CLYDE ARBUCKLE ELEMENTARY SCHOOL- HVAC UPGRADES

1970 CINDERELLA LN., SAN JOSE, CA 95116

ALUM ROCK UNION ELEMENTARY SCHOOL DISTRICT

DSA FILE NUMBER 43-04
DSA APPLICATION NUMBER 01-117268
OPSC TRACKING NUMBER 69369-77

GENERAL NOTES

PRE-BID SITE VISIT

CONTRACTOR SHALL VISIT THE PROJECT AREA IN ORDER TO BECOME FAMILIAR WITH EXISTING CONDITIONS AND THE REQUIREMENTS OF THE PROJECT. THE CONTRACTOR MAY CONTACT THE ARCHITECT DURING THE BIDDING PHASE REGARDING CLARIFICATIONS AND PROJECT REQUIREMENTS.

SAFETY

IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.

DAMAGE TO STRUCTURE OR SYSTEMS TO REMAIN

CONTRACTOR SHALL REIMBURSE THE OWNER FOR REPAIR AND REPLACEMENT, INCLUDING ARCHITECT'S FEES, FOR ANY DAMAGE CAUSED TO STRUCTURES, LANDSCAPE, SITE WORK, OR EXISTING SYSTEMS TO REMAIN, AS THE RESULT OF CONSTRUCTION OPERATIONS.

EXISTING CONDITIONS

ALL EXISTING CONDITIONS ARE SHOWN BASED ON THE BEST INFORMATION AVAILABLE AT THE TIME, BUT WITHOUT GUARANTEE OF ACCURACY. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS, DIMENSIONS, AND BUILDING DATA AT THE JOB SITE. ANY DISCREPANCIES REQUIRING MODIFICATION TO THE CONSTRUCTION DOCUMENTS SHALL BE REPORTED TO THE ARCHITECT IMMEDIATELY. NO MODIFICATIONS SHALL BE MADE BY THE CONTRACTOR WITHOUT PRIOR APPROVAL FROM THE ARCHITECT.

CONTRACTOR'S EQUIPMENT

COORDINATE WITH OWNER'S REPRESENTATIVE FOR APPROVED LOCATION OF JOB SITE ACCESS, PARKING, AND LOCATION OF CONTRACTOR'S EQUIPMENT AND MATERIAL STORAGE AREA. SEE SITE PLAN FOR ADDITIONAL NOTES.

UTILITY SHUT-DOWNS AND CONNECTIONS

ALL REQUIRED UTILITY SHUT DOWNS SHALL HAVE PRIOR APPROVAL FROM THE OWNER'S REPRESENTATIVE. REQUEST SHALL BE SUBMITTED WITH ADEQUATE ADVANCE NOTICE PER PROJECT REQUIREMENTS.

ASBESTOS AND ASBESTOS PRODUCTS

THE OWNER/OPERATOR AND CONTRACTOR SHALL BE AWARE THAT BUILDINGS CONSTRUCTED PRIOR TO 1978 (OR THERE ABOUT) POSSIBILITY CONTAIN ASBESTOS IN SOME EXISTING CONSTRUCTION MATERIALS, AND WILL LIKELY BE ENCOUNTERED DURING ALTERATIONS OR REMODELING.

UNDER CALIFORNIA TITLE 8, THE OWNER AND CONTRACTOR BOTH HAVE RESPONSIBILITIES TO DETERMINE THE EXISTENCE OF ASBESTOS CONTAINING MATERIALS IN AREAS TO BE ALTERED OR REMODELED PRIOR TO COMMENCEMENT OF WORK AND TO TAKE APPROPRIATE MEASURES TO PROTECT PERSONNEL. CAL-OSHA HAS JURISDICTION OVER ASBESTOS RELATED WORK. ASBESTOS RELATED WORK SHALL BE DONE IN ACCORDANCE WITH CALIFORNIA GENERAL INDUSTRIAL SAFETY ORDERS, TITLE 8, SECTION 341.6 THROUGH 341.14. ASBESTOS IN THE WORK ENVIRONMENT IS REGULATED BY TITLE 8, SECTION 5208.

THE BAY AREA AIR QUALITY MANAGEMENT DISTRICT AND DISTRICT REGULATION 11-2-401.3 REQUIRES EVERY RENOVATION INVOLVING THE REMOVAL OF 100 SQ.FT., LN.FT, OR GREATER OF REGULATED ASBESTOS CONTAINING MATERIAL, AND FOR EVERY DEMOLITION (EVEN WHEN NO ASBESTOS IS PRESENT), A NOTIFICATION MUST BE SENT TO THE BAAQMD AT LEAST 10 WORKING DAYS PRIOR TO COMMENCEMENT OF DEMOLITION / RENOVATION.

ALL BUILDING MATERIALS MUST BE ASBESTOS FREE.

THESE DOCUMENTS DO NOT ADDRESS CONTAINMENT FOR EXISTING AREAS OF ASBESTOS WHICH MAY BE DISCOVERED DURING CONSTRUCTION. THE OWNER'S ABATEMENT SUBCONTRACTOR IS SOLELY RESPONSIBLE FOR THE DETECTION, REMOVAL, AND THE DISPOSAL OF ANY EXISTING ASBESTOS MATERIAL. ARCHITECTURAL AND ENGINEERING FEES FOR ADDITIONAL DESIGN EFFORT TO OBTAIN STATE APPROVALS, AS WELL AS THE COST OF ANY REPAIRS, FOR DAMAGE CAUSED OR REPLACEMENT OF EXISTING SYSTEMS TO REMAIN, DUE TO WORK PERFORMED BY THE ASBESTOS ABATEMENT SUBCONTRACTOR, SHALL BE THE RESPONSIBILITY OF SAID SUBCONTRACTOR.

CONSTRUCTION SCHEDULING

CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION OPERATIONS WITH OWNER'S REPRESENTATIVE PRIOR TO SCHEDULING AND START OF THE WORK. CONTRACTOR SHALL PROVIDE PROTECTION TO ALL EXISTING SPACES AND SYSTEMS WHICH ARE IN USE, ADJOINING THE PROJECT, AND NOT PART OF THE PROJECT.

INTERIOR FINISHES

INTERIOR FINISHES AND ALL WALL COVERING MATERIAL SHALL CONFORM TO CCR TITLE 24, PART 2, CHAPTER 8.

TITLE 24 COMPLIANCE

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, CALIFORNIA CODE OF REGULATIONS (2013 CBC). SHOULD ANY EXISTING CONDITIONS BE DISCOVERED NOT COVERED BY THE CONTRACT DOCUMENTS WHERE IN THE FINISHED WORK DOES NOT COMPLY WITH 2013 CBC, A CONSTRUCTION CHANGE DOCUMENT OR A SEPARATE SET OF PLANS AND SPECIFICATIONS, DETAILING AND SPECIFYING THE REQUIRED WORK, SHALL BE SUBMITTED TO AND APPROVED BY THE DSA BEFORE PROCEEDING WITH THE WORK.

ADMINISTRATIVE REQUIREMENTS FROM PART 1., TITLE 24, C.C.R.

- ADDENDA AND CHANGES AS PER SECTION 4-338
- INSPECTOR APPROVED BY DSA
- INSPECTOR AND CONTINUOUS INSPECTION OF WORK PER SECTION 4-333 (B) AND 4-342
- TESTS AND TESTING LABORATORY PER SECTION 4-335 (OWNER SHALL PAY THE TESTING LABORATORY)
- SPECIAL INSPECTION PER SECTION 4-333 (C)
- CONTRACTOR SHALL SUBMIT VERIFIED REPORT OR SECTION 4-336 & 4-343 (C)
- ADMINISTRATION OR CONSTRUCTION PER PART 1, TITLE 24, C.C.R.
  - DUTIES OF ARCHITECT, STRUCTURAL ENGINEER, OR PROFESSIONAL ENGINEER PER SECTION 4-333 (A) AND 4-341
  - DUTIES OF CONTRACTOR PER SECTION 4-343
  - VERIFIED REPORTS PER SECTION 4-343 AND 4-336
- A COPY OF PARTS 1 TO 5 OF TITLE 24 SHALL BE KEPT AND AVAILABLE IN THE FIELD DURING CONSTRUCTION
- DSA SHALL BE NOTIFIED AT START OF CONSTRUCTION AND PRIOR TO PLACEMENT OF CONCRETE PER SECTION 4-331
- SUPERVISION BY DSA PER SECTION 4-334
- DSA IS NOT SUBJECT TO ARBITRATION

PIPES, DUCTS AND CONDUIT - SUPPORT AND BRACING

PIPES, DUCTS, AND CONDUITS SHALL BE SUPPORTED AND BRACED PER THE SMACNA "GUIDELINES FOR SEISMIC RESTRAINTS OF MECHANICAL SYSTEMS AND PLUMBING PIPING SYSTEMS", OPA 0003 SUPERSTRUT, OPA 0114 B-LINE, OPA 0215 NUSIG, OR OPA 0485 ISAT SEISMIC RESTRAINT SYSTEMS FOR PIPES AND CONDUITS.

DRILLED-IN EXPANSION ANCHORS

WHEN INSTALLING DRILLED-IN ANCHORS AND/OR POWDER DRIVEN PINS IN EXISTING NON-PRESTRESSED REINFORCED CONCRETE, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS. WHEN INSTALLING THEM INTO EXISTING PRESTRESSED CONCRETE (PRE- OR POST-TENSIONED), LOCATE THE PRESTRESSED TENDONS BY USING A NON-DESTRUCTIVE METHOD PRIOR TO INSTALLATION. EXERCISE EXTREME CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE TENDONS DURING INSTALLATION. MAINTAIN A MINIMUM CLEARANCE OF ONE INCH BETWEEN THE REINFORCEMENT AND THE DRILLED-IN ANCHOR AND/OR PIN.

GENERAL NOTES

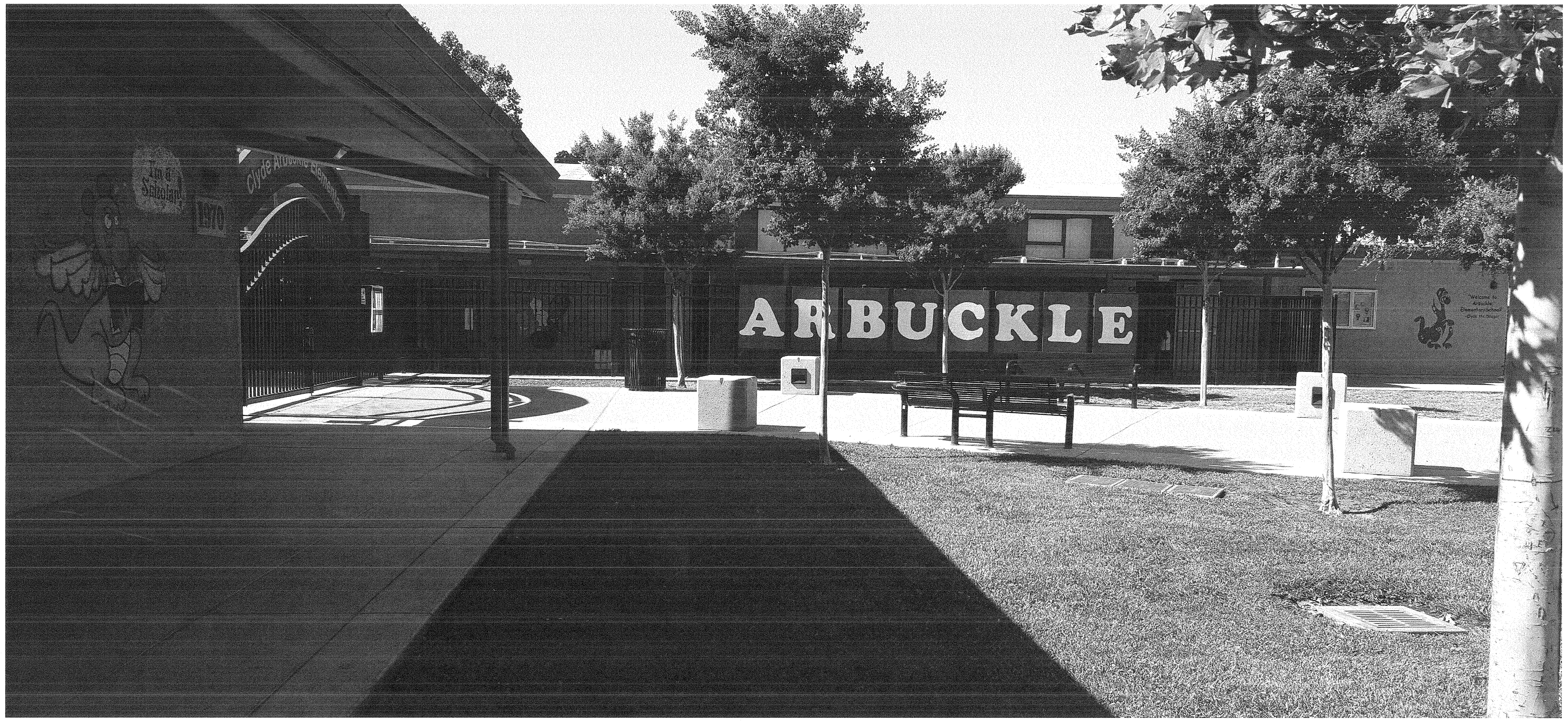
ADMINISTRATIVE REQUIREMENTS

- ADDENDA MUST BE SIGNED BY ARCHITECT AND APPROVED BY DSA
- NO CHANGED OR REVISIONS SHALL BE MADE FOLLOWING WRITTEN APPROVAL WHICH AFFECTS ACCESS COMPLIANCE ITEM UNLESS SUCH CHANGES TO REVISIONS ARE SUBMITTED TO DSA FOR APPROVAL.
- SUBSTITUTIONS AFFECTING DSA REGULATED ITEMS SHALL BE SUBMITTED AS A CONSTRUCTION CHANGE DOCUMENT OR ADDENDA, AND SHALL BE APPROVED BY DSA PRIOR TO FABRICATION AND INSTALLATION
- CONSTRUCTION CHANGE DOCUMENTS MUST BE SIGNED BY THE FOLLOWING:
  - ARCHITECT OR ENGINEER OF RECORD
  - STRUCTURAL ENGINEER (WHEN APPLICABLE)
  - DELEGATED PROFESSIONAL ENGINEER
  - DSA
- MATERIALS AND THEIR INSTALLATIONS SHALL COMPLY WITH APPLICABLE CODES.
- PER CBC 11B-104.1 "ALL DIMENSIONS ARE SUBJECT TO CONVENTIONAL INDUSTRY TOLERANCES EXCEPT WHERE THE REQUIREMENT IS STATED AS A RANGE WITH SPECIFIC MINIMUM AND MAXIMUM END POINTS.

ABBREVIATIONS

(REFER TO CONSULTANT DRAWINGS FOR ADDITIONAL ABBREVIATIONS)

A.F.F.	ABOVE FINISHED FLOOR
A.P.	ACCESS PANEL
ACT	ACOUSTIC TILE
ADJ.	ADJUSTABLE
ALUM.	ALUMINUM
A.B.	ANCHOR BOLT
APPROX.	APPROXIMATELY
ARCH.	ARCHITECT
AC	ASPHALTIC CONCRETE
@	AT
B.M.	BENCH MARK
BLKG.	BLOCKING
BD.	BOARD
B.W.	BOTH WAYS
BOT.	BOTTOM
BLDG.	BUILDING
B.U.R.	BUILT-UP ROOFING
B.B.	BULLETIN BOARD
CAB.	CABINET
C.I.	CAST IRON
C.B.	CATCH BASIN and/or CHALKBOARD
CLG.	CEILING
CEM.	CEMENT
C.C or O.C.	CENTER TO CENTER
	CENTERLINE
CER. TILE	CERAMIC TILE
C.O.	CLEANOUT
C.O.T.G.	CLEANOUT TO GRADE
CLR.	CLEAR
C.A.H.R.	CLEAR ALL HEART REDWOOD
C.W.	COLD WATER
COL.	COLUMN
COM.	COMMON
CONC.	CONCRETE
C.P.	CONCRETE PIPE
CONST.	CONSTRUCTION
C.H.	CONSTRUCTION HEART
C.J.	CONSTRUCTION JOINT
CONT.	CONTINUOUS
CONTR.	CONTRACTOR
CTR.	COUNTER
CTSK.	COUNTER SUNK
DET.	DETAIL
DIA. or Ø	DIAMETER
DIM.	DIMENSION
D.A.	DISABLED ACCESS
DW	DISHWASHER
DISP.	DISPOSAL
DO	DITTO
DR.	DOOR
D.S.	DOWNSPOUT
DWG.	DRAWING
D.F.	DRINKING FOUNTAIN and/or DOUGLAS FIR
EA.	EACH
E.W.	EACH WAY
ELEC.	ELECTRIC or ELECTRICAL
E.W.C.	ELECTRIC WATER COOLER
EL. or ELEV.	ELEVATION
ENCL.	ENCLOSE and/or ENCLOSURE
EQ.	EQUAL
EQUIP.	EQUIPMENT
(E)	EXISTING
EX.	EXPANSION
E.J.	EXPANSION JOINT
EXP.	EXPOSED
EXT.	EXTERIOR
F.O.C.	FACE OF CONCRETE
F.O.M.	FACE OF MASONRY
F.O.S.	FACE OF STUD
F.O.F.	FACE OF FINISH
FIN.	FINISH
F.F.	FINISHED FLOOR
F.S.	FINISH SLAB
F.E.	FIRE EXTINGUISHER
F.E.C.	FIRE EXTINGUISHER CABINET
F.H.	FIRE HYDRANT
F.H.C.	FIRE HOSE CABINET
F.H.M.S.	FLAT HEAD METAL SCREW
F.H.W.S.	FLAT HEAD WOOD SCREW
FL. or FLR.	FLOOR
F.D.	FLOOR DRAIN
FTG.	FOOTING
FND.	FOUNDATION
GALV.	GALVANIZED
G.I.	GALVANIZED IRON
GA.	GAUGE
GL.	GLASS
GLU-LAM	GLUE-LAMINATED
GRD.	GRADE
GYP. BD.	GYPSUM BOARD
HDW.	HARDWARE
HT.	HEIGHT
H.C.	HOLLOW CORE
H.M.	HOLLOW METAL
HORIZ.	HORIZONTAL
H.B.	HOSE BIBB
HR.	HOUR
I.D.	INSIDE DIAMETER
INSUL.	INSULATION
INT.	INTERIOR
INV.	INVERT
JAN.	JANITOR
JT	JOINT
J.H.	JOIST HANGER
K.D.	KILN DRIED
LAB.	LABORATORY
LAM.	LAMINATE
LAV.	LAVATORY
M.B.	MACHINE BOLT
M.S.	MACHINE SCREW
M.H.	MANHOLE
MFG.	MANUFACTURER
M.B.	MARKER BOARD
M.O.	MASONRY OPENING
MATL.	MATERIAL
MAX.	MAXIMUM
MECH.	MECHANICAL
MTL.	METAL
MIN.	MINIMUM
MISC.	MISCELLANEOUS
MTD.	MOUNTED
MUL.	MULLION
(N)	NEW
NOM.	NOMINAL
N.I.C.	NOT IN CONTRACT
N.T.S.	NOT TO SCALE
NO. or #	NUMBER
OBS.	OBSCURE
OCC.	OCCUPANT(CY)
O.C.	ON CENTER
OPNG.	OPENING
OPP.	OPPOSITE
O.H.	OPPOSITE HAND
O.F.O.S.	OUTSIDE FACE OF STUD
O.H.W.S.	OVAL HEAD WOOD SCREW
O.D.	OVERFLOW DRAIN and/or OUTSIDE DIAMETER
O.F.C.I.	OWNER FURNISHED and CONTRACTOR INSTALLED
PR.	PAIR
PART.	PARTITION
PL	PLATE
d	PENNY (NAILS)
PLAS.	PLASTER
PLYWD.	PLYWOOD
P.V.C.	POLY VINYL CHLORIDE
P.A.F.	POWDER ACTUATED FASTENER
P.T.	PRESSURE TREATED
P.L.	PROPERTY LINE
R. or RAD.	RADIUS
R.W.L.	RAIN WATER LEADER
RWD./R.W.	REDWOOD
R.C.P.	REINFORCED CONCRETE PIPE
REINF.	REINFORCING
REQ'D	REQUIRED
R.A.G.	RETURN AIR GRILLE
R.E.	RIM ELEVATION
R.D.	ROOF DRAIN
RM.	ROOM
R.O.	ROUGH OPENING
RND.	ROUND
R.H.M.S.	ROUND HEAD METAL SCREW
R.H.W.S.	ROUND HEAD WOOD SCREW
S.D.	SASH DIMENSION
SSD.	SEE STRUCTURAL DRAWINGS
S.T.S.M.S.	SELF TAPPING SHEET METAL SCREW
SHEATH.	SHEATHING
SHT.	SHEET METAL
S.M.	SHEET METAL SCREW
S.M.S.	
S.O.V.	SHUT OFF VALVE
SIM.	SIMILAR
S.C.	SOLID CORE
SPEC.	SPECIFICATION
SQ.	SQUARE
S.F.	SQUARE FEET
STAG.	STAGGERED
STD.	STANDARD
S.S.	STAINLESS STEEL
STL.	STEEL
STOR.	STORAGE
STRUCT.	STRUCTURAL
S.A.G.	SUPPLY AIR GRILLE
TEL.	TELEPHONE
T.T.B.	TELEPHONE TERMINAL BOARD
TERR.	TERRAZZO
THRES.	THRESHOLD
T&G	TONGUE & GROOVE
T.J.	TOOLED JOINT
T.O.B.	TOP OF BEAM
T.O.C.	TOP OF CURB or CONCRETE
T.O.S.	TOP OF STEEL or SHEATHING
T.O.W.	TOP OF WALK
TYP.	TYPICAL
U.O.N.	UNLESS OTHERWISE NOTED
U.O.S.	UNLESS OTHERWISE SHOWN
V.T.R.	VENT THROUGH ROOF
VERT.	VERTICAL
V.G.	VERTICAL GRAIN
V.I.F.	VERIFY IN FIELD
V.C.T.	VINYL COMPOSITION TILE
V.W.C.	VINYL WALL COVERING
V.C.P.	VITRIFIED CLAY PIPE
W.C.	WATER CLOSET
W.H.	WATER HEATER
WP.	WATERPROOF
W.R.	WATER RESISTANT
W.W.M.	WELDED WIRE MESH
W.D.	WINDOW DIMENSION
W/	WITH
W/O	WITHOUT
WD.	WOOD



BUILDING CODES AND STANDARDS:

2016	CALIFORNIA ADMINISTRATIVE CODE, PART 1, TITLE 24 C.C.R.
2016	CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24, C.C.R. (2015 INTERNATIONAL BUILDING CODE, VOLUMES 1 AND 2, WITH 2016 CALIFORNIA AMENDMENTS.)
2016	CALIFORNIA ELECTRIC CODE (CEC), PART 3, TITLE 24, C.C.R. (2014 NATIONAL ELECTRIC CODE WITH 2016 CALIFORNIA AMENDMENTS).
2016	CALIFORNIA MECHANICAL CODE (CMC), PART 4, TITLE 24, C.C.R. (2015 UNIFORM MECHANICAL CODE WITH 2016 CALIFORNIA AMENDMENTS).
2016	CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24, C.C.R. (2015 UNIFORM PLUMBING CODE WITH 2016 CALIFORNIA AMENDMENTS).
2016	CALIFORNIA ENERGY CODE (CENC), PART 6, TITLE 24, C.C.R.
2016	CALIFORNIA FIRE CODE (CFC), PART 9, TITLE 24, C.C.R. (2015 INTERNATIONAL FIRE CODE WITH 2016 CALIFORNIA AMENDMENTS).
2016	CALIFORNIA GREEN BUILDING STANDARDS CODE, PART 11, TITLE 24, C.C.R.
2016	CALIFORNIA REFERENCED STANDARDS, PART 12, TITLE 24, C.C.R.
2007	ASME A17.1 (W/A17.1a/CSA B44a-08 ADDENDA) SAFETY CODE FOR ELEVATORS AND ESCALATORS
2010	ADA STANDARDS FOR ACCESSIBLE DESIGN (28 CFR PART 35 FOR TITLE II ENTITIES)

CCR TITLE-19, PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS.

NFPA 13	INSTALLATION OF SPRINKLER SYSTEMS (CA AMENDED)	2016 EDITION
NFPA 14	INSTALLATION OF STANDPIPE & HOSE SYSTEMS (CA AMENDED)	2013 EDITION
NFPA 17	DRY CHEMICAL EXTINGUISHING SYSTEMS	2013 EDITION
NFPA 17A	WET CHEMICAL EXTINGUISHING SYSTEM	2013 EDITION
NFPA 20	STATIONARY FIRE PUMPS TO FIRE PROTECTION	2016 EDITION
NFPA 22	WATER TANKS FOR PRIVATE FIRE PROTECTION	2013 EDITION
NFPA 24	PRIVATE FIRE SERVICE MAINS (CA AMENDED).	2016 EDITION
NFPA 25	INSPECTION, TESTING AND MAINTENANCE OF WATER BASED FIRE PROTECTION SYSTEMS	2013 CALIFORNIA EDITION
NFPA 72	NATIONAL FIRE ALARM CODE (CA AMENDED)	2016 EDITION
NFPA 80	FIRE DOORS AND OTHER OPENING PROTECTIVES	2016 EDITION
NFPA 92	STANDARD FOR SMOKE CONTROL SYSTEMS	2012 EDITION
NFPA 110	EMERGENCY AND STANDBY POWER SYSTEMS	2013 EDITION
NFPA 170	STANDARD FOR FIRE SAFETY AND EMERGENCY SYMBOLS	2013 EDITION
NFPA 253	CRITICAL RADIANT FLUX OF FLOOR COVERING SYSTEMS	2006 EDITION
NFPA 2001	CLEAN AGENT FIRE EXTINGUISHING SYSTEMS	2015 EDITION
ICC 300	STANDARDS FOR BLEACHERS, FOLDING AND TELESCOPIC SEATING, AND GRANDSTANDS	2012 EDITION

SFM 12-10-1	POWER OPERATED EXIT DOORS
SFM 12-10-2	SINGLE POINT LATCHING OR LOCKING DEVICES
SFM 12-10-3	EMERGENCY EXIT & PANIC HARDWARE

UL 38	MANUAL OPERATING SIGNAL BOXES	1999/2005 EDITION
UL 268	SMOKE DETECTORS FOR FIRE PROTECTIVE SIGNALING SYSTEMS	2009 EDITION
UL 268A	SMOKE DETECTORS DUCT APPLICATIONS	1998/2003 EDITION
UL 300	FIRE TESTING OF FIRE EXTINGUISHING SYSTEMS FOR PROTECTION OF COMMERCIAL COOKING EQUIPMENT	2005 (R2010)
UL 305	PANIC HARDWARE	2012 EDITION
UL 464	AUDIBLE SIGNALING DEVICES FOR FIRE ALARM AND SIGNALING SYSTEMS, AND ACCESSORIES	2003 EDITION
UL 521	HEAT DETECTORS FOR FIRE PROTECTIVE SIGNALING SYSTEMS	1999 EDITION
UL 864	CONTROL UNITS FOR FIRE PROTECTIVE SIGNALING SYSTEMS (W/ REVISIONS THROUGH JULY 14, 2005)	2003 EDITION
UL 1971	SIGNALING DEVICES FOR THE HEARING IMPAIRED	2002 EDITION

COMPLIANCE WITH CFC CHAPTER 33, FIRE SAFETY DURING CONSTRUCTION AND DEMOLITION AND CBC CHAPTER 33, SAFETY DURING CONSTRUCTION WILL BE ENFORCED.

SYMBOLS LEGEND

1 / A8.1	SECTION / EXTERIOR ELEVATION SECTION IDENTIFICATION SHEET WHERE SECTION IS DRAWN
4 / A9.1	DETAIL DETAIL IDENTIFICATION SHEET WHERE DETAIL IS DRAWN
1 / A7.1	INTERIOR ELEVATION INDICATES ELEVATION SHOWN SHEET WHERE ELEVATION IS DRAWN
OFFICE 102	ROOM IDENTIFICATION ROOM NAME ROOM NUMBER
3	SPECIFIC NOTE
102A	DOOR DESIGNATION
A	WINDOW DESIGNATION
1	REVISION CLOUD AROUND REVISION
127	FINISH NUMBER SEE SPECS AND I.E. DWGS.
116	EQUIPMENT NUMBER SEE EQUIPMENT SCHEDULE
+8'-0"	CEILING HEIGHT
A	WALL TYPE SYMBOL
	MATCH LINE
+8'-0"	ELEV. HEIGHT
	F.O.S., U.O.N.
	FACE OF FINISH

PROJECT SUMMARY

THE FOLLOWING IS A SUMMARY OF THE SCOPE OF WORK:

-HVAC REPLACEMENT IN EXISTING BUILDINGS; ADMINISTRATION/KINDERGARTEN-A,CLASSROOMS-,B,C, MULTI-USE-D, AND ASSOCIATED SITE WORK RELATED TO THE INSTALLATION OF CONDENSING UNITS/PUMPS INCLUDING PLUMBING, MECHANICAL AND ELECTRICAL WORK.
-INTERIOR LIGHTING AND FIRE ALARM UPGRADES IN BUILDINGS: ADMINISTRATION/KINDERGARTEN-A, CLASSROOMS-B,C, & MULTI-USE-D.

THERE ARE NO DEFERRED SUBMITTALS FOR THIS PROJECT.
CALIFORNIA BUILDING CODE EXCEPTION FOR ACCESSIBILITY UPGRADES:
HEATING, VENTILATION, AND AIR CONDITIONING
(HVAC) No[2] 11B-202.4 Exceptions: 7
2)
PROJECTS CONSISTING ONLY OF HEATING, VENTILATION, AIR CONDITIONING, REROOFING, ELECTRICAL WORK NOT INVOLVING PLACEMENT OF SWITCHES AND RECEPTACLES, COSMETIC WORK THAT DOES NOT AFFECT ITEMS REGULATED BY THIS CODE, SUCH AS PAINTING, AND EQUIPMENT NOT CONSIDERED TO BE A PART OF THE ARCHITECTURE OF THE BUILDING OR AREA, SUCH AS COMPUTER TERMINALS AND OFFICE EQUIPMENT, SHALL NOT BE REQUIRED TO COMPLY WITH 11B-202.4 UNLESS THEY AFFECT THE USABILITY OF THE BUILDING OR FACILITY.

LIGHTING UPGRADES—RELAMPING, BALLAST REPLACEMENTS, FIXTURE REPLACEMENT NO[8] 2-202 DEFINITIONS
“ALTERATIONS” AND 11B-202.4 EXCEPTIONS: 7

3)- NORMAL MAINTENANCE, REROOFING, PAINTING OR WALLPAPERING, OR CHANGES TO MECHANICAL AND ELECTRICAL SYSTEMS ARE NOT ALTERATIONS UNLESS THEY AFFECT THE USABILITY OF THE BUILDING OR FACILITY.
8)-LIGHTING UPGRADES—RELAMPING, BALLAST REPLACEMENTS, AND FIXTURE REPLACEMENT ARE “ELECTRICAL WORK NOT INVOLVING PLACEMENT OF SWITCHES AND RECEPTACLES.” SEE NOTE 3 ABOVE. BY DEFINITION, THESE UPGRADES ARE ALSO “CHANGES TO MECHANICAL AND ELECTRICAL SYSTEMS” THAT WOULD NOT QUALIFY AS ALTERATIONS FOR PURPOSES OF ACCESSIBILITY UPGRADES UNDER 11B-202.4.

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M5.2	CONTROLS - MECHANICAL
M5.3	CONTROLS - MECHANICAL
M6.1	DETAILS - MECHANICAL
M6.2	DETAILS - MECHANICAL
M7.1	TITLE 24 DOCUMENTATION - MECHANICAL

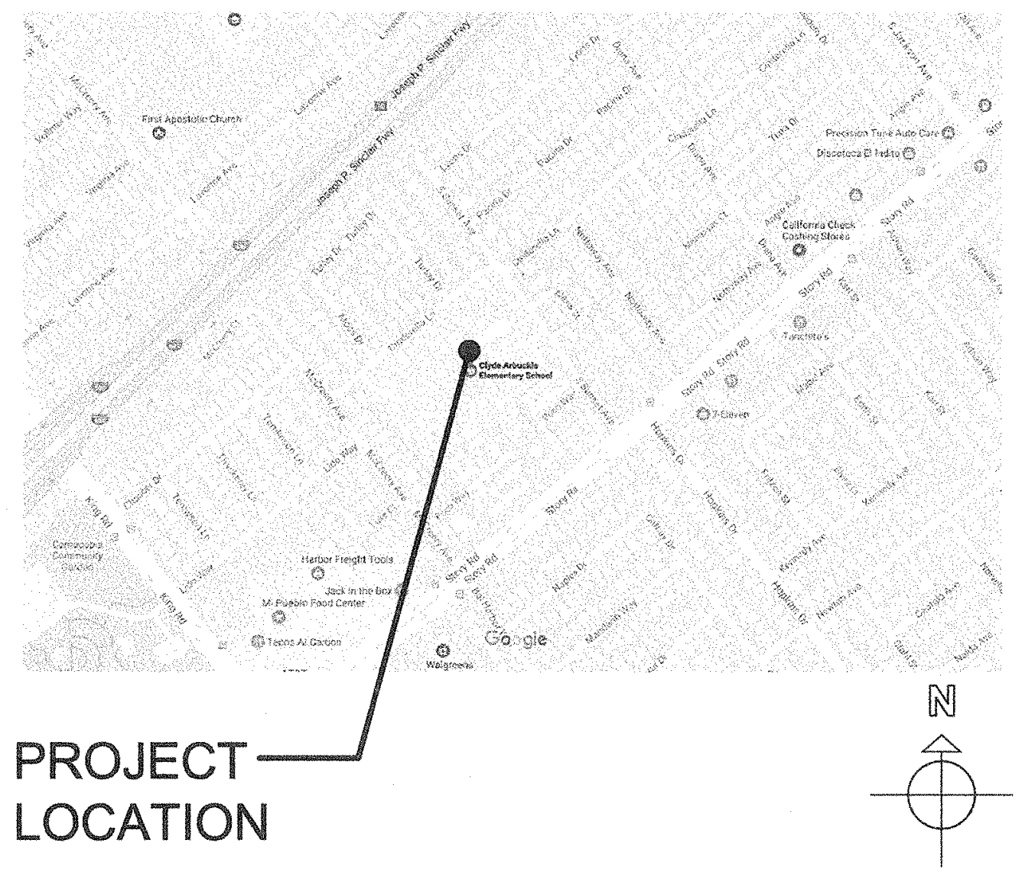
PLUMBING

P0.1	LEGENDS, SCHEDULES, DETAILS & NOTES -PLUMBING
P2.1	FLOOR PLANS BUILDING A - PLUMBING
P2.2	FLOOR PLANS BUILDING B - PLUMBING
P2.3	FLOOR PLANS BUILDING C - PLUMBING
P2.4	FLOOR PLANS BUILDING D - PLUMBING

ELECTRICAL

E0.1	ELECTRICAL SYMBOLS, ABBREVIATIONS, GENERAL NOTES AND DRAWING INDEX
E0.2	ELECTRICAL - TITLE 24 COMPLIANCE
E1.1	ELECTRICAL SITE PLAN
E2.1	BUILDING A ADMIN-KINDER ELECTRICAL PLANS
E2.2	BUILDING B ELECTRICAL PLANS
E2.3	BUILDING C ELECTRICAL PLANS
E2.4	BUILDING D ELECTRICAL PLANS
E4.1	FIXTURE SCHEDULE AND DETAILS
E7.1	FIRE ALARM NOTES AND DETAILS
E7.2	FIRE ALARM CALCULATIONS

VICINITY MAP



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 OTHER CONSULTANTS

APPLICATION NO.: 01-117268
FILE NO.: 43-04

☒ THE DRAWINGS OR SHEETS LISTED ON THE COVER OR INDEX SHEET
☒ THIS DRAWING, PAGE OF SPECIFICATIONS / CALCULATIONS

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

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(B))*

I FIND THAT:
☒ ALL DRAWINGS OR SHEETS LISTED ON THE COVER OR INDEX SHEET
☒ THIS DRAWING OR PAGE

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

Mark
MARK FINNEY, AIA
C-24673
LICENSE NUMBER

5-9-18
DATE
SEPTEMBER 30, 2019
EXPIRATION DATE

SUGIMURA FINNEY ARCHITECTS
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LICENSED ARCHITECT
MARK C. FINNEY
NO. C-24673
REN. 9-30-19
STATE OF CALIFORNIA

TITLE SHEET

CLYDE ARBUCKLE ELEMENTARY SCHOOL - HVAC UPGRADES
1970 CINDERELLA LN., SAN JOSE, CA 95116
ALUM ROCK UNION ELEMENTARY SCHOOL DISTRICT

REVISIONS

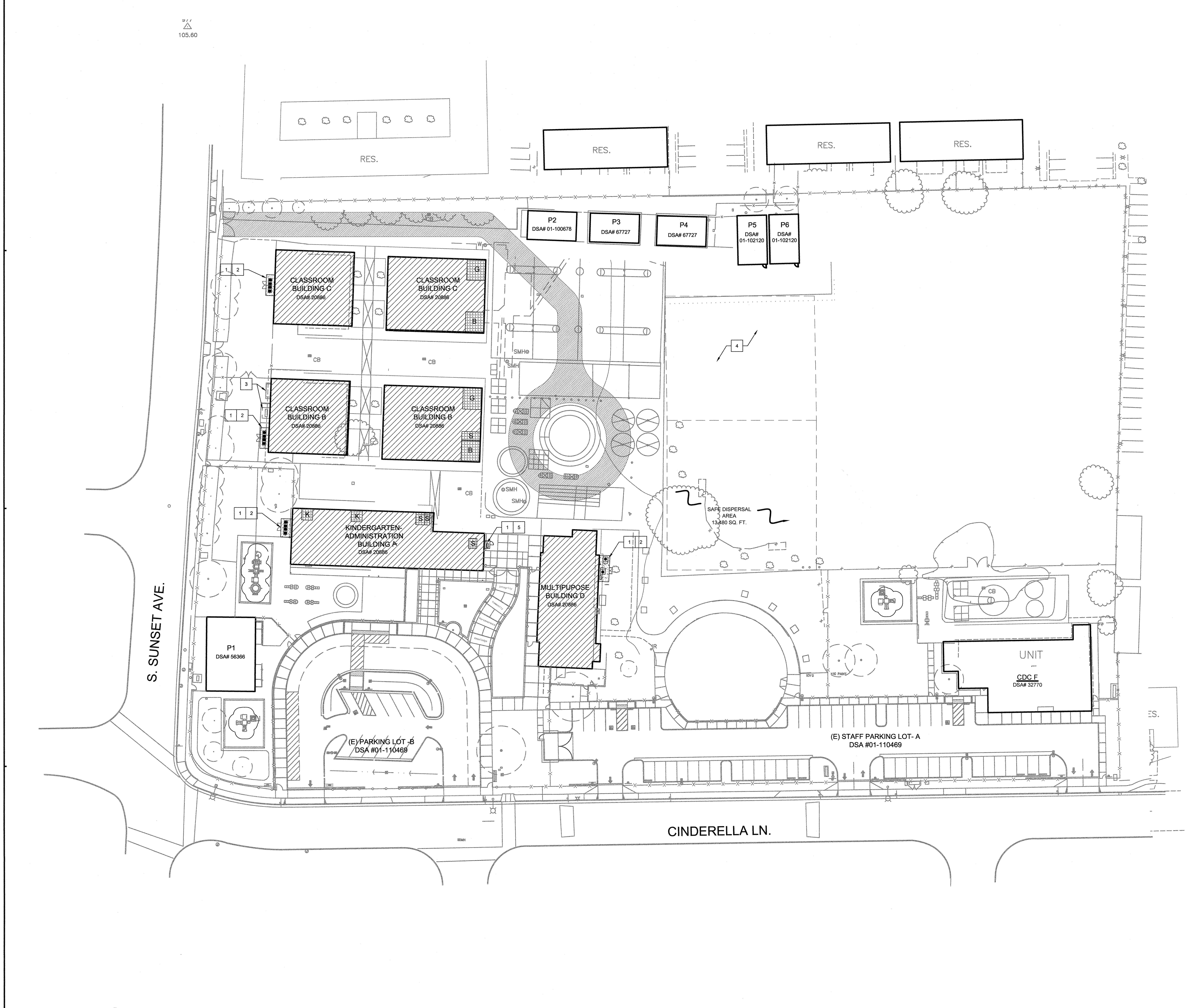
NO.	ITEM	DATE
	DD SUBMITTAL	12-8-17
	DSA SUBMITTAL	01-31-18
	BID SET	04-09-18
	DSA BACKCHECK	05-10-18

DSA FILE NUMBER 43-04

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APPL 01-117268
AC MS FLS SS
DATE MAY 10 2018

DRAWN BY: NJ
CHECKED BY: -
JOB NO: 17102
DATE: 10-02-2017

T1



1 SITE PLAN

1" = 30'-0"
0 7.5' 15' 30' 60' 90'

GENERAL NOTES

A. REFER TO MECHANICAL, ELECTRICAL, DRAWINGS FOR EXTENT OF MECHANICAL, ELECTRICAL WORK.
B. PROVIDE TEMPORARY FENCING PERIMETER TYP. AT AREA OF CONSTRUCTION, SEE DETAIL 1/A0.2.
C. REMOVE ALL EXISTING ITEMS/EQUIPMENT TO ALLOW NEW CONSTRUCTION, INCLUDING BUT NOT LIMITED TO TREES, SHRUBS, FENCING, AC/CONC. PAVING, STORAGE UNITS
D. GENERAL CONTRACTOR SHALL SURVEY AREA OF SITE CONSTRUCTION PRIOR TO DEMOLITION WORK TO VERIFY LOCATION OF EXISTING UNDERGROUND UTILITIES, RELOCATE UNDERGROUND UTILITIES AS NEEDED TO ALLOW THE NEW WORK
E. GENERAL CONTRACTOR IS RESPONSIBLE FOR THE ON-SITE A/O OFF-SITE STORAGE AND PROPER PROTECTION AGAINST LOSS, DAMAGE OR DETERIORATION OF NEW MATERIALS & EQUIPMENT ACQUIRED PRIOR TO THE START OF CONSTRUCTION. ON-SITE DELIVERY AND INSTALLATION OF PORTABLE CONSTRUCTION STORAGE CONTAINERS MUST BE COORDINATED IN FIELD WITH THE CONSTRUCTION MANAGER.
F. GENERAL CONTRACTOR IS RESPONSIBLE FOR MOVING, STORAGE, AND PROTECTION OF EXISTING FURNITURE AND EQUIPMENT WITHIN THE AREA OF CONSTRUCTION. GC WILL DOCUMENT EXISTING CONDITIONS AND COORDINATE WITH THE CONSTRUCTION MANAGER PRIOR TO START OF CONSTRUCTION

SITE PLAN NOTES

1. MECHANICAL UNIT O/ CONCRETE PAD, SEE SHEET A0.2 DETAIL 7 AND MECHANICAL DRAWINGS.
2. PROVIDE FENCING ENCLOSURE AND A PAIR OF DOUBLE GATES, SEE SHEET A0.2 FOR CHAIN LINK FENCE DETAILS 2-5,11, & 13.
3. EXISTING ELECTRICAL & GAS EQUIPMENT
4. AREA FOR STORAGE UNITS. CONTRACTOR SHALL MOVE ALL FURNITURE AND EQUIPMENT FROM ALL ROOMS INTO STORAGE UNITS PRIOR TO CONSTRUCTION WORK AND MOVE BACK AFTER COMPLETION OF WORK. GC IS RESPONSIBLE FOR THE INSTALLATION AND REMOVAL OF STORAGE UNITS ON SITE, COORDINATE LOCATION IN FIELD WITH OWNER.
5. PROVIDE FENCING ENCLOSURE AND SINGLE GATE, SEE SHEET A0.2 FOR CHAIN LINK FENCE DETAILS 2-5,11,14, & 16.

SAFE DISPERSAL AREA

TOTAL 'E' OCCUPANCY BUILDINGS WITH OCCUPANTS = 27,418 SF
27418 SF @ 20 SF/OCC = 1371 OCCUPANTS
TOTAL 'B' OCCUPANCY BUILDINGS WITH OCCUPANTS = 3,495 SF
3,495 SF @ 100 SF/OCC = 35 OCCUPANTS
TOTAL 'A2.1' OCCUPANCY BUILDINGS WITH OCCUPANTS = 5,206 SF
5206 SF @ 15 SF/OCC = 347 OCCUPANTS
TOTAL OCCUPANTS = = 1,753
MINIMUM DISPERSAL AREA REQUIRED: OCCUPANTS x 3 SF/OCC
1,753 X 3 SF = 5,259 SF
AREA PROVIDED = 13,480 SF THEREFORE OK.

PARKING COUNT

PARKING LOT	STANDARD STALLS	ACCESSIBLE STALLS PROVIDED	ACCESSIBLE STALLS REQUIRED	COMPLIANT √
A	50	3*	2	√
B	10	1*	1	√
TOTAL	58	4	3	

PER 2013 CBC,TABLE 11B-208.2
* INCLUDING VAN ACCESSIBLE STALL

BUILDING CODE ANALYSIS

BUILDING	CONSTRUCTION TYPE & OCCUPANCY TYPE	AREA (SQ.FT.)
KINDERGARTEN/ ADMIN	VB - B/E	3,495 2,925
BUILDING "B" CLASSROOMS	VB - E	8,706
BUILDING "C" CLASSROOMS	VB - E	8,650
BUILDING "D" MULTI-USE	VA - A2.1	5,206
PORTABLE "P1"	VB - E	2,404
PORTABLE "P2"	VB - E	939
PORTABLES "P3 & P4"	VB - E	1,878
PORTABLES "P5 & P6"	VB - E	1,916

GRAPHIC KEY

— - - —	EXISTING PROPERTY LINE
- - - -	ROOF OVERHANG
—×—×—	CHAINLINK FENCE
—□—□—	WOOD FENCE
—○—○—	DECORATIVE FENCE
▨	FIRE DEPARTMENT ACCESS. FIRE DEPARTMENT ACCESS IS 20'-0" WIDE AND RATED FOR 96,000 LBS.
▨	EXISTING BUILDING- AREA OF NEW WORK
☐	EXISTING BUILDING- NO WORK
▦	EXISTING RESTROOMS- NO WORK
-○-	(E) DRY STAND PIPE
D.F.	DRINKING FOUNTAIN
⊙	(E) FIRE HYDRANT
-⊖-	(E) SIGN
M	(E) MENS TOILET ROOM
W	(E) WOMENS TOILET ROOM
G	(E) GIRLS TOILET ROOM
B	(E) BOYS TOILET ROOM
S	(E) STAFF TOILET ROOM
U	(E) UNISEX TOILET ROOM
K	KINDERGARTEN TOILET ROOM

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SITE PLAN

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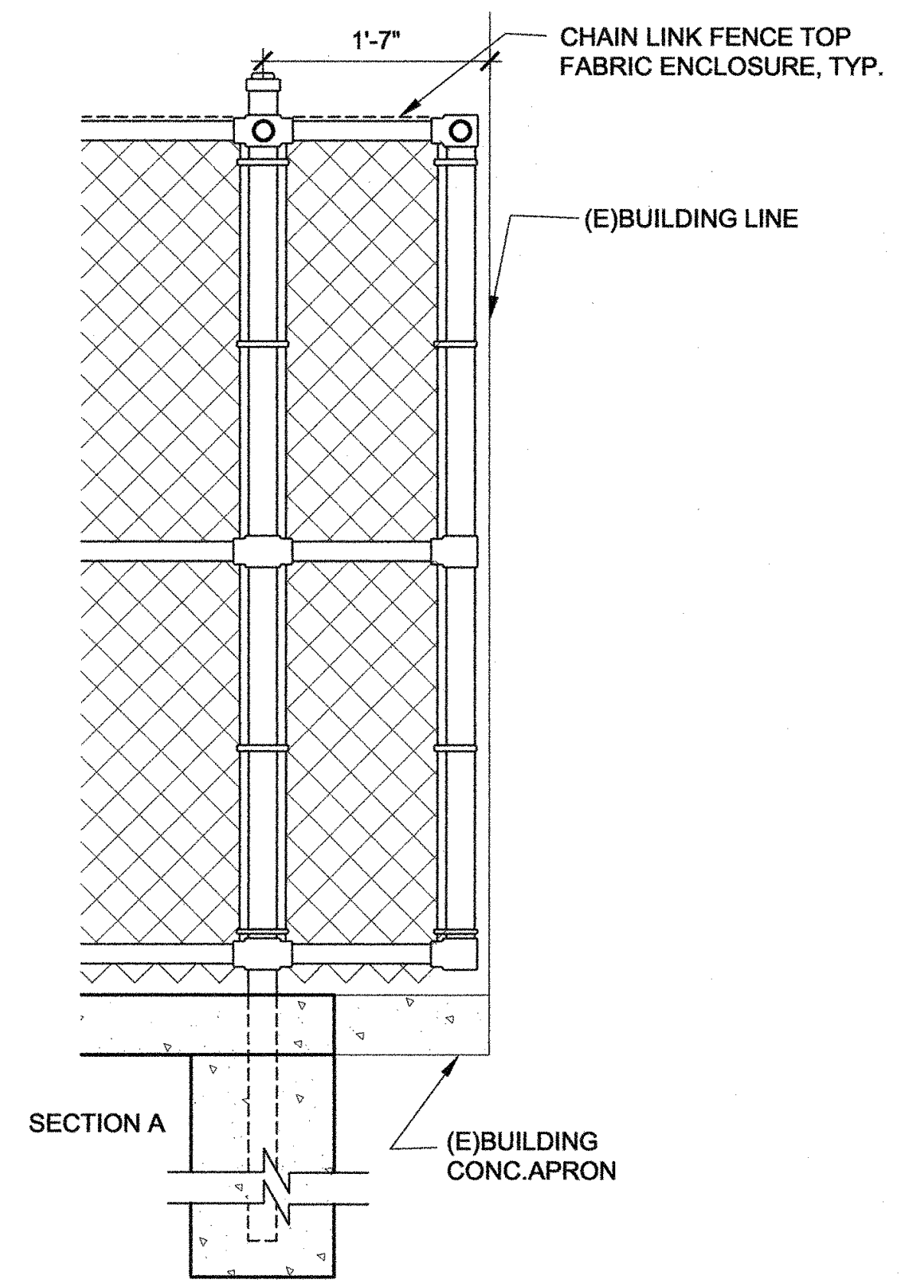
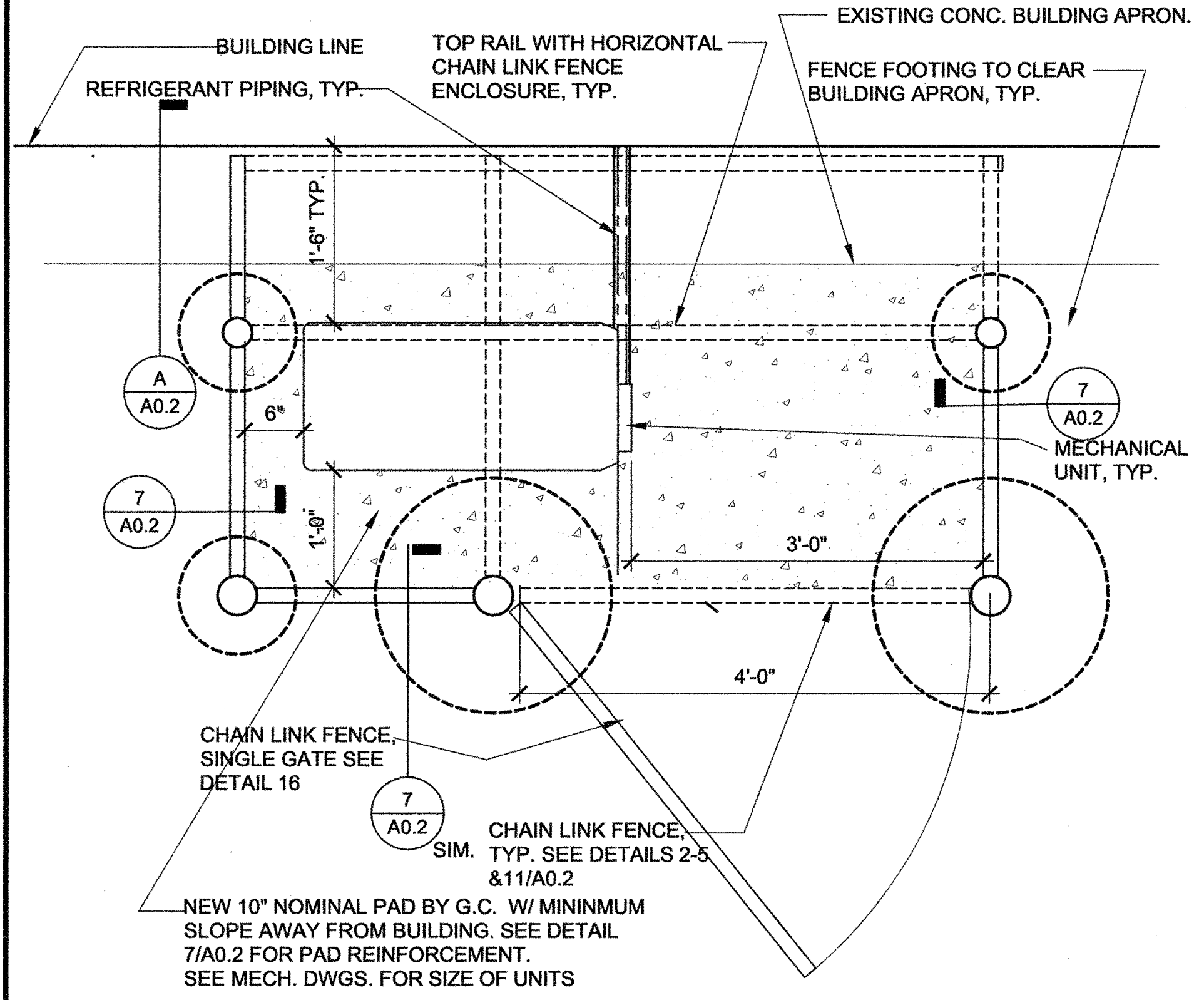
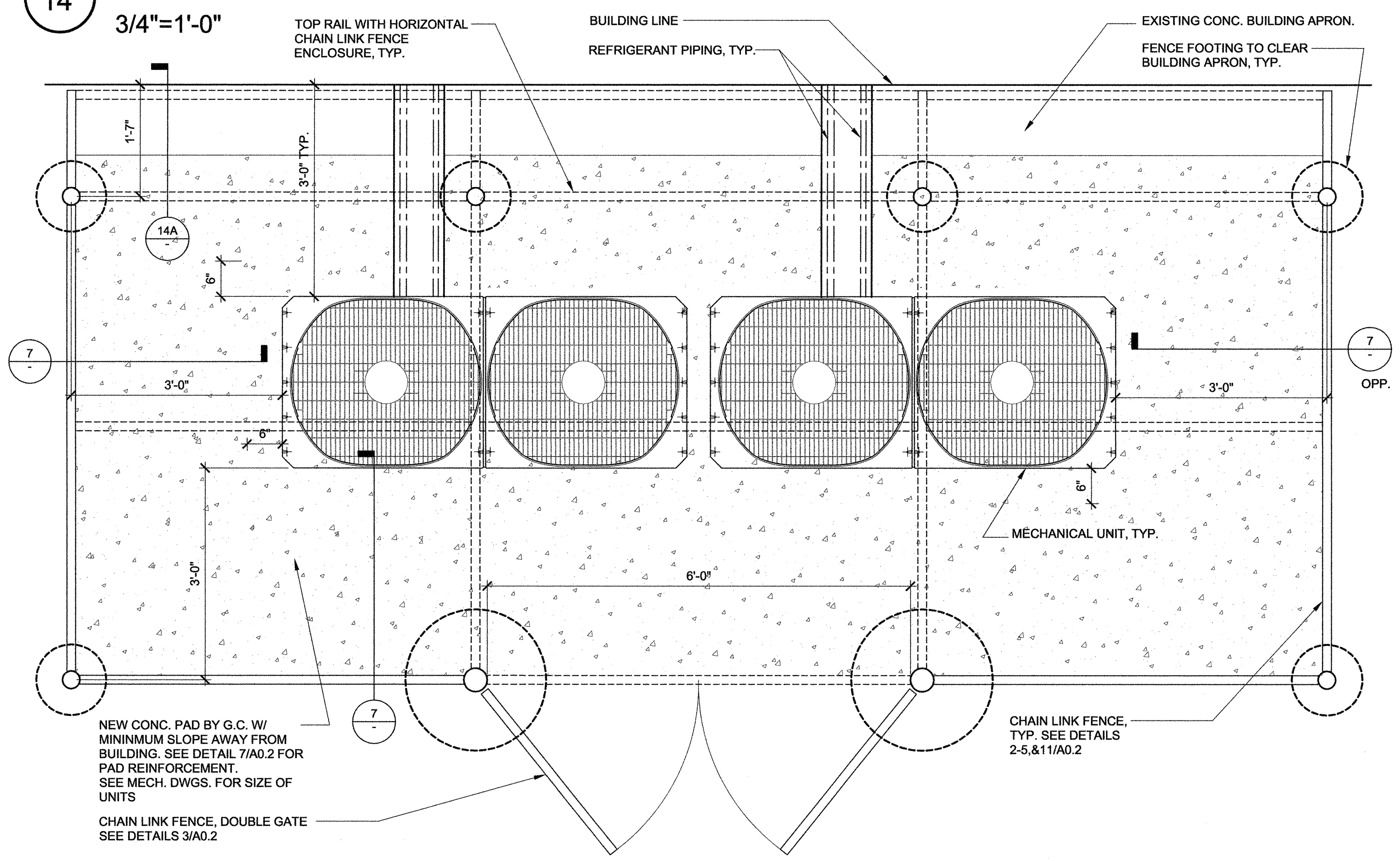
A0.1




BUILDING LINE
REFRIGERANT PIPING, TYP.
TOP RAIL WITH HORIZONTAL CHAIN LINK FENCE ENCLOSURE, TYP.
EXISTING CONC. BUILDING APRON.
FENCE FOOTING TO CLEAR BUILDING APRON, TYP.
1'-6" TYP.
A
A0.2
6"
7
A0.2
MECHANICAL UNIT, TYP.
1'-0"
3'-0"
4'-0"
CHAIN LINK FENCE, SINGLE GATE SEE DETAIL 16
7
A0.2
SIM.
CHAIN LINK FENCE, TYP. SEE DETAILS 2-5 &11/A0.2
NEW 10" NOMINAL PAD BY G.C. W/ MININMUM SLOPE AWAY FROM BUILDING. SEE DETAIL 7/A0.2 FOR PAD REINFORCEMENT. SEE MECH. DWGS. FOR SIZE OF UNITS

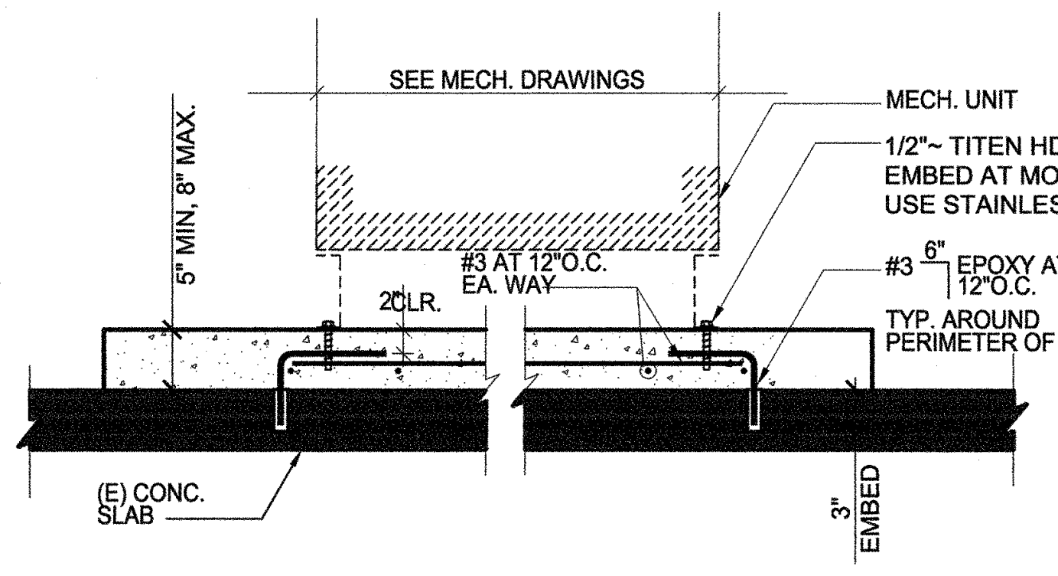
14 HOUSE KEEPING PAD ENCLOSURE

3/4"=1'-0"


TOP RAIL WITH HORIZONTAL CHAIN LINK FENCE ENCLOSURE, TYP.
BUILDING LINE
REFRIGERANT PIPING, TYP.
EXISTING CONC. BUILDING APRON.
FENCE FOOTING TO CLEAR BUILDING APRON, TYP.
1'-7"
3'-0" TYP.
14A
-
6"
7
-
3'-0"
6"
7
-
OPP.
3'-0"
6"
MECHANICAL UNIT, TYP.
3'-0"
6'-0"
7
-
NEW CONC. PAD BY G.C. W/ MININMUM SLOPE AWAY FROM BUILDING. SEE DETAIL 7/A0.2 FOR PAD REINFORCEMENT. SEE MECH. DWGS. FOR SIZE OF UNITS
CHAIN LINK FENCE, DOUBLE GATE SEE DETAILS 3/A0.2
CHAIN LINK FENCE, TYP. SEE DETAILS 2-5,&11/A0.2

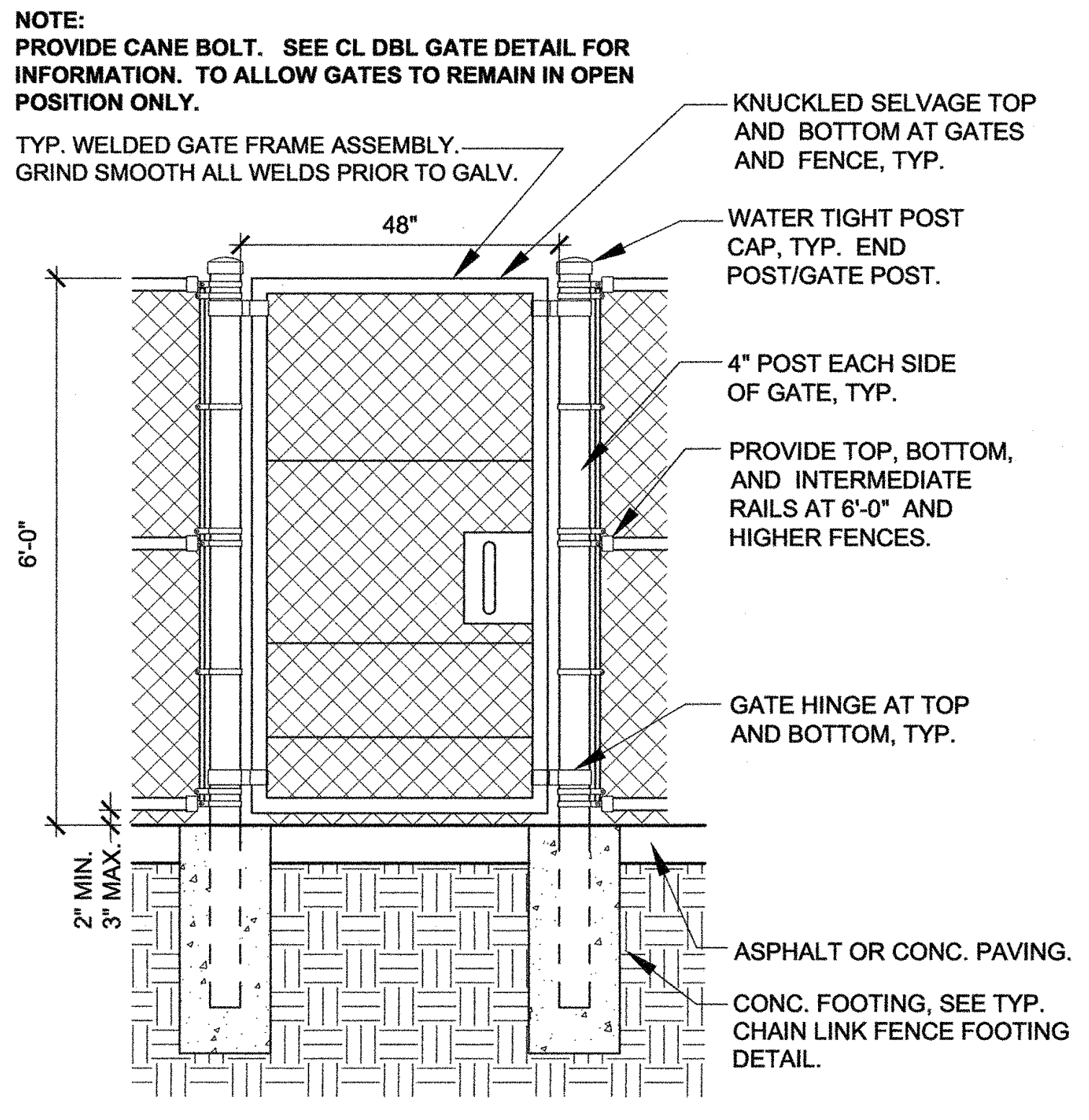
13 HOUSE KEEPING PAD ENCLOSURE

3/4"=1'-0"


SEE MECH. DRAWINGS
MECH. UNIT
1/2"~ TITEN HD W/ 3 1/4" NOMINAL EMBED AT MOUNTING HOLES, TYP. USE STAINLESS STEEL (IAPMO ER-493)
5" MIN, 8" MAX.
#3 AT 12"O.C. EA. WAY
2" CLR.
#3 6" EPOXY AT 12"O.C.
TYP. AROUND PERIMETER OF PAD
(E) CONC. SLAB
3" EMBED

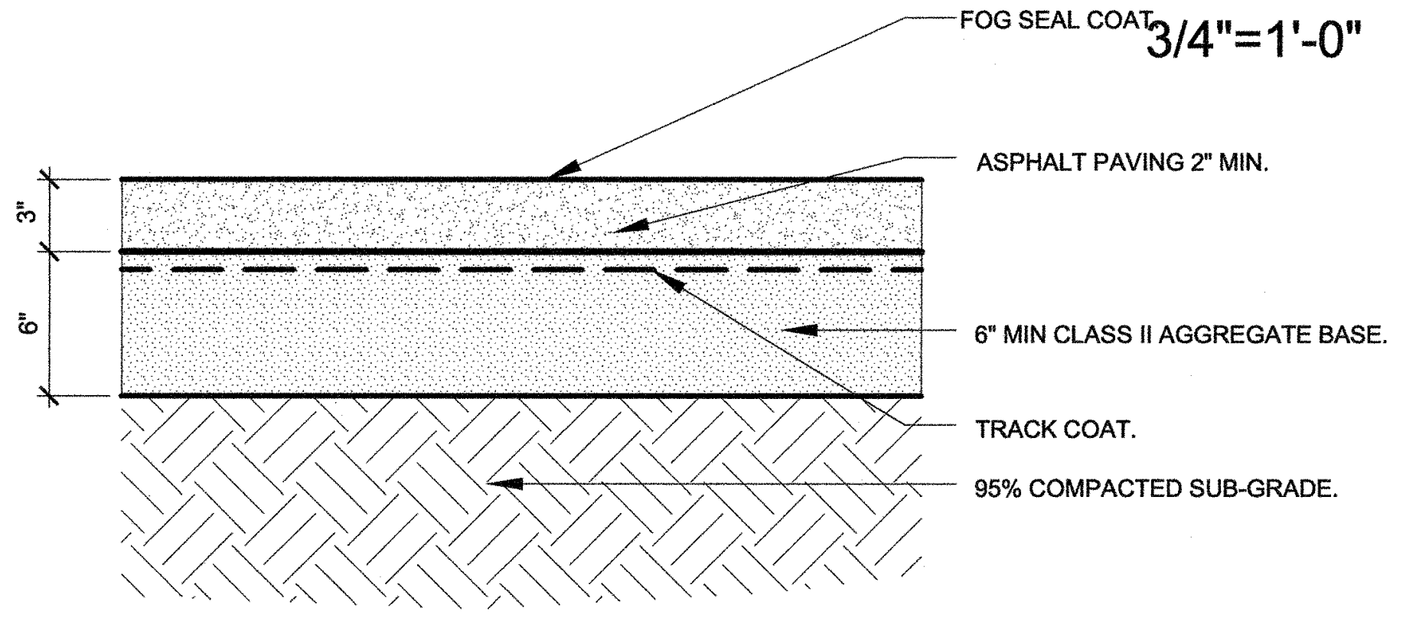
15 HOUSE KEEPING PAD

AT (E) CONCRETE 3/4"=1'-0"


NOTE:
PROVIDE CANE BOLT. SEE CL DBL GATE DETAIL FOR INFORMATION. TO ALLOW GATES TO REMAIN IN OPEN POSITION ONLY.
TYP. WELDED GATE FRAME ASSEMBLY. GRIND SMOOTH ALL WELDS PRIOR TO GALV.
48"
KNUCKLED SELVAGE TOP AND BOTTOM AT GATES AND FENCE, TYP.
WATER TIGHT POST CAP, TYP. END POST/GATE POST.
4" POST EACH SIDE OF GATE, TYP.
PROVIDE TOP, BOTTOM, AND INTERMEDIATE RAILS AT 6'-0" AND HIGHER FENCES.
6'-0"
GATE HINGE AT TOP AND BOTTOM, TYP.
2" MIN. 3" MAX.
ASPHALT OR CONC. PAVING.
CONC. FOOTING, SEE TYP. CHAIN LINK FENCE FOOTING DETAIL.

