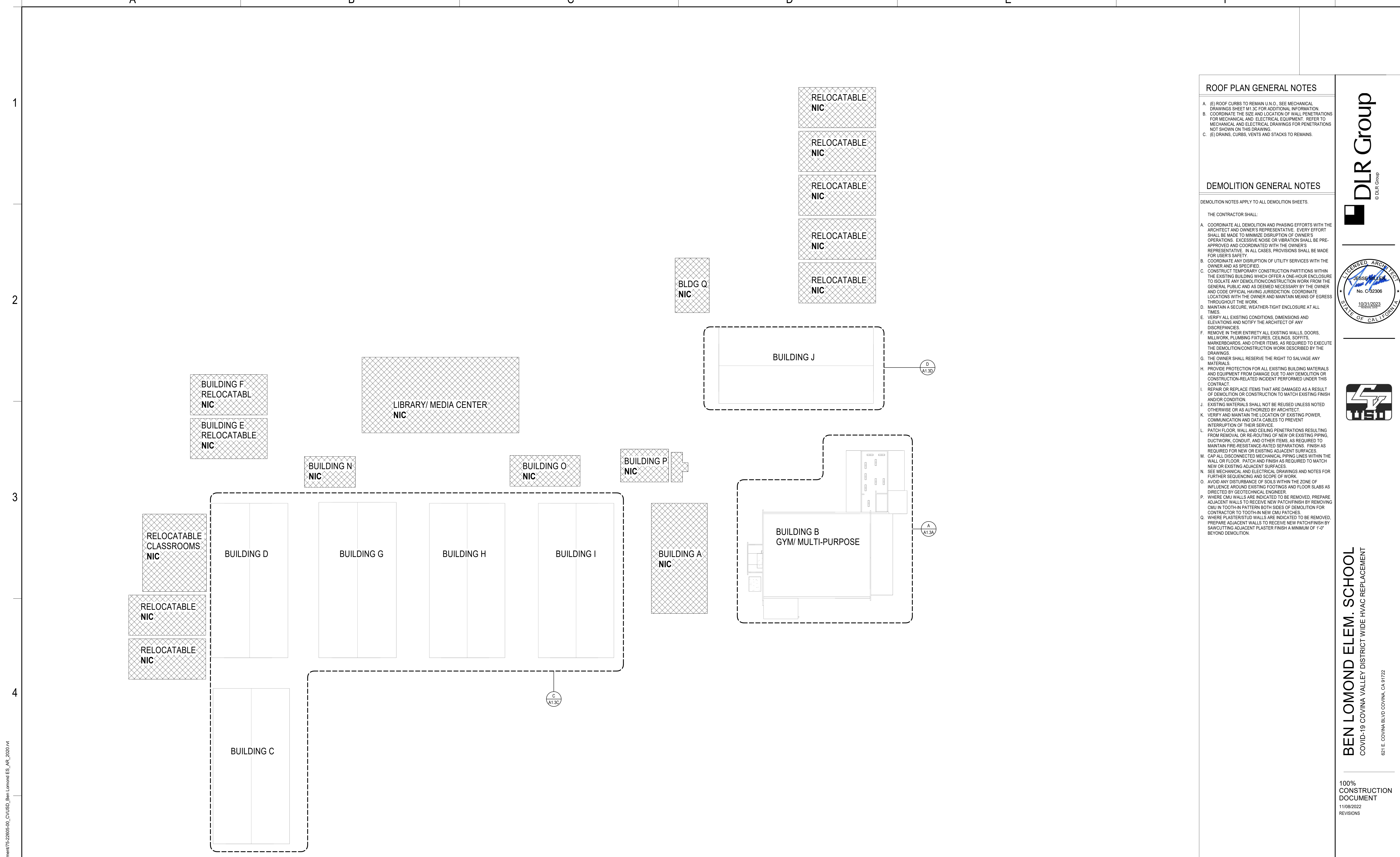


BEN LOMOND ELEM. SCHOOL
COVID-19 COVINA VALLEY DISTRICT WIDE HVAC REPLACEMENT
621 E. COVINA BLVD COVINA, CA 91722

100%
CONSTRUCTION
DOCUMENT
11/08/2022
REVISIONS

75-22605
DSA A#03-122228
DSA File #: 19-25
**BUILDING J
FLOOR PLANS**

A1.1D



ROOF PLAN GENERAL NOTES

- A. (E) ROOF CURBS TO REMAIN U.N.O., SEE MECHANICAL DRAWINGS SHEET M1.3C FOR ADDITIONAL INFORMATION.
- B. 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.
- C. (E) DRAINS, CURBS, VENTS AND STACKS TO REMAIN.

DEMOLITION GENERAL NOTES

DEMOLITION NOTES APPLY TO ALL DEMOLITION SHEETS.

THE CONTRACTOR SHALL:

- A. 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.
- B. COORDINATE ANY DISRUPTION OF UTILITY SERVICES WITH THE OWNER AND AS SPECIFIED.
- C. 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.
- D. MAINTAIN A SECURE, WEATHER-TIGHT ENCLOSURE AT ALL TIMES.
- E. VERIFY ALL EXISTING CONDITIONS, DIMENSIONS AND ELEVATIONS AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES.
- F. 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.
- G. THE OWNER SHALL RESERVE THE RIGHT TO SALVAGE ANY MATERIALS.
- H. PROVIDE PROTECTION FOR ALL EXISTING BUILDING MATERIALS AND EQUIPMENT FROM DAMAGE DUE TO ANY DEMOLITION OR CONSTRUCTION-RELATED INCIDENT PERFORMED UNDER THIS CONTRACT.
- I. REPAIR OR REPLACE ITEMS THAT ARE DAMAGED AS A RESULT OF DEMOLITION OR CONSTRUCTION TO MATCH EXISTING FINISH AND/OR CONDITION.
- J. EXISTING MATERIALS SHALL NOT BE REUSED UNLESS NOTED OTHERWISE OR AS AUTHORIZED BY ARCHITECT.
- K. VERIFY AND MAINTAIN THE LOCATION OF EXISTING POWER, COMMUNICATION AND DATA CABLES TO PREVENT INTERRUPTION OF THEIR SERVICE.
- L. 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.
- M. CAP ALL DISCONNECTED MECHANICAL PIPING LINES WITHIN THE WALL OR FLOOR. PATCH AND FINISH AS REQUIRED TO MATCH NEW OR EXISTING ADJACENT SURFACES.
- N. SEE MECHANICAL AND ELECTRICAL DRAWINGS AND NOTES FOR FURTHER SCHEDULING AND SCOPE OF WORK.
- O. AVOID ANY DISTURBANCE OF SOILS WITHIN THE ZONE OF INFLUENCE AROUND EXISTING FOOTINGS AND FLOOR SLABS AS DIRECTED BY GEOTECHNICAL ENGINEER.
- P. WHERE CMU WALLS ARE INDICATED TO BE REMOVED, PREPARE ADJACENT WALLS TO RECEIVE NEW PATCHFINISH BY REMOVING CMU IN TOOTH-IN PATTERN BOTH SIDES OF DEMOLITION FOR CONTRACTOR TO TOOTH-IN NEW CMU PATCHES.
- Q. WHERE PLASTER/STUD WALLS ARE INDICATED TO BE REMOVED, PREPARE ADJACENT WALLS TO RECEIVE NEW PATCHFINISH BY SAWCUTTING ADJACENT PLASTER FINISH A MINIMUM OF 1'-0" BEYOND DEMOLITION.



BEN LOMOND ELEM. SCHOOL
 COVID-19 COVINA VALLEY DISTRICT WIDE HVAC REPLACEMENT
 687 E. COVINA BLVD COVINA, CA 91722

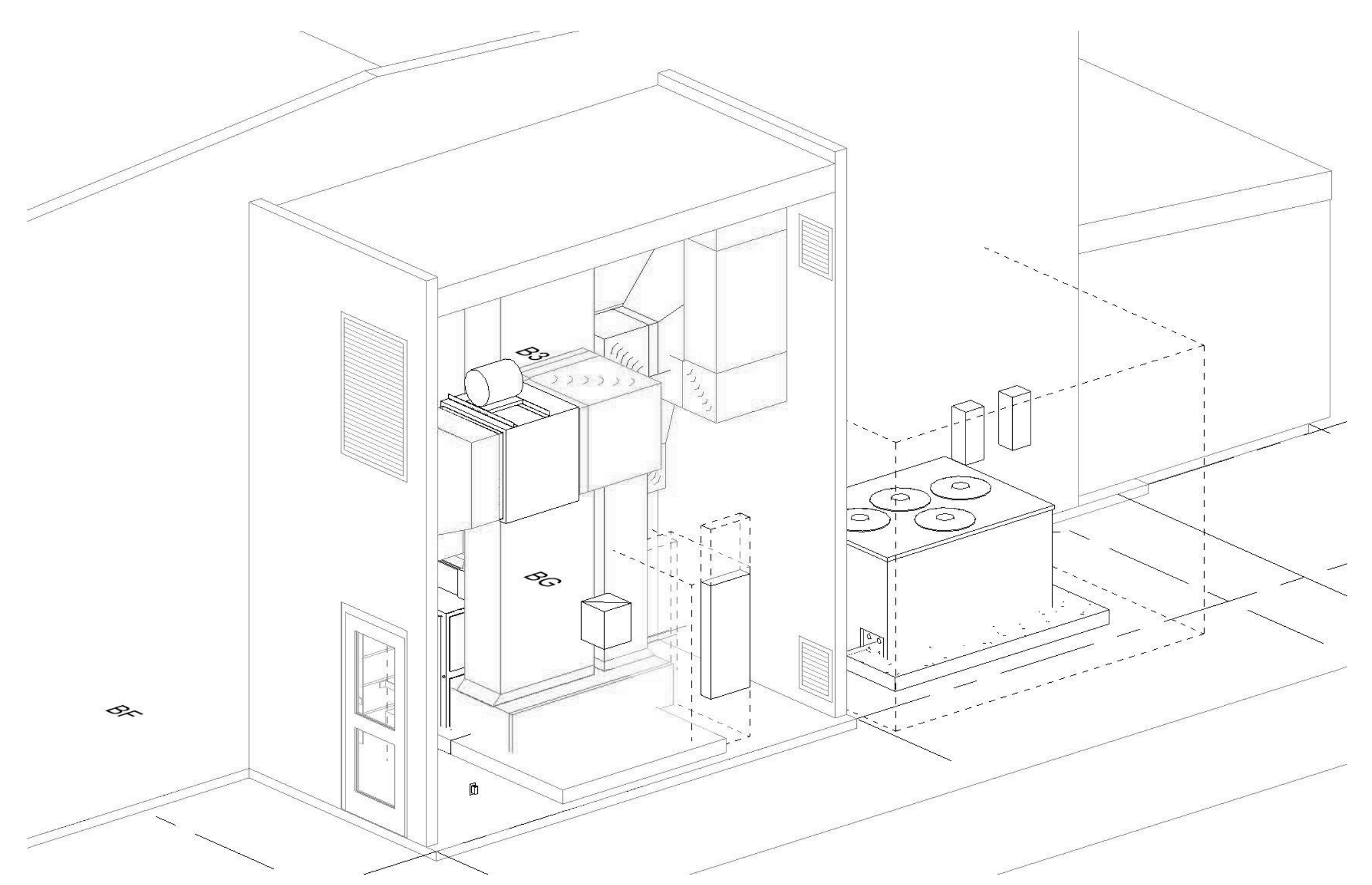
100%
 CONSTRUCTION
 DOCUMENT
 11/08/2022
 REVISIONS

75-22605
 DSA A#03-122228
 DSA File #: 19-25
**OVERALL ROOF
 PLAN**

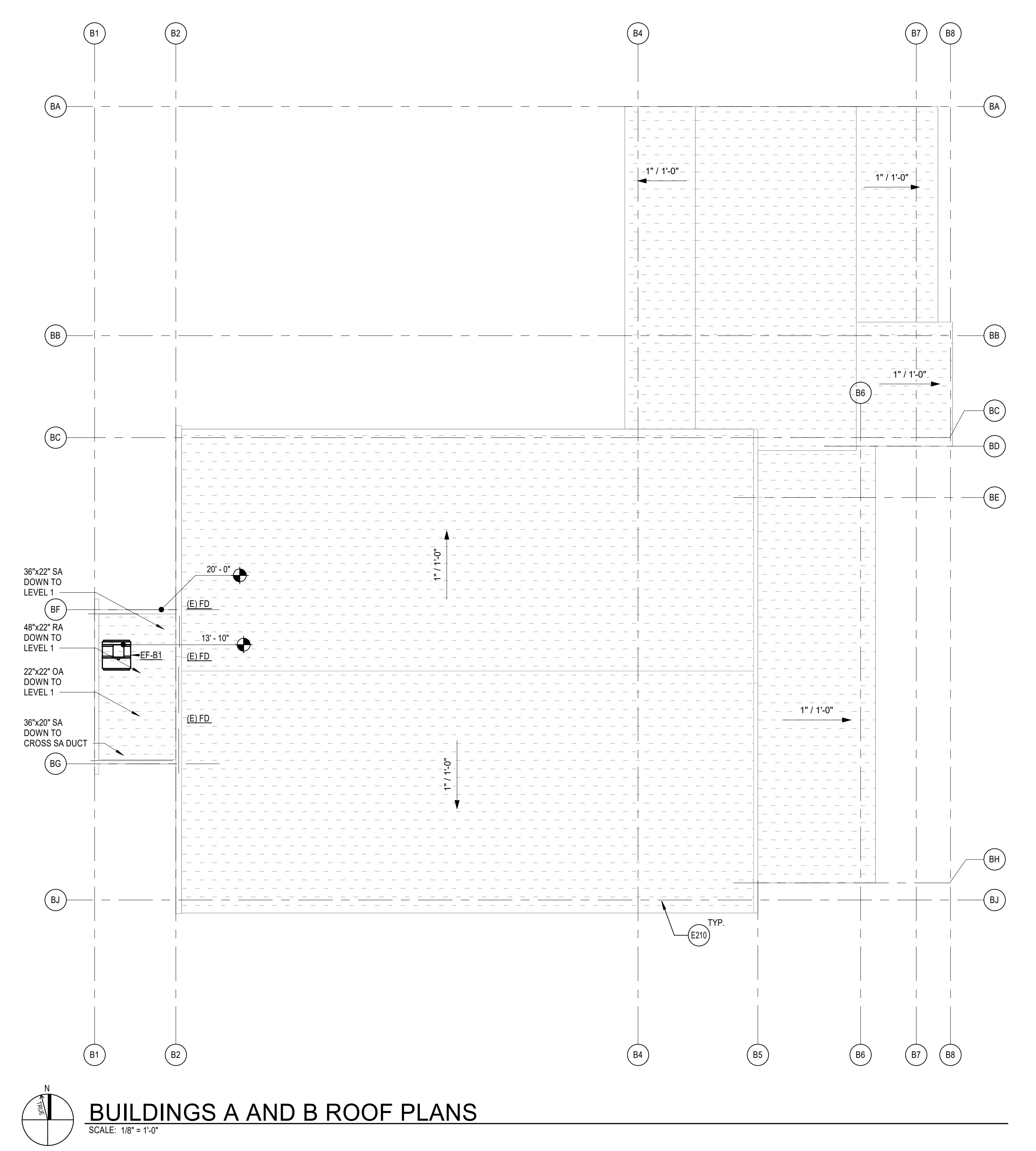
A1.3

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

Autodesk Docs/75-22605-00_CVUSD - District Wide HVAC Replacement/75-22605-00_CVUSD_Ben Lomond ES_AR_2020.rvt
 11/2/2022 11:17:52 AM



1 AXON VIEW AT BUILDING A AND B
A1.3A SCALE: 3" = 1'-0"



BUILDINGS A AND B ROOF PLANS
SCALE: 1/8" = 1'-0"

REFERENCE KEYNOTES

KEYNOTES

ROOF PLAN GENERAL NOTES

- A. (E) ROOF CURBS TO REMAIN U.N.O., SEE MECHANICAL DRAWINGS SHEET M1.3C FOR ADDITIONAL INFORMATION.
- B. 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.
- C. (E) DRAINS, CURBS, VENTS AND STACKS TO REMAINS.

DEMOLITION GENERAL NOTES

- DEMOLITION NOTES APPLY TO ALL DEMOLITION SHEETS.
- THE CONTRACTOR SHALL:
- A. 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.
 - B. COORDINATE ANY DISRUPTION OF UTILITY SERVICES WITH THE OWNER AND AS SPECIFIED.
 - C. 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.
 - D. MAINTAIN A SECURE, WEATHER-TIGHT ENCLOSURE AT ALL TIMES.
 - E. VERIFY ALL EXISTING CONDITIONS, DIMENSIONS AND ELEVATIONS AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES.
 - F. 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.
 - G. THE OWNER SHALL RESERVE THE RIGHT TO SALVAGE ANY MATERIALS.
 - H. PROVIDE PROTECTION FOR ALL EXISTING BUILDING MATERIALS AND EQUIPMENT FROM DAMAGE DUE TO ANY DEMOLITION OR CONSTRUCTION-RELATED INCIDENT PERFORMED UNDER THIS CONTRACT.
 - I. REPAIR OR REPLACE ITEMS THAT ARE DAMAGED AS A RESULT OF DEMOLITION OR CONSTRUCTION TO MATCH EXISTING FINISH AND/OR CONDITION.
 - J. EXISTING MATERIALS SHALL NOT BE REUSED UNLESS NOTED OTHERWISE OR AS AUTHORIZED BY ARCHITECT.
 - K. VERIFY AND MAINTAIN THE LOCATION OF EXISTING POWER, COMMUNICATION AND DATA CABLES TO PREVENT INTERRUPTION OF THEIR SERVICE.
 - L. 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.
 - M. CAP ALL DISCONNECTED MECHANICAL PIPING LINES WITHIN THE WALL OR FLOOR. PATCH AND FINISH AS REQUIRED TO MATCH NEW OR EXISTING ADJACENT SURFACES.
 - N. SEE MECHANICAL AND ELECTRICAL DRAWINGS AND NOTES FOR FURTHER SEQUENCING AND SCOPE OF WORK.
 - O. AVOID ANY DISTURBANCE OF SOILS WITHIN THE ZONE OF INFLUENCE AROUND EXISTING FOOTINGS AND FLOOR SLABS AS DIRECTED BY GEOTECHNICAL ENGINEER.
 - P. WHERE CMU WALLS ARE INDICATED TO BE REMOVED, PREPARE ADJACENT WALLS TO RECEIVE NEW PATCH/FINISH BY REMOVING CMU IN TOOTH-IN PATTERN BOTH SIDES OF DEMOLITION FOR CONTRACTOR TO TOOTH-IN NEW CMU PATCHES.
 - Q. WHERE PLASTER/STUO 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.

DLR Group
© DLR Group

LICENSED ARCHITECT
JESSIE MILLER
No. C-52306
10/31/2023
STATE OF CALIFORNIA

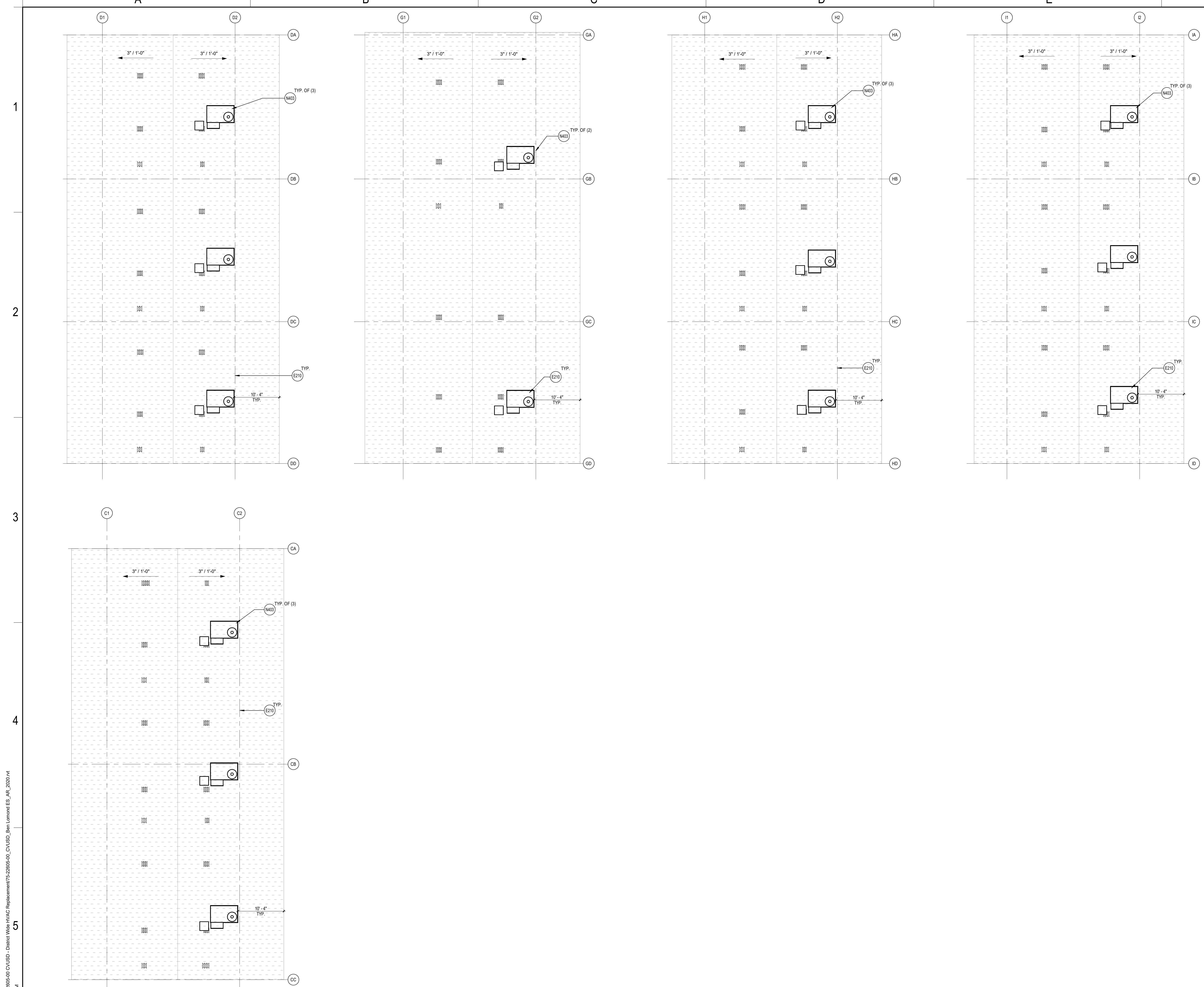
USG

BEN LOMOND ELEM. SCHOOL
COVID-19 COVINA VALLEY DISTRICT WIDE HVAC REPLACEMENT
687 E. COVINA BLVD COVINA, CA 91722

100%
CONSTRUCTION
DOCUMENT
11/08/2022
REVISIONS

75-22605
DSA A#03-122228
DSA File #: 19-25
BUILDINGS B
ROOF PLAN

A1.3A



REFERENCE KEYNOTES

KEYNOTES
 E210 LINE OF (E) BLDG BELOW SHOWN DASHED
 N403 (N) MECHANICAL UNITS ATTACHED TO THE (E) UNIT CURBS. SEE MECHANICAL DRAWING SHEET M1.38 & M1.3D

ROOF PLAN GENERAL NOTES

- A. (E) ROOF CURBS TO REMAIN U.N.O. SEE MECHANICAL DRAWINGS SHEET M1.3C FOR ADDITIONAL INFORMATION.
- B. 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.
- C. (E) DRAINS, CURBS, VENTS AND STACKS TO REMAIN.

DEMOLITION GENERAL NOTES

DEMOLITION NOTES APPLY TO ALL DEMOLITION SHEETS.

- THE CONTRACTOR SHALL:
- A. 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.
 - B. COORDINATE ANY DISRUPTION OF UTILITY SERVICES WITH THE OWNER AND AS SPECIFIED.
 - C. 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.
 - D. MAINTAIN A SECURE, WEATHER-TIGHT ENCLOSURE AT ALL TIMES.
 - E. VERIFY ALL EXISTING CONDITIONS, DIMENSIONS AND ELEVATIONS AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES.
 - F. REMOVE IN THEIR ENTIRETY ALL EXISTING WALLS, DOORS, MILLWORK, PLUMBING FIXTURES, CEILINGS, SOFFITS, MARKERS/BARDS, AND OTHER ITEMS, AS REQUIRED TO EXECUTE THE DEMOLITION/CONSTRUCTION WORK DESCRIBED BY THE DRAWINGS.
 - G. THE OWNER SHALL RESERVE THE RIGHT TO SALVAGE ANY MATERIALS.
 - H. PROVIDE PROTECTION FOR ALL EXISTING BUILDING MATERIALS AND EQUIPMENT FROM DAMAGE DUE TO ANY DEMOLITION OR CONSTRUCTION-RELATED INCIDENT PERFORMED UNDER THIS CONTRACT.
 - I. REPAIR OR REPLACE ITEMS THAT ARE DAMAGED AS A RESULT OF DEMOLITION OR CONSTRUCTION TO MATCH EXISTING FINISH AND/OR CONDITION.
 - J. EXISTING MATERIALS SHALL NOT BE REUSED UNLESS NOTED OTHERWISE OR AS AUTHORIZED BY ARCHITECT.
 - K. VERIFY AND MAINTAIN THE LOCATION OF EXISTING POWER, COMMUNICATION AND DATA CABLES TO PREVENT INTERRUPTION OF THEIR SERVICE.
 - L. 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.
 - M. CAP ALL DISCONNECTED MECHANICAL PIPING LINES WITHIN THE WALL OR FLOOR. PATCH AND FINISH AS REQUIRED TO MATCH NEW OR EXISTING ADJACENT SURFACES.
 - N. SEE MECHANICAL AND ELECTRICAL DRAWINGS AND NOTES FOR FURTHER SEQUENCING AND SCOPE OF WORK.
 - O. AVOID ANY DISTURBANCE OF SOILS WITHIN THE ZONE OF INFLUENCE AROUND EXISTING FOOTINGS AND FLOOR SLABS AS DIRECTED BY GEOTECHNICAL ENGINEER.
 - P. WHERE CMU WALLS ARE INDICATED TO BE REMOVED, PREPARE ADJACENT WALLS TO RECEIVE NEW PATCH/FINISH BY REMOVING CMU IN TOOTH-IN PATTERN BOTH SIDES OF DEMOLITION FOR CONTRACTOR TO TOOTH-IN NEW CMU PATCHES.
 - Q. 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.



BEN LOMOND ELEM. SCHOOL
 COVID-19 COVINA VALLEY DISTRICT WIDE HVAC REPLACEMENT
 687 E. COVINA BLVD COVINA, CA 91722

100%
 CONSTRUCTION
 DOCUMENT
 11/08/2022
 REVISIONS

75-22605
 DSA A#03-122228
 DSA File #: 19-25
 BUILDINGS CDGH
 AND I ROOF
 PLANS

A1.3C

Autodesk Docs/75-22605-00 CVUSD - District Wide HVAC Replacement/75-22605-00 CVUSD_Ben Lomond ES_AR_2020.rvt
 11/2/2022 11:17:53 AM

BUILDINGS CDGH AND I ROOF PLANS
 SCALE: 1/8" = 1'-0"

A

B

C

D

E

F

1

2

3

4

5

REFERENCE KEYNOTES

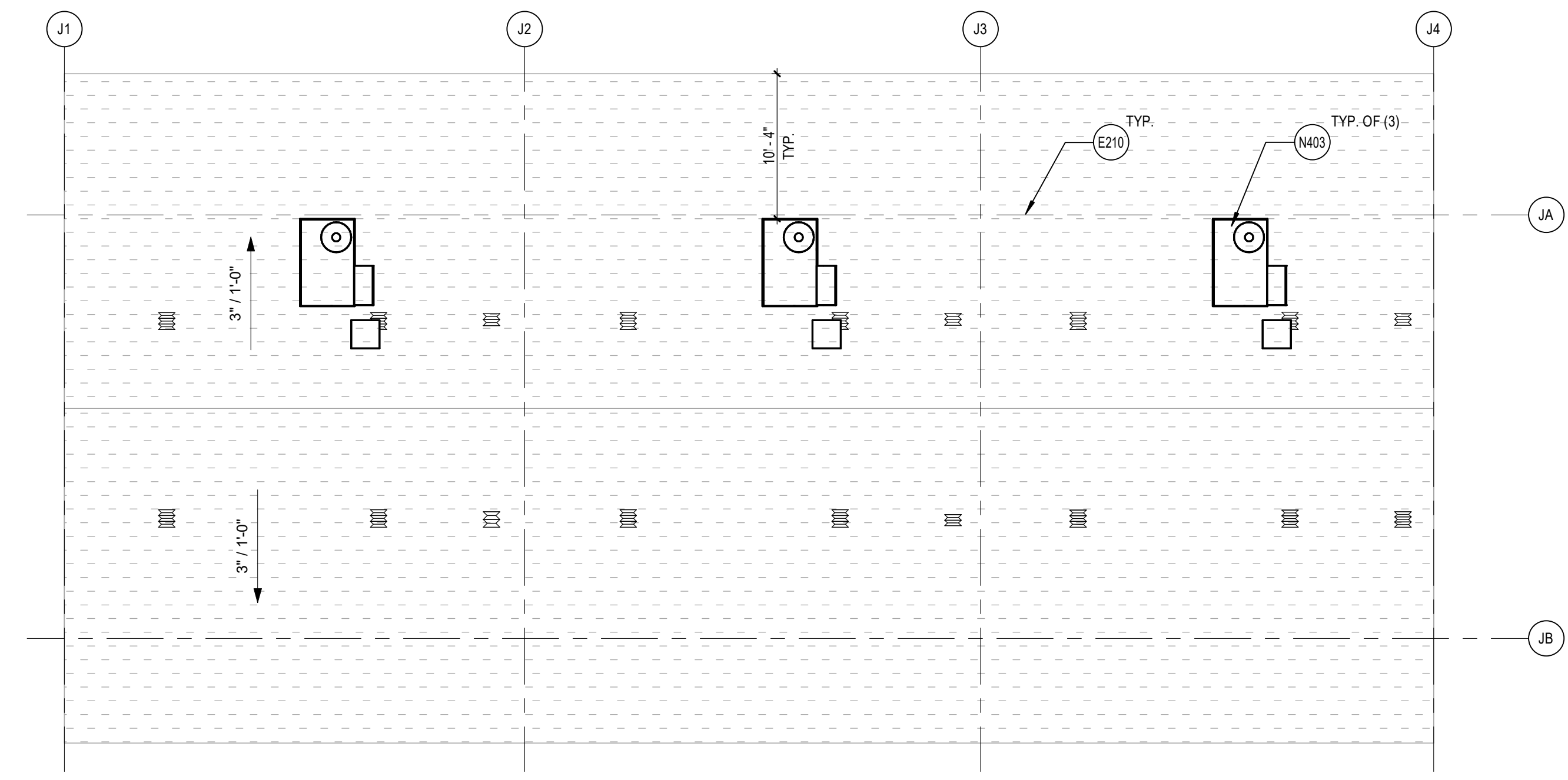
KEYNOTES	
E210	LINE OF (E) BLDG BELOW SHOWN DASHED
N403	(N) MECHANICAL UNITS ATTACHED TO THE (E) UNIT CURB. SEE MECHANICAL DRAWING SHEET M1.38 & M1.3D

ROOF PLAN GENERAL NOTES

- A. (E) ROOF CURBS TO REMAIN U.N.O., SEE MECHANICAL DRAWINGS SHEET M1.3C FOR ADDITIONAL INFORMATION.
- B. 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.
- C. (E) DRAINS, CURBS, VENTS AND STACKS TO REMAINS.

DEMOLITION GENERAL NOTES

- DEMOLITION NOTES APPLY TO ALL DEMOLITION SHEETS.
- THE CONTRACTOR SHALL:
- A. 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.
 - B. COORDINATE ANY DISRUPTION OF UTILITY SERVICES WITH THE OWNER AND AS SPECIFIED.
 - C. 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.
 - D. MAINTAIN A SECURE, WEATHER-TIGHT ENCLOSURE AT ALL TIMES.
 - E. VERIFY ALL EXISTING CONDITIONS, DIMENSIONS AND ELEVATIONS AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES.
 - F. REMOVE IN THEIR ENTIRETY ALL EXISTING WALLS, DOORS, MILLWORK, PLUMBING FIXTURES, CEILINGS, SOFFITS, MARKERS/BARDS, AND OTHER ITEMS, AS REQUIRED TO EXECUTE THE DEMOLITION/CONSTRUCTION WORK DESCRIBED BY THE DRAWINGS.
 - G. THE OWNER SHALL RESERVE THE RIGHT TO SALVAGE ANY MATERIALS.
 - H. PROVIDE PROTECTION FOR ALL EXISTING BUILDING MATERIALS AND EQUIPMENT FROM DAMAGE DUE TO ANY DEMOLITION OR CONSTRUCTION-RELATED INCIDENT PERFORMED UNDER THIS CONTRACT.
 - I. REPAIR OR REPLACE ITEMS THAT ARE DAMAGED AS A RESULT OF DEMOLITION OR CONSTRUCTION TO MATCH EXISTING FINISH AND/OR CONDITION.
 - J. EXISTING MATERIALS SHALL NOT BE REUSED UNLESS NOTED OTHERWISE OR AS AUTHORIZED BY ARCHITECT.
 - K. VERIFY AND MAINTAIN THE LOCATION OF EXISTING POWER, COMMUNICATION AND DATA CABLES TO PREVENT INTERRUPTION OF THEIR SERVICE.
 - L. 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.
 - M. CAP ALL DISCONNECTED MECHANICAL PIPING LINES WITHIN THE WALL OR FLOOR. PATCH AND FINISH AS REQUIRED TO MATCH NEW OR EXISTING ADJACENT SURFACES.
 - N. SEE MECHANICAL AND ELECTRICAL DRAWINGS AND NOTES FOR FURTHER SEQUENCING AND SCOPE OF WORK.
 - O. AVOID ANY DISTURBANCE OF SOILS WITHIN THE ZONE OF INFLUENCE AROUND EXISTING FOOTINGS AND FLOOR SLABS AS DIRECTED BY GEOTECHNICAL ENGINEER.
 - P. WHERE CMU WALLS ARE INDICATED TO BE REMOVED, PREPARE ADJACENT WALLS TO RECEIVE NEW PATCH/FINISH BY REMOVING CONTRACTOR TO TOOTH-IN NEW CMU PATCHES.
 - Q. 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.



 **BUILDINGS J AND Q ROOF PLANS**
SCALE: 1/8" = 1'-0"



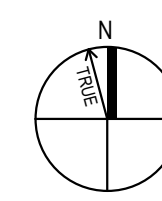
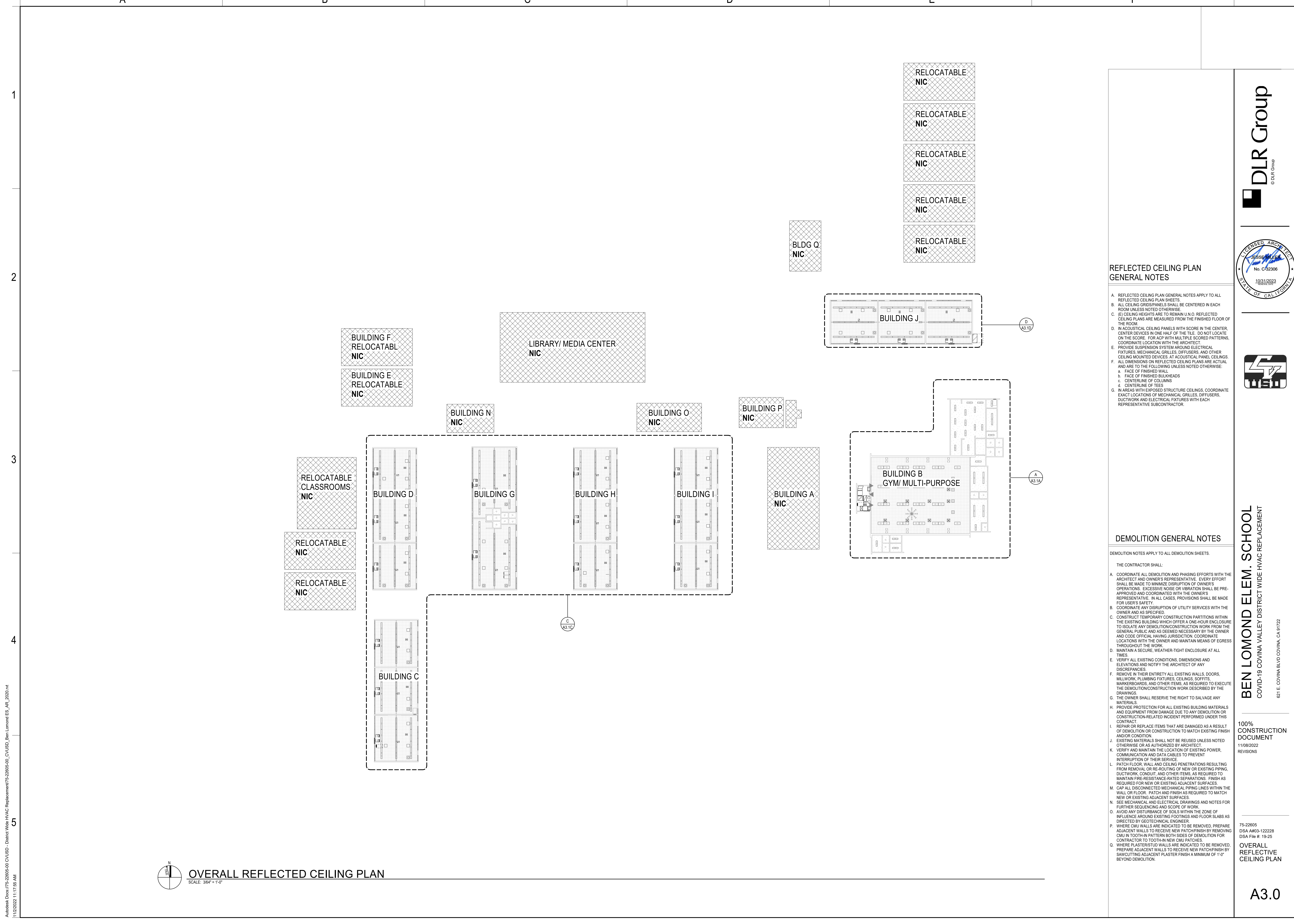
BEN LOMOND ELEM. SCHOOL
COVID-19 COVINA VALLEY DISTRICT WIDE HVAC REPLACEMENT
681 E. COVINA BLVD COVINA, CA 91722

100%
CONSTRUCTION
DOCUMENT
11/08/2022
REVISIONS

75-22605
DSA A#03-122228
DSA File #: 19-25

BUILDINGS J AND Q ROOF PLANS

A1.3D



OVERALL REFLECTED CEILING PLAN

SCALE: 3/64" = 1'-0"

**REFLECTED CEILING PLAN
GENERAL NOTES**

- A. REFLECTED CEILING PLAN GENERAL NOTES APPLY TO ALL REFLECTED CEILING PLAN SHEETS.
- B. ALL CEILING GRIDS/PANELS SHALL BE CENTERED IN EACH ROOM UNLESS NOTED OTHERWISE.
- C. (E) CEILING HEIGHTS ARE TO REMAIN U.N.O. REFLECTED CEILING PLANS ARE MEASURED FROM THE FINISHED FLOOR OF THE ROOM.
- D. 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.
- E. PROVIDE SUSPENSION SYSTEM AROUND ELECTRICAL FIXTURES, MECHANICAL GRILLES, DIFFUSERS, AND OTHER CEILING MOUNTED DEVICES AT ACOUSTICAL PANEL CEILINGS.
- F. ALL DIMENSIONS ON REFLECTED CEILING PLANS ARE ACTUAL AND ARE TO THE FOLLOWING UNLESS NOTED OTHERWISE.
 - a. FACE OF FINISHED WALL
 - b. FACE OF FINISHED BULKHEADS
 - c. CENTERLINE OF COLUMNS
 - d. CENTERLINE OF TEES
- G. IN AREAS WITH EXPOSED STRUCTURE CEILINGS, COORDINATE EXACT LOCATIONS OF MECHANICAL GRILLES, DIFFUSERS, DUCTWORK AND ELECTRICAL FIXTURES WITH EACH REPRESENTATIVE SUBCONTRACTOR.

DEMOLITION GENERAL NOTES

- DEMOLITION NOTES APPLY TO ALL DEMOLITION SHEETS.
- THE CONTRACTOR SHALL:
- A. 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.
 - B. COORDINATE ANY DISRUPTION OF UTILITY SERVICES WITH THE OWNER AND AS SPECIFIED.
 - C. 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.
 - D. MAINTAIN A SECURE, WEATHER-TIGHT ENCLOSURE AT ALL TIMES.
 - E. VERIFY ALL EXISTING CONDITIONS, DIMENSIONS AND ELEVATIONS AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES.
 - F. REMOVE IN THEIR ENTIRETY ALL EXISTING WALLS, DOORS, MILLWORK, PLUMBING FIXTURES, CEILINGS, SOFFITS, MARKERS/BARDS, AND OTHER ITEMS, AS REQUIRED TO EXECUTE THE DEMOLITION/CONSTRUCTION WORK DESCRIBED BY THE DRAWINGS.
 - G. THE OWNER SHALL RESERVE THE RIGHT TO SALVAGE ANY MATERIALS.
 - H. PROVIDE PROTECTION FOR ALL EXISTING BUILDING MATERIALS AND EQUIPMENT FROM DAMAGE DUE TO ANY DEMOLITION OR CONSTRUCTION-RELATED INCIDENT PERFORMED UNDER THIS CONTRACT.
 - I. REPAIR OR REPLACE ITEMS THAT ARE DAMAGED AS A RESULT OF DEMOLITION OR CONSTRUCTION TO MATCH EXISTING FINISH AND/OR CONDITION.
 - J. EXISTING MATERIALS SHALL NOT BE REUSED UNLESS NOTED OTHERWISE OR AS AUTHORIZED BY ARCHITECT.
 - K. VERIFY AND MAINTAIN THE LOCATION OF EXISTING POWER, COMMUNICATION AND DATA CABLES TO PREVENT INTERRUPTION OF THEIR SERVICE.
 - L. 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.
 - M. CAP ALL DISCONNECTED MECHANICAL PIPING LINES WITHIN THE WALL OR FLOOR. PATCH AND FINISH AS REQUIRED TO MATCH NEW OR EXISTING ADJACENT SURFACES.
 - N. SEE MECHANICAL AND ELECTRICAL DRAWINGS AND NOTES FOR FURTHER SEQUENCING AND SCOPE OF WORK.
 - O. AVOID ANY DISTURBANCE OF SOILS WITHIN THE ZONE OF INFLUENCE AROUND EXISTING FOOTINGS AND FLOOR SLABS AS DIRECTED BY GEOTECHNICAL ENGINEER.
 - P. WHERE CMU WALLS ARE INDICATED TO BE REMOVED, PREPARE ADJACENT WALLS TO RECEIVE NEW PATCH/FINISH BY REMOVING CMU IN TOOTH-IN PATTERN BOTH SIDES OF DEMOLITION FOR CONTRACTOR TO TOOTH-IN NEW CMU PATCHES.
 - Q. 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.



BEN LOMOND ELEM. SCHOOL
 COVID-19 COVINA VALLEY DISTRICT WIDE HVAC REPLACEMENT
 621 E. COVINA BLVD COVINA, CA 91722

100%
CONSTRUCTION DOCUMENT
 11/08/2022
 REVISIONS

75-22605
 DSA A#03-122228
 DSA File #: 19-25

OVERALL REFLECTIVE CEILING PLAN

A3.0

Autodesk Docs/175-22605-00_CVUSD - District Wide HVAC Replacement/75-22605-00_CVUSD_Ben Lomond ES_AR_2020.rvt
 11/2/2022 11:17:55 AM

REFERENCE KEYNOTES

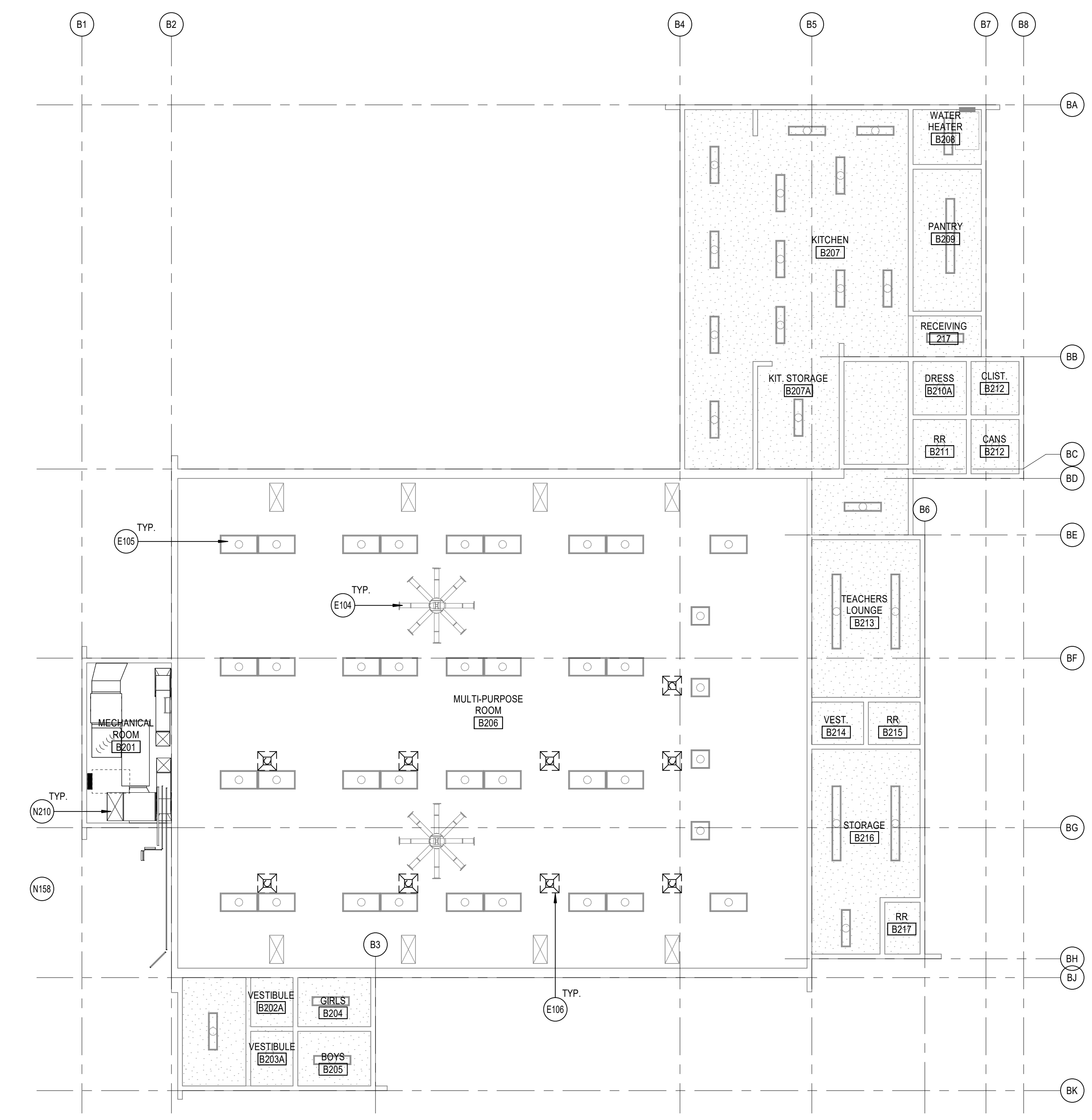
KEYNOTES	KEYNOTES
E104	(E) CEILING FAN TO REMAIN, PROTECT IN PLACE
E105	(E) LIGHT FIXTURES TO REMAIN, PROTECT IN PLACE
E106	(E) DIFFUSERS AND GRILLES, REFER TO MECHANICAL DRAWINGS
N210	REPLACE (E) DUCTWORK, REFER TO MECHANICAL DRAWINGS

REFLECTED CEILING PLAN
GENERAL NOTES

- REFLECTED CEILING PLAN GENERAL NOTES APPLY TO ALL REFLECTED CEILING PLAN SHEETS
- ALL CEILING GRIDS/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 FINISHED 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
- PROVIDE SUSPENSION SYSTEM AROUND ELECTRICAL FIXTURES, MECHANICAL GRILLES, DIFFUSERS, AND OTHER CEILING MOUNTED DEVICES AT ACOUSTICAL PANEL CEILINGS
- 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.

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, MARKERS/BOARDS, 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 ENGINEER.
 - WHERE CMU WALLS ARE INDICATED TO BE REMOVED, PREPARE ADJACENT WALLS TO RECEIVE NEW PATCH/FINISH BY REMOVING CMU IN TOOTH-IN PATTERN BOTH SIDES OF DEMOLITION FOR CONTRACTOR TO TOOTH-IN NEW CMU PATCHES.
 - WHERE PLASTER/STUO 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.



BUILDINGS A AND B REFLECTED CEILING PLANS
SCALE: 1/8" = 1'-0"

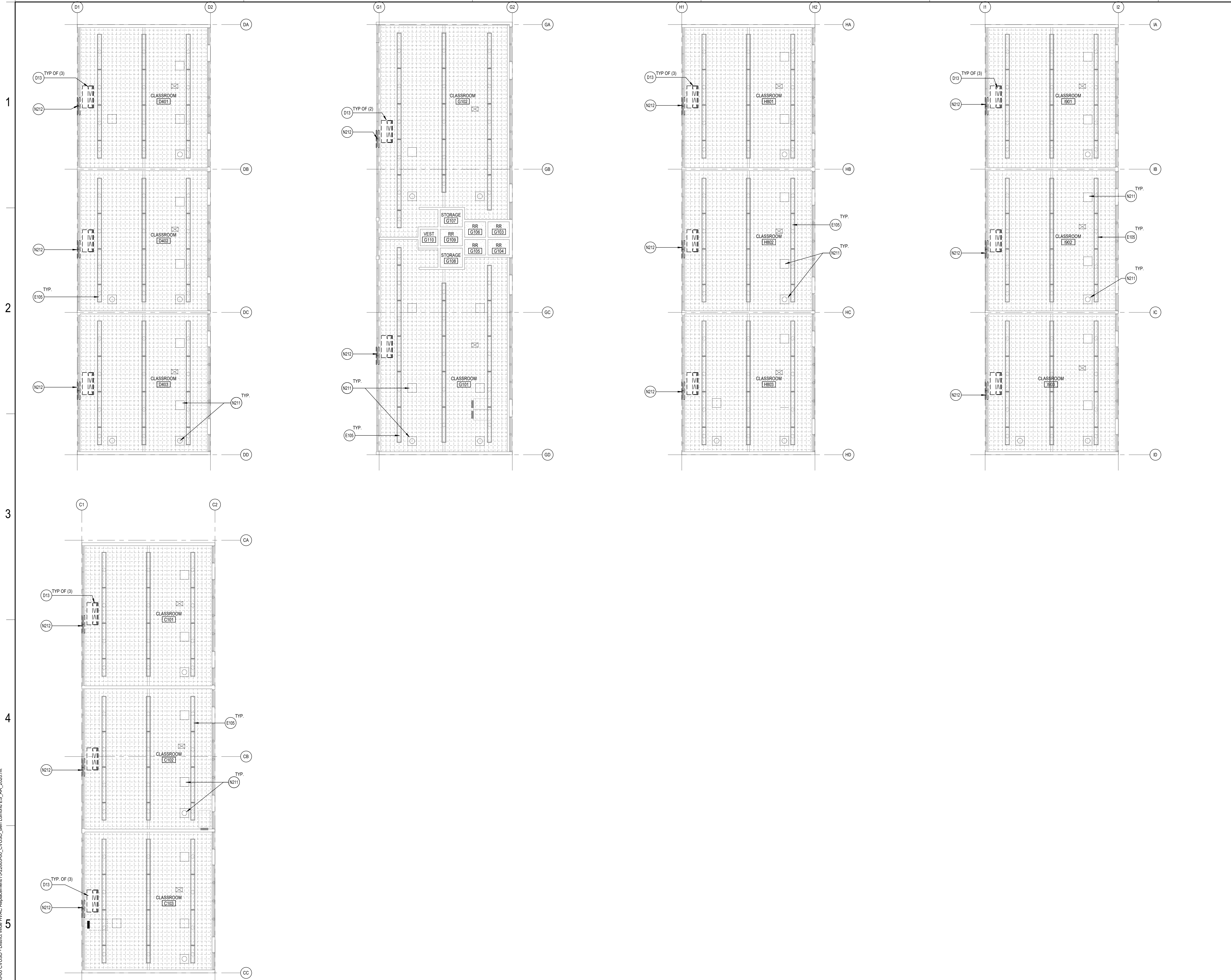


BEN LOMOND ELEM. SCHOOL
COVID-19 COVINA VALLEY DISTRICT WIDE HVAC REPLACEMENT
621 E. COVINA BLVD COVINA, CA 91722

100%
CONSTRUCTION
DOCUMENT
11/08/2022
REVISIONS

75-22605
DSA A#03-122228
DSA File #: 19-25
**BUILDINGS B
REFLECTED
CEILING PLANS**

A3.1A



REFERENCE KEYNOTES

KEYNOTES	KEYNOTES
D13	REMOVE (E) CEILING MOUNTED FAN COIL UNIT - SEE MECHANICAL DRAWINGS
E105	(E) LIGHT FIXTURES TO REMAIN, PROTECT IN PLACE
N211	REPLACE (E) DIFFUSERS AND GRILLES TO MATCH (E) CEILING TILES, REFER TO MECHANICAL DRAWINGS
N212	REPLACE (E) INFL. PANEL AT CONDENSER UNIT PENETRATIONS WITH GLAZING TO MATCH ADJACENT. PAINT FRAME TO MATCH ADJACENT

REFLECTED CEILING PLAN GENERAL NOTES

- REFLECTED CEILING PLAN GENERAL NOTES APPLY TO ALL REFLECTED CEILING PLAN SHEETS
- ALL CEILING GRIDS/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 FINISHED 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
- PROVIDE SUSPENSION SYSTEM AROUND ELECTRICAL FIXTURES, MECHANICAL GRILLES, DIFFUSERS, AND OTHER CEILING MOUNTED DEVICES AT ACOUSTICAL PANEL CEILING. 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.

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, MARKERS/BARDS, 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 ENGINEER.
 - WHERE CMU WALLS ARE INDICATED TO BE REMOVED, PREPARE ADJACENT WALLS TO RECEIVE NEW PATCH/FINISH BY REMOVING CMU IN TOOTH-IN PATTERN BOTH SIDES OF DEMOLITION FOR CONTRACTOR TO TOOTH-IN NEW CMU PATCHES.
 - 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.

DLR Group
© DLR Group

JESSIE MILLER
No. C-52306
10/31/2023
STATE OF CALIFORNIA
LICENSED ARCHITECT

USG

BEN LOMOND ELEM. SCHOOL
COVID-19 COVINA VALLEY DISTRICT WIDE HVAC REPLACEMENT
681 E. COVINA BLVD COVINA, CA 91722

100%
CONSTRUCTION DOCUMENT
11/08/2022
REVISIONS

75-22605
DSA A#03-122228
DSA File #: 19-25
BUILDINGS CDGH AND I REFLECTED CEILING PLANS

A3.1C

Autodesk Docs/175-22605-00_CVUSD - District Wide HVAC Replacement/175-22605-00_CVUSD - Ben Lomond ES_AR_2020.rvt
11/2/2022 11:17:57 AM

AREA C - REFLECTED CEILING PLAN
SCALE: 1/8" = 1'-0"

A

B

C

D

E

F

1

2

3

4

5

REFERENCE KEYNOTES

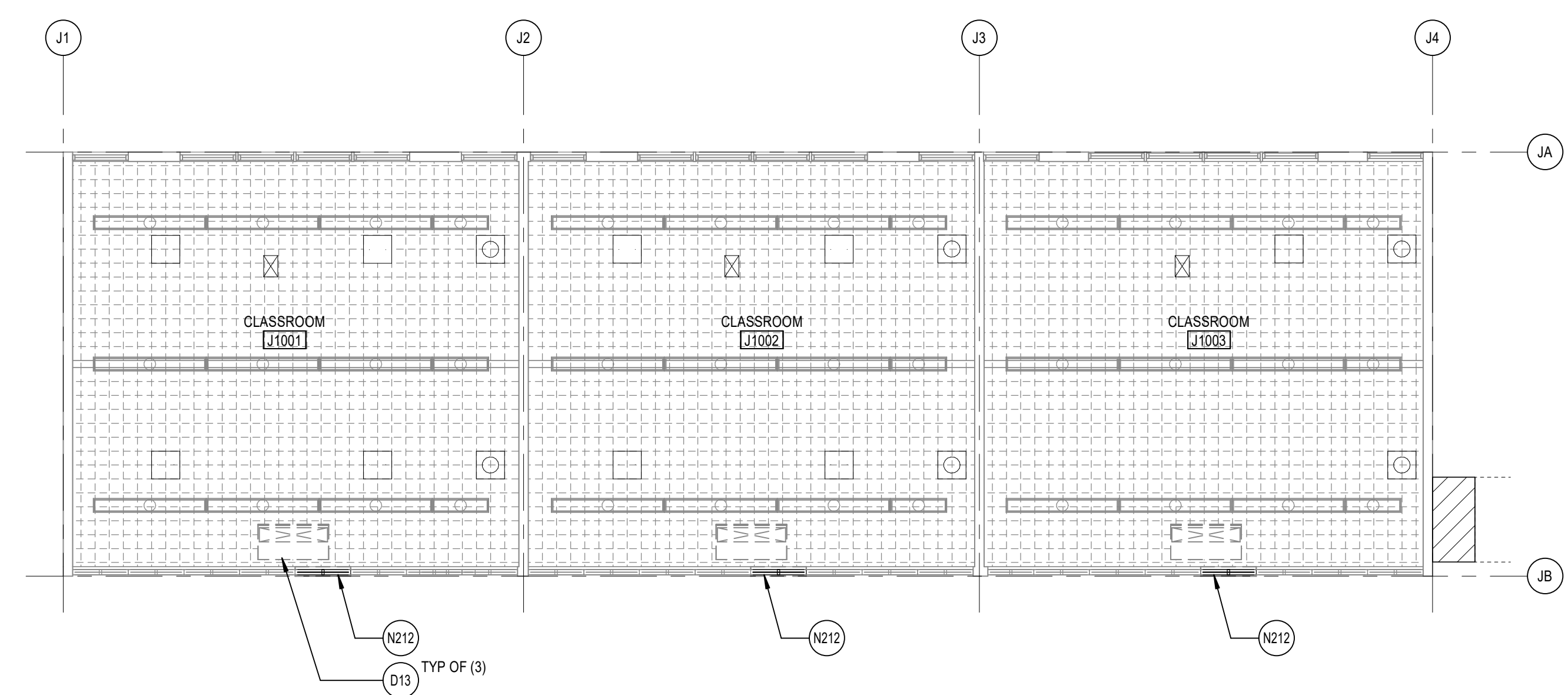
KEYNOTES	
D13	REMOVE (E) CEILING MOUNTED FAN COIL UNIT - SEE MECHANICAL DRAWINGS
N212	REPLACE (E) INFILL PANEL AT CONDENSER UNIT PENETRATIONS WITH GLAZING TO MATCH ADJACENT. PAINT FRAME TO MATCH ADJACENT.

REFLECTED CEILING PLAN GENERAL NOTES

- A. REFLECTED CEILING PLAN GENERAL NOTES APPLY TO ALL REFLECTED CEILING PLAN SHEETS.
- B. ALL CEILING GRIDS/PANELS SHALL BE CENTERED IN EACH ROOM UNLESS NOTED OTHERWISE.
- C. (E) CEILING HEIGHTS ARE TO REMAIN U.N.O. REFLECTED CEILING PLANS ARE MEASURED FROM THE FINISHED FLOOR OF THE ROOM.
- D. 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.
- E. PROVIDE SUSPENSION SYSTEM AROUND ELECTRICAL FIXTURES, MECHANICAL GRILLES, DIFFUSERS, AND OTHER CEILING MOUNTED DEVICES AT ACOUSTICAL PANEL CEILINGS.
- F. ALL DIMENSIONS ON REFLECTED CEILING PLANS ARE ACTUAL AND ARE TO THE FOLLOWING UNLESS NOTED OTHERWISE.
 - a. FACE OF FINISHED WALL
 - b. FACE OF FINISHED BULKHEADS
 - c. CENTERLINE OF COLUMNS
 - d. CENTERLINE OF TEES
- G. IN AREAS WITH EXPOSED STRUCTURE CEILINGS, COORDINATE EXACT LOCATIONS OF MECHANICAL GRILLES, DIFFUSERS, DUCTWORK AND ELECTRICAL FIXTURES WITH EACH REPRESENTATIVE SUBCONTRACTOR.

DEMOLITION GENERAL NOTES

- DEMOLITION NOTES APPLY TO ALL DEMOLITION SHEETS.
- THE CONTRACTOR SHALL:
- A. 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.
 - B. COORDINATE ANY DISRUPTION OF UTILITY SERVICES WITH THE OWNER AND AS SPECIFIED.
 - C. 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.
 - D. MAINTAIN A SECURE, WEATHER-TIGHT ENCLOSURE AT ALL TIMES.
 - E. VERIFY ALL EXISTING CONDITIONS, DIMENSIONS AND ELEVATIONS AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES.
 - F. REMOVE IN THEIR ENTIRETY ALL EXISTING WALLS, DOORS, MILLWORK, PLUMBING FIXTURES, CEILINGS, SOFFITS, MARKERS/BARDS, AND OTHER ITEMS, AS REQUIRED TO EXECUTE THE DEMOLITION/CONSTRUCTION WORK DESCRIBED BY THE DRAWINGS.
 - G. THE OWNER SHALL RESERVE THE RIGHT TO SALVAGE ANY MATERIALS.
 - H. PROVIDE PROTECTION FOR ALL EXISTING BUILDING MATERIALS AND EQUIPMENT FROM DAMAGE DUE TO ANY DEMOLITION OR CONSTRUCTION-RELATED INCIDENT PERFORMED UNDER THIS CONTRACT.
 - I. REPAIR OR REPLACE ITEMS THAT ARE DAMAGED AS A RESULT OF DEMOLITION OR CONSTRUCTION TO MATCH EXISTING FINISH AND/OR CONDITION.
 - J. EXISTING MATERIALS SHALL NOT BE REUSED UNLESS NOTED OTHERWISE OR AS AUTHORIZED BY ARCHITECT.
 - K. VERIFY AND MAINTAIN THE LOCATION OF EXISTING POWER, COMMUNICATION AND DATA CABLES TO PREVENT INTERRUPTION OF THEIR SERVICE.
 - L. 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.
 - M. CAP ALL DISCONNECTED MECHANICAL PIPING LINES WITHIN THE WALL OR FLOOR. PATCH AND FINISH AS REQUIRED TO MATCH NEW OR EXISTING ADJACENT SURFACES.
 - N. SEE MECHANICAL AND ELECTRICAL DRAWINGS AND NOTES FOR FURTHER SEQUENCING AND SCOPE OF WORK.
 - O. AVOID ANY DISTURBANCE OF SOILS WITHIN THE ZONE OF INFLUENCE AROUND EXISTING FOOTINGS AND FLOOR SLABS AS DIRECTED BY GEOTECHNICAL ENGINEER.
 - P. WHERE CMU WALLS ARE INDICATED TO BE REMOVED, PREPARE ADJACENT WALLS TO RECEIVE NEW PATCH/FINISH BY REMOVING CMU IN TOOTH-IN PATTERN BOTH SIDES OF DEMOLITION FOR CONTRACTOR TO TOOTH-IN NEW CMU PATCHES.
 - Q. WHERE PLASTER/STUCCO 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.



BUILDINGS J AND Q REFLECTED CEILING PLANS
 SCALE: 1/8" = 1'-0"



BEN LOMOND ELEM. SCHOOL
 COVID-19 COVINA VALLEY DISTRICT WIDE HVAC REPLACEMENT
 681 E. COVINA BLVD COVINA, CA 91722

100%
 CONSTRUCTION
 DOCUMENT
 11/08/2022
 REVISIONS

75-22605
 DSA A#03-122228
 DSA File #: 19-25
BUILDINGS J AND Q REFLECTED CEILING PLANS

A3.1D

ABBREVIATIONS

ABBREVIATIONS

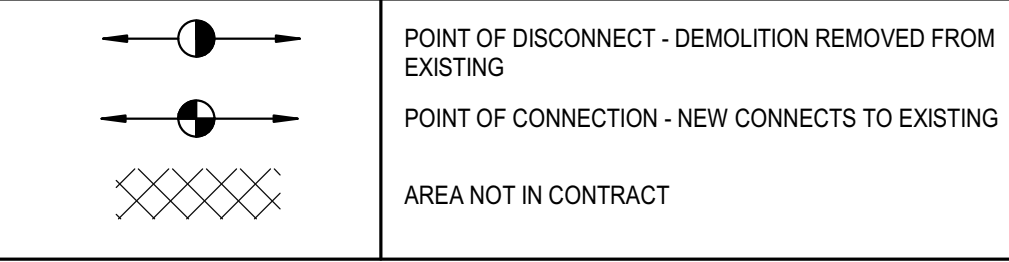
SHEET INDEX

Table of abbreviations for mechanical, electrical, and plumbing symbols, including terms like DEMOLISHED, EXISTING, and AIR CONDITIONING.

Table of abbreviations for mechanical, electrical, and plumbing symbols, including terms like HIGH TEMPERATURE HOT WATER SUPPLY, HUMIDIFIER, and HEATING VENTILATING UNIT.

Table of sheet index including MECHANICAL SYMBOLS, ABBREVIATIONS & NOTES, and overall mechanical floor plan information.

GENERAL SYMBOLS



GENERAL NOTES

- 1 THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING, PRIOR TO FINAL BID... 2 WHERE FLOOR DRAINS OCCUR WITHIN THE LIMITS OF CONSTRUCTION...

GENERAL HVAC NOTES

- 1 CONDENSATE DRAINS SHALL BE SUPPLIED FOR ALL COOLING EQUIPMENT... 2 ALL SUPPLY, RETURN, AND EXHAUST DUCTWORK SHALL BE RATED FOR PRESSURE CLASS OF 2" W.G. UNLESS NOTED OTHERWISE...

HVAC SYMBOLS

Table of HVAC symbols including schematic, 3D, and description for various components like gas flue exhaust air, general exhaust air, and diffusers.

PIPING VALVES AND FITTINGS

Table of piping valves and fittings including schematic, 3D, and description for components like pipe drop, pipe rise, pipe tee down, and various valves.

EQUIPMENT ANCHORAGE NOTE

MEP COMPONENT ANCHORAGE NOTE
ALL MECHANICAL, PLUMBING, AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE OSA APPROVED CONSTRUCTION DOCUMENTS...

ACCEPTANCE TESTING

MANDATORY ACCEPTANCE TESTING PER TITLE 24, PART 6 SHALL BE AS FOLLOWS:
NRCAMCH-02A - OUTDOOR AIR ACCEPTANCE
NRCAMCH-03A - CONSTANT VOLUME, SINGLE ZONE, UNITARY AIR CONDITIONER AND HEAT PUMP SYSTEMS...

MECHANICAL MANDATORY MEASURES

EQUIPMENT AND SYSTEMS EFFICIENCY
ANY APPLIANCE FOR WHICH THERE IS A CALIFORNIA STANDARD ESTABLISHED IN THE APPLIANCE EFFICIENCY STANDARDS SHALL COMPLY WITH THAT STANDARD.
PIPING, EXCEPT THOSE CONVEYING FLUIDS WITH A DESIGN OPERATING TEMPERATURE BETWEEN 60°F AND 105°F...
VENTILATION
CONTROLS SHALL BE PROVIDED TO ALLOW OUTSIDE AIR DAMPERS OR DEVICES TO BE OPERATED AT THE VENTILATION RATES AS SPECIFIED IN THESE PLANS...



Ben Lomond Elementary School
COVINA VALLEY USD
681 E COVINA BLVD, COVINA, CA 91722

100% CONSTRUCTION DOCUMENT
11/08/2022
REVISIONS

75-22605-00

MECHANICAL SYMBOLS, ABBREVIATIONS & NOTES

MO.1

Autodesk Docs/175-22605-00_CVUSD - District Wide HVAC Replacement/75-22605-00_CVUSD - Ben Lomond ES_MEP_2022.rvt
11/02/2022 4:42:43 PM

NOTE
ALL NOTES ON THIS SHEET ARE APPLICABLE TO ALL OTHER SHEETS IN THIS SET.
THE SYMBOLS AND ABBREVIATIONS SHOWN ON THIS SHEET MAY OR MAY NOT BE APPLICABLE IN THIS SET OF DRAWINGS.

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

CERTIFICATE OF COMPLIANCE NRCC-MCH-E
 Project Name: CVUSD Ben Lomond Report Page: (Page 1 of 39)
 Project Address: 621 E Covina Blvd Date Prepared: 7/19/2022

A. GENERAL INFORMATION

01 Project Location (city)	Covina	04 Total Conditioned Floor Area	19700
02 Climate Zone	10	05 Total Unconditioned Floor Area	0
03 Occupancy Types Within Project:		06 # of Stories (Habitable Above Grade)	1
<input type="checkbox"/> Office (B)	<input type="checkbox"/> Retail (M)	<input type="checkbox"/> Non-refrigerated Warehouse (S)	
<input type="checkbox"/> Hotel/ Motel Guest Rooms (R-1)	<input type="checkbox"/> School (E)	<input type="checkbox"/> Healthcare Facility (H)	
<input type="checkbox"/> High-Rise Residential (R-2/R-3)	<input type="checkbox"/> Relocatable Class Bldg (E)	<input checked="" type="checkbox"/> Other (write in)	See Table J

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.

01 Air System(s)	02 Wet System Components	03 Dry System Components
<input checked="" type="checkbox"/> Heating Air System	<input type="checkbox"/> Water Economizer	<input checked="" type="checkbox"/> Air Economizer
<input checked="" type="checkbox"/> Cooling Air System	<input type="checkbox"/> Pumps	<input type="checkbox"/> Electric Resistance Heat
<input type="checkbox"/> Mechanical Controls (existing to remain, altered or new)	<input type="checkbox"/> System Piping	<input checked="" type="checkbox"/> Fan Systems
<input checked="" type="checkbox"/> Mechanical Controls (existing to remain, altered or new)	<input type="checkbox"/> Cooling Towers	<input checked="" type="checkbox"/> Ductwork (existing to remain, altered or new)
<input type="checkbox"/> Chillers	<input type="checkbox"/> Boilers	<input type="checkbox"/> Zonal Systems/ Terminal Boxes
<input type="checkbox"/> Ventilation		

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: 2022-07-19 14:35:20

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

CERTIFICATE OF COMPLIANCE NRCC-MCH-E
 Project Name: CVUSD Ben Lomond Report Page: (Page 4 of 39)
 Project Address: 621 E Covina Blvd Date Prepared: 7/19/2022

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

01	02	03	04	05	06	07	08	09	10	11
RTU-H1	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	NA: Load Controls	20.14	34.1	0	29.74	26.15	55.22	69.3
RTU-H2	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	NA: Load Controls	20.14	34.1	0	29.73	26.15	53.28	68.55
RTU-H3	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	NA: Load Controls	20.14	34.1	0	29.74	26.15	55.12	69.12
RTU-J1	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	NA: Load Controls	20.14	34.1	0	29.59	26.15	55.22	55.15
RTU-J2	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	NA: Load Controls	20.14	34.1	0	29.57	26.15	53.28	53.97
RTU-J3	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	NA: Load Controls	20.14	34.1	0	29.58	26.15	55.12	54.43
RTU-I1	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	NA: Load Controls	20.14	34.1	0	29.74	26.15	55.22	69.3
RTU-I2	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	NA: Load Controls	20.14	34.1	0	29.73	26.15	53.28	68.55
RTU-I3	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	NA: Load Controls	20.14	34.1	0	29.74	26.15	55.12	69.12

¹ 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.
² It is common practice to show rated output capacity on the equipment schedule. Sensible cooling output comes from specification sheet tables.
³ If equipment is heating only, leave cooling output and load blank. If equipment is cooling only, leave heating output and load blank.
⁴ Authority Having Jurisdiction may ask for load calculations used for compliance per §140.4(b).

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: 2022-07-19 14:35:20

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

CERTIFICATE OF COMPLIANCE NRCC-MCH-E
 Project Name: CVUSD Ben Lomond Report Page: (Page 7 of 39)
 Project Address: 621 E Covina Blvd Date Prepared: 7/19/2022

H. FAN SYSTEMS & AIR ECONOMIZERS

System Name:	RTU-C2	Economizer: ¹	NA: <=54 kbtu/h cooling	Economizer Controls:	Designed per §140.4(a) and (m)	System Fan Type:	Constant Volume
01	02	03	04	05	06	07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit ²	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4-B	Design Airflow through Device (CFM)
SF	Supply	1	1200	BHP	0.91		
Total System Design Supply Airflow (CFM):			1200	Total System Design (B)HP:		0.91	Maximum System Fan Power (B)HP:

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: 2022-07-19 14:35:20

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

CERTIFICATE OF COMPLIANCE NRCC-MCH-E
 Project Name: CVUSD Ben Lomond Report Page: (Page 2 of 39)
 Project Address: 621 E Covina Blvd Date Prepared: 7/19/2022

C. COMPLIANCE RESULTS
 This table 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.

01	02	03	04	05	06	07	08	09
System Summary §110.1, §110.2, §140.4	AND	Pumps §140.4(f)	AND	Fans/Economizers §140.4(c), §140.4(e)	AND	System Controls §110.2, §120.2, §140.4(f)	AND	Ventilation §120.1
(See Table F)	(See Table G)	(See Table H)	(See Table I)	(See Table J)	(See Table K)	(See Table L)	(See Table M)	COMPLIES

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: 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: 2022-07-19 14:35:20

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

CERTIFICATE OF COMPLIANCE NRCC-MCH-E
 Project Name: CVUSD Ben Lomond Report Page: (Page 5 of 39)
 Project Address: 621 E Covina Blvd Date Prepared: 7/19/2022

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

01	02	03	04	05	06	07	08	09
Name or Item Tag	Size Category (Btu/h)	Rating Condition (°F)	Efficiency Unit	Minimum Efficiency Required per Tables 110.2 / Title 20	Design Efficiency	Efficiency Unit	Minimum Efficiency Required per Tables 110.2 / Title 20	Design Efficiency
FCU/CU-B1	>=65,000 and <135,000		COP	3.3	3.5	EER / IEER	11 / 12.2	12 / 12.9
RTU-C1	<=65,000		HSPF	7.7	13	SEER	13.0	14.3
RTU-C2	<=65,000		HSPF	7.7	13	SEER	13.0	14.3
RTU-C3	<=65,000		HSPF	7.7	13	SEER	13.0	14.3
RTU-D1	<=65,000		HSPF	7.7	13	SEER	13.0	14.3
RTU-D2	<=65,000		HSPF	7.7	13	SEER	13.0	14.3
RTU-D3	<=65,000		HSPF	7.7	13	SEER	13.0	14.3
RTU-G1	<=65,000		HSPF	7.7	13	SEER	13.0	14.3
RTU-G2	<=65,000		HSPF	7.7	13	SEER	13.0	14.3
RTU-H1	<=65,000		HSPF	7.7	13	SEER	13.0	14.3
RTU-H2	<=65,000		HSPF	7.7	13	SEER	13.0	14.3
RTU-H3	<=65,000		HSPF	7.7	13	SEER	13.0	14.3
RTU-I1	<=65,000		HSPF	7.7	13	SEER	13.0	14.3
RTU-I2	<=65,000		HSPF	7.7	13	SEER	13.0	14.3
RTU-I3	<=65,000		HSPF	7.7	13	SEER	13.0	14.3
RTU-J1	<=65,000		HSPF	7.7	13	SEER	13.0	14.3
RTU-J2	<=65,000		HSPF	7.7	13	SEER	13.0	14.3
RTU-J3	<=65,000		HSPF	7.7	13	SEER	13.0	14.3
RTU-K1	<=65,000		HSPF	7.7	13	SEER	13.0	14.3
RTU-K2	<=65,000		HSPF	7.7	13	SEER	13.0	14.3
RTU-K3	<=65,000		HSPF	7.7	13	SEER	13.0	14.3

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: 2022-07-19 14:35:20

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

CERTIFICATE OF COMPLIANCE NRCC-MCH-E
 Project Name: CVUSD Ben Lomond Report Page: (Page 8 of 39)
 Project Address: 621 E Covina Blvd Date Prepared: 7/19/2022

H. FAN SYSTEMS & AIR ECONOMIZERS

System Name:	RTU-D2	Economizer: ¹	NA: <=54 kbtu/h cooling	Economizer Controls:	Designed per §140.4(a) and (m)	System Fan Type:	Constant Volume
01	02	03	04	05	06	07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit ²	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4-B	Design Airflow through Device (CFM)
SF	Supply	1	1200	BHP	0.91		
Total System Design Supply Airflow (CFM):			1200	Total System Design (B)HP:		0.91	Maximum System Fan Power (B)HP:

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: 2022-07-19 14:35:20

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

CERTIFICATE OF COMPLIANCE NRCC-MCH-E
 Project Name: CVUSD Ben Lomond Report Page: (Page 3 of 39)
 Project Address: 621 E Covina Blvd Date Prepared: 7/19/2022

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(f) or §141.0(b)2 for alterations.