16 CHAIN LINK SINGLE GATE

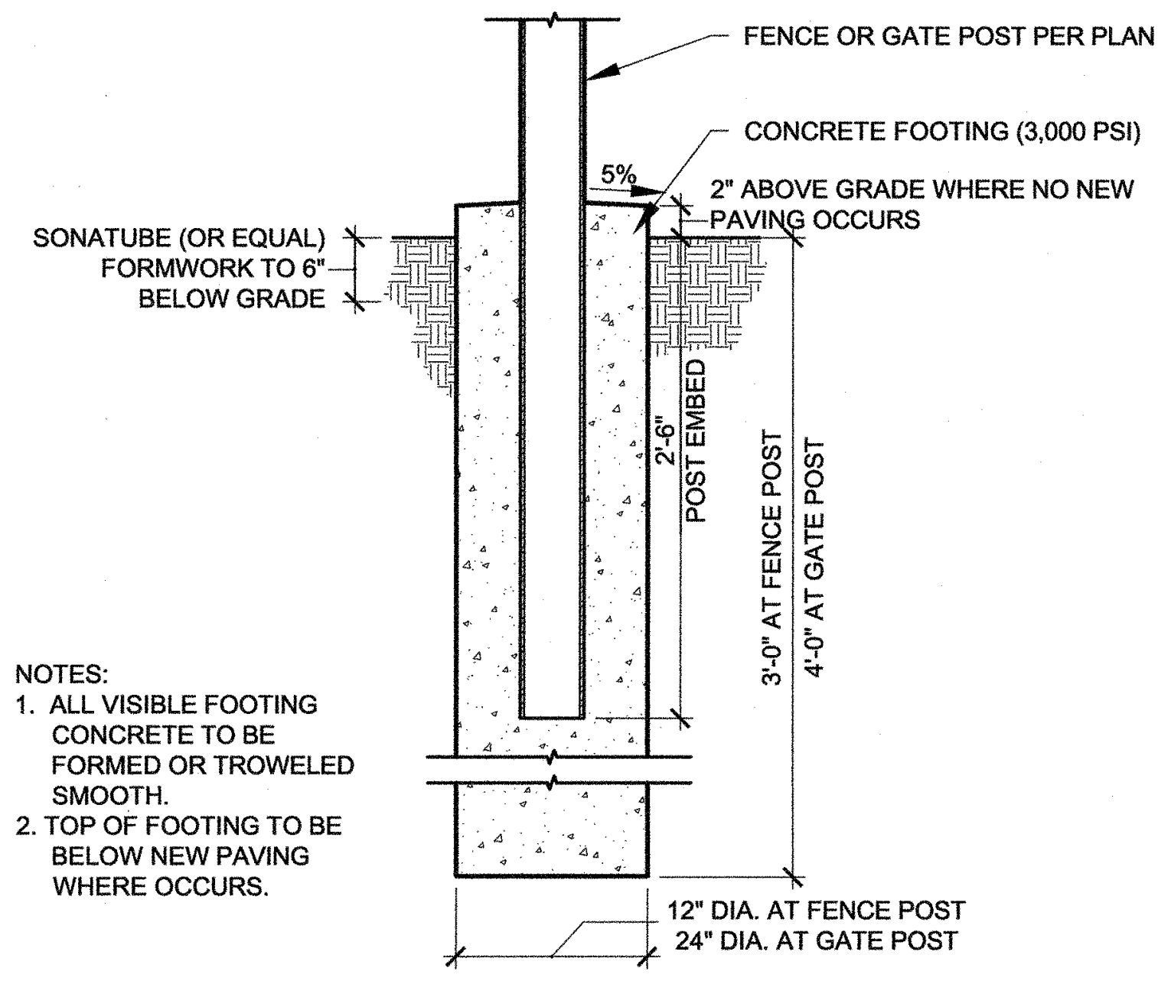
1/2"=1'-0"



3/4"=1'-0"

12 (N) ASPHALT PAVING

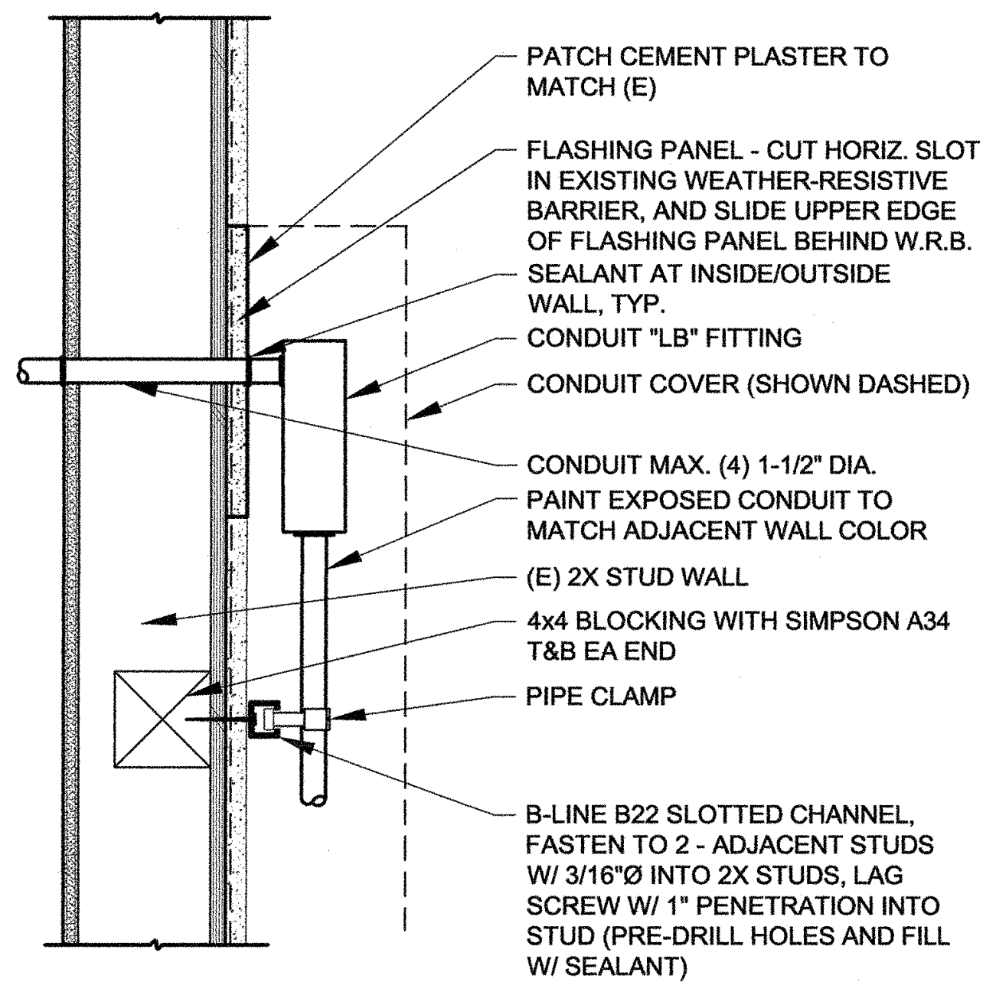
1-1/2"=1'-0"


FENCE OR GATE POST PER PLAN
CONCRETE FOOTING (3,000 PSI)
5%
2" ABOVE GRADE WHERE NO NEW PAVING OCCURS
SONATUBE (OR EQUAL) FORMWORK TO 6" BELOW GRADE
2'-6" POST EMBED
3'-0" AT FENCE POST
4'-0" AT GATE POST
12" DIA. AT FENCE POST
24" DIA. AT GATE POST

NOTES:
1. ALL VISIBLE FOOTING CONCRETE TO BE FORMED OR TROWELED SMOOTH.
2. TOP OF FOOTING TO BE BELOW NEW PAVING WHERE OCCURS.

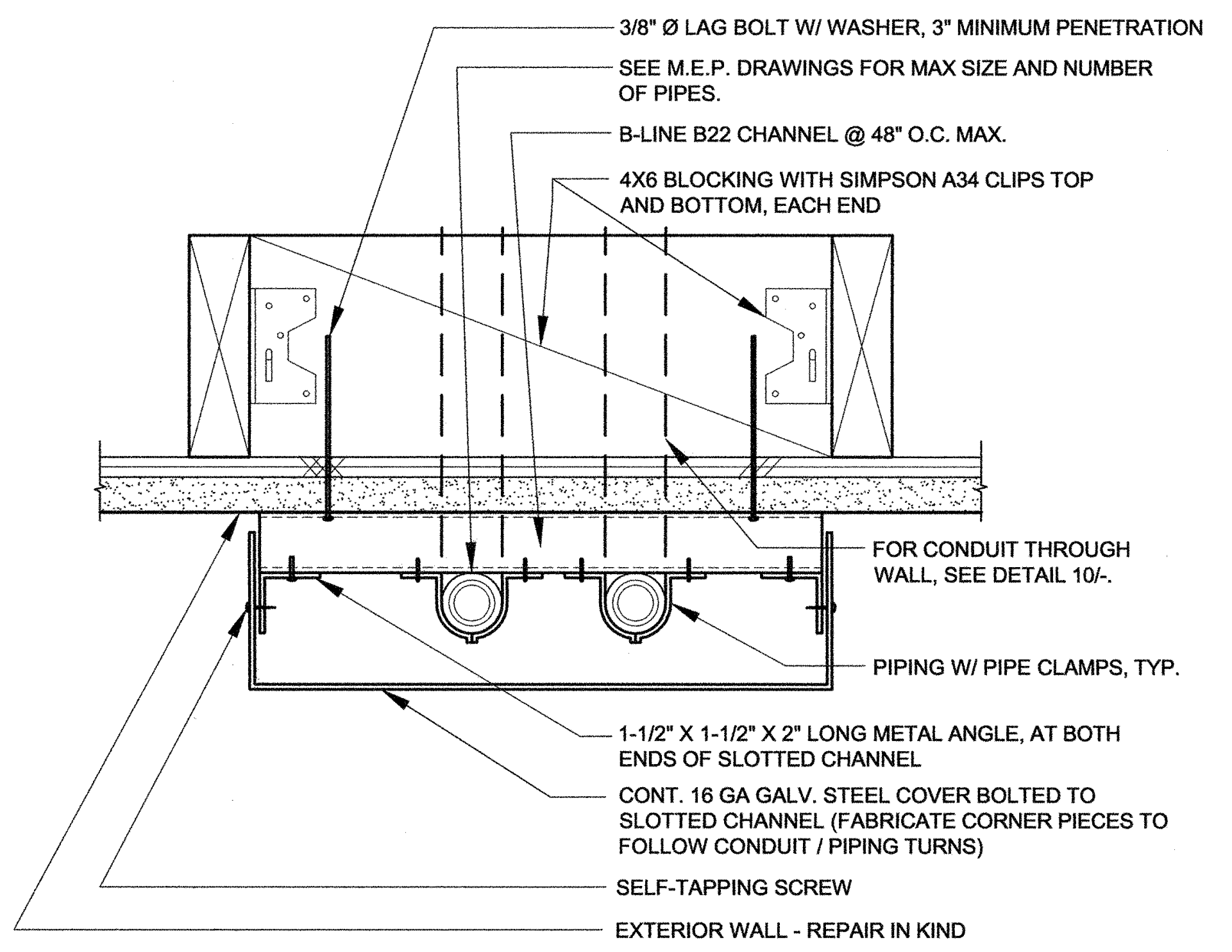
11 TYP. CHAIN LINK FENCE FOOTING

1"=1'-0"


PATCH CEMENT PLASTER TO MATCH (E)
FLASHING PANEL - CUT HORIZ. SLOT IN EXISTING WEATHER-RESISTIVE BARRIER, AND SLIDE UPPER EDGE OF FLASHING PANEL BEHIND W.R.B.
SEALANT AT INSIDE/OUTSIDE WALL, TYP.
CONDUIT "LB" FITTING
CONDUIT COVER (SHOWN DASHED)
CONDUIT MAX. (4) 1-1/2" DIA.
PAINT EXPOSED CONDUIT TO MATCH ADJACENT WALL COLOR
(E) 2X STUD WALL
4x4 BLOCKING WITH SIMPSON A34 T&B EA END
PIPE CLAMP
B-LINE B22 SLOTTED CHANNEL, FASTEN TO 2 - ADJACENT STUDS W/ 3/16"Ø INTO 2X STUDS, LAG SCREW W/ 1" PENETRATION INTO STUD (PRE-DRILL HOLES AND FILL W/ SEALANT)

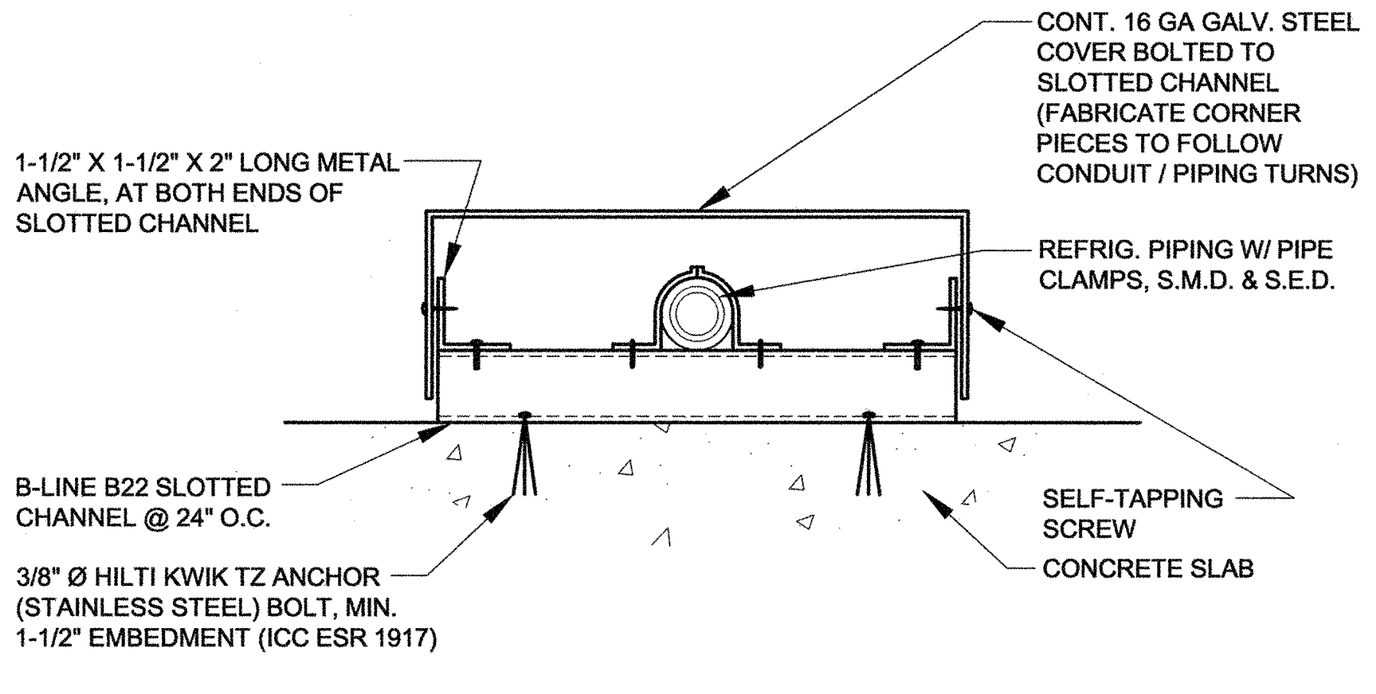
10 CONDUIT THRU WALL

1 1/2"=1'-0"


3/8" Ø LAG BOLT W/ WASHER, 3" MINIMUM PENETRATION
SEE M.E.P. DRAWINGS FOR MAX SIZE AND NUMBER OF PIPES.
B-LINE B22 CHANNEL @ 48" O.C. MAX.
4X6 BLOCKING WITH SIMPSON A34 CLIPS TOP AND BOTTOM, EACH END
FOR CONDUIT THROUGH WALL, SEE DETAIL 10/-.
PIPING W/ PIPE CLAMPS, TYP.
1-1/2" X 1-1/2" X 2" LONG METAL ANGLE, AT BOTH ENDS OF SLOTTED CHANNEL
CONT. 16 GA GALV. STEEL COVER BOLTED TO SLOTTED CHANNEL (FABRICATE CORNER PIECES TO FOLLOW CONDUIT / PIPING TURNS)
SELF-TAPPING SCREW
EXTERIOR WALL - REPAIR IN KIND

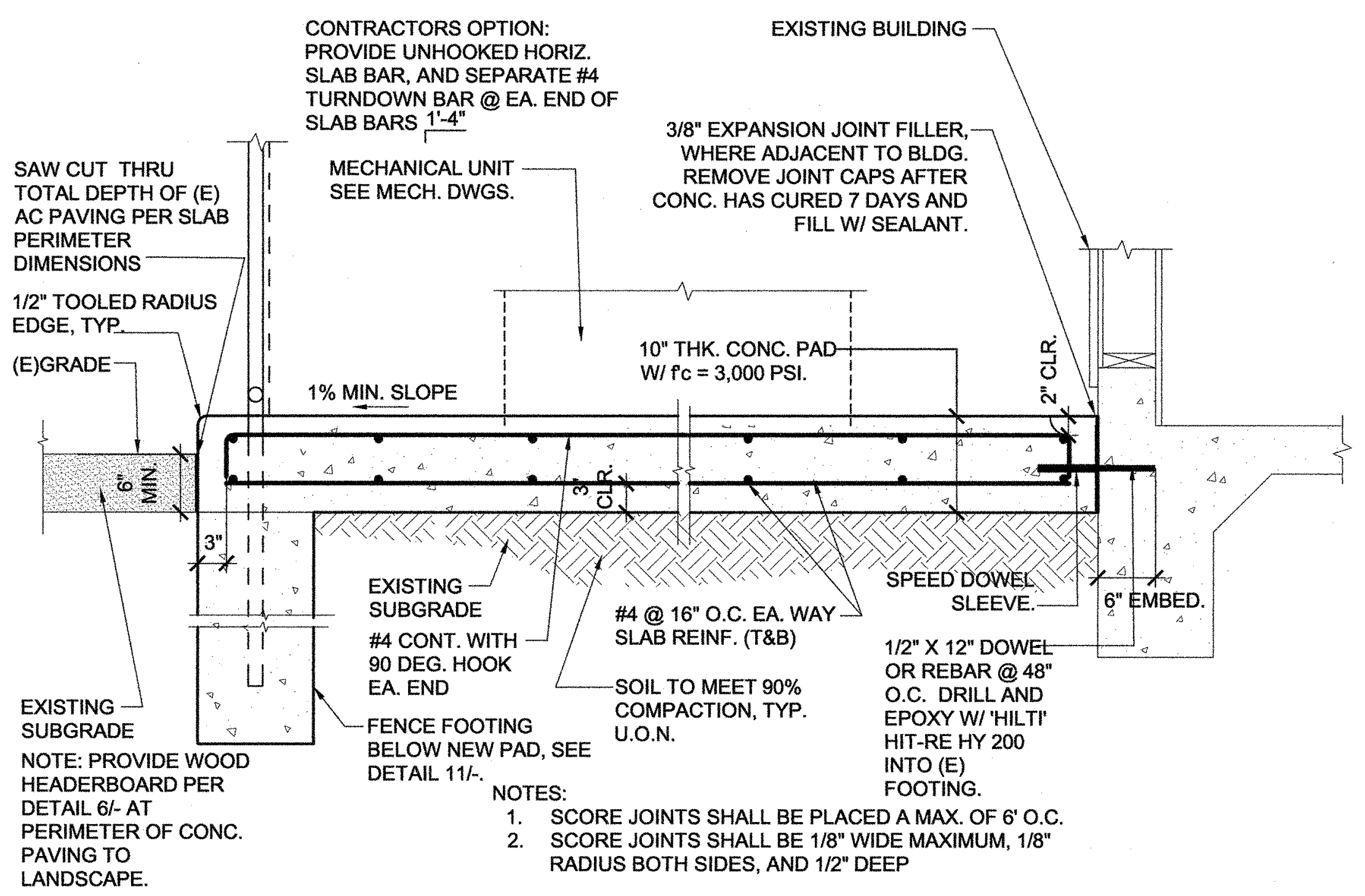
9 CONDUIT COVER @ EXT. WALL

PLAN VIEW 3"=1'-0"


CONT. 16 GA GALV. STEEL COVER BOLTED TO SLOTTED CHANNEL (FABRICATE CORNER PIECES TO FOLLOW CONDUIT / PIPING TURNS)
1-1/2" X 1-1/2" X 2" LONG METAL ANGLE, AT BOTH ENDS OF SLOTTED CHANNEL
REFRIG. PIPING W/ PIPE CLAMPS, S.M.D. & S.E.D.
B-LINE B22 SLOTTED CHANNEL @ 24" O.C.
SELF-TAPPING SCREW
3/8" Ø HILTI KWIK TZ ANCHOR (STAINLESS STEEL) BOLT, MIN. 1-1/2" EMBEDMENT (ICC ESR 1917)
CONCRETE SLAB

8 CONDUIT COVER

3"=1'-0"

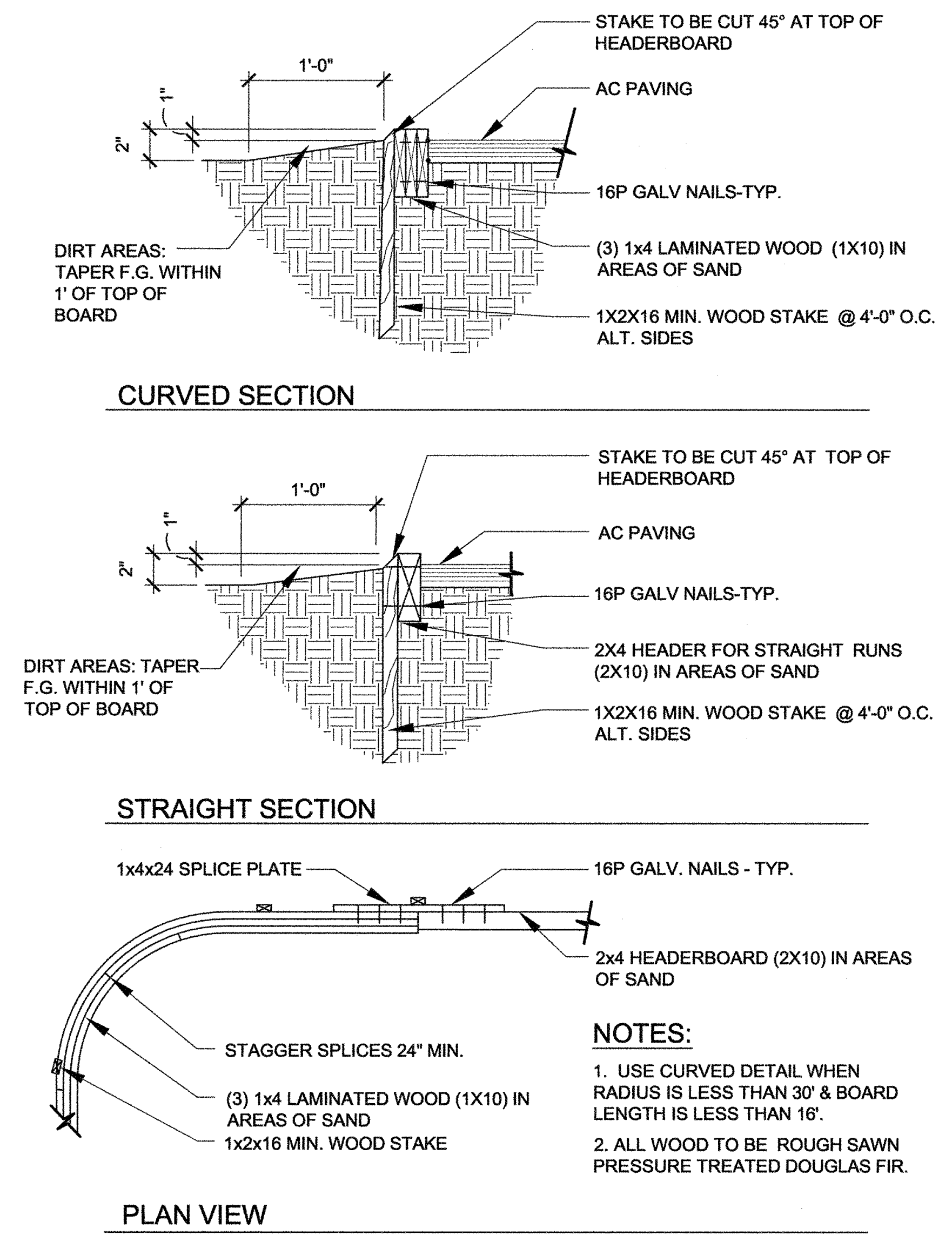

CONTRACTORS OPTION: PROVIDE UNHOOKED HORIZ. SLAB BAR, AND SEPARATE #4 TURNDOWN BAR @ EA. END OF SLAB BARS 1'-4"
EXISTING BUILDING
SAW CUT THRU TOTAL DEPTH OF (E) AC PAVING PER SLAB PERIMETER DIMENSIONS
MECHANICAL UNIT SEE MECH. DWGS.
3/8" EXPANSION JOINT FILLER, WHERE ADJACENT TO BLDG. REMOVE JOINT CAPS AFTER CONC. HAS CURED 7 DAYS AND FILL W/ SEALANT.
1/2" TOOLED RADIUS EDGE, TYP.
(E)GRADE
1% MIN. SLOPE
10" THK. CONC. PAD W/ f'c = 3,000 PSI.
2" CLR.
6" MIN.
3" CLR.
3"
EXISTING SUBGRADE
#4 CONT. WITH 90 DEG. HOOK EA. END
#4 @ 16" O.C. EA. WAY SLAB REINF. (T&B)
SOIL TO MEET 90% COMPACTION, TYP. U.O.N.
SPEED DOWEL SLEEVE.
6" EMBED.
1/2" X 12" DOWEL OR REBAR @ 48" O.C. DRILL AND EPOXY W/ 'HILTI' HIT-RE HY 200 INTO (E) FOOTING.
EXISTING SUBGRADE
FENCE FOOTING BELOW NEW PAD, SEE DETAIL 11/-.

NOTE: PROVIDE WOOD HEADERBOARD PER DETAIL 6/- AT PERIMETER OF CONC. PAVING TO LANDSCAPE.

NOTES:
1. SCORE JOINTS SHALL BE PLACED A MAX. OF 6' O.C.
2. SCORE JOINTS SHALL BE 1/8" WIDE MAXIMUM, 1/8" RADIUS BOTH SIDES, AND 1/2" DEEP

7 HOUSE KEEPING PAD

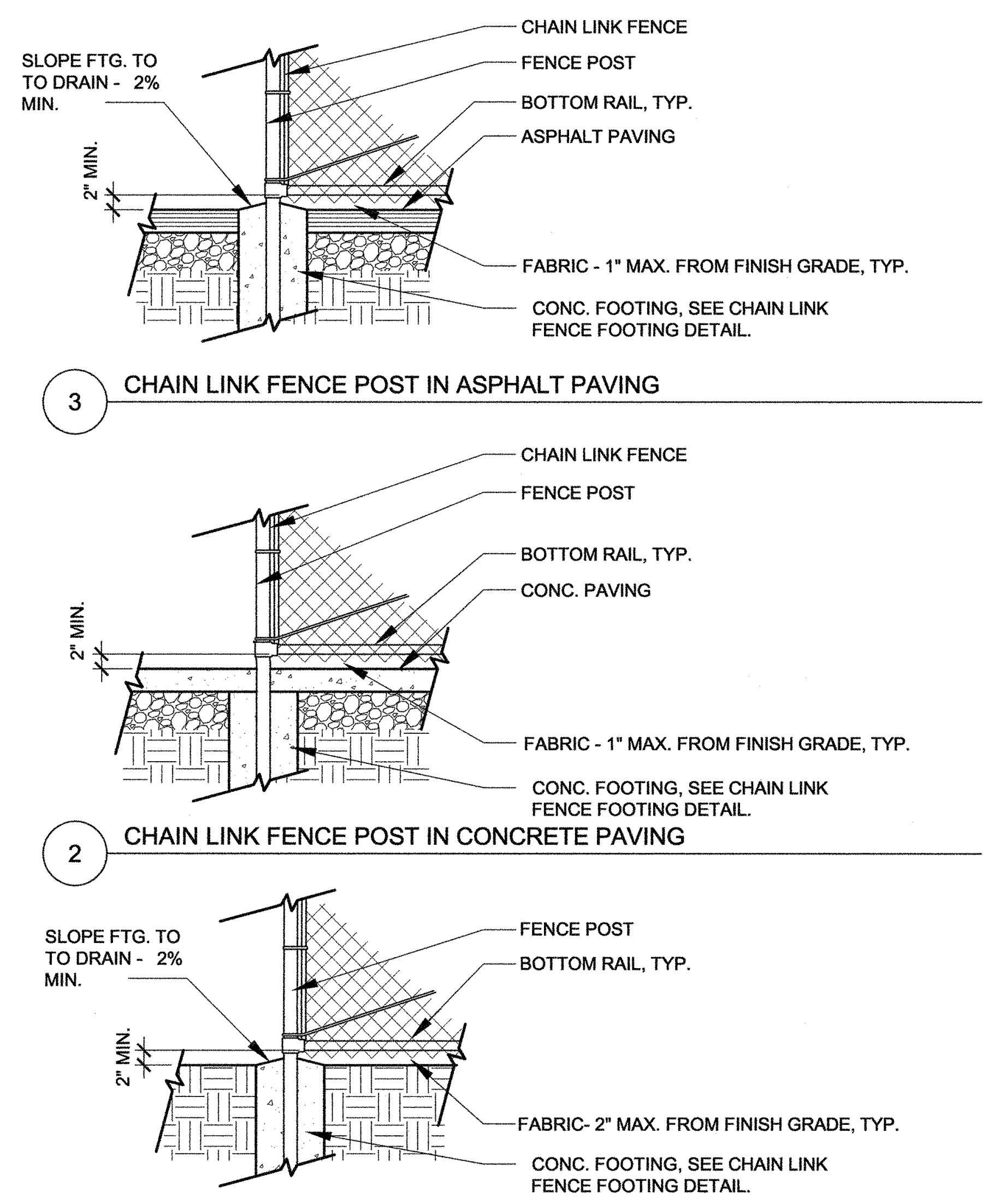
@ EXISTING PAVING/LANDSCAPE 3/4"=1'-0"


STAKE TO BE CUT 45° AT TOP OF HEADERBOARD
AC PAVING
1'-0"
1"
2"
16P GALV NAILS-TYP.
DIRT AREAS: TAPER F.G. WITHIN 1' OF TOP OF BOARD
(3) 1x4 LAMINATED WOOD (1X10) IN AREAS OF SAND
1X2X16 MIN. WOOD STAKE @ 4'-0" O.C. ALT. SIDES
CURVED SECTION
STAKE TO BE CUT 45° AT TOP OF HEADERBOARD
AC PAVING
16P GALV NAILS-TYP.
DIRT AREAS: TAPER F.G. WITHIN 1' OF TOP OF BOARD
2X4 HEADER FOR STRAIGHT RUNS (2X10) IN AREAS OF SAND
1X2X16 MIN. WOOD STAKE @ 4'-0" O.C. ALT. SIDES
STRAIGHT SECTION
1x4x24 SPLICE PLATE
16P GALV. NAILS - TYP.
2x4 HEADERBOARD (2X10) IN AREAS OF SAND
STAGGER SPLICES 24" MIN.
(3) 1x4 LAMINATED WOOD (1X10) IN AREAS OF SAND
1x2x16 MIN. WOOD STAKE
PLAN VIEW

NOTES:
1. USE CURVED DETAIL WHEN RADIUS IS LESS THAN 30' & BOARD LENGTH IS LESS THAN 16'.
2. ALL WOOD TO BE ROUGH SAWN PRESSURE TREATED DOUGLAS FIR.

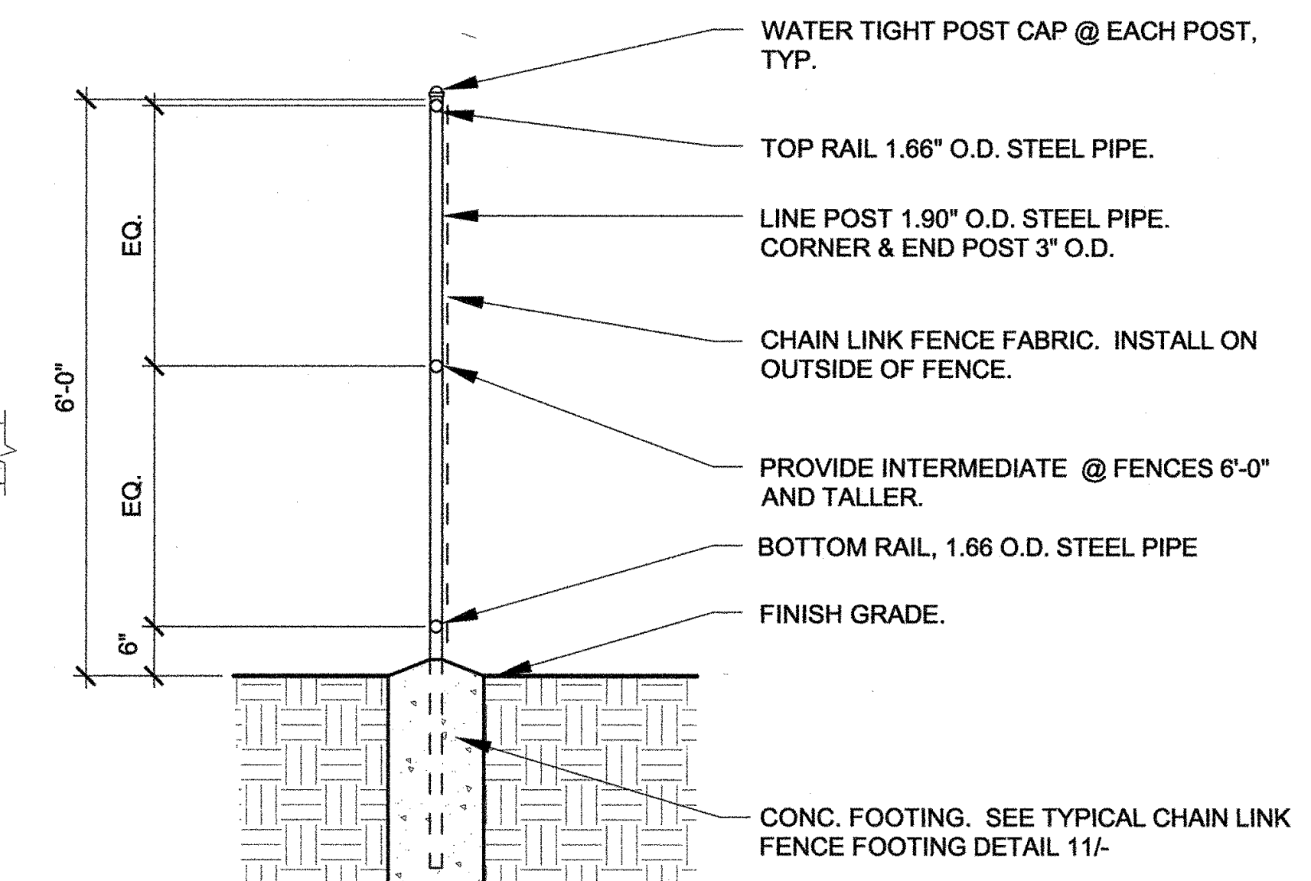
6 WOOD HEADERBOARD

N.T.S


CHAIN LINK FENCE
FENCE POST
SLOPE FTG. TO TO DRAIN - 2% MIN.
BOTTOM RAIL, TYP.
ASPHALT PAVING
2" MIN.
FABRIC - 1" MAX. FROM FINISH GRADE, TYP.
CONC. FOOTING, SEE CHAIN LINK FENCE FOOTING DETAIL.
3 CHAIN LINK FENCE POST IN ASPHALT PAVING
CHAIN LINK FENCE
FENCE POST
BOTTOM RAIL, TYP.
CONC. PAVING
2" MIN.
FABRIC - 1" MAX. FROM FINISH GRADE, TYP.
CONC. FOOTING, SEE CHAIN LINK FENCE FOOTING DETAIL.
2 CHAIN LINK FENCE POST IN CONCRETE PAVING
FENCE POST
SLOPE FTG. TO TO DRAIN - 2% MIN.
BOTTOM RAIL, TYP.
2" MIN.
FABRIC- 2" MAX. FROM FINISH GRADE, TYP.
CONC. FOOTING, SEE CHAIN LINK FENCE FOOTING DETAIL.
1 CHAIN LINK FENCE POST IN PLANTING AREA

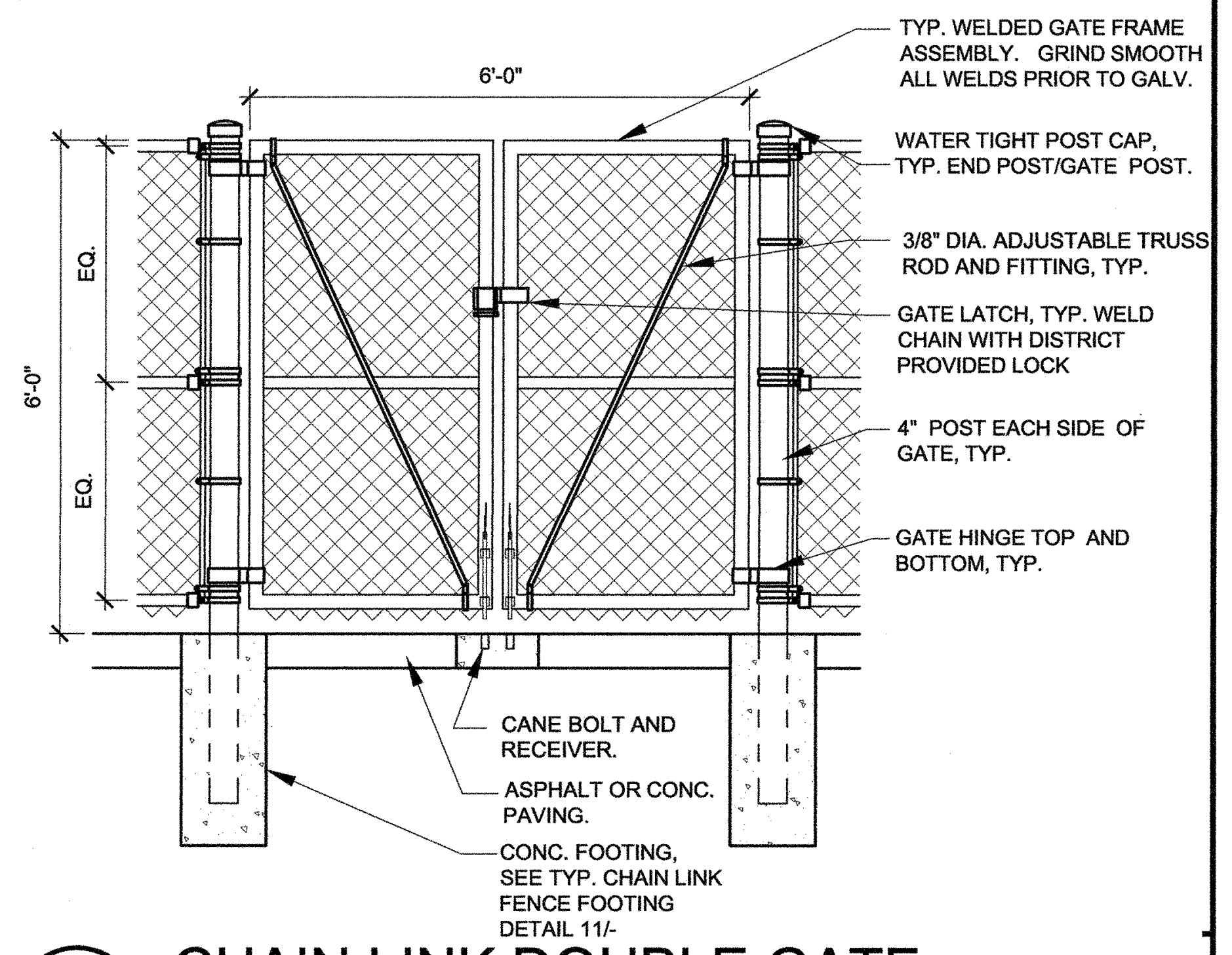
5 CHAIN LINK FENCE CONNECTIONS

1/2"=1'-0"


WATER TIGHT POST CAP @ EACH POST, TYP.
TOP RAIL 1.66" O.D. STEEL PIPE.
LINE POST 1.90" O.D. STEEL PIPE. CORNER & END POST 3" O.D.
CHAIN LINK FENCE FABRIC. INSTALL ON OUTSIDE OF FENCE.
PROVIDE INTERMEDIATE @ FENCES 6'-0" AND TALLER.
BOTTOM RAIL, 1.66 O.D. STEEL PIPE
FINISH GRADE.
CONC. FOOTING. SEE TYPICAL CHAIN LINK FENCE FOOTING DETAIL 11/-
6'-0"
EQ.
EQ.
6"

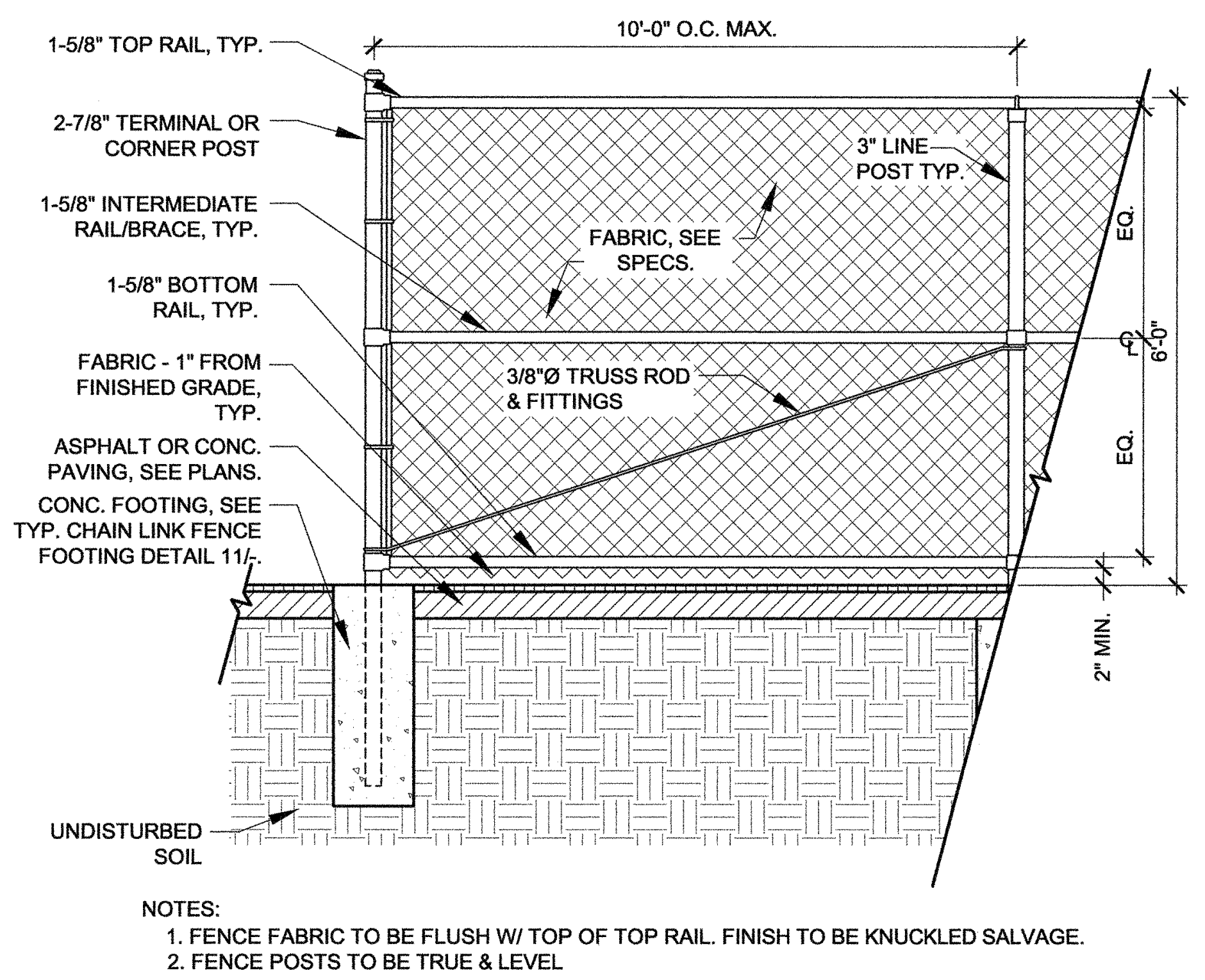
4 TYPICAL CHAIN LINK FENCE

SECTION 1/2"=1'-0"


6'-0"
TYP. WELDED GATE FRAME ASSEMBLY. GRIND SMOOTH ALL WELDS PRIOR TO GALV.
WATER TIGHT POST CAP, TYP. END POST/GATE POST.
3/8" DIA. ADJUSTABLE TRUSS ROD AND FITTING, TYP.
GATE LATCH, TYP. WELD CHAIN WITH DISTRICT PROVIDED LOCK
4" POST EACH SIDE OF GATE, TYP.
GATE HINGE TOP AND BOTTOM, TYP.
6'-0"
EQ.
EQ.
CANE BOLT AND RECEIVER.
ASPHALT OR CONC. PAVING.
CONC. FOOTING, SEE TYP. CHAIN LINK FENCE FOOTING DETAIL 11/-

3 CHAIN LINK DOUBLE GATE

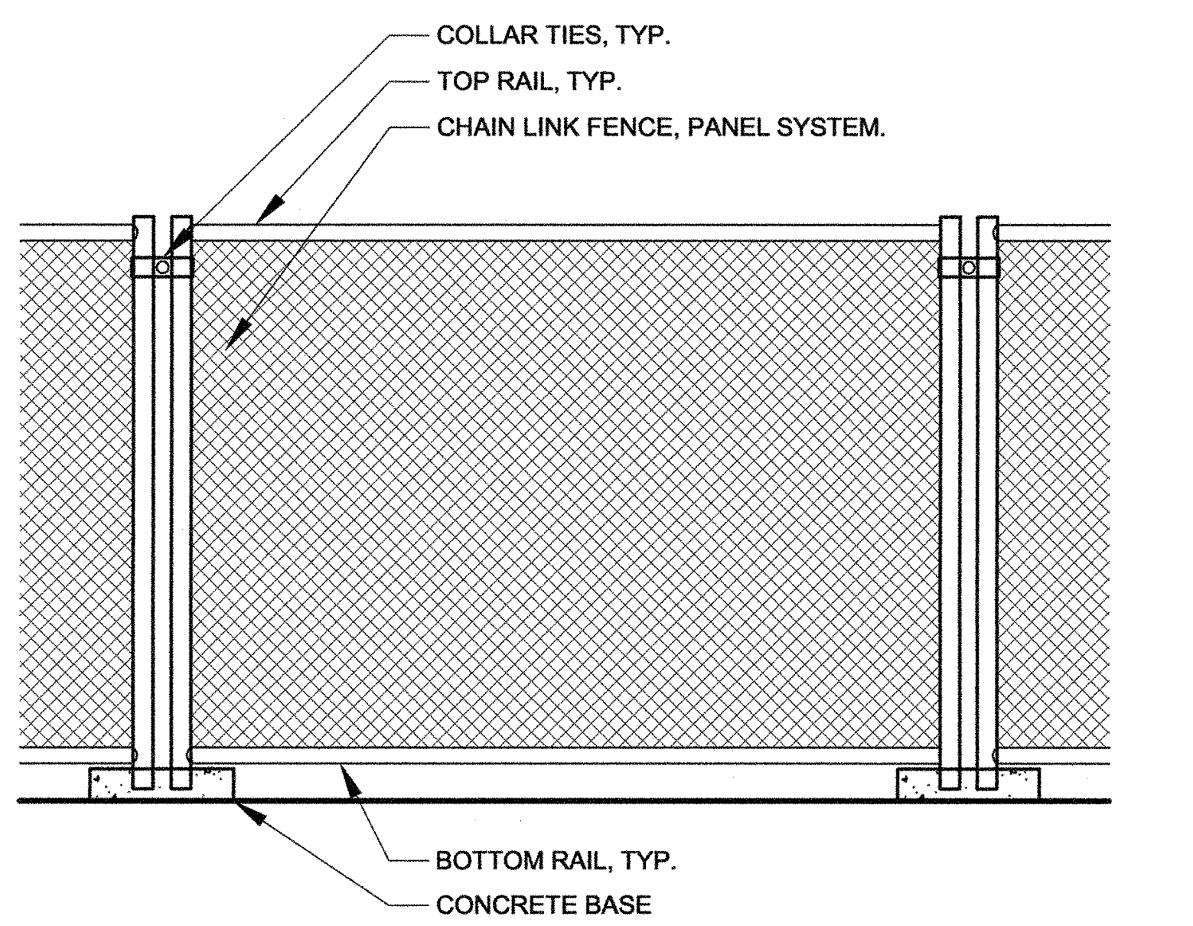
1/2"=1'-0"


10'-0" O.C. MAX.
1-5/8" TOP RAIL, TYP.
2-7/8" TERMINAL OR CORNER POST
3" LINE POST TYP.
1-5/8" INTERMEDIATE RAIL/BRACE, TYP.
FABRIC, SEE SPECS.
1-5/8" BOTTOM RAIL, TYP.
FABRIC - 1" FROM FINISHED GRADE, TYP.
3/8"Ø TRUSS ROD & FITTINGS
ASPHALT OR CONC. PAVING, SEE PLANS.
CONC. FOOTING, SEE TYP. CHAIN LINK FENCE FOOTING DETAIL 11/-.
EQ.
EQ.
6'-0"
2" MIN.
UNDISTURBED SOIL

NOTES:
1. FENCE FABRIC TO BE FLUSH W/ TOP OF TOP RAIL. FINISH TO BE KNUCKLED SALVAGE.
2. FENCE POSTS TO BE TRUE & LEVEL

2 TYPICAL CHAIN LINK FENCE

ELEVATION 1/2"=1'-0"



1 REQ'D TEMPORARY FENCING

CONSTRUCTION FENCING 1/2"=1'-0"

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MARK C. FINNEY
NO. C-24673
REN. 9-30-19

SITE DETAILS

CLYDE ARBUCKLE ELEMENTARY SCHOOL - HVAC UPGRADES
1970 CINDERELLA LN., SAN JOSE, CA 95116
ALUM ROCK UNION ELEMENTARY SCHOOL DISTRICT

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APPL 01-117268
AC ____ FLS ____ SS ____
DATE MAY 10 2018

DRAWN BY: NJ
CHECKED BY: -
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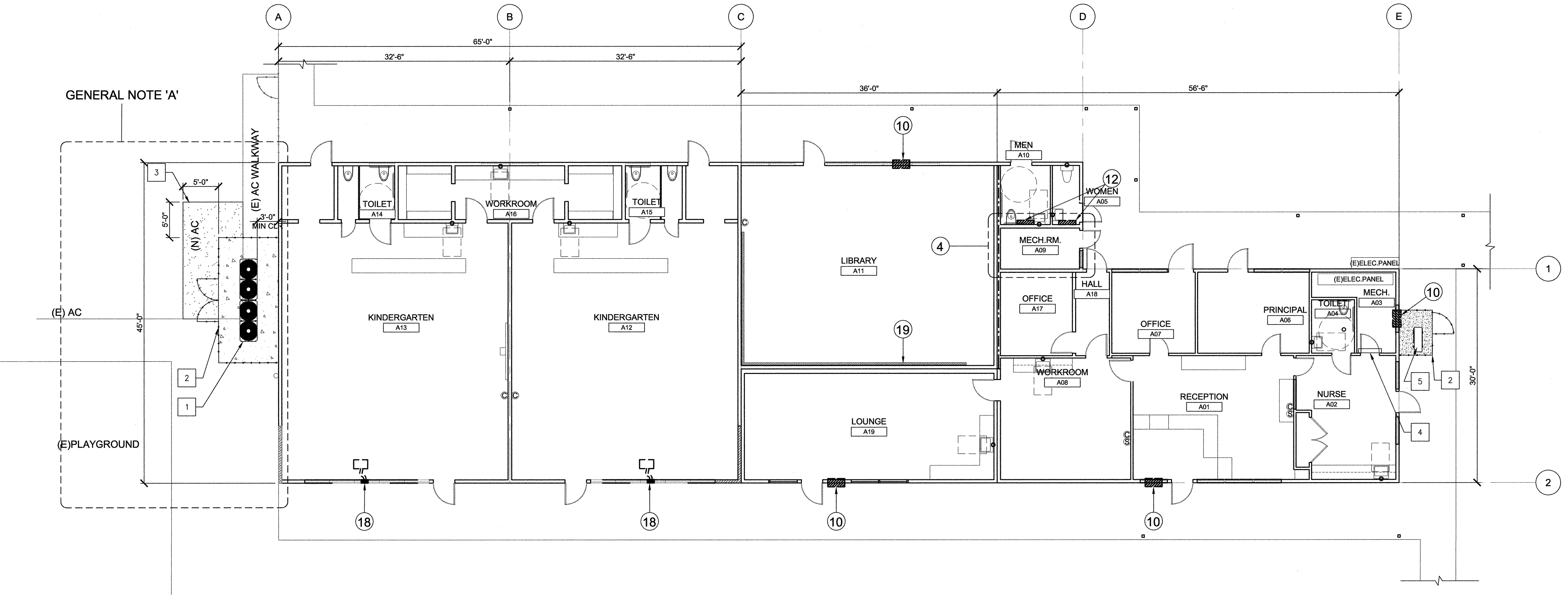
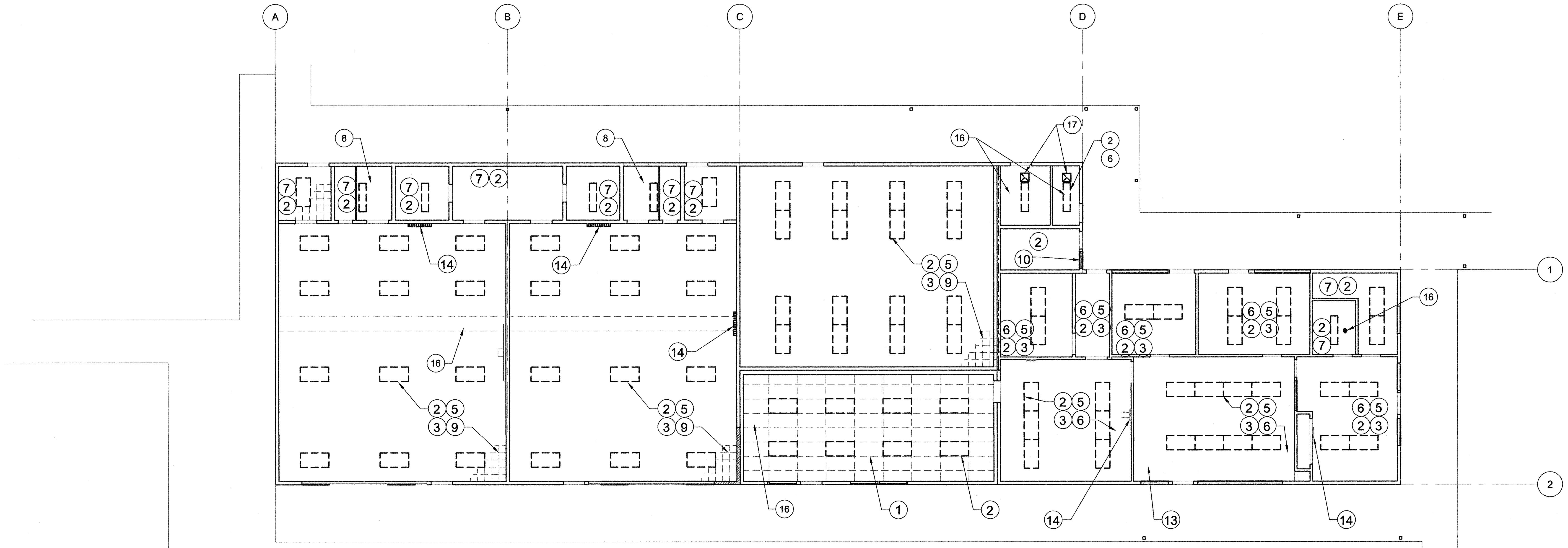
A0.2



1 DEMOLITION/NEW FLOOR PLAN- BUILDING A

1/8" = 1'-0"



2 CEILING DEMOLITION PLAN - BUILDING A

1/8" = 1'-0"

GENERAL NOTES

- A. GENERAL CONTRACTOR SHALL SURVEY AREA FOR UNDERGROUND UTILITY LOCATIONS PRIOR TO DEMOLITION AND NEW WORK ON SITE.
- B. ROOM NAMES AND NUMBERS MAY NOT BE CONSISTENT BETWEEN DEMOLITION FLOOR PLANS AND NEW FLOOR PLANS.
- C. REFER TO MECHANICAL/PLUMBING AND ELECTRICAL DRAWINGS FOR EXTENT OF MECHANICAL/PLUMBING AND ELECTRICAL DEMOLITION WORK AND NEW CONSTRUCTION.
- D. PAINT ALL EXPOSED CONDUITS, FITTINGS, AND CONDUIT COVERS ASSOCIATED WITH THE NEW WORK TO MATCH EXISTING ADJACENT SURFACE AT BOTH EXTERIOR AND INTERIOR LOCATIONS.
- E. REMOVE ALL EXISTING ITEMS TO ALLOW THE NEW WORK, INCLUDING BUT NOT LIMITED TO TREES, SHRUBS, ASPHALT PAVING, FENCING.
- F. COORDINATE EXACT LOCATION OF NEW HVAC UNITS IN FIELD WITH THE OWNER AND ARCHITECT PRIOR TO INSTALLATION. PATCH AND REPAIR ADJACENT FLOOR AND WALL SURFACE AREAS ASSOCIATED WITH THE INSTALLATION OF THESE UNITS .
- G. GENERAL CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL, STORAGE AND REINSTALLATION OF CEILING MOUNTED DEVICES INCLUDING BUT NOT LIMITED TO SPEAKERS, HVAC GRILLES, EXIT SIGNS, FIRE ALARM, CEILING MOUNTED PROJECTORS, U.O.N. VERIFY AND COORDINATE EXISTING CONDITIONS IN FIELD.
- H. FOR HVAC UNIT REFRIGERANT LINES THROUGH WALL, SEE MECHANICAL DRAWINGS AND DETAILS 1 & 7/A9.1. SPACE PENETRATIONS TO CLEAR STUDS. COORDINATE LAYOUT IN FIELD. PATCH, REPAIR, AND PAINT EXTERIOR WALL SOFFIT, AND INTERIOR CEILING AFTER INSTALLATION TO MATCH EXISTING ADJACENT FINISHES.
- I. REMOVE AND REINSTALL PROJECTORS PER DETAIL 16/A9.3.
- J. REFER TO SHEET A9.1 FOR TYPICAL FRAMING DETAILS.
- K. CONTRACTOR TO PATCH, REPAIR AND PAINT ALL DAMAGED SURFACES AND/OR SURFACES TO BE EXPOSED TO VIEW AS A RESULT OF DEMOLITION WORK. PROTECT FLOOR SURFACES DURING CONSTRUCTION, REPLACE IF DAMAGED AS RESULT OF DEMOLITION/NEW WORK.
- L. COORDINATE LOCATION OF NEW THERMOSTATS IN FIELD, AVOID SWING OF DOORS, CASEWORK, AND WALL MOUNTED EQUIPMENT. SEE MECH. DWGS.
- M. CONTRACTOR IS RESPONSIBLE FOR REMOVAL/DEMOLITION OF (E) CONCRETE PADS AFTER DEMOLITION OF MECHANICAL/PLUMBING EQUIPMENT AND TO REPAIR/PATCH & INFILL CONCRETE SLAB AS NEEDED.
- N. CONTRACTOR IS RESPONSIBLE FOR DEMOLITION OF PARTIAL ROOF FOR NEW MECHANICAL EQUIPMENT. COORDINATE WITH MECH. PLANS FOR LOCATIONS & WITH GARLAND ROOFING FOR PATCHING OF (E) ROOFING.
- O. GENERAL CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL, STORAGE AND RE-INSTALLATION OF ALL WINDOW SHADES AND TRACK SYSTEM, INCLUDING ADJUSTING/CUTTING OF SHADES TO FIT FOR RE-INSTALLAITON AND TO ALLOW THE INSTALLATION OF NEW CEILING SYSTEMS.

DEMOLITION PLAN NOTES

- (1.) REMOVE AND REPLACE EXISTING ACOUSTICAL LAY-IN T-BAR SUSPENDED CEILING SYSTEM.
- 2. REMOVE AND REPLACE ALL EXISTING LIGHT FIXTURES , REFER TO ELEC. DWGS. FOR EXTENT OF WORK. VERIFY QUANTITIES AND LAYOUT IN FIELD.
- 3. REMOVE AND REPLACE EXISTING HVAC DUCT, REFER TO MECHANICAL DWGS. FOR EXTENT OF WORK.
- 4. REMOVE AND REPLACE EXISTING MECHANICAL/PLUMBING SYSTEMS & PIPING, REFER TO MECHANICAL/PLUMBING DRAWINGS FOR EXTENT OF DEMOLITION AND NEW WORK IN THIS ROOM.
- 5. REMOVE AND REPLACE CEILING/ROOF INSULATION.
- 6. REMOVE EXISTING GYP. BOARD, FURRING, SUBSTRATE CEILING SYSTEM, TO BARE RAFTERS, PREPARE FOR NEW CEILING SYSTEM.
- 7. EXISTING CEILING TO REMAIN, PATCH AND REPAIR.
- 8. EXISTING EXHAUST FANS TO REMAIN.
- 9. REMOVE EXISTING GLUED-ON ACOUSTICAL TILE, FURRING, SUBSTRATE CEILING SYSTEM TO BARE RAFTERS, PREPARE FOR NEW CEILING SYSTEM.
- 10. REMOVE EXISTING WALL/WINDOW MOUNTED AC UNIT SYSTEM, PANEL AND SUPPORT BRACKETS, DISCONNECT/REMOVE ASSOCIATED PIPING AND ELECTRICAL. PROVIDE NEW WINDOW GLASS AND OR ALUMINUM PANEL TO MATCH ADJACENT.
- 11. REMOVE AND REPLACE EXISTING CHAIN LINK FENCE AND SINGLE GATE WITH DOUBLE GATES, TO ALLOW THE INSTALLATION OF NEW HVAC SYSTEMS. REMOVE AND CLEAR AREA OF TREES AND SHRUBS.
- 12. REMOVE EXISITNG WALL MOUNTED HEATER UNIT. PATCH AND REPAIR GYP. BOARD WHERE REQUIRED.
- 13. REMOVE EXISTING SOFFIT WHICH MAY INCLUDE GYP. BOARD, FRAMING & DUCT WORK WITHIN. PATCH AND REPAIR WALL/GYP. BOARD TO PREPARE FOR NEW CEILING. REFER TO MECHANICAL DWGS. FOR THE EXTENT OF DEMOLITION WORK FOR DUCTS AND REGISTERS REMOVAL.
- 14. REMOVE EXISTING GRILLS OR REGISTERS. PATCH AND REPAIR WALL/GYP. BOARD TO MATCH ADJACENT.
- 15. ~~EXISTING ACOUSTICAL LAY-IN T-BAR SUSPENDED GRID SYSTEM TO , REMAIN, REMOVE EXISTING ACOUSTICAL TILES TO ALLOW FOR NEW HVAC WORK, STORE CEILING TILES FOR REINSTALLATION, TYP.~~
- 16. CONTRACTOR TO DEMOLISH PARTIAL ROOF TO ALLOW FOR NEW HVAC EQUIPMENT PENETRATION, PATCH, REPAIR ROOF TO MATCH EXISTING AFTER INSTALLATION OF MECHANICAL EQUIPMENT. COORDINATE WITH MECHANICAL DRAWINGS FOR DEMOTION AND NEW EQUIPMENT LOCATIONS.
- 17. REMOVE (E) EXHAUST FANS AND ALL HVAC CONNECTIONS. REFER TO MECHANICAL DRAWINGS FOR LOCATIONS AND EXTENT OF WORK OF NEW EXHAUST FANS.
- 18. REMOVE EXISTING PORTABLE INDOOR AC UNIT SYSTEM, WINDOW MOUNTED EXHAUST VENT AND CONDENSATE DRAIN PIPE, RETURN UNIT TO THE DISTRICT AND INFILL WINDOW FRAME WITH SPANDREL ACOUSTICAL PANEL TO MATCH ADJACENT. TYPICAL AT ALL CLASSROOMS AND WHERE OCCURS, VERIFY QUANTITIES AND LOCATIONS IN FIELD
- 19. EXISTING WIREMOLD TO REMAIN, PLACE NEW CEILING ABOVE/BELOW VERIFIY IN FIELD WITH ARCHITECT.

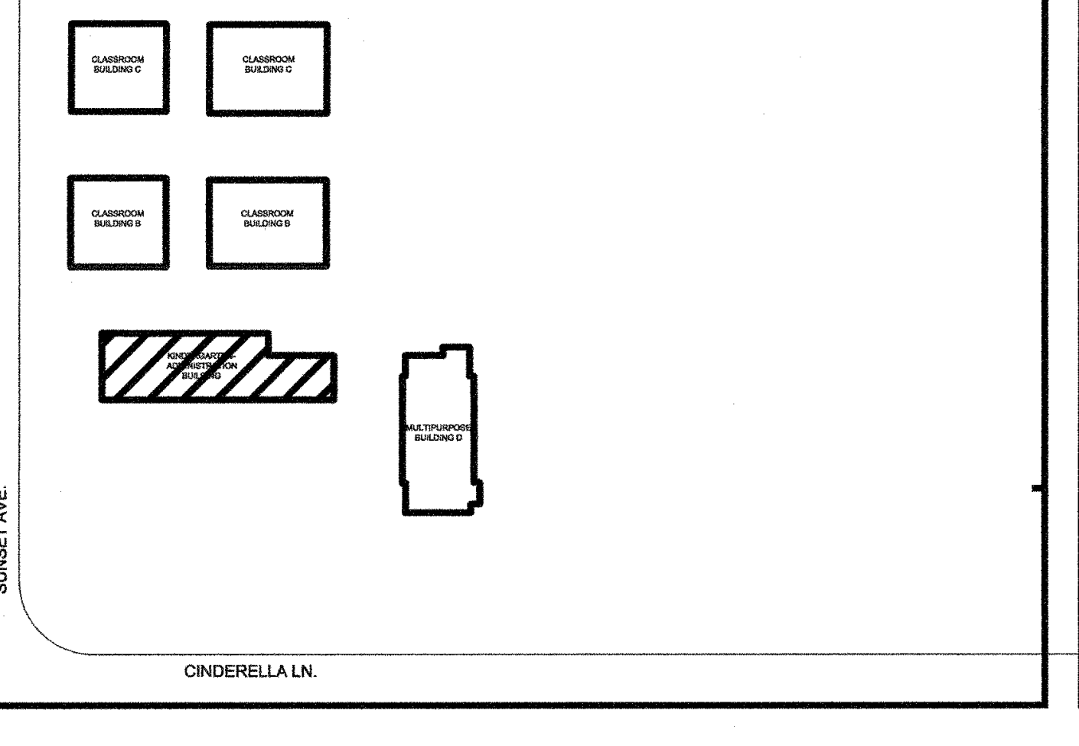
NEW FLOOR PLAN NOTES

- 1. NEW CONDENSING UNIT OVER NEW CONCRETE PAD, SEE DETAILS 7,13 /A0.2 AND MECHANICAL/PLUMB. AND ELEC. DRAWINGS FOR EXTENT OF WORK. .
- 2. NEW CHAIN LINK FENCE AND GATES, SEE SHEET A0.2 FOR DETAILS.
- 3. NEW AC PAVING TO CONNECT TO EXISTING SIDEWALK, AROUND NEW AC UNITS AND FENCING. REMOVE AND RE-ROUTE SPRINKLER HEADS AND IRRIGATION PLUMBING. SEE DETAIL 12/A0.2 FOR NEW AC PAVING.
- 4. NEW FAN COIL WALL MOUNTED ABOVE DOOR, PROVIDE BLOCKING, PATCH AND REPAIR STUD WALL. SEE MECH. DWGS.
- 5. NEW MECH. UNIT AND ENCLOSURE OVER NEW CONCRETE PAD, SEE DETAIL14, 7, 2-5/A0.2. PROVIDE SINGLE GATE PER DETAIL 16/A0.2.