01	02	03	04	05	06	07	08	09	10	11
Name or Item Tag	Equipment Category per Tables 110.2	Equipment Type per Tables 110.2 / Title 20	Smallest Size Available ¹ §140.4(a)	Equipment Sizing per Mechanical Schedule (kbtu/h)			Load Calculations ⁴			
				Heating Output ^{2,3}			Cooling Output ^{2,3}			
				Per Design (kbtu/h)	Rated (kbtu/h)	Supp. Heating Output (kbtu/h)	Sensible Per Design (kbtu/h)	Rated (kbtu/h)	Total Heating Load (kbtu/h)	Total Sensible Cooling Load (kbtu/h)
FCU/CU-B1	Unitary Heat Pumps	Air-cooled, split (3 phase)	NA: Load Controls	55.01	93.14	0	118.93	118.88	237.94	208.79
RTU-C1	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	NA: Load Controls	20.14	34.1	0	29.74	26.15	55.22	69.3
RTU-C2	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	NA: Load Controls	20.14	34.1	0	29.73	26.15	53.28	68.55
RTU-C3	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	NA: Load Controls	20.14	34.1	0	29.74	26.15	55.12	69.12
RTU-D1	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	NA: Load Controls	20.14	34.1	0	29.74	26.15	55.22	69.3
RTU-D2	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	NA: Load Controls	20.14	34.1	0	29.73	26.15	53.28	68.55
RTU-D3	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	NA: Load Controls	20.14	34.1	0	29.74	26.15	55.12	69.12
RTU-G1	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	NA: Load Controls	20.14	34.1	0	29.79	26.15	71.83	96.92
RTU-G2	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	NA: Load Controls	20.14	34.1	0	29.79	26.15	71.8	96.87

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: 2022-07-19 14:35:20

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

CERTIFICATE OF COMPLIANCE NRCC-MCH-E
 Project Name: CVUSD Ben Lomond Report Page: (Page 4 of 39)
 Project Address: 621 E Covina Blvd Date Prepared: 7/19/2022

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(c), §140.4(e), 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.

System Name:	FCU/CU-B1	Economizer: ¹	NA: Special OA filtration	Economizer Controls:	Designed per §140.4(a) and (m)	System Fan Type:	Constant Volume
01	02	03	04	05	06	07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit ²	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4-B	Design Airflow through Device (CFM)
SF	Supply	1	7440	BHP	0.91		
Total System Design Supply Airflow (CFM):			7440	Total System Design (B)HP:		0.91	Maximum System Fan Power (B)HP:

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: 2022-07-19 14:35:20

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

CERTIFICATE OF COMPLIANCE NRCC-MCH-E
 Project Name: CVUSD Ben Lomond Report Page: (Page 9 of 39)
 Project Address: 621 E Covina Blvd Date Prepared: 7/19/2022

H. FAN SYSTEMS & AIR ECONOMIZERS

System Name:	RTU-G2	Economizer: ¹	NA: <=54 kbtu/h cooling	Economizer Controls:	Designed per §140.4(a) and (m)	System Fan Type:	Constant Volume
01	02	03	04	05	06	07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit ²	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4-B	Design Airflow through Device (CFM)
SF	Supply	1	1200	BHP	0.91		
Total System Design Supply Airflow (CFM):			1200	Total System Design (B)HP:		0.91	Maximum System Fan Power (B)HP:

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: 2022-07-19 14:35:20

1
2
3
4
5



Ben Lomond Elementary School
 COVINA VALLEY USD
 621 E COVINA BLVD, COVINA, CA 91722

100% CONSTRUCTION DOCUMENT
 11/08/2022 REVISIONS

TITLE 24 COMPLIANCE

M0.2

Autodesk Docs/75-22605-00_CVUSD - District Wide HVAC Replacement/75-22605-00_CVUSD_Ben_Lomond_ES MEP_2022.rvt
 10/21/2022 4:57:44 PM

1

2

3

4

5

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

CERTIFICATE OF COMPLIANCE NRCC-MCH-E
Project Name: CVUSD Ben Lomond Report Page: (Page 11 of 39)
Project Address: 621 E Covina Blvd Date Prepared: 7/19/2022

H. FAN SYSTEMS & AIR ECONOMIZERS

System Name	RTU-H3	Economizer ¹	NA: <=54 kbtu/h cooling	Economizer Controls	Designed per §140.4(a) and (m)	System Fan Type:	Constant Volume
01	02	03	04	05	06	07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit ²	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4-B Device	Design Airflow through Device (CFM)
SF	Supply	1	1200	BHP	0.91		
Total System Design Supply Airflow (CFM):			1200	Total System Design (BHP):	0.91	Maximum System Fan Power (BHP):	

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance
Registration Date/Time: Report Version: 2019.1.003 Schema Version: rev 20200601
Registration Provider: Energysoft Report Generated: 2022-07-19 14:35:20

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

CERTIFICATE OF COMPLIANCE NRCC-MCH-E
Project Name: CVUSD Ben Lomond Report Page: (Page 13 of 39)
Project Address: 621 E Covina Blvd Date Prepared: 7/19/2022

I. SYSTEM CONTROLS

This table is used to demonstrate compliance with mandatory controls in §110.2 and §120.2 and prescriptive controls in §140.4(f) and (n) or requirements in §141.0(b)(2) for altered space conditioning systems.

System Name	System Zoning	Conditioned Floor Area Being Served (ft ²)	Thermostats §110.2(b) & (c) ¹ , §120.2(a) or §141.0(b)(2)	Shut-Off Controls §120.2(e)	Isolation Zone Controls §120.2(a)	Demand Response §110.12 and §120.2(b)	Supply Air Temp. Reset §140.4(f)	Window Interlocks per §140.4(n)
01	02	03	04	05	06	07	08	09
FCU/CU-B1	Single zone	<= 25,000 ft ²	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Included	Provided
RTU-C1	Single zone	<= 25,000 ft ²	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Included	Provided
RTU-C2	Single zone	<= 25,000 ft ²	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Included	Provided
RTU-C3	Single zone	<= 25,000 ft ²	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Included	Provided
RTU-D1	Single zone	<= 25,000 ft ²	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Included	Provided
RTU-D2	Single zone	<= 25,000 ft ²	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Included	Provided
RTU-D3	Single zone	<= 25,000 ft ²	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Included	Provided
RTU-G1	Single zone	<= 25,000 ft ²	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Included	Provided
RTU-G2	Single zone	<= 25,000 ft ²	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Included	Provided
RTU-H1	Single zone	<= 25,000 ft ²	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Included	Provided
RTU-H2	Single zone	<= 25,000 ft ²	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Included	Provided
RTU-H3	Single zone	<= 25,000 ft ²	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Included	Provided

*Notes: Controls with a * require a note in the table below explaining how compliance is achieved. EX: system 1: SA Temp Reset. Exempt because zones compliant with §140.4(d); EXCEPTION 1 to §140.4(f)

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance
Registration Date/Time: Report Version: 2019.1.003 Schema Version: rev 20200601
Registration Provider: Energysoft Report Generated: 2022-07-19 14:35:20

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

CERTIFICATE OF COMPLIANCE NRCC-MCH-E
Project Name: CVUSD Ben Lomond Report Page: (Page 16 of 39)
Project Address: 621 E Covina Blvd Date Prepared: 7/19/2022

J. VENTILATION AND INDOOR AIR QUALITY

Mechanical Ventilation Required per §120.1(c)(3)³

Space Name of Item Tag	Occupancy Type ⁴	Conditioned Floor Area (ft ²)	# of Shower heads/toilets	# of people ⁵	Required Min OA CFM	Required Min CFM	Provided per Design CFM	Exh. Vent per §120.1(c)(4)	DCV or Sensor Controls per §120.1(d)(3), §120.1(d)(5), and §120.1(e)(3) ⁶
08	09	10	11	12	13	14	15	16	17
Classroom	Lecture/ postsecondary classroom	910		15	225	0	0		DCV Provided per §120.1(d)(4) NA: Not required space type
17 Total System Required Min OA CFM									225 18 Ventilation for this System Complies? Yes

Air Filtration per §120.1(c) and §141.0(b)(2)²
Provided per §120.1(c) (NR and Hotel/Motel)

System Name	RTU-C3	System Design OA CFM Airflow ¹	225	System Design Transfer Air CFM	0	Air Filtration per §120.1(c) and §141.0(b)(2) ²	0		
08	09	10	11	12	13	14	15		
Classroom	Lecture/ postsecondary classroom	890		15	225	0	0	DCV Provided per §120.1(d)(4) NA: Not required space type	
17 Total System Required Min OA CFM									225 18 Ventilation for this System Complies? Yes

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance
Registration Date/Time: Report Version: 2019.1.003 Schema Version: rev 20200601
Registration Provider: Energysoft Report Generated: 2022-07-19 14:35:20

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

CERTIFICATE OF COMPLIANCE NRCC-MCH-E
Project Name: CVUSD Ben Lomond Report Page: (Page 11 of 39)
Project Address: 621 E Covina Blvd Date Prepared: 7/19/2022

H. FAN SYSTEMS & AIR ECONOMIZERS

System Name	RTU-J3	Economizer ¹	NA: <=54 kbtu/h cooling	Economizer Controls	Designed per §140.4(a) and (m)	System Fan Type:	Constant Volume
01	02	03	04	05	06	07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit ²	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4-B Device	Design Airflow through Device (CFM)
SF	Supply	1	1200	BHP	0.91		
Total System Design Supply Airflow (CFM):			1200	Total System Design (BHP):	0.91	Maximum System Fan Power (BHP):	

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance
Registration Date/Time: Report Version: 2019.1.003 Schema Version: rev 20200601
Registration Provider: Energysoft Report Generated: 2022-07-19 14:35:20

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

CERTIFICATE OF COMPLIANCE NRCC-MCH-E
Project Name: CVUSD Ben Lomond Report Page: (Page 14 of 39)
Project Address: 621 E Covina Blvd Date Prepared: 7/19/2022

I. SYSTEM CONTROLS

RTU-J1	RTU-J2	RTU-J3	RTU-I1	RTU-I2	RTU-I3
Single zone	Single zone	Single zone	Single zone	Single zone	Single zone
<= 25,000 ft ²	<= 25,000 ft ²	<= 25,000 ft ²	<= 25,000 ft ²	<= 25,000 ft ²	<= 25,000 ft ²
Setback	Setback	Setback	Setback	Setback	Setback
Auto Timer Switch	Auto Timer Switch	Auto Timer Switch	Auto Timer Switch	Auto Timer Switch	Auto Timer Switch
4 Hour Timer	4 Hour Timer	4 Hour Timer	4 Hour Timer	4 Hour Timer	4 Hour Timer
EMCS	EMCS	EMCS	EMCS	EMCS	EMCS
Included	Included	Included	Included	Included	Included
Provided	Provided	Provided	Provided	Provided	Provided

*Notes: Gravity gas wall heaters, gravity floor heaters, gravity room heaters, non-central electric heaters, fireplaces or decorative gas appliances, wood stoves are not required to have setback thermostats.
*Notes: Controls with a * require a note in the table below explaining how compliance is achieved. EX: system 1: SA Temp Reset. Exempt because zones compliant with §140.4(d); EXCEPTION 1 to §140.4(f)

J. VENTILATION AND INDOOR AIR QUALITY

This table is used to demonstrate compliance with mandatory ventilation requirements in §120.1 and §120.2(c)(3) for all nonresidential, high-rise residential and hotel/motel occupancies. For alterations, only ventilation systems being altered within the scope of the permit application need to be documented in this table. In lieu of this table, the required outdoor ventilation rates and airflows may be shown on the plans or the calculations can be presented in a spreadsheet.

System Name	RTU-D1	System Design OA CFM Airflow ¹	225	System Design Transfer Air CFM	0	Air Filtration per §120.1(c) and §141.0(b)(2) ²	0		
04	05	06	07	08	09	10	11		
Classroom	Lecture/ postsecondary classroom	905		15	225	0	0	DCV Provided per §120.1(d)(4) NA: Not required space type	
17 Total System Required Min OA CFM									225 18 Ventilation for this System Complies? Yes

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance
Registration Date/Time: Report Version: 2019.1.003 Schema Version: rev 20200601
Registration Provider: Energysoft Report Generated: 2022-07-19 14:35:20

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

CERTIFICATE OF COMPLIANCE NRCC-MCH-E
Project Name: CVUSD Ben Lomond Report Page: (Page 17 of 39)
Project Address: 621 E Covina Blvd Date Prepared: 7/19/2022

J. VENTILATION AND INDOOR AIR QUALITY

Mechanical Ventilation Required per §120.1(c)(3)³

Space Name of Item Tag	Occupancy Type ⁴	Conditioned Floor Area (ft ²)	# of Shower heads/toilets	# of people ⁵	Required Min OA CFM	Required Min CFM	Provided per Design CFM	Exh. Vent per §120.1(c)(4)	DCV or Sensor Controls per §120.1(d)(3), §120.1(d)(5), and §120.1(e)(3) ⁶
08	09	10	11	12	13	14	15	16	17
Classroom	Lecture/ postsecondary classroom	910		15	225	0	0		DCV Provided per §120.1(d)(4) NA: Not required space type
17 Total System Required Min OA CFM									225 18 Ventilation for this System Complies? Yes

Air Filtration per §120.1(c) and §141.0(b)(2)²
Provided per §120.1(c) (NR and Hotel/Motel)

System Name	RTU-D3	System Design OA CFM Airflow ¹	225	System Design Transfer Air CFM	0	Air Filtration per §120.1(c) and §141.0(b)(2) ²	0		
08	09	10	11	12	13	14	15		
Classroom	Lecture/ postsecondary classroom	890		15	225	0	0	DCV Provided per §120.1(d)(4) NA: Not required space type	
17 Total System Required Min OA CFM									225 18 Ventilation for this System Complies? Yes

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance
Registration Date/Time: Report Version: 2019.1.003 Schema Version: rev 20200601
Registration Provider: Energysoft Report Generated: 2022-07-19 14:35:20

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

CERTIFICATE OF COMPLIANCE NRCC-MCH-E
Project Name: CVUSD Ben Lomond Report Page: (Page 12 of 39)
Project Address: 621 E Covina Blvd Date Prepared: 7/19/2022

H. FAN SYSTEMS & AIR ECONOMIZERS

System Name	RTU-I3	Economizer ¹	NA: <=54 kbtu/h cooling	Economizer Controls	Designed per §140.4(a) and (m)	System Fan Type:	Constant Volume
01	02	03	04	05	06	07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit ²	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4-B Device	Design Airflow through Device (CFM)
SF	Supply	1	1200	BHP	0.91		
Total System Design Supply Airflow (CFM):			1200	Total System Design (BHP):	0.91	Maximum System Fan Power (BHP):	

Footnotes:
1 FOOTNOTES: Computer room economizers must meet requirements of §140.5(a) and will be documented on the NRCC-PRC-E document.
2 The unit used for HP must be consistent for all fans within a system.

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance
Registration Date/Time: Report Version: 2019.1.003 Schema Version: rev 20200601
Registration Provider: Energysoft Report Generated: 2022-07-19 14:35:20

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

CERTIFICATE OF COMPLIANCE NRCC-MCH-E
Project Name: CVUSD Ben Lomond Report Page: (Page 15 of 39)
Project Address: 621 E Covina Blvd Date Prepared: 7/19/2022

J. VENTILATION AND INDOOR AIR QUALITY

Mechanical Ventilation Required per §120.1(c)(3)³

Space Name of Item Tag	Occupancy Type ⁴	Conditioned Floor Area (ft ²)	# of Shower heads/toilets	# of people ⁵	Required Min OA CFM	Required Min CFM	Provided per Design CFM	Exh. Vent per §120.1(c)(4)	DCV or Sensor Controls per §120.1(d)(3), §120.1(d)(5), and §120.1(e)(3) ⁶
08	09	10	11	12	13	14	15	16	17
MPR	Assembly-multiuse	3550		150	2250	0	0		DCV Provided per §120.1(d)(4) NA: Not required space type
17 Total System Required Min OA CFM									2250 18 Ventilation for this System Complies? Yes

Air Filtration per §120.1(c) and §141.0(b)(2)²
Provided per §120.1(c) (NR and Hotel/Motel)

System Name	RTU-C1	System Design OA CFM Airflow ¹	225	System Design Transfer Air CFM	0	Air Filtration per §120.1(c) and §141.0(b)(2) ²	0		
08	09	10	11	12	13	14	15		
Classroom	Lecture/ postsecondary classroom	905		15	225	0	0	DCV Provided per §120.1(d)(4) NA: Not required space type	
17 Total System Required Min OA CFM									225 18 Ventilation for this System Complies? Yes

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance
Registration Date/Time: Report Version: 2019.1.003 Schema Version: rev 20200601
Registration Provider: Energysoft Report Generated: 2022-07-19 14:35:20

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

CERTIFICATE OF COMPLIANCE NRCC-MCH-E
Project Name: CVUSD Ben Lomond Report Page: (Page 18 of 39)
Project Address: 621 E Covina Blvd Date Prepared: 7/19/2022

J. VENTILATION AND INDOOR AIR QUALITY

Mechanical Ventilation Required per §120.1(c)(3)³

Space Name of Item Tag	Occupancy Type ⁴	Conditioned Floor Area (ft ²)	# of Shower heads/toilets	# of people ⁵	Required Min OA CFM	Required Min CFM	Provided per Design CFM	Exh. Vent per §120.1(c)(4)	DCV or Sensor Controls per §120.1(d)(3), §120.1(d)(5), and §120.1(e)(3) ⁶
08	09	10	11	12	13	14	15	16	17
Classroom	Lecture/ postsecondary classroom	890		15	225	0	0		DCV Provided per §120.1(d)(4) NA: Not required space type
17 Total System Required Min OA CFM									225 18 Ventilation for this System Complies? Yes

Air Filtration per §120.1(c) and §141.0(b)(2)²
Provided per §120.1(c) (NR and Hotel/Motel)

System Name	RTU-G1	System Design OA CFM Airflow ¹	225	System Design Transfer Air CFM	0	Air Filtration per §120.1(c) and §141.0(b)(2) ²	0		
08	09	10	11	12	13	14	15		
Classroom	Lecture/ postsecondary classroom	1315		15	225	0	0	DCV Provided per §120.1(d)(4) NA: Not required space type	
17 Total System Required Min OA CFM									225 18 Ventilation for this System Complies? Yes

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance
Registration Date/Time: Report Version: 2019.1.003 Schema Version: rev 20200601
Registration Provider: Energysoft Report Generated: 2022-07-19 14:35:20



Ben Lomond Elementary School
COVINA VALLEY USD
621 E COVINA BLVD, COVINA, CA 91722

100% CONSTRUCTION DOCUMENT
11/08/2022 REVISIONS

75-22605-00
TITLE 24 COMPLIANCE

M0.3

Autodesk Docs/75-22605-00 CVUSD - District Wide HVAC Replacement/75-22605-00 CVUSD - Ben Lomond ES MEP_2022.rvt
10/21/2022 4:57:44 PM

STATE OF CALIFORNIA Mechanical Systems NRCC-MCH-E CALIFORNIA ENERGY COMMISSION CERTIFICATE OF COMPLIANCE NRCC-MCH-E Project Name: CVUSD Ben Lomond Report Page: (Page 28 of 39) Project Address: 621 E Covina Blvd Date Prepared: 7/19/2022

L DISTRIBUTION (DUCTWORK and PIPING) The answers to the questions below apply to the following duct systems: RTU-G1 Duct leakage testing triggered for these systems? No

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Registration Date/Time: 2022-07-19 14:35:20 Registration Provider: Energysoft

STATE OF CALIFORNIA Mechanical Systems NRCC-MCH-E CALIFORNIA ENERGY COMMISSION CERTIFICATE OF COMPLIANCE NRCC-MCH-E Project Name: CVUSD Ben Lomond Report Page: (Page 31 of 39) Project Address: 621 E Covina Blvd Date Prepared: 7/19/2022

L DISTRIBUTION (DUCTWORK and PIPING) The answers to the questions below apply to the following duct systems: RTU-J2 Duct leakage testing triggered for these systems? No

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Registration Date/Time: 2022-07-19 14:35:20 Registration Provider: Energysoft

STATE OF CALIFORNIA Mechanical Systems NRCC-MCH-E CALIFORNIA ENERGY COMMISSION CERTIFICATE OF COMPLIANCE NRCC-MCH-E Project Name: CVUSD Ben Lomond Report Page: (Page 34 of 39) Project Address: 621 E Covina Blvd Date Prepared: 7/19/2022

O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E Additional Remarks.

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Registration Date/Time: 2022-07-19 14:35:20 Registration Provider: Energysoft

STATE OF CALIFORNIA Mechanical Systems NRCC-MCH-E CALIFORNIA ENERGY COMMISSION CERTIFICATE OF COMPLIANCE NRCC-MCH-E Project Name: CVUSD Ben Lomond Report Page: (Page 29 of 39) Project Address: 621 E Covina Blvd Date Prepared: 7/19/2022

L DISTRIBUTION (DUCTWORK and PIPING) The answers to the questions below apply to the following duct systems: RTU-H1 Duct leakage testing triggered for these systems? No

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Registration Date/Time: 2022-07-19 14:35:20 Registration Provider: Energysoft

STATE OF CALIFORNIA Mechanical Systems NRCC-MCH-E CALIFORNIA ENERGY COMMISSION CERTIFICATE OF COMPLIANCE NRCC-MCH-E Project Name: CVUSD Ben Lomond Report Page: (Page 32 of 39) Project Address: 621 E Covina Blvd Date Prepared: 7/19/2022

L DISTRIBUTION (DUCTWORK and PIPING) The answers to the questions below apply to the following duct systems: RTU-I1 Duct leakage testing triggered for these systems? No

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Registration Date/Time: 2022-07-19 14:35:20 Registration Provider: Energysoft

STATE OF CALIFORNIA Mechanical Systems NRCC-MCH-E CALIFORNIA ENERGY COMMISSION CERTIFICATE OF COMPLIANCE NRCC-MCH-E Project Name: CVUSD Ben Lomond Report Page: (Page 35 of 39) Project Address: 621 E Covina Blvd Date Prepared: 7/19/2022

O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E Additional Remarks.

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Registration Date/Time: 2022-07-19 14:35:20 Registration Provider: Energysoft

STATE OF CALIFORNIA Mechanical Systems NRCC-MCH-E CALIFORNIA ENERGY COMMISSION CERTIFICATE OF COMPLIANCE NRCC-MCH-E Project Name: CVUSD Ben Lomond Report Page: (Page 30 of 39) Project Address: 621 E Covina Blvd Date Prepared: 7/19/2022

L DISTRIBUTION (DUCTWORK and PIPING) The answers to the questions below apply to the following duct systems: RTU-H3 Duct leakage testing triggered for these systems? No

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Registration Date/Time: 2022-07-19 14:35:20 Registration Provider: Energysoft

STATE OF CALIFORNIA Mechanical Systems NRCC-MCH-E CALIFORNIA ENERGY COMMISSION CERTIFICATE OF COMPLIANCE NRCC-MCH-E Project Name: CVUSD Ben Lomond Report Page: (Page 33 of 39) Project Address: 621 E Covina Blvd Date Prepared: 7/19/2022

L DISTRIBUTION (DUCTWORK and PIPING) The answers to the questions below apply to the following duct systems: RTU-I3 Duct leakage testing triggered for these systems? No

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Registration Date/Time: 2022-07-19 14:35:20 Registration Provider: Energysoft

STATE OF CALIFORNIA Mechanical Systems NRCC-MCH-E CALIFORNIA ENERGY COMMISSION CERTIFICATE OF COMPLIANCE NRCC-MCH-E Project Name: CVUSD Ben Lomond Report Page: (Page 36 of 39) Project Address: 621 E Covina Blvd Date Prepared: 7/19/2022

O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E Additional Remarks.

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Registration Date/Time: 2022-07-19 14:35:20 Registration Provider: Energysoft



Ben Lomond Elementary School COVINA VALLEY USD 621 E COVINA BLVD, COVINA, CA 91722

100% CONSTRUCTION DOCUMENT 11/08/2022 REVISIONS

TITLE 24 COMPLIANCE

M0.5

1 2 3 4 5

10/21/2022 4:57:48 PM Autodesk Docs/75-22605-00_CVUSD - District Wide HVAC Replacement/75-22605-00_CVUSD_Ben Lomond ES_MEP_2022.rvt

1
2
3
4
5

STATE OF CALIFORNIA
Mechanical Systems
 NRCC-MCH-E CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE NRCC-MCH-E
 Project Name: CVUSD Ben Lomond Report Page: (Page 37 of 39)
 Project Address: 621 E Covina Blvd Date Prepared: 7/19/2022

O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE
 Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCA/

Form/Title	Systems/Spaces To Be Field Verified	Field Inspector	
		Pass	Fail
NRCA-MCH-06-A Demand Control Ventilation Systems must be submitted for all systems required to employ demand controlled ventilation (refer to 3.10.1.1.3) can vary outside ventilation flow rates based on maintaining interior carbon dioxide (CO ₂) concentration setpoints.	FCU/CU-B1; RTU-C1; RTU-C2; RTU-C3; RTU-D1; RTU-D2; RTU-D3; RTU-G1; RTU-G2; RTU-H1; RTU-H2; RTU-H3; RTU-J1; RTU-J2; RTU-J3; RTU-I1; RTU-I2; RTU-I3	<input type="checkbox"/>	<input type="checkbox"/>
NRCA-MCH-11-A Automatic Demand Shed Controls	FCU/CU-B1; RTU-C1; RTU-C2; RTU-C3; RTU-D1; RTU-D2; RTU-D3; RTU-G1; RTU-G2; RTU-H1; RTU-H2; RTU-H3; RTU-J1; RTU-J2; RTU-J3; RTU-I1; RTU-I2; RTU-I3	<input type="checkbox"/>	<input type="checkbox"/>
NRCA-MCH-16-A Supply Air Temperature Reset Controls	FCU/CU-B1; RTU-C1; RTU-C2; RTU-C3; RTU-D1; RTU-D2; RTU-D3; RTU-G1; RTU-G2; RTU-H1; RTU-H2; RTU-H3; RTU-J1; RTU-J2; RTU-J3; RTU-I1; RTU-I2; RTU-I3	<input type="checkbox"/>	<input type="checkbox"/>
NRCA-MCH-18-A Energy Management Control Systems	FCU/CU-B1; RTU-C1; RTU-C2; RTU-C3; RTU-D1; RTU-D2; RTU-D3; RTU-G1; RTU-G2; RTU-H1; RTU-H2; RTU-H3; RTU-J1; RTU-J2; RTU-J3; RTU-I1; RTU-I2; RTU-I3	<input type="checkbox"/>	<input type="checkbox"/>

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 Schema Version: rev 20200601
 Registration Provider: Energysoft
 Report Generated: 2022-07-19 14:35:20

STATE OF CALIFORNIA
Mechanical Systems
 NRCC-MCH-E CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE NRCC-MCH-E
 Project Name: CVUSD Ben Lomond Report Page: (Page 38 of 39)
 Project Address: 621 E Covina Blvd Date Prepared: 7/19/2022

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 Schema Version: rev 20200601
 Registration Provider: Energysoft
 Report Generated: 2022-07-19 14:35:20

STATE OF CALIFORNIA
Mechanical Systems
 NRCC-MCH-E CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE NRCC-MCH-E
 Project Name: CVUSD Ben Lomond Report Page: (Page 39 of 39)
 Project Address: 621 E Covina Blvd Date Prepared: 7/19/2022

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

Documentation Author Name: TONG FANG ZHAO
 Documentation Author Signature: *Tong Fang Zhao*
 Signature Date: 2022-07-19
 Company: DLR Group
 Address: 700 S FLOWER STREET
 City/State/Zip: LOS ANGELES CA 90017
 Phone: 213-444-0610

RESPONSIBLE PERSON'S DECLARATION STATEMENT
 I certify the following under penalty of perjury, under the laws of the State of California:
 1. The information provided on this Certificate of Compliance is true and correct.
 2. 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).
 3. 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.
 4. 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.
 5. 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: *Tong Fang Zhao*
 Date Signed: 2022-07-19
 Company: DLR GROUP
 License: M-34291
 Address: 700 FLOWER STREET
 City/State/Zip: LOS ANGELES CA 90017
 Phone: 213-444-0610

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance
 Registration Date/Time: Report Version: 2019.1.003 Schema Version: rev 20200601
 Registration Provider: Energysoft
 Report Generated: 2022-07-19 14:35:20



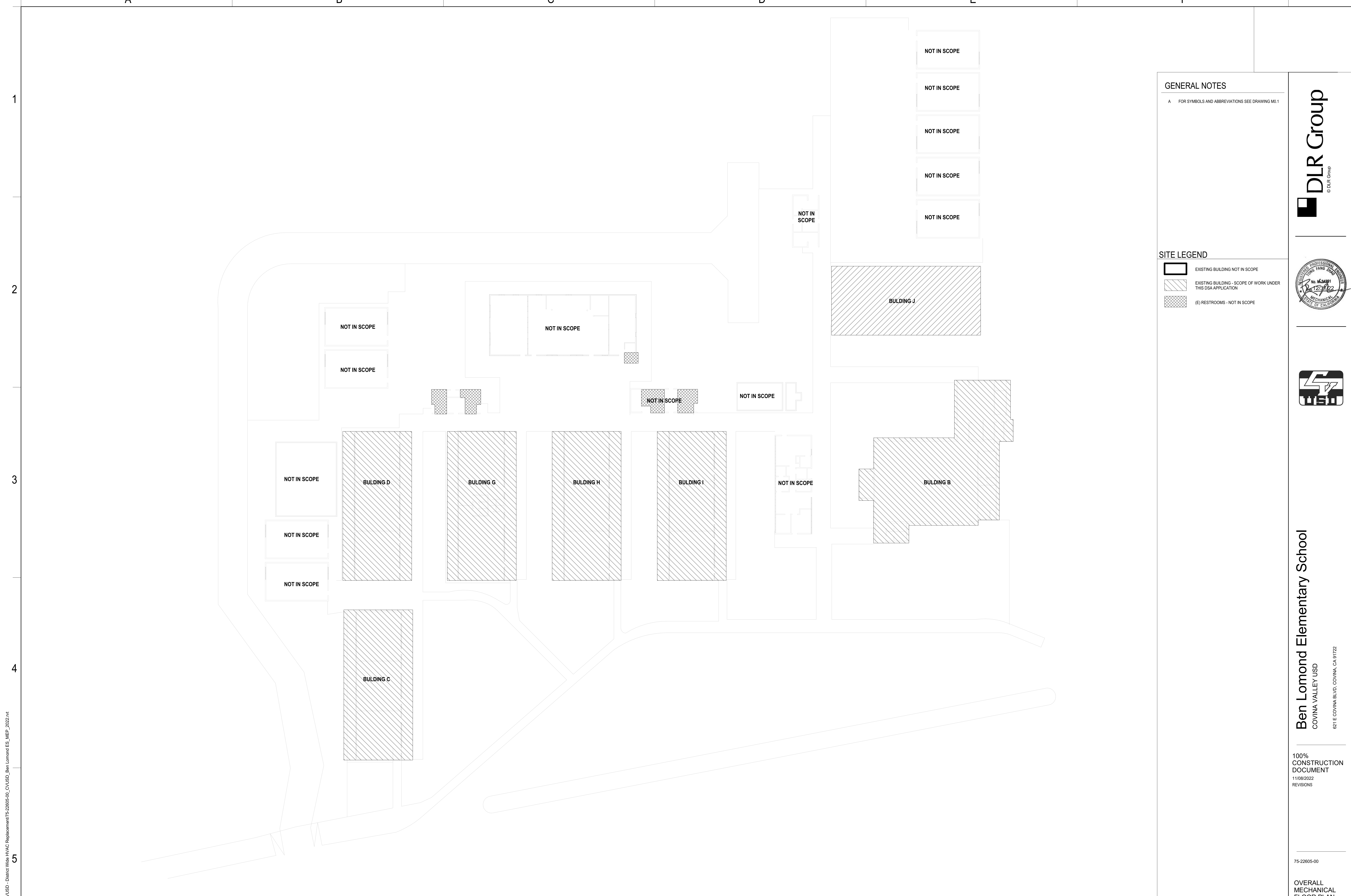
Ben Lomond Elementary School
 COVINA VALLEY USD
 621 E COVINA BLVD, COVINA, CA 91722

100%
 CONSTRUCTION
 DOCUMENT
 11/08/2022
 REVISIONS

75-22605-00

TITLE 24
 COMPLIANCE




M0.6



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



Ben Lomond Elementary School
 COVINA VALLEY USD
 681 E COVINA BLVD, COVINA, CA 91722

100%
 CONSTRUCTION
 DOCUMENT
 11/08/2022
 REVISIONS

75-22605-00

OVERALL
 MECHANICAL
 FLOOR PLAN

M1.1

Autodesk Docs/75-22605-00_CVUSD - District Wide HVAC Replacement/75-22605-00_CVUSD_Ben Lomond ES MEP_2022.rvt
 10/21/2022 4:57:47 PM

OVERALL FLOOR PLAN
 SCALE: 3/8" = 1'-0"

A

B

C

D

E

F

1

2

3

4

5

DEMO NOTES - MPR ONLY

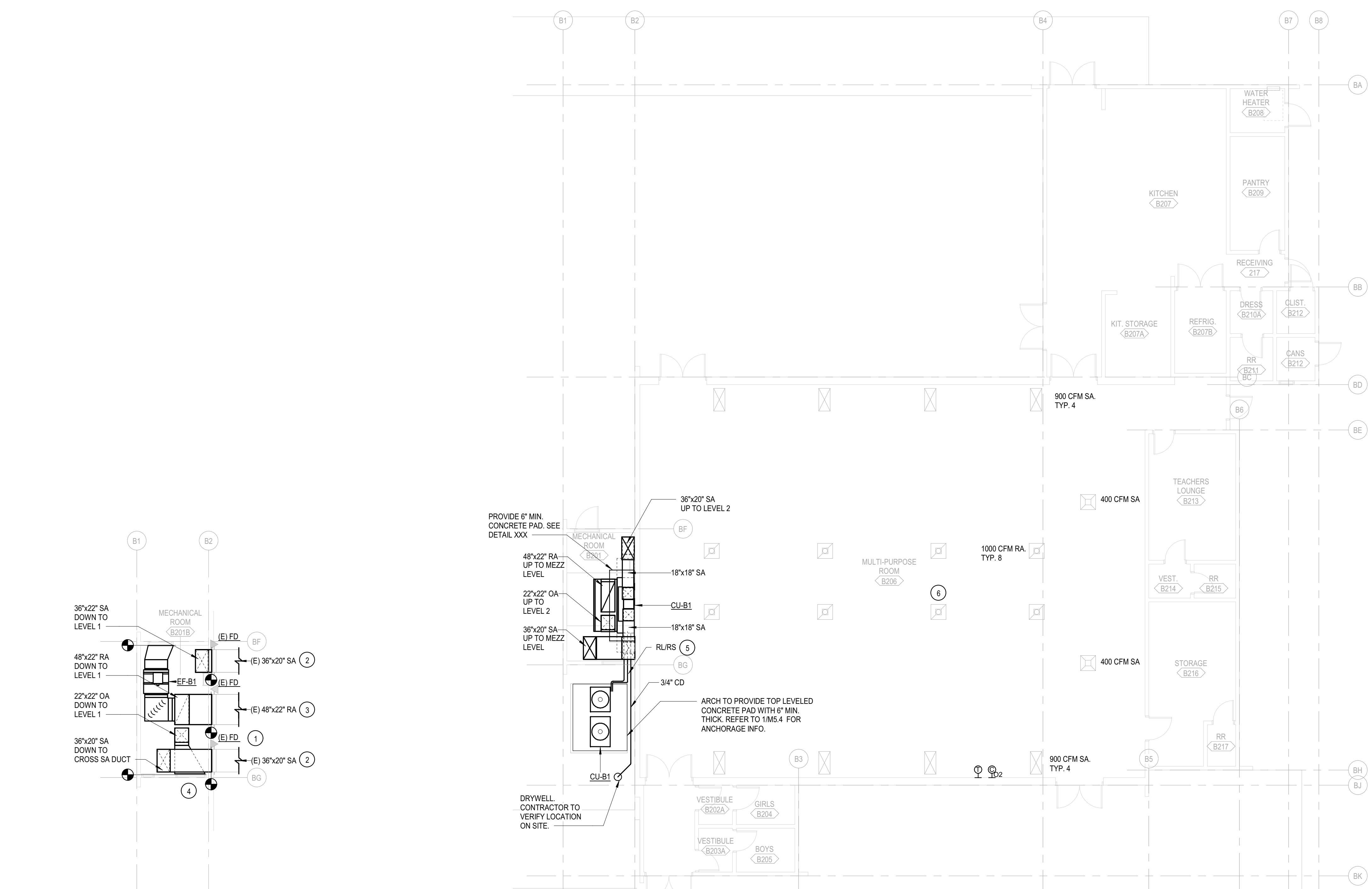
- A. REMOVE EXHAUST FAN, FURNACE AND RELATED DUCT, WIRING, MOTOR, SUPPORTS AND OTHER APPURTENANCES TO POC IN MECHANICAL ROOM. REMOVE GAS PIPING IN MECHANICAL ROOM AND CAP AT FLOOR.

GENERAL NOTES

- 1. SCOPE OF WORK IS CLASSROOMS & MPR ONLY.
- 2. EXISTING DUCTWORK IN MPR TO REMAIN.
- 3. PROVIDE 1" LINEAR TO NEW SA & RA DUCT IN MECHANICAL ROOM.
- 4. PROVIDE FLEXIBLE DUCT AT UNIT CONNECTION FOR SA & RA DUCT.

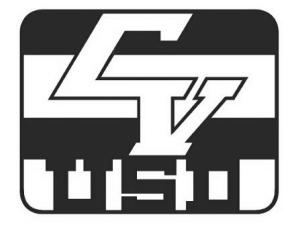
KEY NOTES

- 1. (E) FIRE DAMPER TO REMAIN. TYP.
- 2. (E) SA DUCTWORK TO REMAIN.
- 3. (E) RA DUCTWORK TO REMAIN.
- 4. (E) OSA LOUVER & DAMPER TO REMAIN TO BE READY TO CONNECT TO DUCTWORK. CONTRACTOR TO VERIFY DAMPER CONDITION ON SITE PRIOR TO BID.
- 5. RLRS PENETRATE WALL ABOVE GRADE. CONTRACTOR TO VERIFY LOCATION ON SITE. PROVIDE PHP PIPE SUPPORT.
- 6. (E) DIFFUSERS & GRILLES. CONTRACTOR TO VERIFY LOCATIONS ON SITE.



BLDG B - MEZZ LEVEL
SCALE: 1/8" = 1'-0"

BUILDING A AND B MECHANICAL FLOOR PLAN - MPR
SCALE: 1/8" = 1'-0"



Ben Lomond Elementary School
COVINA VALLEY USD
681 E COVINA BLVD, COVINA, CA 91722

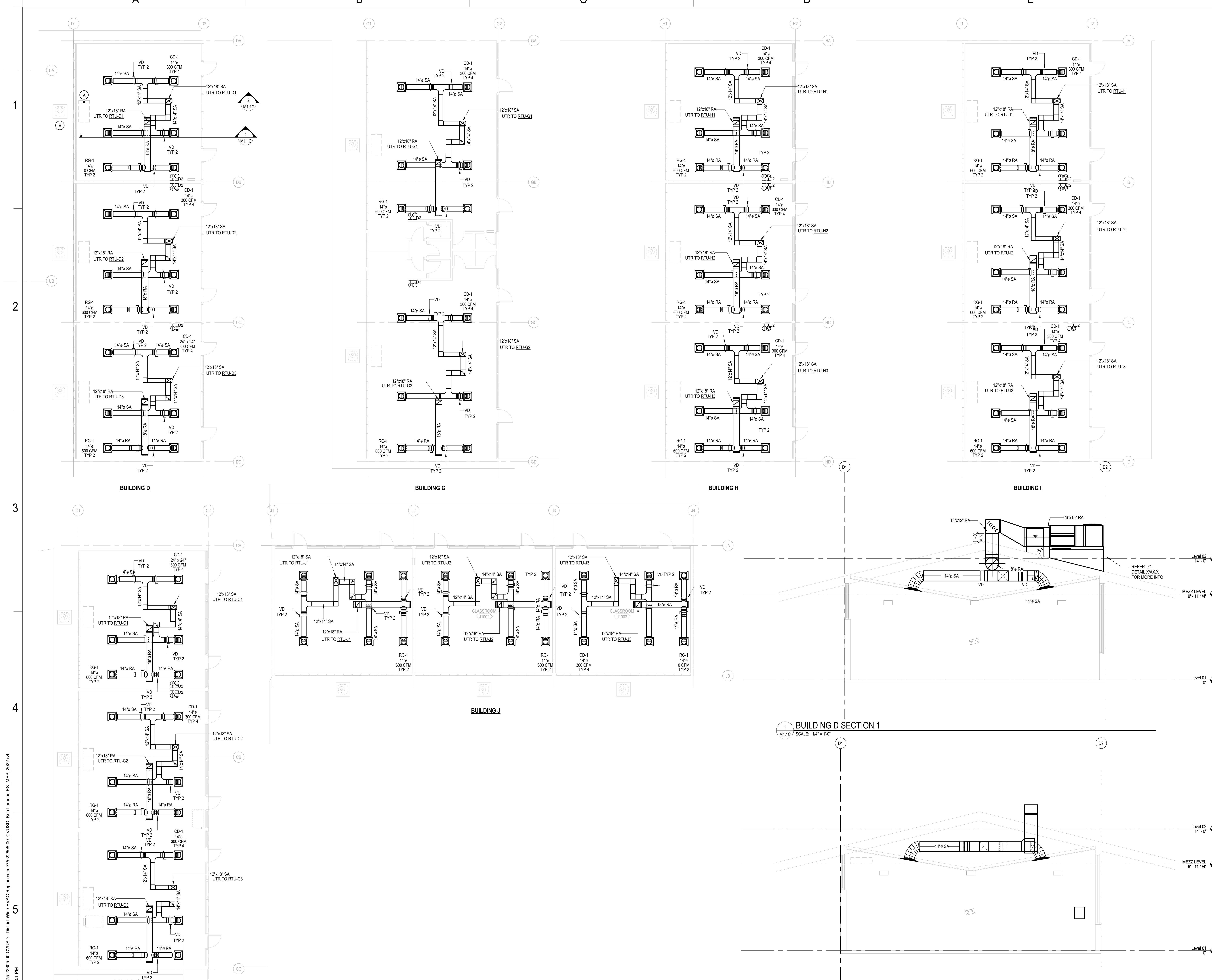
100%
CONSTRUCTION
DOCUMENT
11/08/2022
REVISIONS

75-22605-00

BUILDING A AND B
- MECHANICAL
FLOOR PLAN

M1.1A

Autodesk Docs/75-22605-00_CVUSD - District Wide HVAC Replacement/75-22605-00_CVUSD_Ben Lomond ES MEP_2022.rvt
 10/21/2022 4:57:48 PM



DEMO NOTES

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

GENERAL NOTES

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



Ben Lomond Elementary School
 COVINA VALLEY USD
 681 E COVINA BLVD, COVINA, CA 91722

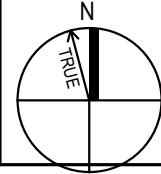
100% CONSTRUCTION DOCUMENT
 11/08/2022
 REVISIONS

75-22605-00

BUILDINGS C, D, G, H, I AND J MECHANICAL FLOOR PLANS

M1.1C

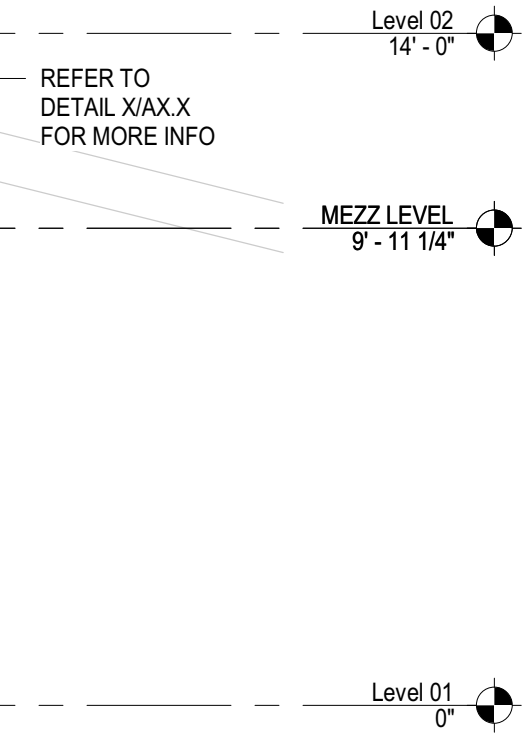
Autodesk Docs/75-22605-00_CVUSD - District Wide HVAC Replacement/75-22605-00_CVUSD_Ben Lomond ES_MEP_2022.rvt
 10/21/2022 4:57:51 PM



BUILDINGS C, D, G, H, I AND J MECHANICAL FLOOR PLANS
 SCALE: 1/8" = 1'-0"

BUILDING D SECTION 2
 M1.1C SCALE: 1/4" = 1'-0"

BUILDING D SECTION 1
 M1.1C SCALE: 1/4" = 1'-0"



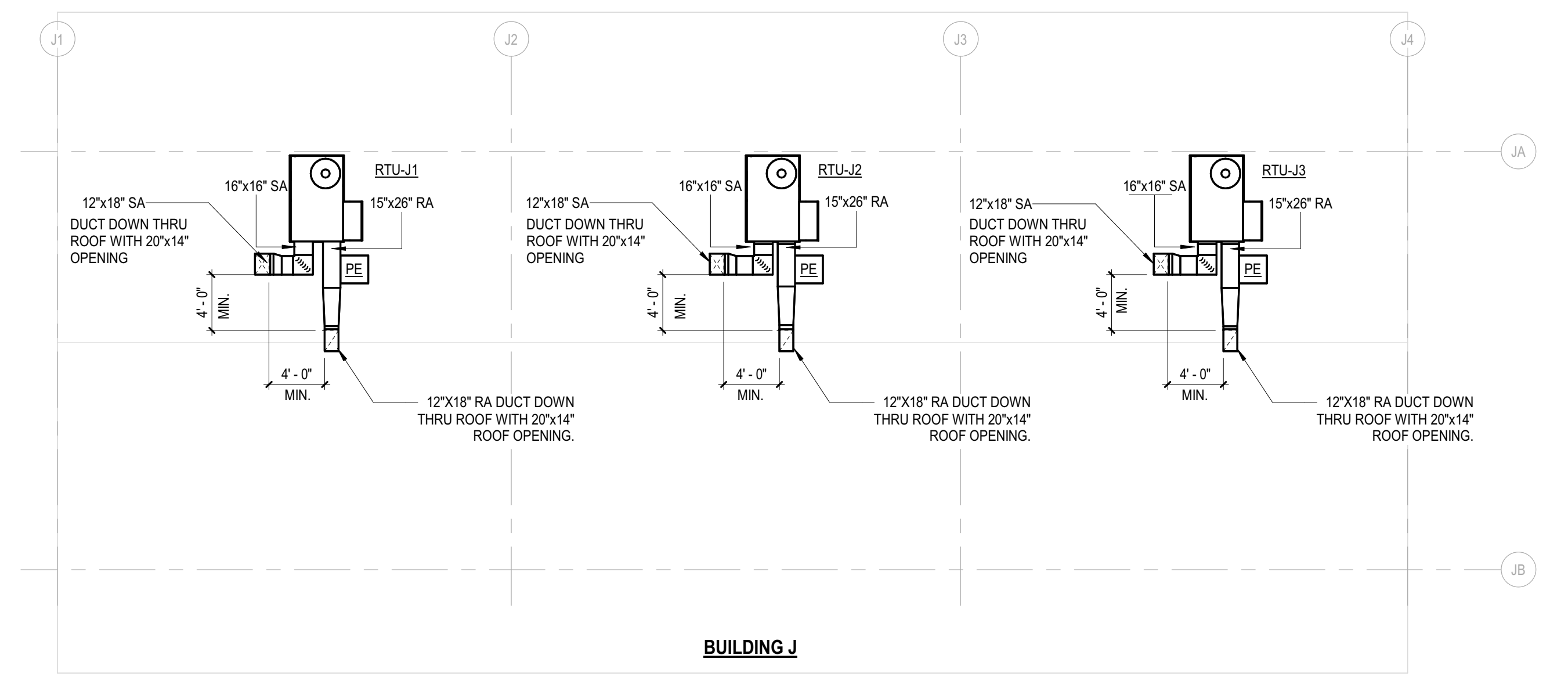
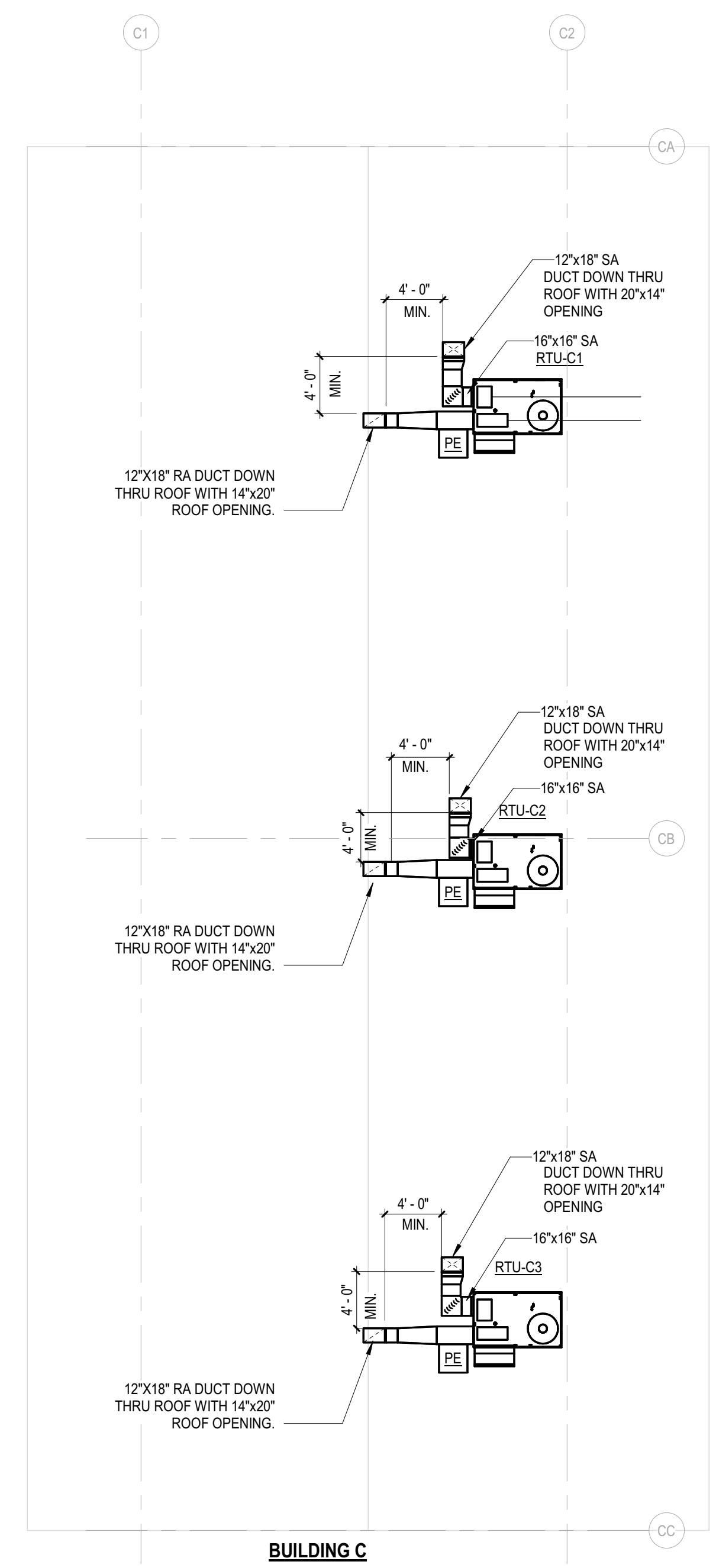
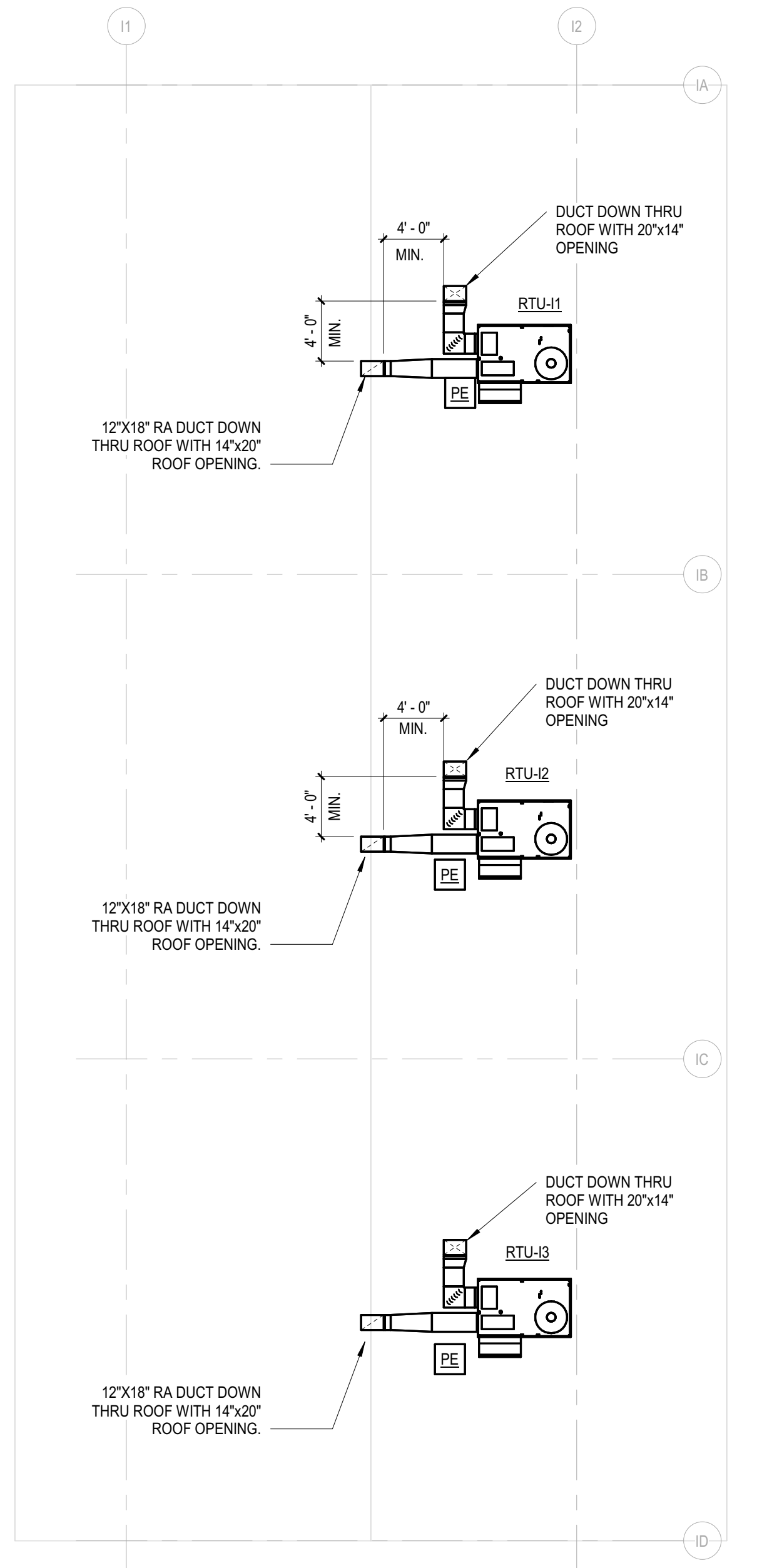
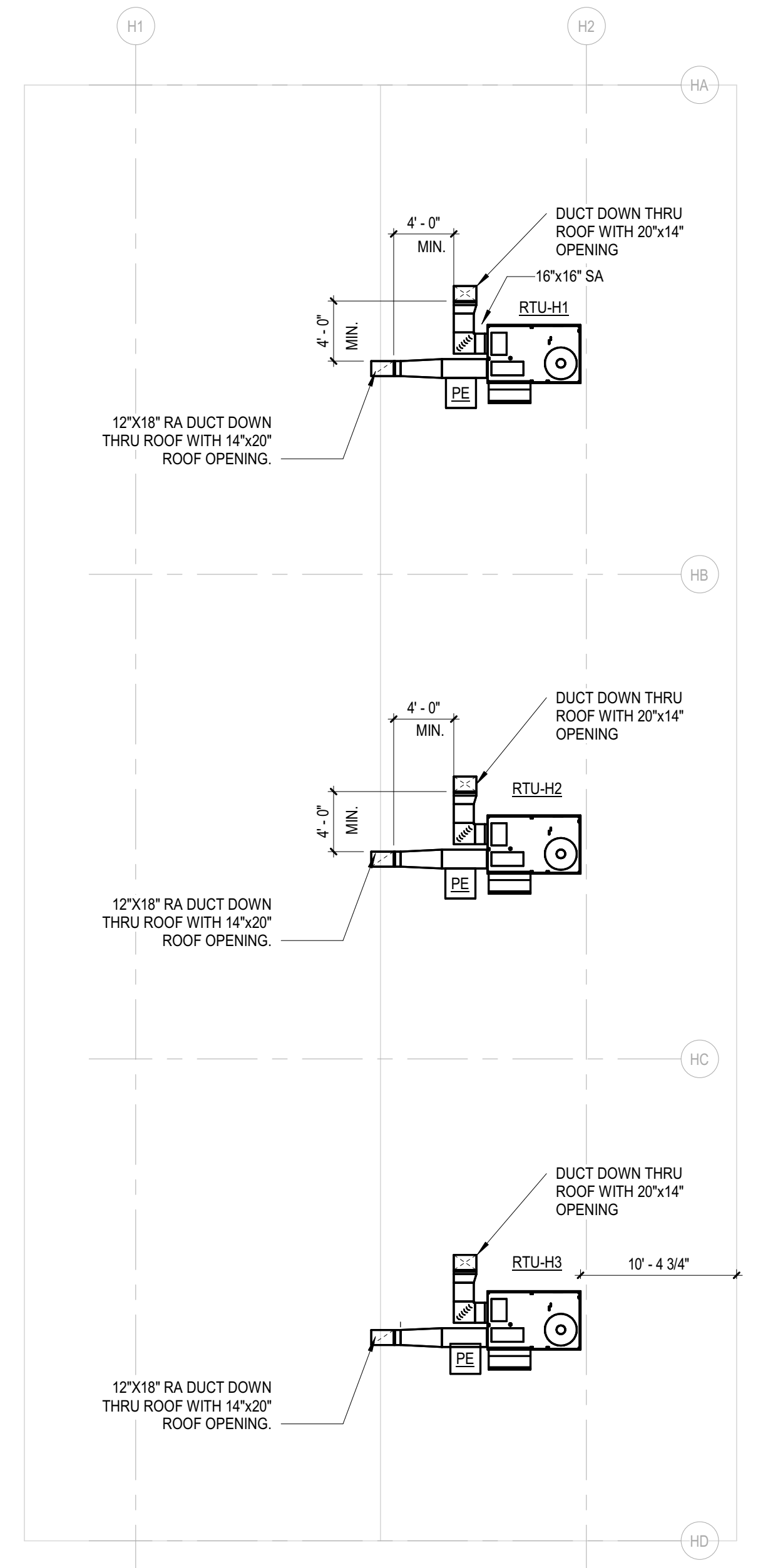
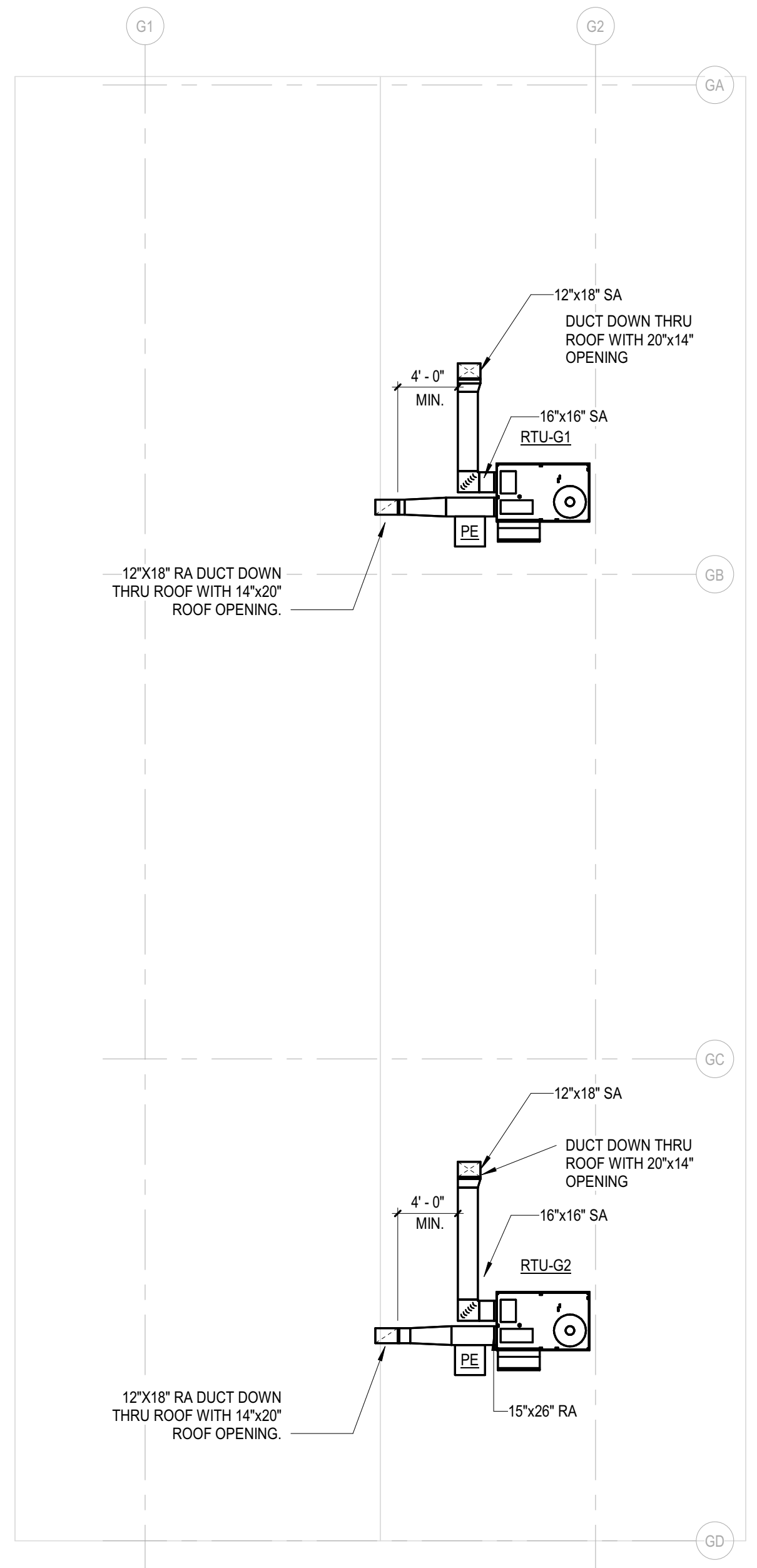
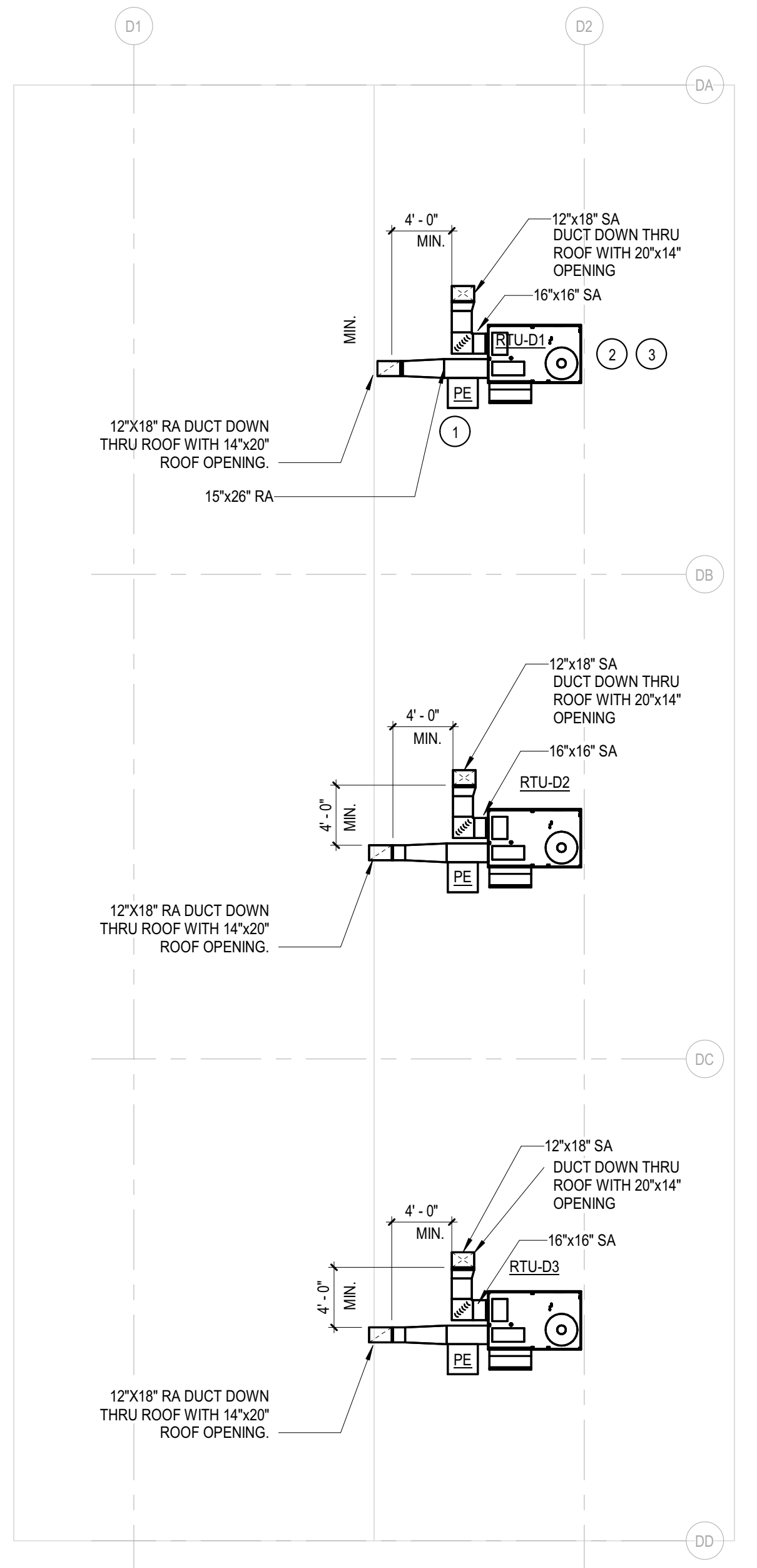
1

2

3

4

5



GENERAL NOTES

- 1. SCOPE OF WORK IS CLASSROOMS & MPR ONLY.
- 2. PROVIDE LINER TO DUCTWORK FOR 10 FEET FROM RTU.
- 3. PROVIDE FLEXIBLE DUCT AT UNIT CONNECTION FOR SA & RA DUCT.

KEY NOTES

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



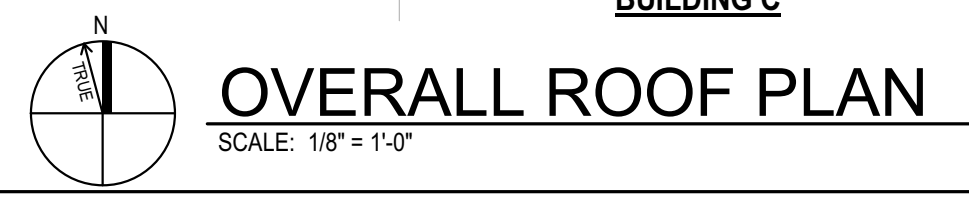
Ben Lomond Elementary School
 COVINA VALLEY USD
 681 E COVINA BLVD, COVINA, CA 91722

100%
 CONSTRUCTION
 DOCUMENT
 11/08/2022
 REVISIONS

75-22605-00

BUILDINGS C, D,
 G, H, I AND J
 MECHANICAL
 ROOF PLANS

M1.3C



Autodesk Docs/75-22605-00_CVUSD - District Wide HVAC Replacement/75-22605-00_CVUSD - Ben Lomond ES MEP_2022.rvt
 10/21/2022 4:57:52 PM

1
2
3
4
5

A

B

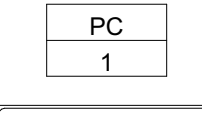
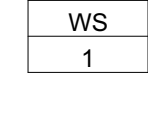
C

D

E

F

EXISTING I-VU PRO WEB SERVER
LOCATED AT DISTRICT OFFICE



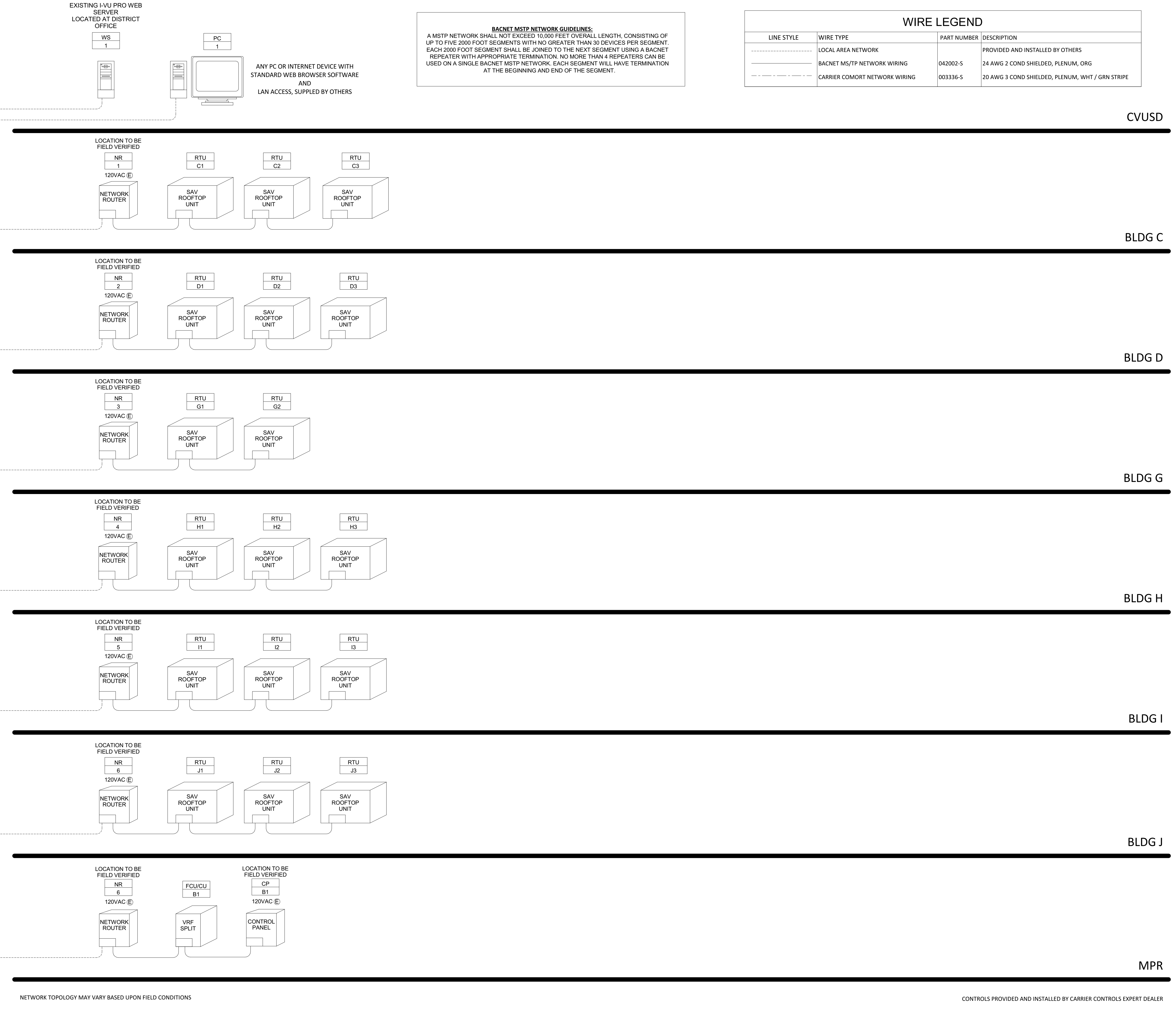
ANY PC OR INTERNET DEVICE WITH
STANDARD WEB BROWSER SOFTWARE
AND
LAN ACCESS, SUPPLIED BY OTHERS

BACNET MSTP NETWORK GUIDELINES:
A MSTP NETWORK SHALL NOT EXCEED 10,000 FEET OVERALL LENGTH, CONSISTING OF UP TO FIVE 2000 FOOT SEGMENTS WITH NO GREATER THAN 30 DEVICES PER SEGMENT. EACH 2000 FOOT SEGMENT SHALL BE JOINED TO THE NEXT SEGMENT USING A BACNET REPEATER WITH APPROPRIATE TERMINATION. NO MORE THAN 4 REPEATERS CAN BE USED ON A SINGLE BACNET MSTP NETWORK. EACH SEGMENT WILL HAVE TERMINATION AT THE BEGINNING AND END OF THE SEGMENT.