GRAPHIC KEY

▭	(E) STUD WALL
▬	(E) I HR. F.R. STUD WALL
▨	(E) WIREMOLD BELOW CEILING

BUILDING KEY



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LICENSED ARCHITECT
MARK C. FINNEY
NO. C-24673
REN. 9-30-19
STATE OF CALIFORNIA

DEMOLITION- NEW FLOOR PLANS
ADMINISTRATION, KINDERGARTEN- BUILDING A

CLYDE ARBUCKLE ELEMENTARY SCHOOL - HVAC UPGRADES
1970 CINDERELLA LN., SAN JOSE, CA 95116
ALUM ROCK UNION ELEMENTARY SCHOOL DISTRICT

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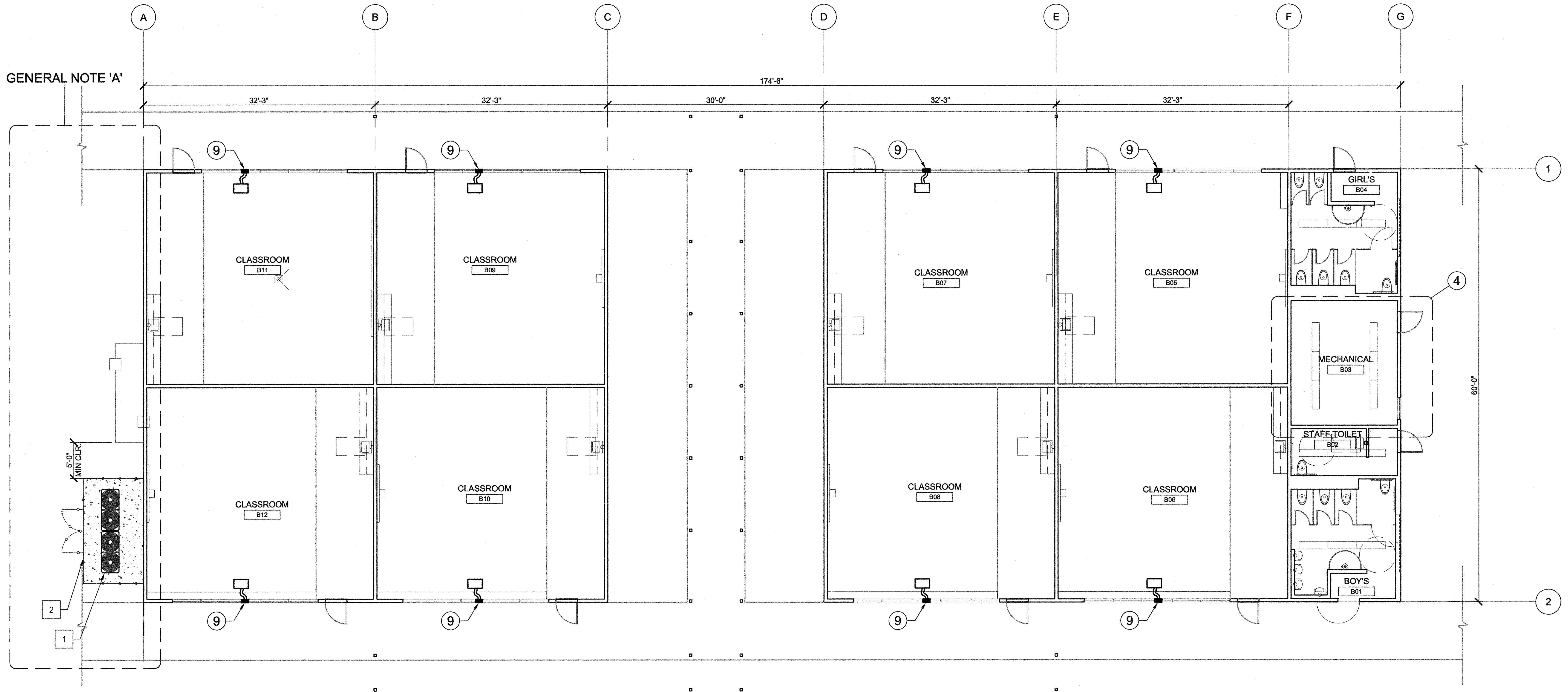
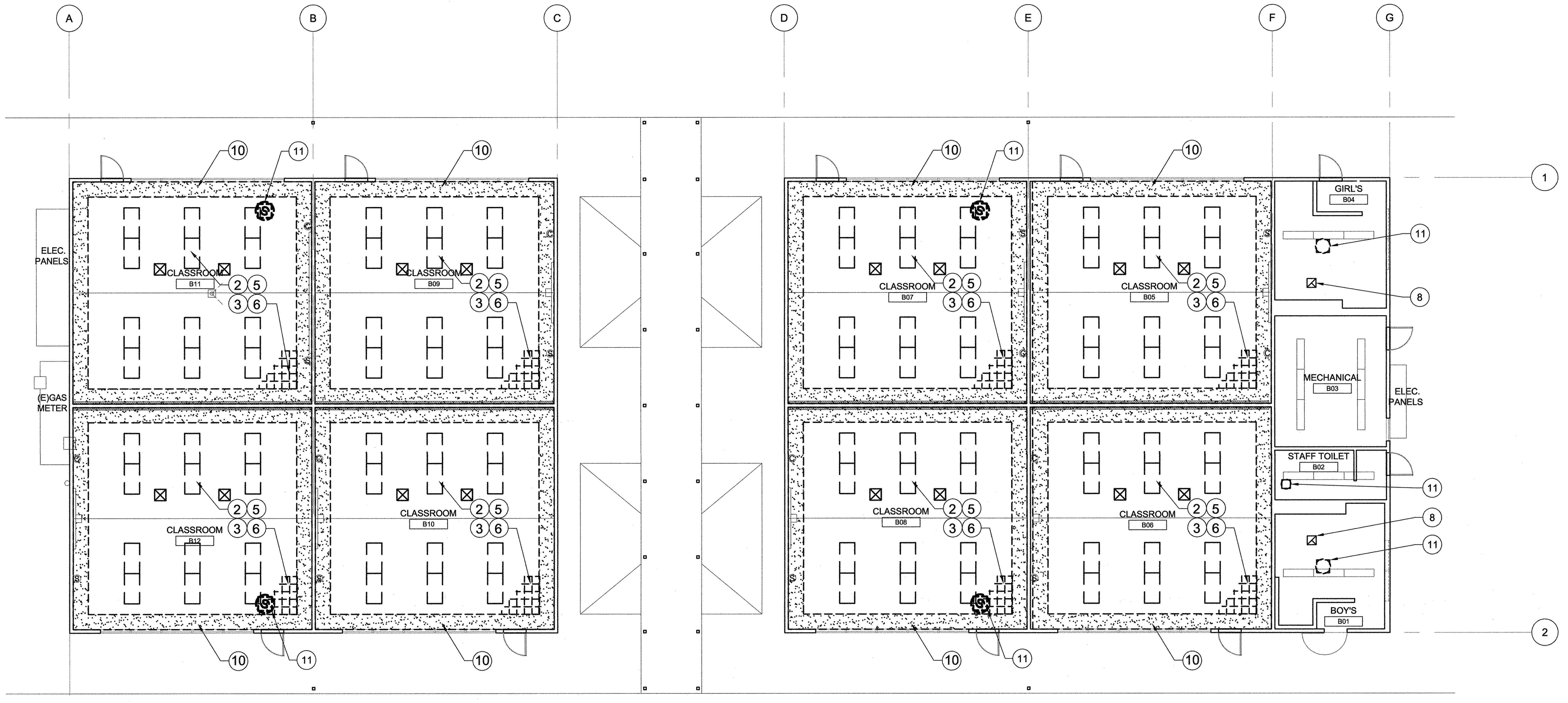


1 DEMOLITION/NEW PLAN- BUILDING B

1/8" = 1'-0"



2 CEILING DEMOLITION PLAN-BUILDING B

1/8" = 1'-0"

GENERAL NOTES

A. GENERAL CONTRACTOR SHALL SURVEY AREA FOR UNDERGROUND UTILITY LOCATIONS PRIOR TO DEMOLITION AND NEW WORK ON SITE.

B. ROOM NAMES AND NUMBERS MAY NOT BE CONSISTENT BETWEEN DEMOLITION FLOOR PLANS AND NEW FLOOR PLANS.

C. REFER TO MECHANICAL/PLUMBING, ELECTRICAL, DRAWINGS FOR EXTENT OF MECHANICAL/PLUMBING, AND ELECTRICAL WORK.

D. PAINT ALL EXPOSED CONDUITS, FITTINGS, AND CONDUIT COVERS ASSOCIATED WITH THE NEW WORK TO MATCH EXISTING ADJACENT SURFACE AT BOTH EXTERIOR AND INTERIOR LOCATIONS.

E. REMOVE ALL EXISTING ITEMS TO ALLOW THE NEW WORK, INCLUDING BUT NOT LIMITED TO TREES, SHRUBS, ASPHALT PAVING, FENCING.

F. COORDINATE EXACT LOCATION OF NEW HVAC UNITS IN FIELD WITH THE CONSTRUCTION MANAGER PRIOR TO INSTALLATION. PATCH AND REPAIR ADJACENT FLOOR AND WALL SURFACE AREAS ASSOCIATED WITH THE INSTALLATION OF THESE UNITS .

G. GENERAL CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL, STORAGE AND REINSTALLATION OF CEILING MOUNTED DEVICES INCLUDING BUT NOT LIMITED TO SPEAKERS, HVAC GRILLES, EXIT SIGNS, FIRE ALARM, CEILING MOUNTED PROJECTORS, U.O.N. VERIFY AND COORDINATE EXISTING CONDITIONS IN FIELD.

H. FOR HVAC UNIT REFRIGERANT LINES THROUGH WALL, SEE MECHANICAL DRAWINGS AND DETAILS 1 & 7/A9.1 FOR CONDUIT SPACING. SPACE PENETRATIONS TO CLEAR STUDS. COORDINATE LAYOUT IN FIELD. PATCH, REPAIR, AND PAINT EXTERIOR WALL SOFFIT, AND INTERIOR CEILING AFTER INSTALLATION TO MATCH EXISTING ADJACENT FINISHES.

I. REMOVE, STORE AND REINSTALL CEILING MOUNTED PROJECTORS PER DETAIL 16/A9.3.

J. REFER TO SHEET A9.1 FOR TYPICAL FRAMING DETAILS.

K. CONTRACTOR TO PATCH, REPAIR AND PAINT ALL DAMAGED SURFACES AND/OR SURFACES TO BE EXPOSED TO VIEW AS A RESULT OF DEMOLITION WORK. PROTECT FLOOR SURFACES DURING CONSTRUCTION, REPLACE IF DAMAGED AS RESULT OF DEMOLITION/NEW WORK.

L. COORDINATE LOCATION OF NEW THERMOSTATS IN FIELD, AVOID SWING OF DOORS, CASEWORK, AND WALL MOUNTED EQUIPMENT. SEE MECH. DWGS.

M. CONTRACTOR IS RESPONSIBLE FOR REMOVAL/DEMOLITION OF (E) CONCRETE PADS AFTER DEMOLITION OF MECHANICAL/PLUMBING EQUIPMENT AND TO REPAIR/PATCH & INFILL CONCRETE SLAB AS NEEDED.

N. CONTRACTOR IS RESPONSIBLE FOR DEMOLITION OF PARTIAL ROOF FOR NEW MECHANICAL EQUIPMENT. COORDINATE WITH MECH. PLANS FOR LOCATIONS & WITH GARLAND ROOFING FOR PATCHING OF (E) ROOFING.

O. GENERAL CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL, STORAGE AND RE-INSTALLATION OF ALL WINDOW SHADES AND TRACK SYSTEM, INCLUDING ADJUSTING/CUTTING OF SHADES TO FIT FOR RE-INSTALLAITON AND TO ALLOW THE INSTALLATION OF NEW CEILING SYSTEMS.

DEMOLITION PLAN NOTES

1. REMOVE AND REPLACE EXISTING ACOUSTICAL LAY-IN T-BAR SUSPENDED CEILING SYSTEM.
2. REMOVE AND REPLACE ALL EXISTING LIGHT FIXTURES , REFER TO ELEC. DWGS. FOR EXTENT OF WORK. VERIFY QUANTITIES AND LAYOUT IN FIELD.
3. REMOVE AND REPLACE EXISTING HVAC DUCT, REFER TO MECHANICAL DWGS. FOR EXTENT OF WORK.
4. REMOVE AND REPLACE EXISTING MECHANICAL/PLUMBING EQUIPMENT & PIPING, REFER TO MECHANICAL/PLUMBING DRAWINGS FOR EXTENT OF DEMOLITION AND NEW WORK IN THIS ROOM.
5. REMOVE AND REPLACE CEILING/ROOF INSULATION.
6. REMOVE EXISTING GLUE-ON ACOUSTICAL TILE CEILING SYSTEM, PREPARE FOR NEW CEILING SYSTEM.
7. EXISTING CEILING TO REMAIN, PATCH AND REPAIR.
8. REMOVE (E) EXHAUST FANS AND ALL HVAC CONNECTIONS. PATCH, REPAIR & INFILL AS NEEDED TO MATCH ADJACENT. REFER TO MECHANICAL DRAWINGS FOR LOCATIONS AND EXTENT OF WORK OF DEMOLITION & NEW EXHAUST FANS. PATCH, REPAIR & INFILL AS NEEDED TO MATCH ADJACENT.
9. REMOVE EXISTING PORTABLE INDOOR AC UNIT SYSTEM, WINDOW MOUNTED EXHAUST VENT AND CONDENSATE DRAIN PIPE, RETURN UNIT TO THE DISTRICT AND INFILL WINDOW FRAME WITH SPANDREL ACOUSTICAL PANEL TO MATCH ADJACENT. TYPICAL AT ALL CLASSROOMS AND WHERE OCCURS, VERIFY QUANTITIES AND LOCATIONS IN FIELD.
10. REMOVE EXISTING GYP. BOARD CEILING BORDER.
11. DEMOLISH PARTIAL CEILING/ROOF TO ALLOW FOR NEW HVAC EQUIPMENT PENETRATION. PATCH, REPAIR CEILING/ROOF TO MATCH EXISTING AFTER INSTALLATION OF MECHANICAL EQUIPMENT. COORDINATE WITH MECHANICAL DRAWINGS FOR NEW EQUIPMENT LOCATIONS. SEE DETAIL 2,4/A9.1.

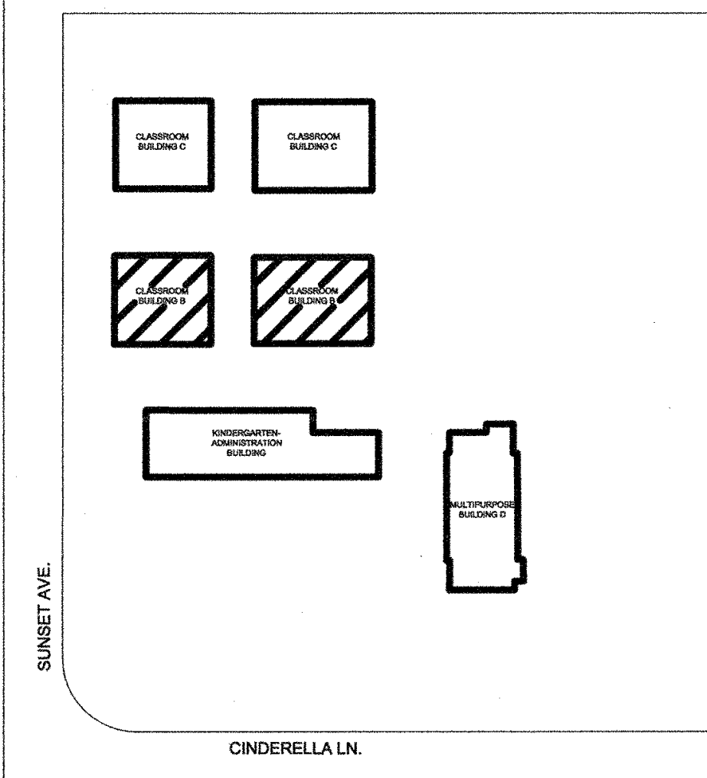
NEW FLOOR PLAN NOTES

1. NEW CONDENSING UNIT OVER NEW CONCRETE PAD, SEE DETAILS 7,13/A0.2, AND MECHANICAL/PLUMB. AND ELEC. DRAWINGS FOR EXTENT OF WORK.
2. NEW CHAIN LINK FENCE AND GATES, SEE SHEET A0.2 FOR DETAILS.

GRAPHIC KEY

▭	(E) STUD WALL
▭	(E) WIREMOLD ADJACENT TO CEILING TO REMAIN, INSTALL NEW CEILING ABOVE OR BELOW V.I.F. WITH ARCHITECT.

BUILDING KEY



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LICENSED ARCHITECT
MARK C. FINNEY
NO. C-24673
REN 9-30-19
STATE OF CALIFORNIA

DEMOLITION/NEW FLOOR PLANS
BUILDING B- CLASSROOMS

CLYDE ARBUCKLE ELEMENTARY SCHOOL - HVAC UPGRADES
1970 CINDERELLA LN., SAN JOSE, CA 95116
ALUM ROCK UNION ELEMENTARY SCHOOL DISTRICT

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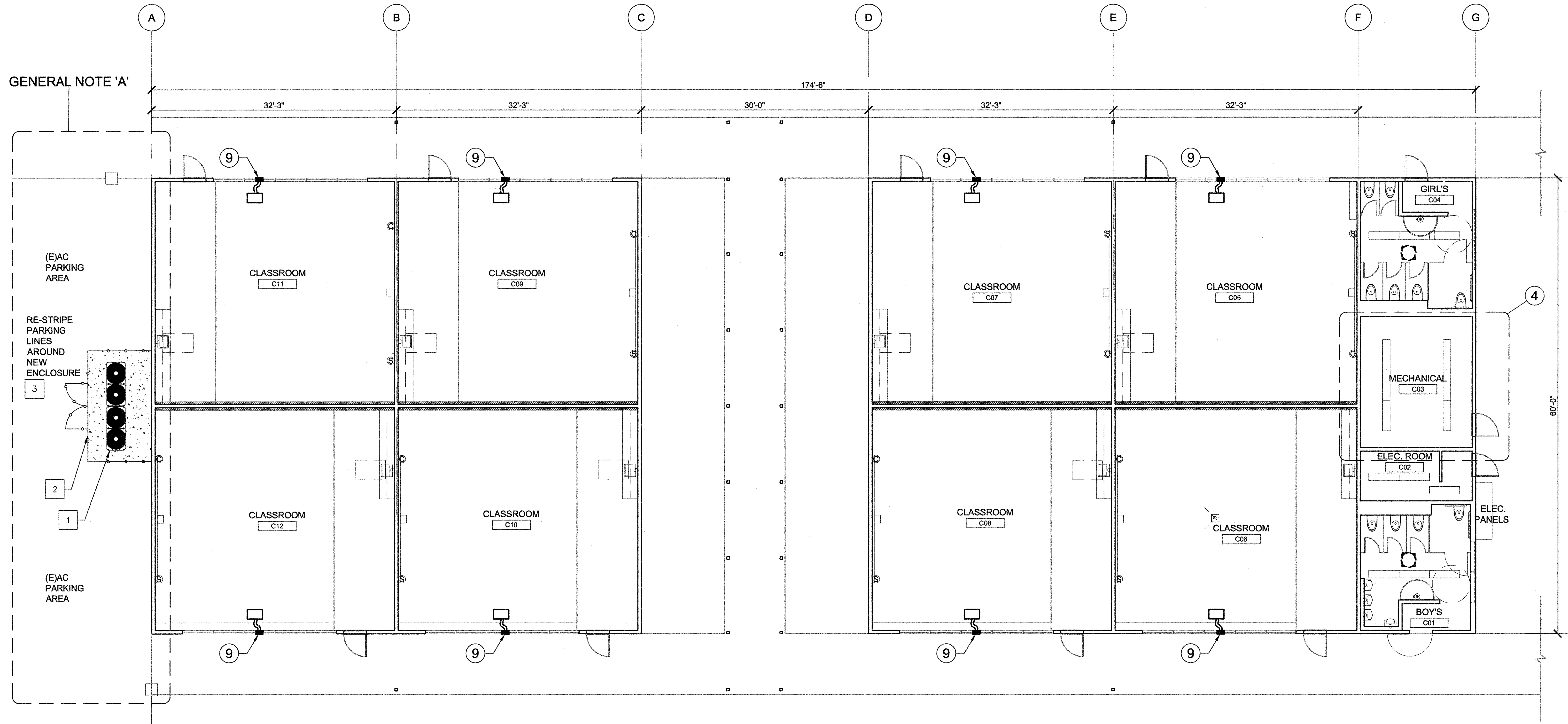
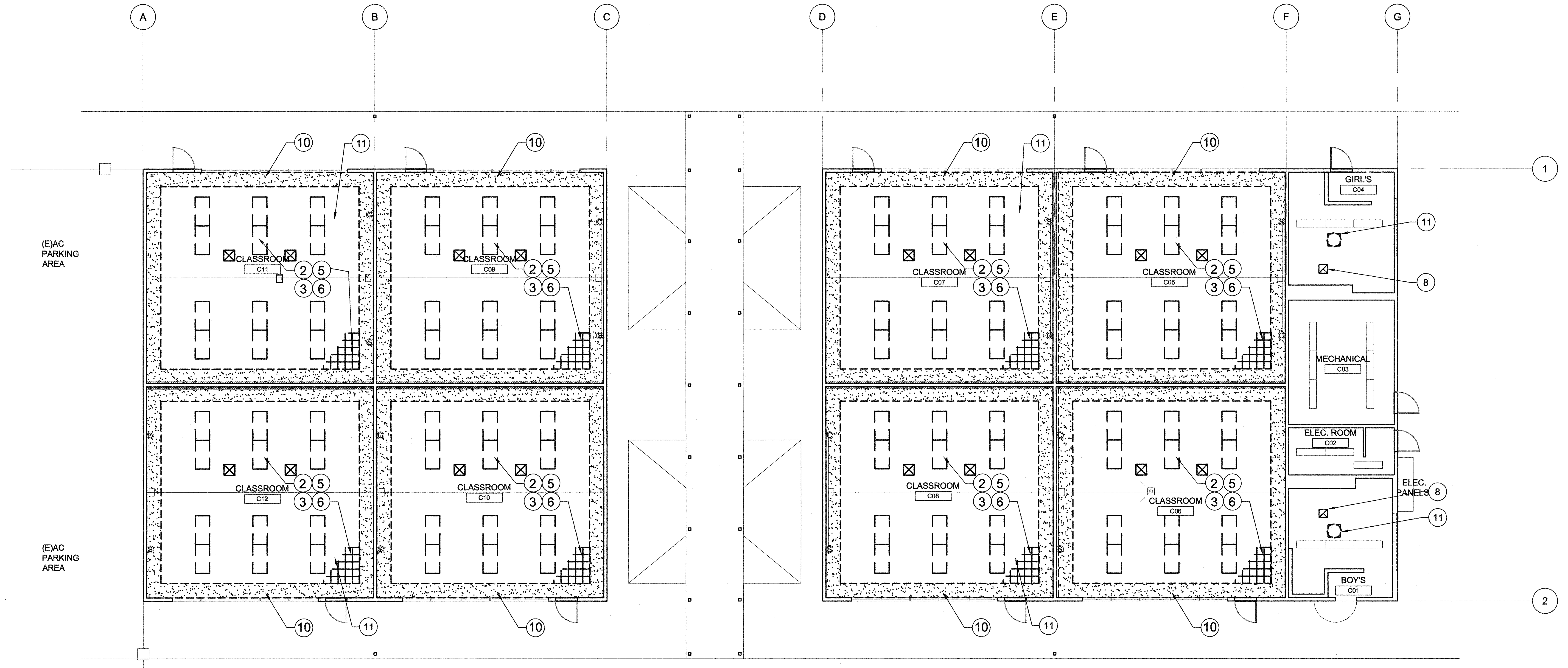


1 DEMOLITION/NEW PLAN- BUILDING C

1/8" = 1'-0"



2 CEILING DEMOLITION PLAN-BUILDING C

1/8" = 1'-0"

GENERAL NOTES

A. GENERAL CONTRACTOR SHALL SURVEY AREA FOR UNDERGROUND UTILITY LOCATIONS PRIOR TO DEMOLITION AND NEW WORK ON SITE.
B. ROOM NAMES AND NUMBERS MAY NOT BE CONSISTENT BETWEEN DEMOLITION FLOOR PLANS AND NEW FLOOR PLANS.
C. REFER TO MECHANICAL/PLUMBING, ELECTRICAL, DRAWINGS FOR EXTENT OF MECHANICAL/PLUMBING, AND ELECTRICAL WORK.
D. PAINT ALL EXPOSED CONDUITS, FITTINGS, AND CONDUIT COVERS ASSOCIATED WITH THE NEW WORK TO MATCH EXISTING ADJACENT SURFACE AT BOTH EXTERIOR AND INTERIOR LOCATIONS.
E. REMOVE ALL EXISTING ITEMS TO ALLOW THE NEW WORK, INCLUDING BUT NOT LIMITED TO TREES, SHRUBS, ASPHALT PAVING, FENCING.
F. COORDINATE EXACT LOCATION OF NEW HVAC UNITS IN FIELD WITH THE CONSTRUCTION MANAGER PRIOR TO INSTALLATION. PATCH AND REPAIR ADJACENT FLOOR AND WALL SURFACE AREAS ASSOCIATED WITH THE INSTALLATION OF THESE UNITS .
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H. FOR HVAC UNIT REFRIGERANT LINES THROUGH WALL, SEE MECHANICAL DRAWINGS AND DETAILS 1 & 7/A9.1 FOR CONDUIT SPACING. SPACE PENETRATIONS TO CLEAR STUDS. COORDINATE LAYOUT IN FIELD. PATCH, REPAIR, AND PAINT EXTERIOR WALL SOFFIT, AND INTERIOR CEILING AFTER INSTALLATION TO MATCH EXISTING ADJACENT FINISHES.
I. REMOVE, STORE AND REINSTALL CEILING MOUNTED PROJECTORS PER DETAIL 16/A9.3.
J. REFER TO SHEET A9.1 FOR TYPICAL FRAMING DETAILS.
K. CONTRACTOR TO PATCH, REPAIR AND PAINT ALL DAMAGED SURFACES AND/OR SURFACES TO BE EXPOSED TO VIEW AS A RESULT OF DEMOLITION WORK. PROTECT FLOOR SURFACES DURING CONSTRUCTION, REPLACE IF DAMAGED AS RESULT OF DEMOLITION/NEW WORK.
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4. REMOVE AND REPLACE EXISTING MECHANICAL/PLUMBING EQUIPMENT & PIPING, REFER TO MECHANICAL/PLUMBING DRAWINGS FOR EXTENT OF DEMOLITION AND NEW WORK IN THIS ROOM.
5. REMOVE AND REPLACE CEILING/ROOF INSULATION.
6. REMOVE EXISTING GLUE-ON ACOUSTICAL TILE CEILING SYSTEM, PREPARE FOR NEW CEILING SYSTEM.
7. EXISTING CEILING TO REMAIN, PATCH AND REPAIR.
8. REMOVE (E) EXHAUST FANS AND ALL HVAC CONNECTIONS. REFER TO MECHANICAL DRAWINGS FOR LOCATIONS AND EXTENT OF WORK OF DEMOLITION & NEW EXHAUST FANS. PATCH, REPAIR INFILL AS NEEDED TO MATCH ADJACENT.
9. REMOVE EXISTING PORTABLE INDOOR AC UNIT SYSTEM, WINDOW MOUNTED EXHAUST VENT AND CONDENSATE DRAIN PIPE, RETURN UNIT TO THE DISTRICT AND INFILL WINDOW FRAME WITH SPANDREL ACOUSTICAL PANEL TO MATCH ADJACENT. TYPICAL AT ALL CLASSROOMS AND WHERE OCCURS, VERIFY QUANTITIES AND LOCATIONS IN FIELD.
10. REMOVE EXISTING GYP. BOARD CEILING BORDER.
11. DEMOLISH PARTIAL CEILING/ROOF TO ALLOW FOR NEW HVAC EQUIPMENT PENETRATIONS. PATCH, REPAIR CEILING/ROOF TO MATCH ADJACENT AFTER INSTALLATION OF MECHANICAL EQUIPMENT. COORDINATE WITH MECHANICAL DRAWINGS FOR NEW EQUIPMENT LOCATIONS. SEE DETAILS 2,4/A9.1.

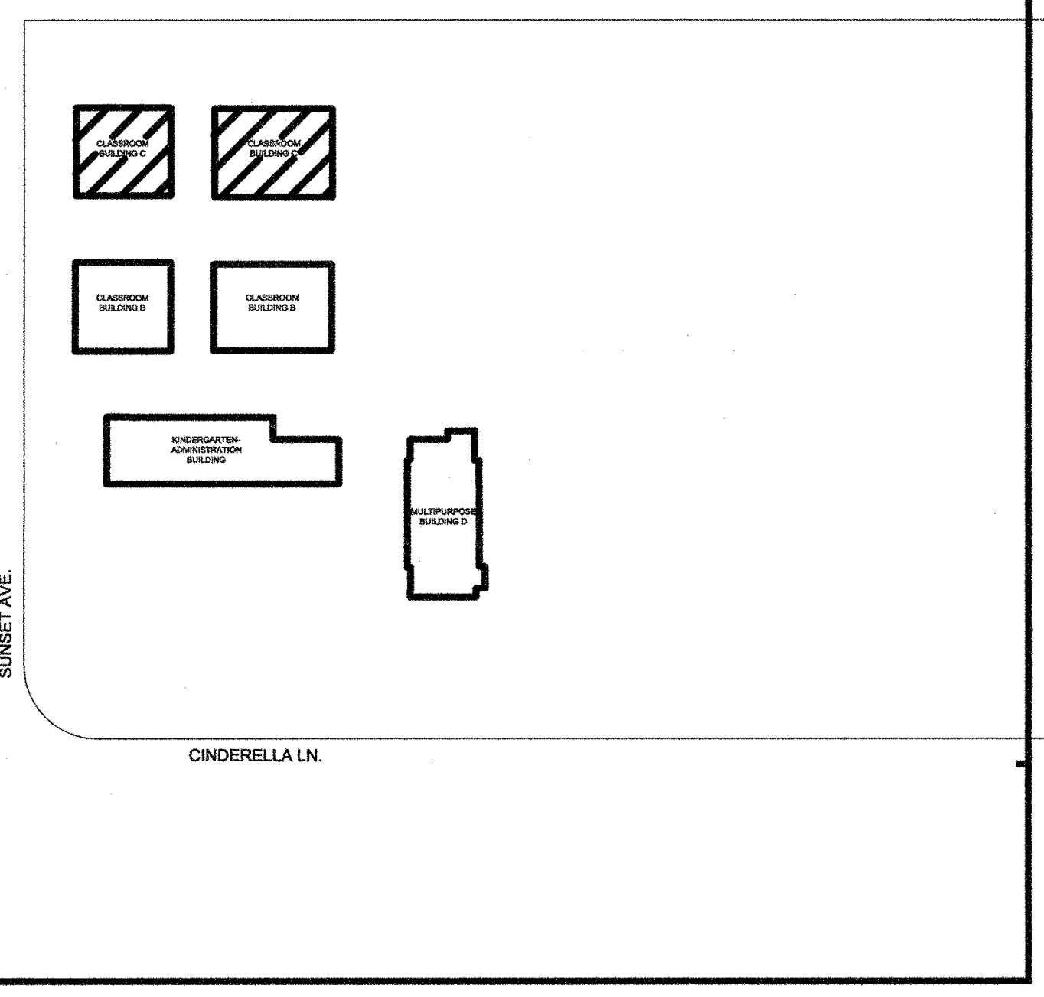
NEW FLOOR PLAN NOTES

1. NEW CONDENSING UNIT OVER NEW CONCRETE PAD, SEE DETAILS 7,13/A0.2, AND MECHANICAL/PLUMB. AND ELEC. DRAWINGS FOR EXTENT OF WORK.
2. NEW CHAIN LINK FENCE AND GATES, SEE SHEET A0.2 FOR DETAILS.
3. PATCH NEW AC PAVING AROUND NEW ENCLOSURE AND RESTRIPE PARKING LINES TO MATCH ADJACENT.

GRAPHIC KEY

▭	(E) STUD WALL
▨	(E) WIREMOLD NEAR CEILING TO REMAIN, INSTALL NEW CEILING ABOVE/BELOW V.I.F.

BUILDING KEY



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NO. C-24673
REN. 9-30-19
STATE OF CALIFORNIA

DEMOLITION/NEW FLOOR PLANS
BUILDING C- CLASSROOMS

CLYDE ARBUCKLE ELEMENTARY SCHOOL - HVAC UPGRADES
1970 CINDERELLA LN., SAN JOSE, CA 95116
ALUM ROCK UNION ELEMENTARY SCHOOL DISTRICT

REVISIONS

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DRAWN BY:	NJ
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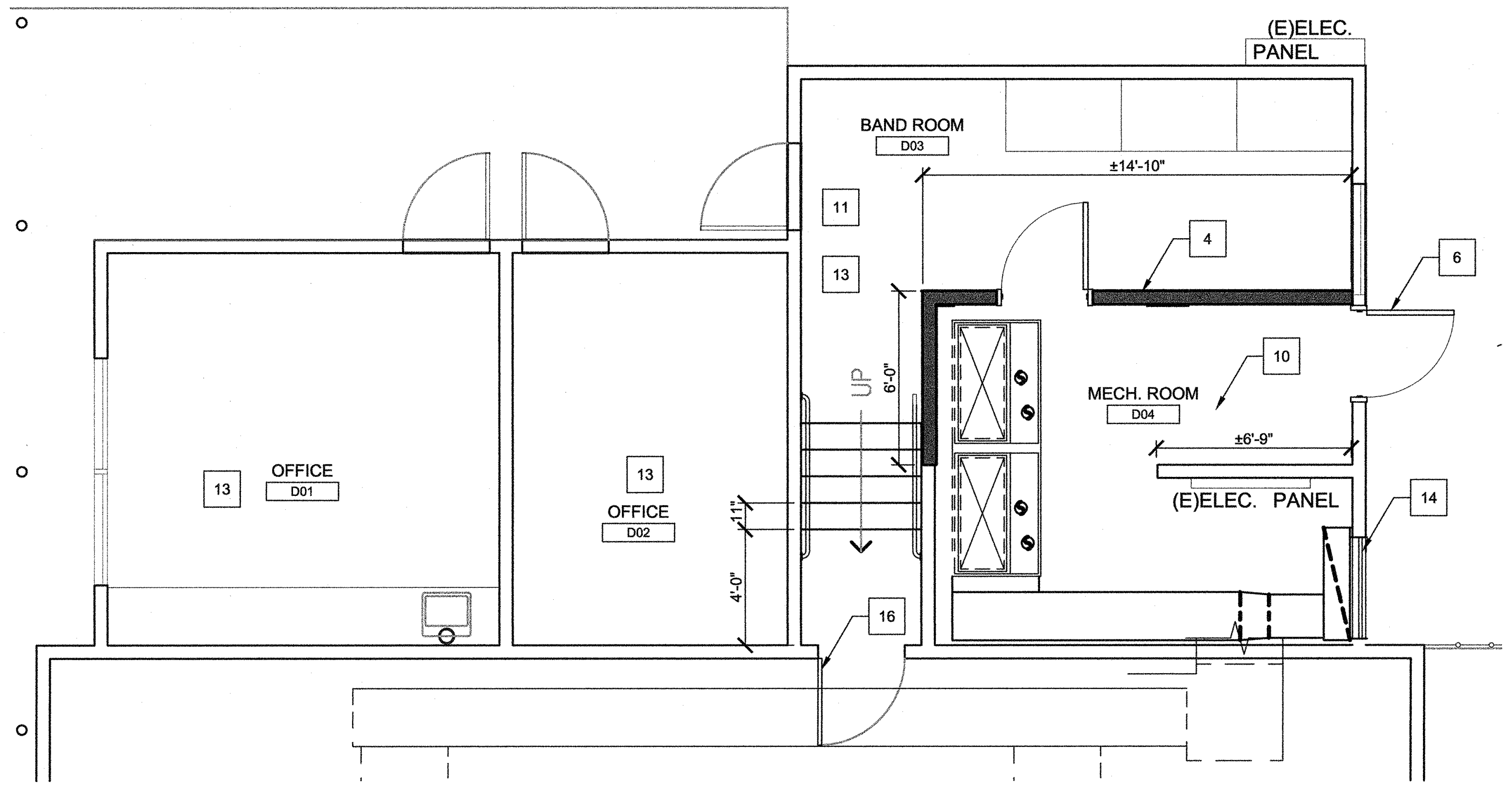
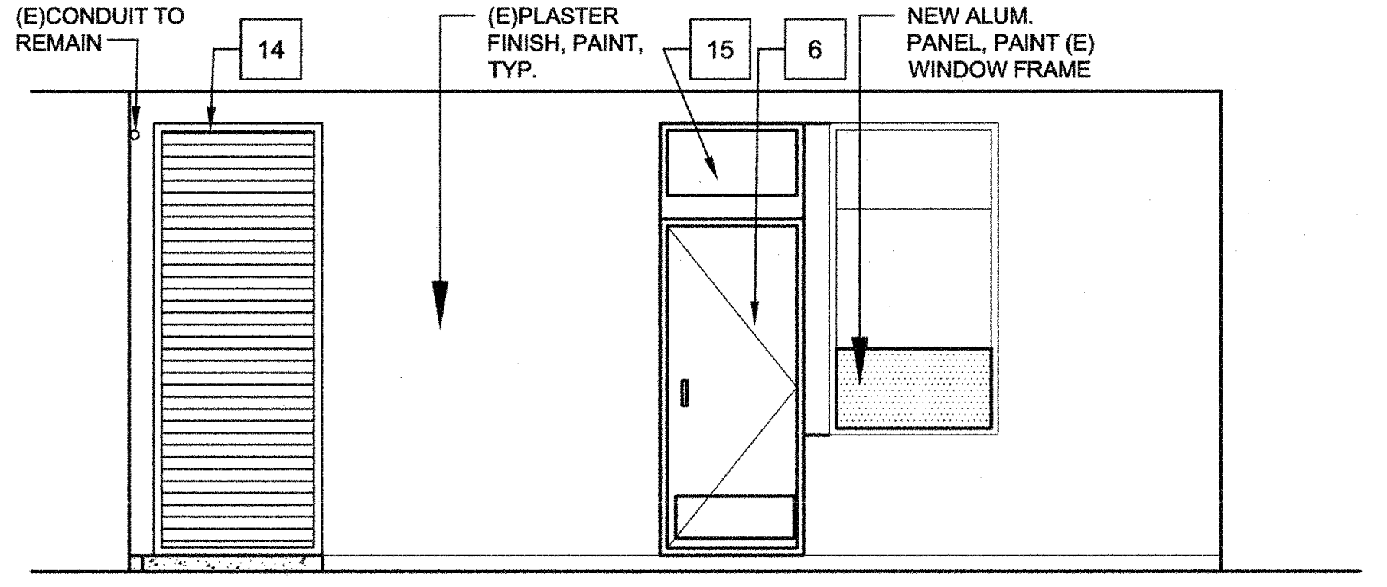
17102	10-02-2017

A2.3



3 ENLARGED MECHANICAL ROOM

SCALE 1/4"=1'-0"


(E)CONDUIT TO REMAIN
14
(E)PLASTER FINISH, PAINT, TYP.
15
6
NEW ALUM. PANEL, PAINT (E) WINDOW FRAME

NEW MECHANICAL ROOM ELEVATION

EXISTING MECHANICAL ROOM ELEVATION

GRAPHIC KEY

- ▭ (E) STUD WALL
- ▬ (N) STUD WALL
- ▬ (E) 1HR FIRE RATED STUD WALL
- ▭ (E) WIREMOLD BELOW CEILING

GENERAL NOTES

A. GENERAL CONTRACTOR SHALL SURVEY AREA FOR UNDERGROUND UTILITY LOCATIONS PRIOR TO DEMOLITION AND NEW WORK ON SITE

B. ROOM NAMES AND NUMBERS MAY NOT BE CONSISTENT BETWEEN DEMOLITION FLOOR PLANS AND NEW FLOOR PLANS.

C. REFER TO MECHANICAL/PLUMBING, ELECTRICAL, DRAWINGS FOR EXTENT OF MECHANICAL/PLUMBING, AND ELECTRICAL WORK.

D. PAINT ALL EXPOSED DUCT, CONDUITS, FITTINGS, AND CONDUIT COVERS ASSOCIATED WITH THE NEW WORK TO MATCH EXISTING ADJACENT SURFACE AT BOTH EXTERIOR AND INTERIOR LOCATIONS.

E. REMOVE ALL EXISTING ITEMS TO ALLOW THE NEW WORK, INCLUDING BUT NOT LIMITED TO TREES, SHRUBS, ASPHALT PAVING, FENCING.

F. COORDINATE EXACT LOCATION OF NEW EXTERIOR HVAC UNITS IN FIELD WITH OWNER AND ARCHITECT PRIOR TO INSTALLATION. PATCH AND REPAIR ADJACENT FLOOR AND WALL SURFACE AREAS ASSOCIATED WITH THE INSTALLATION OF THESE UNITS .

G. GENERAL CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL, STORAGE AND REINSTALLATION OF CEILING MOUNTED DEVICES INCLUDING BUT NOT LIMITED TO SPEAKERS, HVAC GRILLES, EXIT SIGNS, FIRE ALARM, CEILING MOUNTED PROJECTORS, U.O.N. VERIFY AND COORDINATE EXISTING CONDITIONS IN FIELD.

H. FOR HVAC UNIT REFRIGERANT LINES THROUGH WALL, SEE MECHANICAL DRAWINGS AND DETAILS 1 & 7/A9.1. SPACE PENETRATIONS TO CLEAR STUDS. COORDINATE LAYOUT IN FIELD. PATCH, REPAIR, AND PAINT EXTERIOR WALL SOFFIT, AND INTERIOR CEILING AFTER INSTALLATION TO MATCH EXISTING ADJACENT FINISHES.

I. REMOVE, STORE, AND REINSTALL CEILING PROJECTORS PER DETAIL 16/A9.1.

J. REFER TO SHEET A9.1 FOR TYPICAL FRAMING DETAILS.

K. CONTRACTOR TO PATCH, REPAIR AND PAINT ALL DAMAGED SURFACES AND/OR SURFACES TO BE EXPOSED TO VIEW AS A RESULT OF DEMOLITION WORK. PROTECT FLOOR SURFACES DURING CONSTRUCTION, REPLACE IF DAMAGED AS RESULT OF DEMOLITION/NEW WORK.

L. GENERAL CONTRACTOR IS RESPONSIBLE FOR DEMOLITION,INFILL, PATCHING AND RESTORING OF WALL, CEILING AND ROOF SURFACES WHERE NEW HVAC WORK OCCURS. COORDINATE WITH MECH. PLANS FOR LOCATIONS. FOR INFILL, SEE DETAILS 2 & 3/A9.2.

M. ALL NEW INTERIOR AND EXTERIOR WALLS SHALL HAVE R-19 INSULATION.

N. PROVIDE R-30 INSULATION TYP. AT CEILING / ROOF.

O. CONTRACTOR IS RESPONSIBLE FOR REMOVAL/DEMOLITION OF (E) CONCRETE PADS AFTER DEMOLITION OF MECHANICAL/PLUMBING EQUIPMENT AND TO REPAIR/PATCH & INFILL CONCRETE SLAB AS NEEDED.

P. CONTRACTOR IS RESPONSIBLE FOR DEMOLITION OF PARTIAL ROOF FOR NEW MECHANICAL EQUIPMENT. COORDINATE WITH MECH. PLANS FOR LOCATIONS & WITH GARLAND ROOFING FOR PATCHING OF (E) ROOFING.

O. GENERAL CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL, STORAGE AND RE-INSTALLATION OF ALL WINDOW SHADES AND TRACK SYSTEM, INCLUDING ADJUSTING/CUTTING OF SHADES TO FIT FOR RE-INSTALLAITON AND TO ALLOW THE INSTALLATION OF NEW CEILING SYSTEMS.

DEMOLITION PLAN NOTES

① REMOVE EXISTING WALL A/O DOOR/FRAME TO ALLOW FOR NEW WORK.

2. REMOVE AND REPLACE ALL EXISTING LIGHT FIXTURES , REFER TO ELEC. DWGS. FOR EXTENT OF WORK. VERIFY QUANTITIES AND LAYOUT IN FIELD.

3. REMOVE AND REPLACE EXISTING HVAC DUCT AND COMPONENTS, REFER TO MECHANICAL DWGS. FOR EXTENT OF WORK.

4. REMOVE AND REPLACE EXISTING MECHANICAL/PLUMBING EQUIPMENT & PIPING, REFER TO MECHANICAL/PLUMBING DRAWINGS FOR EXTENT OF WORK.

5. REMOVE AND REPLACE PARTIAL CEILING/ROOF TO ALLOW FOR NEW RELIEF AIR HOOD, ROOF MOUNTED, COORDINATE REQUIRED OPENING WITH FAN MANUFACTURER, SEE MECH. DWGS AND DETAIL 7/A9.1.

6. REPLACE DAMAGED GLUE-ON ACOUSTICAL CEILING TILE CEILING.

7. EXISTING CEILING TO REMAIN, PATCH AND REPAIR AND PAINT.

8. REFER TO MECHANICAL DWGS. FOR THE EXTENT OF MECH./PLUMB. DEMOLITION AND NEW WORK IN THIS ROOM.

9. REMOVE AND REPLACE EXISTING STAIRS AND HANDRAILS

10. EXISTING WINDOWS TO REMAIN.

11. REMOVE (E)GLUE-ON ACOUSTICAL CEILING SYSTEM TO ALLOW THE NEW WORK, PREPARE FOR NEW CEILING. RE-ROUTE (E) WIREMOLD V.I.F.

12. REMOVE AND REPLACE RETURN AIR GRILLES AT FACE OF STAGE WALL, PREPARE ADEQUATE ROUGH OPENING FOR NEW GRILLES, SEE MECH. DWGS.

13. REMOVE AND REPLACE (E)FLOORING AND WALL BASE.

14. (E)CASEWORK TO REMAIN.

15. REMOVE (E)WALL GRILLES AND PARTIAL WALL, PREPARE FOR NEW SUPPLY DUCT ROUTE, SEE MECH. DWG.

16. REMOVE PARTIAL STAGE WOOD FLOORING TO ALLOW DEMOLITION AND NEW HVAC WORK IN CRAWL/CHAIR STORAGE SPACE,SEE MECH. DWGS. INFILL, PATCH AND REFINISH STAGE FLOORING.

17. REMOVE EXISTING DOOR/FRAME, PARTIAL WALL, AND LOUVER ABOVE DOOR, REPLACE WITH (N) MTL. LOUVER 42"x108", FOR OUTSIDE AIR SUPPLY.

18. REMOVE PARTIAL WALL AND CONDUIT. RETURN ALL (E) EXISTING EQUIPMENT,CLOCK/SPEAKER, MARKER BOARDS, ETC.. BACK TO DISTRICT.

19. DEMOLISH EXISTING CONCRETE WALKWAY TO ALLOW FOR NEW GAS LINES. REPAIR AND INFILL CONCRETE WALKWAY TO MATCH ADJACENT AFTER NEW GAS LINE INSTALLATION. UNDERGROUND SURVEY AREA PRIOR TO DEMOLITION. REFER TO MECHANICAL/PLUMBING PLANS FOR EXTENT OF NEW WORK.

20. REMOVE EXISTING DOOR AND FRAME. PREPARE OPENING FOR NEW DOOR AND FRAME.

21. REMOVE AND RELOCATE EXISTING BENCHES & MARQUEE SIGN AND PROVIDE NEW 18" DIA. x 36" CONC. FOOTING. COORDINATE NEW LOCATION WITH DISTRICT.

22. REMOVE IRRIGATION SPRINKLERS IN NEW WORK AREA AS NEEDED. MAIN IRRIGATION CONTROL BOX TO REMAIN. REFER TO GEN. NOTE 'A'.

23. REMOVE EXISTING PORTABLE INDOOR AC UNIT SYSTEM, WINDOW MOUNTED EXHAUST VENT AND CONDENSATE DRAIN PIPE, RETURN UNIT TO THE DISTRICT.

24. REMOVE EXISTING WINDOW AND FRAME. FRAME WALL FOR NEW 3'-0"X7'-0" HM DOOR, FRAME AND HARDWARE, PAINTED. SEE DETAILS 12,13,14,15/A9.1.

NEW FLOOR PLAN NOTES

1. NEW CONDENSING UNIT OVER NEW CONCRETE PAD, SEE DETAIL 7/A0.2, AND MECHANICAL/PLUMB. AND ELEC. DRAWINGS FOR EXTENT OF WORK.

2. NEW CHAIN LINK FENCE AND GATES, SEE SHEET A0.2 FOR DETAILS.

3. GYP. BD. PAINTED O/ 2X STUD FRAMING, SEE DETAIL 9/A9.1

4. NEW 2x6 STUD WALL WITH GYP. BD. PAINTED BOTH SIDES, AND NEW 3'-0"x7'-0" HM DOOR AND FRAME PAINTED. SEE DETAILS 9-17/A9.1.

5. INFILL WALL WITH A NEW 3'X7' METAL WALL LOUVER.

6. NEW 3'-0"X7'-0" HM DOOR, HM FRAME AND HARDWARE, PAINT. SEE DETAILS 9-17/A9.1.

7. (E)STAIR AND HANDRAILS TO REMAIN, PAINT TYP.

8. NEW LOUVERS AT STAGE WALL, FRAME AROUND W/2x AND STAINED PLYWOOD FINISH TO MATCH COLOR OF ADJACENT STAGE DOORS. SEE MECH. DWGS. FOR LOUVER OPENING ROUGH SIZE REQUIRED.

9. NEW HEAT PUMP O/CONC. PAD, TYP. SEE DETAIL 7/A0.2 AND MECH. DWGS.

10. LEVEL, AND POLISH (E)CONC. SLAB.

11. VCT FLOORING AND WALL BASE.

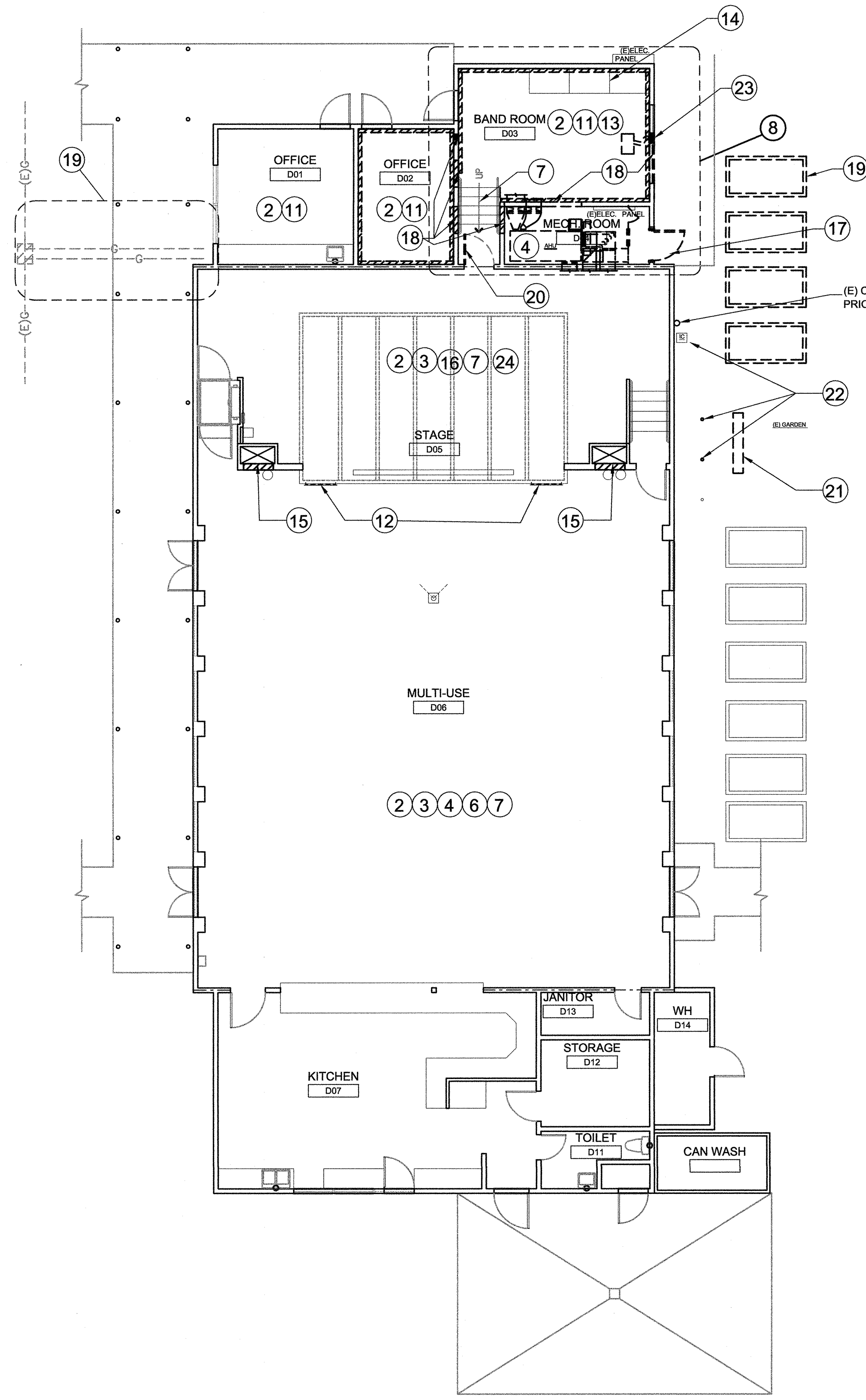
12. NEW RA DUCT BELOW STAGE AREA, PROVIDE STAGE ACCESS PANEL TO CRAWL SPACE, COORDINATE LOCATION IN FIELD, SEE MECH. DWGS.

13. COORDINATE LOCATION OF NEW THERMOSTATS IN FIELD, AVOID SWING OF DOORS, CASEWORK, AND WALL MOUNTED EQUIPMENT. SEE MECH. DWGS.

14. NEW 42"X108" METAL OA LOUVER OVER NEW 6" CONC. CURB , PAINTED.

15. NEW TRANSOM LIGHT ABOVE DOOR.

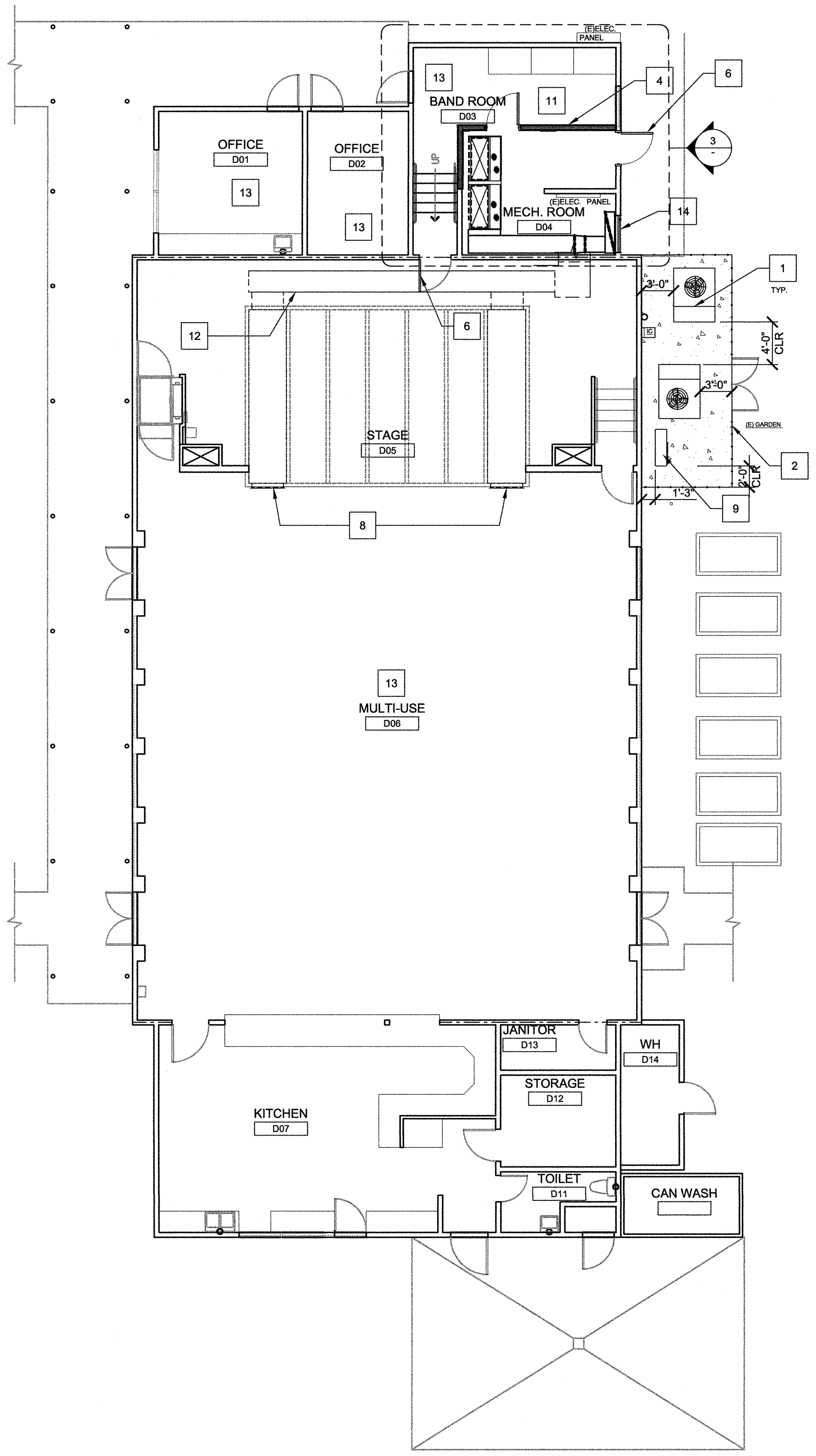
16. NEW 3'x7' 1HR. FIRE RATED HM DOOR AND FRAME, PROVIDE HARDWARE AND PAINT.



1 DEMOLITION PLAN- BUILDING D

1/8" = 1'-0"

0 2' 4' 8' 16' 24'

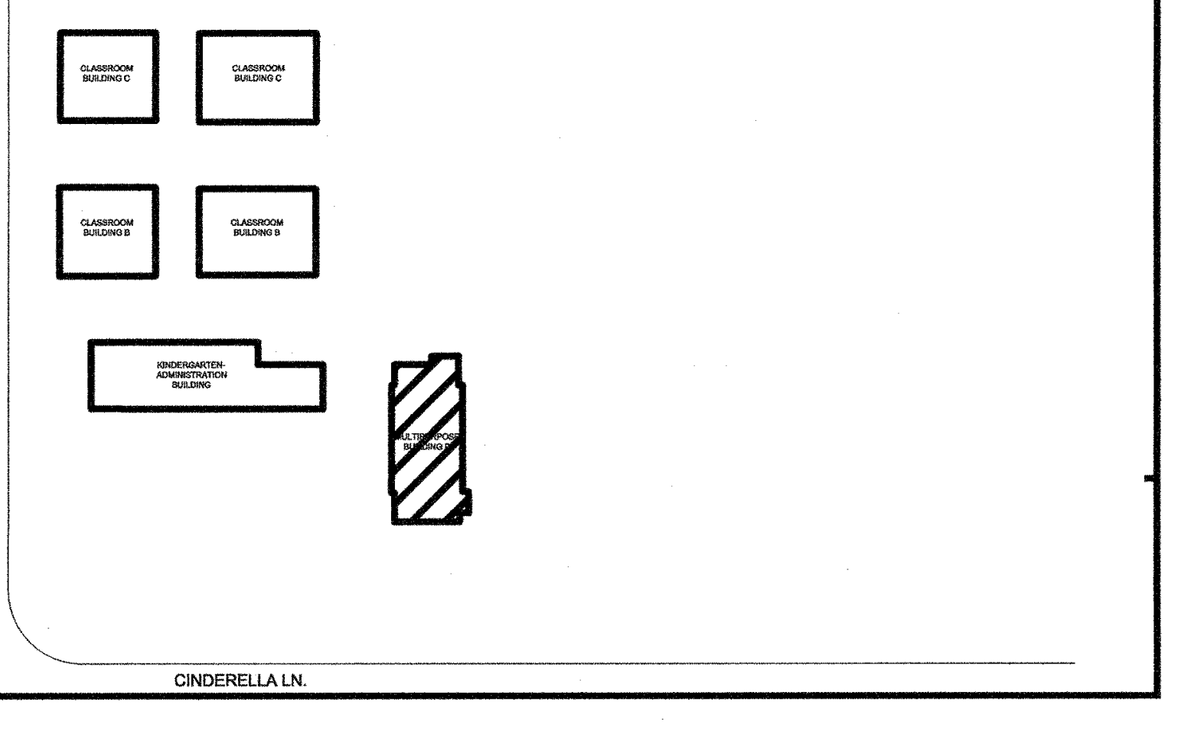


2 NEW FLOOR PLAN-BUILDING D

1/8" = 1'-0"

0 2' 4' 8' 16' 24'

BUILDING KEY



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DEMO/NEW FLOOR PLAN-REFLECTED CEILING PLAN
BUILDING D- MULTI-USE BUILDING

CLYDE ARBUCKLE ELEMENTARY SCHOOL - HVAC UPGRADES
1970 CINDERELLA LN., SAN JOSE, CA 95116
ALUM ROCK UNION ELEMENTARY SCHOOL DISTRICT

REVISIONS

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DSA FILE NUMBER 43-04

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APPL 01-117268
AC ____ FLS ____ SS ____
DATE MAY 10 2018

DRAWN BY: NJ
CHECKED BY: -
JOB NO: 17102
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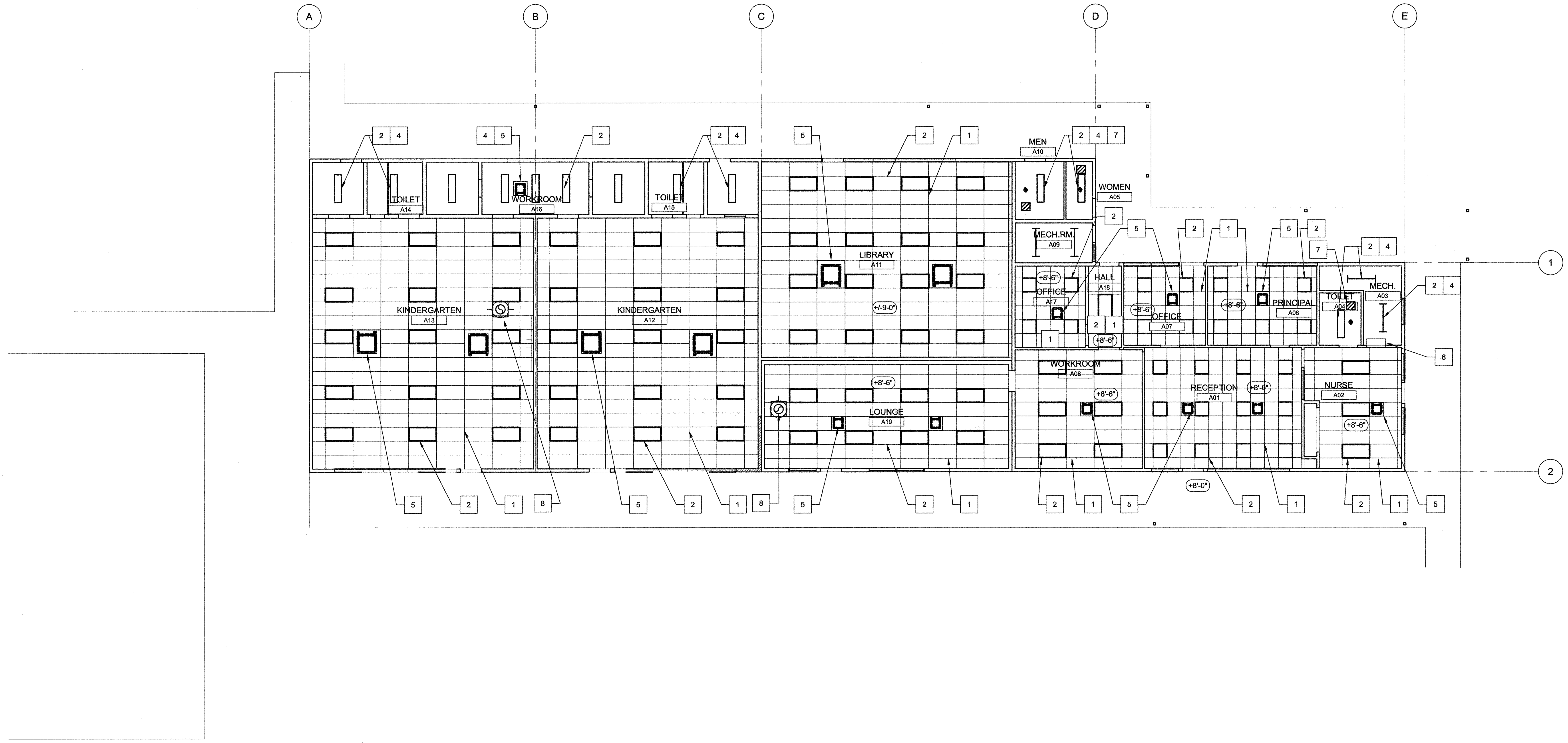
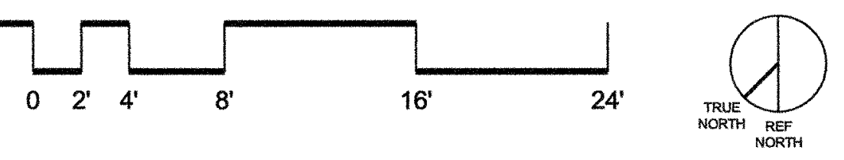
A2.4



1 REFLECTED CEILING PLAN

1/8" = 1'-0"



GENERAL NOTES

A. PROVIDE R-30 INSULATION TYP. AT CEILING/ROOF.

B. ALL ROOMS TO RECEIVE NEW CEILING SYSTEMS AND LIGHT FIXTURES TYPICAL, U.O.N. SEE ELECTRICAL AND MECHANICAL DRAWINGS.

C. COORDINATE LOCATION OF NEW THERMOSTATS IN FIELD, AVOID SWING OF DOORS, CASEWORK, AND WALL MOUNTED EQUIPMENT. SEE MECH. DWGS.