WIRE LEGEND

LINE STYLE	WIRE TYPE	PART NUMBER	DESCRIPTION
---	LOCAL AREA NETWORK		PROVIDED AND INSTALLED BY OTHERS
---	BACNET MS/TP NETWORK WIRING	042002-S	24 AWG 2 COND SHIELDED, PLENUM, ORG
---	CARRIER COMORT NETWORK WIRING	003336-S	20 AWG 3 COND SHIELDED, PLENUM, WHIT / GRN STRIPE

CUSTOMER LOCAL AREA NETWORK



NETWORK TOPOLOGY MAY VARY BASED UPON FIELD CONDITIONS

CONTROLS PROVIDED AND INSTALLED BY CARRIER CONTROLS EXPERT DEALER

BACS RISER DIAGRAM
MS.1
NO SCALE



Ben Lomond Elementary School
COVINA VALLEY USD
681 E COVINA BLVD, COVINA, CA 91722

100%
CONSTRUCTION
DOCUMENT
11/08/2022
REVISIONS

75-22605-00

CONTROLS
DIAGRAMS

M5.1

A

B

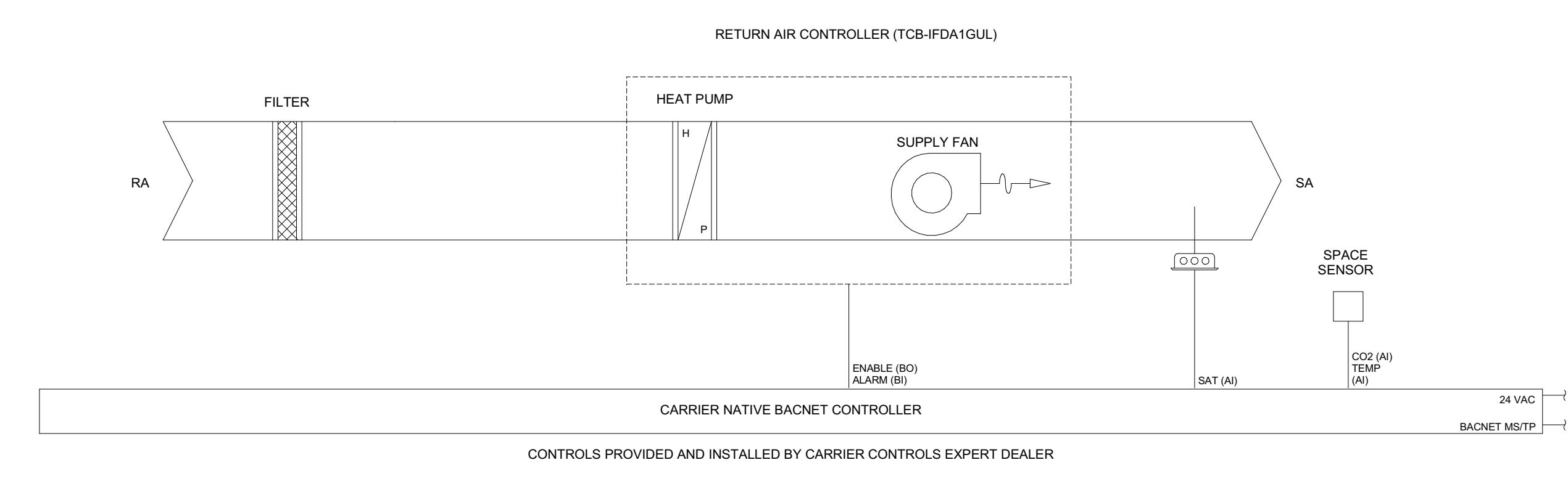
C

D

E

F

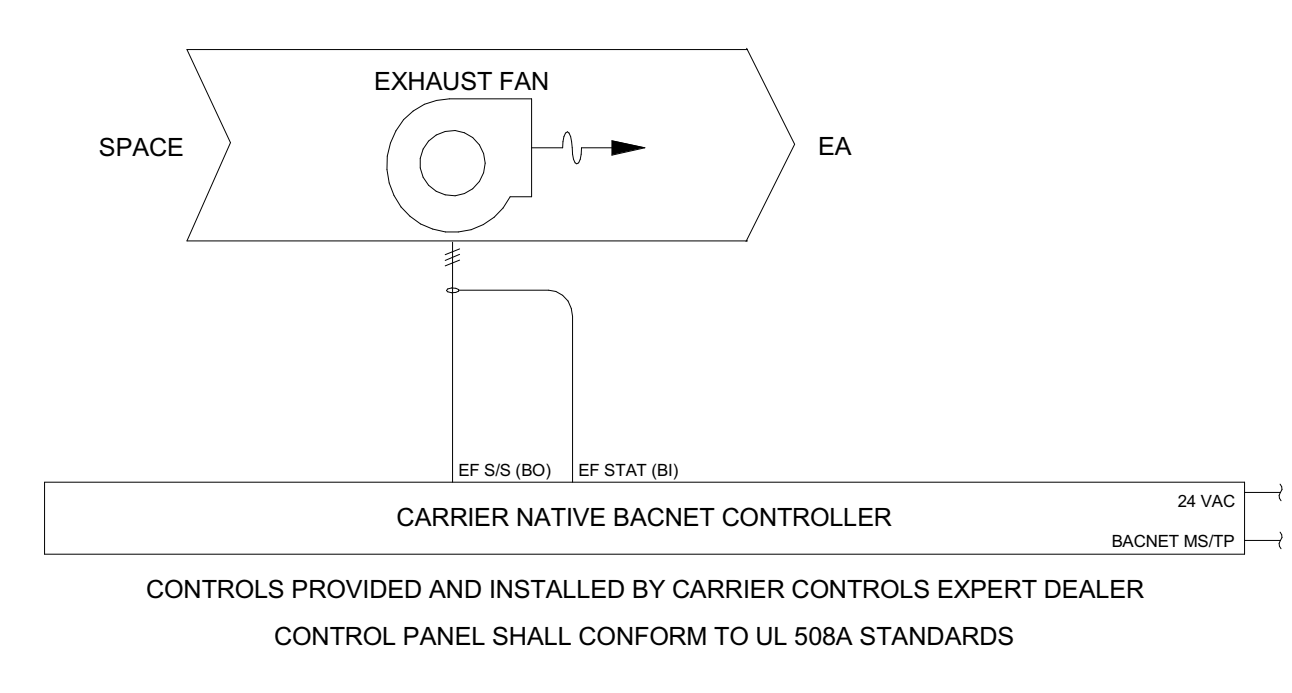
1



SPLIT SYSTEM DETAIL (FCU/CU-B1)

SCALE	1
NONE	

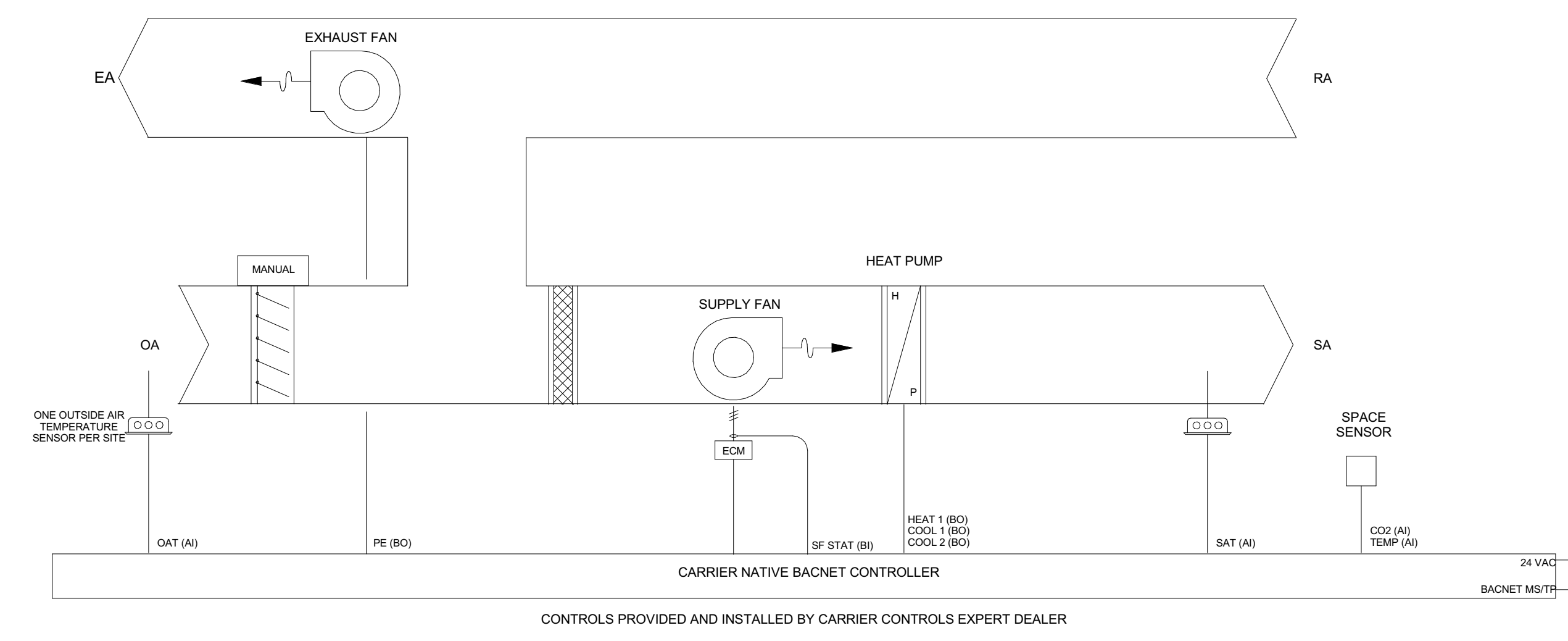
2



EXHAUST FAN DETAIL (EF-B1)

SCALE	2
NONE	

3



50FCQ HEAT PUMP DETAIL (RTU-C1 THRU RTU-C3, RTU- D1 THRU RTU-D3, RTU-G1 THRU RTU-G2, RTU-H1 THRU RTU-H3, RTU-I1 THRU RTU-I3, AND RTU-J1 THRU RTU-J3)

SEQUENCES OF OPERATION

SEQUENCE OF OPERATION FOR CVUSD BEN LOMOND ES
HEAT PUMP RTU (RTU-C1, RTU-C2, RTU-D1 THRU RTU-D3, RTU-G1 THRU RTU-G3, RTU-H1 THRU RTU-H3, RTU-I1 THRU RTU-I3, AND RTU-J1 THRU RTU-J3)

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.

1 BACS DETAIL
M5.2 NO SCALE



Ben Lomond Elementary School
COVINA VALLEY USD
681 E COVINA BLVD, COVINA, CA 91722

100% CONSTRUCTION DOCUMENT
11/08/2022 REVISIONS

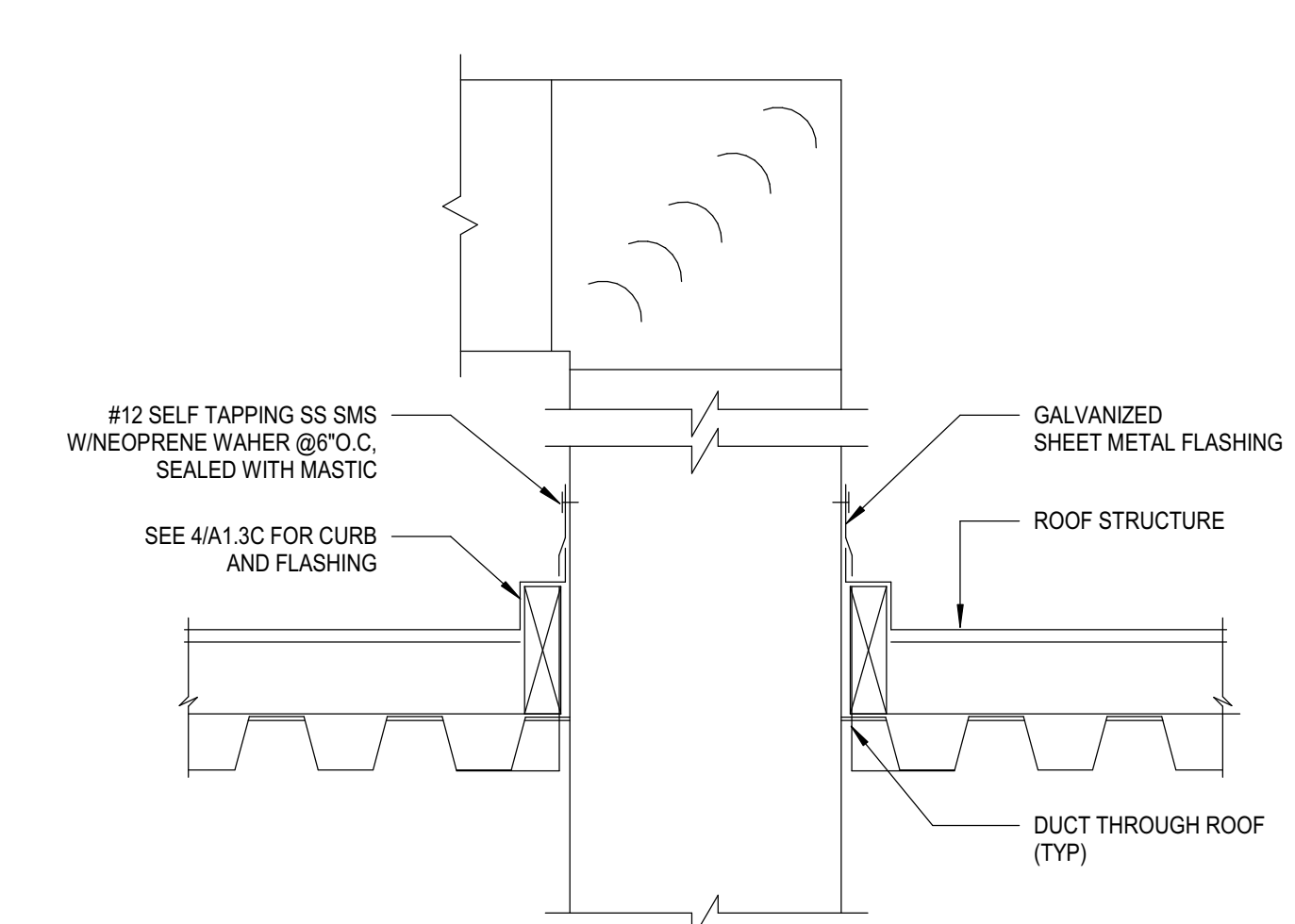
75-22605-00

CONTROLS DIAGRAMS

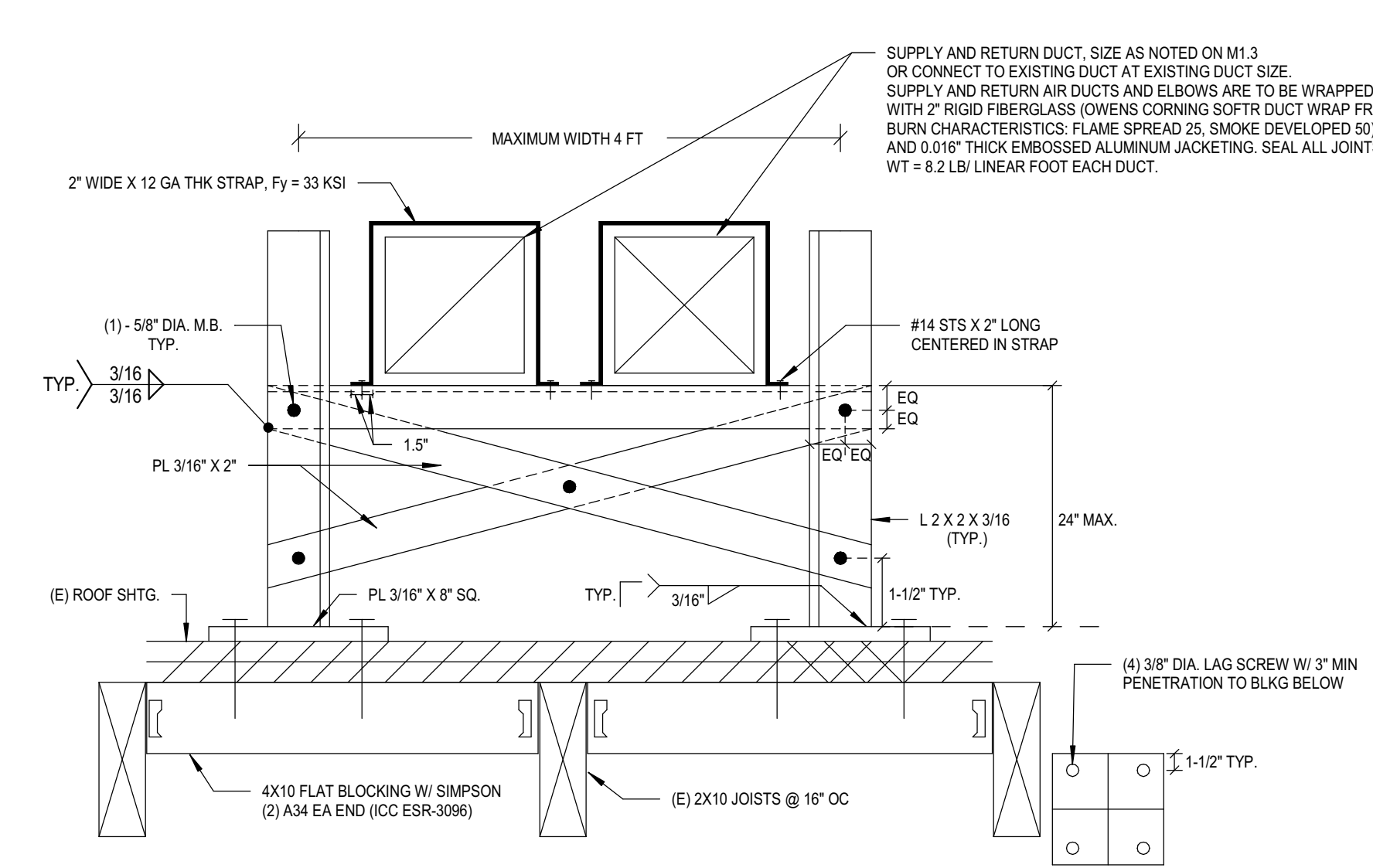
M5.2

Autodesk Docs/75-22605-00 CVUSD - District Wide HVAC Replacement/75-22605-00 CVUSD - Ben Lomond ES_MEP_2022.rvt 10/21/2022 4:57:53 PM

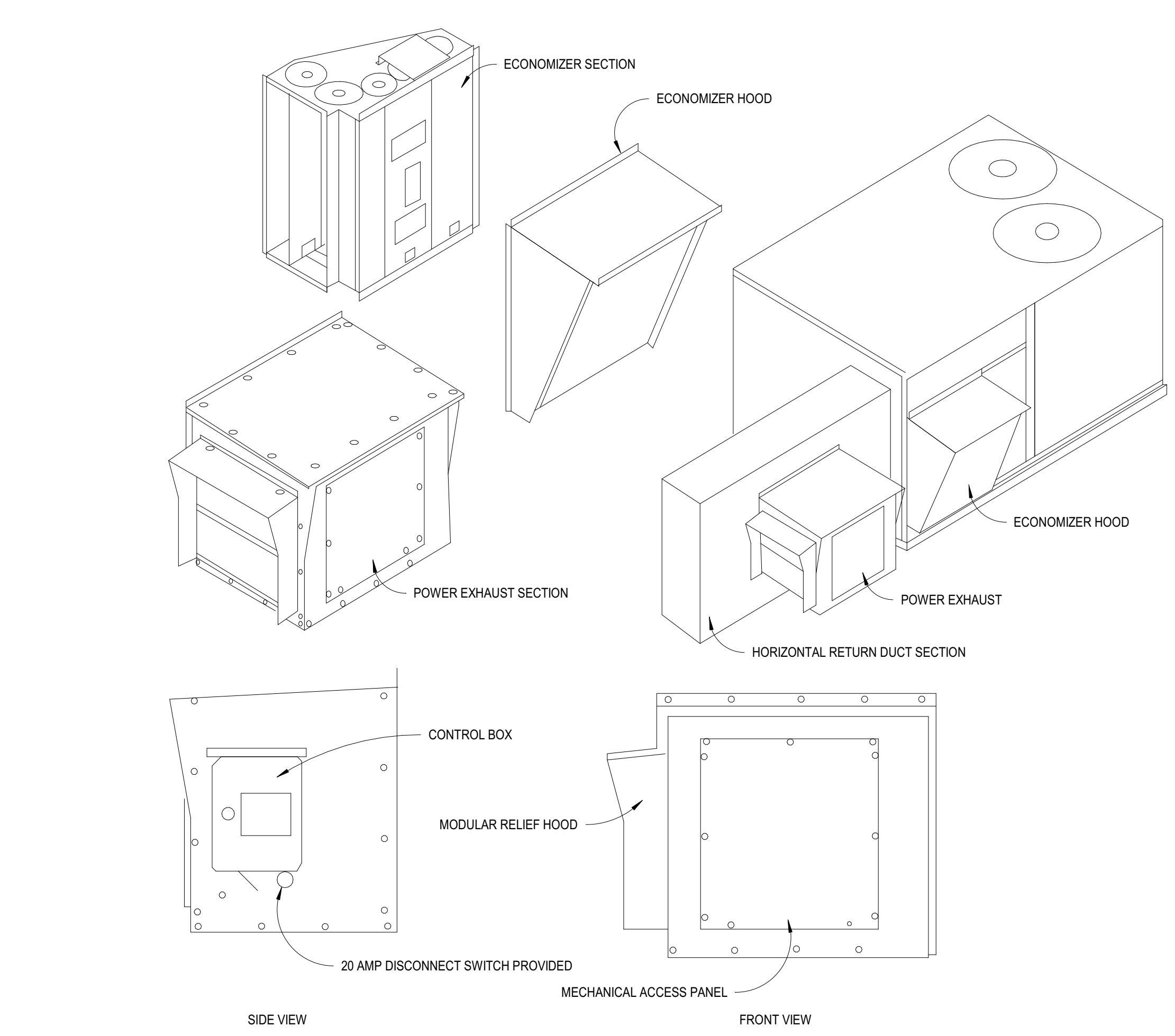
1
2
3
4
5



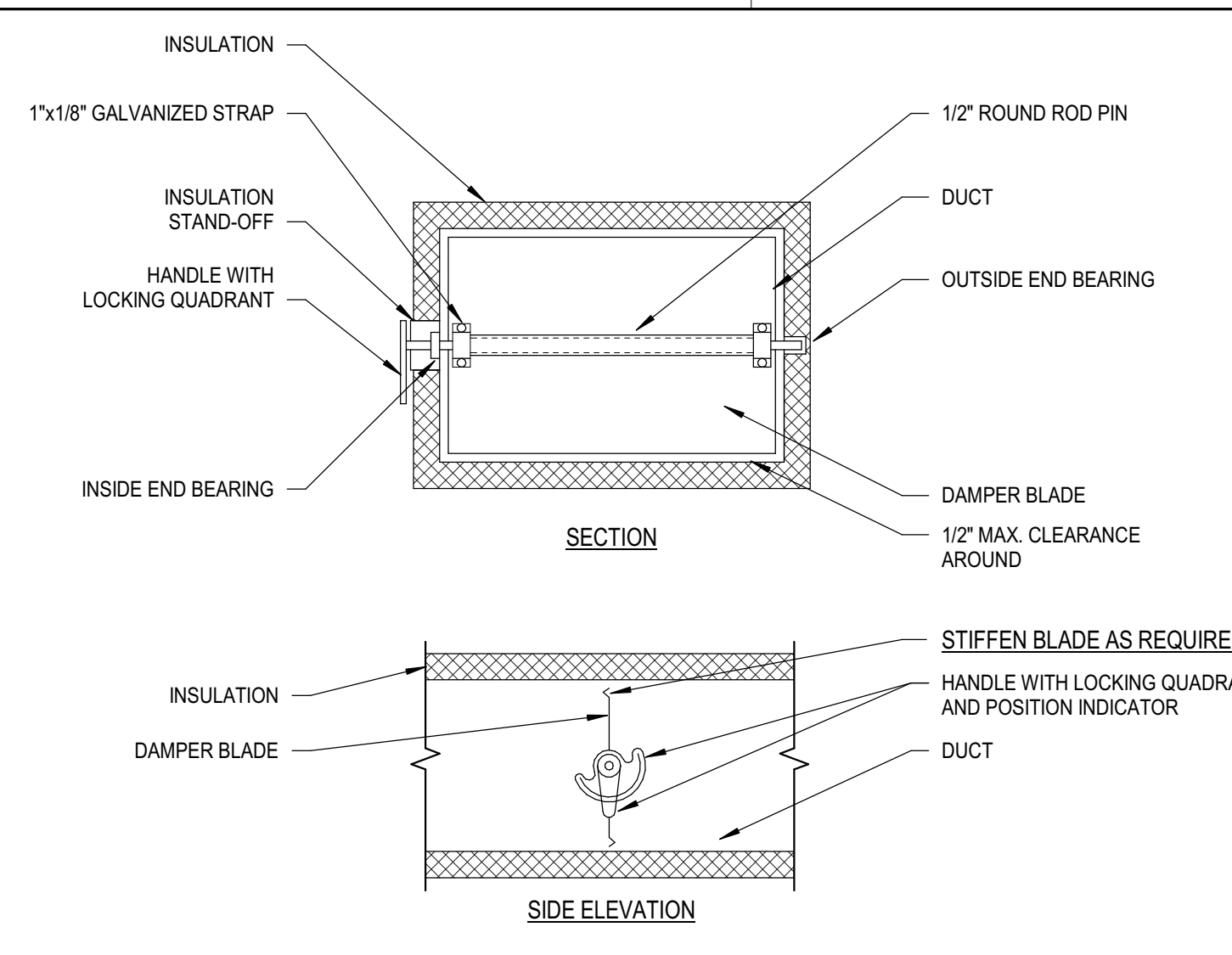
1 DUCT THRU ROOF PENETRATION
M7.1 NO SCALE



12 DUCT SUPPORT ON ROOF DETAIL
M7.1 NO SCALE

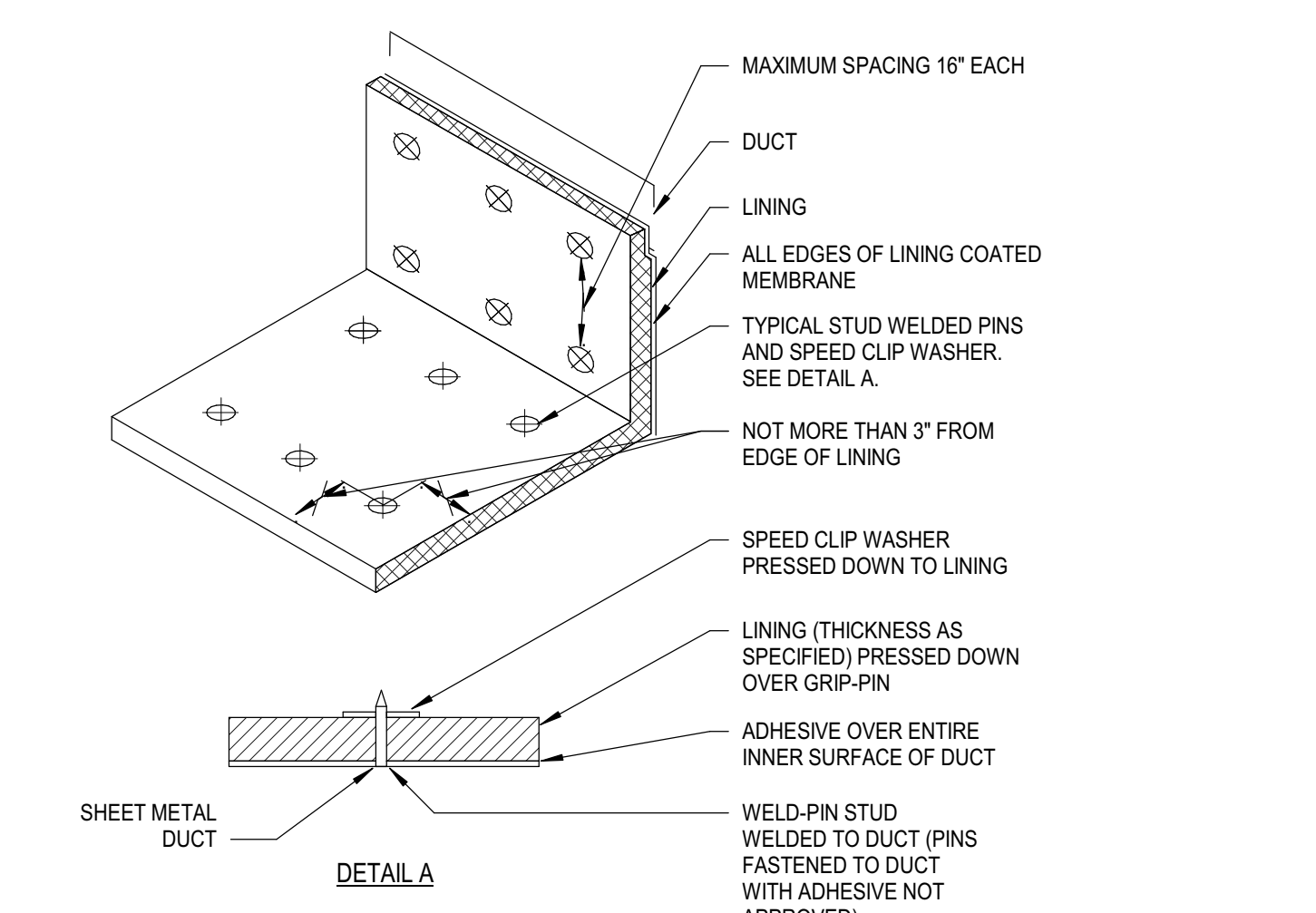


8 ECONOMIZER AND POWER EXHAUST DETAIL - HORIZONTAL DISCHARGE RTU (LESS THAN 15 TONS)
M7.1 NO SCALE

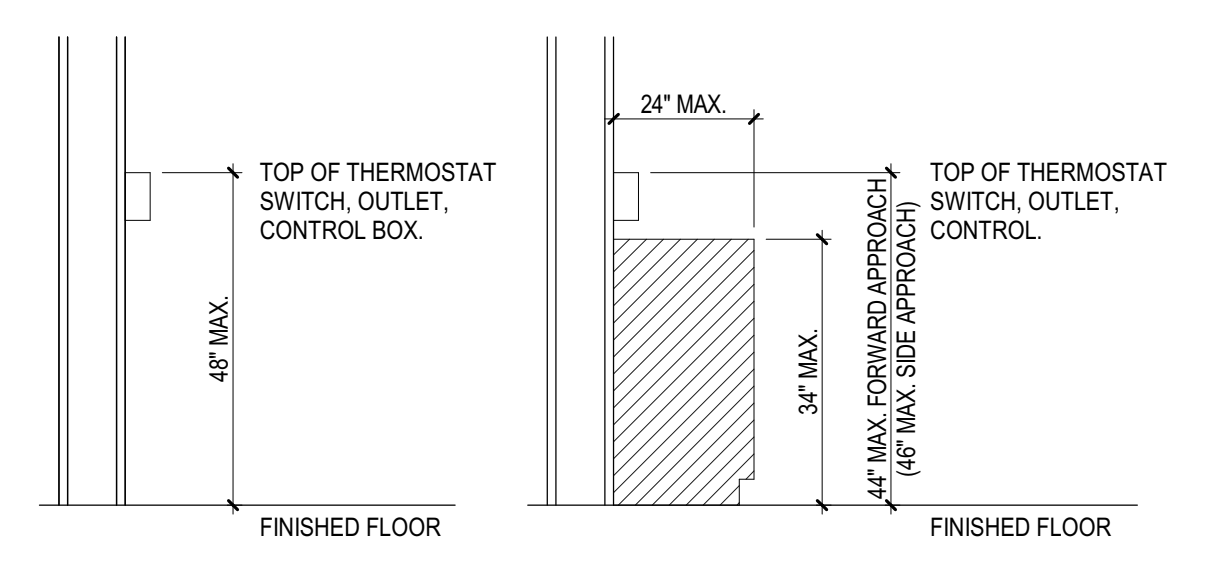


- DELETE INSULATION STAND-OFF ON DUCTWORK WITHOUT EXTERIOR INSULATION.
- DETAIL SHOWS SINGLE BLADE DAMPER. MULTI-BLADE DAMPERS INSTALLATIONS SHALL BE SIMILAR.
- LOCK DAMPER DURING AIR BALANCE AND MARK QUADRANT TO RECORD AIR BALANCED DAMPER POSITION.
- PROVIDE "HAT" SECTION AT QUADRANT FOR ALL EXTERNALLY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

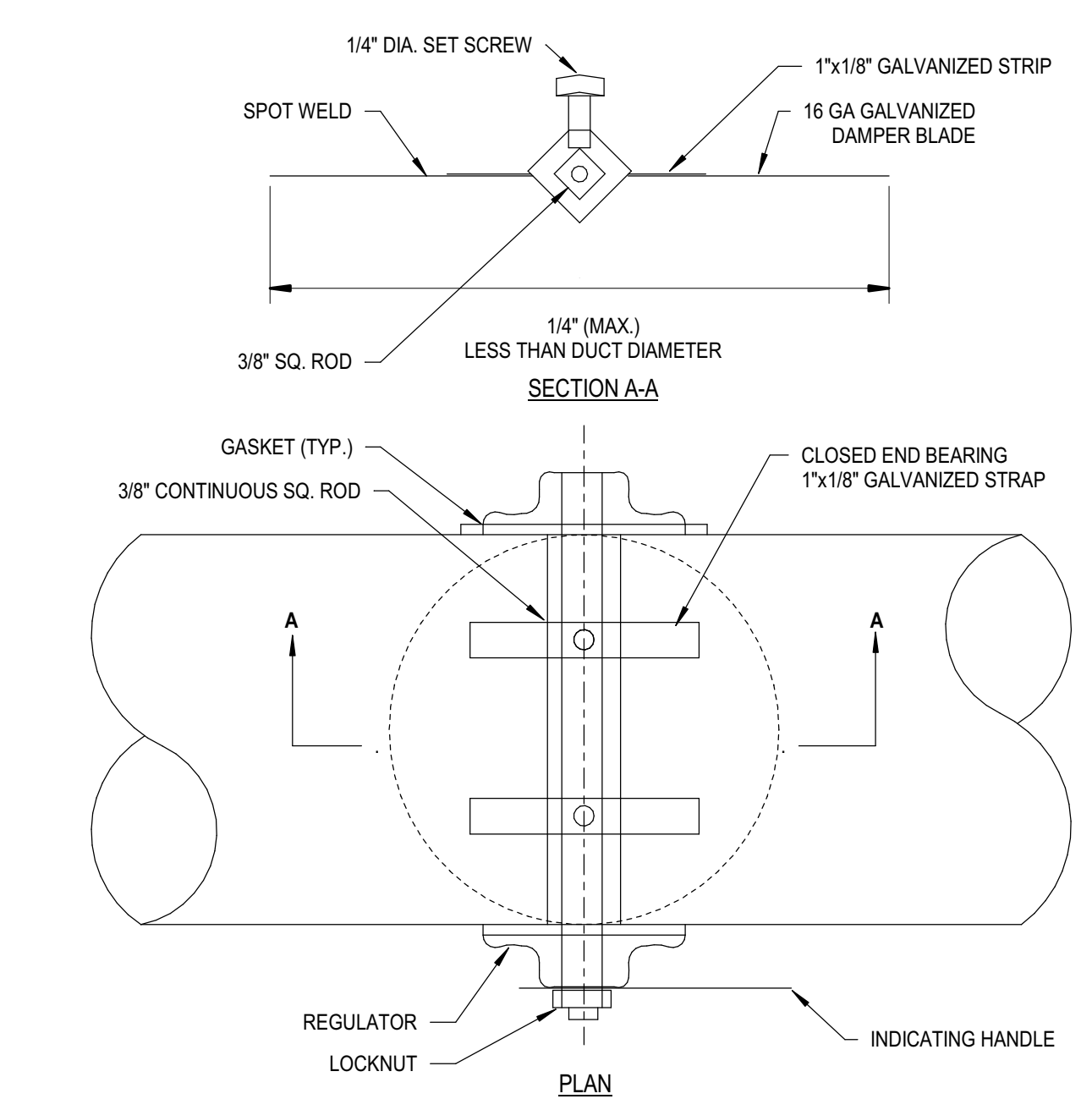
2 RECTANGULAR VOLUME DAMPER DETAIL
M7.1 NO SCALE



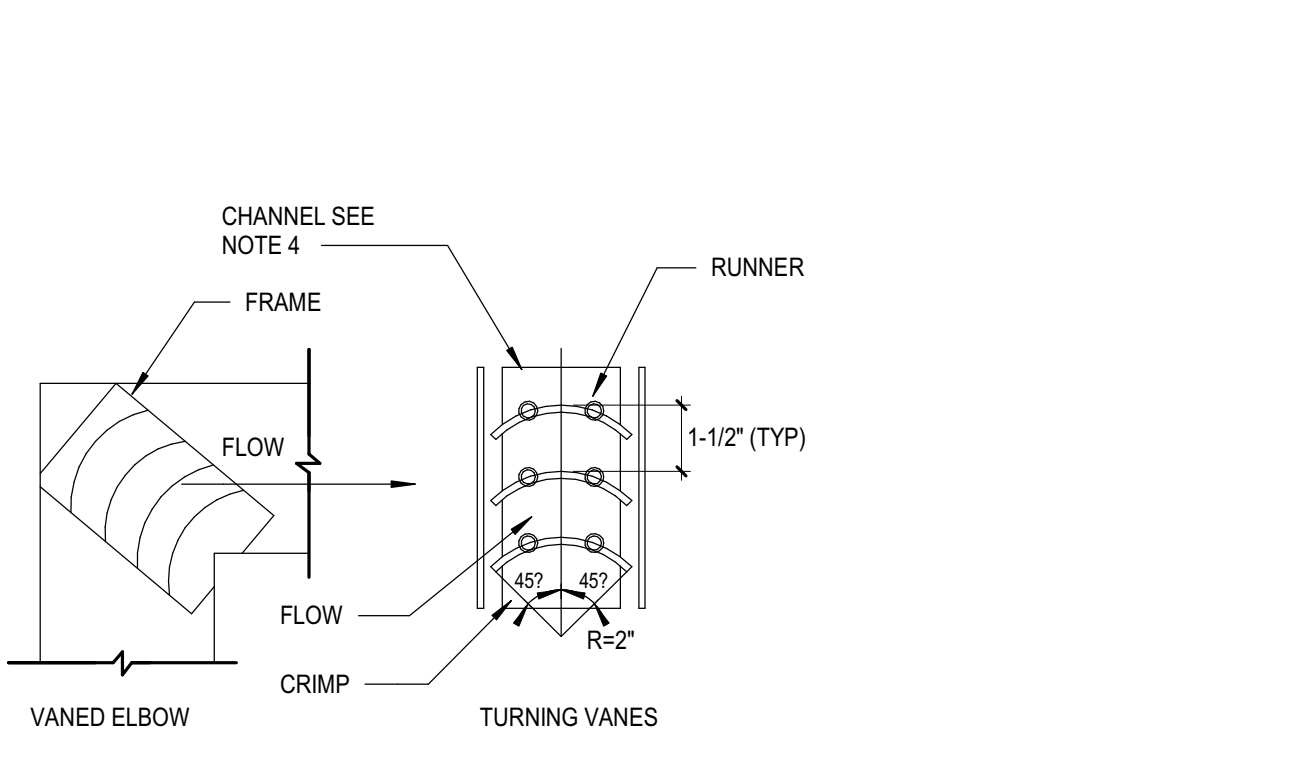
5 ACOUSTICAL DUCT LINING INSTALLATION DETAIL
M7.1 NO SCALE



9 THERMOSTAT MOUNTING
M7.1 NO SCALE

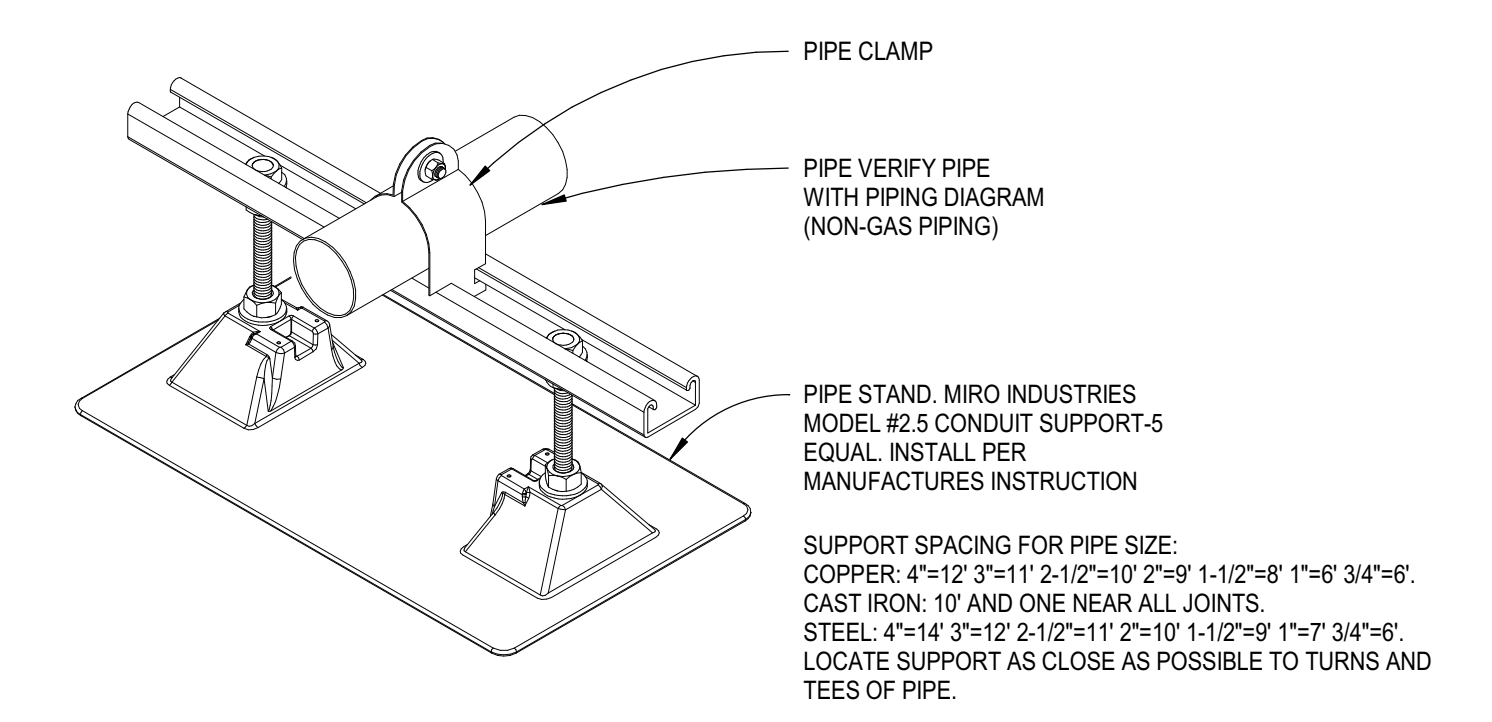


3 ROUND VOLUME DAMPER (UP TO 14")
M7.1 NO SCALE

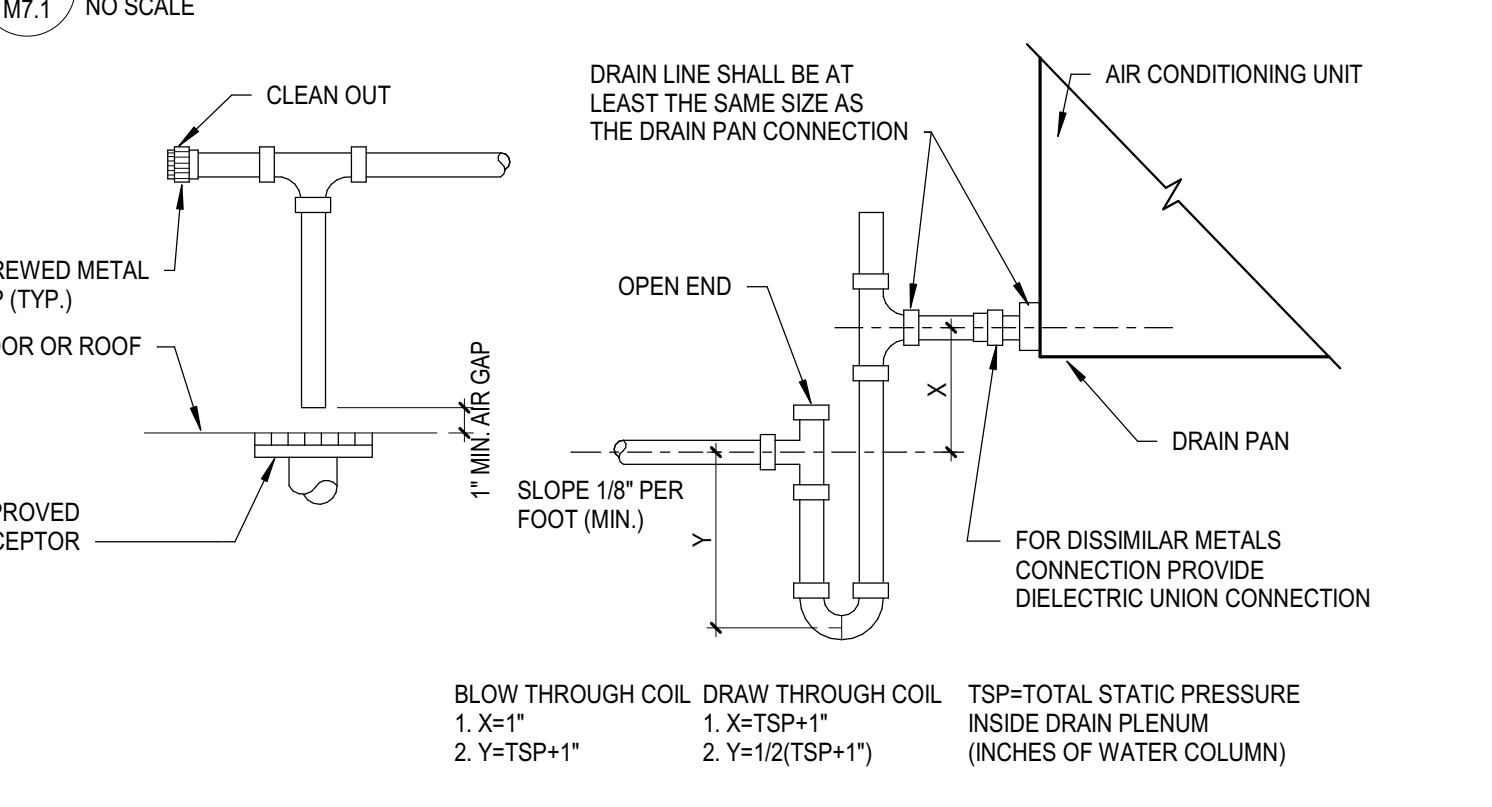


- NOTES:
- MAXIMUM UNSUPPORTED VANE LENGTH 36"
 - VANES AND FRAMES - 24 GAUGE
 - DUCT INLET AND OUTLET DIMENSIONS TO BE EQUAL
 - FOR HIGH VELOCITY APPLICATIONS PROVIDE 18 GAUGE CHANNEL AND TACK WELD VANE EDGES TO CHANNEL, TYPICAL BOTH ENDS
 - FRAMES AND CHANNELS - BOLTED OR TACK WELDED TO ELBOW

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

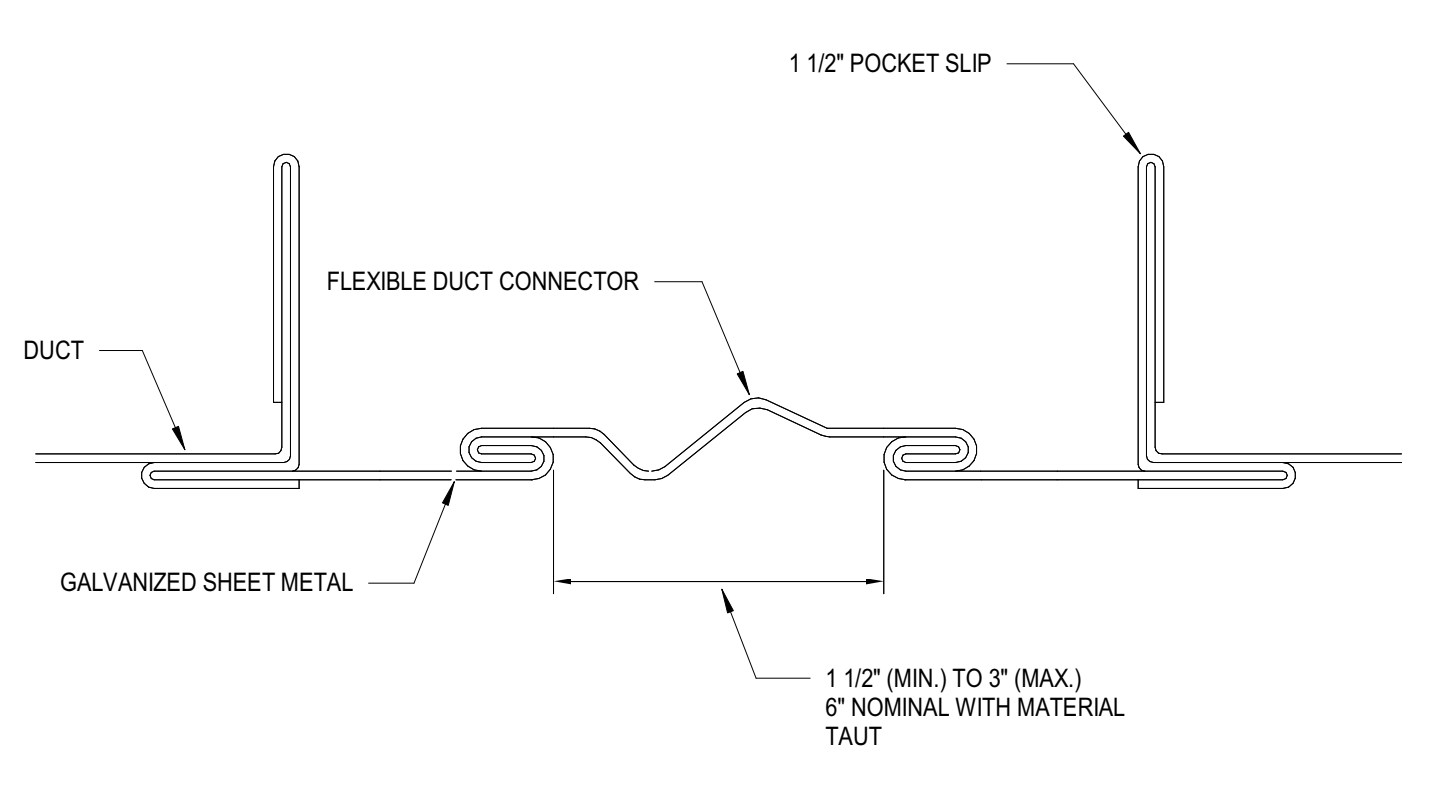


4 PIPE SUPPORT ON ROOF DETAIL
M7.1 NO SCALE

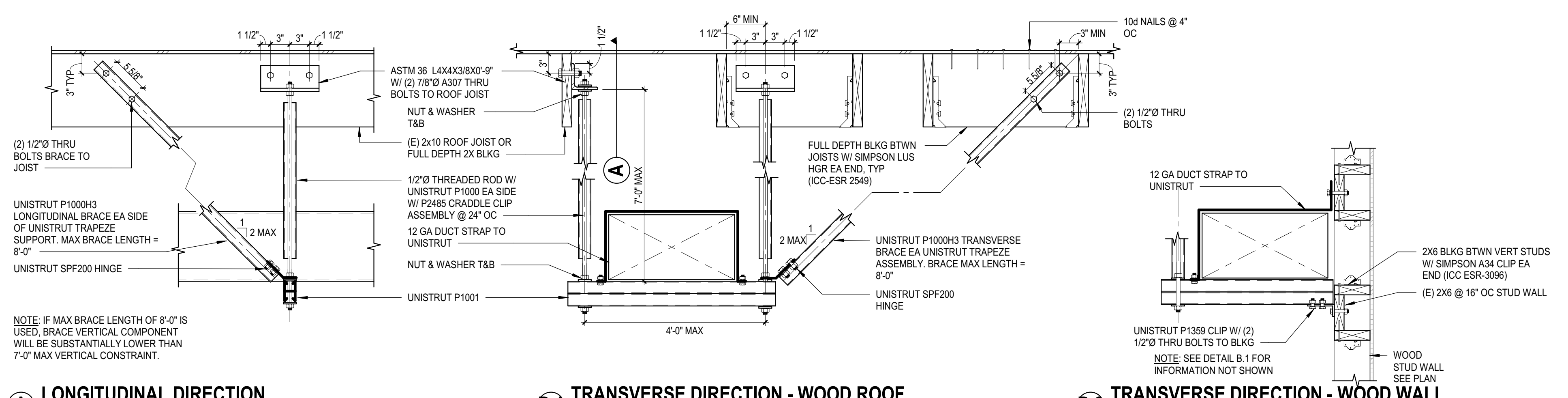


- NOTES:
- WHERE VERTICAL SPACE DOES NOT PERMIT TRAP INSTALLATION AS REQUIRED ABOVE FLOOR SLAB, EXTEND P-TRAP TO BELOW SLAB.
 - FOR INDOOR AND OUTDOOR INSTALLATION PROVIDE INSULATED RAIN LINE TO THE POINT OF DISCHARGE AT APPROVED RECEPTOR.

7 CONDENSATE DRAIN CONNECTION DETAIL
M7.1 NO SCALE



10 FLEXIBLE DUCT CONNECTOR
M7.1 NO SCALE



A LONGITUDINAL DIRECTION

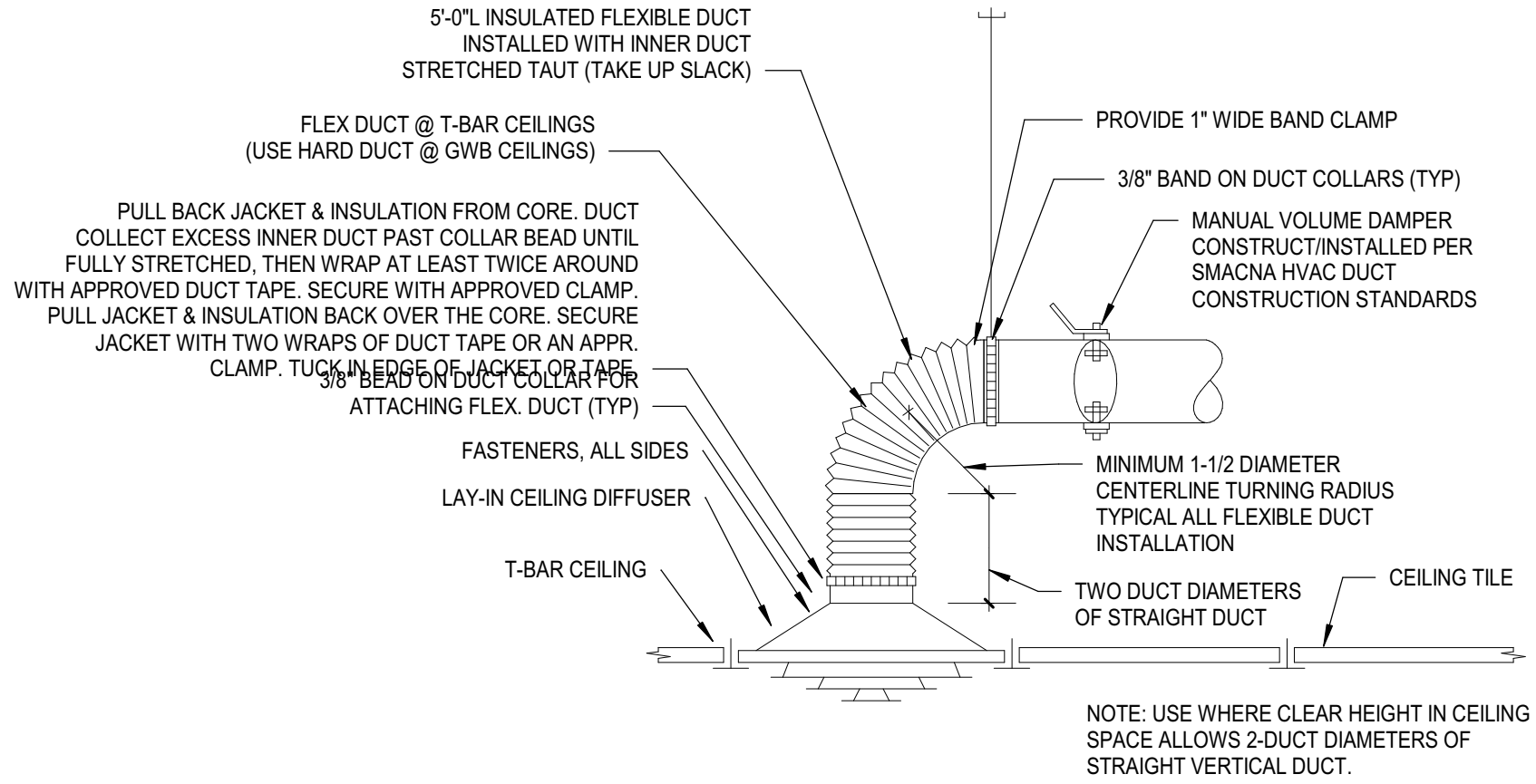
B.1 TRANSVERSE DIRECTION - WOOD ROOF

B.2 TRANSVERSE DIRECTION - WOOD WALL TIEBACK

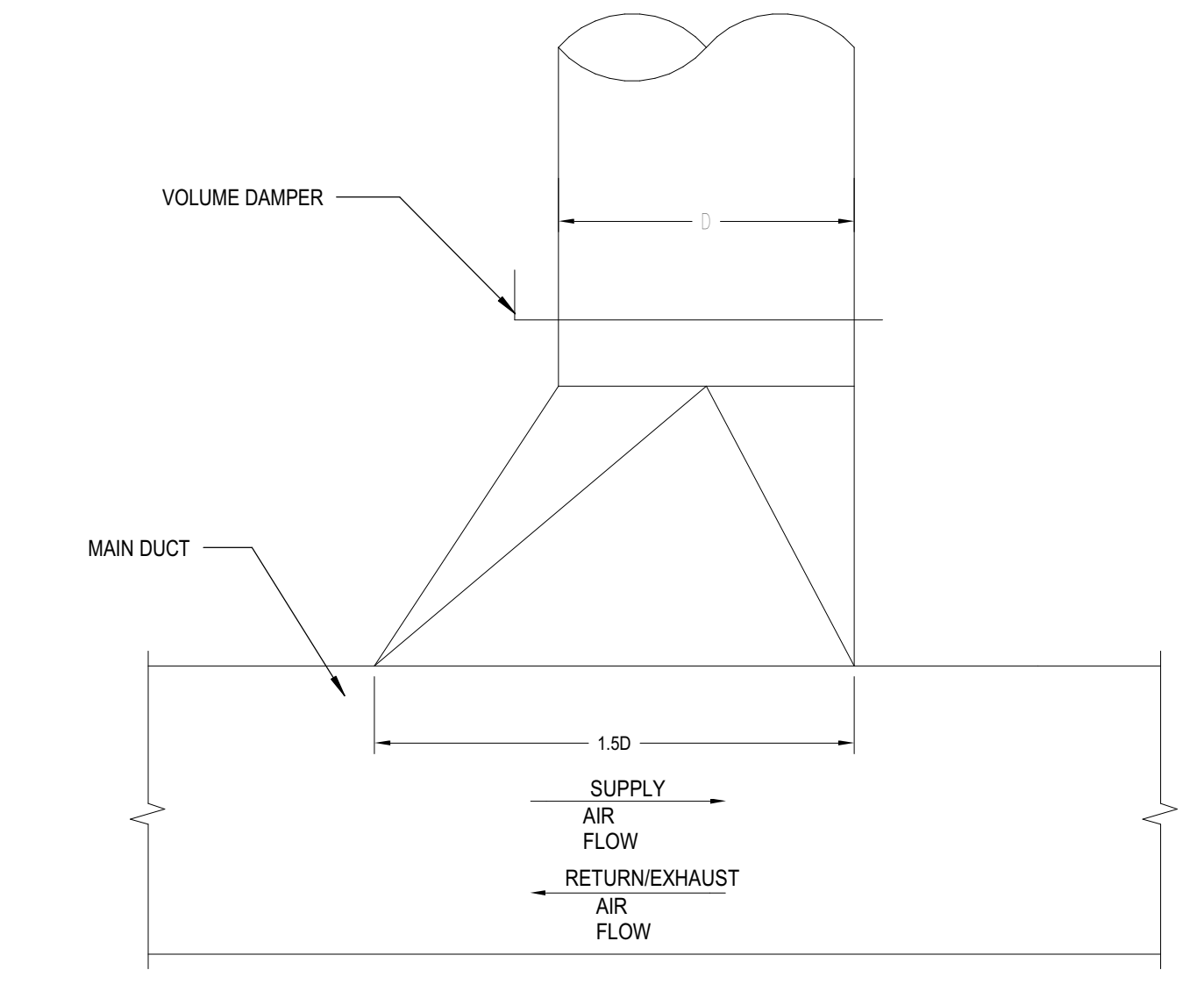
11 DUCT SUPPORTS
M7.1 NO SCALE

Autodesk Docs/75-22605-00_CVUSD - District Wide HVAC Replacement/75-22605-00_CVUSD_Ben Lomond ES MEP_2022.rvt
10/21/2022 4:57:54 PM

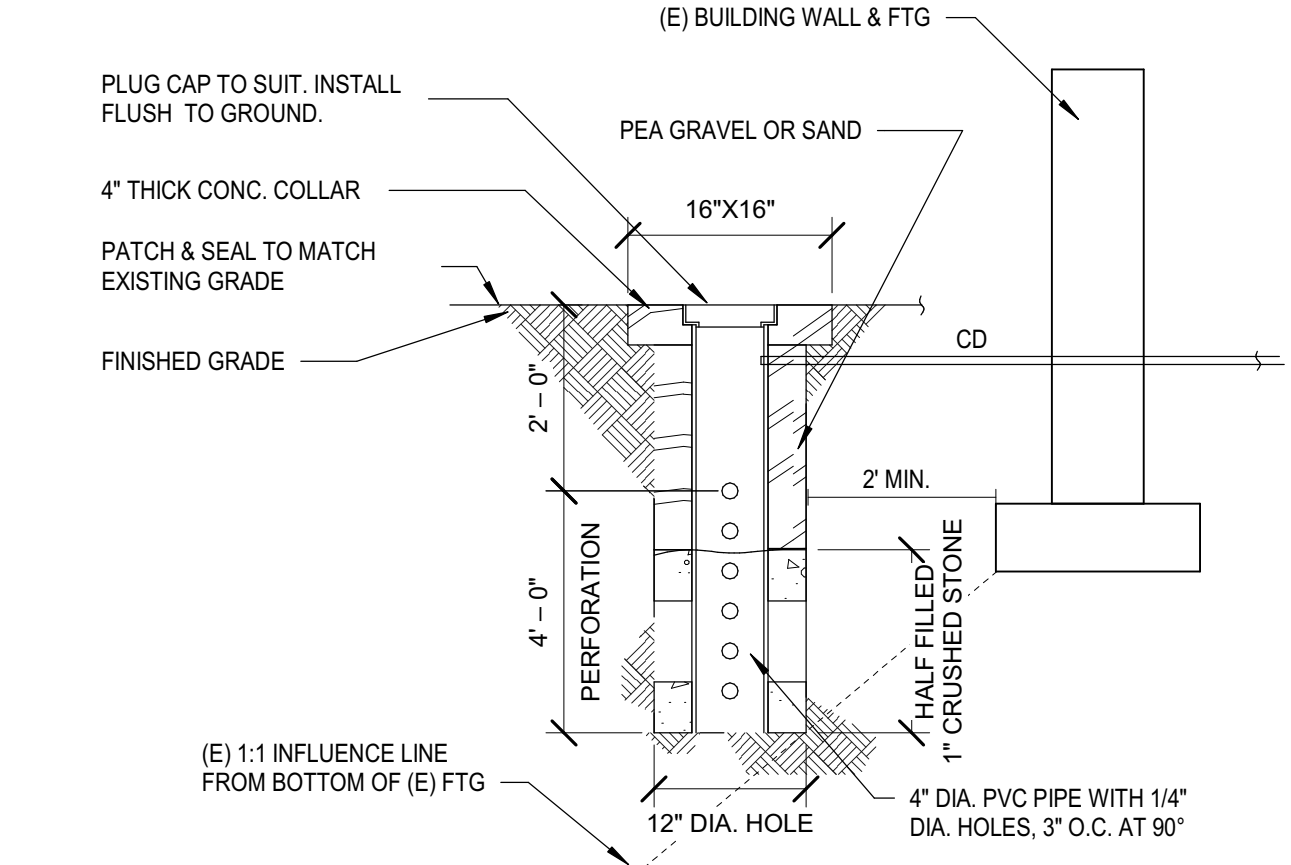
1
2
3
4
5



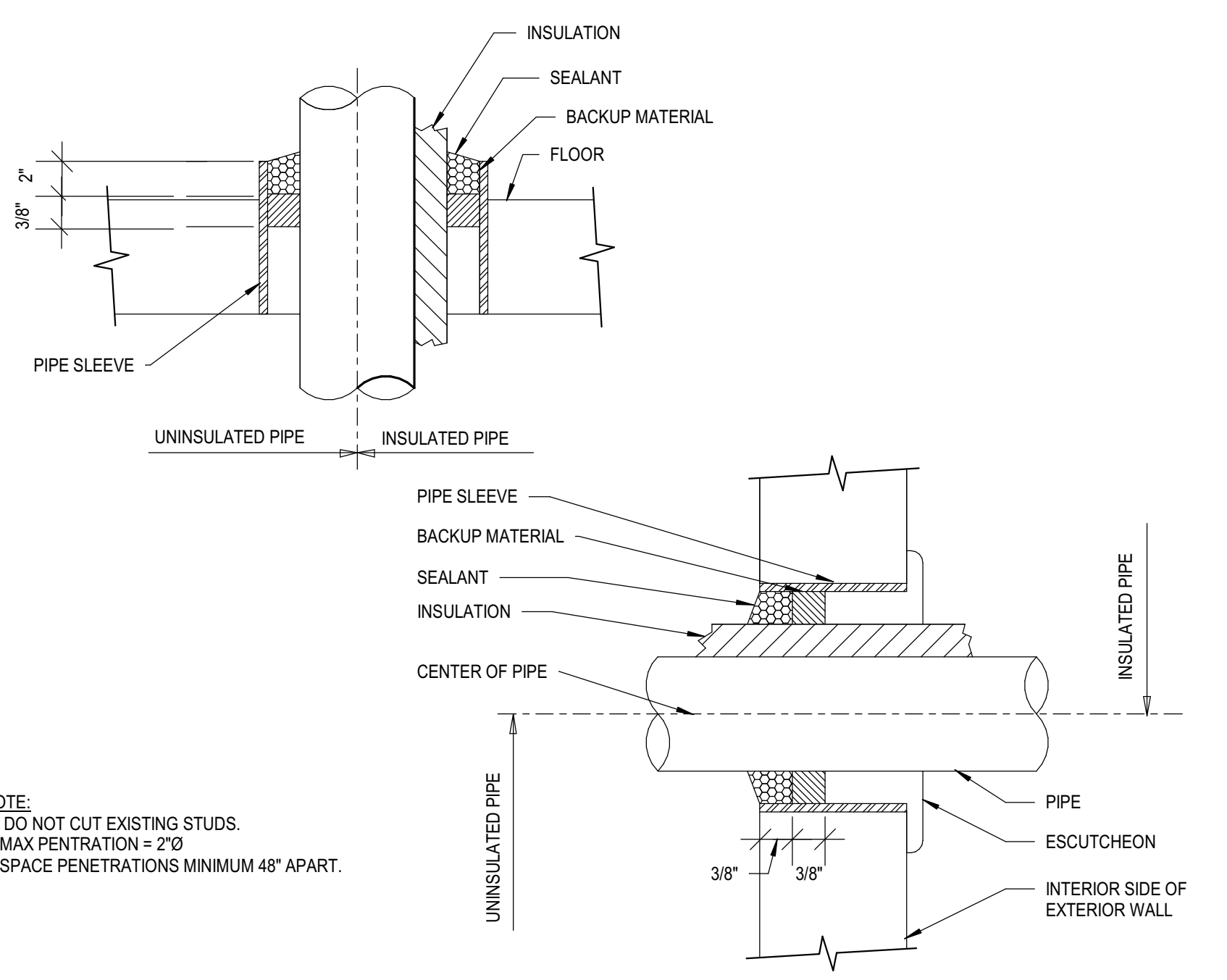
1 CEILING SUPPLY DIFFUSER CONNECTION DETAIL
M7.2 / NO SCALE



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

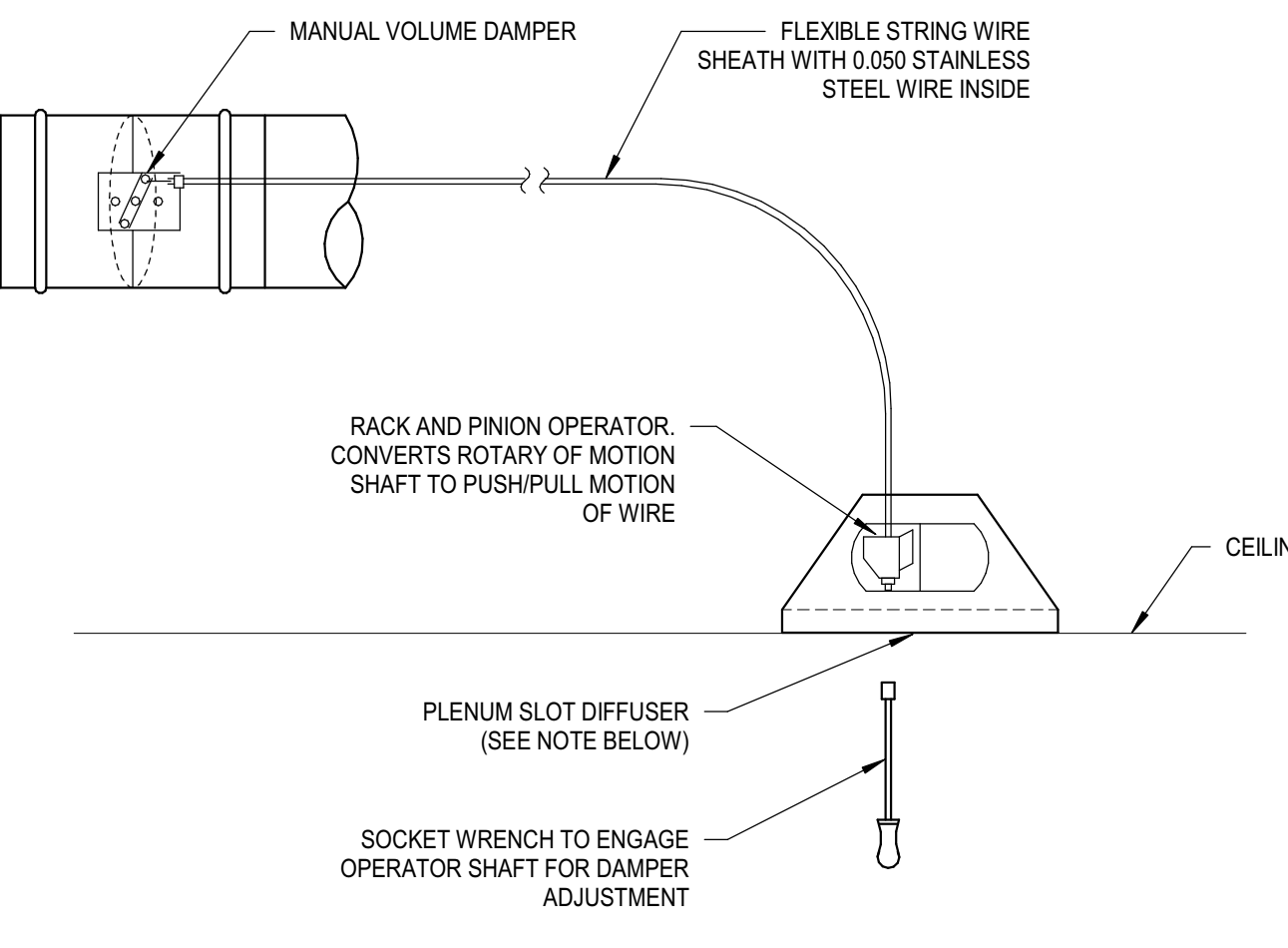


3 DRY WELL DETAIL
M7.2 / SCALE: 1/4" = 1'-0"



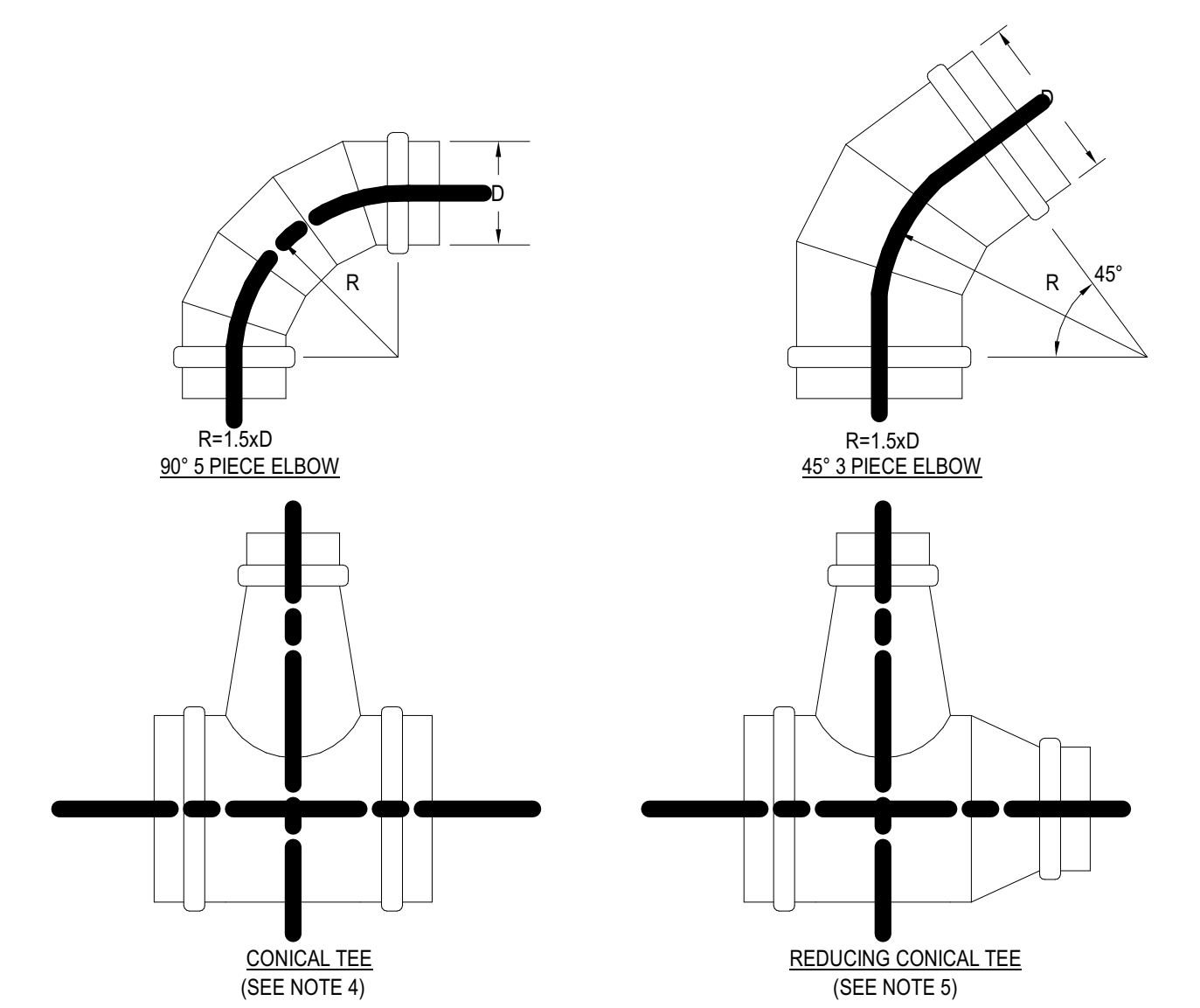
NOTE:
1. DO NOT CUT EXISTING STUDS.
2. MAX PENETRATION = 2"Ø
3. SPACE PENETRATIONS MINIMUM 48" APART.

4 PIPE PENETRATION DETAILS
M7.2 / NO SCALE



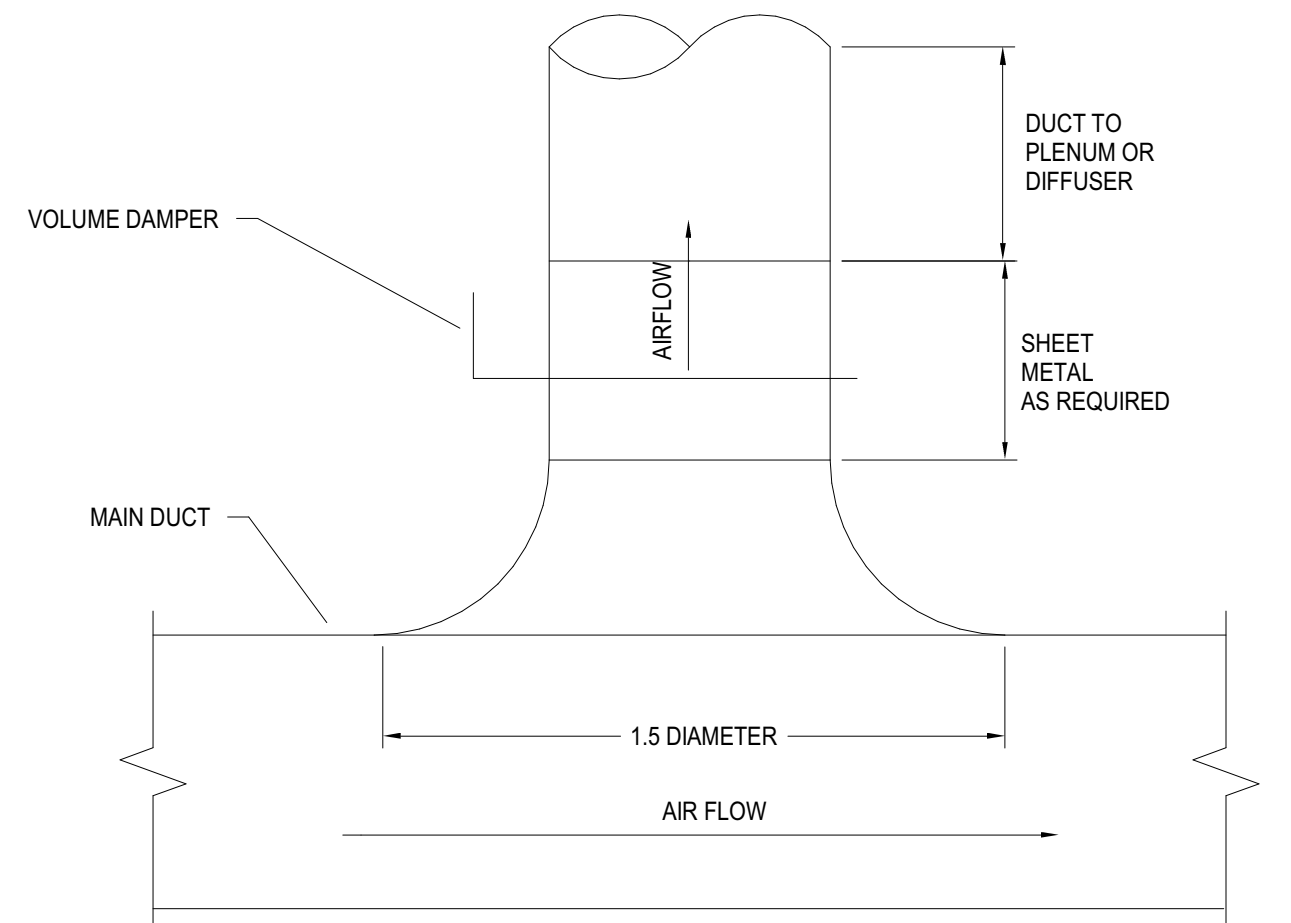
NOTES:
1. DIFFUSER OR REGISTER LOCATED IN GYP BOARD CEILING.
2. PROVIDE REGULATOR FOR ALL MANUAL VOLUME DAMPERS INSTALLED IN INACCESSIBLE CEILING OR HARD TO REACH PLACES.
3. FOR CEILING TYPE AND CONSTRUCTION, SEE ARCHITECTURAL DRAWINGS.

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



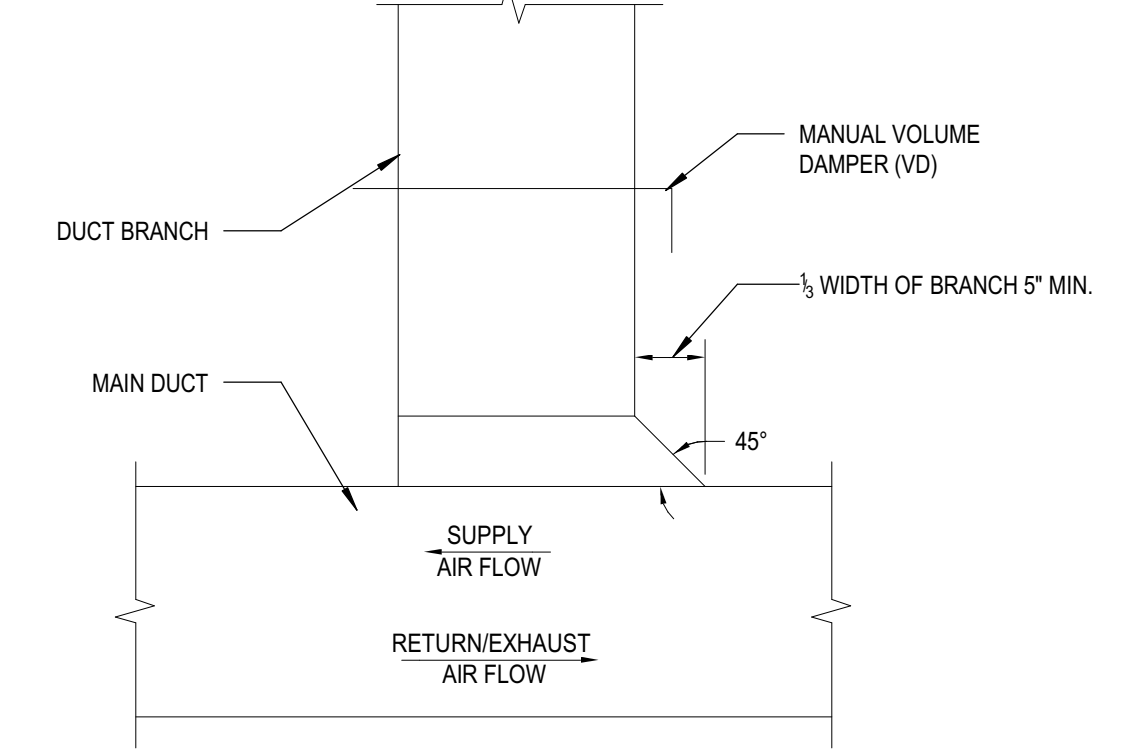
NOTES:
1. FITTINGS TO BE 2 GAGES HEAVIER THAN CONNECTED DUCT.
2. ADJUSTABLE ELBOWS WILL BE PERMITTED FOR DUCT CONSTRUCTION OF 2" W.G. OR LESS.
3. PROVIDE CONTINUOUS SEALANT AT EACH FITTING JOINT.
4. PROVIDE THIS TYPE OF CONNECTION FOR BRANCHES WHEN SINGLE LINE DUCTWORK IS INDICATED AS THIS [Symbol].
5. PROVIDE THIS TYPE OF CONNECTION FOR BRANCHES WHEN SINGLE LINE DUCTWORK IS INDICATED AS THIS [Symbol].