D. PAINT ALL NEW AND EXISTING HARD CEILINGS, TYP.

REFLECTED CEILING PLAN NOTES

1. NEW LAY-IN ACOUSTICAL PANEL, T-BAR GRID SUSPENDED CEILING SYSTEM, TYP. SEE SHEET A9.2 & A9.3 FOR DETAILS.
2. NEW LIGHT FIXTURE TYP., SEE ELEC. DWGS.
3. NEW SURFACE MOUNTED LIGHT FIXTURE, TYP. SEE ELECTRICAL DRAWINGS FOR TYPE AND EXTENT OF WORK.
4. PATCH AND PAINT EXISTING GYP. BD. CEILING.
5. CASSETTE TYPE FAN COIL UNIT WITH BOTTOM FLUSH WITH FINISHED CEILING, TYP. SEE MECH. DRAWINGS.
6. WALL MOUNTED AC UNIT ABOVE DOOR. SEE MECH. DRAWINGS.
7. NEW EXHAUST FANS, ROOF MOUNT. CONTRACTOR TO PATCH, REPAIR CEILING AND ROOF PENETRATIONS TO MATCH ADJACENT. SEE MECH. DWGS.
8. NEW INTAKE AIR HOOD, ROOF MOUNT WITH ROOF CURB AND CURB SEAL, SEE MECH. DRAWINGS. CONTRACTOR TO PATCH, REPAIR ROOF TO MATCH ADJACENT AFTER INSTALLATION, SEE MECH. DWGS. SEE DETAIL 2 & 4/A9.1

GRAPHIC KEY

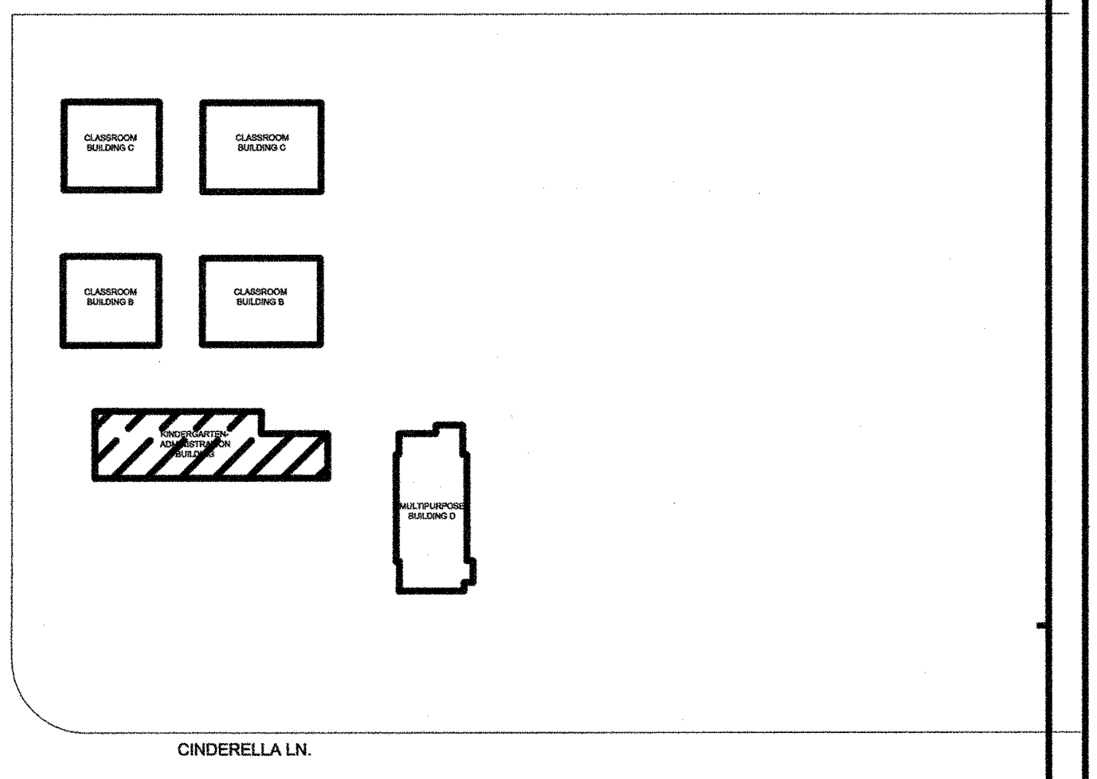
MECHANICAL

☒	SUPPLY DIFFUSER
▨	RETURN AIR GRILLE
☒	EXHAUST GRILLE
▣	CASSETTE SUPPLY UNIT

ELECTRICAL

▭	SURFACE MOUNTED LIGHT FIXTURE
▭	2' X 4' LIGHT FIXTURE
□	2' X 2' LIGHT FIXTURE
○	RECESSED DOWNLIGHT
⊗	EXIT SIGN
SD	SMOKE DETECTOR
TV	TELEVISION AND BRACKET
S	SPEAKER

BUILDING KEY



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REN. 9-30-19
STATE OF CALIFORNIA

REFLECTED CEILING PLAN
ADMINISTRATION-KINDERGARTEN- BUILDING A

CLYDE ARBUCKLE ELEMENTARY SCHOOL - HVAC UPGRADES
1970 CINDERELLA LN., SAN JOSE, CA 95116
ALUM ROCK UNION ELEMENTARY SCHOOL DISTRICT

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JOB NO: 17102
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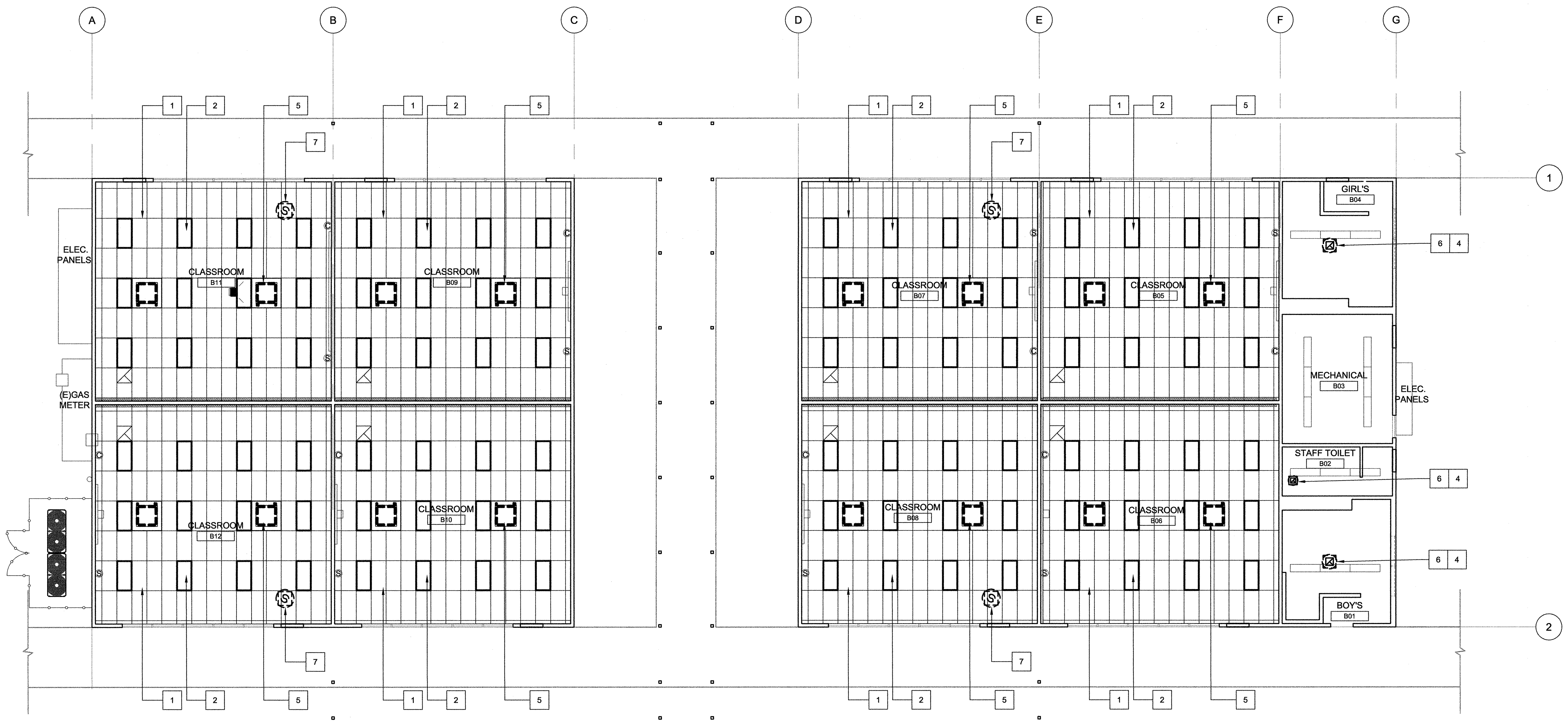
A3.1

GENERAL NOTES

A. PROVIDE R-30 INSULATION TYP. AT CEILING/ROOF.
B. ALL ROOMS TO RECEIVE NEW CEILING SYSTEMS AND LIGHT FIXTURES TYPICAL, U.O.N.
C. COORDINATE LOCATION OF NEW THERMOSTATS IN FIELD, AVOID SWING OF DOORS, CASEWORK, AND WALL MOUNTED EQUIPMENT. SEE MECH. DWGS.

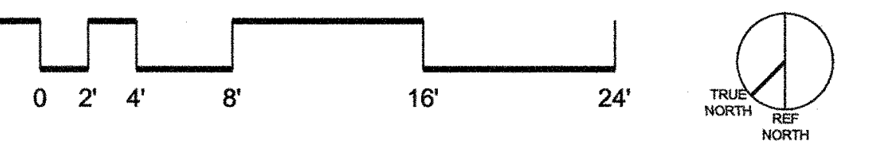
REFLECTED CEILING PLAN NOTES

1. NEW LAY-IN ACOUSTICAL PANEL, T-BAR GRID SUSPENDED CEILING SYSTEM, TYP. SEE SHEET A9.2 & A9.3 FOR DETAILS
2. NEW LIGHT FIXTURE TYP., SEE ELEC. DWGS.
3. NEW SURFACE MOUNTED LIGHT FIXTURE, TYP. SEE ELECTRICAL DRAWINGS FOR TYPE AND EXTENT OF WORK.
4. PATCH AND PAINT EXISTING GYP. BD. CEILING.
5. CASSETTE TYPE FAN COIL UNIT WITH BOTTOM FLUSH WITH FINISHED CEILING, TYP. SEE MECH. DRAWINGS.
6. NEW EXHAUST FAN, ROOF MOUNT. CONTRACTOR TO PATCH, REPAIR CEILING AND ROOF PENETRATIONS TO MATCH ADJACENT, SEE MECH. DRAWINGS.
7. NEW INTAKE AIR HOOD, ROOF MOUNT WITH ROOF CURB AND CURB SEAL, SEE MECH. DRAWINGS. CONTRACTOR TO PATCH, REPAIR ROOF TO MATCH ADJACENT AFTER INSTALLATION, SEE MECH. DWGS.



1 REFLECTED CEILING PLAN- BUILDING B

1/8" = 1'-0"



GRAPHIC KEY

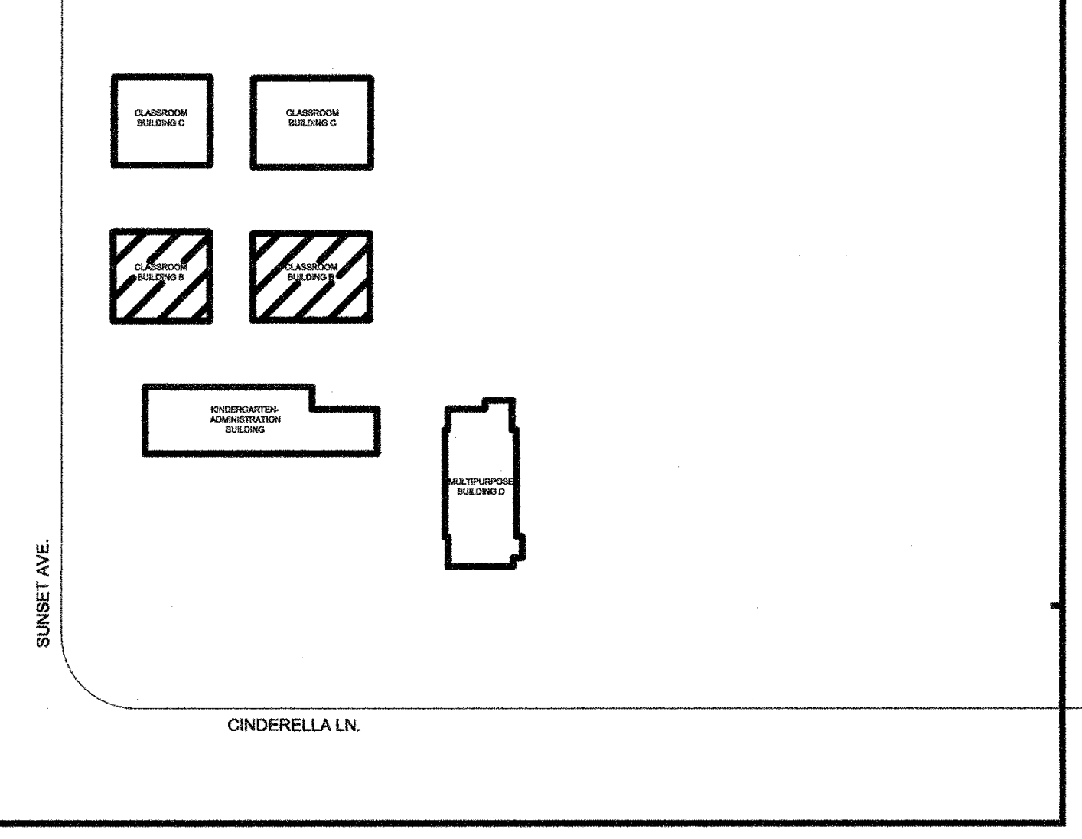
MECHANICAL

☒	SUPPLY DIFFUSER
⧄	RETURN AIR GRILLE
☒	EXHAUST GRILLE
▣	CASSETTE SUPPLY UNIT

ELECTRICAL

▭	SURFACE MOUNTED LIGHT FIXTURE
▭	2' X 4' LIGHT FIXTURE
□	2' X 2' LIGHT FIXTURE
○	RECESSED DOWNLIGHT
⊗	EXIT SIGN
Ⓢ︎D	SMOKE DETECTOR
TV	TELEVISION AND BRACKET
Ⓢ	SPEAKER
Ⓒ	SPEAKER
▬	(E) WIREMOLD NEAR CEILING

BUILDING KEY



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REFLECTED CEILING PLAN
BUILDING B

CLYDE ARBUCKLE ELEMENTARY SCHOOL - HVAC UPGRADES
1970 CINDERELLA LN., SAN JOSE, CA 95116
ALUM ROCK UNION ELEMENTARY SCHOOL DISTRICT

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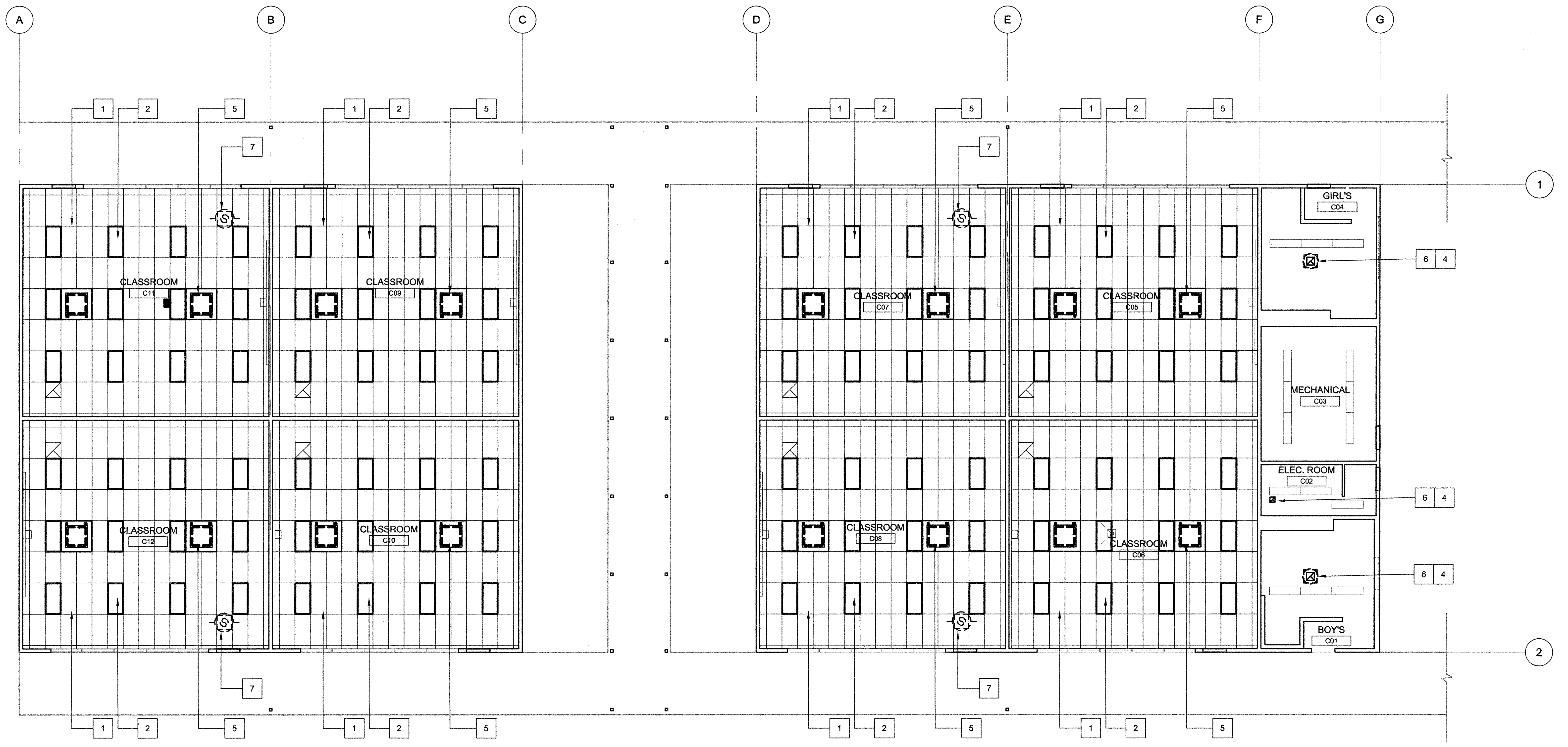
A3.2

GENERAL NOTES

A. PROVIDE R-30 INSULATION TYP. AT CEILING/ROOF.
B. ALL ROOMS TO RECEIVE NEW CEILING SYSTEMS AND LIGHT FIXTURES TYPICAL, U.O.N.
C. COORDINATE LOCATION OF NEW THERMOSTATS IN FIELD, AVOID SWING OF DOORS, CASEWORK, AND WALL MOUNTED EQUIPMENT. SEE MECH. DWGS.

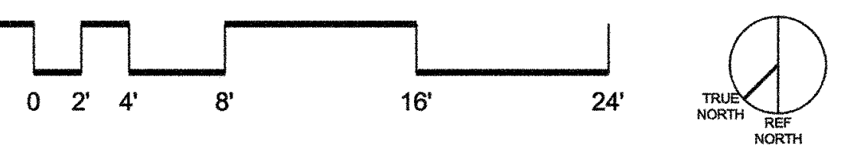
REFLECTED CEILING PLAN NOTES

1. NEW LAY-IN ACOUSTICAL PANEL, T-BAR GRID SUSPENDED CEILING SYSTEM, TYP. SEE SHEET A9.2 & A9.3 FOR DETAILS
2. NEW LIGHT FIXTURE TYP., SEE ELEC. DWGS.
3. NEW SURFACE MOUNTED LIGHT FIXTURE, TYP. SEE ELECTRICAL DRAWINGS FOR TYPE AND EXTENT OF WORK.
4. PATCH AND PAINT EXISTING GYP. BD. CEILING.
5. CASSETTE TYPE FAN COIL UNIT WITH BOTTOM FLUSH WITH FINISHED CEILING, TYP. SEE MECH. DRAWINGS.
6. NEW EXHAUST FAN, ROOF MOUNT. CONTRACTOR TO PATCH, REPAIR CEILING AND ROOF PENETRATIONS TO MATCH ADJACENT, SEE MECH. DRAWINGS.
7. NEW INTAKE AIR HOOD, ROOF MOUNT WITH ROOF CURB AND CURB SEAL, SEE MECH. DRAWINGS. CONTRACTOR TO PATCH, REPAIR ROOF TO MATCH ADJACENT AFTER INSTALLATION, SEE MECH. DWGS.



1 REFLECTED CEILING PLAN- BUILDING C

1/8" = 1'-0"



GRAPHIC KEY

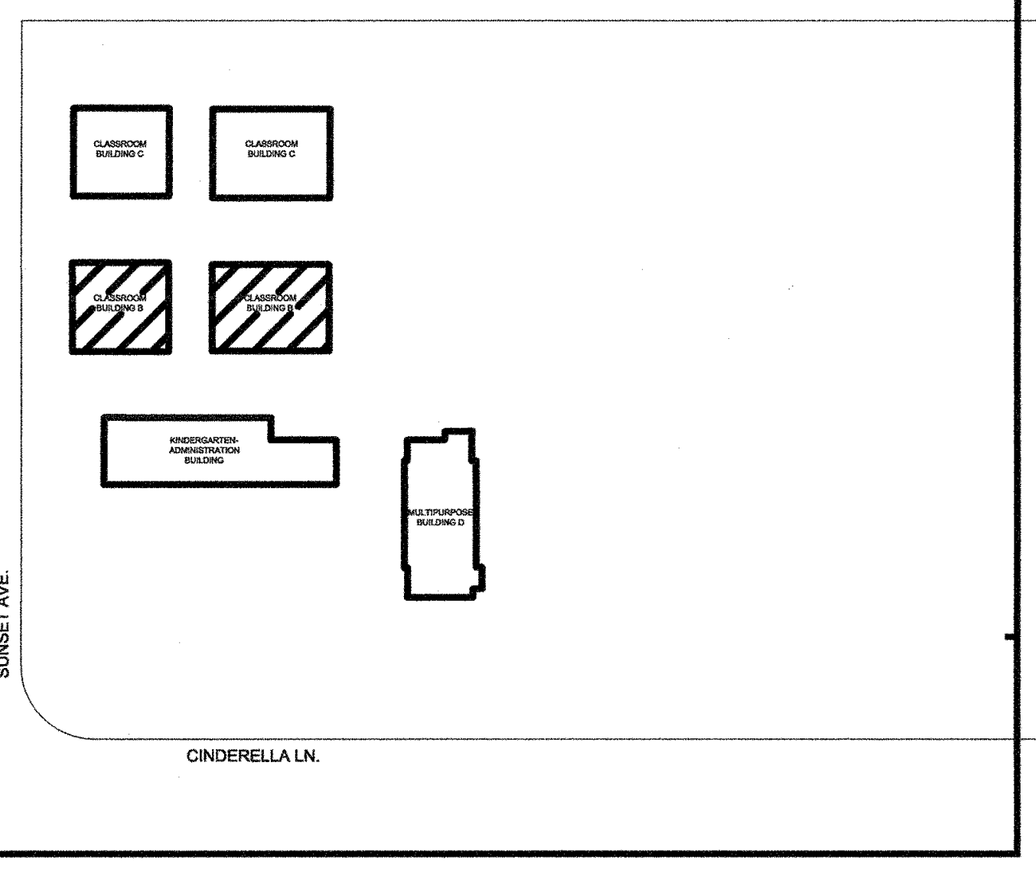
MECHANICAL

☒	SUPPLY DIFFUSER
⧄	RETURN AIR GRILLE
☒	EXHAUST GRILLE
▣	CASSETTE SUPPLY UNIT

ELECTRICAL

▭	SURFACE MOUNTED LIGHT FIXTURE
▭	2' X 4' LIGHT FIXTURE
□	2' X 2' LIGHT FIXTURE
○	RECESSED DOWNLIGHT
⊗	EXIT SIGN
SD	SMOKE DETECTOR
TV	TELEVISION AND BRACKET
S	SPEAKER

BUILDING KEY



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REFLECTED CEILING PLAN
BUILDING C

CLYDE ARBUCKLE ELEMENTARY SCHOOL - HVAC UPGRADES
1970 CINDERELLA LN., SAN JOSE, CA 95116
ALUM ROCK UNION ELEMENTARY SCHOOL DISTRICT

REVISIONS

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DSA FILE NUMBER 43-04

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DIV. OF THE STATE ARCHITECT
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DATE MAY 10 2018

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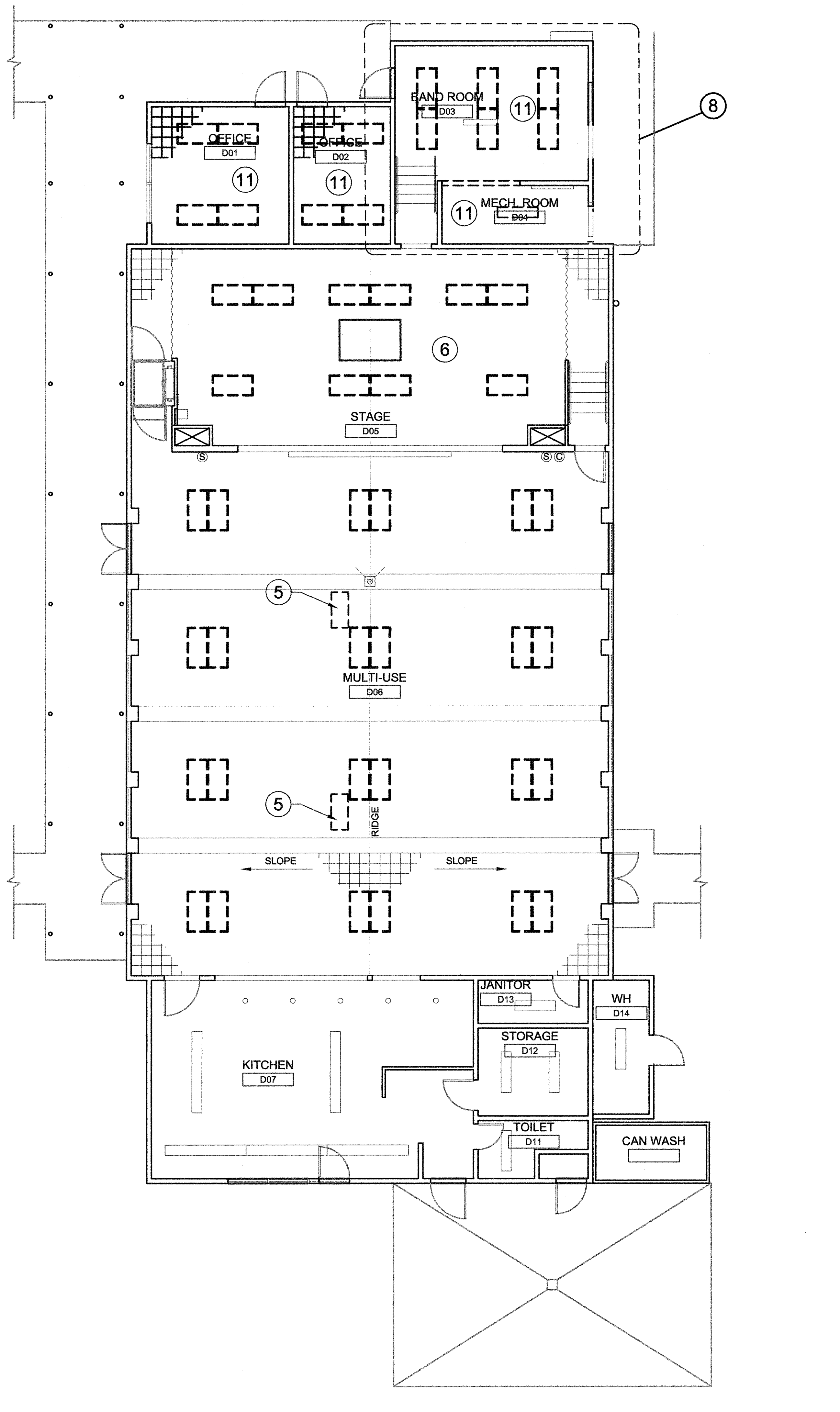
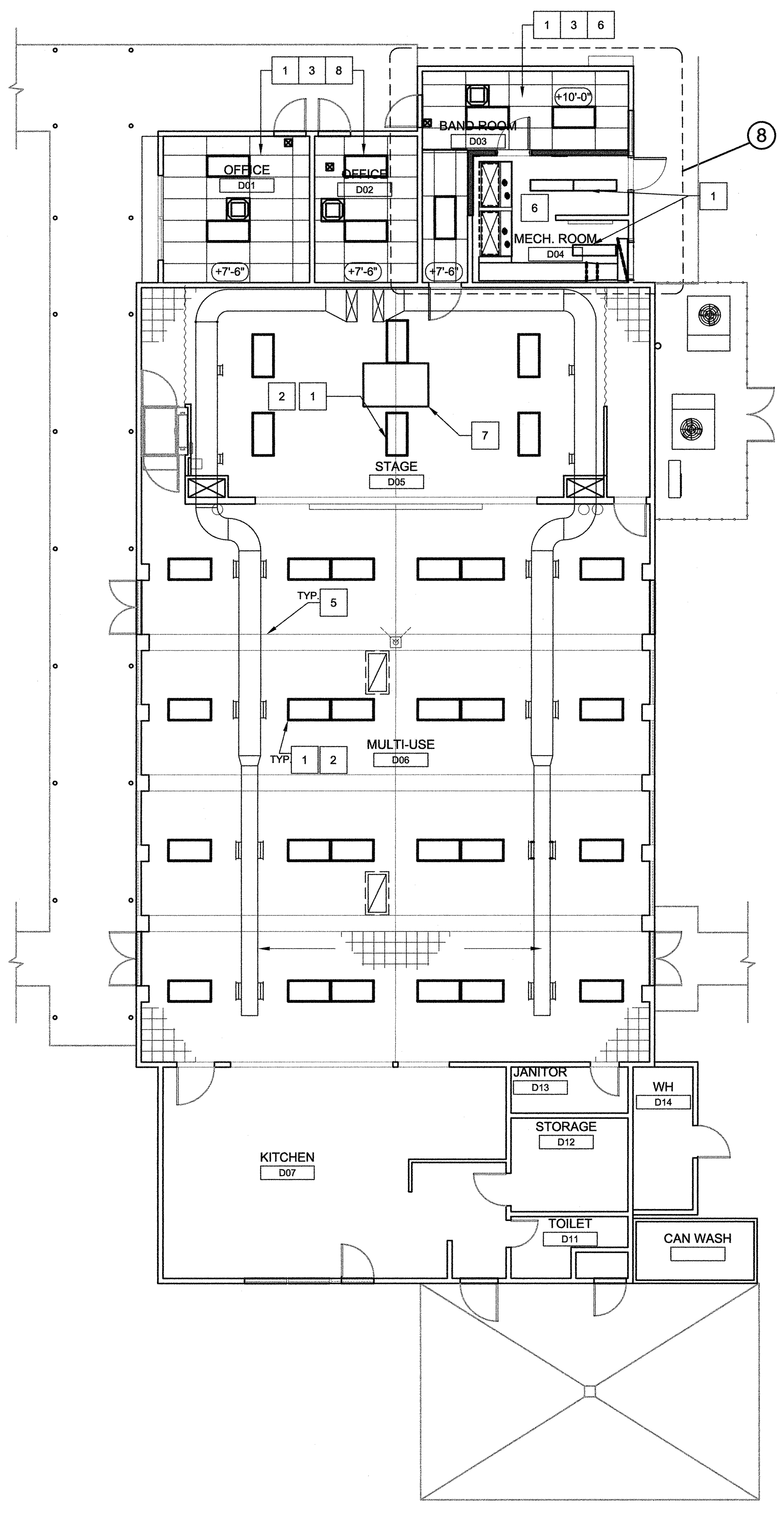
A3.3



① DEMOLITION CEILING PLAN-BUILDING D

1/8" = 1'-0"



② NEW REFLECTED CEILING PLAN-BUILDING D

1/8" = 1'-0"

GENERAL NOTES

- A. ROOM NAMES AND NUMBERS MAY NOT BE CONSISTENT BETWEEN DEMOLITION FLOOR PLANS AND NEW FLOOR PLANS.
- B. REFER TO MECHANICAL/PLUMBING, ELECTRICAL, DRAWINGS FOR EXTENT OF MECHANICAL/PLUMBING, AND ELECTRICAL WORK.
- C. PAINT ALL EXPOSED DUCT, CONDUITS, FITTINGS, AND CONDUIT COVERS ASSOCIATED WITH THE NEW WORK TO MATCH EXISTING ADJACENT SURFACE AT BOTH EXTERIOR AND INTERIOR LOCATIONS.
- D. REMOVE ALL EXISTING ITEMS TO ALLOW THE NEW WORK, INCLUDING BUT NOT LIMITED TO TREES, SHRUBS, ASPHALT PAVING, FENCING.
- E. COORDINATE EXACT LOCATION OF NEW EXTERIOR HVAC UNITS IN FIELD WITH OWNER AND ARCHITECT PRIOR TO INSTALLATION. PATCH AND REPAIR ADJACENT FLOOR AND WALL SURFACE AREAS ASSOCIATED WITH THE INSTALLATION OF THESE UNITS .
- F. GENERAL CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL, STORAGE AND REINSTALLATION OF CEILING MOUNTED DEVICES INCLUDING BUT NOT LIMITED TO SPEAKERS, HVAC GRILLES, EXIT SIGNS, FIRE ALARM, CEILING MOUNTED PROJECTORS, U.O.N. VERIFY AND COORDINATE EXISTING CONDITIONS IN FIELD.
- G. FOR HVAC UNIT REFRIGERANT LINES THROUGH WALL, SEE MECHANICAL DRAWINGS AND DETAILS 1 & 7/A9.1 FOR CONDUIT SPACING. SPACE PENETRATIONS TO CLEAR STUDS. COORDINATE LAYOUT IN FIELD. PATCH, REPAIR, AND PAINT EXTERIOR WALL SOFFIT, AND INTERIOR CEILING AFTER INSTALLATION TO MATCH EXISTING ADJACENT FINISHES.
- H. REMOVE AND REINSTALL PROJECTORS PER DETAIL 16/A9.3.
- I. REFER TO SHEET A9.1 FOR TYPICAL FRAMING DETAILS.
- J. CONTRACTOR TO PATCH, REPAIR AND PAINT ALL DAMAGED SURFACES AND/OR SURFACES TO BE EXPOSED TO VIEW AS A RESULT OF DEMOLITION WORK. PROTECT FLOOR SURFACES DURING CONSTRUCTION, REPLACE IF DAMAGED AS RESULT OF DEMOLITION/NEW WORK.
- K. GENERAL CONTRACTOR IS RESPONSIBLE FOR DEMOLITION,INFILL, PATCHING AND RESTORING OF WALL, CEILING AND ROOF SURFACES WHERE NEW HVAC WORK OCCURS. FOR INFILL, SEE DETAILS 2 & 3/A9.2.
- L. ALL NEW INTERIOR AND EXTERIOR WALLS SHALL HAVE R-19 INSULATION.
- M. PROVIDE R-30 INSULATION TYP. AT CEILING / ROOF.

DEMOLITION PLAN NOTES

- (1.) REMOVE EXISTING WALL A/O DOOR/FRAME TO ALLOW FOR NEW WORK.
- 2. REMOVE AND REPLACE ALL EXISTING LIGHT FIXTURES , REFER TO ELEC. DWGS. FOR EXTENT OF WORK. VERIFY QUANTITIES AND LAYOUT IN FIELD.
- 3. REMOVE AND REPLACE EXISTING HVAC DUCT AND COMPONENTS, REFER TO MECHANICAL DWGS. FOR EXTENT OF WORK.
- 4. REMOVE AND REPLACE EXISTING MECHANICAL/PLUMBING EQUIPMENT & PIPING, REFER TO MECHANICAL/PLUMBING DRAWINGS FOR EXTENT OF WORK.
- 5. REMOVE AND REPLACE PARTIAL CEILING/ROOF TO ALLOW FOR NEW ROOF EXHAUST FAN, COORDINATE REQUIRED OPENING WITH FAN MANUFACTURER, SEE MECH. DWGS AND DETAIL 7/A9.1.
- 6. REPLACE DAMAGED GLUE-ON ACOUSTICAL CEILING TILE CEILING.
- 7. EXISTING CEILING TO REMAIN, PATCH AND REPAIR AND PAINT.
- 8. REFER TO MECHANICAL DWGS. FOR THE EXTENT OF MECH./PLUMB. DEMOLITION AND NEW WORK IN THIS ROOM.
- 9. REMOVE AND REPLACE EXISTING STAIRS AND HANDRAILS
- 10. EXISTING WINDOWS TO REMAIN.
- 11. REMOVE AND REPLACE (E)GLUE-ON ACOUSTICAL CEILING SYSTEM TO ALLOW THE NEW WORK, PREPARE FOR NEW CEILING.
- 12. REMOVE AND REPLACE RETURN AIR GRILLES AT FACE OF STAGE WALL, PREPARE ADEQUATE ROUGH OPENING FOR NEW GRILLES, SEE MECH. DWGS.
- 13. REMOVE AND REPLACE (E)FLOORING AND WALL BASE.
- 14. (E)CASEWORK TO REMAIN.
- 15. REMOVE (E)WALL GRILLES AND PARTIAL WALL, PREPARE FOR NEW SUPPLY DUCT ROUTE, SEE MECH. DWG.
- 16. REMOVE PARTIAL STAGE WOOD FLOORING TO ALLOW DEMOLITION AND NEW HVAC WORK IN CRAWL/CHAIR STORAGE SPACE,SEE MECH. DWGS. INFILL, PATCH AND REFINISH STAGE FLOORING.

REFLECTED CEILING PLAN NOTES

- $\boxed{1.}$ NEW LIGHT FIXTURE, TYP. SEE ELECTRICAL DRAWINGS FOR TYPE AND EXTENT OF WORK.
- 2. PATCH AND PAINT EXISTING GLUE-ON ACOUSTICAL CEILING TILE.
- 3. CASSETTE TYPE FAN COIL UNIT WITH BOTTOM FLUSH WITH FINISHED CEILING, TYP. SEE MECH. DRAWINGS.
- 4. NEW EXPOSED DUCT TO RUN BELOW EXISTING BEAMS, PAINT TYP.
- 5. PAINT EXISTING BEAMS, TYP.
- 6. NEW GLUE-ON TILE O/GYP. BD. CEILING SYSTEM.
- 7. (E) SMOKE HATCH TO REMAIN, COORDINATE INSTALLATION OF NEW LIGHTS AND EXPOSED DUCT.
- 8. NEW LAY-IN ACOUSTICAL PANEL, T-BAR GRID SUSPENDED CEILING SYSTEM, TYP. SEE SHEET A9.2 FOR DETAILS

GRAPHIC KEY

▭	(E) STUD WALL
▬	(N) STUD WALL
▨	(E) WIREMOLD NEAR CEILING

MECHANICAL

☒	SUPPLY DIFFUSER
⍁	RETURN AIR GRILLE
☒	EXHAUST GRILLE
▣	CASSETTE SUPPLY UNIT

ELECTRICAL

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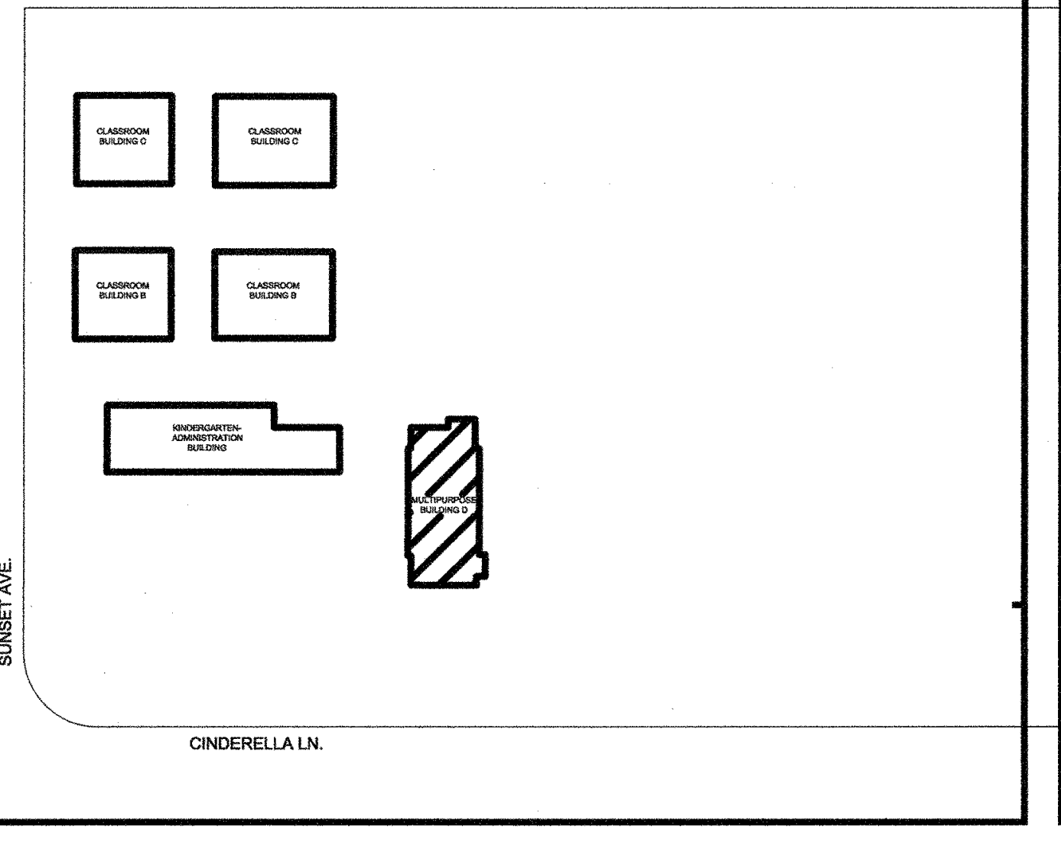

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CEILING DEMOLITION & NEW REFLECTED CEILING PLAN
MULTI-USE BUILDING - D

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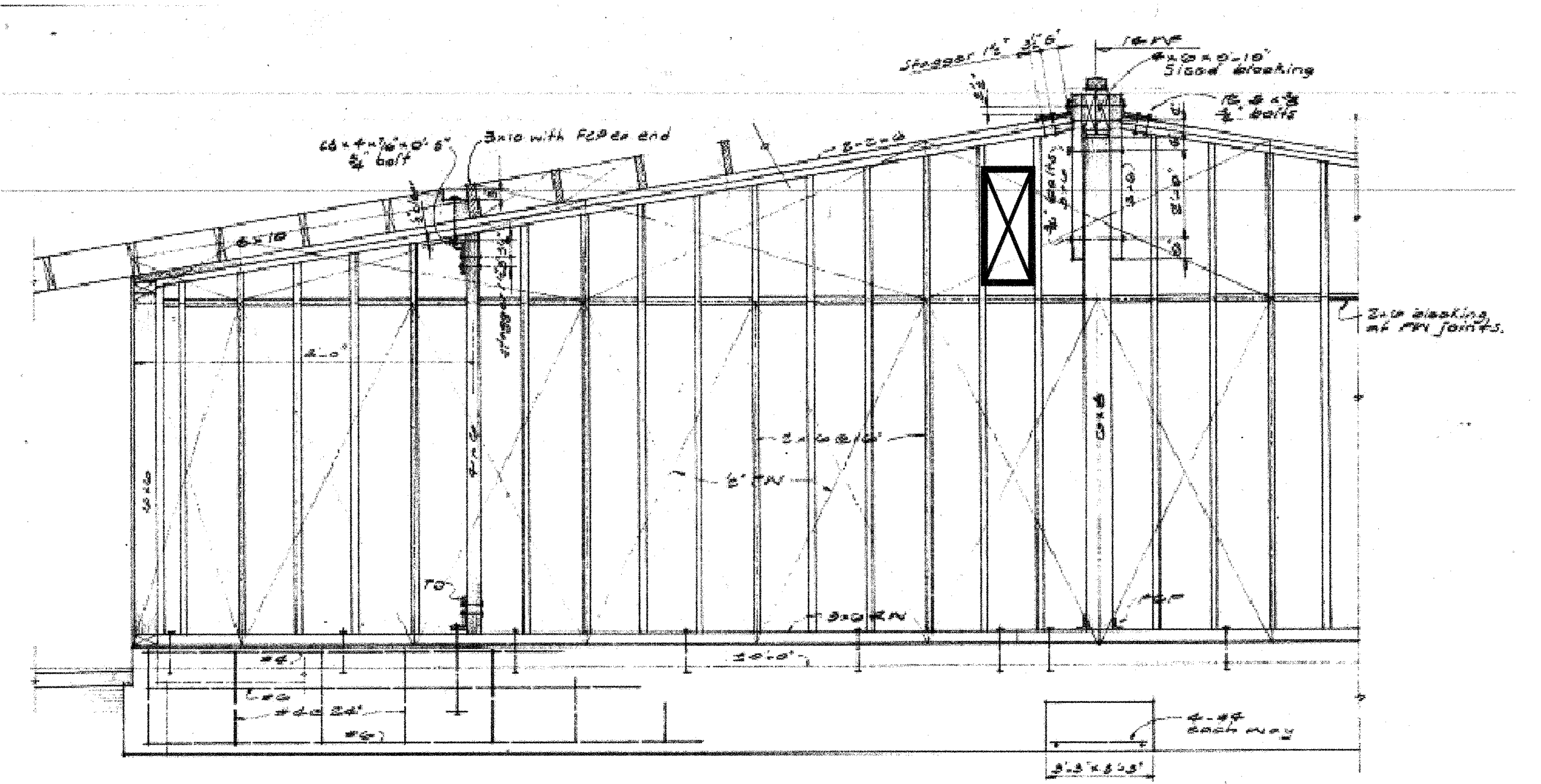
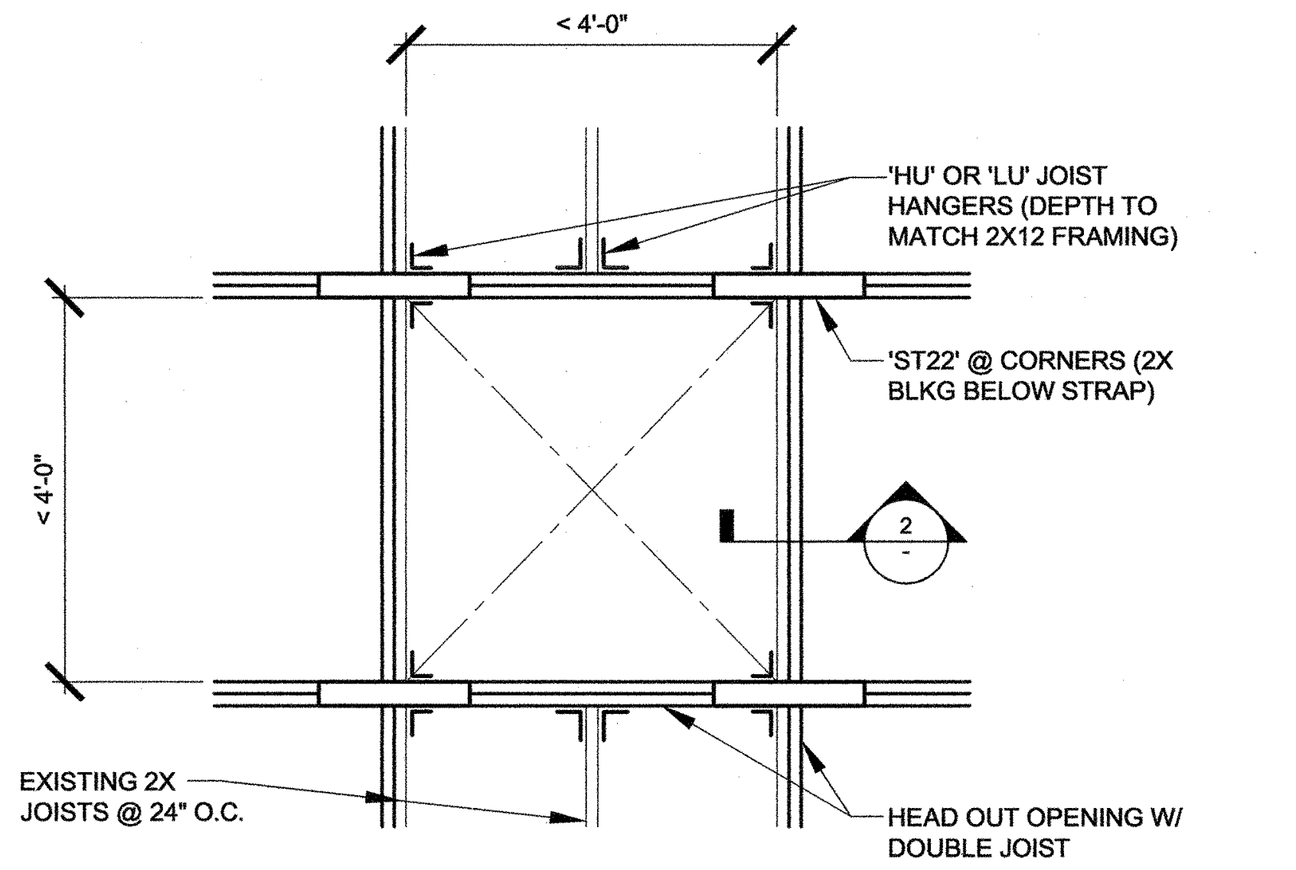
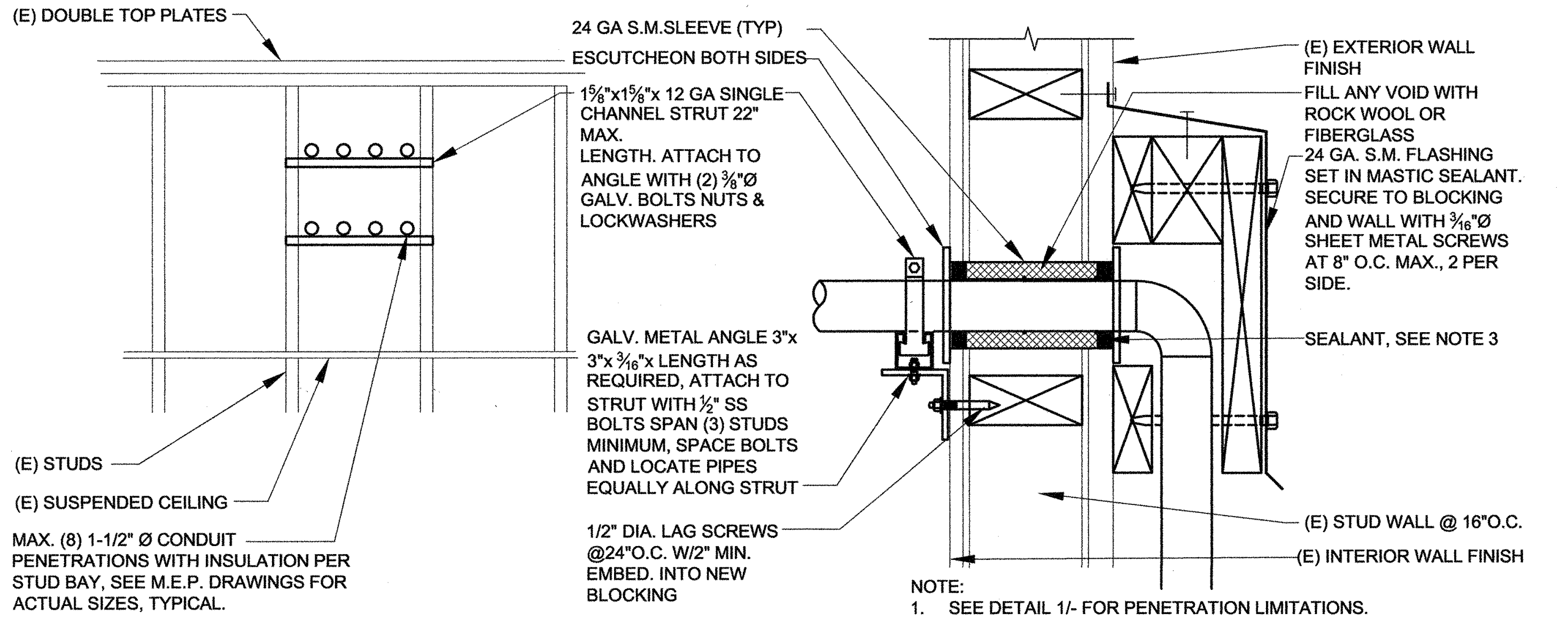


PART EAST WALL FRAMING - UNIT 'A'
½"=1'-0"
Crosswalls similar


< 4'-0"
< 4'-0"
'HU' OR 'LU' JOIST HANGERS (DEPTH TO MATCH 2X12 FRAMING)
'ST22' @ CORNERS (2X BLKG BELOW STRAP)
2
-
EXISTING 2X JOISTS @ 24" O.C.
HEAD OUT OPENING W/ DOUBLE JOIST

4 TYPICAL ROOF FRAMED OPENING

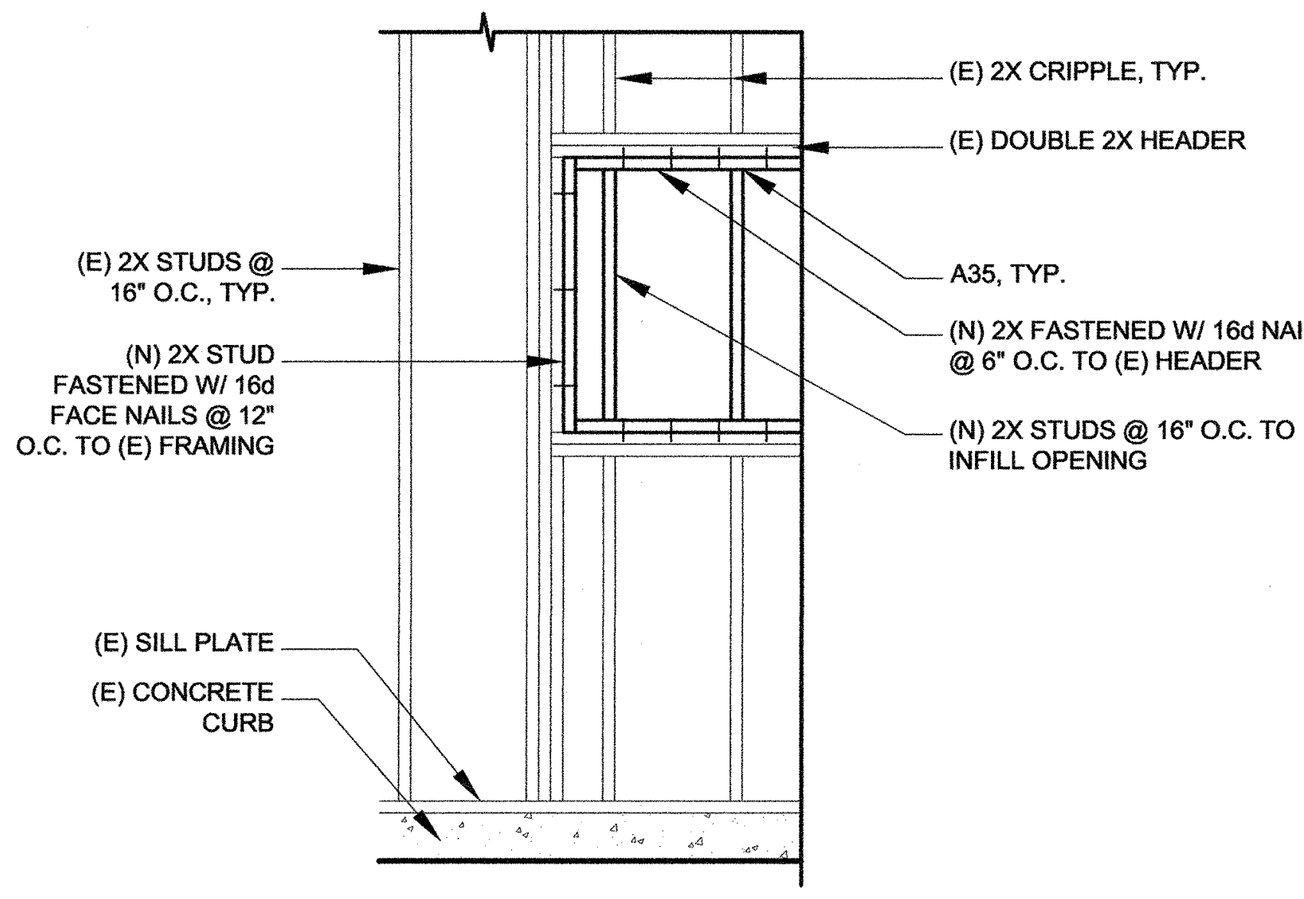
1/2"=1'-0"


(E) DOUBLE TOP PLATES
24 GA S.M.SLEEVE (TYP)
ESCUTCHEON BOTH SIDES
1⅝"x1⅝"x 12 GA SINGLE CHANNEL STRUT 22" MAX. LENGTH. ATTACH TO ANGLE WITH (2) ⅜"Ø GALV. BOLTS NUTS & LOCKWASHERS
GALV. METAL ANGLE 3"x 3"x 3⁄16"x LENGTH AS REQUIRED, ATTACH TO STRUT WITH ½" SS BOLTS SPAN (3) STUDS MINIMUM, SPACE BOLTS AND LOCATE PIPES EQUALLY ALONG STRUT
1/2" DIA. LAG SCREWS @24"O.C. W/2" MIN. EMBED. INTO NEW BLOCKING
(E) STUDS
(E) SUSPENDED CEILING
MAX. (8) 1-1/2" Ø CONDUIT PENETRATIONS WITH INSULATION PER STUD BAY, SEE M.E.P. DRAWINGS FOR ACTUAL SIZES, TYPICAL.
(E) EXTERIOR WALL FINISH
FILL ANY VOID WITH ROCK WOOL OR FIBERGLASS
24 GA. S.M. FLASHING SET IN MASTIC SEALANT. SECURE TO BLOCKING AND WALL WITH 3⁄16"Ø SHEET METAL SCREWS AT 8" O.C. MAX., 2 PER SIDE.
SEALANT, SEE NOTE 3
(E) STUD WALL @ 16"O.C.
(E) INTERIOR WALL FINISH

NOTE:
1. SEE DETAIL 1/- FOR PENETRATION LIMITATIONS.
2. AVOID CUTTING (E)STUDS, COLUMNS, & BRACING. PROVIDE UL APPROVED PENETRATION WITH ESCUTCHEON AND WEATHER TIGHT SEAL AS REQUIRED.
3. TWO PART CHEMICAL CURING, GUN GRADE POLYURETHANE SEALANT TYPE II NON SAG.
4. MANUFACTURED WALL SLEEVES MAY BE USED IN PLACE OF CONTRACTOR FABRICATED SLEEVES.

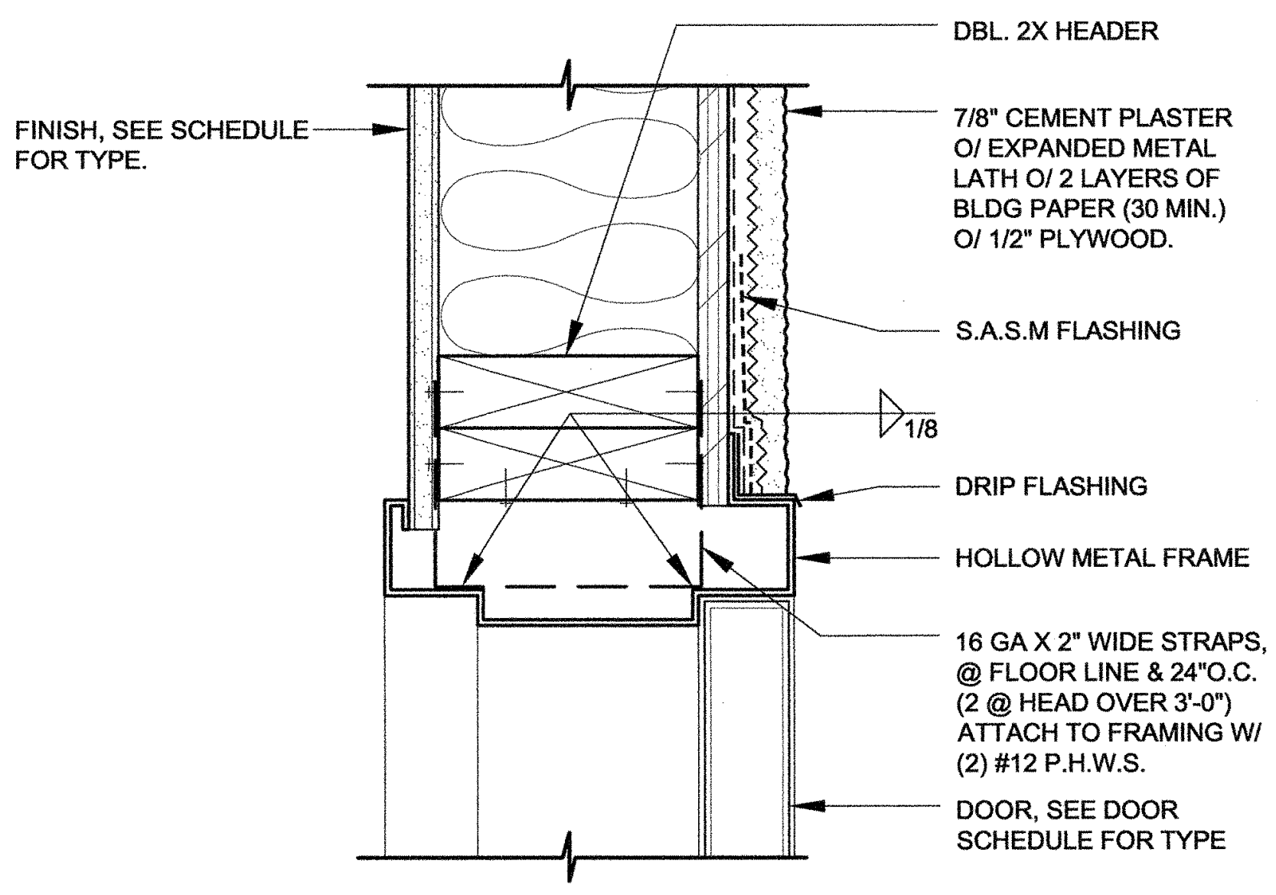
7 CONDUIT SPACING

THRU WALLS 3/4"=1'-0"


(E) 2X CRIPPLE, TYP.
(E) DOUBLE 2X HEADER
A35, TYP.
(N) 2X FASTENED W/ 16d NAILS @ 6" O.C. TO (E) HEADER
(N) 2X STUDS @ 16" O.C. TO INFILL OPENING
(E) 2X STUDS @ 16" O.C., TYP.
(N) 2X STUD FASTENED W/ 16d FACE NAILS @ 12" O.C. TO (E) FRAMING
(E) SILL PLATE
(E) CONCRETE CURB

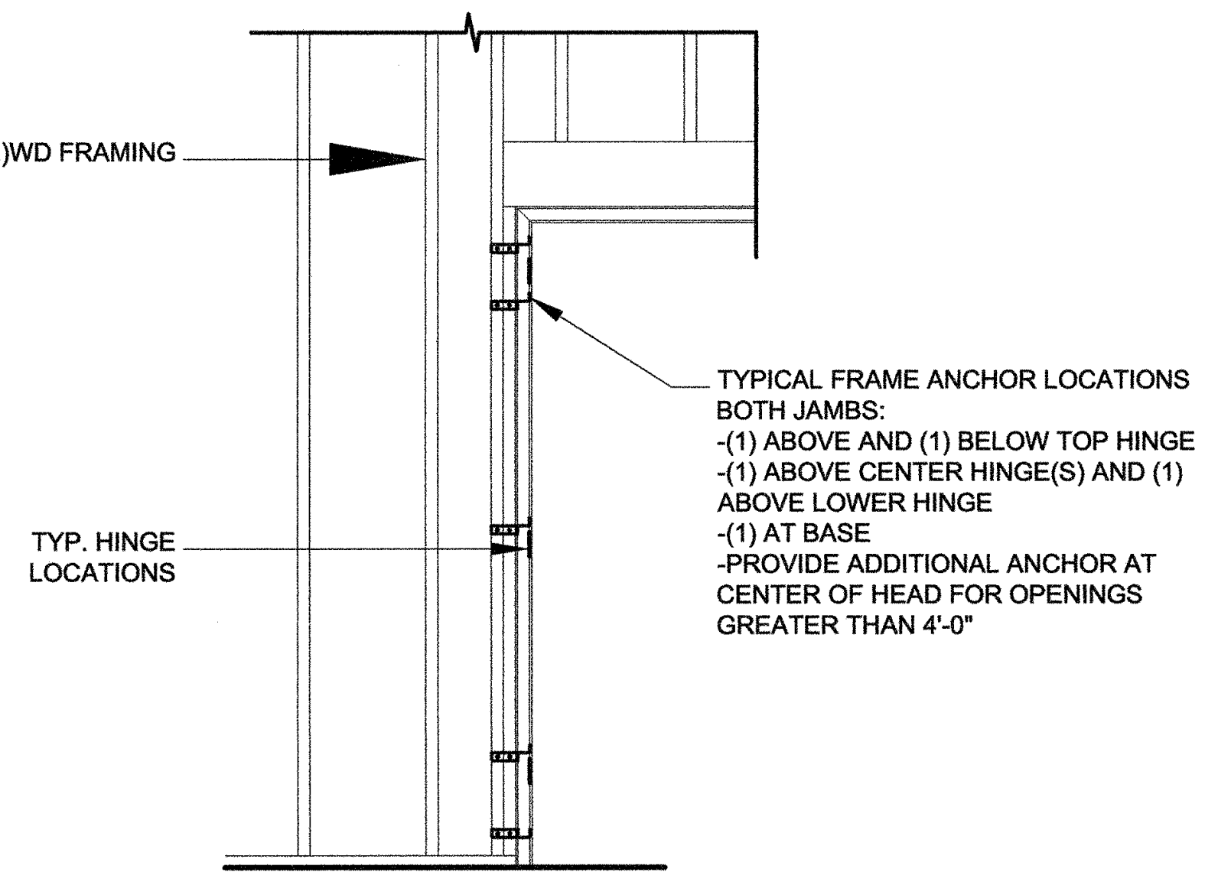
3 INFILL @ (E) WALL OPENING

1/2"=1'-0"


DBL. 2X HEADER
FINISH, SEE SCHEDULE FOR TYPE.
7/8" CEMENT PLASTER O/ EXPANDED METAL LATH O/ 2 LAYERS OF BLDG PAPER (30 MIN.) O/ 1/2" PLYWOOD.
S.A.S.M FLASHING
1/8
DRIP FLASHING
HOLLOW METAL FRAME
16 GA X 2" WIDE STRAPS, 1 @ FLOOR LINE & 24"O.C. (2 @ HEAD OVER 3'-0") ATTACH TO FRAMING W/ (2) #12 P.H.W.S.
DOOR, SEE DOOR SCHEDULE FOR TYPE

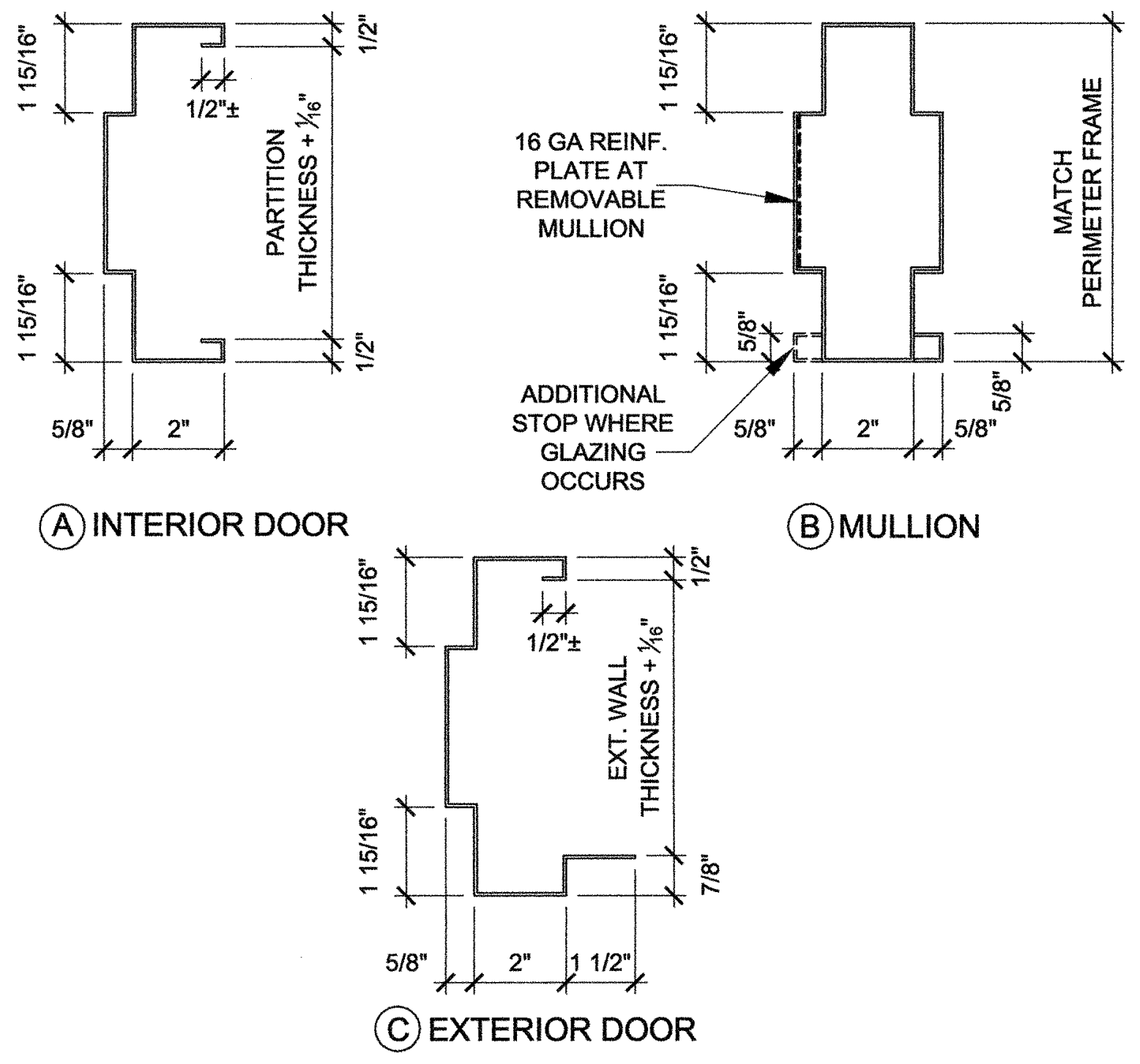
18 TYP. EXTERIOR DOOR HEAD

JAMB SIMILAR 3"=1'-0"


(E)WD FRAMING
TYP. HINGE LOCATIONS
TYPICAL FRAME ANCHOR LOCATIONS BOTH JAMBS:
-(1) ABOVE AND (1) BELOW TOP HINGE
-(1) ABOVE CENTER HINGE(S) AND (1) ABOVE LOWER HINGE
-(1) AT BASE
-PROVIDE ADDITIONAL ANCHOR AT CENTER OF HEAD FOR OPENINGS GREATER THAN 4'-0"

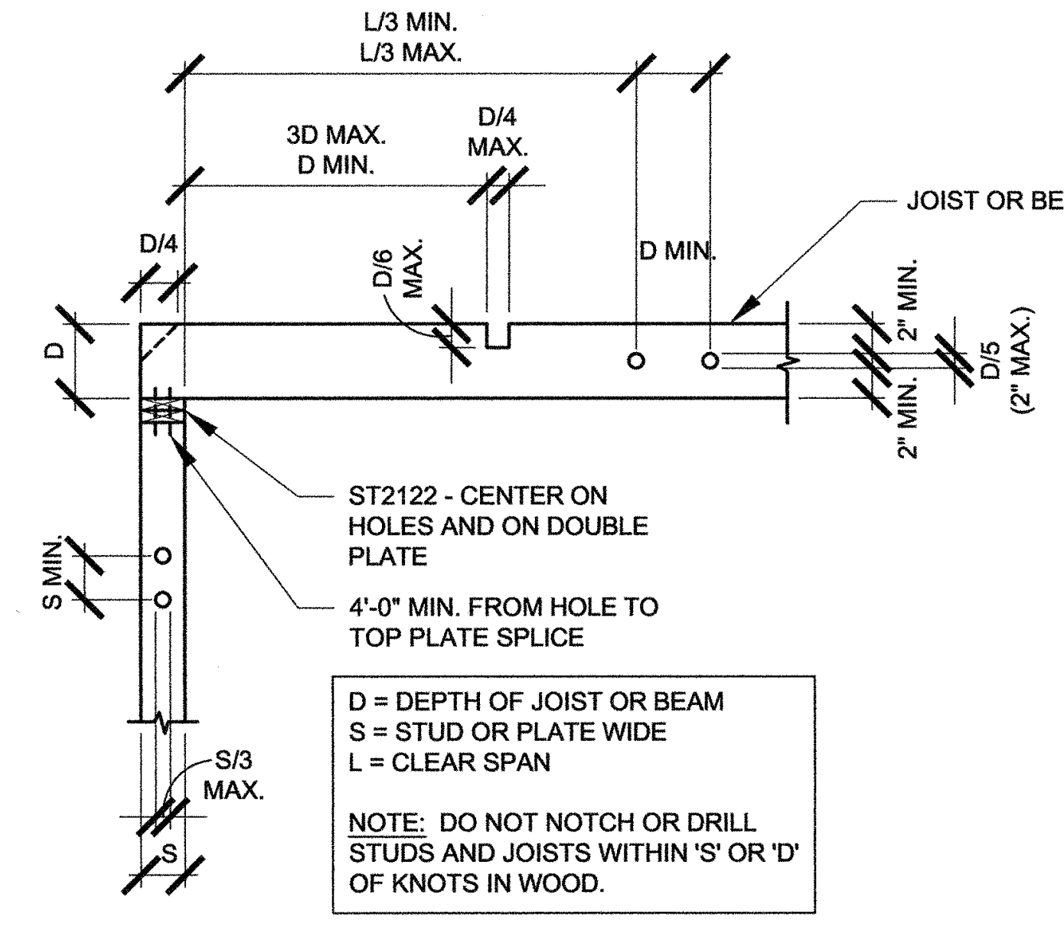
14 FRAME ANCHOR LOCATIONS

1/2"=1'-0"



10 HOLLOW METAL FRAMES

3"=1'-0"

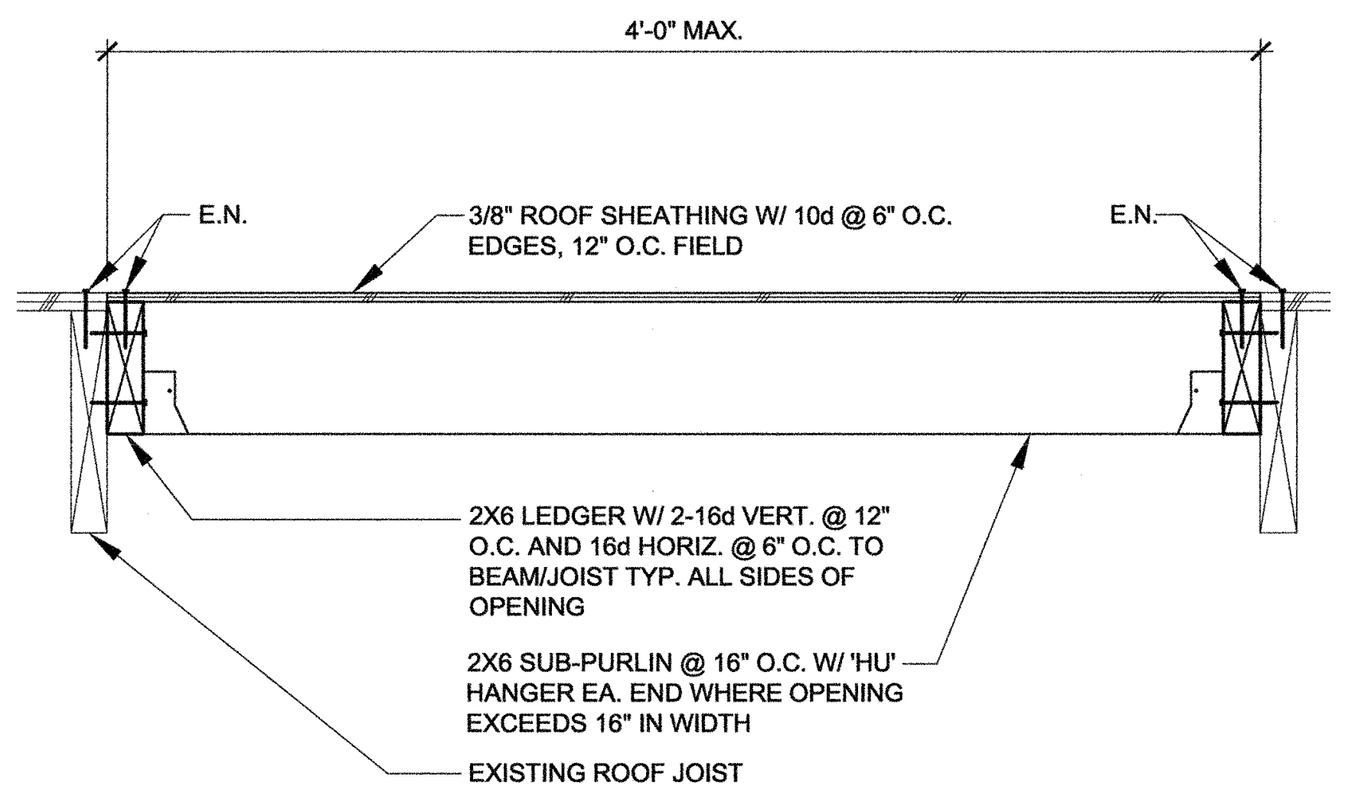


D = DEPTH OF JOIST OR BEAM
S = STUD OR PLATE WIDE
L = CLEAR SPAN

NOTE: DO NOT NOTCH OR DRILL STUDS AND JOISTS WITHIN 'S' OR 'D' OF KNOTS IN WOOD.