6 ROUND DUCT FITTINGS
M7.2 / NO SCALE



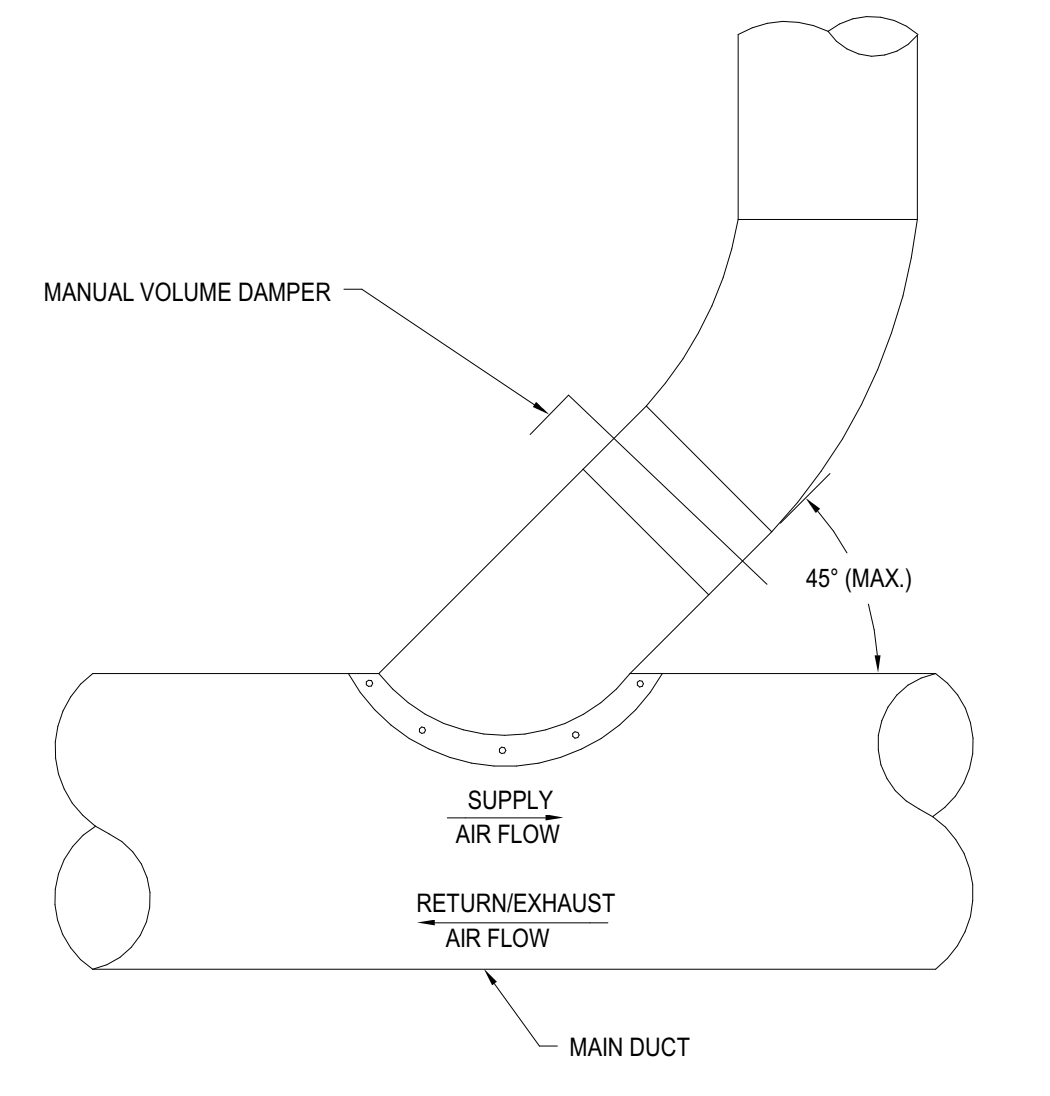
NOTES:
1. FURNISH THIS TYPE CONNECTION WHEN SINGLE-LINE DUCTWORK IS INDICATED AS THIS [Symbol] FOR BRANCHES WITH MORE THAN 25% OF TOTAL AIR FLOW

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



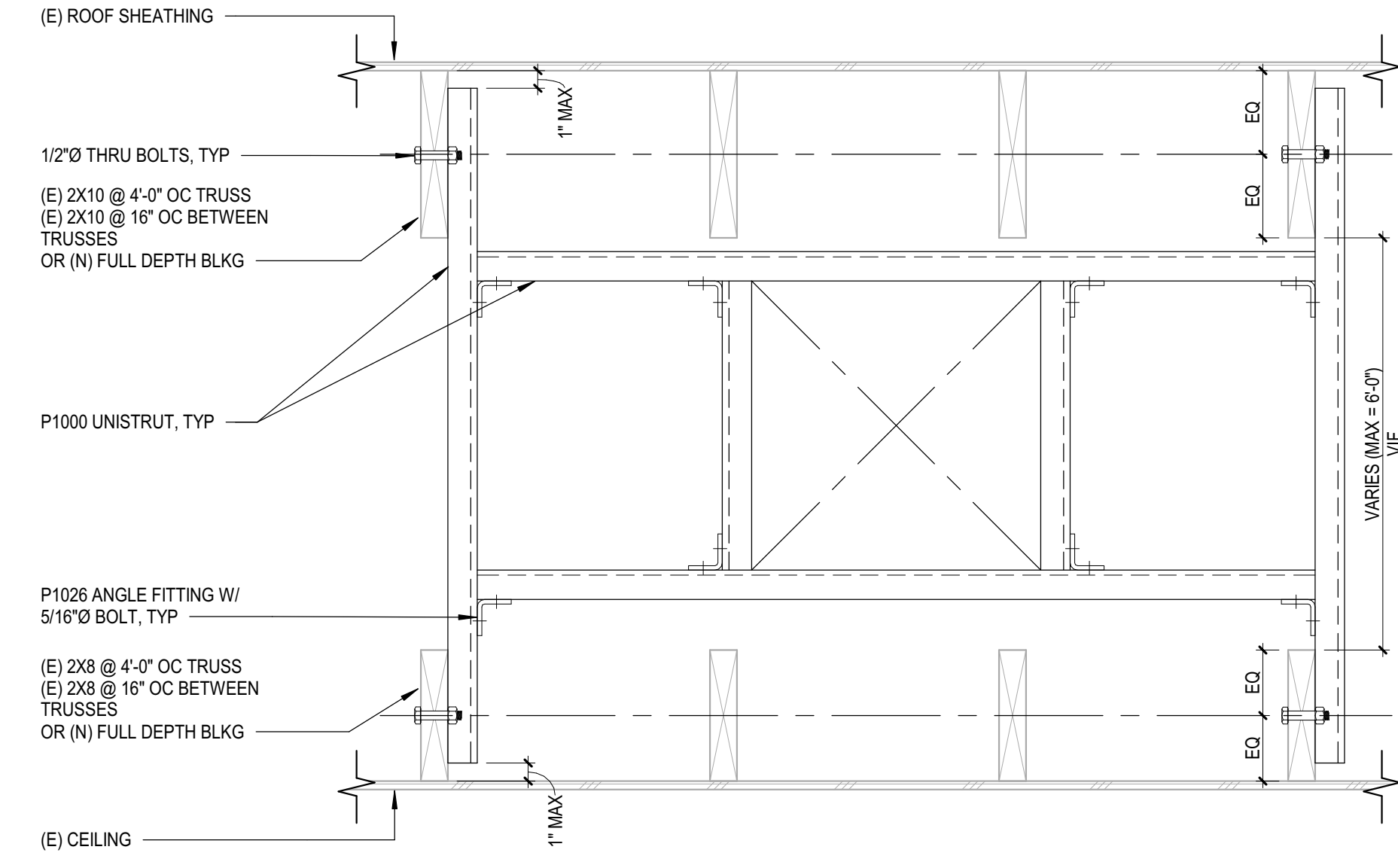
NOTES:
1. FURNISH THIS TYPE OF CONNECTION WHEN SINGLE-LINE DUCTWORK IS INDICATED AS THIS [Symbol] FOR BRANCHES WITH LESS THAN 25% OF THE TOTAL AIR FLOW, OR WHERE INDICATED ON DRAWINGS.
2. FOR MANUAL VOLUME DAMPER SEE DETAIL 2.2M5.1.
3. SLIP-IN VOLUME DAMPER HOUSING WILL NOT BE ALLOWED.

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

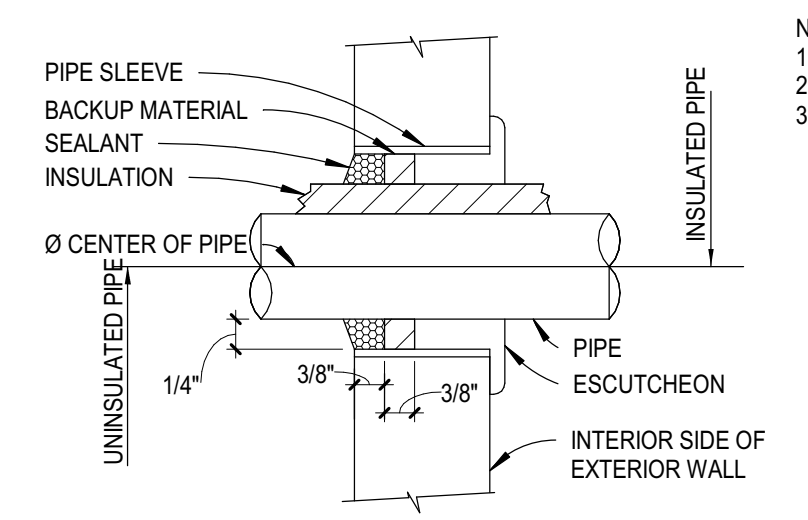


NOTES:
1. FURNISH LATERAL TEE CONNECTION FOR BRANCHES WHEN SINGLE LINE DUCTWORK IS INDICATED AS THIS [Symbol].
2. FOR MANUAL VOLUME DAMPER SEE DETAIL 2.4M5.2.

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



10 DUCT SUPPORT IN CEILING SPACE
M7.2 / NO SCALE



NOTE:
1. DO NOT CUT EXISTING STUDS.
2. MAX PENETRATION = 2"Ø
3. SPACE PENETRATIONS MINIMUM 48" APART.

PIPE THRU WALL PENETRATION DETAIL
SCALE: 1/8" = 1'-0"

Autodesk Docs/75-22605-00_CVUSD - District Wide HVAC Replacement/75-22605-00_CVUSD - Ben Lomond ES_MEP_2022.rvt
10/21/2022 4:57:55 PM

MARK	MAKE	MODEL	STEEL FRAME				
FCU-B1	CARRIER	40RUAD-16	ASTM A6, L 3 X 3 X 1/4	DETAIL-1	DETAIL-3	MTG	SPRING OD
						1-5	2"
							1"

DETAIL-1

UNIT OUTLINE

ASTM A36, L 3 X 3 X 1/4

LEVELLING BOLT 3/8 DIA. & ATTACHMENT OF STEEL BASE TO SPRING ISOLATOR

TIE-DOWN STRAPS AS SHOWN

DETAIL-3

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.

MAX. ALLOW. LOADS: HORIZ. 1100 lbs. VERT. (UP) 1400 lbs.

RMU-RO-SIT-1

DETAIL-2

VIEW A-A

VIEW B-B

LEVELLING BOLT 3/8 DIA. & ATTACHMENT OF STEEL BASE TO SPRING ISOLATOR

7/16" DIA. HOLE

ASTM A36, L 3 X 3 X 1/4

NOTCH @ EA. ISOLATOR LOCATION

TIE DOWN STRAP DETAIL

CONNECTION DETAIL

ATTACHMENT OF UNIT TO STEEL BASE

UNIT BASE

3 #12 TKS SCREWS TO UNIT BASE RAIL

3/16" DIA. PILOT HOLE FOR #12 TKS SCREWS

18 GA. GALV. SHEET METAL

(6) #12 TKS SCREWS TO STEEL SUPPORT FRAME

<p>M. W. SAUSSE & CO., INC. 28744 Whitherspoon Pkwy. Valencia, CA 91355 Phone: (661) 257-3311 Fax: (661) 257-7673</p> <p>Vibrex <i>RMUAB</i></p>	<p>JOB NAME: COVINA USD - BEN LOMOND ES</p> <p>CUST.:</p> <p>CUST. P.O.:</p> <p>MECH. ENGR.: DLRG</p> <p>MARK: FCU-B1 (HORIZONTAL)</p>	<p>REVISIONS:</p> <p>A: ADDED WELDING (7-21-22)</p> <p>B: VERT TO HORIZ (7-25-22) TDT</p> <p>C: CALL OUT ALL ATTACHMENTS (9-2-22)</p> <p>D: SPECS ANGLE (9-26-22)</p>	<p>DRN: JO</p> <p>DATE: 6/24/22</p> <p>DRAWING NO.:</p> <p style="text-align: center;">-2D</p>
----------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------

1

FCU-B1

M7.3 SCALE: 12" = 1'-0"

Autodesk Docs/75-22605-00 COVUSD - District Wide HVAC Replacement/75-22605-00 COVUSD - Ben Lomond ES_MEP_2022.rvt 10/21/2022 4:57:58 PM

MARK	MAKE	MODEL	STEEL FRAME
CU-B1	YOSHIBA	MNY-AP144	ASTM A36, L 4 X 3 X 1/4

DETAIL-1

DETAIL-2

DETAIL-3

ATTACHMENT OF SPRING ISOLATORS TO CONCRETE PAD ON GRADE
1 1/16" DIA. HOLE (2) PLACES
USE 5/8" DIA. STAINLESS HLTI KB T22 ANCHORS IN MIN 3000 PSI HR CONCRETE,
MIN 3-1/4" NOMINAL EMBEDMENT, MIN 4" CONCRETE THICKNESS & MIN
6" EDGE DISTANCE. INSTALL ANCHORS WITH SPECIAL INSPECTION PER ICC ESR-428A.

REGISTERED PROFESSIONAL ENGINEER
NATHAN D. TREMBLAY
No. 56481
Exp. 3/30/23
STRUCTURAL
STATE OF CALIFORNIA
10/05/2022

CS X 6.7 X 4-1/2 LG
L 4 X 3 X 1/4
NEOPRENE GROMMET
1/2" DIA. LEVELING BOLT
1/2" DIA. TAP
5/8" EARTHQUAKE STABILIZER BOLT
1/4" PLATE
APPROX. OPER. HT. 5-1/2
1/4" RIBBED NEOPRENE PAD

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

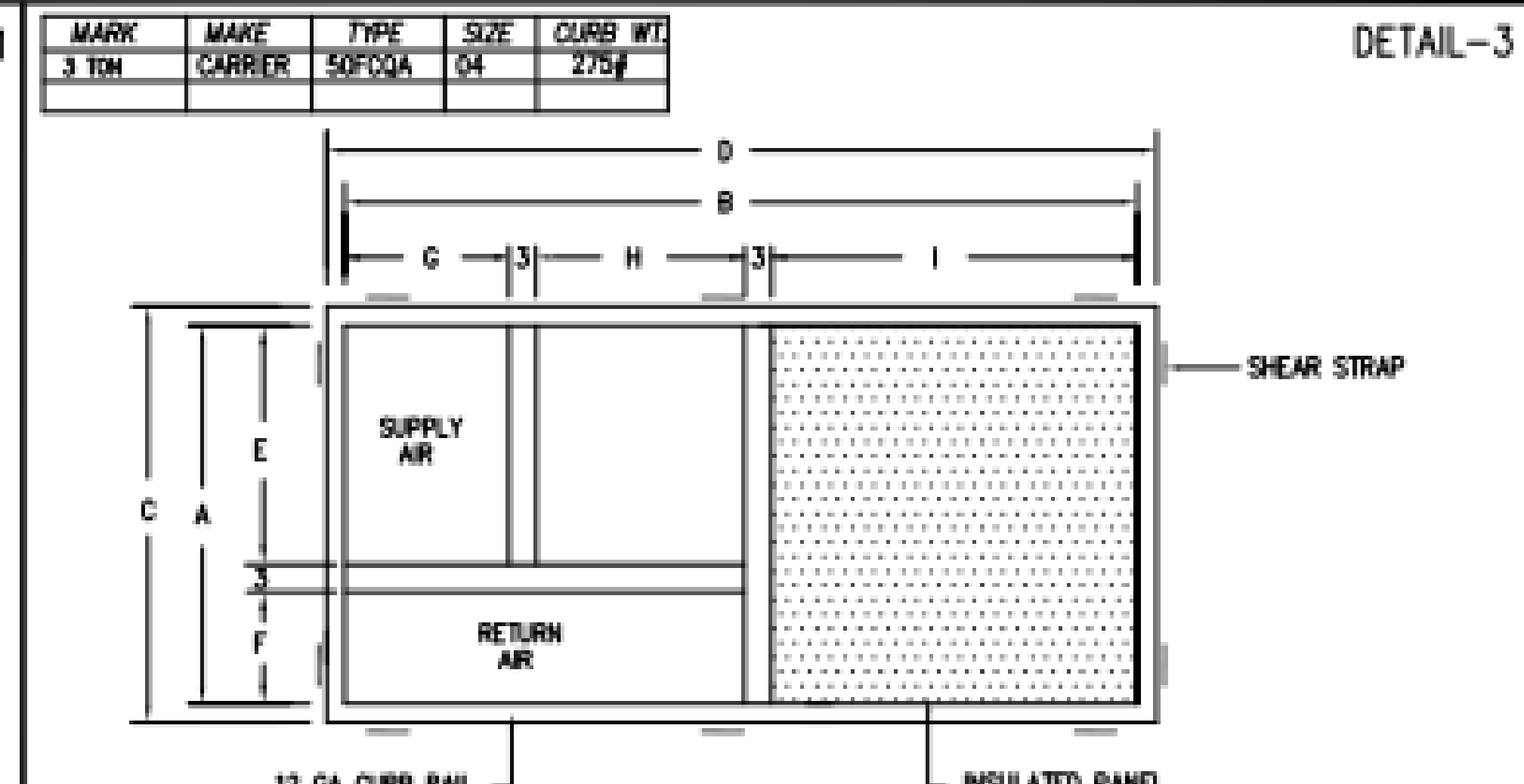
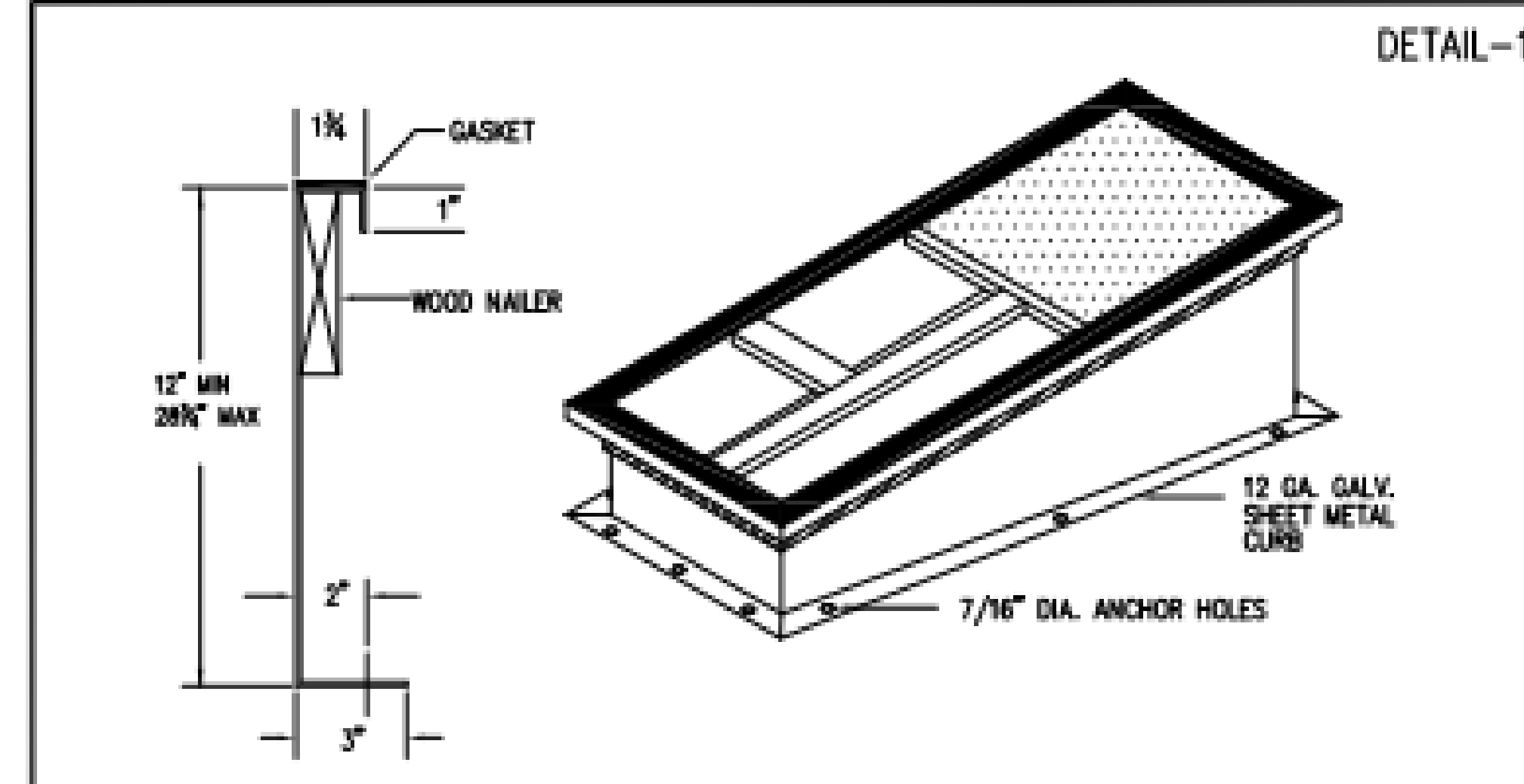
NOTES:

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

<p>M. W. SAUSSE & CO., INC. 28744 Whitherspoon Pkwy, Valencia, CA 91355 Phone: (661) 257-3311 Fax: (661) 257-7673</p> <p>Vibrex RMUHAB</p>	JOB NAME: COVINA USD - BEN LOMOND	REVISIONS:	DRN: TDT
	CUST.:	A: RENAME HP TO CU-B1 (9-2-22)	DATE: 9-6-22
	CUST. P.O.:	B: CHANGED UNIT (9-6-22)	DRAWING NO.:
	MECH. ENGR.: DLR	C: SPECS ANGLE (9-20-22)	-1C
MARK: CU-B1	D:		

1 CU-B1
M7.4 / NO SCALE

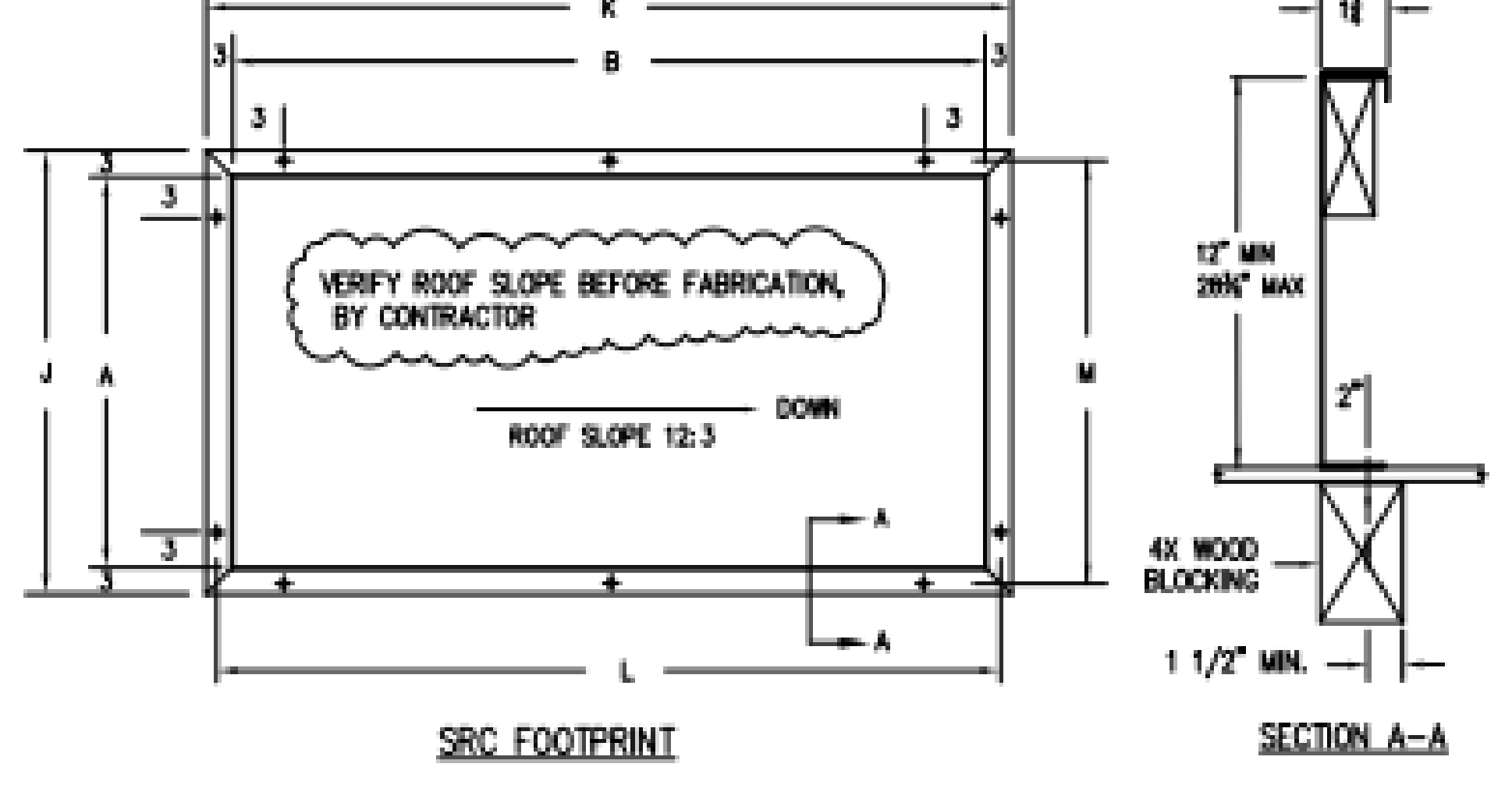
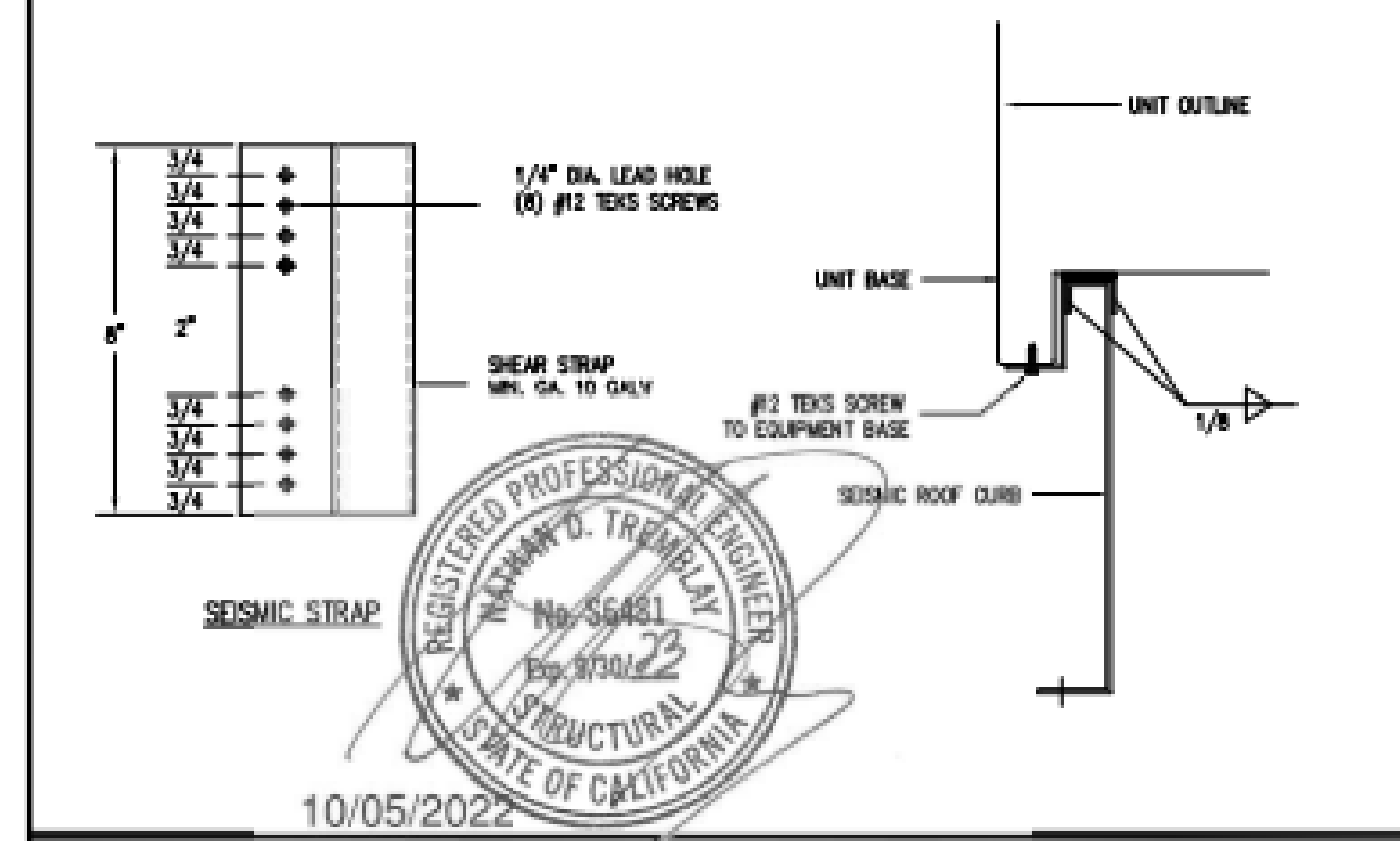
Autodesk Docs/75-22605-00 COVUSD - District Wide HVAC Replacement/75-22605-00 COVUSD - Ben Lomond ES_MEP_2022.rvt
 10/21/2022 4:57:55 PM



NOTES:
 1. FOR ANCHOR REQUIREMENTS AND SEISMIC STRAPS, SEE DETAIL 2, 3.
 2. ROOF SLOPE TO BE VERIFIED BY CONTRACTOR BEFORE FABRICATION & ROOF CURB HEIGHT ARE APPROXIMATE.
 3. NOT FOR CONSTRUCTION, ALL DIMENSIONS REQUIRE FINAL REVIEW AT COMMENCEMENT OF PROJECT

A	B	C	D	E	F	G	H	I	J	K	L	M
36-15/16	67-1/8	40-7/16	70-5/8	20-1/4	13-11/16	13-7/8	15-3/16	32-1/16				
						42-15/16	73-1/8	71-1/8	40-15/16			

2. SUBMITTED ROOF CURBS ARE PITCHED TO MATCH ROOF SLOPE.



NOTES:
 1. L & M DIMENSIONS ARE CENTERLINES OF ANCHOR HOLES IN CURB BOTTOM FLANGE.
 2. FOR ANCHORAGE, USE 3/8" DIA. LAG BOLT MIN. 3" LONG INTO MIN. 4 X 4 DOUGLAS FIR, MIN 1-1/2" EDGE DISTANCE, & MIN 2-5/8" END DISTANCE. (3) ON LONG SIDES & (2) ON SHORT SIDES.

M. W. SAUSSÉ & CO., INC.
 26744 Witherspoon Pkwy, Valencia, CA 91355
 Phone: (861) 257-3311 Fax: (861) 257-7673
Vibrex SRC

JOB NAME: COVINA USD - BEN LOMOND ES
 CUST. P.O.:
 MECH. ENGR.: DLR
 MARK: 3 TON

REVISIONS:
 A: SLOPE (7-25-22)
 B:
 C:
 D:

DRN: TDT
 DATE: 7-25-22
 DRAWING NO.:
 -3A

1 RTU CURB
 M7.5 NO SCALE



Ben Lomond Elementary School
 COVINA VALLEY USD
 681 E COVINA BLVD, COVINA, CA 91722

100% CONSTRUCTION DOCUMENT
 11/08/2022 REVISIONS

75-22605-00

MECHANICAL DETAILS

M7.5

1

BEN LOMOND AC UNIT REPLACEMENT

BEN LOMOND EXISTING UNIT														NEW UNIT																													
TAGS	MAKE	MODEL	COOLING CAPACITY (TONS)	HEATING CAPACITY (BTUHR)	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/IEER	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')	STRUCTURAL DETAIL REFERENCE		
					V/PH	MCA		EXISTING	WEIGHT	EXISTING	WEIGHT				NOMINAL TON	TOTAL (BTUH)	SENSIBLE (BTUH)	SUPPLY	MIN OSA							V/PH	MCA	MCOCP			LBS	REQUIRED?	WEIGHT	REQUIRED?	MODEL #	MCA	MCOCP					WEIGHT	
RTU-G1 THRU RTU-G2 (BLDG. G)	SANYO	CH3622	3.0	36000	240/1	50	218	-	0	NO	0	218	N	50FCQA04A2A3	3	35000	26150	1200	250	1	14.3	11.32	34.1	13	2 (16X25X2)	240/1	26	30	469	12	NO	NA	YES	PCD-SRT12CA	7.1	12.8	152	275	756	75 X 47 X 34	1/M7.5		
RTU-J1 THRU RTU-J3 (BLDG. J)	SANYO	CH3622	3.0	36000	240/1	50	218	-	0	NO	0	218	N	50FCQA04A2A3	3	35000	26150	1200	250	1	14.3	11.32	34.1	13	2 (16X25X2)	240/1	26	30	469	12	NO	NA	YES	PCD-SRT12CA	7.1	12.8	152	275	756	75 X 47 X 34	1/M7.5		
RTU-C1 THRU RTU-C3 (BLDG. C)	SANYO	CH3622	3.0	36000	240/1	50	218	-	0	NO	0	218	N	50FCQA04A2A3	3	35000	26150	1200	250	1	14.3	11.32	34.1	13	2 (16X25X2)	240/1	26	30	469	12	NO	NA	YES	PCD-SRT12CA	7.1	12.8	152	275	756	75 X 47 X 34	1/M7.5		
RTU-D1 THRU RTU-D3 (BLDG. D)	SANYO	CH3622	3.0	36000	240/1	50	218	-	0	NO	0	218	N	50FCQA04A2A3	3	35000	26150	1200	250	1	14.3	11.32	34.1	13	2 (16X25X2)	240/1	26	30	469	12	NO	NA	YES	PCD-SRT12CA	7.1	12.8	152	275	756	75 X 47 X 34	1/M7.5		
RTU-H1 THRU RTU-H3 (BLDG. E)	SANYO	CH3622	3.0	36000	240/1	50	218	-	0	NO	0	218	N	50FCQA04A2A3	3	35000	26150	1200	250	1	14.3	11.32	34.1	13	2 (16X25X2)	240/1	26	30	469	12	NO	NA	YES	PCD-SRT12CA	7.1	12.8	152	275	756	75 X 47 X 34	1/M7.5		
RTU-H1 THRU RTU-H3 (BLDG. H)	SANYO	CH3622	3.0	36000	240/1	50	218	-	0	NO	0	218	N	50FCQA04A2A3	3	35000	26150	1200	250	1	14.3	11.32	34.1	13	2 (16X25X2)	240/1	26	30	469	12	NO	NA	YES	PCD-SRT12CA	7.1	12.8	152	275	756	75 X 47 X 34	1/M7.5		
CU-B1 (BLDG. B)														MMY-AP240SHT6P	20																								1388		104 X 31 X 73	1/M7.4	
FCU-B1 (BLDG. B)														40RJQA25T3A6-0A0A0		2321000	180800	8000	2250	1.2																				730		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.
 4. PROVIDE HINGED ACCESS PANEL FOR ALL ROOFTOP UNITS.
 5. FINAL WEIGHT (LBS) IS SUMMATION OF RTU WEIGHT, OSA HOOD SECTION, AS APPLICABLE.
 6. SCCR RATING OF UNITS SHALL BE MINIMUM OF 10KA FOR CLASSROOM RTUs & MPR FCU-B1 AND 25 KA FOR MPR CU-B1.
 7. PROVIDE VFD FOR FCU-B1.

2

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 - 150	25	0.1	
				10"Ø	191 - 280	25	0.1	
				12"Ø	281 - 350	25	0.1	
				14"Ø	351 - 450	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.

3

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 30" 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	NOISE CRITERIA (NC)				
	40	35	30	25	20
MAIN SUPPLY DUCT	1700	1500	1000	800	700
MAIN RETURN DUCT	1200	1000	750	600	500
DUCT TO GRILLE SUPPLY	600	500	400	300	250
DUCT TO GRILLE RETURN	600	500	400	300	250

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.