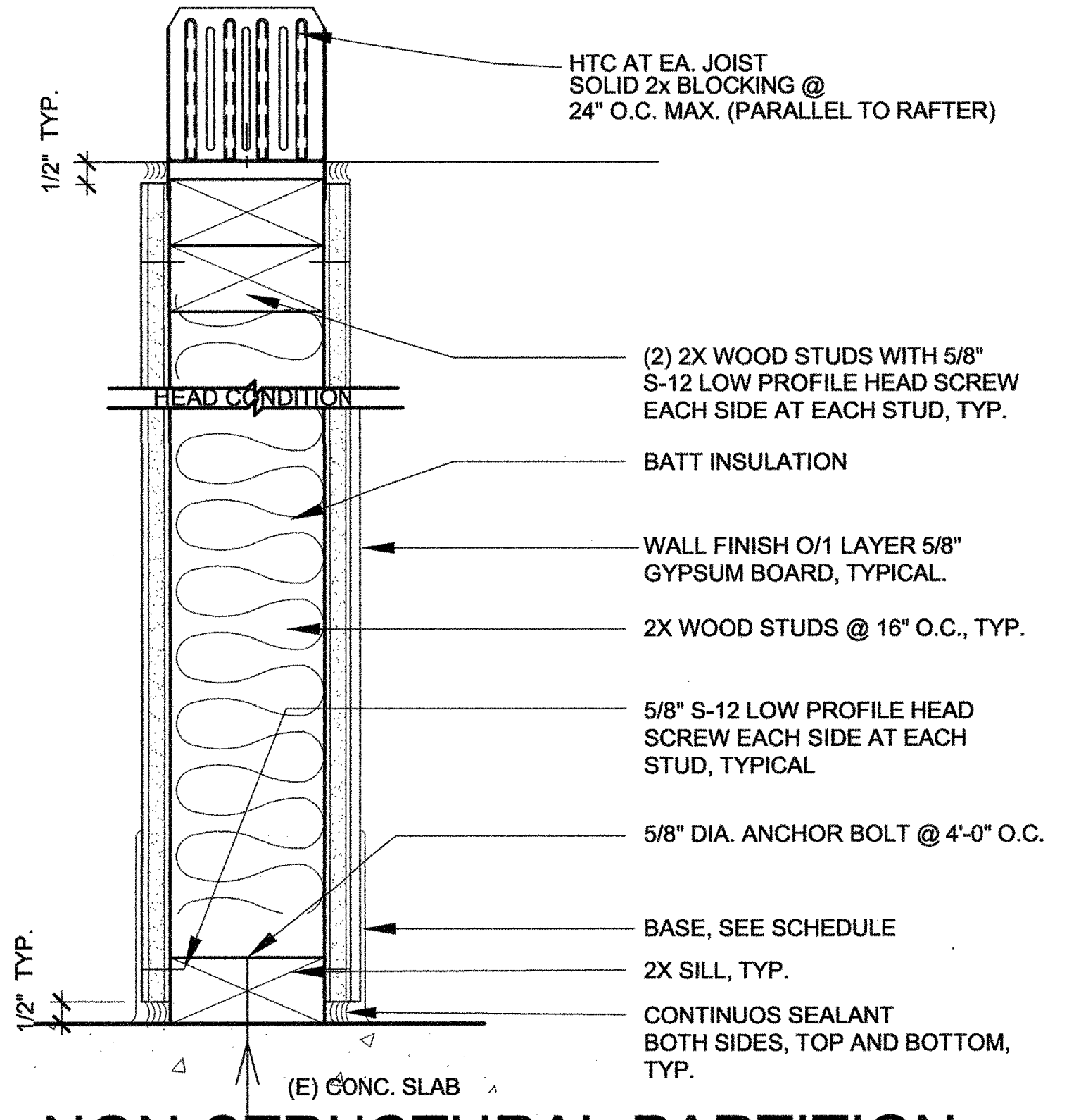
6 HOLES & NOTCHES IN WOOD STUDS, JOISTS, BEAMS & PLATES

1/2"=1'-0"


4'-0" MAX.
E.N.
3/8" ROOF SHEATHING W/ 10d @ 6" O.C. EDGES, 12" O.C. FIELD
E.N.
2X6 LEDGER W/ 2-16d VERT. @ 12" O.C. AND 16d HORIZ. @ 6" O.C. TO BEAM/JOIST TYP. ALL SIDES OF OPENING
2X6 SUB-PURLIN @ 16" O.C. W/ 'HU' HANGER EA. END WHERE OPENING EXCEEDS 16" IN WIDTH
EXISTING ROOF JOIST

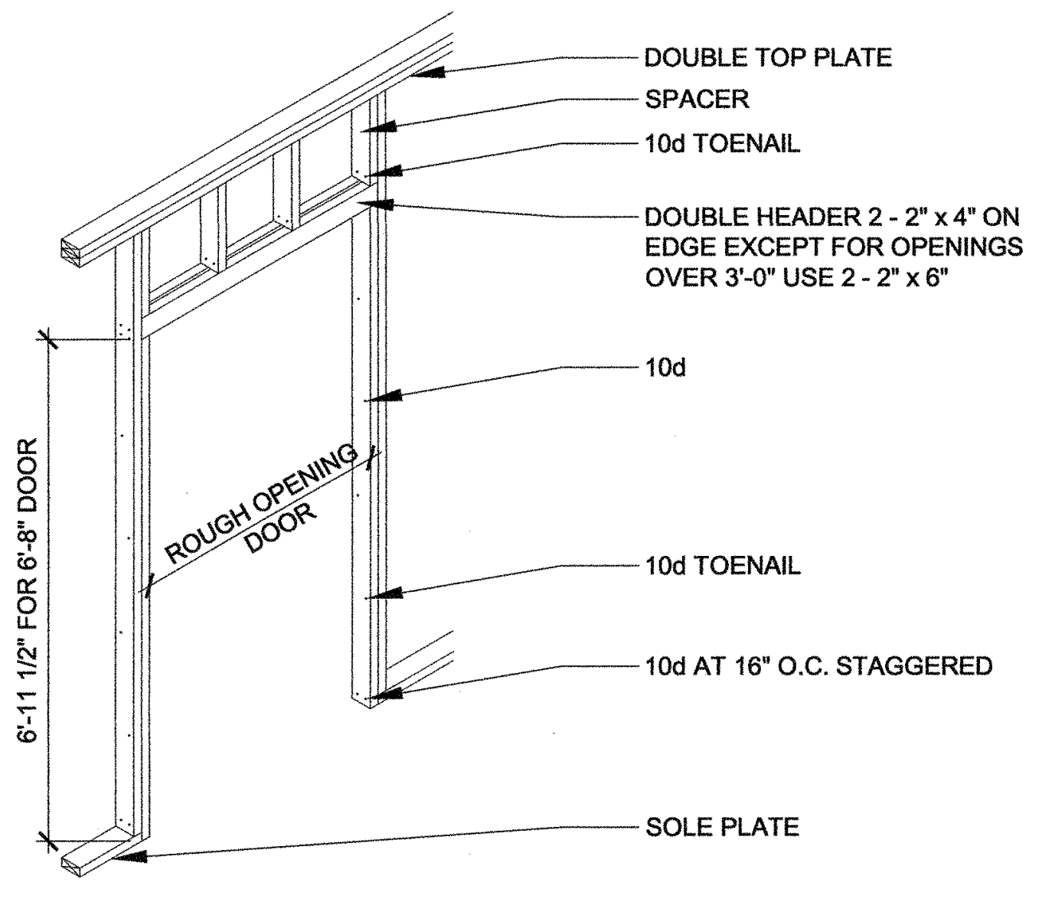
2 (N) INFILL AT (E) ROOF OPENING

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


HTC AT EA. JOIST SOLID 2x BLOCKING @ 24" O.C. MAX. (PARALLEL TO RAFTER)
1/2" TYP.
HEAD CONDITION
(2) 2X WOOD STUDS WITH 5/8" S-12 LOW PROFILE HEAD SCREW EACH SIDE AT EACH STUD, TYP.
BATT INSULATION
WALL FINISH O/1 LAYER 5/8" GYPSUM BOARD, TYPICAL.
2X WOOD STUDS @ 16" O.C., TYP.
5/8" S-12 LOW PROFILE HEAD SCREW EACH SIDE AT EACH STUD, TYPICAL
5/8" DIA. ANCHOR BOLT @ 4'-0" O.C.
BASE, SEE SCHEDULE
2X SILL, TYP.
CONTINUOS SEALANT BOTH SIDES, TOP AND BOTTOM, TYP.
1/2" TYP.
(E) CONC. SLAB

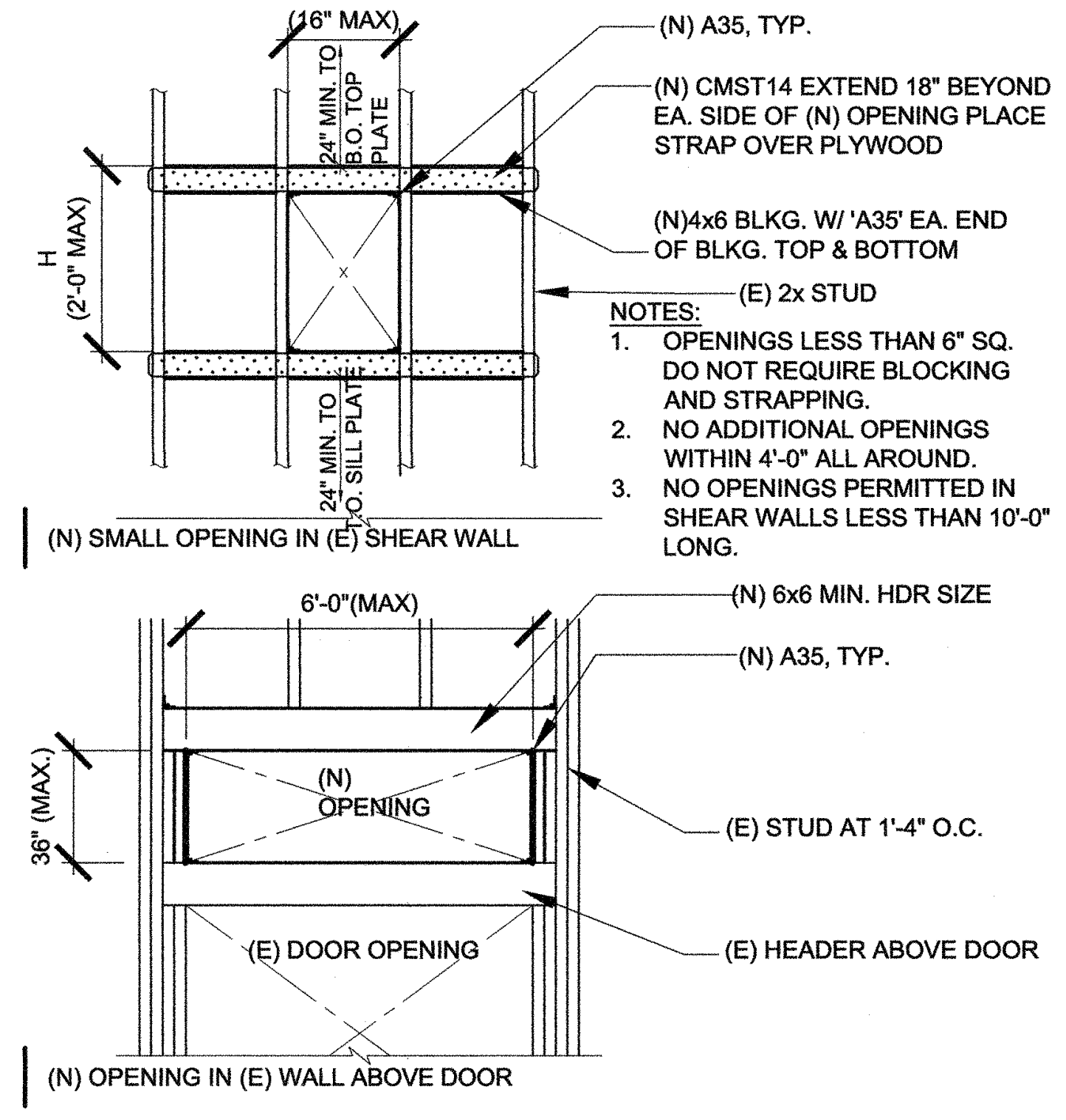
17 NON-STRUCTURAL PARTITION

3"=1'-0"


DOUBLE TOP PLATE
SPACER
10d TOENAIL
DOUBLE HEADER 2 - 2" x 4" ON EDGE EXCEPT FOR OPENINGS OVER 3'-0" USE 2 - 2" x 6"
10d
ROUGH OPENING DOOR
6'-11 1/2" FOR 6'-8" DOOR
10d TOENAIL
10d AT 16" O.C. STAGGERED
SOLE PLATE

13 DOOR OPENING

3/8"=1'-0"


'W' (16" MAX)
24" MIN. TO B.O. TOP PLATE
(N) A35, TYP.
(N) CMST14 EXTEND 18" BEYOND EA. SIDE OF (N) OPENING PLACE STRAP OVER PLYWOOD
(N)4x6 BLKG. W/ 'A35' EA. END OF BLKG. TOP & BOTTOM
(E) 2x STUD
H (2'-0" MAX)
24" MIN. TO T.O. SILL PLATE
(N) SMALL OPENING IN (E) SHEAR WALL
6'-0"(MAX)
(N) 6x6 MIN. HDR SIZE
(N) A35, TYP.
36" (MAX.)
(N) OPENING
(E) STUD AT 1'-4" O.C.
(E) DOOR OPENING
(E) HEADER ABOVE DOOR
(N) OPENING IN (E) WALL ABOVE DOOR

NOTES:
1. OPENINGS LESS THAN 6" SQ. DO NOT REQUIRE BLOCKING AND STRAPPING.
2. NO ADDITIONAL OPENINGS WITHIN 4'-0" ALL AROUND.
3. NO OPENINGS PERMITTED IN SHEAR WALLS LESS THAN 10'-0" LONG.

1 SMALL OPENINGS IN SHEARWALLS

1"=1'-0"

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LICENSED ARCHITECT
MARK C. FINNEY
NO. C-24673
REN. 9-30-19
STATE OF CALIFORNIA

TYPICAL DETAILS

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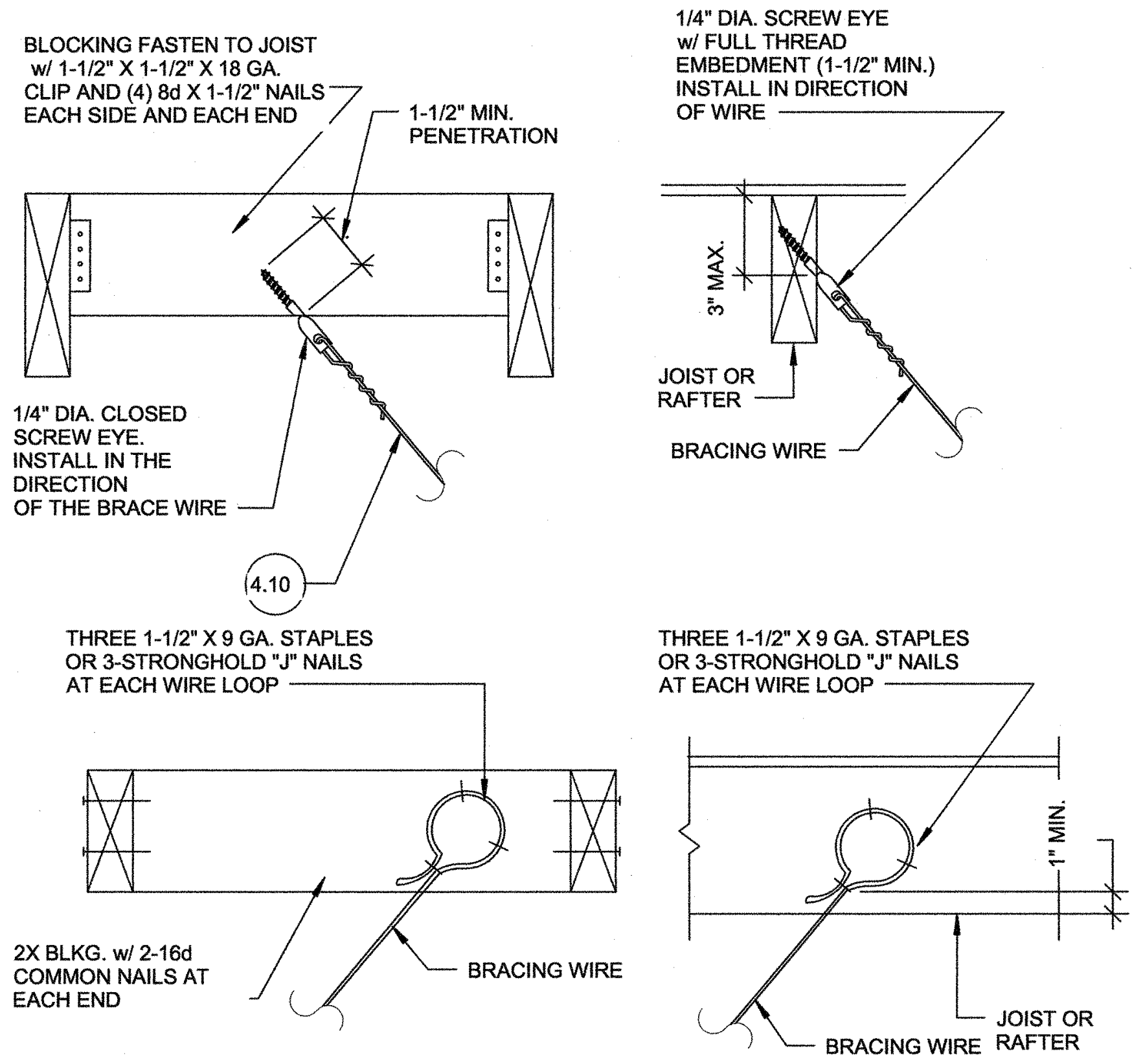
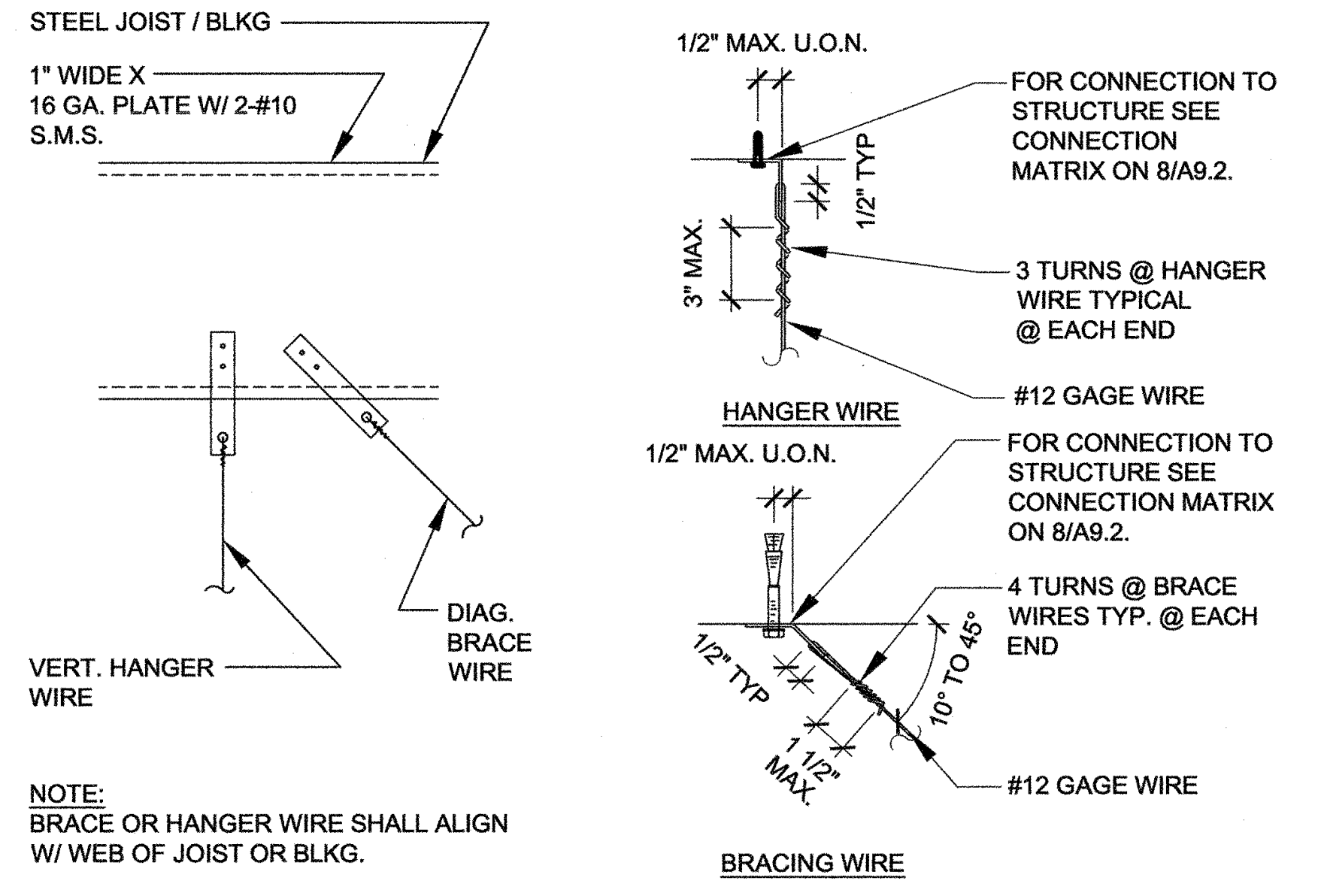

BLOCKING FASTEN TO JOIST w/ 1-1/2" X 1-1/2" X 18 GA. CLIP AND (4) 8d X 1-1/2" NAILS EACH SIDE AND EACH END
1-1/2" MIN. PENETRATION
1/4" DIA. SCREW EYE w/ FULL THREAD EMBEDMENT (1-1/2" MIN.) INSTALL IN DIRECTION OF WIRE
3" MAX.
JOIST OR RAFTER
BRACING WIRE
1/4" DIA. CLOSED SCREW EYE, INSTALL IN THE DIRECTION OF THE BRACE WIRE
4.10
THREE 1-1/2" X 9 GA. STAPLES OR 3-STRONGHOLD "J" NAILS AT EACH WIRE LOOP
THREE 1-1/2" X 9 GA. STAPLES OR 3-STRONGHOLD "J" NAILS AT EACH WIRE LOOP
1" MIN.
BRACING WIRE
2X BLKG. w/ 2-16d COMMON NAILS AT EACH END
BRACING WIRE
JOIST OR RAFTER

15 BRACING WIRE CONNECTIONS

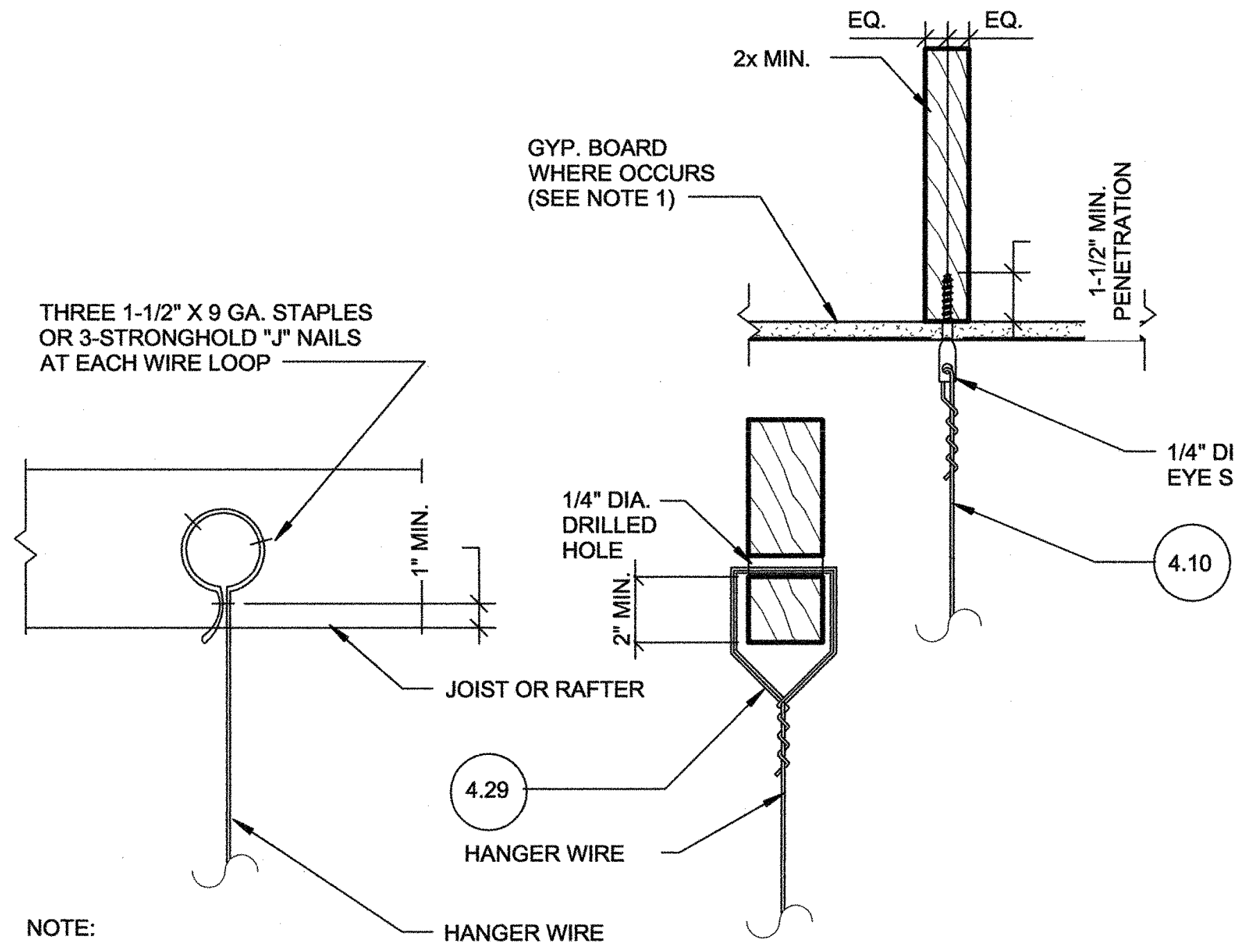
(ACOUSTICAL T-BAR) 4.35 1-1/2"=1'-0"


STEEL JOIST / BLKG
1" WIDE X 16 GA. PLATE W/ 2-#10 S.M.S.
1/2" MAX. U.O.N.
FOR CONNECTION TO STRUCTURE SEE CONNECTION MATRIX ON 8/A9.2.
3" MAX.
1/2" TYP
3 TURNS @ HANGER WIRE TYPICAL @ EACH END
#12 GAGE WIRE
HANGER WIRE
1/2" MAX. U.O.N.
FOR CONNECTION TO STRUCTURE SEE CONNECTION MATRIX ON 8/A9.2.
4 TURNS @ BRACE WIRES TYP. @ EACH END
10" TO 45°
1/2" TYP
1 1/2"
DIAG. BRACE WIRE
VERT. HANGER WIRE
#12 GAGE WIRE
BRACING WIRE

NOTE:
BRACE OR HANGER WIRE SHALL ALIGN W/ WEB OF JOIST OR BLKG.

11 WIRE CONNECTIONS

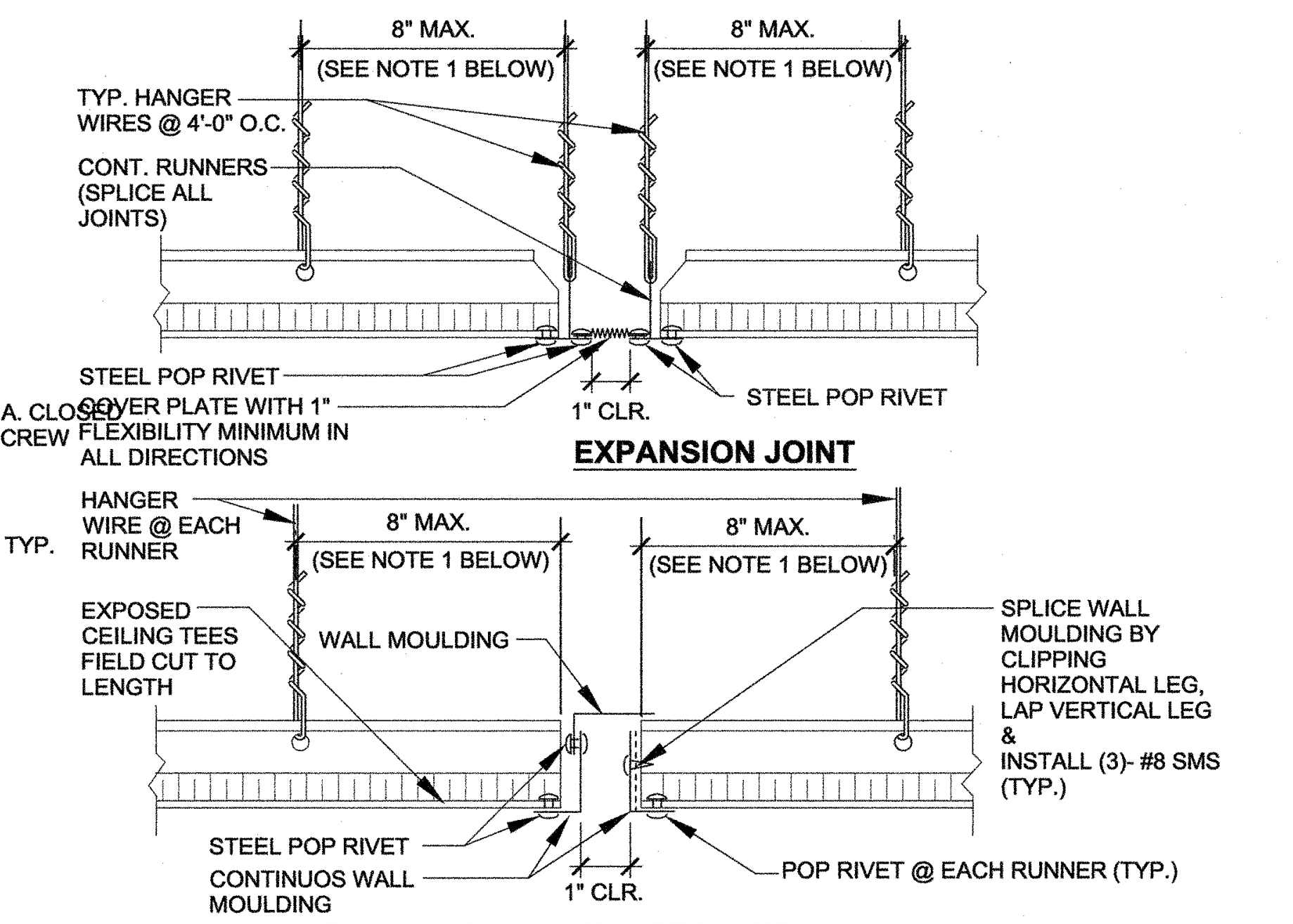
DSA (SHEET #4.10) 1-1/2"=1'-0"


2x MIN.
EQ.
EQ.
GYP. BOARD WHERE OCCURS (SEE NOTE 1)
1-1/2" MIN. PENETRATION
THREE 1-1/2" X 9 GA. STAPLES OR 3-STRONGHOLD "J" NAILS AT EACH WIRE LOOP
1/4" DIA. CLOSED EYE SCREW
4.10
TYP.
1/4" DIA. DRILLED HOLE
1" MIN.
2" MIN.
JOIST OR RAFTER
4.29
HANGER WIRE
HANGER WIRE

NOTE:
(1) WHEN FIRE RATED GYP. BOARD IS INSTALLED ON THE BOTTOM FLANGES, USE SCREW EYES W/ SUFFICIENT LENGTH TO AVOID DAMAGING THE FIRE RATED GYP. BOARD AND MEET MIN. PENETRATION.

8 HANGER WIRE CONNECTIONS

(ACOUSTICAL T-BAR) 4.25 1-1/2"=1'-0"


8" MAX. (SEE NOTE 1 BELOW)
8" MAX. (SEE NOTE 1 BELOW)
TYP. HANGER WIRES @ 4'-0" O.C.
CONT. RUNNERS (SPLICE ALL JOINTS)
STEEL POP RIVET
COVER PLATE WITH 1" FLEXIBILITY MINIMUM IN ALL DIRECTIONS
1" CLR.
STEEL POP RIVET
EXPANSION JOINT
HANGER WIRE @ EACH RUNNER
8" MAX. (SEE NOTE 1 BELOW)
8" MAX. (SEE NOTE 1 BELOW)
EXPOSED CEILING TEES FIELD CUT TO LENGTH
WALL MOULDING
SPLICE WALL MOULDING BY CLIPPING HORIZONTAL LEG, LAP VERTICAL LEG & INSTALL (3)- #8 SMS (TYP.)
STEEL POP RIVET
CONTINUOS WALL MOULDING
1" CLR.
POP RIVET @ EACH RUNNER (TYP.)

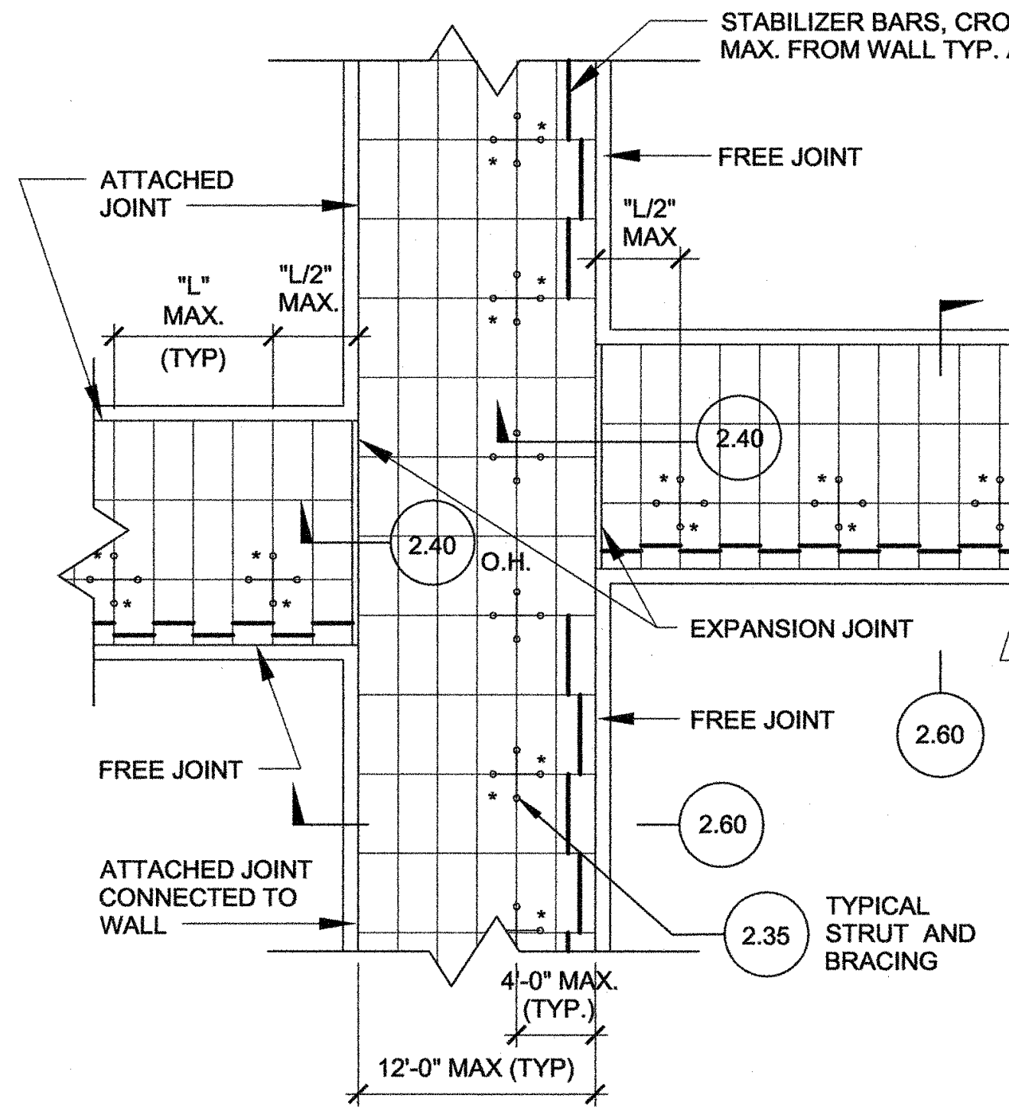
EXPANSION JOINT ALTERNATE

EXPANSION JOINTS AT THE INTERSECTION OF CORRIDORS AND AT JUNCTIONS OF CORRIDORS AND LOBBIES OR OTHER SIMILAR AREAS

NOTES:
1. PROVIDE #12 GAGE HANGER WIRES AT THE ENDS OF ALL MAIN AND CROSS RUNNERS WITHIN EIGHT (8) INCHES OF THE SUPPORT OR WITHIN ONE-FOURTH (1/4) OF THE LENGTH OF THE END TEE, WHICHEVER IS LESS, FOR THE PERIMETER OF THE CEILING AREA. PERIMETER WIRES ARE NOT REQUIRED WHEN THE LENGTH OF THE END TEE IS EIGHT (8) INCHES OR LESS.

4 DIAGRAMATIC ATTACHMENT

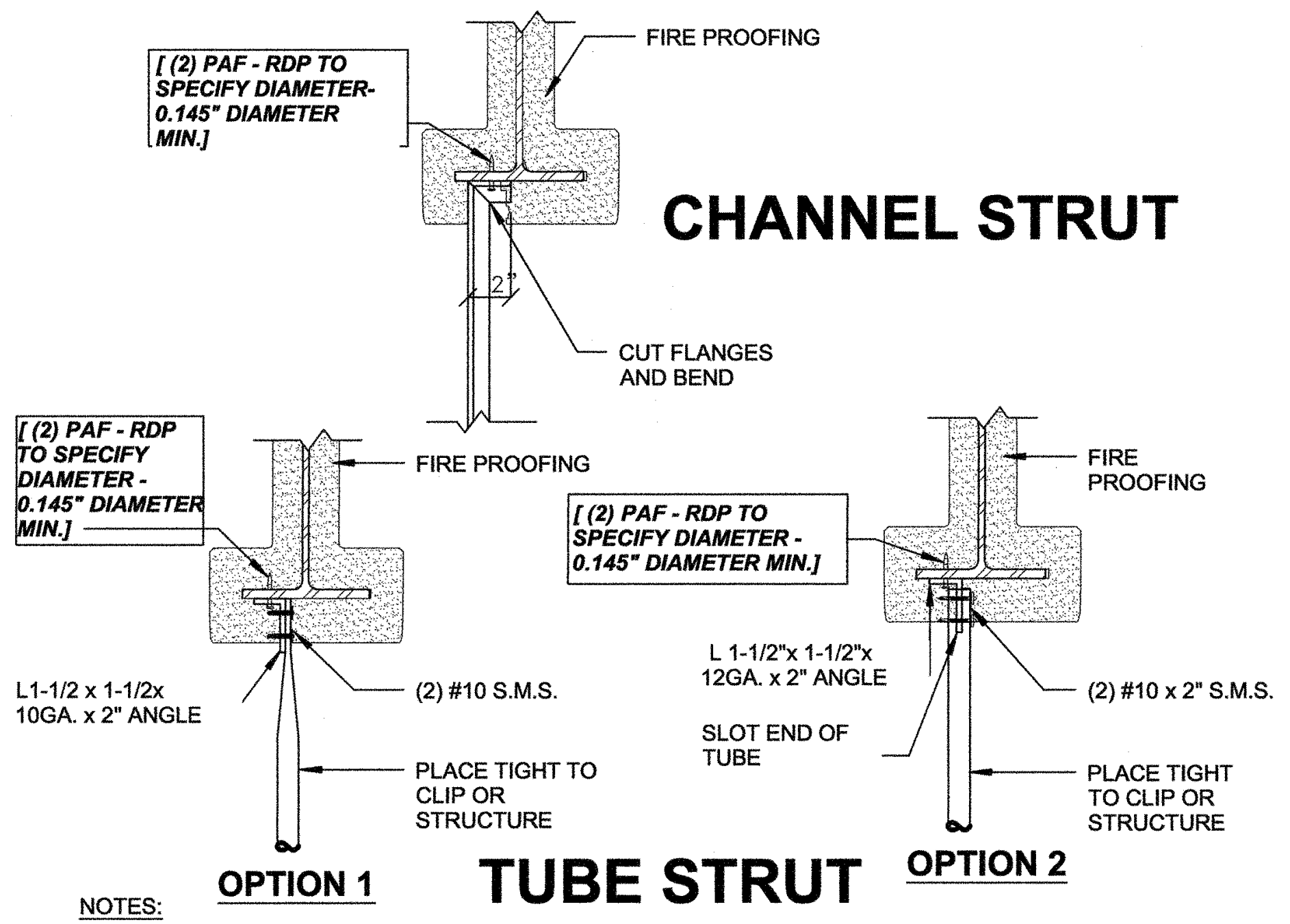
PER DSA IR 25-2.13 (SHEET # 2.40) 3"=1'-0"



NOTES:
1. "L"IS MAX. BRACE ASSEMBLY SPACING PER CEILING PLAN DETAIL, FOR EXAMPLE, WHERE 8' x 12' SPACING IS SPECIFIED, USE "L" = 8'.

2 EXPANSION / SLIP JOINTS IN CORRIDORS

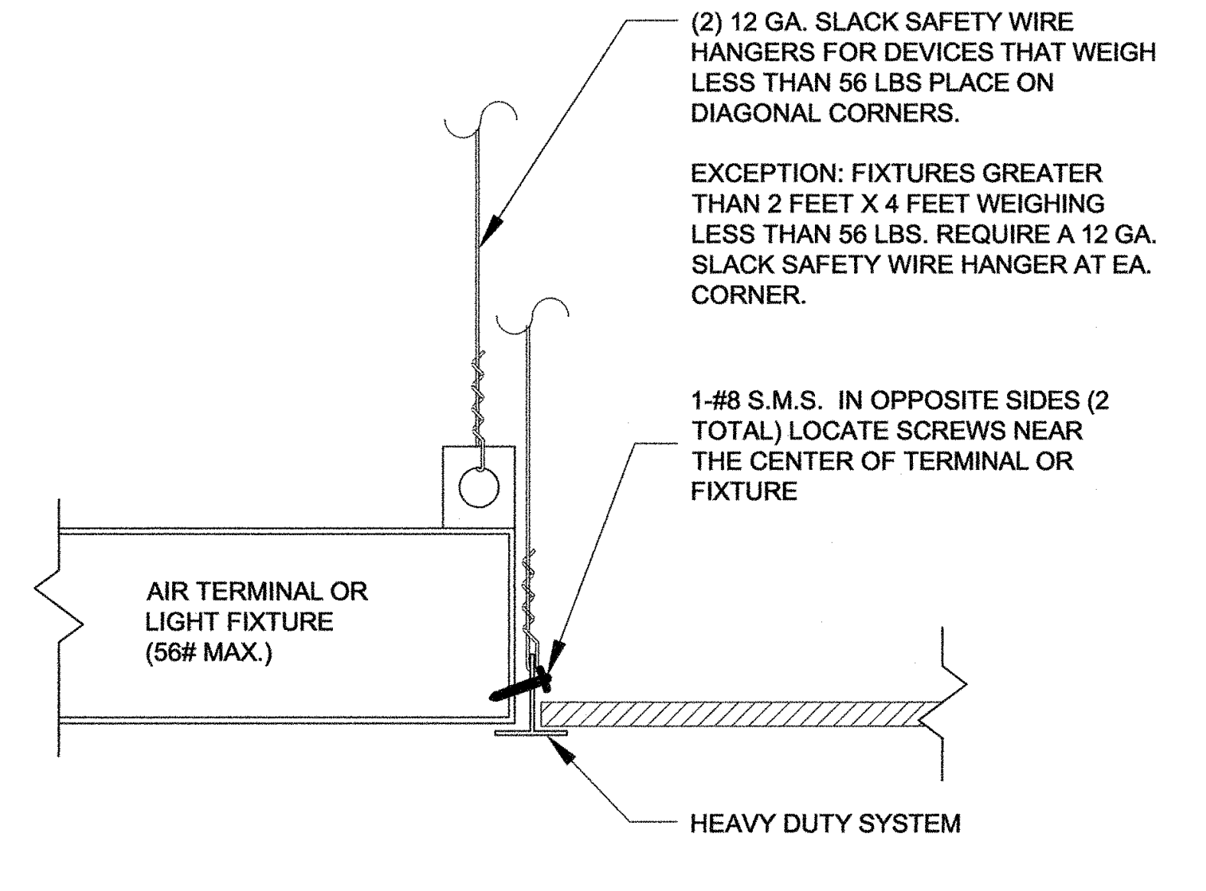
PER DSA IR 25-2.13 (SHEET # 2.30) NTS


FIRE PROOFING
[(2) PAF - RDP TO SPECIFY DIAMETER- 0.145" DIAMETER MIN.]
CHANNEL STRUT
CUT FLANGES AND BEND
FIRE PROOFING
[(2) PAF - RDP TO SPECIFY DIAMETER - 0.145" DIAMETER MIN.]
FIRE PROOFING
[(2) PAF - RDP TO SPECIFY DIAMETER - 0.145" DIAMETER MIN.]
L1-1/2 x 1-1/2x 10GA. x 2" ANGLE
(2) #10 S.M.S.
PLACE TIGHT TO CLIP OR STRUCTURE
L 1-1/2"x 1-1/2"x 12GA. x 2" ANGLE
SLOT END OF TUBE
(2) #10 x 2" S.M.S.
PLACE TIGHT TO CLIP OR STRUCTURE
OPTION 1
TUBE STRUT
OPTION 2

NOTES:
1. STRUCTURAL STEEL MEMBER SHALL NOT BE LESS THAN 3/16".
2. RDP IN RESPONSIBLE CHARGE, I.O.R. AND CONTRACTOR SHALL VERIFY THAT NO PAF IS INSTALLED IN THE PROTECTED ZONE OF ANY STEEL MEMBER, SEE ANSI/AISC 341-10.
3. REFER TO 5.20 AND 5.30 FOR ADDITIONAL INFORMATION.

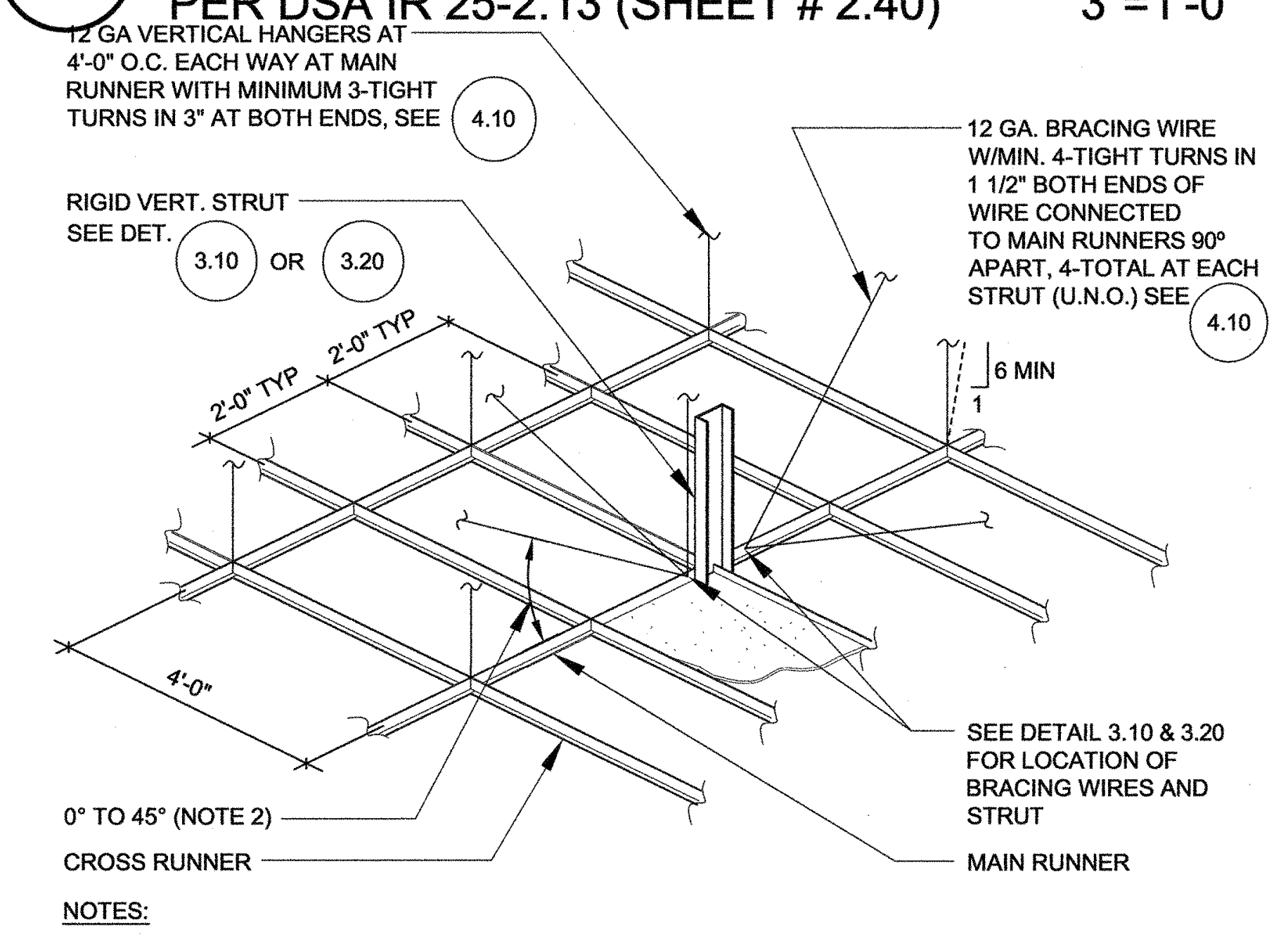
14 STRUT CONNECTION

TO STRUCT. STEEL (SHEET # 5.40) 1-1/2"=1'-0"


(2) 12 GA. SLACK SAFETY WIRE HANGERS FOR DEVICES THAT WEIGH LESS THAN 56 LBS PLACE ON DIAGONAL CORNERS.
EXCEPTION: FIXTURES GREATER THAN 2 FEET X 4 FEET WEIGHING LESS THAN 56 LBS. REQUIRE A 12 GA. SLACK SAFETY WIRE HANGER AT EA. CORNER.
1-#8 S.M.S. IN OPPOSITE SIDES (2 TOTAL) LOCATE SCREWS NEAR THE CENTER OF TERMINAL OR FIXTURE
AIR TERMINAL OR LIGHT FIXTURE (56# MAX.)
HEAVY DUTY SYSTEM

7 DIAGRAMATIC ATTACHMENT

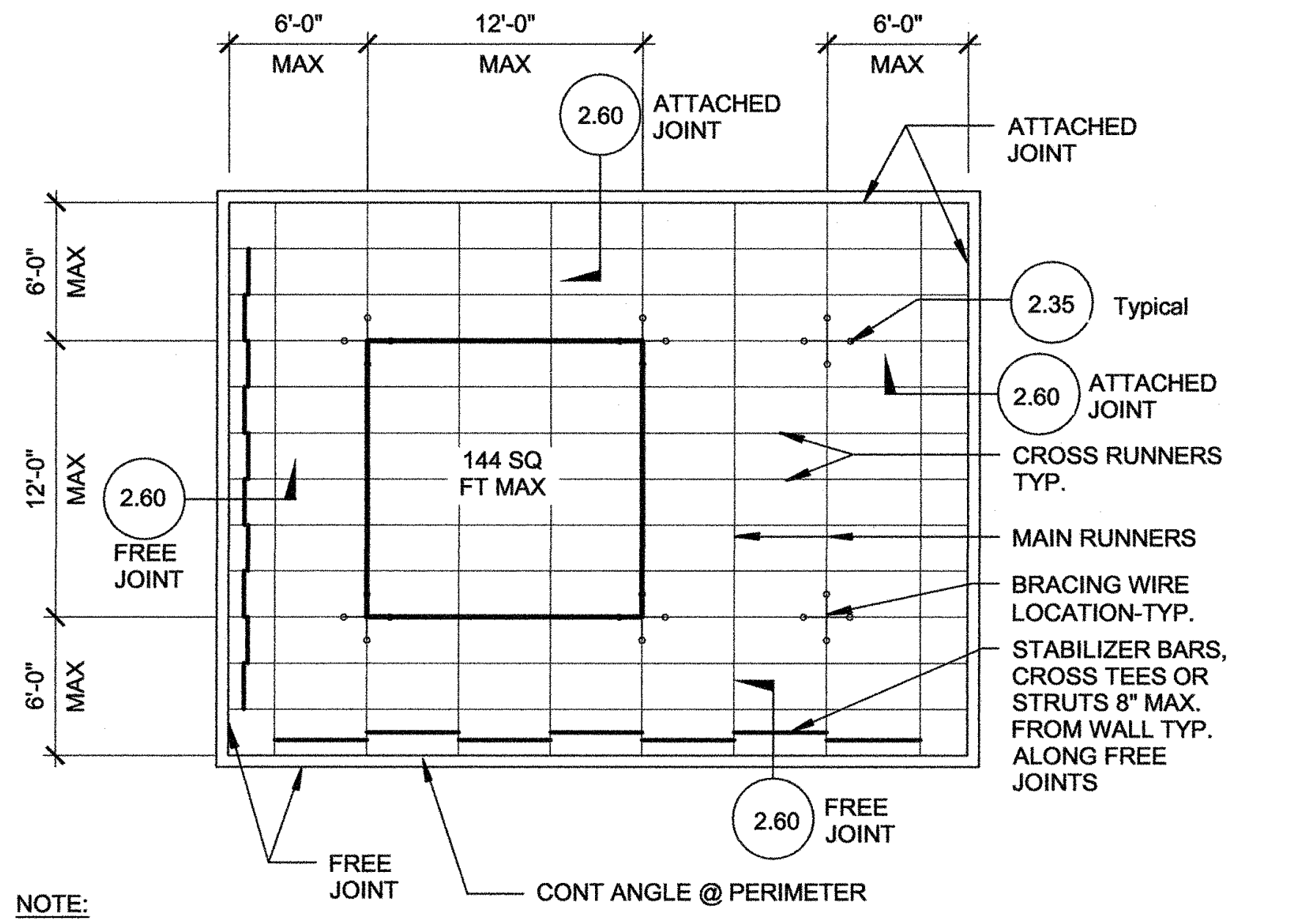
PER DSA IR 25-2.13 (SHEET # 2.80) 3"=1'-0"


12 GA VERTICAL HANGERS AT 4'-0" O.C. EACH WAY AT MAIN RUNNER WITH MINIMUM 3-TIGHT TURNS IN 3" AT BOTH ENDS, SEE 4.10
RIGID VERT. STRUT SEE DET. 3.10 OR 3.20
12 GA. BRACING WIRE W/MIN. 4-TIGHT TURNS IN 1 1/2" BOTH ENDS OF WIRE CONNECTED TO MAIN RUNNERS 90° APART, 4-TOTAL AT EACH STRUT (U.N.O.) SEE 4.10
6 MIN
1
2'-0" TYP
2'-0" TYP
4'-0"
SEE DETAIL 3.10 & 3.20 FOR LOCATION OF BRACING WIRES AND STRUT
0" TO 45° (NOTE 2)
CROSS RUNNER
MAIN RUNNER

NOTES:
1. STRUTS SHALL NOT REPLACE HANGER WIRES.
2. THE MINIMUM ACCEPTABLE ANGLE IS DETERMINED SUCH THAT THE WIRES DO NOT INTERFER WITH THE RUNNERS, LIGHT FIXTURES, ETC. AND REMAIN STRAIGHT AND UNOBSTRUCTED.

3 DIAGRAMATIC ATTACHMENT

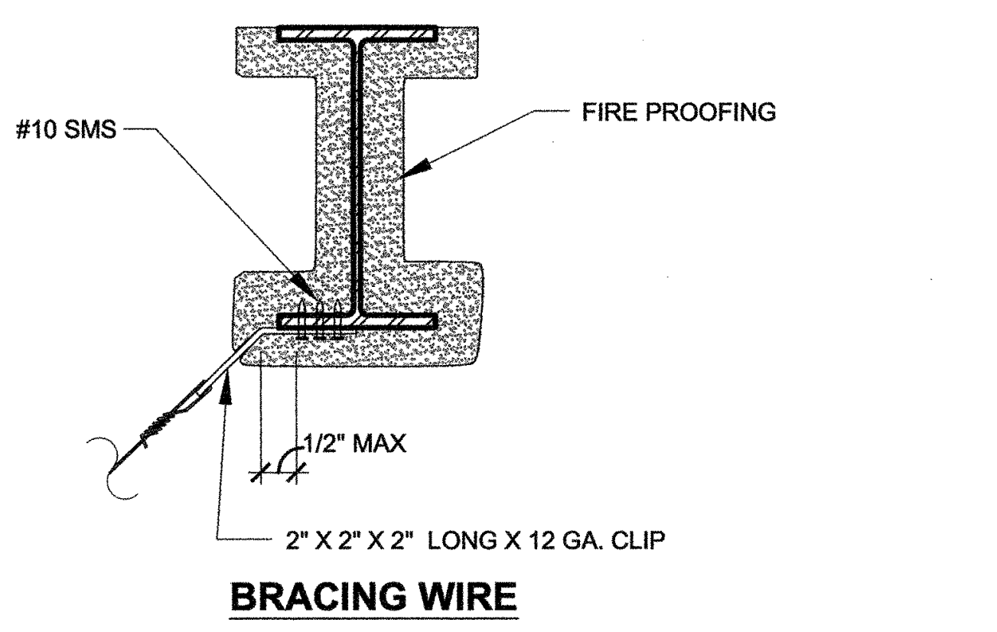
PER DSA IR 25-2.13 (SHEET # 2.35) 3"=1'-0"



NOTE:
BRACING WIRES AND COMP. STRUT SHALL OCCUR AT EVERY 144 SQ. FT. MAX. IN ROOMS OVER 144 SQ. FT.