4

5



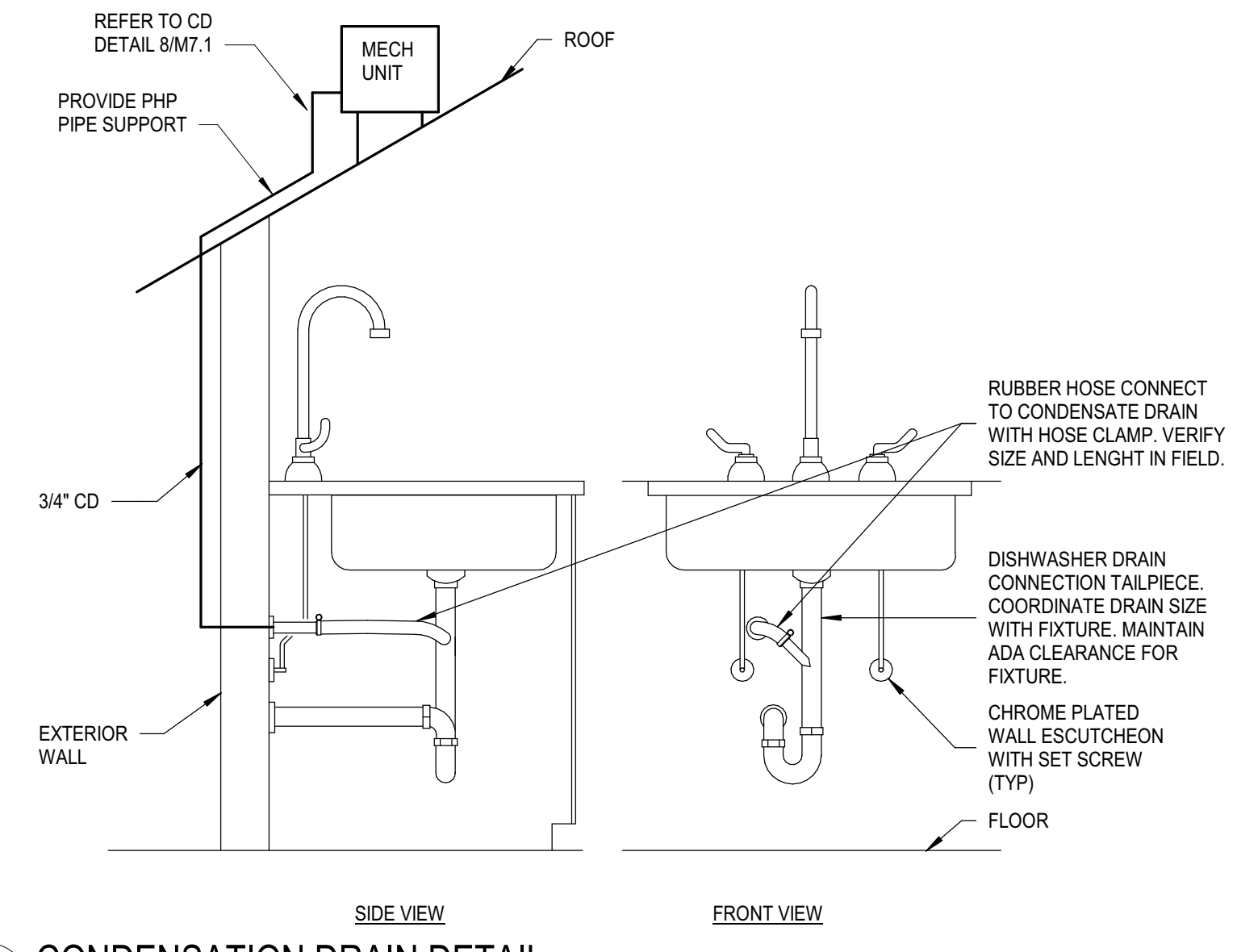
Ben Lomond Elementary School
 COVINA VALLEY USD
 661 E COVINA BLVD, COVINA, CA 91722

100% CONSTRUCTION DOCUMENT
 11/08/2022 REVISIONS

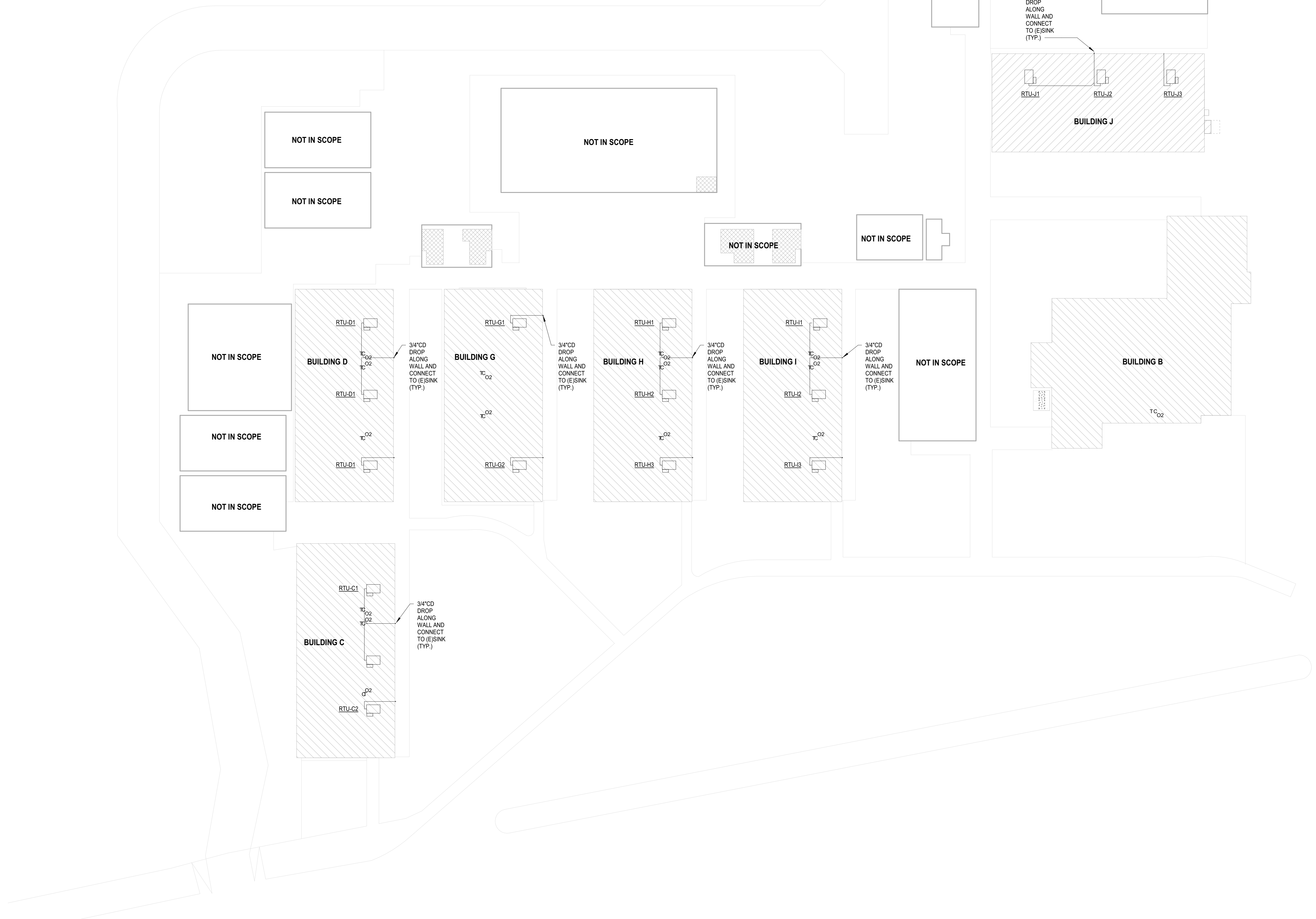
75-22605-00

MECHANICAL SCHEDULES

M8.1



1 CONDENSATION DRAIN DETAIL
MP1.1 SCALE: 1/8" = 1'-0"



MECHANICAL PLUMBING SITE PLAN
SCALE: 3/64" = 1'-0"

GENERAL NOTES

- IF AN EXISTING SINK IS BELOW NEW MECHANICAL UNITS, PROCEED WITH CONDENSATE DROP ALONG EXTERIOR FACE OF WALL AND CONNECT TO EXISTING LAVSINK IN CLASSROOM AS SHOWN IN DETAIL 1MP1.1

SITE LEGEND

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



Ben Lomond Elementary School
COVINA VALLEY USD
681 E COVINA BLVD, COVINA, CA 91722

100%
CONSTRUCTION
DOCUMENT
11/08/2022
REVISIONS

75-22605-00

MECHANICAL
PLUMBING SITE
PLAN

MP1.1

Autodesk Docs/75-22605-00_CVUSD - District Wide HVAC Replacement/75-22605-00_CVUSD_Ben Lomond ES MEP_2022.rvt
10/21/2022 4:57:59 PM

SHEET INDEX

Table with 2 columns: Code (E0.1, E2.1, E5.1, E6.1) and Description (ELECTRICAL SYMBOLS, ROOF ELECTRICAL PLAN, etc.)

GENERAL NOTES

- 1 PENETRATIONS IN WALLS REQUIRING PROTECTED OPENINGS MUST BE FIRESTOPPED WITH AN APPROVED MATERIAL.
2 UNLESS SPECIFICALLY SHOWN ON THESE DRAWINGS, NO STRUCTURAL MEMBER SHALL BE CUT, DRILLED, OR NOTCHED WITHOUT PRIOR AUTHORIZATION IN WRITING BY THE STRUCTURAL ENGINEER OF RECORD AND DSA.

APPLICABLE CODE: 2019 CBC 02/02/2020 REVISED: 02/14/2020

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.1.18 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 SERVICES SUCH AS ELECTRICITY, GAS OR WATER, "PERMANENTLY ATTACHED" SHALL INCLUDE ALL ELECTRICAL CONNECTIONS EXCEPT PLUGS FOR 110V 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 25 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

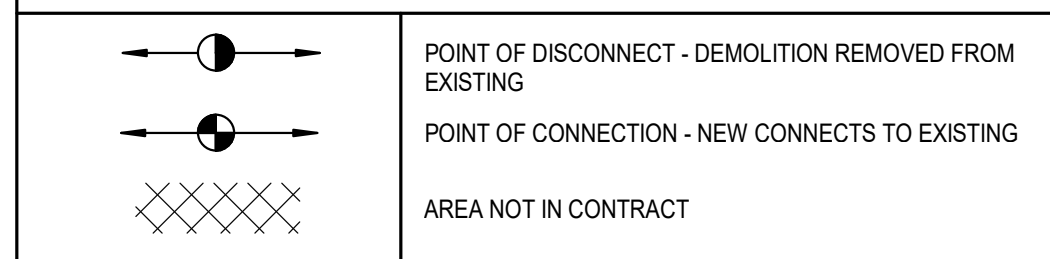
PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-16 SECTION 13.3 AS DEFINED IN ASCE 7-16 SECTIONS 13.6.5, 13.6.6, 13.6.7, 13.6.8, AND 2019 CBC SECTIONS 1617A.1.24, 1617A.1.25 AND 1617A.1.26.

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 PREAPPROVED INSTALLATION GUIDE (E.G., OSHPD OPM FOR 2013 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):

Table with 5 columns: MP, MD, PP, E, and Option 1/2 details.

GENERAL SYMBOLS



POWER

- CIRCUIT HOME RUN
CONDUIT TURNING UP
CONDUIT TURNING DOWN
CONDUIT STUB-UP
CONDUIT SLEEVE
CONDUIT SEAL
CONDUIT CONCEALED IN CEILING OR WALLS, POWER
CONDUIT CONCEALED IN CEILING OR WALLS, OTHER (*) = SEE ABBREVIATIONS
CONDUIT CONCEALED IN FLOOR OR UNDERGROUND, POWER
CONDUIT CONCEALED IN FLOOR OR UNDERGROUND, OTHER (*) = SEE ABBREVIATIONS
EXPOSED CONDUIT, POWER
EXPOSED CONDUIT, OTHER (*) = SEE ABBREVIATIONS
FIRE RATED SLEEVE
TRANSFORMER
BRANCH CIRCUIT PANELBOARD
DISTRIBUTION PANELBOARD MOUNT
EQUIPMENT CABINET, AS NOTED
SWITCHBOARD
MOTOR STARTER OR DRIVE
DISCONNECT SWITCH
COMBINATION STARTER / DISCONNECT SWITCH
CURRENT TRANSFORMER ENCLOSURE
METER
GENERATOR
AUTOMATIC TRANSFER SWITCH
SYSTEM GROUND ELECTRODE
THERMOSTAT
MUSHROOM SWITCH
ELECTRICAL MANHOLE
ELECTRICAL HAND HOLE
MOTOR CONNECTION, HORSEPOWER AS INDICATED
FUSE AND SWITCH ASSEMBLY
MANUAL CONTROLLER WITH THERMAL OVERLOAD
MANUAL CONTROLLER W/O THERMAL OVERLOAD
CIRCUIT BREAKER ENCLOSURE
PULL BOX
EQUIPMENT CONNECTION
CABLE TRAY, LADDER TYPE OR RUNWAY
CABLE TRAY
MULTI-OUTLET ASSEMBLIES
DIVIDED SURFACE RACEWAY
PUSHBUTTON STATION
SWITCH, PUSH BUTTON, SINGLE
SWITCH, PUSH BUTTON, DOUBLE
SWITCH, PUSH BUTTON, TRIPLE

- RECEPTACLES, MOUNT 18-INCHES AFF, UNO
DIAGONAL LINE THROUGH SYMBOL OR DENOTED 'AC' INDICATES MOUNT DEVICE ABOVE COUNTER
WHERE INDICATED AS 'MOUNT ABOVE COUNTER' MOUNT BOTTOM OF BOX 2-INCHES ABOVE TOP OF BACKSPLASH OR 6-INCHES ABOVE COUNTERTOP IF NO BACKSPLASH EXISTS.
LABELS SHALL BE MACHINE PRINTED, UNO
SIMPLEX RECEPTACLE
DUPLEX RECEPTACLE
DUPLEX RECEPTACLE, GFI TYPE
DUPLEX RECEPTACLE, MOUNT ABOVE COUNTER
DUPLEX RECEPTACLE, GFI TYPE, MOUNT ABOVE COUNTER
FOURPLEX RECEPTACLE
FOURPLEX RECEPTACLE, GFI TYPE
FOURPLEX RECEPTACLE, MOUNT ABOVE COUNTER
FOURPLEX RECEPTACLE, GFI TYPE, MOUNT ABOVE COUNTER
DUPLEX RECEPTACLE, FLUSH IN CEILING
FOURPLEX RECEPTACLE, FLUSH IN CEILING
DUPLEX RECEPTACLE, HORIZONTALLY MOUNTED
DUPLEX RECEPTACLE, HORIZ. MTD, GFI TYPE
DUPLEX RECEPTACLE, HORIZ. MTD, ABOVE COUNTER
DUPLEX RECEPTACLE, HORIZ. MTD, GFI TYPE, MOUNT ABOVE COUNTER
WEATHER RESISTANT GFI DUPLEX RECEPTACLE, ROOF MOUNT 18-INCHES ABOVE ADJACENT STRUCTURE WITH A WEATHERPROOF, IN-USE COVER
WEATHER RESISTANT GFI DUPLEX RECEPTACLE, MOUNT 18-INCHES AFF WITH A WEATHERPROOF, IN-USE COVER
STD DUPLEX RECEPTACLE TO SERVE ELECTRIC WATER COOLER, MOUNT AT HEIGHT PER EVC EQUIPMENT MANUFACTURER'S INSTALLATION GUIDELINES. WIRE TO GFCI BKR IN PANELBOARD.
DUPLEX RECEPTACLE TO SERVE TELEVISION MOUNT AT SAME HEIGHT AND WITHIN 8-INCHES OF ADJACENT TV OUTLET
DUPLEX RECEPTACLE, EMERGENCY
FOURPLEX RECEPTACLE, EMERGENCY
DUPLEX RECEPTACLE, LOWER SWITCH
DUPLEX RECEPTACLE, SWITCHED
RANGE RECEPTACLE, MOUNT 8-INCHES AFF
SPECIAL RECEPTACLE, DEEP WELL BOX
FLUSH FLOOR OUTLET BOX UNO
FLUSH FLOOR BOX WITH DUPLEX RECEPTACLE UNO
MULTI-DEVICE FLOOR BOX WITH DUPLEX RECEPTACLE AND TELECOMMUNICATIONS OUTLETS
USB ONLY RECEPTACLE
RECEPTACLE WITH USB PORTS
FLUSH JUNCTION BOX, CEILING MOUNTED
JUNCTION BOX FOR FUTURE PROJECTOR POWER MOUNT 24-INCHES ABOVE SUSPENDED CEILING MOUNT TIGHT TO CEILING AT EXPOSED STRUCTURE LABEL BOX COVER PROJECTOR POWER
JUNCTION BOX ABOVE SUSPENDED CEILING WITH FLEX CONNECTION
FLUSH JUNCTION BOX, WALL MOUNTED
SURFACE JUNCTION BOX, WALL MOUNTED
SURFACE JUNCTION BOX, CEILING MOUNTED
HAND DRYER, INSTALL HAND DRYER SPECIFIED IN DIV. 11
MCA
MCB
MCC
MANHOLE
MLO
MOCP
MRTS
MSB
MOUNTED
MTG
MTS
N
N.C.
N.O.
NF
NL
OFCI
OS&Y
P
PA
PB
PH
PIV
PNL
PWR
RCP
RECPT
REF
RESP
SCCR
SD
SEC
SPD
SWBD
TBB
TCC
TGB
TMGB
TO
TR
TS
TV
UG
UPS
V
VA
VFD
W
WA
WG
WP
XFMR

ABBREVIATIONS

Table listing abbreviations and their meanings, including DEMOLISHED, EXISTING, RELOCATED, PHASE, AMPERE, ABOVE COUNTER, etc.

NOTE
ALL NOTES ON THIS SHEET ARE APPLICABLE TO ALL OTHER SHEETS IN THIS SET.
THE SYMBOLS AND ABBREVIATIONS SHOWN ON THIS SHEET MAY OR MAY NOT BE APPLICABLE IN THIS SET OF DRAWINGS.



Ben Lomond Elementary School
COVINA VALLEY USD
681 E COVINA BLVD, COVINA, CA 91722

100% CONSTRUCTION DOCUMENT
11/08/2022 REVISIONS

75-22605-00

ELECTRICAL SYMBOLS, ABBREVIATIONS & NOTES

E0.1

Autodesk Docs (75-22605-00) CIVUSD - District Wide HVAC Replacement(75-22605-00) CIVUSD - Ben Lomond ES MEP_2022.rvt 8/29/2022 2:25:09 PM

GENERAL NOTES

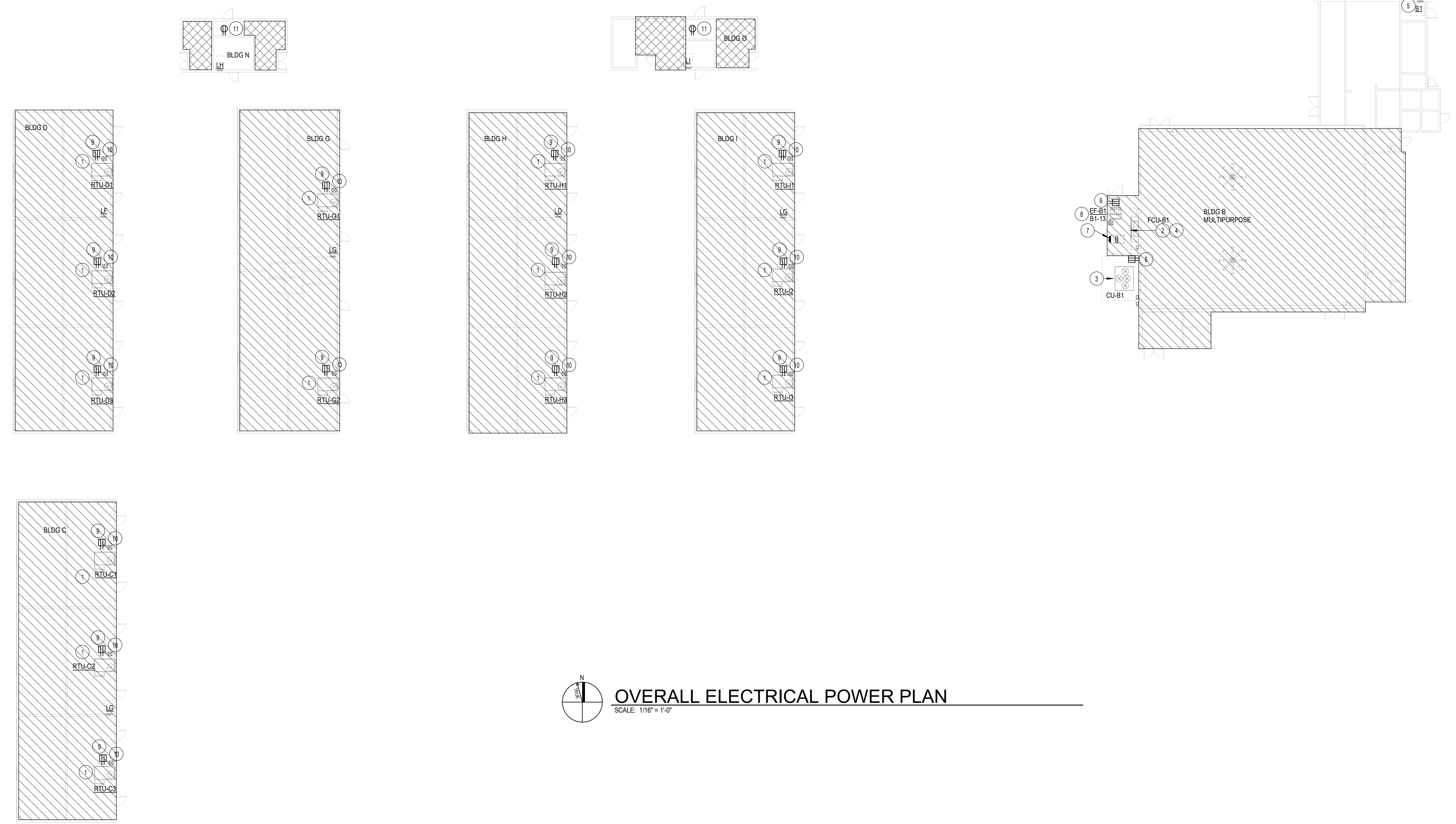
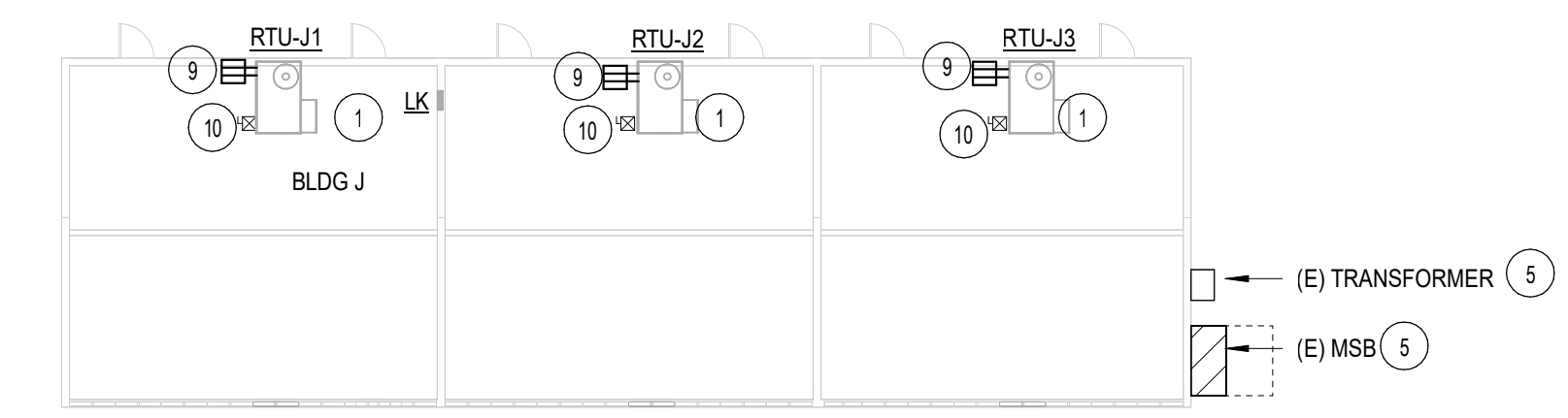
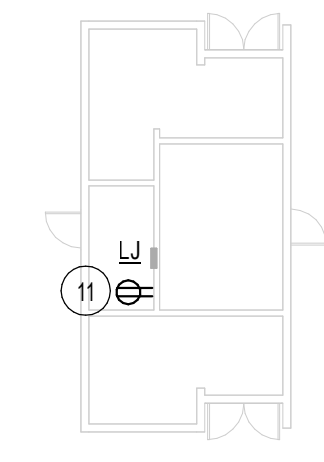
- A WORK TO INCLUDE REMOVAL OF EXISTING FEEDER TO EXISTING HVAC EQUIPMENT THAT ARE TO BE REMOVED AND REPLACED. FEEDER TO EXISTING INDOOR FAN COIL UNIT TO BE REMOVED IN ITS ENTIRETY.
- B DISCONNECTING MEANS TO BE NEMA 3R RATED, FURNISHED AND INSTALLED BY DIVISION 26.
- C CARBON MONOXIDE DETECTION SYSTEM NOT REQUIRED. ELECTRIC HEATING IS BEING PROVIDED.
- D SEE SCHEDULE ON SHEET ES.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 MANGEMENT 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 CEBC 503.15.1.
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 ES.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 ES.1. PROVIDE ALL REQUIRED CONNECTION.
3	NEW HVAC EQUIPMENT AT GRADE. PROVIDE NEW FEEDER PER TABLE ON SHEET ES.1. PROVIDE ALL REQUIRED CONNECTION.
4	DUCT SMOKE DETECTOR FOR COMPLIANCE TO CALIFORNIA MECHANICAL CODE SECTION 909 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 120 VOLT CIRCUIT FROM SPARE BREAKER. PROVIDE TANDEM BREAKER AS REQUIRED.
7	(N) PANELBOARD B AT GRADE LEVEL. 277/480 VOLTS, 3-PHASE, W-WIRE, 225 AMP BUS. REFER TO SHEET E6.1 FOR PANELBOARD MOUNTING DETAIL. PROVIDE UNDERGROUND TRENCHING FROM SWITCHBOARD MSB AS REQUIRED. FIELD COORDINATE EXACT ROUTING WITH SCHOOL DISTRICT.
8	SIZE 1 MOTOR STARTER FOR EXHAUST FAN. PROVIDE ALL REQUIRED CONNECTIONS.
9	GFCI TYPE RECEPTACLE PROVIDED BY HVAC EQUIPMENT MANUFACTURER. SEE TABLE PROVIDED ON SHEET ES-1. PROVIDE WEATHERPROOF COVER.
10	FUSED DISCONNECT SIZE PER TABLE SHOWN ON ES.1.
11	PROVIDE 120V CIRCUIT FOR EMS PANEL AND EMS ROUTER. FIELD VERIFY EXACT LOCATION OF EMS PANEL AND EMS ROUTER.

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"



Ben Lomond Elementary School
COVINA VALLEY USD
681 E COVINA BLVD, COVINA, CA 91722

100%
CONSTRUCTION
DOCUMENT
11/08/2022
REVISIONS

75-22605-00

ROOF
ELECTRICAL
PLAN

E2.1

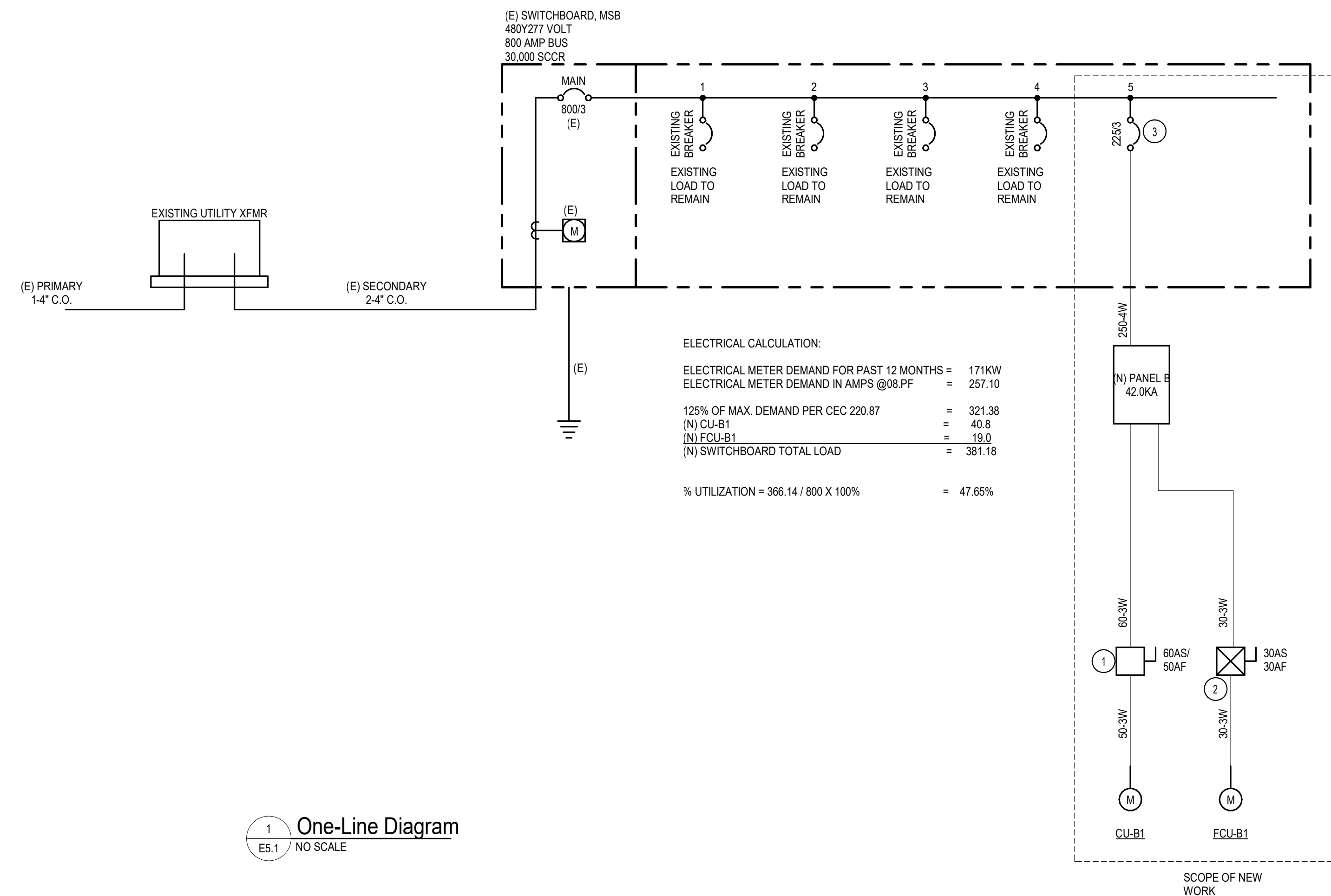
GENERAL SINGLE LINE NOTES

- 1. OVERCURRENT DEVICES OF ENTIRE DISTRIBUTION SYSTEM SHALL MEET STATED FAULT CURRENT VALUES WITH FULLY RATED EQUIPMENT.
2. CONDUCTOR LENGTHS INDICATED ON THE SINGLE LINE DIAGRAM ARE FOR FAULT CURRENT CALCULATIONS ONLY. ACTUAL LENGTH SHALL BE DETERMINED BY FIELD CONDITIONS AND ACTUAL ROUTES OF FEEDERS.
3. REFER TO SWITCHBOARD SCHEDULES AND DISTRIBUTION PANEL SCHEDULES FOR ADDITIONAL REQUIREMENTS. WHERE A DISCREPANCY EXISTS BETWEEN EQUIPMENT ON THE SINGLE LINE DIAGRAM AND THE DETAILS SCHEDULES, THE ITEM OR ARRANGEMENT WITH BETTER QUALITY, GREATER QUANTITY, OR HIGHER COST SHALL BE USED.
4. ALL DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.

KEYNOTES

Table with 2 columns: No., DESCRIPTION. Contains 3 keynotes regarding fused disconnects, variable frequency drives, and contractor matching.

PANEL: B
LOCATION: MECHANICAL ROOM B201
BUS RATING: 225.0 A
MAIN BREAKER: 225
VOLTS: 480Y/277
PHASES: 3
WIRES: 4
SCCR: 42
MOUNTING: SURFACE
FED FROM: INTEGRAL SPD, Type 1
LUG ACCESSORIES: SEE ONE-LINE
Table with columns: CKT, CIRCUIT DESCRIPTION, BKR TRIP, BKR TYPE, LOAD TYPE, PHASE A (VA), PHASE B (VA), PHASE C (VA), LOAD TYPE, BKR TYPE, P, BKR TRIP, CIRCUIT DESCRIPTION, CKT. Includes a demand factor table and notes.



1 One-Line Diagram
ES 1 NO SCALE

FEEDER SCHEDULE - COPPER

Table with columns: MARK (AMPS), # SETS, # & N, GND, CONDUIT SIZE, MARK SUFFIX. Lists various feeder specifications for different load capacities.

Ben Lomond AC UNIT REPLACEMENT
Table with columns: TAGS, EXISTING UNIT, NEW UNIT, DIRECT REPLACEMENT? Y/N, CFM, POWER EXHAUST, NOTES. Lists unit specifications and replacement details.

ABBREVIATIONS:
0 PHASE
N NEUTRAL
GND EQUIPMENT GROUNDING CONDUCTOR
-4W FOUR WIRE + GROUND (30 GND)
-3W THREE WIRE + GROUND (30 GND or 20 N, GND)
-2W TWO WIRE + GROUND
NOTES:
1. CONDUCTOR AMPACITIES ARE BASED ON NEC TABLE 310.15(B)(16).
2. CONDUIT SIZES ARE BASED ON A MAXIMUM FILL RATIO OF 40%.
3. SCHEDULE SHALL BE USED FOR FEEDERS AND BRANCH CIRCUITS WHERE APPLICABLE.
4. ALL FEEDERS AND BRANCH CIRCUITS SHALL INCLUDE AN EQUIPMENT GROUNDING CONDUCTOR. SCHEDULE IS VALID FOR TYPE THHN, THWN-2, AND XHHW-2 CONDUCTORS. SEE SPECIFICATIONS FOR CONDUCTOR TYPES REQUIRED.
5. SCHEDULE IS VALID FOR TYPE EMT, IMC, FMC, LP/MC, HDPE, AND RMC-40 RACEWAYS. SEE SPECIFICATIONS FOR RACEWAY APPLICATIONS. OPTIONAL CONFIGURATIONS (1 OR 2 SETS) ARE GIVEN FOR SOME SIZES.
6. NOT ALL SIZES USED.



Ben Lomond Elementary School
Covina Valley USD
681 E. COVINA BLVD., COVINA, CA 91722

100% CONSTRUCTION DOCUMENT
11/08/2022 REVISIONS

75-22605-00

ELECTRICAL DIAGRAMS AND SCHEDULES

Autodesk Docs / 75-22605-00_COVUSD - District Wide HVAC Replacement/75-22605-00_COVUSD_Ben Lomond ES MEP_2022.rvt
8/29/2022 2:25:22 PM

ALTERNATE ARRANGEMENT OF SEISMIC BRACES FOR CONDUITS ON TRAPEZE

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

ELEVATION VIEW
CABLE BRACE INSTALLED 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 F 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. 52270

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

BRACE BRACKET ATTACHMENT TYPE	ALLOWABLE LATERAL LOAD LBS	MAX BRACE RANGE	DIA. INCH	Cmin1 INCH	Cmin2 INCH
38A TO 38D	250	30°-45°	1/2	1 1/2	1 1/2
38A TO 38B	150	40°-60°	1/2	1 1/2	1 1/2
50A TO 50D	300	30°-45°	1/2	1 1/2	1 1/2
50A TO 50B	170	40°-60°	1/2	1 1/2	2
63A TO 63D	340	30°-45°	1/2	1 1/2	2 1/2
63A TO 63C	200	40°-60°	1/2	1 1/2	2 1/2

SEE DETAIL NO.00 FOR SECTION NOTES

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

Jiefu "Jeff" Zhang, SE
California SE No. 52270

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

BRACE BRACKET ATTACHMENT TYPE	ALLOWABLE LATERAL LOAD LBS	MAX BRACE RANGE	DIA. INCH
38A TO 38B	150	30°-45°	1/2
38A TO 38A	80	40°-60°	1/2
50A TO 50C	180	30°-45°	1/2
50A TO 50A	100	40°-60°	1/2
63A TO 63C	210	30°-45°	1/2
63A TO 63A	120	40°-60°	1/2

SEE DETAIL NO.00 FOR SECTION NOTES

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

Jiefu "Jeff" Zhang, SE
California SE No. 52270

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

BRACE BRACKET ATTACHMENT TYPE	ALLOWABLE LATERAL LOAD LBS	MAX BRACE RANGE	DIA. INCH
38A TO 38E	420	30°-45°	1/2
38A TO 38D	350	40°-60°	1/2
50A TO 50E	420	30°-45°	1/2
50A TO 50D	350	40°-60°	1/2
63A TO 63E	420	30°-45°	1/2
63A TO 63D	350	40°-60°	1/2

SEE DETAIL NO.00 FOR SECTION NOTES

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

Jiefu "Jeff" Zhang, SE
California SE No. 52270

PAGE **N4.13**

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

SEISMIC BRACKET ATTACHMENT TO WOOD JOIST

AT JOIST

VIEW A-A

BRACE BRACKET ATTACHMENT TYPE	ALLOWABLE LATERAL LOAD LBS	MAX BRACE RANGE	DIA. INCH
38A TO 38E	420	30°-45°	1/2
38A TO 38D	350	40°-60°	1/2
50A TO 50E	420	30°-45°	1/2
50A TO 50D	350	40°-60°	1/2
63A TO 63E	420	30°-45°	1/2
63A TO 63D	350	40°-60°	1/2

SEE DETAIL NO.00 FOR SECTION NOTES

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

Jiefu "Jeff" Zhang, SE
California SE No. 52270

PAGE **N4.13**

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

ELECTRICAL CONDUIT WEIGHT TABLES

CONDUIT DIAMETER (IN)	CONDUIT WEIGHTS		
	PIPE WEIGHT PER FOOT (LBS)	CONDUCTORS	TOTAL
1/2	0.29	0.22	0.51
3/4	0.44	0.40	0.84
1	0.64	0.66	1.30
1 1/2	0.95	1.17	2.12
1 3/4	1.10	1.40	2.50
2	1.40	2.62	4.02
2 1/2	2.05	3.74	5.79
3	2.90	5.76	8.66
3 1/2	3.25	7.73	10.98
4	3.70	9.94	13.64
5	---	---	---
6	---	---	---
1/2	0.60	0.22	0.82
3/4	0.82	0.41	1.23
1	1.16	0.66	1.82
1 1/2	1.90	1.17	3.07
1 3/4	1.92	1.60	3.52
2	2.42	2.62	5.04
2 1/2	4.28	3.47	7.75
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	0.79	0.22	1.01
3/4	1.05	0.41	1.46
1	1.53	0.66	2.19
1 1/2	2.91	1.17	4.08
1 3/4	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	9.95	19.67
5	15.14	15.62	30.76
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. 52270

PAGE **APP3.0**

08/16/2019 Page 811 of 812

SECTION

ELEVATION

NOTES:

- MAXIMUM WEIGHT OF EQUIPMENT UNIT NOT TO EXCEED 600 LBS
- 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
E6.1 NO SCALE

1 TYP WALL EQUIPMENT BACKING
E6.1 NO SCALE