1 DIAGRAMATIC CEILING PLAN

PER DSA IR 25-2.13 (SHEET # 2.12) 1/8"=1'-0"



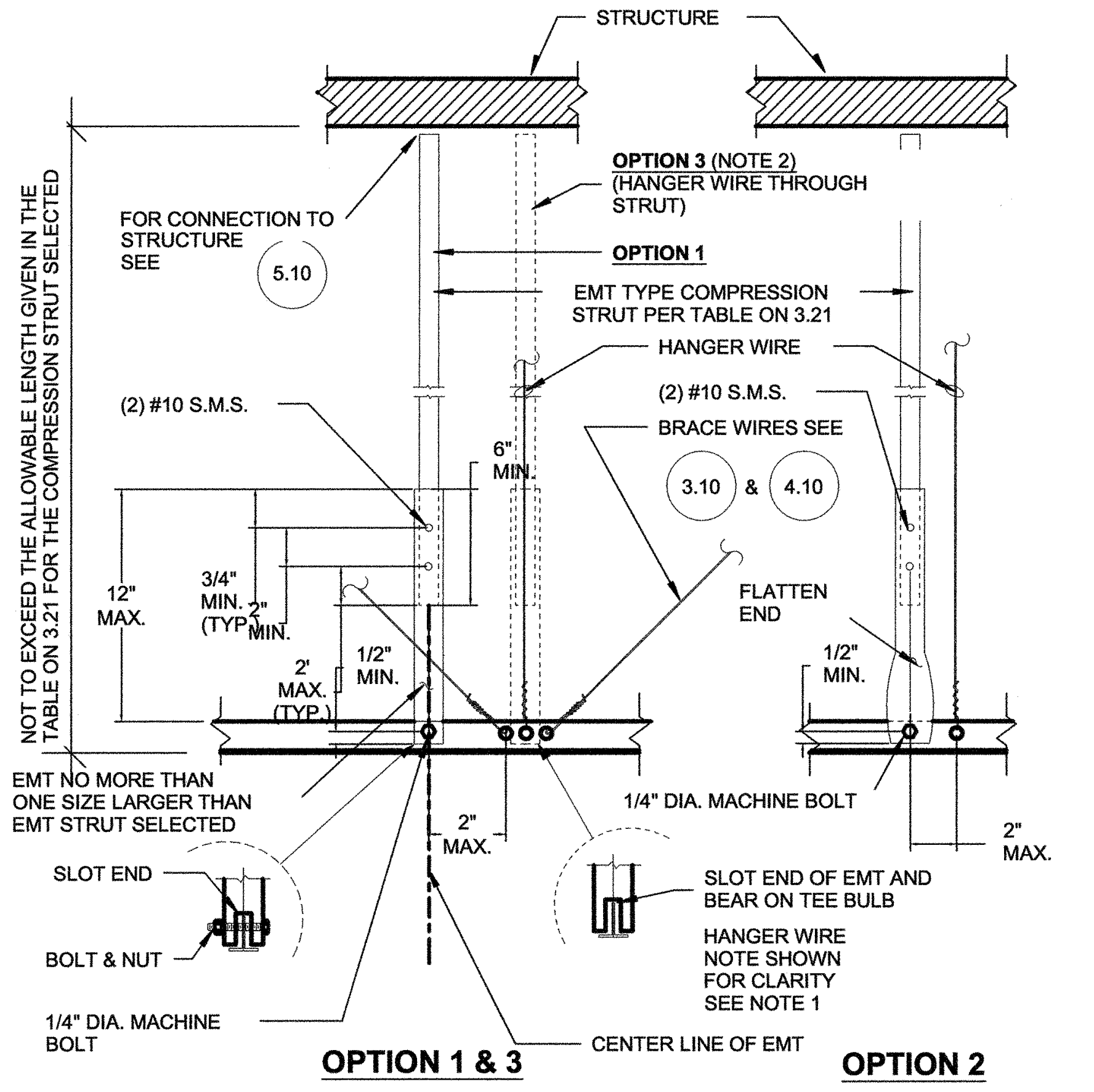
NOTES :
1. BEAM FLANGE THICKNESS SHALL NOT BE LESS THAN 3/16".
2. RDP IN RESPONSIBLE CHARGE, IOR, AND CONTRACTOR SHALL VERIFY THAT NO PAF IS INSTALLED IN THE PROTECTED ZONE OF ANY STEEL MEMBER. SEE ANSI/AISC 341-10
3. REFER TO 4.10 FOR ADDITIONAL DETAILS

13 BRACING WIRE CONNECTION

TO STRUCT. STEEL (SHEET # 4.33) 1-1/2"=1'-0"

COMPRESSION STRUT TABLE 3.21

EMT COMPRESSION STRUT	MAXIMUM LENGTH
1/2" DIAMETER EMT (0.042" WALL THICKNESS)	5'-10"
3/4" DIAMETER EMT (0.049" WALL THICKNESS)	7'-8"
1" DIAMETER EMT (0.057" WALL THICKNESS)	9'-9"
1 1/4" DIAMETER EMT (0.065" WALL THICKNESS)	12'-9"
1 1/2" DIAMETER EMT (0.065" WALL THICKNESS)	14'-9"
2" DIAMETER EMT (0.065" WALL THICKNESS)	18'-10"


STRUCTURE
NOT TO EXCEED THE ALLOWABLE LENGTH GIVEN IN THE TABLE ON 3.21 FOR THE COMPRESSION STRUT SELECTED
FOR CONNECTION TO STRUCTURE SEE 5.10
OPTION 3 (NOTE 2) (HANGER WIRE THROUGH STRUT)
OPTION 1
EMT TYPE COMPRESSION STRUT PER TABLE ON 3.21
HANGER WIRE
(2) #10 S.M.S.
(2) #10 S.M.S.
BRACE WIRES SEE 3.10 & 4.10
6" MIN.
12" MAX.
3/4" MIN. (TYP.)
2" MAX. (TYP.)
1/2" MIN.
FLATTEN END
1/2" MIN.
EMT NO MORE THAN ONE SIZE LARGER THAN EMT STRUT SELECTED
2" MAX.
1/4" DIA. MACHINE BOLT
2" MAX.
SLOT END
BOLT & NUT
1/4" DIA. MACHINE BOLT
SLOT END OF EMT AND BEAR ON TEE BULB
HANGER WIRE NOTE SHOWN FOR CLARITY SEE NOTE 1
CENTER LINE OF EMT
OPTION 1 & 3
OPTION 2

SEE OPTION 1 FOR INFORMATION NOT SHOWN

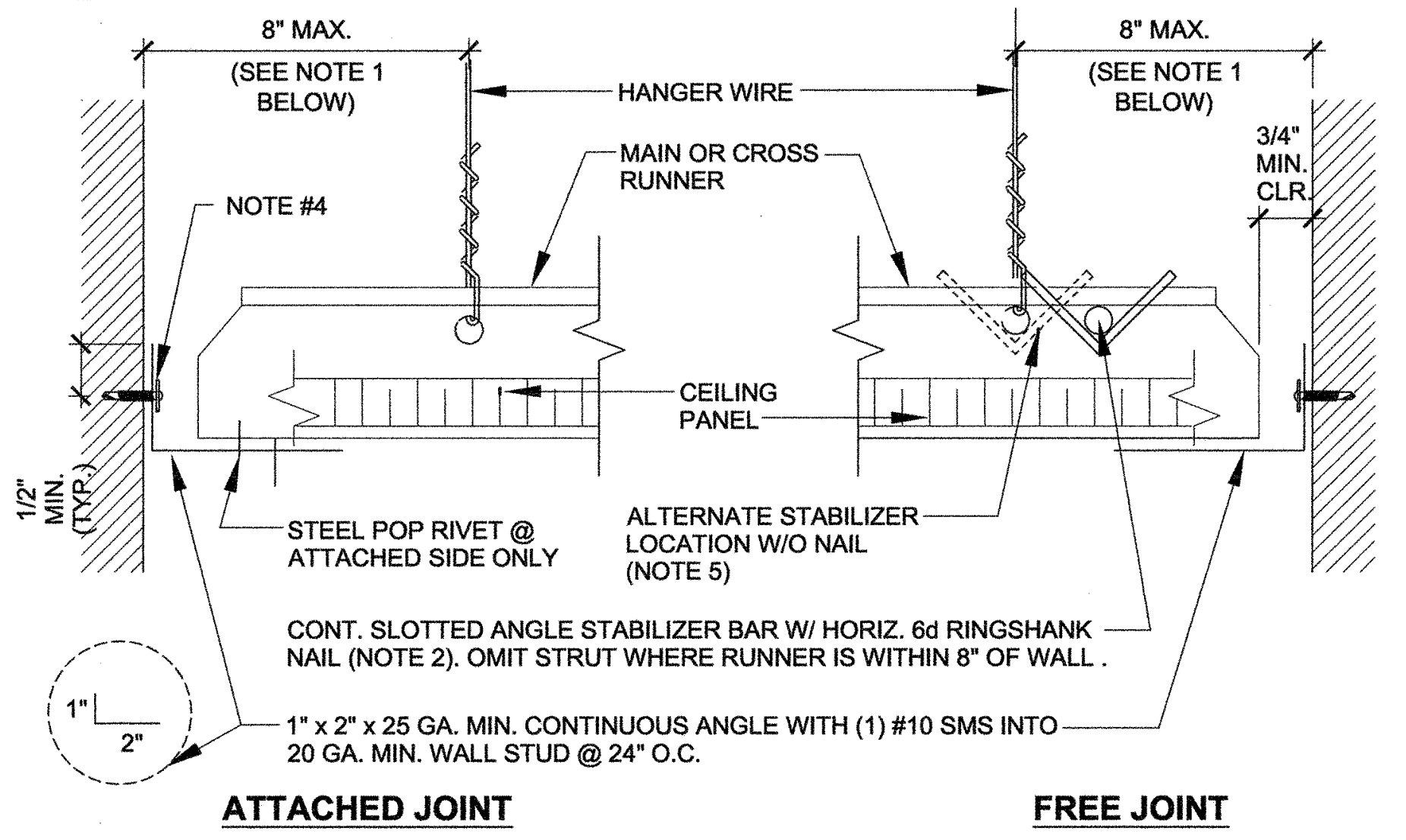
NOTES:

1. MACHINE BOLT IS NOT REQUIRED ON OPTION 3

2. APPLICABLE TO SAWN TIMBER WITHOUT GYPSUM BOARD ONLY.

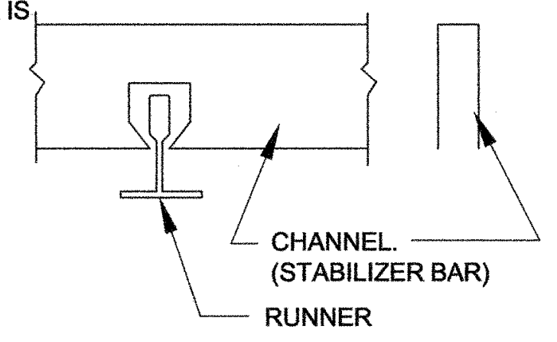
10 CEILING CONNECTIONS

(ACOUSTICAL T-BAR) 3"=1'-0"


8" MAX. (SEE NOTE 1 BELOW)
HANGER WIRE
8" MAX. (SEE NOTE 1 BELOW)
MAIN OR CROSS RUNNER
3/4" MIN. CLR.
NOTE #4
CEILING PANEL
1/2" MIN. TYP
STEEL POP RIVET @ ATTACHED SIDE ONLY
ALTERNATE STABILIZER LOCATION W/O NAIL (NOTE 5)
CONT. SLOTTED ANGLE STABILIZER BAR W/ HORIZ. 6d RINGSHANK NAIL (NOTE 2). OMIT STRUT WHERE RUNNER IS WITHIN 8" OF WALL .
1"
2"
1" x 2" x 25 GA. MIN. CONTINUOUS ANGLE WITH (1) #10 SMS INTO 20 GA. MIN. WALL STUD @ 24" O.C.
ATTACHED JOINT
FREE JOINT

NOTES:

1. PROVIDE #12 GAGE HANGER WIRES AT THE ENDS OF ALL MAIN AND CROSS RUNNERS WITHIN EIGHT (8) INCHES OF THE SUPPORT OR WITHIN ONE-FOURTH (1/4) OF THE LENGTH OF THE END TEE, WHICHEVER IS LESS, FOR THE PERIMETER OF THE CEILING AREA. PERIMETER WIRES ARE NOT REQUIRED WHEN THE LENGTH OF THE END TEE IS EIGHT (8) INCHES OR LESS.
2. NAILS AT ENDS OF HORIZONTAL STABILIZERS ARE TO BE PLACED WITH NAIL HEAD TOWARD CENTER LINE OF SPAN OF STRUT.
3. STABILIZER BAR MAY BE SLOTTED APPROVED ANGLES OR CHANNELS WITH "DIAMOND POINTS" OF SPRING STEEL WHICH SNAP TIGHT TO PREVENT MOVEMENT OF STRUT.
4. (1) #10 SMS TO 20 GA. MIN. WALL STUD @ 24" O.C.

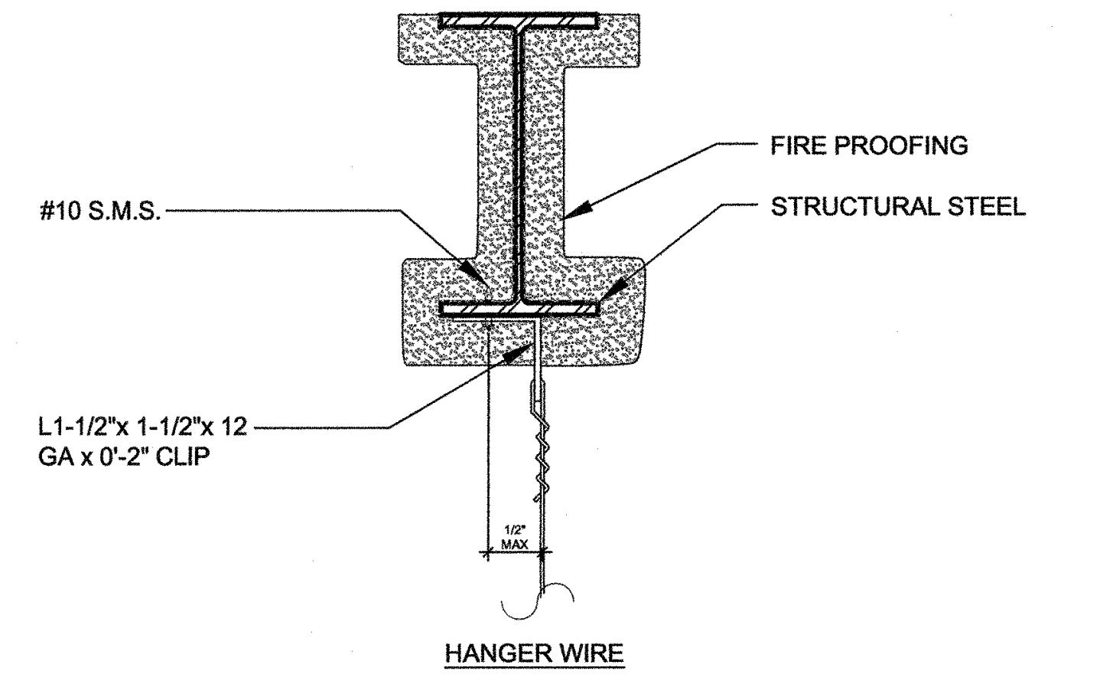


APPROVED STABILIZER

(SEE NOTE 3)

6 DIAGRAMATIC ATTACHMENT

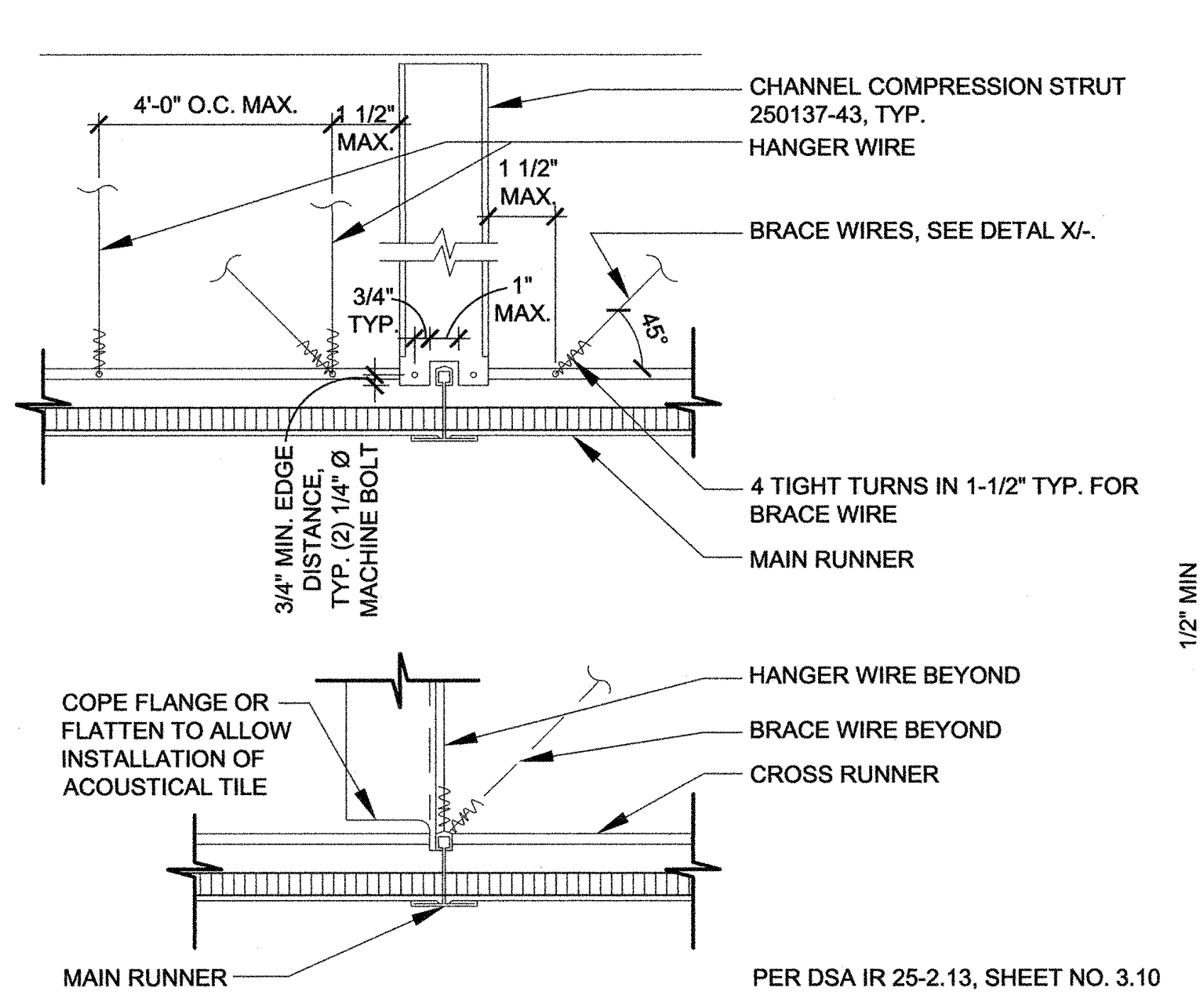
PER DSA IR 25-2.13 (SHEET # 2.60) 3"=1'-0"



NOTES :
1. BEAM FLANGE THICKNESS SHALL NOT BE LESS THAN 3/16".
2. RDP IN RESPONSIBLE CHARGE, IOR AND CONTRACTOR SHALL VERIFY THAT NO PAF IS INSTALLED IN THE PROTECTED ZONE OF ANY STEEL MEMBER. SEE ANSI/AISC 341-10
3. REFER TO 4.10 FOR ADDITIONAL DETAILS

12 HANGER WIRE CONNECTION

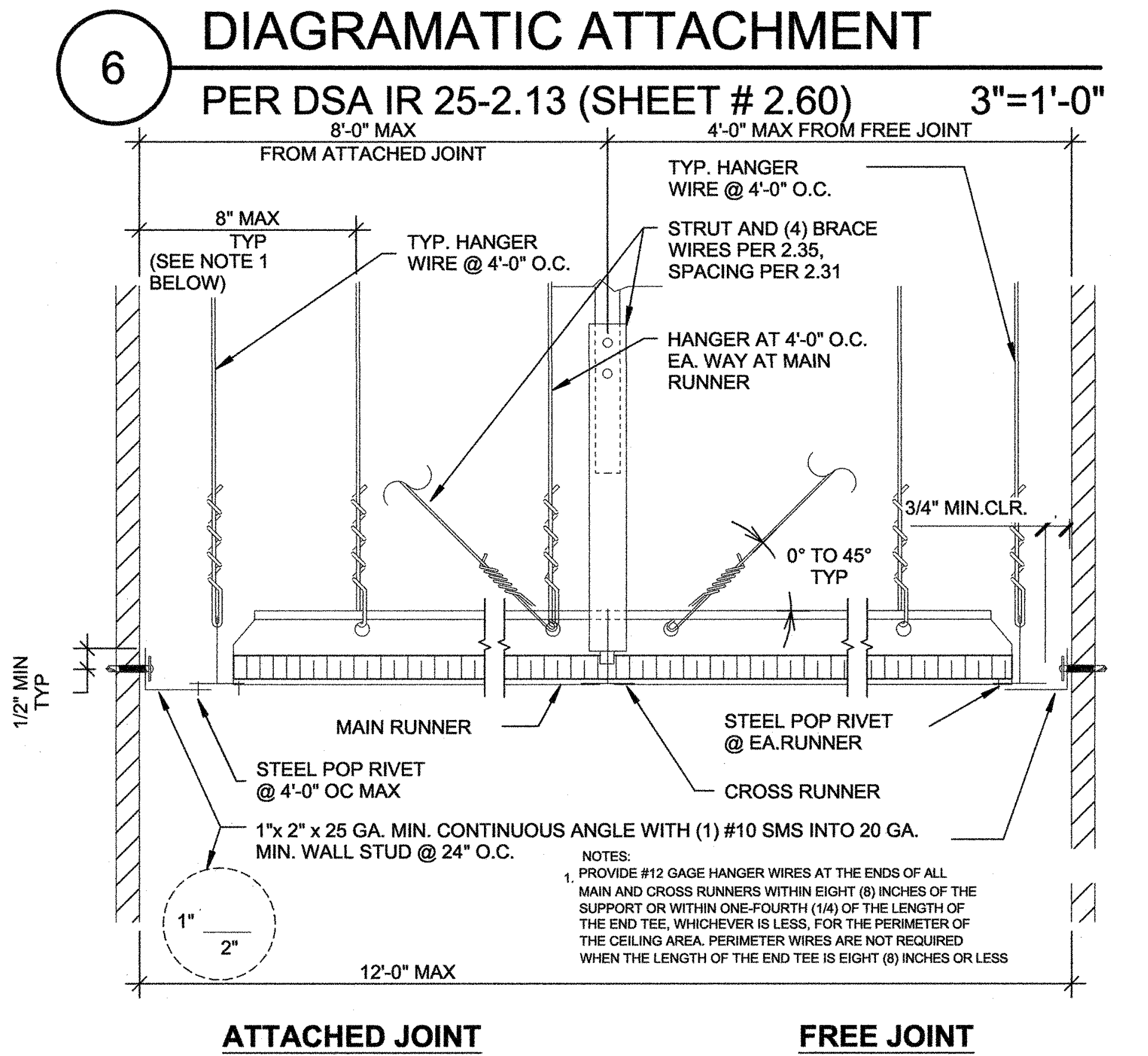
TO STRUCT. STEEL (SHEET # 4.23) 1-1/2"=1'-0"


4'-0" O.C. MAX.
1 1/2" MAX.
1 1/2" MAX.
CHANNEL COMPRESSION STRUT 250137-43, TYP.
HANGER WIRE
BRACE WIRES, SEE DETAL X/-.
3/4" MIN.
1" MAX.
45°
4 TIGHT TURNS IN 1-1/2" TYP. FOR BRACE WIRE
3/4" MIN. EDGE DISTANCE, TYP. 1/4" Ø MACHINE BOLT
MAIN RUNNER
COPE FLANGE OR FLATTEN TO ALLOW INSTALLATION OF ACOUSTICAL TILE
HANGER WIRE BEYOND
BRACE WIRE BEYOND
CROSS RUNNER
MAIN RUNNER

PER DSA IR 25-2.13, SHEET NO. 3.10

9 SUSPENDED ACT CEILING

CHANNEL TYPE STRUT (SHEET #3.10) 3"=1'-0"


8'-0" MAX FROM ATTACHED JOINT
4'-0" MAX FROM FREE JOINT
8" MAX TYP (SEE NOTE 1 BELOW)
TYP. HANGER WIRE @ 4'-0" O.C.
TYP. HANGER WIRE @ 4'-0" O.C.
STRUT AND (4) BRACE WIRES PER 2.35, SPACING PER 2.31
HANGER AT 4'-0" O.C. EA. WAY AT MAIN RUNNER
3/4" MIN.CLR.
0" TO 45° TYP
1/2" MIN TYP
MAIN RUNNER
STEEL POP RIVET @ 4'-0" OC MAX
STEEL POP RIVET @ EA.RUNNER
CROSS RUNNER
1"x 2" x 25 GA. MIN. CONTINUOUS ANGLE WITH (1) #10 SMS INTO 20 GA. MIN. WALL STUD @ 24" O.C.
1"
2"
12'-0" MAX
ATTACHED JOINT
FREE JOINT

NOTES:
1. PROVIDE #12 GAGE HANGER WIRES AT THE ENDS OF ALL MAIN AND CROSS RUNNERS WITHIN EIGHT (8) INCHES OF THE SUPPORT OR WITHIN ONE-FOURTH (1/4) OF THE LENGTH OF THE END TEE, WHICHEVER IS LESS, FOR THE PERIMETER OF THE CEILING AREA. PERIMETER WIRES ARE NOT REQUIRED WHEN THE LENGTH OF THE END TEE IS EIGHT (8) INCHES OR LESS

5 CEILING CONNECTIONS

(ACOUSTICAL T-BAR) EXITWAY CORRIDOR DETAILS 3"=1'-0"

NOTES PER IR 25-2.13 SHEET 1.00

1. **CEILING SYSTEM GENERAL NOTES:**
   1.1. CEILING SYSTEM COMPONENT SHALL COMPLY WITH ASTM C635-07 AND SECTIONS 5.1 ASTM E580-10a.
   1.2. THE CEILING GRID SYSTEM MUST BE RATED HEAVY DUTY AS DEFINED BY ASTM C635-08.
   1.3. CEILING SYSTEMS. THE FOLLOWING CEILING SYSTEMS ARE PART OF THE SCOPE OF THIS PROJECT: 1200 SEISMIC, HEAVY DUTY, 15/16" FACE, EXPOSE T.

   1.4. SEISMIC WALL CLIP:
   1.5. CEILING PANELS SHALL NOT SUPPORT ANY LIGHT FIXTURES, AIR TERMINALS OR DEVICES.
   1.6. FOR CEILING INSTALLATIONS UTILIZING ACOUSTICAL TILE PANELS OF MINERAL OR GLASS FIBERS, IT IS NOT MANDATORY TO PROVIDE 3/4" CLEARANCE BETWEEN THE ACOUSTICAL TILE PANELS AND THE WALL ON THE SIDES OF THE CEILING WHICH AREA FREE TO SLIP. FOR ALL OTHER CEILING PANEL TYPES, PROVIDE 3/4" CLEARANCE BETWEEN THE CEILING PANEL AND THE WALL ON THE SIDES OF THE CEILING FREE TO SLIP.
2. **MATERIALS:**
   2.1. CEILING WIRE SHALL BE CLASS 1 ZINC COATED (GALVANIZED) CARBON STEEL CONFORMING TO ASTM A641-09a. WIRE SHALL BE #12 GAGE (0.106" DIAMETER) WITH SOFT TEMPER AND MINIMUM TENSILE STRENGTH = 70 KSI.
   2.2. GALVANIZED SHEET STEEL (INCLUDING THAT USED FOR METAL STUD AND TRACK COMPRESSION STRUTS/POST) SHALL CONFORM TO ASTM A653-11, OR OTHER EQUIVALENT SHEET STEEL LISTED IN SECTION A2.1 OF THE NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS 2007, INCLUDING SUPPLEMENT 2 DATED 2010 (AISI S100-07/S2-10). MATERIAL 43 MIL (18 GAGE) AND LIGHTER SHALL HAVE MINIMUM YIELD STRENGTH OF 33 KSI. MATERIAL 54 MIL (16 GAGE) AND HEAVIER SHALL HAVE A MINIMUM YIELD STRENGTH OF 50 KSI.
3. **ATTACHMENT OF HANGER AND BRACING WIRES:**
   3.1. SEPARATE ALL CEILING HANGER AND BRACING WIRES AT LEAST SIX (6) INCHES FROM ALL UNBRACED DUCTS, PIPES, AND CONDUIT, ETC.
   3.2. HANGER AND BRACING WIRES SHALL NOT ATTACH TO OR BEND AROUND OBSTRUCTIONS INCLUDING BUT NOT LIMITED TO: PIPING, DUCTWORK, CONDUIT AND EQUIPMENT.
   3.3. HANGER WIRES THAT ARE MORE THAN ONE (HORIZONTAL) IN SIX (VERTICAL) OUT OF PLUMB SHALL HAVE COUNTER-SLOPING WIRES.
   3.4. SLACK SAFETY WIRES SHALL BE CONSIDERED HANGER WIRES FOR INSTALLATION AND TESTING REQUIREMENTS.
   3.5. HANGER AND BRACING WIRE ANCHORAGE TO THE STRUCTURE SHALL BE INSTALLED IN SUCH A MANNER THAT THE DIRECTION OF THE ANCHORAGE ALIGNS CLOSELY WITH THE DIRECTION OF THE WIRE. (E.G. BRACING WIRE CEILING CLIPS MUST BE BENT AS SHOWN IN THE DETAILS AND ROTATED AS REQUIRED TO ALIGN CLOSELY WITH THE DIRECTION OF THE WIRE, SCREW EYES IN WOOD MUST BE INSTALLED SO THEY ALIGN CLOSELY WITH THE DIRECTION OF THE WIRE, ETC.
4. **FASTENERS AND WELDING:**
   4.1. SHEET METAL SCREWS SHALL COMPLY WITH ASTM C1513-10, ASME B18.6.4-89 (R2005). PENETRATION OF SCREWS THROUGH JOINED MATERIAL SHALL NOT BE LESS THAN THREE EXPOSED THREADS.
   4.2. POWER-ACTUATED FASTENERS SHALL BE: N/A
   4.3. IF NOT OTHERWISE SPECIFIED IN THE EVALUATION REPORT, POWER-ACTUATED FASTENERS INSTALLED IN STEEL SHALL BE INSTALLED SO THE ENTIRE POINTED END OF THE FASTER IS DRIVEN THROUGH THE STEEL MEMBER.

   4.4. WELDING SHALL BE IN ACCORDANCE WITH AWS D1.3 USING E60XX SERIES ELECTRODES.

5. **TESTING:** ALL FIELD TESTING MUST BE PERFORMED IN THE PRESENCE OF THE PROJECT INSPECTOR.

6. **LIGHT FIXTURES:**
   6.1. ALL LIGHT FIXTURES SHALL BE POSITIVELY ATTACHED TO THE CEILING SUSPENSION SYSTEMS BY MECHANICAL MEANS TO RESIST A HORIZONTAL FORCE EQUAL TO THE WEIGHT OF THE FIXTURE. A MINIMUM OF TWO SCREWS OR APPROVED FASTENERS ARE REQUIRED AT EACH LIGHT FIXTURE, PER ASTM E580, SECTION 5.3.1.
   6.2. SURFACE-MOUNTED LIGHT FIXTURES SHALL BE ATTACHED TO THE MAIN RUNNER WITH AT LEAST TWO POSITIVE CLAMPING DEVICES. THE CLAMPING DEVICE SHALL COMPLETELY SURROUND THE SUPPORTING CEILING RUNNER AND BE MADE OF STEEL WITH A MINIMUM THICKNESS OF #14 GAGE. ROTATIONAL SPRING CATCHES DO NOT COMPLY. A #12 GAGE SLACK SAFETY WIRE SHALL BE CONNECTED FROM EACH CLAMPING DEVICE TO THE STRUCTURE ABOVE. PROVIDE ADDITIONAL SUPPORTS WHEN LIGHT FIXTURES ARE EIGHT (8) FEET OR LONGER OR EXCEED 56 LBS. MAXIMUM SPACING BETWEEN SUPPORTS SHALL NOT EXCEED EIGHT (8) FEET.
   6.3. LIGHT FIXTURES WEIGHING LESS THAN OR EQUAL TO 10 LBS. SHALL HAVE A MINIMUM OF ONE (1) #12 GAGE SLACK SAFETY WIRE CONNECTED FROM THE FIXTURE HOUSING TO THE STRUCTURE ABOVE.
   EXCEPTION: ALL LIGHT FIXTURES GREATER THAN TWO BY FOUR FEET WEIGHING LESS THAN 56 LBS. SHALL HAVE A #12 GAGE SLACK SAFETY WIRE AT EACH CORNER.
   6.4. ALL LIGHT FIXTURES WEIGHT GREATER THAN 56 LBS SHALL BE INDEPENDENTLY SUPPORTED BY NOT LESS THAN FOUR (4) TAUT #12 GAGE HANGER WIRES (ONE AT EACH CORNER) ATTACHED FROM THE FIXTURE HOUSING TO THE STRUCTURE ABOVE OR OTHER APPROVED HANGERS. THE FOUR (4) TAUT #12 GAGE WIRES OR OTHER APPROVED HANGERS, INCLUDING THEIR ATTACHMENT TO THE STRUCTURE ABOVE, SHALL BE CAPABLE OF SUPPORTING FOUR (4) TIMES THE WEIGHT OF THE FIXTURE.

7. **SERVICES WITHIN THE CEILING:**
   7.1. ALL FLEXIBLE SPRINKLER HOSE FITTING MOUNTING BRACKETS, CEILING-MOUNTED AIR TERMINALS OR OTHER SERVICES SHALL BE POSITIVELY ATTACHED TO THE CEILING SUSPENSION SYSTEMS BY MECHANICAL MEANS. SCREWS OR APPROVED FASTENERS ARE REQUIRED. A MINIMUM OF TWO ATTACHMENTS ARE REQUIRE AT EACH COMPONENT.
   7.2. CEILING-MOUNTED AIR TERMINALS OR OTHER SERVICES WEIGHING LESS THAN OR EQUAL TO 20 LBS. SHALL HAVE ONE (1) #12 GAGE SLACK SAFETY WIRE ATTACHED FROM THE TERMINAL OR SERVICE TO THE STRUCTURE ABOVE.
   7.3. FLEXIBLE SPRINKLER HOSE FITTINGS, CEILING-MOUNTED AIR TERMINALS OR OTHER SERVICES WEIGHING MORE THAN 20 LBS. BUT LESS THAN OR EQUAL TO 56 LBS. SHALL HAVE TWO (2) #12 GAGE SLACK SAFETY WIRES (AT DIAGONAL CORNERS) CONNECTED FROM THE TERMINAL OR SERVICE TO THE STRUCTURE ABOVE.
   7.4. FLEXIBLE SPRINKLER HOSE FITTINGS, CEILING-MOUNTED AIR TERMINALS OR OTHER SERVICES WEIGHING MORE THAN 56 LBS. SHALL BE SUPPORTED DIRECTLY FROM THE STRUCTURE ABOVE BY NOT LESS THAN FOUR (4) TAUT #12 GAGE HANGER WIRES ATTACHED FROM THE TERMINAL OR SERVICE TO THE STRUCTURE ABOVE OR OTHER APPROVED HANGERS.

8. **OTHER DEVICES WITHIN THE CEILING:**
   8.1. ALL LIGHTWEIGHT MISCELLANEOUS DEVICES, SUCH AS STROBE LIGHTS, OCCUPANCY SENSORS, SPEAKERS, EXIT SIGNS, ETC, SHALL BE ATTACHED TO THE CEILING GRID. IN ADDITION, DEVICES WEIGHING MORE THAN 10 LBS. SHALL HAVE A #12 GAGE SLACK SAFETY WIRE ANCHORED TO THE STRUCTURE ABOVE. DEVICES WEIGHING MORE THAN 20 LBS. SHALL BE SUPPORTED INDEPENDENTLY FROM THE STRUCTURE ABOVE.

METAL SUSPENSION SYSTEMS FOR LAY-IN PANEL CEILING - GENERAL NOTES

(ACT) PER DSA IR 25-2.13

SUGIMURA FINNEY ARCHITECTS
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LICENSED ARCHITECT
MARK C. FINNEY
NO. C-24673
REN. 9-30-19
STATE OF CALIFORNIA

TYPICAL DETAILS

CLYDE ARBUCKLE ELEMENTARY SCHOOL - HVAC UPGRADES
1970 CINDERELLA LN., SAN JOSE, CA 95116
ALUM ROCK UNION ELEMENTARY SCHOOL DISTRICT

REVISIONS

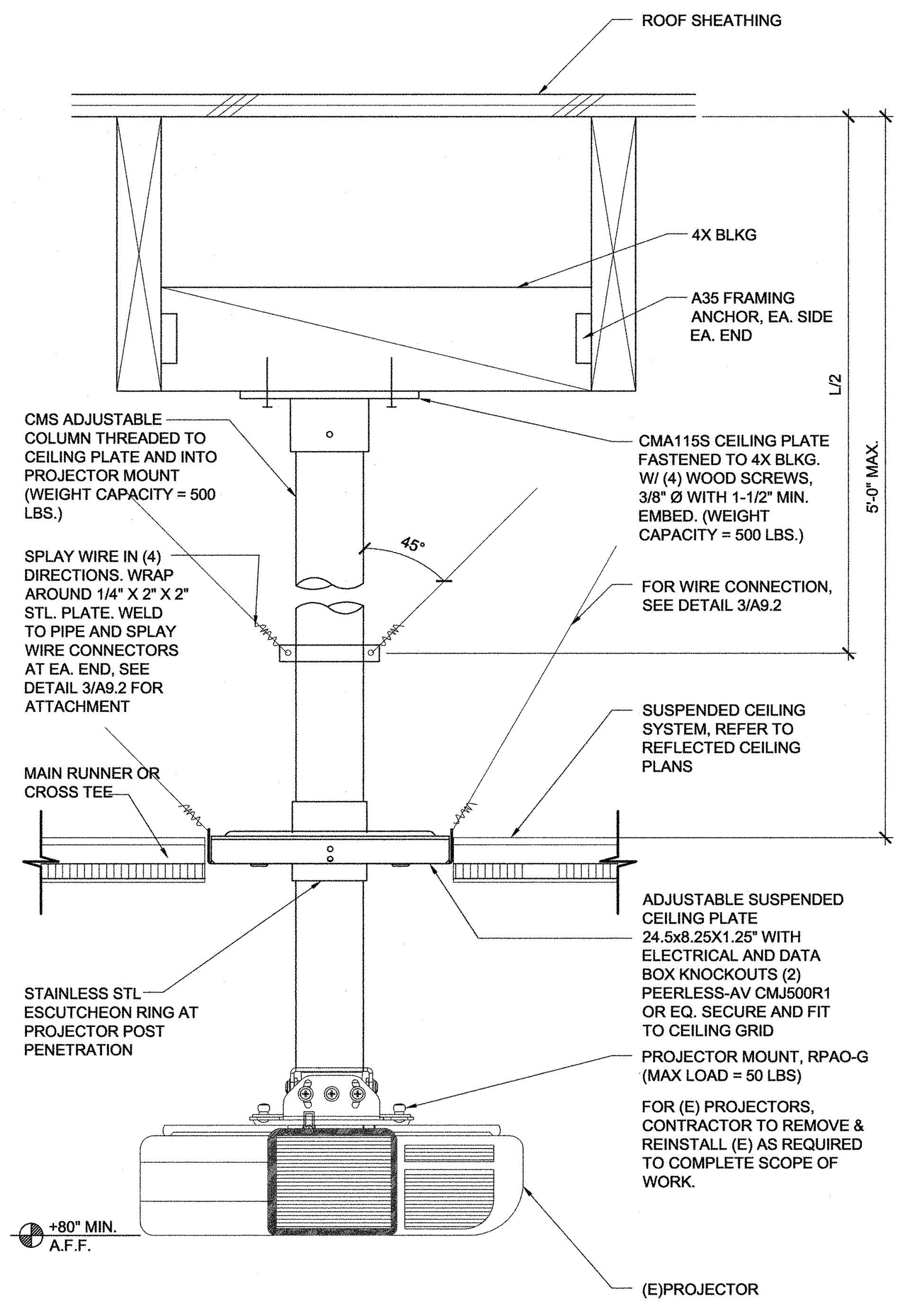
NO.	ITEM	DATE
	DD SUBMITTAL	12-8-17
	DSA SUBMITTAL	01-31-18
	BID SET	04-09-18
	DSA BACKCHECK	05-10-18

DSA FILE NUMBER 43-04

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APPL 01-117268
AC ____ FLS ____ SS ____
DATE MAY 10 2018

DRAWN BY: NJ
CHECKED BY: -
JOB NO: 17102
DATE: 10-02-2017

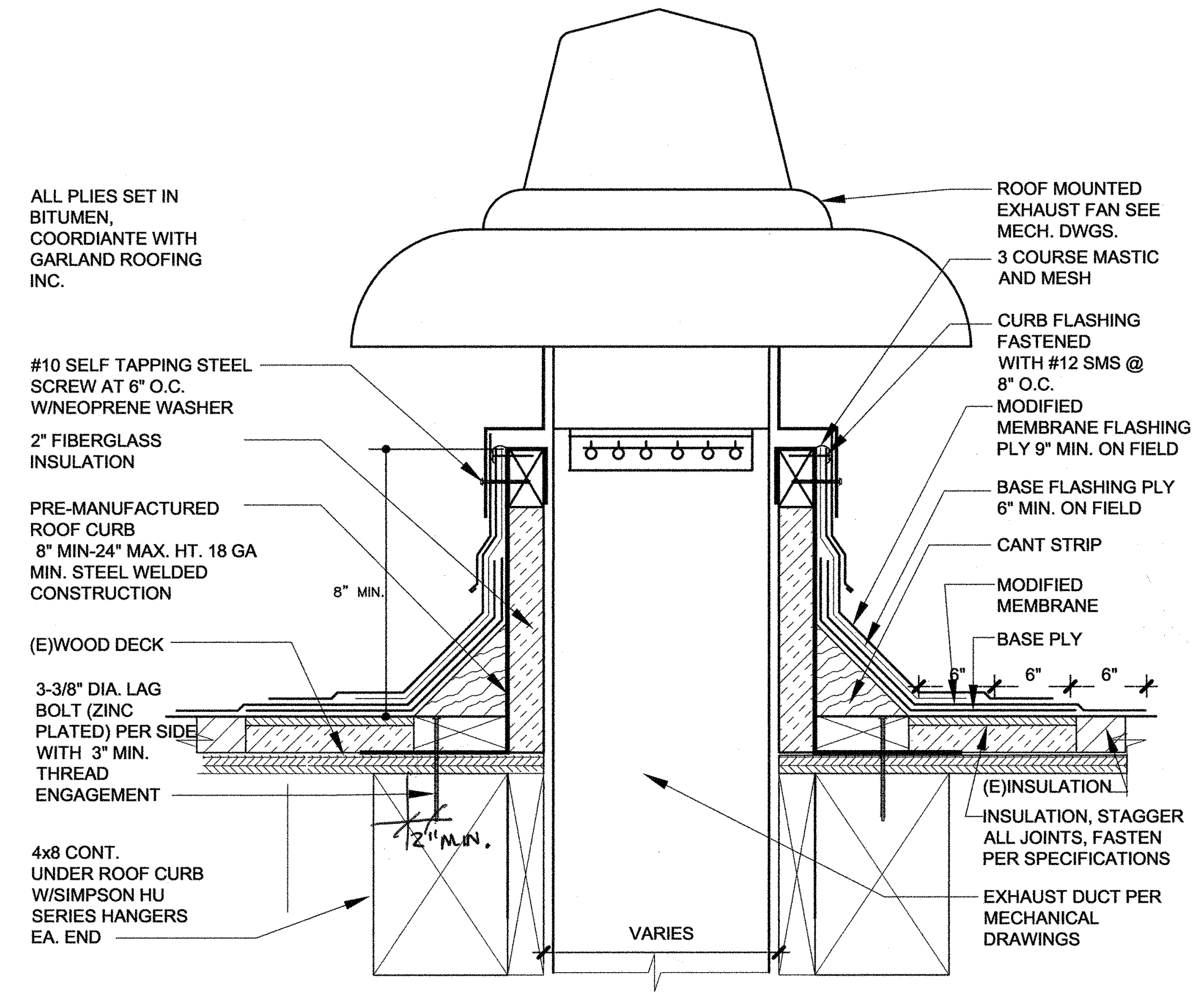
A9.2


ROOF SHEATHING
4X BLKG
A35 FRAMING ANCHOR, EA. SIDE EA. END
L/2
5'-0" MAX.
CMS ADJUSTABLE COLUMN THREADED TO CEILING PLATE AND INTO PROJECTOR MOUNT (WEIGHT CAPACITY = 500 LBS.)
CMA115S CEILING PLATE FASTENED TO 4X BLKG. W/ (4) WOOD SCREWS, 3/8" Ø WITH 1-1/2" MIN. EMBED. (WEIGHT CAPACITY = 500 LBS.)
45°
SPLAY WIRE IN (4) DIRECTIONS. WRAP AROUND 1/4" X 2" X 2" STL. PLATE. WELD TO PIPE AND SPLAY WIRE CONNECTORS AT EA. END, SEE DETAIL 3/A9.2 FOR ATTACHMENT
FOR WIRE CONNECTION, SEE DETAIL 3/A9.2
SUSPENDED CEILING SYSTEM, REFER TO REFLECTED CEILING PLANS
MAIN RUNNER OR CROSS TEE
ADJUSTABLE SUSPENDED CEILING PLATE 24.5x8.25X1.25" WITH ELECTRICAL AND DATA BOX KNOCKOUTS (2) PEERLESS-AV CMJ500R1 OR EQ. SECURE AND FIT TO CEILING GRID
STAINLESS STL ESCUTCHEON RING AT PROJECTOR POST PENETRATION
PROJECTOR MOUNT, RPAO-G (MAX LOAD = 50 LBS)
FOR (E) PROJECTORS, CONTRACTOR TO REMOVE & REINSTALL (E) AS REQUIRED TO COMPLETE SCOPE OF WORK.
+80" MIN. A.F.F.
(E)PROJECTOR

16

PROJECTOR
CEILING CONNECTION

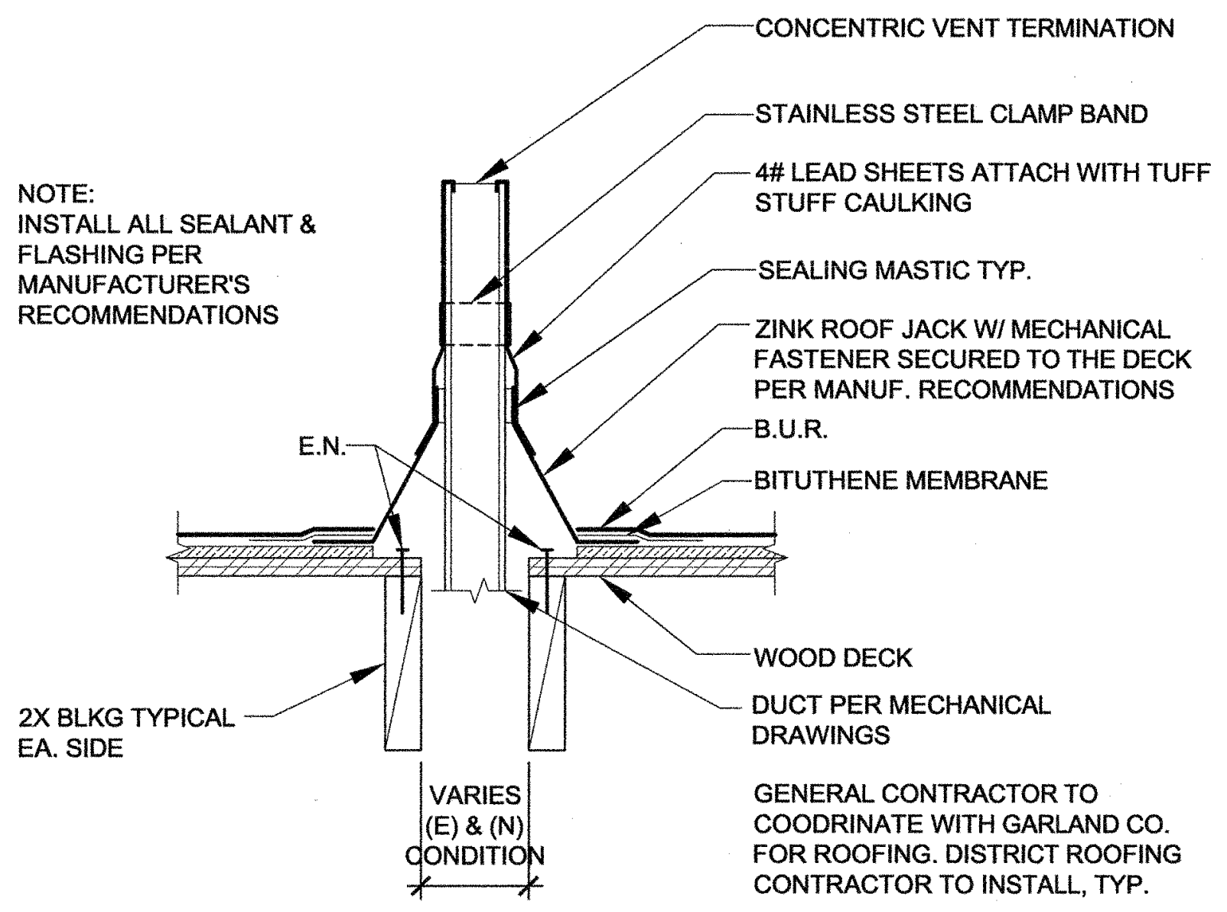
3"=1'-0"


ALL PLIES SET IN BITUMEN, COORDIANTE WITH GARLAND ROOFING INC.
ROOF MOUNTED EXHAUST FAN SEE MECH. DWGS.
3 COURSE MASTIC AND MESH
#10 SELF TAPPING STEEL SCREW AT 6" O.C. W/NEOPRENE WASHER
CURB FLASHING FASTENED WITH #12 SMS @ 8" O.C.
MODIFIED MEMBRANE FLASHING PLY 9" MIN. ON FIELD
2" FIBERGLASS INSULATION
BASE FLASHING PLY 6" MIN. ON FIELD
PRE-MANUFACTURED ROOF CURB 8" MIN-24" MAX. HT. 18 GA MIN. STEEL WELDED CONSTRUCTION
CANT STRIP
8" MIN.
MODIFIED MEMBRANE
(E)WOOD DECK
BASE PLY
6"
6"
6"
3-3/8" DIA. LAG BOLT (ZINC PLATED) PER SIDE WITH 3" MIN. THREAD ENGAGEMENT
(E)INSULATION
2" MIN.
INSULATION, STAGGER ALL JOINTS, FASTEN PER SPECIFICATIONS
4x8 CONT. UNDER ROOF CURB W/SIMPSON HU SERIES HANGERS EA. END
EXHAUST DUCT PER MECHANICAL DRAWINGS
VARIES

14

EXHAUST FAN

3"=1'-0"


CONCENTRIC VENT TERMINATION
STAINLESS STEEL CLAMP BAND
4# LEAD SHEETS ATTACH WITH TUFF STUFF CAULKING
SEALING MASTIC TYP.
ZINK ROOF JACK W/ MECHANICAL FASTENER SECURED TO THE DECK PER MANUF. RECOMMENDATIONS
E.N.
B.U.R.
BITUTHENE MEMBRANE
WOOD DECK
2X BLKG TYPICAL EA. SIDE
DUCT PER MECHANICAL DRAWINGS
VARIES (E) & (N) CONDITION

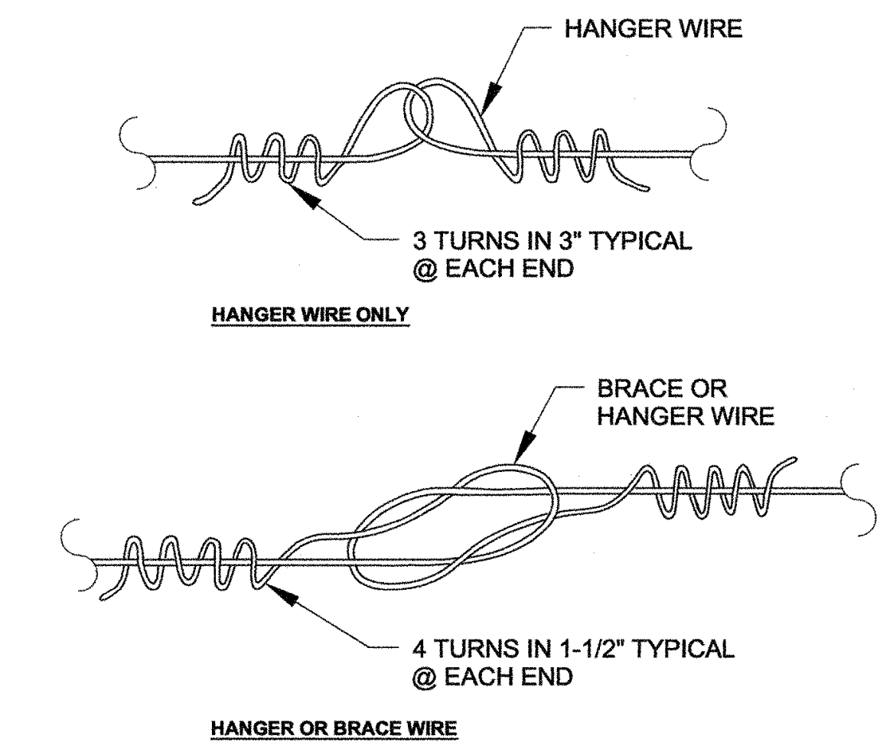
NOTE:
INSTALL ALL SEALANT & FLASHING PER MANUFACTURER'S RECOMMENDATIONS

GENERAL CONTRACTOR TO COODRINATE WITH GARLAND CO. FOR ROOFING. DISTRICT ROOFING CONTRACTOR TO INSTALL, TYP.

3

DUCT THROUGH ROOF

1 1/2"=1'-0"

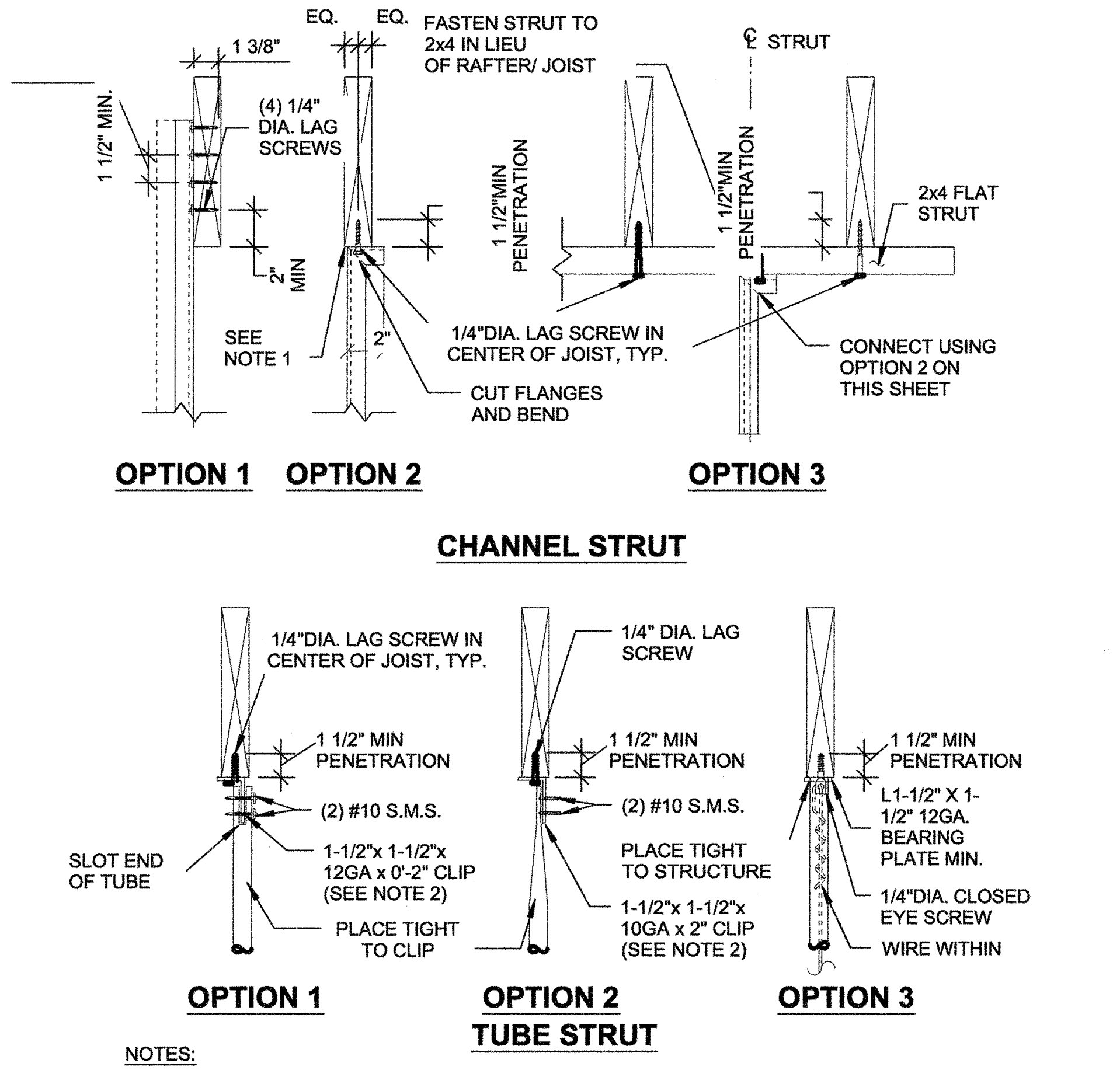

HANGER WIRE
3 TURNS IN 3" TYPICAL @ EACH END
HANGER WIRE ONLY
BRACE OR HANGER WIRE
4 TURNS IN 1-1/2" TYPICAL @ EACH END
HANGER OR BRACE WIRE

NOTES:
WIRE SPLICES ARE SHOWN LOOSELY TIED FOR ILLUSTRATIVE PURPOSES ONLY AND SHALL BE DRAWN TIGHT TO COMPLETE INSTALLATION WHEN CONSTRUCTED.

2

CEILING WIRE SPLICES
(SHEET # 6.10)

3"=1'-0"



NOTES:
1. WEB OF CHANNEL TO BEAR WITHIN WIDTH OF WOOD MEMBER.
2. VERTICAL LEG OF MEMBER TO FALL WITHIN THE WIDTH OF THE WOOD MEMBER.

1

CHANNEL/TUBE STRUT CONNECTION
TO SAWN TIMBER

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

SUGIMURA
FINNEY
ARCHITECTS
SFA
ARCHITECTURE INTERIORS PLANNING

2155 SOUTH BASCOM AVE.
SUITE 200
CAMPBELL, CA 95008
PHONE: 408-879-0600
FAX: 408-377-6066

LICENSED ARCHITECT
MARK C. FINNEY
NO. C-24673
REN. 9-30-19
STATE OF CALIFORNIA

TYPICAL DETAILS

CLYDE ARBUCKLE ELEMENTARY SCHOOL - HVAC UPGRADES
1970 CINDERELLA LN., SAN JOSE, CA 95116
ALUM ROCK UNION ELEMENTARY SCHOOL DISTRICT

REVISIONS

NO.	ITEM	DATE
	DD SUBMITTAL	12-8-17
	DSA SUBMITTAL	01-31-18
	BID SET	04-09-18
	DSA BACKCHECK	05-10-18

DSA FILE NUMBER 43-04

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
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THE USE OF THESE PLANS AND SPECIFICATIONS SHALL BE RESTRICTED TO THE ORIGINAL SITE FOR WHICH THEY WERE PREPARED AND PUBLICATION THEREOF IS EXPRESSLY LIMITED TO SUCH USE. RE-USE, REPRODUCTION, OR PUBLICATION BY ANY METHOD, IN WHOLE OR IN PART, IS PROHIBITED . TITLE TO THE PLANS AND SPECIFICATIONS REMAINS WITH THE ENGINEER WITHOUT PREJUDICE. VISUAL CONTACT WITH THESE PLANS AND SPECIFICATIONS SHALL CONSTITUTE PRIMA FACIE EVIDENCE OF THE ACCEPTANCE OF THESE RESTRICTIONS. AXIOM ENGINEERS INC.– LEE & ASSOCIATES CONSULTING ENGINEERS

May 04, 2018 3:34:42 p.m.
Drawing: H:\PROJ2017\20170290\DRAWINGS\LNA-FILS\HVA-M01.DWG
Xrefs: MAS-BORD.DWG,

GENERAL NOTES:

1. THIS PROJECT IS A REMODEL. THE PLANS AND SPECIFICATIONS INDICATE THE GENERAL EXTENT OF THE WORK BASED ON OWNER PROVIDED RECORD DRAWINGS AND LIMITED FIELD VERIFICATION. CONTRACTOR SHALL VISIT SITE, VERIFY EXISTING CONDITIONS, AND REPORT ANY DISCREPANCIES NOTED TO THE ARCHITECT PRIOR TO SUBMITTING A BID. CONTRACTOR SHALL BE RESPONSIBLE FOR THE DISCONNECTION AND RECONNECTION OF MECHANICAL, PLUMBING, AND ELECTRICAL SYSTEMS NECESSARY TO ACCOMPLISH THE WORK WHETHER OR NOT SPECIFIED AND/OR INDICATED.

2. CUTTING OR CORING OF STRUCTURAL MEMBERS OR FOOTINGS IS PROHIBITED WITHOUT THE PRIOR WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER AND THE ARCHITECT.

3. CONTRACTOR SHALL VERIFY THAT THE ELECTRICAL CONNECTIONS TO THE UNITS, INCLUDING CIRCUIT PROTECTION, CONFORM TO UNIT LABELS AND MANUFACTURER'S DIRECTIONS. WHERE WIRE SIZES SHOWN ON DRAWING EXCEED MANUFACTURER'S RECOMMENDATIONS, THE DRAWINGS SHALL GOVERN. ALL WIRING SHALL BE PER THE NATIONAL ELECTRICAL CODE. AS AMENDED AND ENFORCED BY JURISDICTIONAL AUTHORITY.

4. PROVIDE SHOP DRAWINGS OF ALL MECHANICAL LAYOUTS SHOWING EQUIPMENT, DUCTWORK, REGISTERS, PIPING, FILTER RACKS, CONTROL DAMPERS, LIGHTS, ACCESS PANELS AND ACCESS SPACES, ETC.. OBTAIN AND COORDINATE WITH APPROVED FIRE SPRINKLER PLUMBING, ELECTRICAL, CASE WORK AND OTHER TRADES SHOP DRAWINGS PRIOR TO MECHANICAL DRAWING SUBMITTAL.

5. COORDINATE EXACT GRILLE, DIFFUSER AND ACCESS DOOR LAYOUT WITH LIGHTS AND CEILING MOUNTED APPLIANCES.

6. PROVIDE STEEL DUCTS ABOVE RATED CEILINGS AND MINIMUM 18" BEYOND RATED WALLS.

7. SUPPORT DUCTS TIGHT BELOW STRUCTURE WHEREVER POSSIBLE.

8. PROVIDE ACOUSTICAL LINING IN ALL DUCTS WITHIN 15 FEET OF UNITS. PROVIDE FLEXIBLE CONNECTION ON INLET AND OUTLET DUCT CONNECTIONS TO EQUIPMENT.

9. FLASHING AND WEATHERPROOFING AT EXTERIOR PENETRATIONS ARE SHOWN ON THE ARCHITECTURAL DRAWINGS.

10. COORDINATE WITH OWNER ON SPACE REQUIRED AND TIME SCHEDULE FOR DELIVERY OF ALL ITEMS WHICH ARE TO BE GIVEN TO THE OWNER FOR HIS DISPOSITION.

11. FOR ROOF PENETRATIONS WITHOUT CURBS, PROVIDE WEATHERPROOF FLASHING PER SMACNA ARCHITECTURAL SHEET METAL MANUAL AND DRAWING NOTES.

12. ALL TRANSITIONS IN DUCTWORK SHALL BE MADE AT 15 DEGREES MAXIMUM EACH FACE UNLESS OTHERWISE NOTED OR SPECIFICALLY APPROVED.

13. ALL DUCTWORK IS CONCEALED UNLESS OTHERWISE NOTED.

14. LABEL ALL PIECES OF EQUIPMENT WITH MARK MATCHING SCHEDULE OR EQUIPMENT LIST WITH ENGRAVED PLASTIC LABELS WITH MINIMUM 1/4" HIGH LETTERS. LABELS EXPOSED TO WEATHER SHALL BE ENGRAVED BRASS.

15. PRIME AND PAINT ALL EXPOSED DUCTWORK PER ARCHITECTURAL SPECIFICATIONS. PAINT SHALL NOT EXCEED THE FOLLOWING VOLATILE ORGANIC COMPOUND CONTENT LIMITS: FLATS < 50 GRAMS PER LITER, NON-FLATS < 100 GRAMS PER LITER.

16. ALL DUCTS, REGISTERS, EQUIPMENT, ETC. SHOWN IS NEW UNLESS OTHERWISE NOTED.

17. THE HEATING, VENTILATION AND AIR CONDITIONING SYSTEM(S) FOR THE BUILDING(S) WERE DESIGNED IN COMPLIANCE WITH THE LATEST EDITIONS OF THE CALIFORNIA CODES, STANDARDS AND REGULATIONS INCLUDING BUT NOT LIMITED TO CALIFORNIA MECHANICAL CODE (CMC), CALIFORNIA ENERGY CODE (CEC – TITLE 24, PART 6), AMERICAN SOCIETY OF HEATING, REFRIGERATION AND AIR CONDITIONING ENGINEERS (ASHRAE) AND SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION (SMACNA).

    THE INDOOR AND OUTDOOR DESIGN CONDITIONS ARE THOSE ESTABLISHED FOR SAN JOSE BY THE CALIFORNIA ENERGY CODE AS FOLLOWS:
    1. OUTDOOR CONDITIONS
        SUMMER: 86°F DB/68°F WB
        WINTER: 29°F DB
    2. INDOOR CONDITIONS
        SUMMER: 74°F DB ±2°F
        WINTER: 70°F DB ±2°F

    IF THE OUTDOOR TEMPERATURES ARE HIGHER OR LOWER THAN DESIGN TEMPERATURES ESTABLISHED BY THE CALIFORNIA ENERGY CODE, THERE IS THE POTENTIAL THAT THE INSTALLED HVAC SYSTEM WILL NOT BE ABLE TO MAINTAIN THE DESIRED INDOOR TEMPERATURE. THE INCREASE OR DECREASE OF INDOOR TEMPERATURE COULD BE AS HIGH AS THE DIFFERENCE BETWEEN THE ACTUAL OUTDOOR TEMPERATURE AND THE DESIGN CONDITION.

18. ADHESIVES, SEALANTS AND CAULKS USED INDOORS SHALL NOT EXCEED THE FOLLOWING VOLATILE ORGANIC COMPOUND LIMITS PER TITLE 24, PART 11, SECTION 5.504.

    - METAL TO METAL < 30 GRAMS PER LITER
    - FIBERGLASS < 80 GRAMS PER LITER
    - CONTACT ADHESIVE < 80 GRAMS PER LITER
    - MASTICS < 100 GRAMS PER LITER
    - ZINC-RICH PRIMERS < 340 GRAMS PER LITER
    - FIRE RESISTANT COATINGS < 350 GRAMS PER LITER

19. HVAC EQUIPMENT SHALL NOT CONTAIN CFC'S OR HALONS PER TITLE 24, PART 11, SECTION 5.508.

20. AT THE TIME OF ROUGH INSTALLATION, OR DURING STORAGE ON THE CONSTRUCTION SITE AND UNTIL FINAL STARTUP OF THE HEATING AND COOLING EQUIPMENT, ALL DUCT AND OTHER RELATED AIR DISTRIBUTION COMPONENTS OPENINGS SHALL BE COVERED WITH TAPE, PLASTIC OR SHEET METAL TO PROTECT THE AIR DISTRIBUTION SYSTEM FROM CONTAMINATION WITH DUST AND DEBRIS.

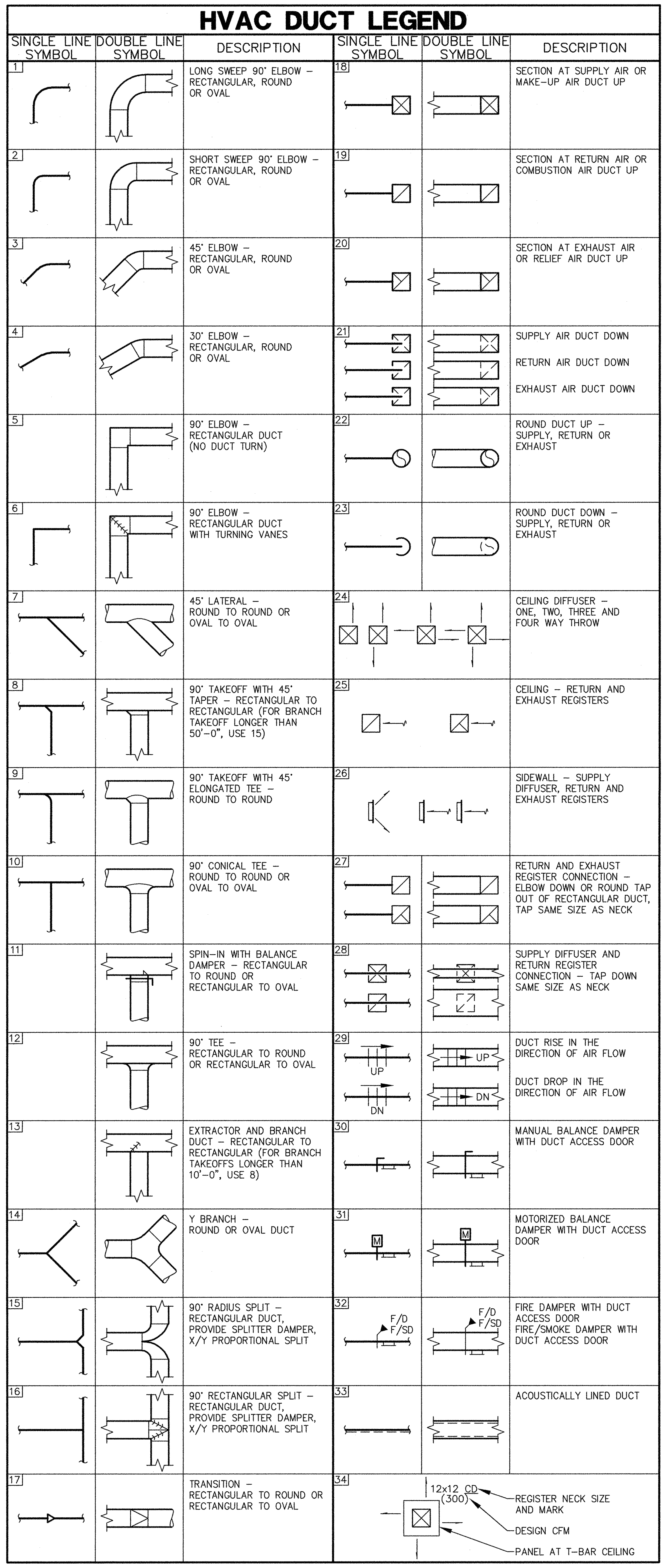
21. ALL DUCT MOUNTED SMOKE DETECTORS SHALL BE ADDRESSABLE TYPE AND COMPATIBLE WITH FIRE ALARM SYSTEM. DUCT SMOKE DETECTORS SHALL BE PROVIDED, INSTALLED AND WIRED BY FIRE ALARM CONTRACTOR. ENTIRE SYSTEM SHALL COMPLY WITH THE CALIFORNIA MECHANICAL CODE, THE CALIFORNIA FIRE CODE, AND THE NATIONAL FIRE PROTECTION ASSOCIATION.

LIST OF GOVERNING CODES:

2016 BUILDING STANDARDS ADMINISTRATIVE CODE, PART 1, TITLE 24, C.C.R.
2016 CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24, C.C.R.
2016 CALIFORNIA ELECTRICAL CODE, PART 3, TITLE 24, C.C.R.
2016 CALIFORNIA MECHANICAL CODE (CMC), PART 4, TITLE 24, C.C.R.
2016 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24, C.C.R.
2016 CALIFORNIA ENERGY CODE (CEC), PART 6, TITLE 24, C.C.R.
2016 CALIFORNIA FIRE CODE (CFC), PART 9, TITLE 24, C.C.R.
2016 CALIFORNIA GREEN BUILDING STANDARDS CODE, PART 11, TITLE 24, C.C.R.
2016 CALIFORNIA REFERENCED STANDARDS CODE, PART 12, TITLE 24, C.C.R.
TITLE 19, C.C.R., PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS.

ALL SECTION NUMBERS BELOW REFER TO GROUP 1, CHAPTER 4, PART 1, TITLE 24, C.C.R.
1. ADDENDA, CONSTRUCTION CHANGES PER SECTION 4-338.
2. INSPECTOR APPROVED BY DSA. INSPECTOR AND CONTINUOUS INSPECTION OF WORK PER SECTION 4-333(b) AND 4-342.
3. TESTS AND TESTING LABORATORY PER SECT. 4-335.
4. SPECIAL INSPECTION PER SECT. 4-333(d).
5. CONTRACTOR SHALL SUBMIT VERIFIED REPORTS PER SECT. 4-336 AND 4-343(c).
6. ADMINISTRATION OF CONSTRUCTION PER PART 1, TITLE 24, C.C.R. – DUTIES OF ARCHITECT, STRUCTURAL ENGINEER OR PROFESSIONAL ENGINEER PER SECT. 4-333(a) AND 4-341.
7. GOVERNING CODES: TITLE 24.
8. A COPY OF PARTS 1, 2, 3, 4, AND 5 OF TITLE 24 SHALL BE KEPT AVAILABLE IN THE FIELD DURING CONSTRUCTION.
9. DSA SHALL BE NOTIFIED OF START OF CONSTRUCTION PER SECT. 4-331.
10. SUPERVISION BY THE OFFICE OF REGULATION SERVICE PER SECT. 4-334.

HVAC DUCT LEGEND



SINGLE LINE SYMBOL	DOUBLE LINE SYMBOL	DESCRIPTION	SINGLE LINE SYMBOL	DOUBLE LINE SYMBOL	DESCRIPTION
1		LONG SWEEP 90° ELBOW – RECTANGULAR, ROUND OR OVAL	18		SECTION AT SUPPLY AIR OR MAKE-UP AIR DUCT UP
2		SHORT SWEEP 90° ELBOW – RECTANGULAR, ROUND OR OVAL	19		SECTION AT RETURN AIR OR COMBUSTION AIR DUCT UP
3		45° ELBOW – RECTANGULAR, ROUND OR OVAL	20		SECTION AT EXHAUST AIR OR RELIEF AIR DUCT UP
4		30° ELBOW – RECTANGULAR, ROUND OR OVAL	21		SUPPLY AIR DUCT DOWN RETURN AIR DUCT DOWN EXHAUST AIR DUCT DOWN
5		90° ELBOW – RECTANGULAR DUCT (NO DUCT TURN)	22		ROUND DUCT UP – SUPPLY, RETURN OR EXHAUST
6		90° ELBOW – RECTANGULAR DUCT WITH TURNING VANES	23		ROUND DUCT DOWN – SUPPLY, RETURN OR EXHAUST
7		45° LATERAL – ROUND TO ROUND OR OVAL TO OVAL	24		CEILING DIFFUSER – ONE, TWO, THREE AND FOUR WAY THROW
8		90° TAKEOFF WITH 45° TAPER – RECTANGULAR TO RECTANGULAR (FOR BRANCH TAKEOFF LONGER THAN 50'-0", USE 15)	25		CEILING – RETURN AND EXHAUST REGISTERS
9		90° TAKEOFF WITH 45° ELONGATED TEE – ROUND TO ROUND	26		SIDEWALL – SUPPLY DIFFUSER, RETURN AND EXHAUST REGISTERS
10		90° CONICAL TEE – ROUND TO ROUND OR OVAL TO OVAL	27		RETURN AND EXHAUST REGISTER CONNECTION – ELBOW DOWN OR ROUND TAP OUT OF RECTANGULAR DUCT, TAP SAME SIZE AS NECK
11		SPIN-IN WITH BALANCE DAMPER – RECTANGULAR TO ROUND OR RECTANGULAR TO OVAL	28		SUPPLY DIFFUSER AND RETURN REGISTER CONNECTION – TAP DOWN SAME SIZE AS NECK
12		90° TEE – RECTANGULAR TO ROUND OR RECTANGULAR TO OVAL	29 UP DN	UP DN	DUCT RISE IN THE DIRECTION OF AIR FLOW DUCT DROP IN THE DIRECTION OF AIR FLOW
13		EXTRACTOR AND BRANCH DUCT – RECTANGULAR TO RECTANGULAR (FOR BRANCH TAKEOFFS LONGER THAN 10'-0", USE 8)	30		MANUAL BALANCE DAMPER WITH DUCT ACCESS DOOR
14		Y BRANCH – ROUND OR OVAL DUCT	31 M	M	MOTORIZED BALANCE DAMPER WITH DUCT ACCESS DOOR
15		90° RADIUS SPLIT – RECTANGULAR DUCT, PROVIDE SPLITTER DAMPER, X/Y PROPORTIONAL SPLIT	32 F/D F/SD	F/D F/SD	FIRE DAMPER WITH DUCT ACCESS DOOR FIRE/SMOKE DAMPER WITH DUCT ACCESS DOOR
16		90° RECTANGULAR SPLIT – RECTANGULAR DUCT, PROVIDE SPLITTER DAMPER, X/Y PROPORTIONAL SPLIT	33		ACOUSTICALLY LINED DUCT
17		TRANSITION – RECTANGULAR TO ROUND OR RECTANGULAR TO OVAL	34 12x12 CD (300)		REGISTER NECK SIZE AND MARK DESIGN CFM PANEL AT T-BAR CEILING

HVAC LEGEND

SYMBOL	ABBRV.	IDENTIFICATION	ABBRV.	IDENTIFICATION
/////////		REMOVE EXISTING	FT	FEET
–//–//–//–		ABANDON IN PLACE	FTR	FLUE THRU ROOF
———		AIR DUCT	GPM	GALLONS PER MINUTE
〰〰〰		FLEXIBLE AIR DUCT	GA	GAUGE
—F—	BD	BALANCING DAMPER	HP	HORSEPOWER
▬ ▪ ▪ ▬		RATED WALL, SEE ARCHITECTS DRAWINGS	HR	HOUR
→		AIR FROM DEVICE	HTG	HEATING
√→		AIR TO DEVICE	HZ	HERTZ
☒		SECTION THROUGH SUPPLY	IN	INCH
⧄		SECTION THROUGH RETURN	KW	KILOWATTS
⋈		SECTION THROUGH EXHAUST	LAT	LEAVING AIR TEMPERATURE
Ⓣ		THERMOSTAT AT 48" AFF	LBS	POUNDS
Ⓒ		CO2 SENSOR	LRA	LOCKED ROTOR AMPS
—◀ F/SD	F/SD	VERTICAL FIRE/SMOKE DAMPER	LVG	LEAVING
—◆ F/SD	F/SD	HORIZONTAL FIRE/SMOKE DAMPER	LWB	LEAVING WET BULB
$	SW	SWITCH AT 48" AFF	MAX	MAXIMUM
℄		CENTERLINE	MBH	1000 BTU PER HOUR
◕	P.O.C.	POINT OF CONNECTION	MCA	MINIMUM CIRCUIT AMPS
	&	AND	MECH	MECHANICAL
	@	AT	MFR	MANUFACTURER
	°F	DEGREES FAHRENHEIT	MIN	MINIMUM
	AC	AIR CONDITIONER	MOCP	MAXIMUM OVERCURRENT PROTECTION
	AC/H	AIR CHANGES PER HOUR	(N)	NEW
	AFF	ABOVE FINISH FLOOR	NIC	NOT IN CONTRACT
	AFUE	ANNUAL FUEL UTILIZATION EFFICIENCY	NTS	NOT TO SCALE
	AL	ACOUSTICALLY LINED	OA	OUTSIDE AIR
	AMB	AMBIENT	OC	ON CENTER
	AMP	AMPERE	PD	PRESSURE DROP
	APPROX	APPROXIMATE	PH	PHASE
	ARCH	ARCHITECT/ARCHITECTURAL	P/N	PART NUMBER
	BHP	BRAKE HORSEPOWER	PRESS	PRESSURE
	BLDG	BUILDING	PSI	POUNDS PER SQUARE INCH
	BTUH	BRITISH THERMAL UNITS PER HOUR	P/T	PRESSURE/TEMPERATURE
	CA	COMBUSTION AIR	QTY	QUANTITY
	CFM	CUBIC FEET PER MINUTE	RA	RETURN AIR
	CIRC	CIRCULATING	REQD	REQUIRED
	CLG	CEILING	REQS	REQUIREMENTS
	CONN	CONNECTION	RLA	RATED/RUNNING LOAD AMPS
	CONT	CONTINUED, CONTINUATION	RM	ROOM
	COOL	COOLING	RPM	REVOLUTIONS PER MINUTE
	COORD	COORDINATE	RRL	RECIRCULATED REFRIGERATION LIQUID
	COP	COEFFICIENT OF PERFORMANCE	RRS	RECIRCULATED REFRIGERATION SUCTION
	DB	DRY BULB	SA	SUPPLY AIR
	DN	DOWN	SC	SENSIBLE COOLING
	DWGS	DRAWINGS	SEER	SEASONAL ENERGY EFFICIENCY RATIO
	(E)	EXISTING	SP	STATIC PRESSURE
	EA	EXHAUST AIR	SPEC	SPECIFICATION
	EAT	ENTERING AIR TEMPERATURE	SQ	SQUARE
	EER	ENERGY EFFICIENCY RATIO	STD	STANDARD
	ELEC	ELECTRICAL	STRUCT	STRUCTURAL
	ELEV	ELEVATION	STSL	STAINLESS STEEL
	ENT	ENTERING	TEMP	TEMPERATURE
	EQUIP	EQUIPMENT	TSP	TOTAL STATIC PRESSURE
	ESP	EXTERNAL STATIC PRESSURE	TV	TURNING VANES
	EWB	ENTERING WET BULB	TYP	TYPICAL
	EXP	EXPANSION	UCD	UNDERCUT DOOR
	EXT	EXTERIOR	UL	UNDERWRITER'S LABORATORIES
	FFE	FINISHED FLOOR ELEVATION	UON	UNLESS OTHERWISE NOTED
	FLA	FULL LOAD AMPS	V	VOLT
	FLEX	FLEXIBLE	W/	WITH
	FLR	FLOOR	WB	WET BULB
	FPM	FEET PER MINUTE	WC	WATER COLUMN
			WT	WEIGHT

DSA GENERAL NOTES

1. THE INTENT OF THE CONTRACT DOCUMENTS IS TO MODERNIZE AN EXISTING BUILDING. SHOULD ANY CONDITIONS DEVELOP NOT COVERED BY THE CONTRACT DOCUMENTS, A CONSTRUCTION CHANGE DOCUMENT DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED TO AND APPROVED BY DSA BEFORE PROCEEDING WITH THE WORK.

2. LATERAL SUPPORT FOR PIPE AND DUCTS TO COMPLY WITH SMACNA "GUIDELINES FOR SEISMIC RESTRAINTS OF MECHANICAL SYSTEMS AND PLUMBING SYSTEMS".

3. THE SEISMIC SUPPORT AND ANCHORAGE OF THE EQUIPMENT DESCRIBED ON THESE DRAWINGS HAVE BEEN ENGINEERED BY THE ENGINEER OF RECORD FOR CONFORMANCE WITH APPROPRIATE BUILDING CODES. THE ENGINEER OF RECORD WAS NOT RESPONSIBLE FOR THE EQUIPMENT DESIGN.

4. ALL MECHANICAL AND PLUMBING EQUIPMENT SHALL BE BRACED OR ANCHORED TO RESIST A HORIZONTAL FORCE ACTING IN ANY DIRECTION USING THE CRITERIA FROM CHAPTER 16A CALIFORNIA BUILDING CODE (CBC) 2016.

5. WHERE ANCHORAGE DETAILS ARE NOT SHOWN ON THE DRAWINGS, THE FIELD INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE STRUCTURAL ENGINEER AND THE FIELD REPRESENTATIVE OF THE DIVISION OF THE STATE ARCHITECT.

COMPONENT ANCHORAGE NOTES

ALL MECHANICAL AND PLUMBING COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. WHERE NO DETAIL IS INDICATED, THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2016 CBC, SECTIONS 1616A.1.18 THROUGH 1616A.1.26 AND ASCE 7-10 CHAPTERS 13, 26, AND 30.

1. ALL PERMANENT EQUIPMENT AND COMPONENTS.
2. TEMPORARY OR MOVABLE EQUIPMENT THAT IS PERMANENTLY ATTACHED (EG HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICAL, GAS, OR WATER.
3. MOVABLE EQUIPMENT WHICH IS STATIONED IN ONE PLACE FOR MORE THAN 8 HOURS AND HEAVIER THAN 400 POUNDS ARE REQUIRED TO BE ANCHORED WITH TEMPORARY ATTACHMENTS.

THE ATTACHMENT OF THE FOLLOWING MECHANICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE, BUT NEED NOT BE DETAILED ON THE PLANS. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT.

1. COMPONENTS WEIGHING LESS THAN 400 POUNDS AND HAVING A CENTER OF MASS LOCATED 4'-0" OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORTS THE EQUIPMENT.
2. COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR IN THE CASE OF DISTRIBUTED SYSTEMS, LESS THAN 5 POUNDS PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.

FOR THOSE ELEMENTS THAT DO NOT REQUIRE DETAILS ON THE APPROVED DRAWINGS, THE INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE STRUCTURAL ENGINEER OF RECORD AND THE DSA DISTRICT STRUCTURAL ENGINEER. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH ABOVE REQUIREMENTS.

PIPING AND DUCTWORK DISTRIBUTION SYSTEM BRACING NOTES

PIPING AND DUCTWORK DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-10 SECTION 13.3 AS DEFINED IN ASCE 7-10 SECTION 13.6.5.6., 13.6.8, 13.6.7, AND 2016 CBC, SECTIONS 1616A.1.23, 1616A.1.24, 1616A.1.25, AND 1616A.1.26.

THE BRACING AND ATTACHMENTS TO THE STRUCTURE SHALL BE DETAILED ON THE APPROVED DRAWINGS OR THEY SHALL COMPLY WITH ONE OF THE OSHPD PRE-APPROVALS (OPA #) AS MODIFIED TO SATISFY ANCHORAGE REQUIREMENTS OF ACI 318-14, CHAPTER 17.

COPIES OF THE MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE START OF HANGING AND BRACING OF THE PIPING AND DUCTWORK DISTRIBUTION SYSTEMS.

THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.

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LEGEND AND NOTES - MECHANICAL

CLYDE ARBUCKLE ELEMENTARY SCHOOL - HVAC UPGRADES
1970 CINDERELLA LN., SAN JOSE, CA 95116
ALUM ROCK UNION ELEMENTARY SCHOOL DISTRICT

REVISIONS

NO.	ITEM	DATE
	DD SUBMITTAL	12-8-17
	DSA SUBMITTAL	01-31-18
	BID SET	04-09-18

DSA FILE NUMBER 43-04

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APPL 01-117268
AC ___ FLS ___ SS ___
DATE MAY 10 2018

DRAWN BY: CADD
CHECKED BY: MS
JOB NO: 17102
DATE: 04-09-2018

M0.1

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May 04, 2018 3:33:24 p.m.
Drawing: H:\PROJ2017\20170290\DRAWINGS\LNA-FILS\HVA-M02.DWG
Xrefs: MAS-BORD.DWG,

GAS FIRED EQUIPMENT

MARK	HEAT MBH		CFM			FAN RPM	MOTOR		WT LBS	AFUE	MAKE & MODEL	REMARKS
	IN	OUT	TOTAL	ESP	OA		HP	V/PH				
F-D-1	250	200	3000	0.8"	800	MEDIUM	(2) 1	208/3	380	80%	REZNOR CAUA 250	① ②
F-D-2	250	200	3000	0.8"	800	MEDIUM	(2) 1	208/3	380	80%	REZNOR CAUA 250	① ②

① WITH TWO STAGE GAS VALVE, VERTICAL CONCENTRIC COMBUSTION AIR KIT, AND DIRECT DRIVE BLOWER MOTORS.

② FOR MOUNTING SEE 13/M6.1

CONDENSING UNITS AND COOLING COILS

MARK	COOL MBH		MCA	FAN RPM	FAN HP	V/PH	COMP. RLA	FAN FLA	WT LBS	EER SEER	LINE SIZE		MAKE & MODEL	REMARKS
	TC	SC									GAS	LIQ		
CU-D-1	90.7	65.9	42.6	–	0.5	208/3	32.9	8	465	13.0	7/8"	1/2"	REZNOR MASA 090	① ② ③
CC-D-1			–	–	–	–	–	–	110	–	7/8"	(2) 3/8"	REZNOR ACUB 090	①
CU-D-2	90.7	65.9	42.6	–	0.5	208/3	32.9	8	465	13.0	7/8"	1/2"	REZNOR MASA 090	① ② ③
CC-D-2			–	–	–	–	–	–	110	–	7/8"	(2) 3/8"	REZNOR ACUB 090	①

① COOLING CAPACITIES ARE AT 95° FAHRENHEIT AMBIENT, 80° FAHRENHEIT DRY BULB/67° FAHRENHEIT WET BULB ENTERING AIR TEMPERATURE.

② WITH ANTI-SHORT CYCLE TIMER AND CONDENSER COIL GUARD.

③ FOR MOUNTING, SEE 9/M6.1

SPLIT SYSTEM AIR CONDITIONERS

MARK	COOL MBH		CFM	ESP	MOCP	V/PH	MCA	WT LBS	EER SEER	LINE SIZE		MAKE & MODEL	REMARKS
	TC	SC								GAS	LIQ		
SSI-A-1	12	–	380	–	③	③	③	29	–	1/2"	1/4"	MITSUBISHI PKA-A12HA	① ② ④ ⑥
SSO-A-1			–	–	15	208/1	13	90	15.2	1/2"	1/4"	MITSUBISHI PUY-A12NHA3	① ② ⑤ ⑥

① WITH MITSUBISHI PAR-21MAA WIRED WALL MOUNTED CONTROLLER.

② COOLING CAPACITIES ARE AT 115° FAHRENHEIT AMBIENT, 95° FAHRENHEIT DRY BULB/71° FAHRENHEIT WET BULB ENTERING AIR TEMPERATURE.

③ POWER FOR INDOOR UNIT PROVIDED BY OUTDOOR UNIT.

④ FOR MOUNTING, SEE 4/M6.2

⑤ FOR MOUNTING, SEE 5/M6.2

⑥ COOLING ONLY

ROOF HOODS

MARK	CFM	THROAT AREA SF	THROAT VELOCITY	THROAT SIZE	HOOD SIZE	CURB CAP SIZE	WT LBS	MAKE & MODEL	REMARKS
IH-1	800	1.45	552 FPM	16"ø	29"ø	26" x 26"	40	GREENHECK GRSI 16	① ②
IH-2	600	1.45	414 FPM	16"ø	29"ø	26" x 26"	40	GREENHECK GRSI 16	① ②
IH-3	935	1.83	511 FPM	20"ø	35"ø	30" x 30"	45	GREENHECK GRSI 18	① ②
RH-D-1	3000	5.83	514 FPM	20" x 42"	30" x 60"	26" x 48"	105	GREENHECK FGR 20X42	② ③

① WITH GREENHECK GPIP ROOF CURB AND CURB SEAL, ALL ALUMINUM CONSTRUCTION, AND BIRD SCREEN.

② FOR MOUNTING, SEE 7/M6.1.

③ WITH GREENHECK GPIP ROOF CURB, CURB SEAL, BIRD SCREEN, AND GRAVITY OPERATED DAMPER.

AIR DISTRIBUTION

MARK	TYPE	MAKE & MODEL	REMARKS
HSS-1	HIGH SIDEWALL SUPPLY	TITUS 300RL	① ②
LSR-1	LOW SIDEWALL RETURN	TITUS 350RS	① ③
HSE-1	HIGH SIDEWALL EXHAUST	TITUS 8R	① ④
CD-1	CEILING DIFFUSER	TITUS MCD	⑤ ⑥
RG-1	RETURN GRILLE	TITUS 8R	① ⑦

① WITH BORDER TYPE 1 SURFACE MOUNT.

② FOR MOUNTING, SEE 11/M6.1.

③ FOR MOUNTING, SEE 14/M6.1.

④ FOR MOUNTING, SEE 8/M6.1.

⑤ WITH BORDER TYPE 3 (LAY-IN).

⑥ FOR MOUNTING, SEE 16/M6.1.

⑦ FOR MOUNTING, SEE 3/M6.2

VRF OUTDOOR HEAT PUMPS

MARK	COOL MBH	HEAT MBH	MOCP	V/PH	MCA	WT LBS	EER IEER	LINE SIZE		MAKE & MODEL	REMARKS
								GAS	LIQ		
HP-A-1	264	295	80 60	208/3	52 42	1390	12.5 21.9	1 3/8"	1 1/8"	MITSUBISHI PURY-P264TSLMU-A	① ② ③
HP-B-1	336	378	110 110	208/3	68 68	1404	9.7 17.6	1 5/8"	1 1/8"	MITSUBISHI PURY-P336TSLMU-A	① ② ③
HP-C-1	336	378	110 110	208/3	68 68	1404	9.7 17.6	1 5/8"	1 1/8"	MITSUBISHI PURY-P336TSLMU-A	① ② ③
HP-D-1	36	42	44	208/1	31	269	14.2 –	5/8"	3/8"	MITSUBISHI PUMY-P364NKMU1	② ③

① WITH MITSUBISHI CMB-P1016NU-HA1 MAIN BRANCH CIRCUIT (BC) CONTROLLER, 208V/1PH, 1.65 MCA. WEIGHT = 172 LBS. SEE FLOOR PLANS FOR LOCATION. PROVIDE WITH BLUE DIAMOND CONDENSATE PUMP.

② FOR MOUNTING SEE 3/M6.1

③ CONTRACTOR SHALL PROVIDE SHOP DRAWINGS SHOWING UNIT LOCATIONS, REFRIGERANT PIPE ROUTING, REFRIGERANT CIRCUIT DIAGRAMS, REFRIGERANT PIPE SIZES, VALVE LOCATIONS, ACCESS PANELS, AND SUPPORT DETAILS. SYSTEM SHALL BE DESIGNED BY MITSUBISHI DIAMOND DESIGNER AND INSTALLED BY A CONTRACTOR THAT HAS SUCCESSFULLY COMPLETED THE MITSUBISHI ELECTRIC THREE DAY COURSE.

EXHAUST FANS

MARK	CFM	ESP	SONES	MOTOR		FAN RPM	WT LBS	MAKE & MODEL	REMARKS
				HP	V/PH				
EF-A-1	100	0.25"	0.6	18 WATTS	115/1	850	20	GREENHECK SP-A110	② ③ ④
EF-A-2	55	0.25"	0.7	13 WATTS	115/1	950	15	GREENHECK SP-A70	② ③ ④
EF-A-3	75	0.25"	0.6	18 WATTS	115/1	884	20	GREENHECK SP-A110	② ③ ④
EF-B-1	425	0.25"	5.0	1/10	115/1	1222	50	GREENHECK G-090-VG	① ③ ⑤
EF-B-2	125	0.25"	3.1	1/10	115/1	1725	45	GREENHECK G-065-VG	① ③ ⑤
EF-B-3	425	0.25"	5.0	1/10	115/1	1222	50	GREENHECK G-090-VG	① ③ ⑤
EF-C-1	425	0.25"	5.0	1/10	115/1	1222	50	GREENHECK G-090-VG	① ③ ⑤
EF-C-2	425	0.25"	5.0	1/10	115/1	1222	50	GREENHECK G-090-VG	① ③ ⑤

① WITH UL705 LISTING, NEMA-3R DISCONNECT SWITCH, GRAVITY OPERATED BACKDRAFT DAMPER, 14" TALL GREENHECK GPIP CURB, AND CURB SEAL.

② WITH UL507 LISTING, UNIT MOUNTED SPEED CONTROL, AND ISOLATION KIT.

③ SWITCH WITH LIGHTS.

④ FOR MOUNTING, SEE 6/M6.1

⑤ FOR MOUNTING, SEE 7/M6.1

SUPPLY FANS

MARK	CFM	ESP	SONES	MOTOR		FAN RPM	WT LBS	MAKE & MODEL	REMARKS
				WATTS	V/PH				
SF-A-1	450	0.25"	0.4	153	115/1	870	40	GREENHECK CSP-A710	① ②
SF-A-2	485	0.25"	0.6	176	115/1	907	40	GREENHECK CSP-A710	① ②
SF-A-3	200	0.25"	<0.3	48	115/1	744	40	GREENHECK CSP-A410	① ②
SF-A-4	400	0.25"	<0.3	126	115/1	823	40	GREENHECK CSP-A710	① ②
SF-A-5	200	0.25"	<0.3	48	115/1	744	40	GREENHECK CSP-A410	① ②
SF-B-1	400	0.25"	<0.3	126	115/1	823	40	GREENHECK CSP-A710	① ②
SF-B-2	400	0.25"	<0.3	126	115/1	823	40	GREENHECK CSP-A710	① ②
SF-B-3	400	0.25"	<0.3	126	115/1	823	40	GREENHECK CSP-A710	① ②
SF-B-4	400	0.25"	<0.3	126	115/1	823	40	GREENHECK CSP-A710	① ②
SF-B-5	400	0.25"	<0.3	126	115/1	823	40	GREENHECK CSP-A710	① ②
SF-B-6	400	0.25"	<0.3	126	115/1	823	40	GREENHECK CSP-A710	① ②
SF-B-7	400	0.25"	<0.3	126	115/1	823	40	GREENHECK CSP-A710	① ②
SF-B-8	400	0.25"	<0.3	126	115/1	823	40	GREENHECK CSP-A710	① ②
SF-C-1	400	0.25"	<0.3	126	115/1	823	40	GREENHECK CSP-A710	① ②
SF-C-2	400	0.25"	<0.3	126	115/1	823	40	GREENHECK CSP-A710	① ②
SF-C-3	400	0.25"	<0.3	126	115/1	823	40	GREENHECK CSP-A710	① ②
SF-C-4	400	0.25"	<0.3	126	115/1	823	40	GREENHECK CSP-A710	① ②
SF-C-5	400	0.25"	<0.3	126	115/1	823	40	GREENHECK CSP-A710	① ②
SF-C-6	400	0.25"	<0.3	126	115/1	823	40	GREENHECK CSP-A710	① ②
SF-C-7	400	0.25"	<0.3	126	115/1	823	40	GREENHECK CSP-A710	① ②
SF-C-8	400	0.25"	<0.3	126	115/1	823	40	GREENHECK CSP-A710	① ②
SF-D-1	80	0.25"	<0.3	14	115/1	850	20	GREENHECK CSP-A110	① ②

① WITH UL507 LISTING, UNIT MOUNTED SPEED CONTROL, BACKDRAFT DAMPER, AND ISOLATION KIT.

② FOR MOUNTING, SEE 5/M6.1

VRF INDOOR FAN COILS

MARK	CONNECTS TO	COOL MBH	HEAT MBH	CFM			MOCP	V/PH	MCA	WT LBS	LINE SIZE		MAKE & MODEL	REMARKS
				TOTAL	OSA	ESP					GAS	LIQ		
FC-A-1A	HP-A-1	30	34	812	225	–	15	208/1	0.57	66	5/8"	3/8"	MITSUBISHI PLFY-EP30NEMU-E	① ② ③ ④ ⑤
FC-A-1B	HP-A-1	30	34	812	225	–	15	208/1	0.57	66	5/8"	3/8"	MITSUBISHI PLFY-EP30NEMU-E	① ② ③ ④ ⑤
FC-A-2A	HP-A-1	30	34	812	225	–	15	208/1	0.57	66	5/8"	3/8"	MITSUBISHI PLFY-EP30NEMU-E	① ② ③ ④ ⑤
FC-A-2B	HP-A-1	30	34	812	225	–	15	208/1	0.57	66	5/8"	3/8"	MITSUBISHI PLFY-EP30NEMU-E	① ② ③ ④ ⑤
FC-A-3	HP-A-1	12	13	390	35	–	15	208/1	0.35	44	1/2"	1/4"	MITSUBISHI PLFY-P12NCMU-ER4	① ② ④ ⑤ ⑥
FC-A-4A	HP-A-1	24	27	812	200	–	15	208/1	0.54	66	5/8"	3/8"	MITSUBISHI PLFY-EP24NEMU-E	① ② ③ ④ ⑤
FC-A-4B	HP-A-1	24	27	812	200	–	15	208/1	0.54	66	5/8"	3/8"	MITSUBISHI PLFY-EP24NEMU-E	① ② ③ ④ ⑤
FC-A-5A	HP-A-1	15	17	390	100	–	15	208/1	0.35	44	1/2"	1/4"	MITSUBISHI PLFY-P15NCMU-ER4	① ② ④ ⑤ ⑥
FC-A-5B	HP-A-1	15	17	390	100	–	15	208/1	0.35	44	1/2"	1/4"	MITSUBISHI PLFY-P15NCMU-ER4	① ② ④ ⑤ ⑥
FC-A-6	HP-A-1	8	9	350	20	–	15	208/1	0.29	41	1/2"	1/4"	MITSUBISHI PLFY-P08NCMU-ER4	① ② ④ ⑤ ⑥
FC-A-7	HP-A-1	8	9	350	20	–	15	208/1	0.29	41	1/2"	1/4"	MITSUBISHI PLFY-P08NCMU-ER4	① ② ④ ⑤ ⑥
FC-A-8	HP-A-1	8	9	350	25	–	15	208/1	0.29	41	1/2"	1/4"	MITSUBISHI PLFY-P08NCMU-ER4	① ② ④ ⑤ ⑥
FC-A-9	HP-A-1	15	17	390	45	–	15	208/1	0.35	44	1/2"	1/4"	MITSUBISHI PLFY-P15NCMU-ER4	① ② ④ ⑤ ⑥
FC-A-10A	HP-A-1	12	13	390	30	–	15	208/1	0.35	44	1/2"	1/4"	MITSUBISHI PLFY-P12NCMU-ER4	① ② ④ ⑤ ⑥
FC-A-10B	HP-A-1	12	13	390	30	–	15	208/1	0.35	44	1/2"	1/4"	MITSUBISHI PLFY-P12NCMU-ER4	① ② ④ ⑤ ⑥
FC-A-11	HP-A-1	12	13	390	30	–	15	208/1	0.35	44	1/2"	1/4"	MITSUBISHI PLFY-P12NCMU-ER4	① ② ④ ⑤ ⑥
FC-B-1A	HP-B-1	24	27	812	200	–	15	208/1	0.54	66	5/8"	3/8"	MITSUBISHI PLFY-EP24NEMU-E	① ② ③ ④ ⑤
FC-B-1B	HP-B-1	24	27	812	200	–	15	208/1	0.54	66	5/8"	3/8"	MITSUBISHI PLFY-EP24NEMU-E	① ② ③ ④ ⑤
FC-B-2A	HP-B-1	24	27	812	200	–	15	208/1	0.54	66	5/8"	3/8"	MITSUBISHI PLFY-EP24NEMU-E	① ② ③ ④ ⑤
FC-B-2B	HP-B-1	24	27	812	200	–	15	208/1	0.54	66	5/8"	3/8"	MITSUBISHI PLFY-EP24NEMU-E	① ② ③ ④ ⑤
FC-B-3A	HP-B-1	24	27	812	200	–	15	208/1	0.54	66	5/8"	3/8"	MITSUBISHI PLFY-EP24NEMU-E	① ② ③ ④ ⑤
FC-B-3B	HP-B-1	24	27	812	200	–	15	208/1	0.54	66	5/8"	3/8"	MITSUBISHI PLFY-EP24NEMU-E	① ② ③ ④ ⑤
FC-B-4A	HP-B-1	24	27	812	200	–	15	208/1	0.54	66	5/8"	3/8"	MITSUBISHI PLFY-EP24NEMU-E	① ② ③ ④ ⑤
FC-B-4B	HP-B-1	24	27	812	200	–	15	208/1	0.54	66	5/8"	3/8"	MITSUBISHI PLFY-EP24NEMU-E	① ② ③ ④ ⑤
FC-B-5A	HP-B-1	24	27	812	200	–	15	208/1	0.54	66	5/8"	3/8"	MITSUBISHI PLFY-EP24NEMU-E	① ② ③ ④ ⑤
FC-B-5B	HP-B-1	24	27	812	200	–	15	208/1	0.54	66	5/8"	3/8"	MITSUBISHI PLFY-EP24NEMU-E	① ② ③ ④ ⑤
FC-B-6A	HP-B-1	24	27	812	200	–	15	208/1	0.54	66	5/8"	3/8"	MITSUBISHI PLFY-EP24NEMU-E	① ② ③ ④ ⑤
FC-B-6B	HP-B-1	24	27	812	200	–	15	208/1	0.54	66	5/8"	3/8"	MITSUBISHI PLFY-EP24NEMU-E	① ② ③ ④ ⑤
FC-B-7A	HP-B-1	24	27	812	200	–	15	208/1	0.54	66	5/8"	3/8"	MITSUBISHI PLFY-EP24NEMU-E	① ② ③ ④ ⑤
FC-B-7B	HP-B-1	24	27	812	200	–	15	208/1	0.54	66	5/8"	3/8"	MITSUBISHI PLFY-EP24NEMU-E	① ② ③ ④ ⑤
FC-B-8A	HP-B-1	24	27	812	200	–	15	208/1	0.54	66	5/8"	3/8"	MITSUBISHI PLFY-EP24NEMU-E	① ② ③ ④ ⑤
FC-B-8B	HP-B-1	24	27	812	200	–	15	208/1	0.54	66	5/8"	3/8"	MITSUBISHI PLFY-EP24NEMU-E	① ② ③ ④ ⑤
FC-C-1A	HP-C-1	24	27	812	200	–	15	208/1	0.54	66	5/8"	3/8"	MITSUBISHI PLFY-EP24NEMU-E	① ② ③ ④ ⑤
FC-C-1B	HP-C-1	24	27	812	200	–	15	208/1	0.54	66	5/8"	3/8"	MITSUBISHI PLFY-EP24NEMU-E	① ② ③ ④ ⑤
FC-C-2A	HP-C-1	24	27	812	200	–	15	208/1	0.54	66	5/8"	3/8"	MITSUBISHI PLFY-EP24NEMU-E	① ② ③ ④ ⑤
FC-C-2B	HP-C-1	24	27	812	200	–	15	208/1	0.54	66	5/8"	3/8"	MITSUBISHI PLFY-EP24NEMU-E	① ② ③ ④ ⑤
FC-C-3A	HP-C-1	24	27	812	200	–	15	208/1	0.54	66	5/8"	3/8"	MITSUBISHI PLFY-EP24NEMU-E	① ② ③ ④ ⑤
FC-C-3B	HP-C-1	24	27	812	200	–	15	208/1	0.54	66	5/8"	3/8"	MITSUBISHI PLFY-EP24NEMU-E	① ② ③ ④ ⑤
FC-C-4A	HP-C-1	24	27	812	200	–	15	208/1	0.54	66	5/8"	3/8"	MITSUBISHI PLFY-EP24NEMU-E	① ② ③ ④ ⑤
FC-C-4B	HP-C-1	24	27	812	200	–	15	208/1	0.54	66	5/8"	3/8"	MITSUBISHI PLFY-EP24NEMU-E	① ② ③ ④ ⑤
FC-C-5A	HP-C-1	24	27	812	200	–	15	208/1	0.54	66	5/8"	3/8"	MITSUBISHI PLFY-EP24NEMU-E	① ② ③ ④ ⑤
FC-C-5B	HP-C-1	24	27	812	200	–	15	208/1	0.54	66	5/8"	3/8"	MITSUBISHI PLFY-EP24NEMU-E	① ② ③ ④ ⑤
FC-C-6A	HP-C-1	24	27	812	200	–	15	208/1	0.54	66	5/8"	3/8"	MITSUBISHI PLFY-EP24NEMU-E	① ② ③ ④ ⑤
FC-C-6B	HP-C-1	24	27	812	200	–	15	208/1	0.54	66	5/8"	3/8"	MITSUBISHI PLFY-EP24NEMU-E	① ② ③ ④ ⑤
FC-C-7A	HP-C-1	24	27	812	200	–	15	208/1	0.54	66	5/8"	3/8"	MITSUBISHI PLFY-EP24NEMU-E	① ② ③ ④ ⑤
FC-C-7B	HP-C-1	24	27	812	200	–	15	208/1	0.54	66	5/8"	3/8"	MITSUBISHI PLFY-EP24NEMU-E	① ② ③ ④ ⑤
FC-C-8A	HP-C-1	24	27	812	200	–	15	208/1	0.54	66	5/8"	3/8"	MITSUBISHI PLFY-EP24NEMU-E	① ② ③ ④ ⑤
FC-C-8B	HP-C-1	24	27	812	200	–	15	208/1	0.54	66	5/8"	3/8"	MITSUBISHI PLFY-EP24NEMU-E	① ② ③ ④ ⑤
FC-D-1	HP-D-1	8	9	350	25	–	15	208/1	0.29	41	1/2"	1/4"	MITSUBISHI PLFY-P08NCMU-ER4	① ② ④ ⑤ ⑥
FC-D-2	HP-D-1	8	9	350	25	–	15	208/1	0.29	41	1/2"	1/4"	MITSUBISHI PLFY-P08NCMU-ER4	① ② ④ ⑤ ⑥
FC-D-3	HP-D-1	12	13	390	30	–	15	208/1	0.35	44	1/2"	1/4"	MITSUBISHI PLFY-P12NCMU-ER4	① ② ④ ⑤ ⑥

① NOMINAL COOLING CAPACITIES ARE BASED ON INDOOR COAL EAT OF 80/67°F (DB/WB), OUTDOOR OF 95°F (DB). NOMINAL HEATING CAPACITIES ARE BASED ON INDOOR COIL EAT OF 70°F (DB), OUTDOOR OF 43°F (WB).

② OUTSIDE AIR IS PROVIDED BY SUPPLY FAN, SEE FLOOR PLANS AND SUPPLY FANS SCHEDULE.

③ WITH MITSUBISHI PLFY-1TP1 TRIM PANEL FOR INSTALLATION IN 48" x 48" SUSPENDED T-BAR CEILING. PROVIDE MITSUBISHI PAC-SJ42TM-E MULTI-FUNCTION CASEMENT WITH MERV 13 FILTER.

④ FOR MOUNTING, SEE 1/M6.1

⑤ CONTRACTOR SHALL PROVIDE SHOP DRAWINGS SHOWING UNIT LOCATIONS, REFRIGERANT PIPE ROUTING, REFRIGERANT CIRCUIT DIAGRAMS, REFRIGERANT PIPE SIZES, VALVE LOCATIONS, ACCESS PANELS, AND SUPPORT DETAILS. SYSTEM SHALL BE DESIGNED BY MITSUBISHI DIAMOND DESIGNER AND INSTALLED BY A CONTRACTOR THAT HAS SUCCESSFULLY COMPLETED THE MITSUBISHI ELECTRIC THREE DAY COURSE.

⑥ PROVIDE 1" MERV 8 FILTER FOR CONTRACTOR INSTALL

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AE Project # : 20170290

SCHEDULES -
MECHANICAL

CLYDE ARBUCKLE ELEMENTARY SCHOOL - HVAC UPGRADES
1970 CINDERELLA LN., SAN JOSE, CA 95116
ALUM ROCK UNION ELEMENTARY SCHOOL DISTRICT

REVISIONS

NO.	ITEM	DATE
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	BID SET	04-09-18

DSA FILE NUMBER 43-04

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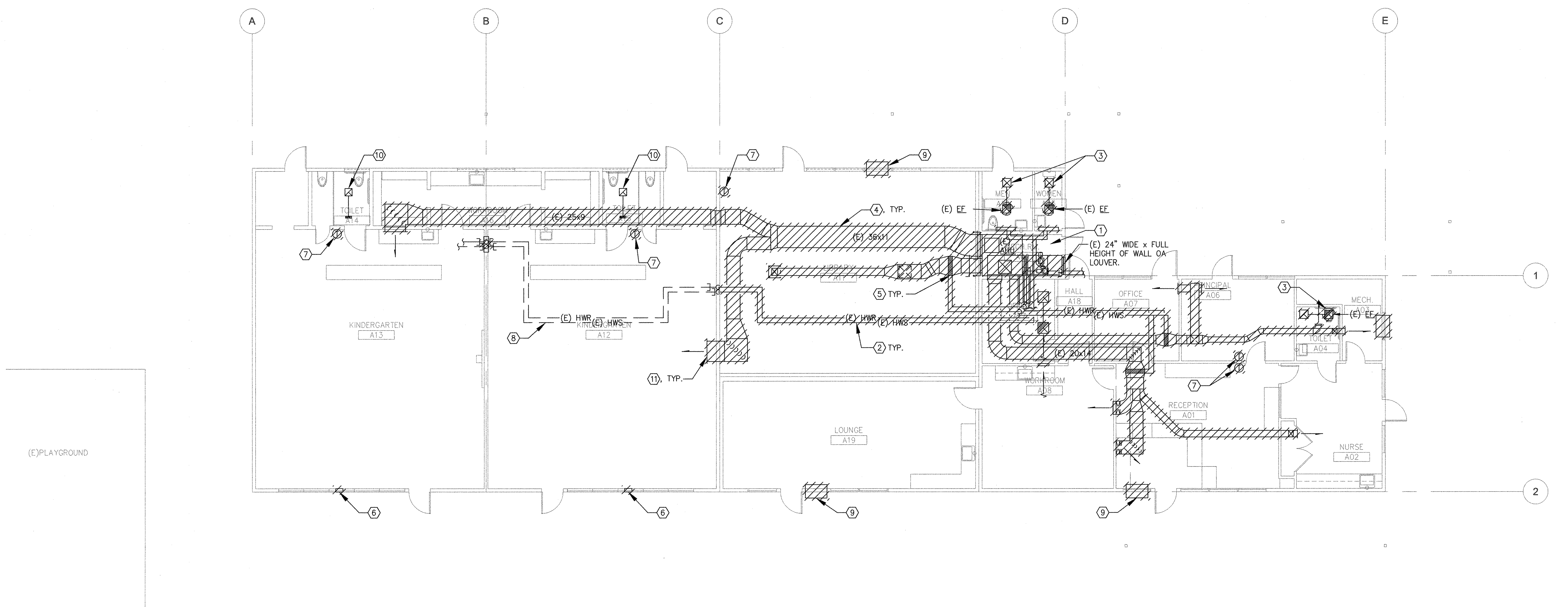
DIV. OF THE STATE ARCHITECT
APPL 01-117268
AC ____ FLS ____ SS ____
DATE MAY 10 2018

DRAWN BY: CADD
CHECKED BY: MS
JOB NO: 17102
DATE: 04-09-2018

M0.2



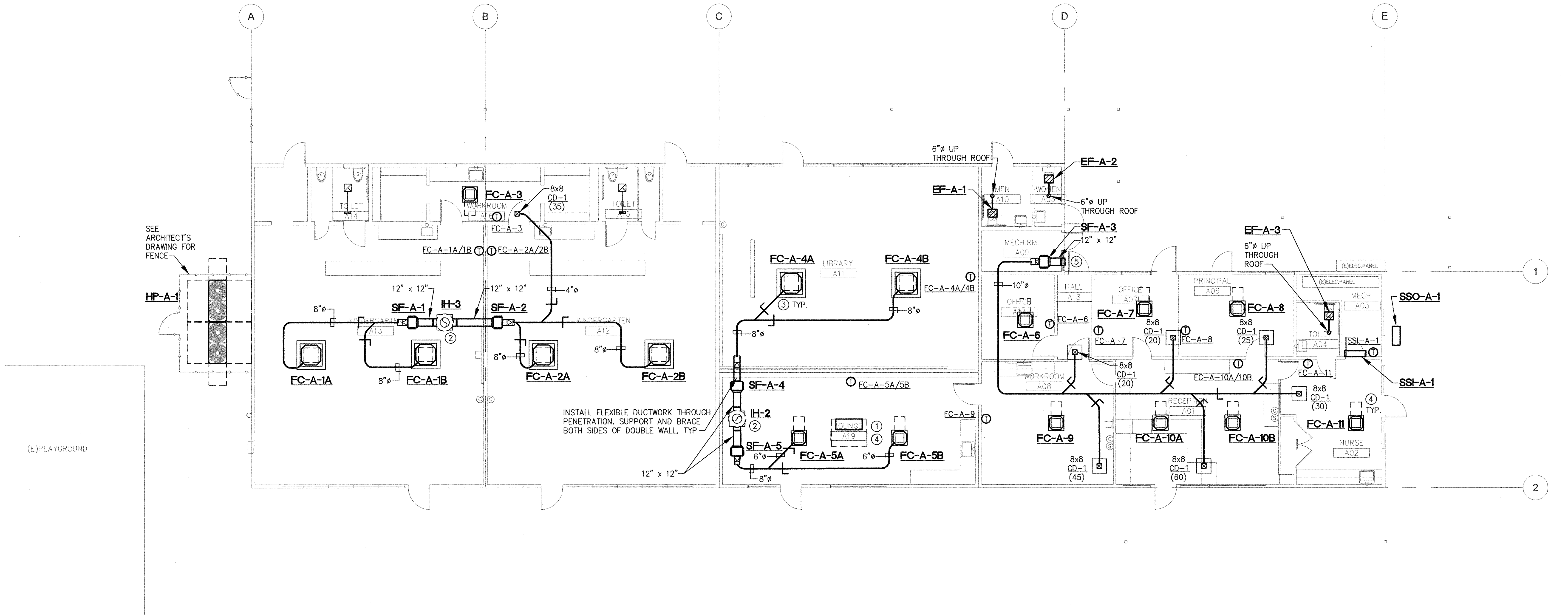
BUILDING A - MECHANICAL DEMOLITION

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

TRUE NORTH REF NORTH

DEMOLITION NOTES:

1. REMOVE ALL (E) MECHANICAL EQUIPMENT, PIPING, DUCTWORK, SUPPORTS AND HOUSEKEEPING PADS IN MECHANICAL ROOM COMPLETE. (E) UNDERGROUND HOT WATER PIPING TO REMAIN, CAP AT GRADE.
2. REMOVE (E) HOT WATER PIPING AND SUPPORTS COMPLETE.
3. REMOVE (E) EXHAUST FAN, EXHAUST DUCT, EXHAUST REGISTERS AND SUPPORTS COMPLETE.
4. REMOVE (E) SUPPLY DUCTWORK, REGISTERS AND SUPPORTS COMPLETE.
5. REMOVE (E) REHEAT COIL AND SUPPORTS COMPLETE.
6. REMOVE (E) PORTABLE AC LOUVER. SEE ARCHITECT'S DRAWINGS FOR INFILL. (E) PORTABLE AC TO BE RETURNED TO DISTRICT.
7. REMOVE (E) THERMOSTATS AND WIRING COMPLETE.
8. (E) UNDERFLOOR HOT WATER PIPING TO REMAIN. CAP AT FLOOR AND ABANDON IN PLACE.
9. REMOVE (E) WALL AC UNIT COMPLETE. SEE ARCHITECT'S DRAWINGS FOR INFILL.
10. (E) EXHAUST FAN TO REMAIN. REPLACE REGISTER AND CLEAN DUCTWORK.
11. REMOVE (E) SIDEWALL SUPPLY REGISTERS COMPLETE. SEE ARCHITECT'S DRAWINGS FOR INFILL.



BUILDING A - MECHANICAL

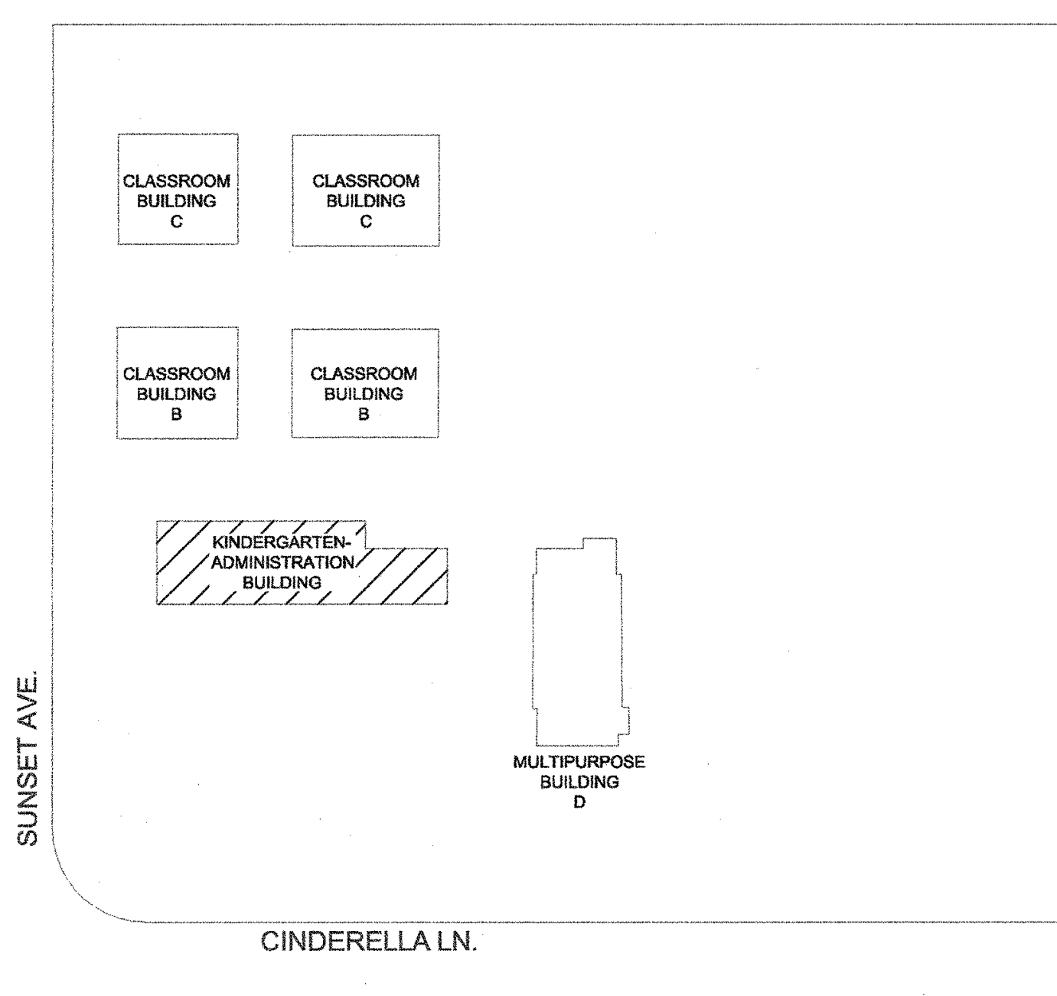
SCALE: 1/8" = 1'-0"

TRUE NORTH REF NORTH

NEW NOTES:

1. BRANCH CIRCUIT CONTROLLER ABOVE CEILING. FOR MOUNTING SEE 2/M6.1. FOR REFRIGERANT ROUTING, SEE M3.1.
2. INSTALL AIR INTAKE HOOD ON ROOF, MINIMUM 10'-0" AWAY FROM ANY PLUMBING VENTS OR EXHAUST OUTLETS. FOR DUCT CONNECTION AND FILTER BOX, SEE 17/M6.1.
3. USE FLEX DUCT FOR LAST 5'-0" OF CONNECTION TO UNIT.
4. REQUIRED ACCESS CLEARANCE.
5. 12" x 12" OUTSIDE AIR LOUVER WITH PLENUM BOX. INSTALL 1" PLEATED FILTER IN PLENUM.

BUILDING KEY



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AE Project # : 20170290

ADMINISTRATION, KINDERGARTEN BUILDING A -
FLOOR PLANS MECHANICAL

CLYDE ARBUCKLE ELEMENTARY SCHOOL - HVAC UPGRADES
1970 CINDERELLA LN., SAN JOSE, CA 95116
ALUM ROCK UNION ELEMENTARY SCHOOL DISTRICT

REVISIONS

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DIV. OF THE STATE ARCHITECT
APPL 01-117268
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DATE MAY 10 2018

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JOB NO:	DATE:
17102	04-09-2018

M2.1

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May 04, 2018 3:33:27 p.m.
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Xrefs: HVAA-MAIN.DWG, MASA-BKG.DWG, MAS-BORD.DWG,

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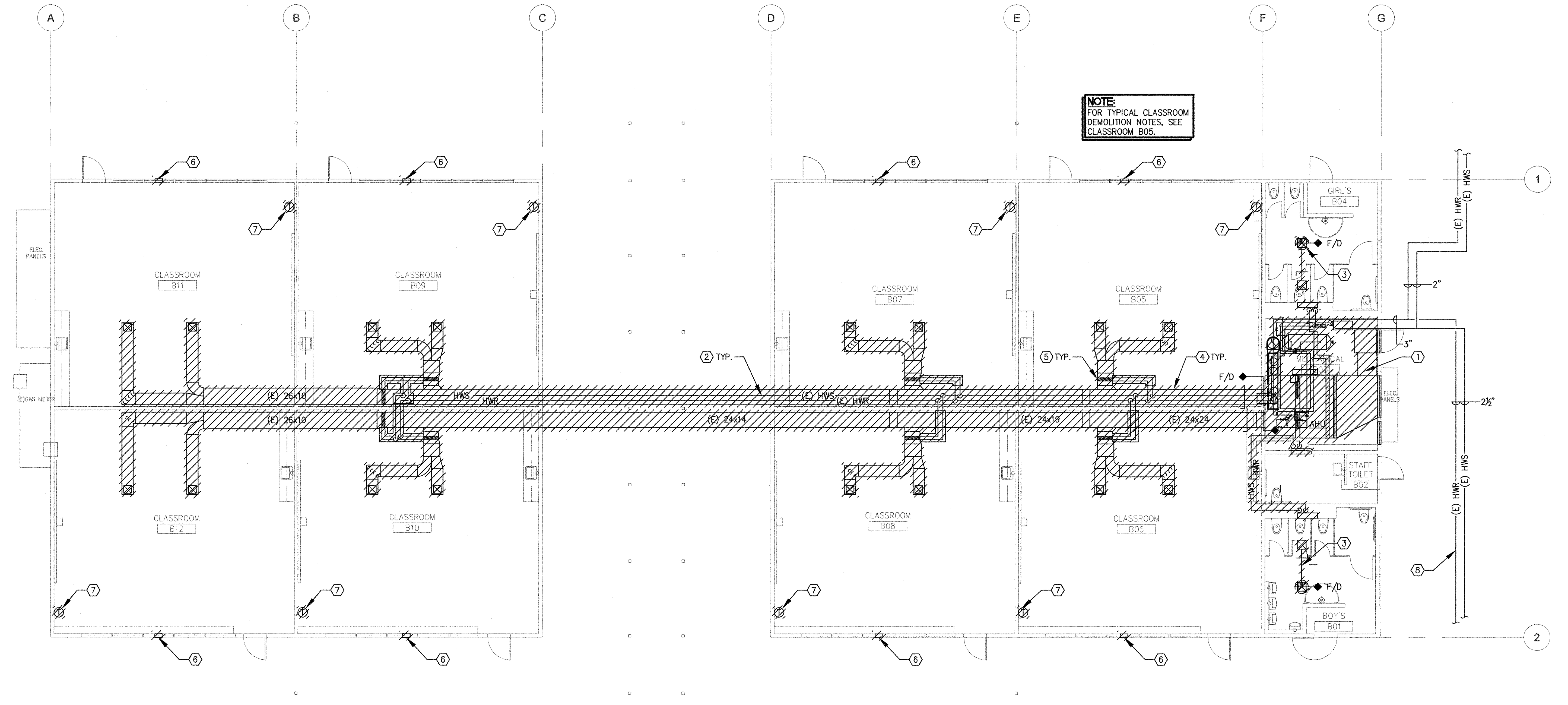


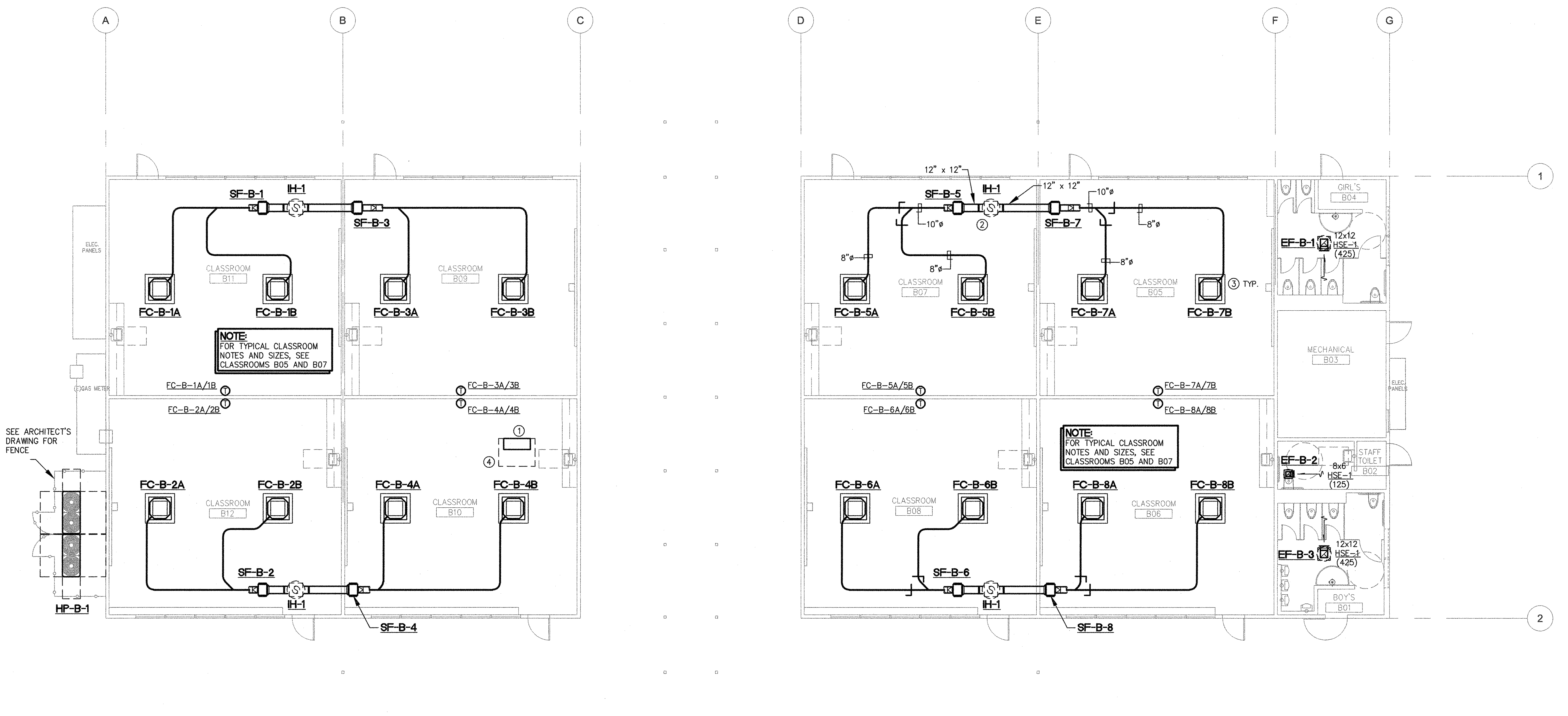
BUILDING B - MECHANICAL DEMOLITION

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

TRUE NORTH
REF NORTH

DEMOLITION NOTES:

1. REMOVE ALL (E) MECHANICAL EQUIPMENT, PIPING, BOILER FLUE, DUCTWORK, SUPPORTS AND HOUSEKEEPING PADS IN MECHANICAL ROOM COMPLETE.
2. REMOVE (E) HOT WATER PIPING AND SUPPORTS COMPLETE.
3. REMOVE (E) EXHAUST FAN, EXHAUST DUCT, EXHAUST REGISTERS AND SUPPORTS COMPLETE.
4. REMOVE (E) SUPPLY DUCTWORK, REGISTERS AND SUPPORTS COMPLETE.
5. REMOVE (E) REHEAT COIL AND SUPPORTS COMPLETE.
6. REMOVE (E) PORTABLE AC LOUVER. SEE ARCHITECT'S DRAWINGS FOR INFILL. (E) PORTABLE AC TO BE RETURNED TO DISTRICT.
7. REMOVE (E) THERMOSTATS AND WIRING COMPLETE.
8. (E) UNDERGROUND HOT WATER PIPING TO REMAIN. CAP AT GRADE AND ABANDON IN PLACE.



BUILDING B - MECHANICAL

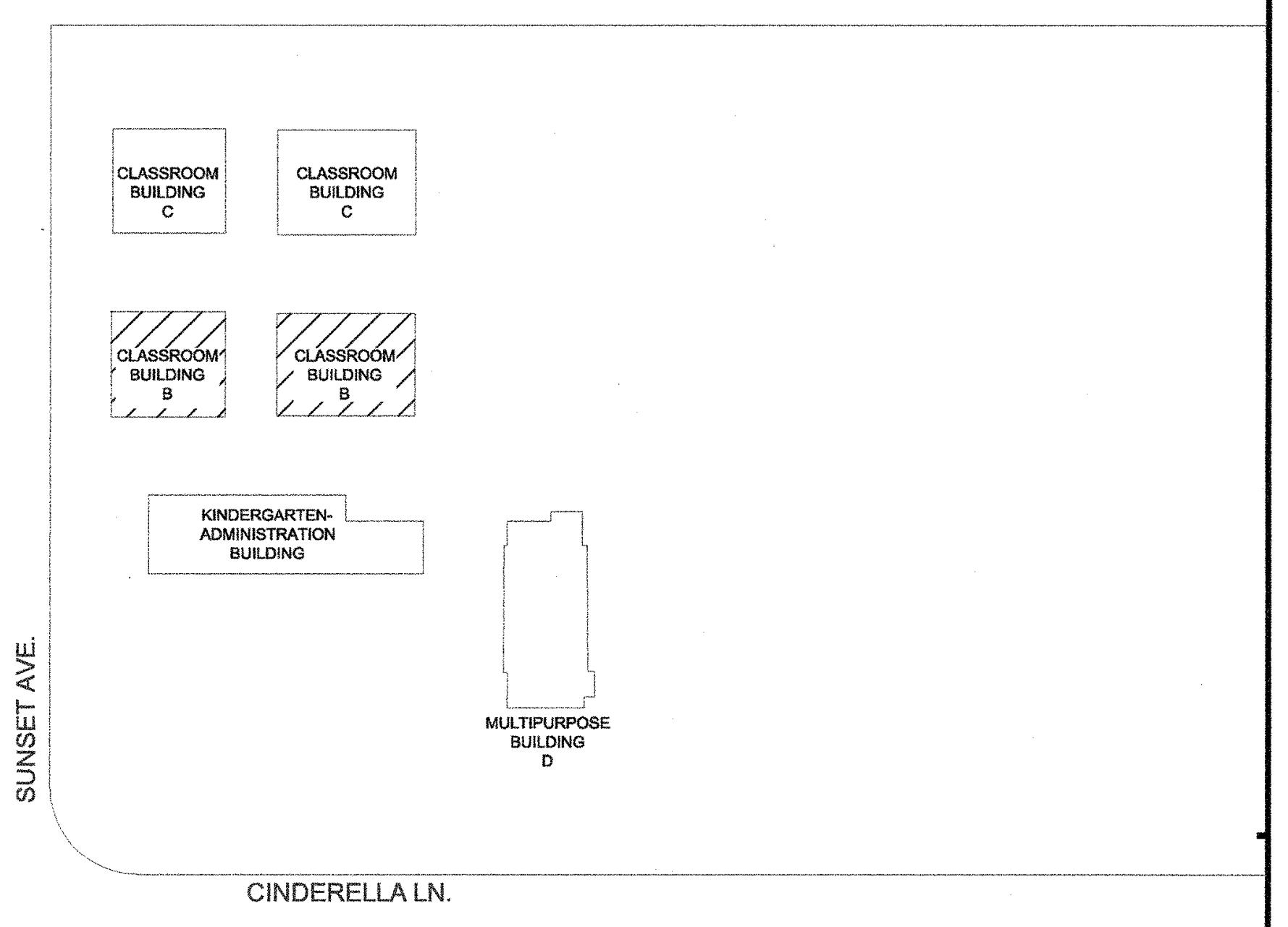
SCALE: 1/8" = 1'-0"

TRUE NORTH
REF NORTH

NEW NOTES:

1. BRANCH CIRCUIT CONTROLLER ABOVE CEILING. FOR MOUNTING SEE 2/M6.1. FOR REFRIGERANT ROUTING, SEE M3.1.
2. INSTALL AIR INTAKE HOOD ON ROOF, MINIMUM 10'–0" AWAY FROM ANY PLUMBING VENTS OR EXHAUST OUTLETS. FOR DUCT CONNECTION AND FILTER BOX, SEE 17/M6.1.
3. USE FLEX DUCT FOR LAST 5'–0" OF CONNECTION TO UNIT.
4. REQUIRED ACCESS CLEARANCE.

BUILDING KEY



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AE Project # : 20170290

BUILDING B CLASSROOMS -
FLOOR PLANS MECHANICAL

CLYDE ARBUCKLE ELEMENTARY SCHOOL - HVAC UPGRADES
1970 CINDERELLA LN., SAN JOSE, CA 95116
ALUM ROCK UNION ELEMENTARY SCHOOL DISTRICT

REVISIONS

NO.	ITEM	DATE
	DD SUBMITTAL	12-8-17
	DSA SUBMITTAL	01-31-18
	BID SET	04-09-18

DSA FILE NUMBER 43-04

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APPL 01-117268
AC ____ FLS ____ SS ____
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MAY 10 2018

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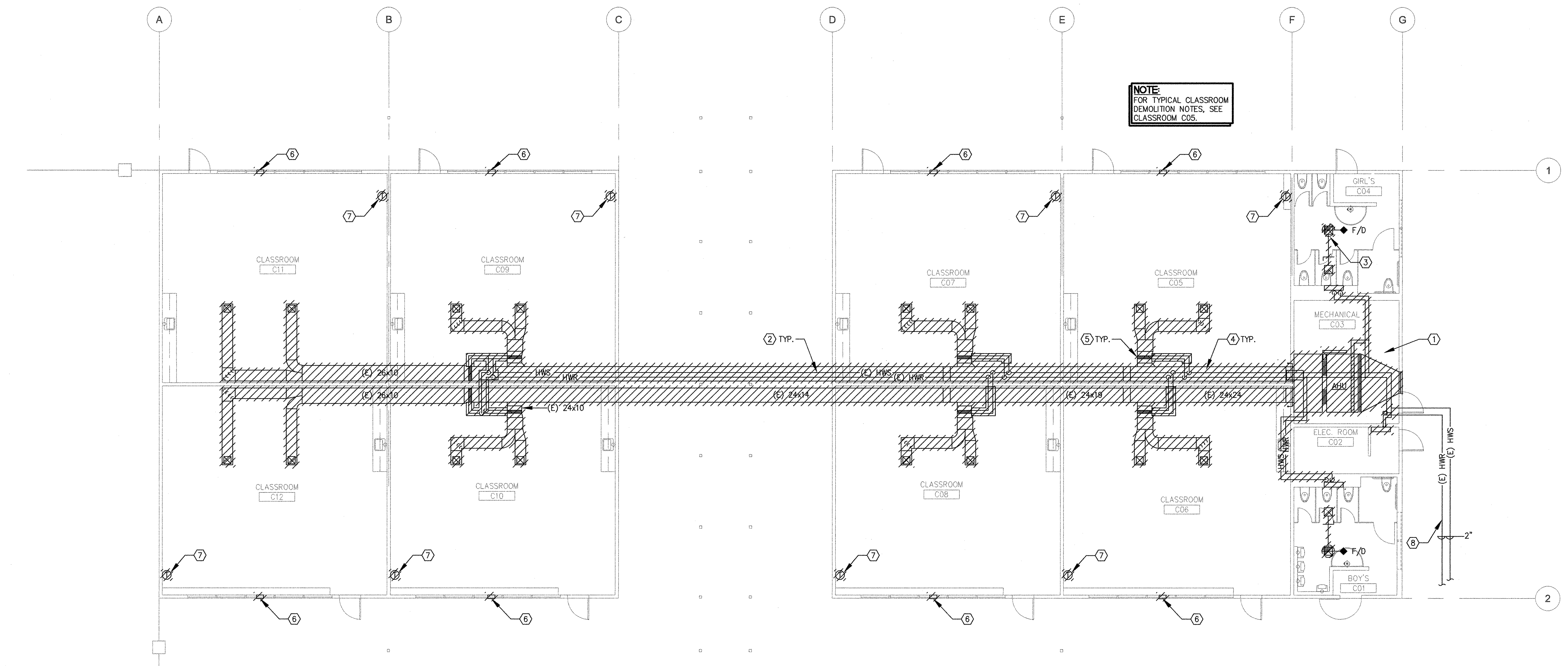
JOB NO:	DATE:
17102	04-09-2018

M2.2



NOTE:
FOR TYPICAL CLASSROOM DEMOLITION NOTES, SEE CLASSROOM C05.

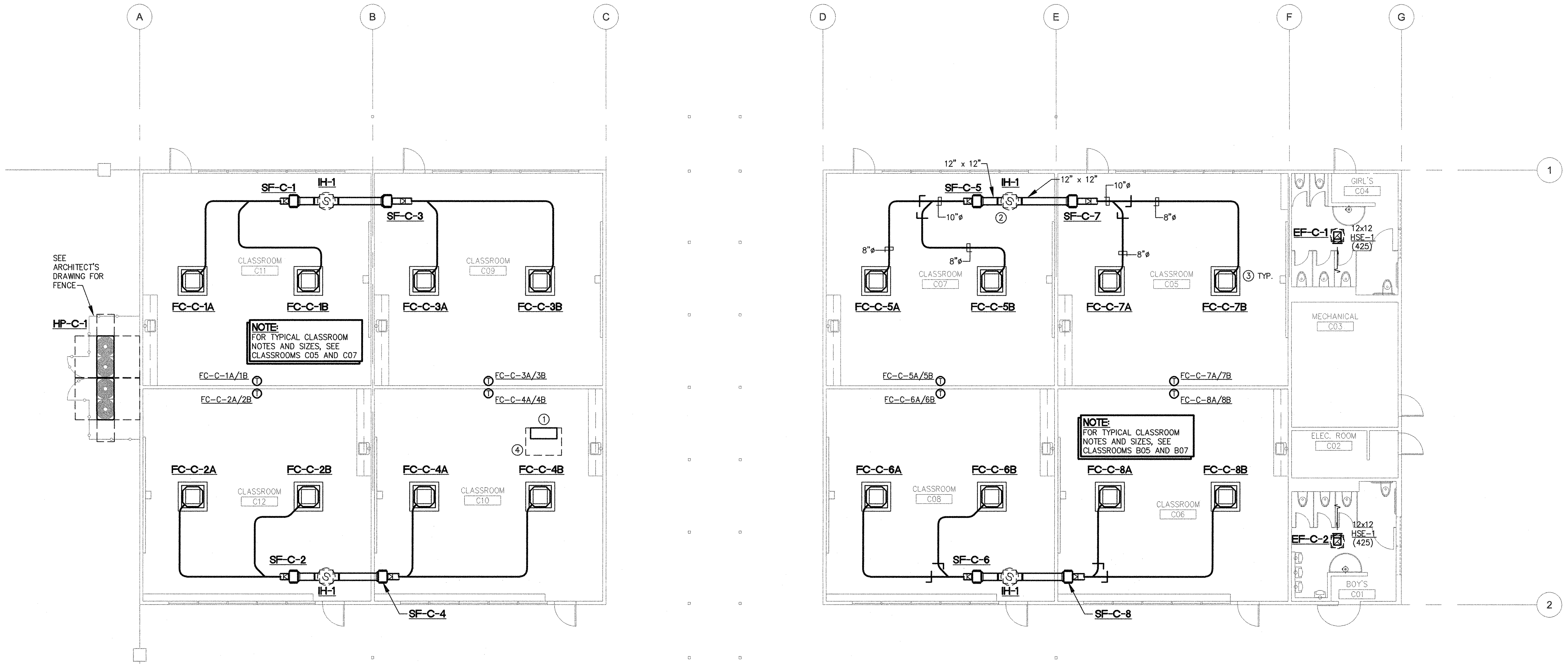
BUILDING C - MECHANICAL DEMOLITION

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

TRUE NORTH REF NORTH

DEMOLITION NOTES:

1. REMOVE ALL (E) MECHANICAL EQUIPMENT, PIPING, DUCTWORK, SUPPORTS AND HOUSEKEEPING PADS IN MECHANICAL ROOM COMPLETE.
2. REMOVE (E) HOT WATER PIPING AND SUPPORTS COMPLETE.
3. REMOVE (E) EXHAUST FAN, EXHAUST DUCT, EXHAUST REGISTERS AND SUPPORTS COMPLETE.
4. REMOVE (E) SUPPLY DUCTWORK, REGISTERS AND SUPPORTS COMPLETE.
5. REMOVE (E) REHEAT COIL AND SUPPORTS COMPLETE.
6. REMOVE (E) PORTABLE AC LOUVER. SEE ARCHITECT'S DRAWINGS FOR INFILL. (E) PORTABLE AC TO BE RETURNED TO DISTRICT.
7. REMOVE (E) THERMOSTATS AND WIRING COMPLETE.
8. (E) UNDERGROUND HOT WATER PIPING TO REMAIN. CAP AT GRADE AND ABANDON IN PLACE.



NOTE:
FOR TYPICAL CLASSROOM NOTES AND SIZES, SEE CLASSROOMS C05 AND C07

NOTE:
FOR TYPICAL CLASSROOM NOTES AND SIZES, SEE CLASSROOMS B05 AND B07

BUILDING C - MECHANICAL

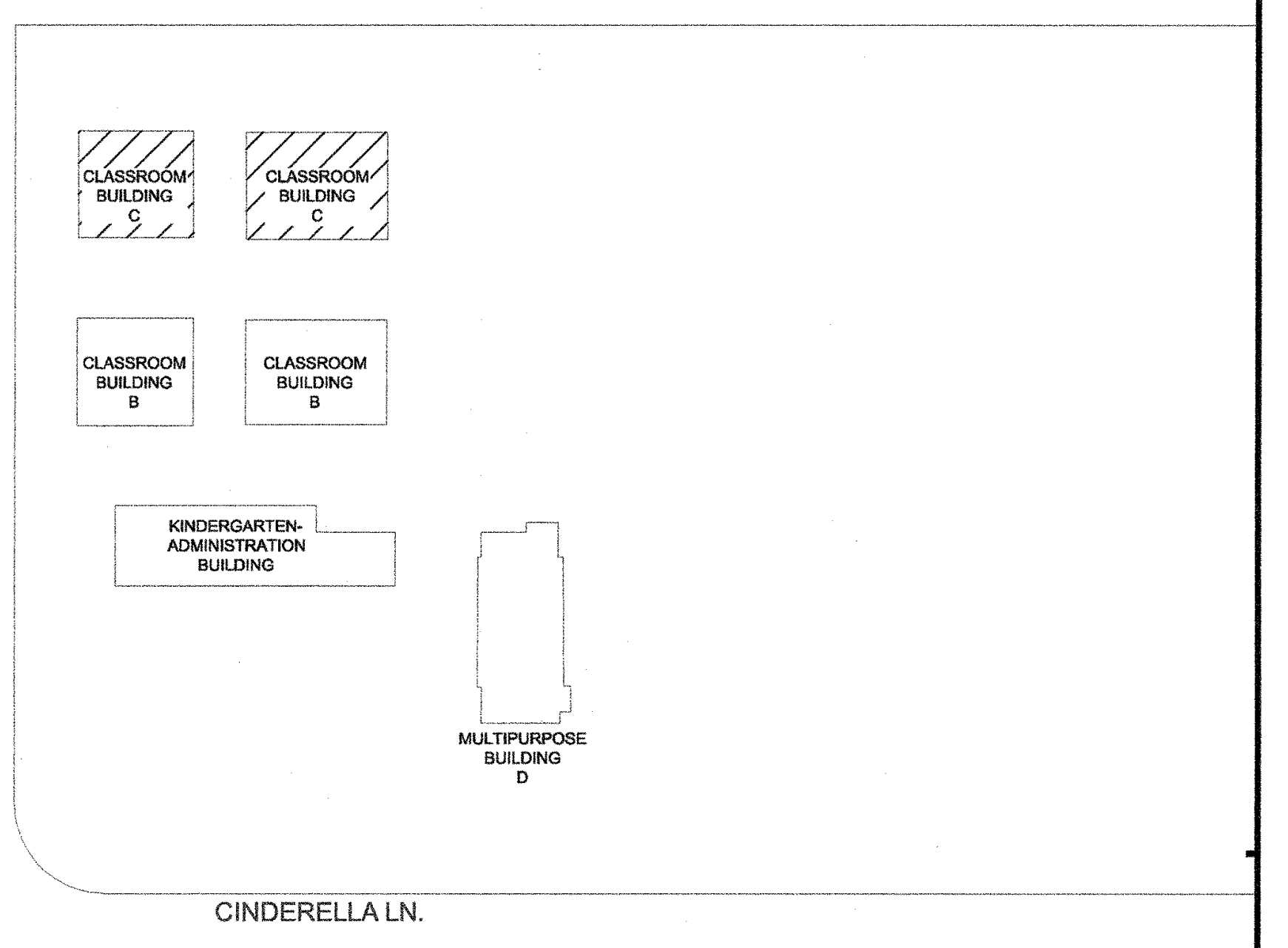
SCALE: 1/8" = 1'-0"

TRUE NORTH REF NORTH

NEW NOTES:

1. BRANCH CIRCUIT CONTROLLER ABOVE CEILING. FOR MOUNTING SEE 2/M6.1. FOR REFRIGERANT ROUTING, SEE M3.2.
2. INSTALL AIR INTAKE HOOD ON ROOF, MINIMUM 10'-0" AWAY FROM ANY PLUMBING VENTS OR EXHAUST OUTLETS. FOR DUCT CONNECTION AND FILTER BOX, SEE 17/M6.1.
3. USE FLEX DUCT FOR LAST 5'-0" OF CONNECTION TO UNIT.
4. REQUIRED ACCESS CLEARANCE.

BUILDING KEY



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BUILDING C CLASSROOMS -
FLOOR PLANS MECHANICAL

CLYDE ARBUCKLE ELEMENTARY SCHOOL - HVAC UPGRADES
1970 CINDERELLA LN., SAN JOSE, CA 95116
ALUM ROCK UNION ELEMENTARY SCHOOL DISTRICT

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M2.3

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Xrefs: HVAC-MAIN.DWG, MASC-BKG.DWG, MAS-BORD.DWG,

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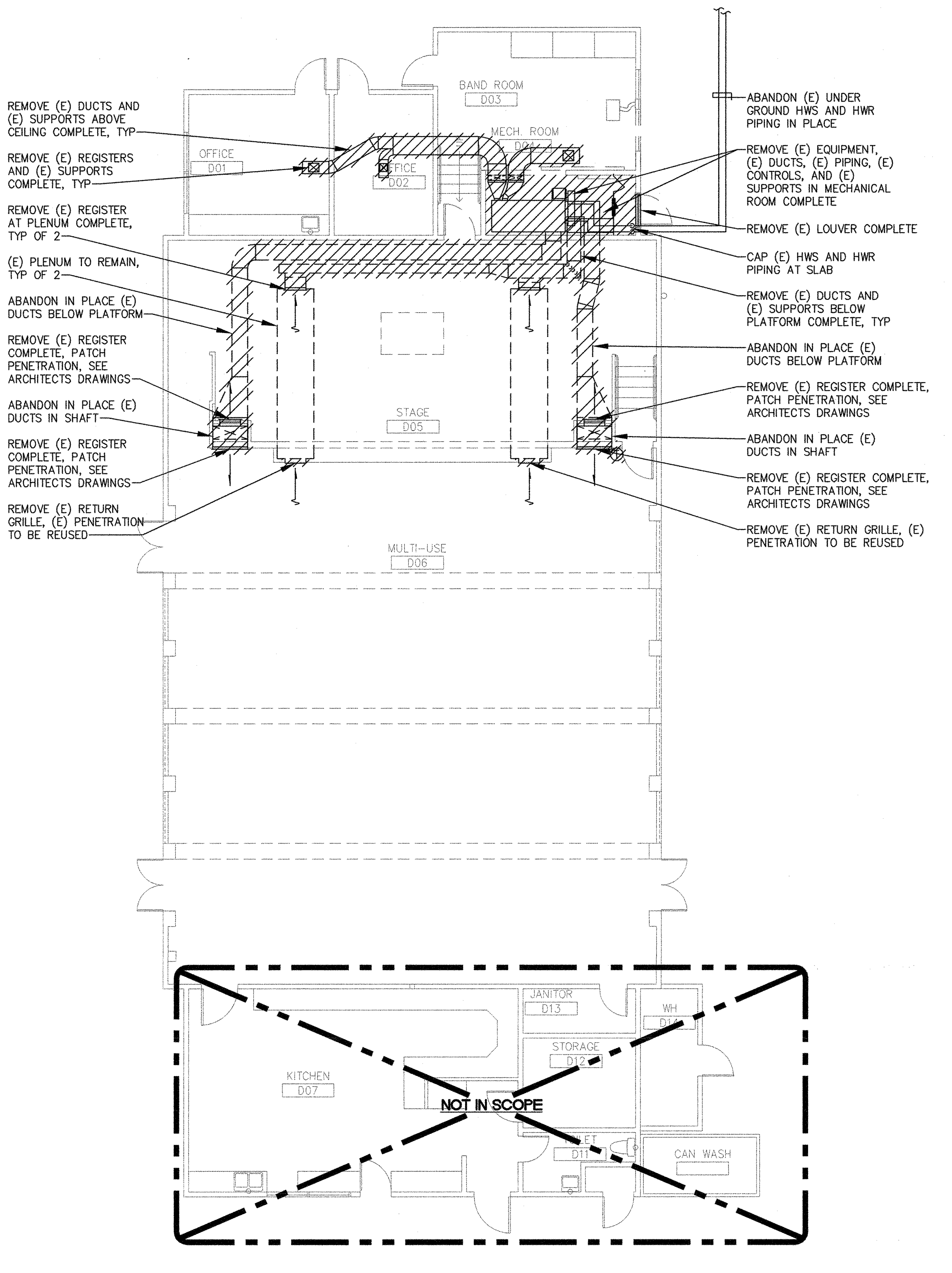
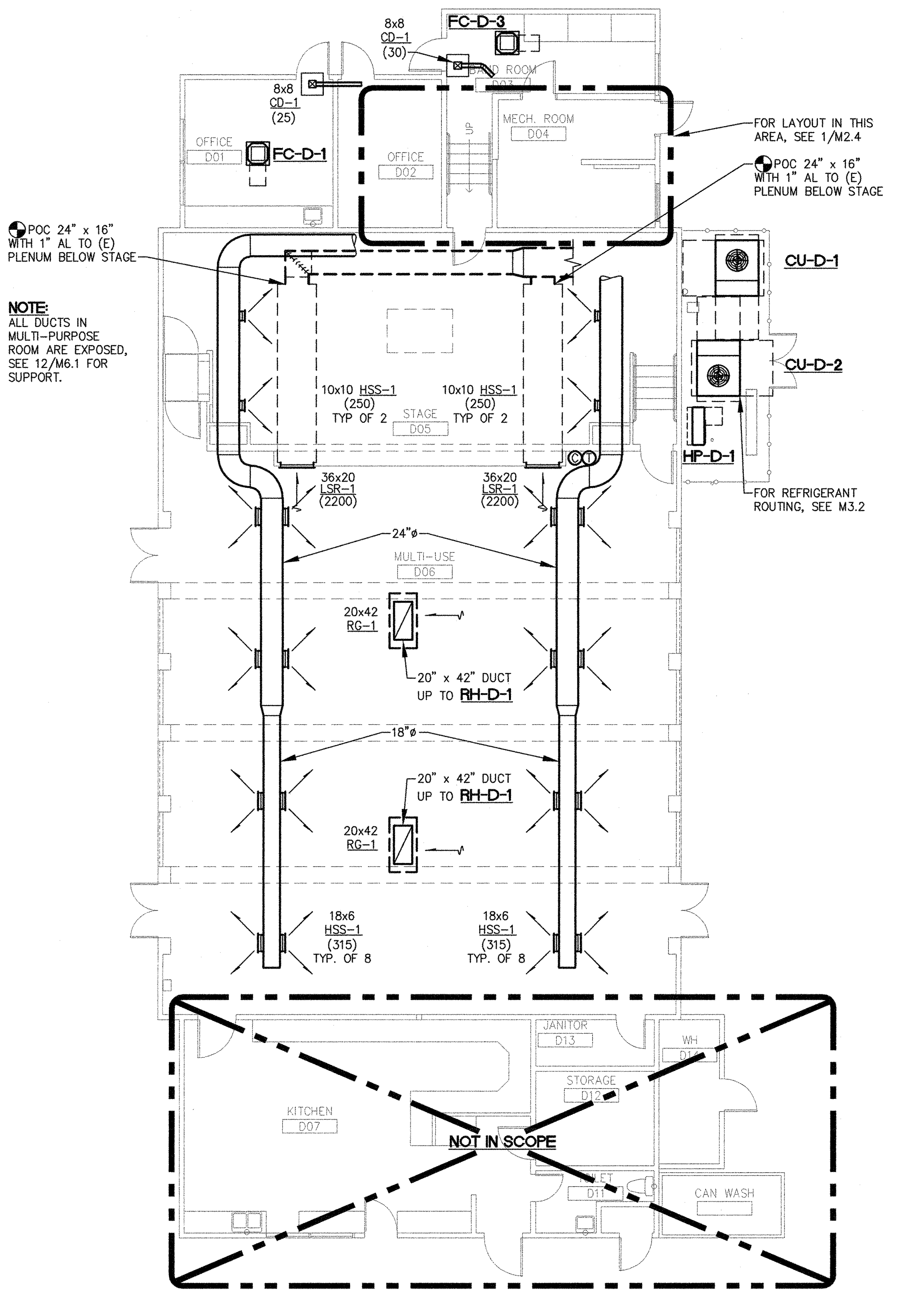

REMOVE (E) DUCTS AND (E) SUPPORTS ABOVE CEILING COMPLETE, TYP
REMOVE (E) REGISTERS AND (E) SUPPORTS COMPLETE, TYP
REMOVE (E) REGISTER AT PLENUM COMPLETE, TYP OF 2
(E) PLENUM TO REMAIN, TYP OF 2
ABANDON IN PLACE (E) DUCTS BELOW PLATFORM
REMOVE (E) REGISTER COMPLETE, PATCH PENETRATION, SEE ARCHITECTS DRAWINGS
ABANDON IN PLACE (E) DUCTS IN SHAFT
REMOVE (E) REGISTER COMPLETE, PATCH PENETRATION, SEE ARCHITECTS DRAWINGS
REMOVE (E) RETURN GRILLE, (E) PENETRATION TO BE REUSED
BAND ROOM
D03
OFFICE
D01
MECH. ROOM
STAGE
D05
MULTI-USE
D06
ABANDON (E) UNDER GROUND HWS AND HWR PIPING IN PLACE
REMOVE (E) EQUIPMENT, (E) DUCTS, (E) PIPING, (E) CONTROLS, AND (E) SUPPORTS IN MECHANICAL ROOM COMPLETE
REMOVE (E) LOUVER COMPLETE
CAP (E) HWS AND HWR PIPING AT SLAB
REMOVE (E) DUCTS AND (E) SUPPORTS BELOW PLATFORM COMPLETE, TYP
ABANDON IN PLACE (E) DUCTS BELOW PLATFORM
REMOVE (E) REGISTER COMPLETE, PATCH PENETRATION, SEE ARCHITECTS DRAWINGS
ABANDON IN PLACE (E) DUCTS IN SHAFT
REMOVE (E) REGISTER COMPLETE, PATCH PENETRATION, SEE ARCHITECTS DRAWINGS
REMOVE (E) RETURN GRILLE, (E) PENETRATION TO BE REUSED
JANITOR
D13
STORAGE
D12
WH
KITCHEN
D07
CAN WASH
NOT IN SCOPE

BUILDING D - MECHANICAL DEMOLITION

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

REF NORTH TRUE NORTH

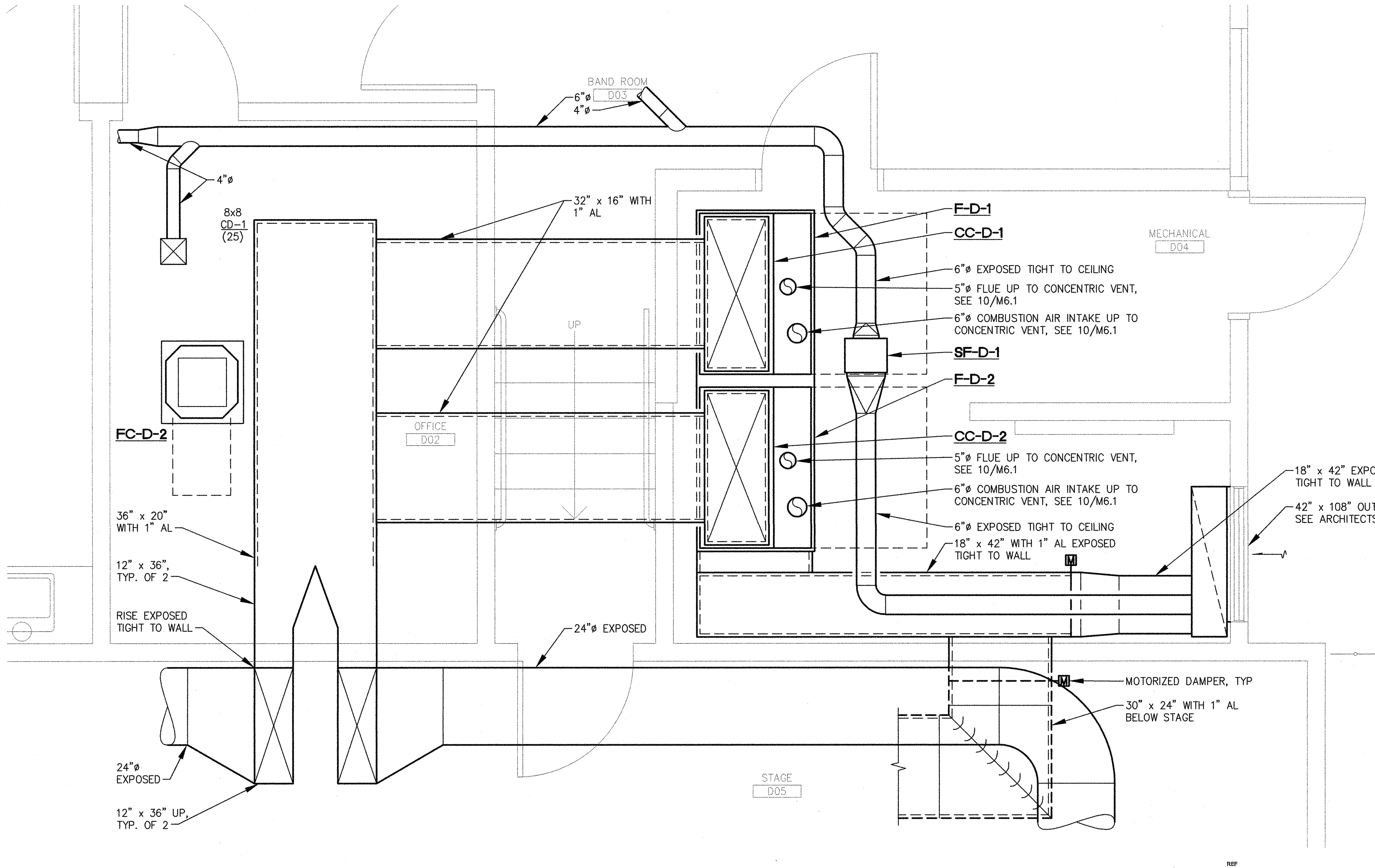

8x8
CD-1
(30)
FC-D-3
BAND ROOM
D03
8x8
CD-1
(25)
OFFICE
D01
FC-D-1
OFFICE
D02
UP
MECH. ROOM
D04
FOR LAYOUT IN THIS AREA, SEE 1/M2.4
POC 24" x 16" WITH 1" AL TO (E) PLENUM BELOW STAGE
POC 24" x 16" WITH 1" AL TO (E) PLENUM BELOW STAGE
CU-D-1
CU-D-2
HP-D-1
FOR REFRIGERANT ROUTING, SEE M3.2
10x10 HSS-1 (250) TYP OF 2
STAGE
D05
10x10 HSS-1 (250) TYP OF 2
C
T
36x20 LSR-1 (2200)
36x20 LSR-1 (2200)
24"ø
MULTI-USE
D06
20x42 RG-1
20" x 42" DUCT UP TO RH-D-1
18"ø
20" x 42" DUCT UP TO RH-D-1
20x42 RG-1
18x6 HSS-1 (315) TYP. OF 8
18x6 HSS-1 (315) TYP. OF 8
JANITOR
D13
STORAGE
D12
WH
KITCHEN
D07
CAN WASH
NOT IN SCOPE

NOTE:
ALL DUCTS IN MULTI-PURPOSE ROOM ARE EXPOSED, SEE 12/M6.1 FOR SUPPORT.

BUILDING D - MECHANICAL

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

REF NORTH TRUE NORTH


BAND ROOM
D03
6"ø
4"ø
4"ø
8x8
CD-1
(25)
32" x 16" WITH 1" AL
UP
OFFICE
D02
FC-D-2
36" x 20" WITH 1" AL
12" x 36", TYP. OF 2
RISE EXPOSED TIGHT TO WALL
24"ø EXPOSED
24"ø EXPOSED
12" x 36" UP, TYP. OF 2
F-D-1
CC-D-1
6"ø EXPOSED TIGHT TO CEILING
5"ø FLUE UP TO CONCENTRIC VENT, SEE 10/M6.1
6"ø COMBUSTION AIR INTAKE UP TO CONCENTRIC VENT, SEE 10/M6.1
SF-D-1
F-D-2
CC-D-2
5"ø FLUE UP TO CONCENTRIC VENT, SEE 10/M6.1
6"ø COMBUSTION AIR INTAKE UP TO CONCENTRIC VENT, SEE 10/M6.1
6"ø EXPOSED TIGHT TO CEILING
18" x 42" WITH 1" AL EXPOSED TIGHT TO WALL
MECHANICAL
D04
18" x 42" EXPOSED TIGHT TO WALL
42" x 108" OUTSIDE AIR LOUVER, SEE ARCHITECTS DRAWINGS
M
MOTORIZED DAMPER, TYP
30" x 24" WITH 1" AL BELOW STAGE
STAGE
D05

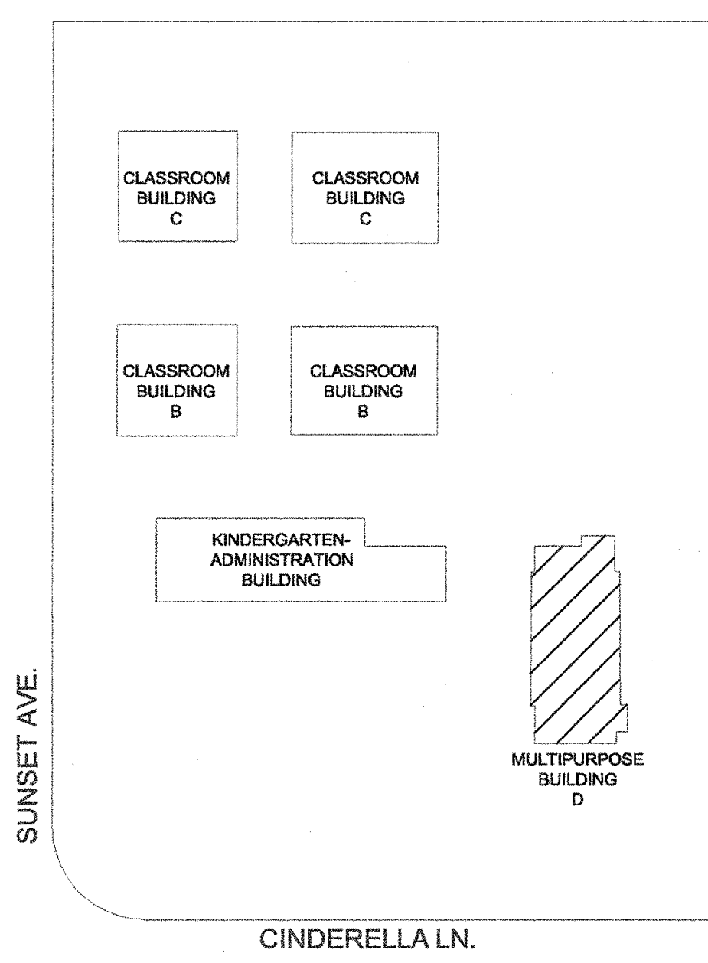
1
M2.4

BUILDING D MECHANICAL ROOM - MECHANICAL

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

REF NORTH TRUE NORTH

BUILDING KEY



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BUILDING D MULTI-USE BUILDING -
FLOOR PLANS MECHANICAL

CLYDE ARBUCKLE ELEMENTARY SCHOOL - HVAC UPGRADES
1970 CINDERELLA LN., SAN JOSE, CA 95116
ALUM ROCK UNION ELEMENTARY SCHOOL DISTRICT

REVISIONS

NO.	ITEM	DATE
	DD SUBMITTAL	12-8-17
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DSA FILE NUMBER 43-04

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APPL 01-117268
AC ____ FLS ____ SS ____
DATE MAY 10 2018

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CHECKED BY: MS
JOB NO: 17102
DATE: 04-09-2018

M2.4

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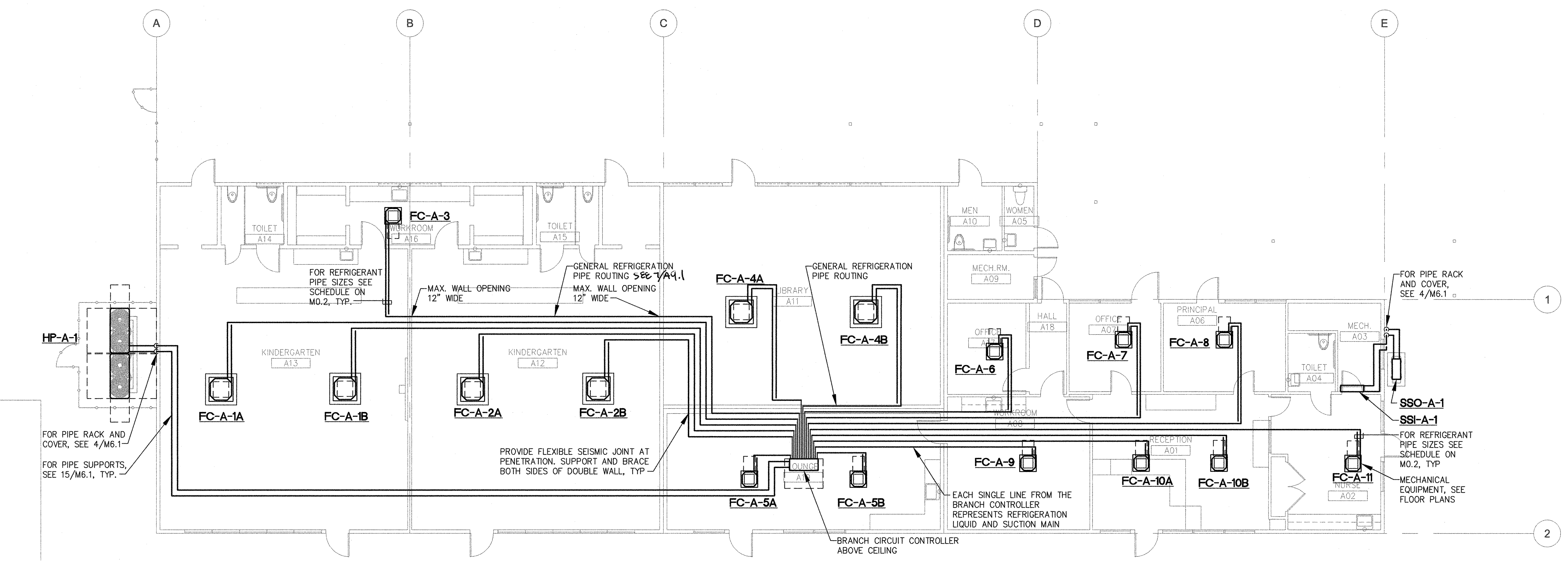
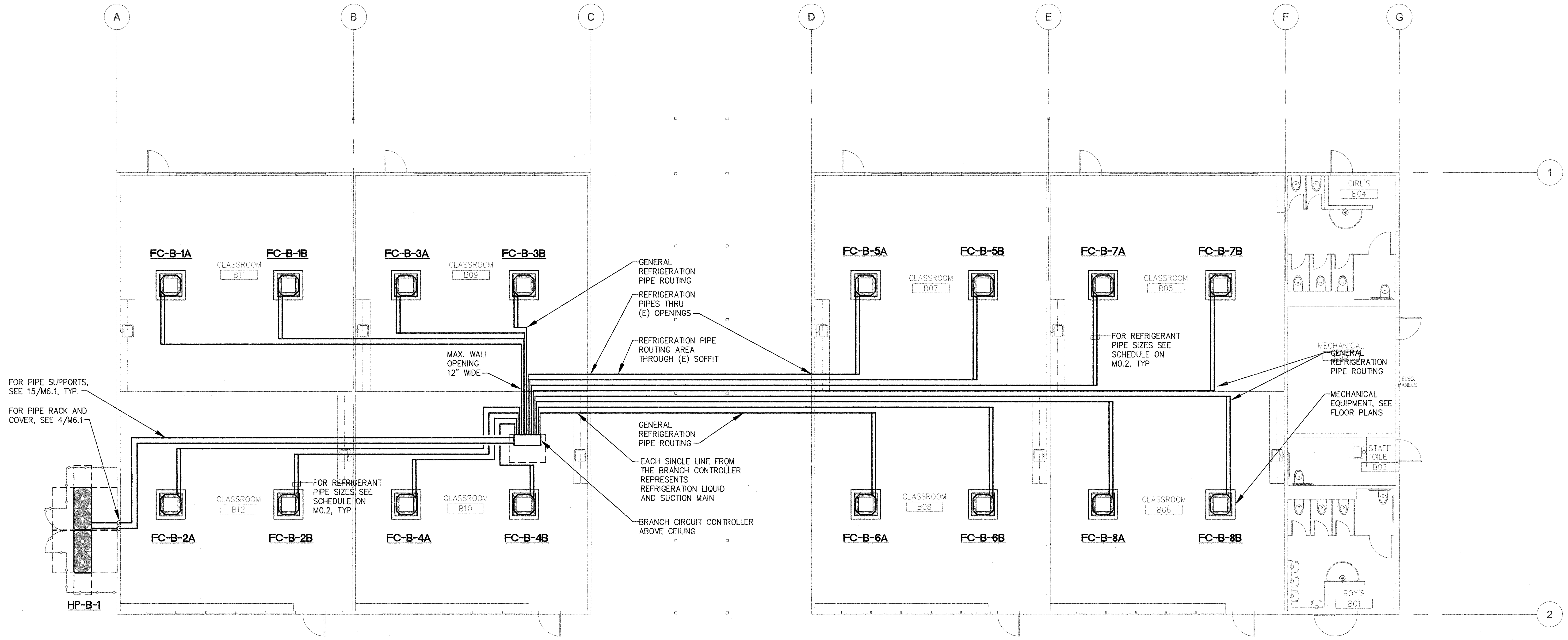
May 04, 2018 3:33:39 p.m.
Drawing: H:\PROJ2017\20170290\DRAWINGS\LNA-FILS\HVA-M31.DWG
Xrefs: HVAB-MAIN.DWG, MASB-BKG.DWG, HVAA-MAIN.DWG, MASA-BKG.DWG, MAS-BORD.DWG,


A
B
C
D
E
1
2
HP-A-1
FC-A-1A
FC-A-1B
FC-A-2A
FC-A-2B
FC-A-3
FC-A-4A
FC-A-4B
FC-A-5A
FC-A-5B
FC-A-6
FC-A-7
FC-A-8
FC-A-9
FC-A-10A
FC-A-10B
FC-A-11
SSO-A-1
SSI-A-1
TOILET A14
WORKROOM A16
TOILET A15
KINDERGARTEN A13
KINDERGARTEN A12
LIBRARY A11
LOUNGE A19
MEN A10
WOMEN A05
MECH.RM. A09
OFFICE A17
HALL A18
OFFICE A07
PRINCIPAL A06
MECH. A03
TOILET A04
WORKROOM A08
RECEPTION A01
NURSE A02
(E)PLAYGROUND
FOR REFRIGERANT PIPE SIZES SEE SCHEDULE ON M0.2, TYP.
GENERAL REFRIGERATION PIPE ROUTING SEE 7/A9.1
MAX. WALL OPENING 12" WIDE
MAX. WALL OPENING 12" WIDE
GENERAL REFRIGERATION PIPE ROUTING
FOR PIPE RACK AND COVER, SEE 4/M6.1
FOR PIPE SUPPORTS, SEE 15/M6.1, TYP.
PROVIDE FLEXIBLE SEISMIC JOINT AT PENETRATION. SUPPORT AND BRACE BOTH SIDES OF DOUBLE WALL, TYP
EACH SINGLE LINE FROM THE BRANCH CONTROLLER REPRESENTS REFRIGERATION LIQUID AND SUCTION MAIN
BRANCH CIRCUIT CONTROLLER ABOVE CEILING
FOR PIPE RACK AND COVER, SEE 4/M6.1
FOR REFRIGERANT PIPE SIZES SEE SCHEDULE ON M0.2, TYP
MECHANICAL EQUIPMENT, SEE FLOOR PLANS

BUILDING A PIPING PLAN - MECHANICAL

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

TRUE NORTH REF NORTH

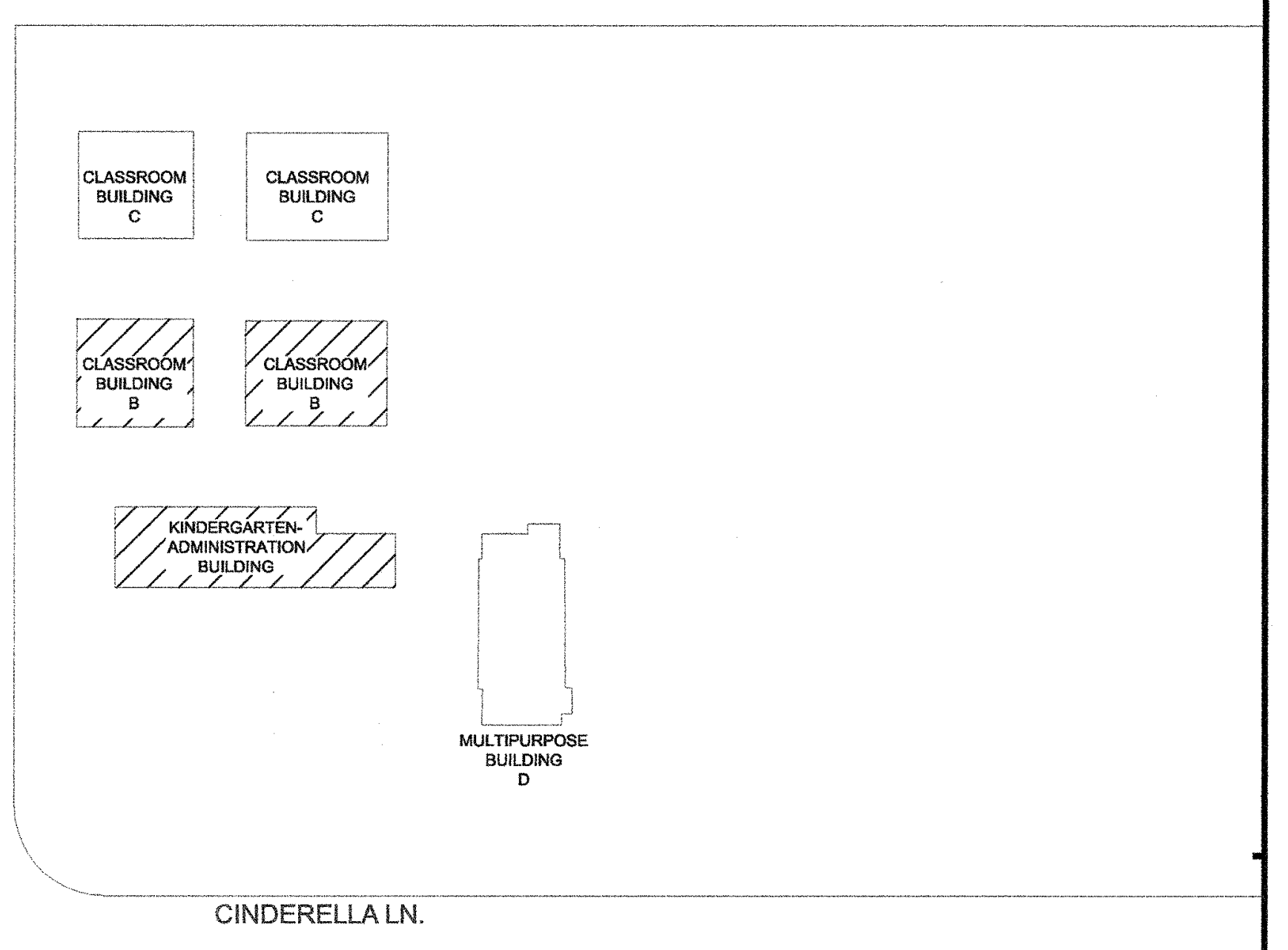

A
B
C
D
E
F
G
1
2
HP-B-1
FC-B-1A
FC-B-1B
FC-B-3A
FC-B-3B
FC-B-5A
FC-B-5B
FC-B-7A
FC-B-7B
FC-B-2A
FC-B-2B
FC-B-4A
FC-B-4B
FC-B-6A
FC-B-6B
FC-B-8A
FC-B-8B
CLASSROOM B11
CLASSROOM B09
CLASSROOM B07
CLASSROOM B05
CLASSROOM B12
CLASSROOM B10
CLASSROOM B08
CLASSROOM B06
GIRL'S B04
MECHANICAL B03
STAFF TOILET B02
BOY'S B01
ELEC. PANELS
GENERAL REFRIGERATION PIPE ROUTING
REFRIGERATION PIPES THRU (E) OPENINGS
REFRIGERATION PIPE ROUTING AREA THROUGH (E) SOFFIT
MAX. WALL OPENING 12" WIDE
FOR PIPE SUPPORTS, SEE 15/M6.1, TYP.
FOR PIPE RACK AND COVER, SEE 4/M6.1
FOR REFRIGERANT PIPE SIZES SEE SCHEDULE ON M0.2, TYP
GENERAL REFRIGERATION PIPE ROUTING
EACH SINGLE LINE FROM THE BRANCH CONTROLLER REPRESENTS REFRIGERATION LIQUID AND SUCTION MAIN
BRANCH CIRCUIT CONTROLLER ABOVE CEILING
FOR REFRIGERANT PIPE SIZES SEE SCHEDULE ON M0.2, TYP
GENERAL REFRIGERATION PIPE ROUTING
MECHANICAL EQUIPMENT, SEE FLOOR PLANS

BUILDING B PIPING PLAN - MECHANICAL

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

TRUE NORTH REF NORTH

BUILDING KEY



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EXP. JUNE 30, 2019

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AE Project # : 20170290
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BUILDING A AND B -
PIPING PLANS MECHANICAL

CLYDE ARBUCKLE ELEMENTARY SCHOOL - HVAC UPGRADES
1970 CINDERELLA LN., SAN JOSE, CA 95116
ALUM ROCK UNION ELEMENTARY SCHOOL DISTRICT

REVISIONS

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JOB NO:	DATE:
17102	04-09-2018

M3.1

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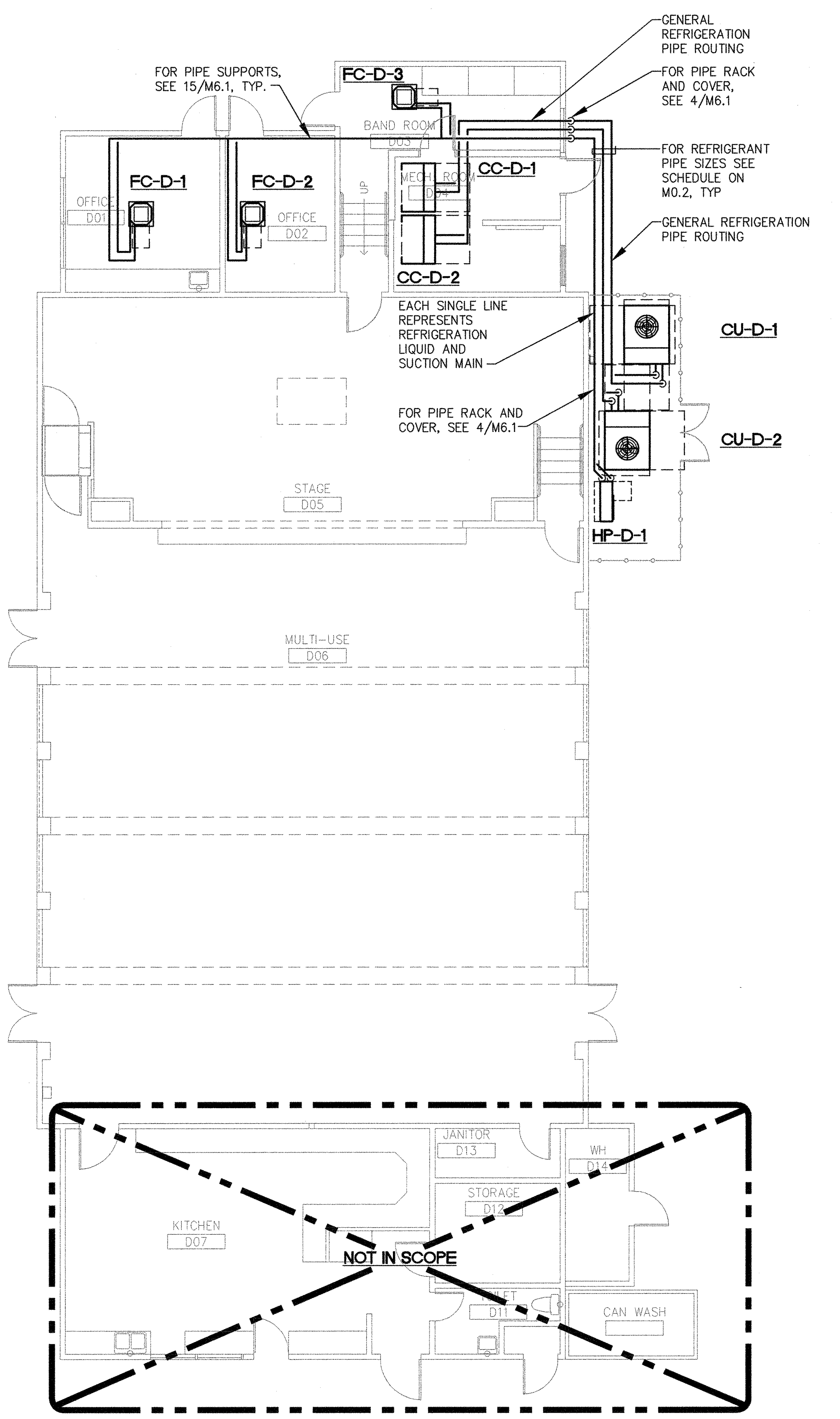
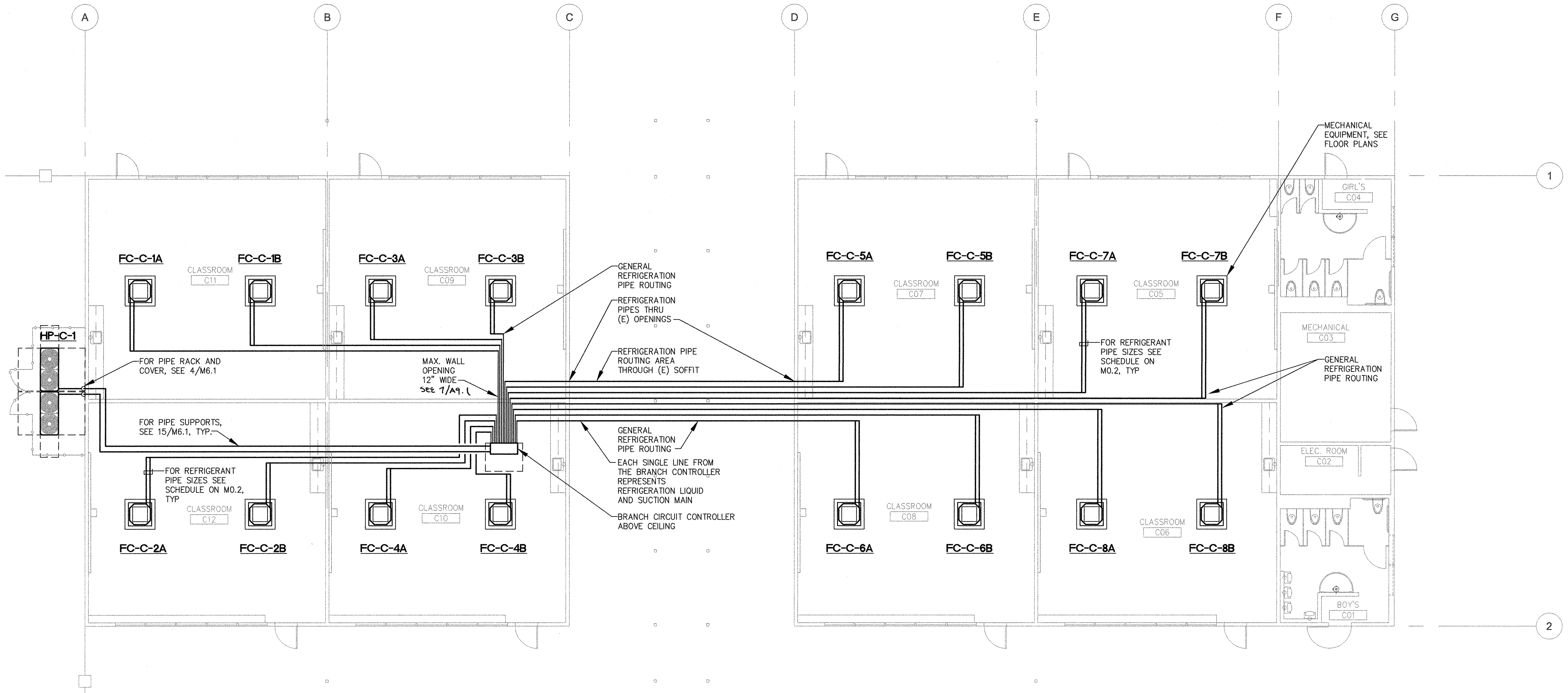
May 04, 2018 3:33:42 p.m.
Drawing: H:\PROJ2017\20170290\DRAWINGS\LNA-FILS\HVA-M32.DWG
Xrefs: MASD-BKG.DWG, MASC-BKG.DWG, HVAD-MAIN.DWG, HVAC-MAIN.DWG, MAS-BORD.DWG,


GENERAL REFRIGERATION PIPE ROUTING
FOR PIPE RACK AND COVER, SEE 4/M6.1
FOR PIPE SUPPORTS, SEE 15/M6.1, TYP.
FC-D-3
BAND ROOM
D03
CC-D-1
FOR REFRIGERANT PIPE SIZES SEE SCHEDULE ON M0.2, TYP
FC-D-1
FC-D-2
OFFICE
D01
OFFICE
D02
MECH. ROOM
D04
UP
GENERAL REFRIGERATION PIPE ROUTING
CC-D-2
EACH SINGLE LINE REPRESENTS REFRIGERATION LIQUID AND SUCTION MAIN
CU-D-1
FOR PIPE RACK AND COVER, SEE 4/M6.1
CU-D-2
STAGE
D05
HP-D-1
MULTI-USE
D06
JANITOR
D13
WH
STORAGE
KITCHEN
D07
NOT IN SCOPE
CAN WASH

BUILDING D PIPING PLAN - MECHANICAL

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

TRUE NORTH REF NORTH

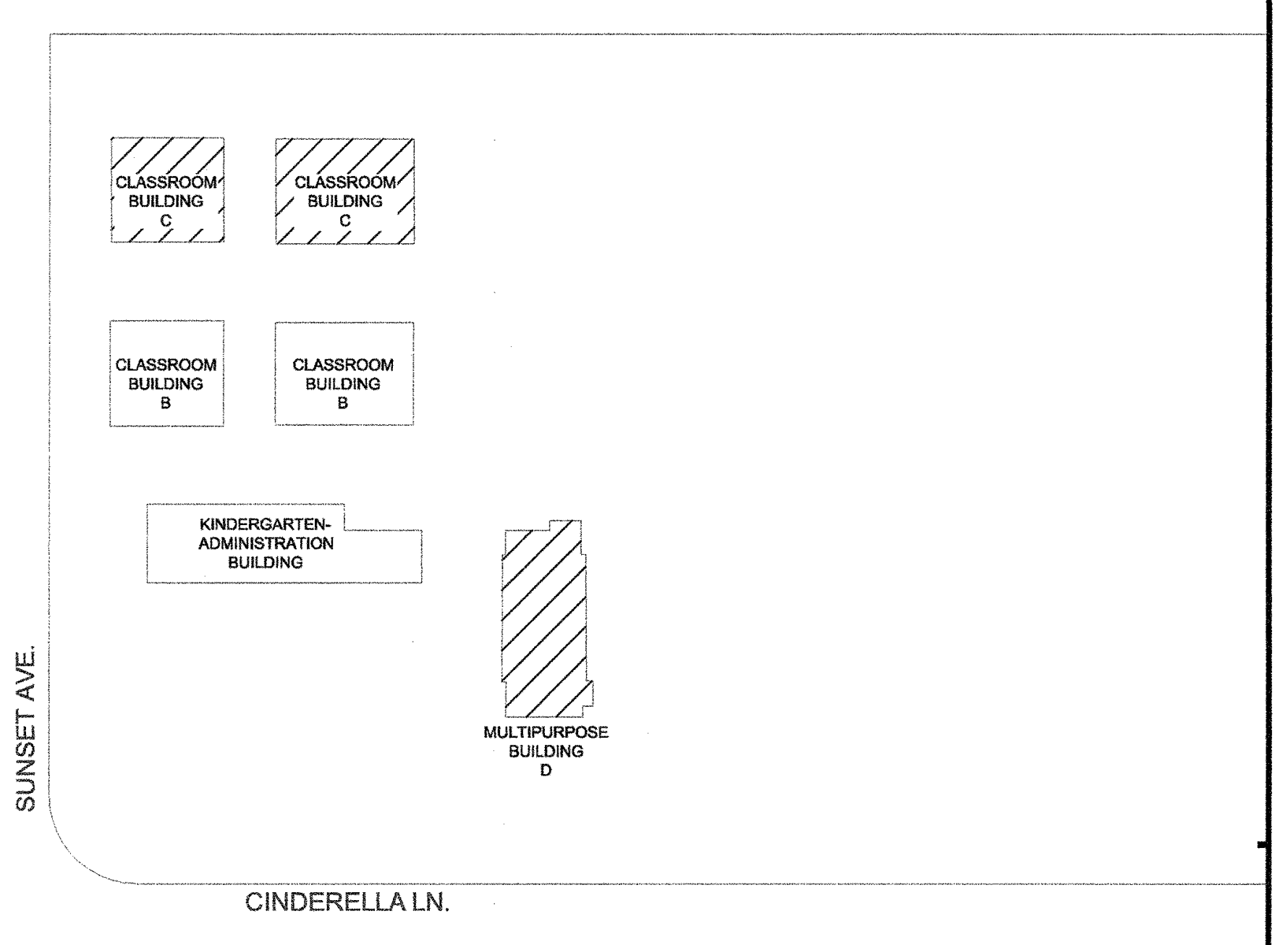

A
B
C
D
E
F
G
1
2
HP-C-1
FOR PIPE RACK AND COVER, SEE 4/M6.1
FOR PIPE SUPPORTS, SEE 15/M6.1, TYP.
FOR REFRIGERANT PIPE SIZES SEE SCHEDULE ON M0.2, TYP
FC-C-1A
FC-C-1B
CLASSROOM
C11
FC-C-3A
FC-C-3B
CLASSROOM
C09
GENERAL REFRIGERATION PIPE ROUTING
REFRIGERATION PIPES THRU (E) OPENINGS
REFRIGERATION PIPE ROUTING AREA THROUGH (E) SOFFIT
MAX. WALL OPENING 12" WIDE
SEE 7/A9.1
GENERAL REFRIGERATION PIPE ROUTING
EACH SINGLE LINE FROM THE BRANCH CONTROLLER REPRESENTS REFRIGERATION LIQUID AND SUCTION MAIN
BRANCH CIRCUIT CONTROLLER ABOVE CEILING
FC-C-2A
FC-C-2B
CLASSROOM
C12
FC-C-4A
FC-C-4B
CLASSROOM
C10
FC-C-5A
FC-C-5B
CLASSROOM
C07
FC-C-6A
FC-C-6B
CLASSROOM
C08
FC-C-7A
FC-C-7B
CLASSROOM
C05
FOR REFRIGERANT PIPE SIZES SEE SCHEDULE ON M0.2, TYP
FC-C-8A
FC-C-8B
CLASSROOM
C06
MECHANICAL EQUIPMENT, SEE FLOOR PLANS
GENERAL REFRIGERATION PIPE ROUTING
GIRL'S
C04
MECHANICAL
C03
ELEC. ROOM
C02
BOY'S
C01

BUILDING C PIPING PLAN - MECHANICAL

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

TRUE NORTH REF NORTH

BUILDING KEY



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AE Project # : 20170290

BUILDING C AND D - PIPING PLANS MECHANICAL

CLYDE ARBUCKLE ELEMENTARY SCHOOL - HVAC UPGRADES
1970 CINDERELLA LN., SAN JOSE, CA 95116
ALUM ROCK UNION ELEMENTARY SCHOOL DISTRICT

REVISIONS

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JOB NO:	DATE:
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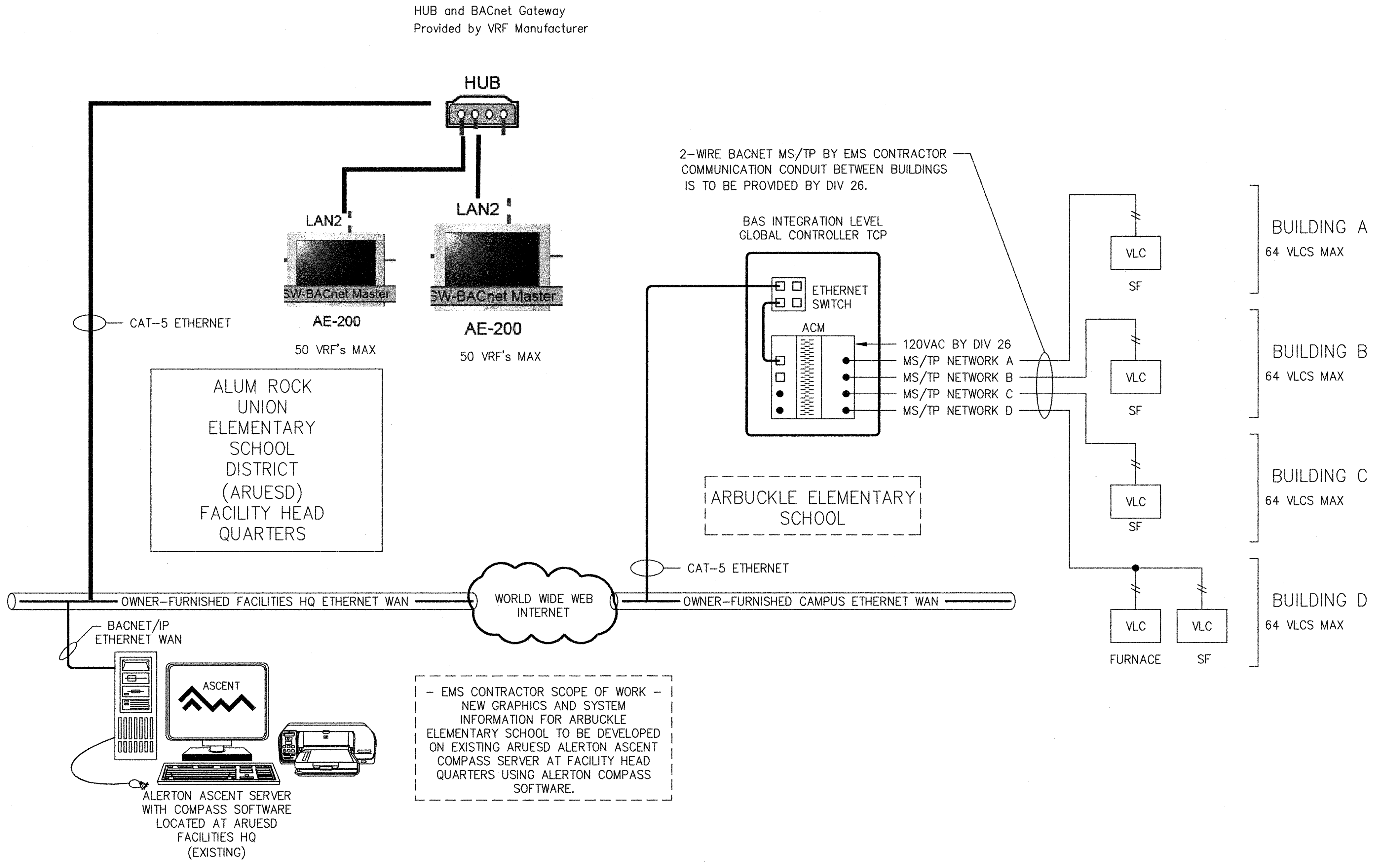
May 04, 2018 3:33:45 p.m.
Drawing: H:\PROJ2017\20170290\DRAWINGS\LNA-FILS\HVA-M51.DWG
Xrefs: MAS-BORD.DWG,


HUB and BACnet Gateway
Provided by VRF Manufacturer
HUB
LAN2
LAN2
SW-BACnet Master
SW-BACnet Master
AE-200
50 VRF's MAX
AE-200
50 VRF's MAX
CAT-5 ETHERNET
ALUM ROCK UNION ELEMENTARY SCHOOL DISTRICT (ARUESD) FACILITY HEAD QUARTERS
OWNER-FURNISHED FACILITIES HQ ETHERNET WAN
WORLD WIDE WEB INTERNET
BACNET/IP ETHERNET WAN
ASCENT
ALERTON ASCENT SERVER WITH COMPASS SOFTWARE LOCATED AT ARUESD FACILITIES HQ (EXISTING)
- EMS CONTRACTOR SCOPE OF WORK - NEW GRAPHICS AND SYSTEM INFORMATION FOR ARBUCKLE ELEMENTARY SCHOOL TO BE DEVELOPED ON EXISTING ARUESD ALERTON ASCENT COMPASS SERVER AT FACILITY HEAD QUARTERS USING ALERTON COMPASS SOFTWARE.
2-WIRE BACNET MS/TP BY EMS CONTRACTOR COMMUNICATION CONDUIT BETWEEN BUILDINGS IS TO BE PROVIDED BY DIV 26.
BAS INTEGRATION LEVEL GLOBAL CONTROLLER TCP
ETHERNET SWITCH
ACM
120VAC BY DIV 26
MS/TP NETWORK A
MS/TP NETWORK B
MS/TP NETWORK C
MS/TP NETWORK D
ARBUCKLE ELEMENTARY SCHOOL
CAT-5 ETHERNET
OWNER-FURNISHED CAMPUS ETHERNET WAN
VLC
SF
BUILDING A
64 VLCS MAX
VLC
SF
BUILDING B
64 VLCS MAX
VLC
SF
BUILDING C
64 VLCS MAX
VLC
VLC
FURNACE
SF
BUILDING D
64 VLCS MAX

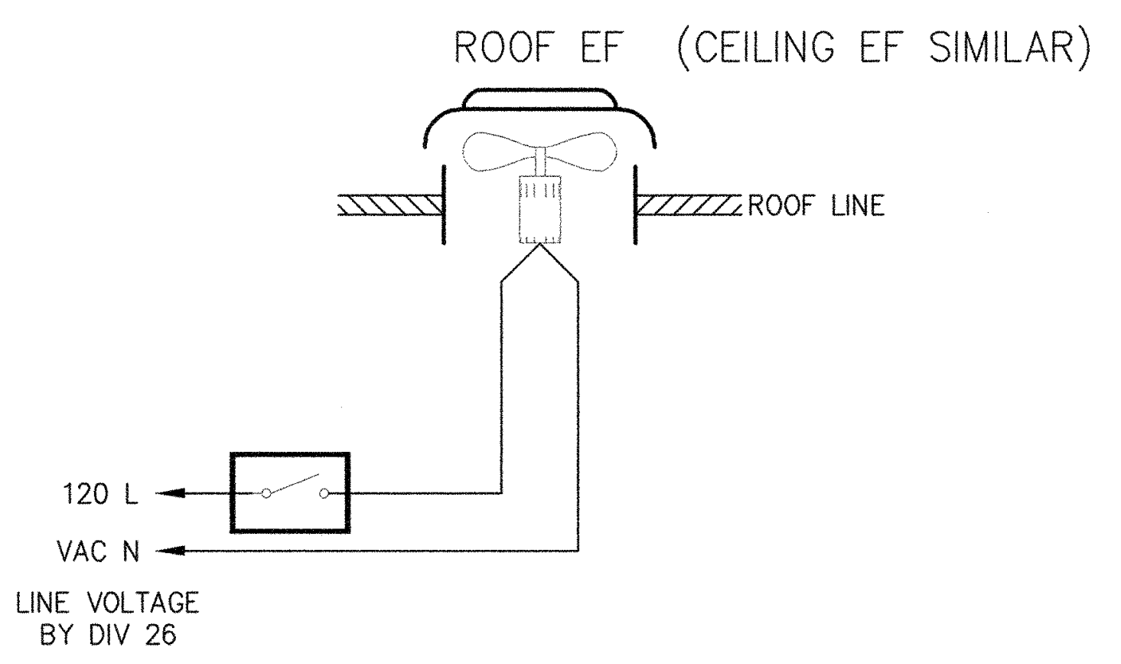
1
M5.1

ALERTON BACNET EMS SYSTEM

SCALE: NONE

SEQUENCE OF OPERATION

1. THE EXHAUST FAN STARTS WHEN LIGHT SWITCH IS ON.
2. EXHAUST FAN STOPS WHEN LIGHT SWITCH IS OFF.



2
M5.1

BATHROOM EXHAUST FAN

SCALE: NONE

EQUIPMENT INTERLOCK/CONTROLS

BUILDING	EQUIPMENT	CONTROL	INTERLOCK	REMARKS
BUILDING C	FC-C-1A	①	HP-C-1 SF-C-1	③
	FC-C-1B	①	HP-C-1 SF-C-1	③
	FC-C-2A	①	HP-C-1 SF-C-2	③
	FC-C-2B	①	HP-C-1 SF-C-2	③
	FC-C-3A	①	HP-C-1 SF-C-3	③
	FC-C-3B	①	HP-C-1 SF-C-3	③
	FC-C-4A	①	HP-C-1 SF-C-4	③
	FC-C-4B	①	HP-C-1 SF-C-4	③
	FC-C-5A	①	HP-C-1 SF-C-5	③
	FC-C-5B	①	HP-C-1 SF-C-5	③
	FC-C-6A	①	HP-C-1 SF-C-6	③
	FC-C-6B	①	HP-C-1 SF-C-6	③
	FC-C-7A	①	HP-C-1 SF-C-7	③
	FC-C-7B	①	HP-C-1 SF-C-7	③
	FC-C-8A	①	HP-C-1 SF-C-8	③
	FC-C-8B	①	HP-C-1 SF-C-8	③
	EF-C-1	②	–	
	EF-C-2	②	–	
BUILDING D	F-D-1	④	CU-D-1	
	F-D-2	④	CU-D-2	
	FC-D-1	①	HP-D-1 SF-D-1	③
	FC-D-2	①	HP-D-1 SF-D-1	③
	FC-D-3	①	HP-D-1 SF-D-1	③

① VRF SYSTEMS WILL OPERATE UNDER INTERNAL MITSUBISHI CONTROLS. EMS SYSTEM WILL COMMUNICATE WITH CENTRALIZED CONTROLLER THROUGH BACNET TO PROGRAM SCHEDULES AND SETPOINTS, AND ENABLE / DISABLE UNITS. BMS WILL MONITOR ROOM TEMPERATURE THROUGH CENTRALIZED CONTROLLER BACNET POINTS.

② SWITCH WITH LIGHTS.

③ SUPPLY FAN OPERATION WILL BE CONTROLLED BY EMS SYSTEM.

④ CONTROLLED BY EMS SYSTEM.

EQUIPMENT INTERLOCK/CONTROLS

BUILDING	EQUIPMENT	CONTROL	INTERLOCK	REMARKS
BUILDING A	FC-A-1A	①	HP-A-1 SF-A-1	③
	FC-A-1B	①	HP-A-1 SF-A-1	③
	FC-A-2A	①	HP-A-1 SF-A-2	③
	FC-A-2B	①	HP-A-1 SF-A-2	③
	FC-A-3	①	HP-A-1 SF-A-2	③
	FC-A-4A	①	HP-A-1 SF-A-4	③
	FC-A-4B	①	HP-A-1 SF-A-4	③
	FC-A-5A	①	HP-A-1 SF-A-5	③
	FC-A-5B	①	HP-A-1 SF-A-5	③
	FC-A-6	①	HP-A-1 SF-A-3	③
	FC-A-7	①	HP-A-1 SF-A-3	③
	FC-A-8	①	HP-A-1 SF-A-3	③
	FC-A-9	①	HP-A-1 SF-A-3	③
	FC-A-10A	①	HP-A-1 SF-A-3	③
	FC-A-10B	①	HP-A-1 SF-A-3	③
	FC-A-11	①	HP-A-1 SF-A-3	③
	EF-A-1	②	–	
	EF-A-2	②	–	
	EF-A-3	②	–	
	SSI-A-1	②	SSO-A-1	
BUILDING B	FC-B-1A	①	HP-B-1 SF-B-1	③
	FC-B-1B	①	HP-B-1 SF-B-1	③
	FC-B-2A	①	HP-B-1 SF-B-2	③
	FC-B-2B	①	HP-B-1 SF-B-2	③
	FC-B-3A	①	HP-B-1 SF-B-3	③
	FC-B-3B	①	HP-B-1 SF-B-3	③
	FC-B-4A	①	HP-B-1 SF-B-4	③
	FC-B-4B	①	HP-B-1 SF-B-4	③
	FC-B-5A	①	HP-B-1 SF-B-5	③
	FC-B-5B	①	HP-B-1 SF-B-5	③
	FC-B-6A	①	HP-B-1 SF-B-6	③
	FC-B-6B	①	HP-B-1 SF-B-6	③
	FC-B-7A	①	HP-B-1 SF-B-7	③
	FC-B-7B	①	HP-B-1 SF-B-7	③
	FC-B-8A	①	HP-B-1 SF-B-8	③
	FC-B-8B	①	HP-B-1 SF-B-8	③
	EF-B-1	②	–	
	EF-B-2	②	–	
	EF-B-3	②	–	

① VRF SYSTEMS WILL OPERATE UNDER INTERNAL MITSUBISHI CONTROLS. EMS SYSTEM WILL COMMUNICATE WITH CENTRALIZED CONTROLLER THROUGH BACNET TO PROGRAM SCHEDULES AND SETPOINTS, AND ENABLE / DISABLE UNITS. BMS WILL MONITOR ROOM TEMPERATURE THROUGH CENTRALIZED CONTROLLER BACNET POINTS.

② SWITCH WITH LIGHTS.

③ SUPPLY FAN OPERATION WILL BE CONTROLLED BY EMS SYSTEM.

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MECHANICAL

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ALUM ROCK UNION ELEMENTARY SCHOOL DISTRICT

REVISIONS

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AC ____ FLS ____ SS ____
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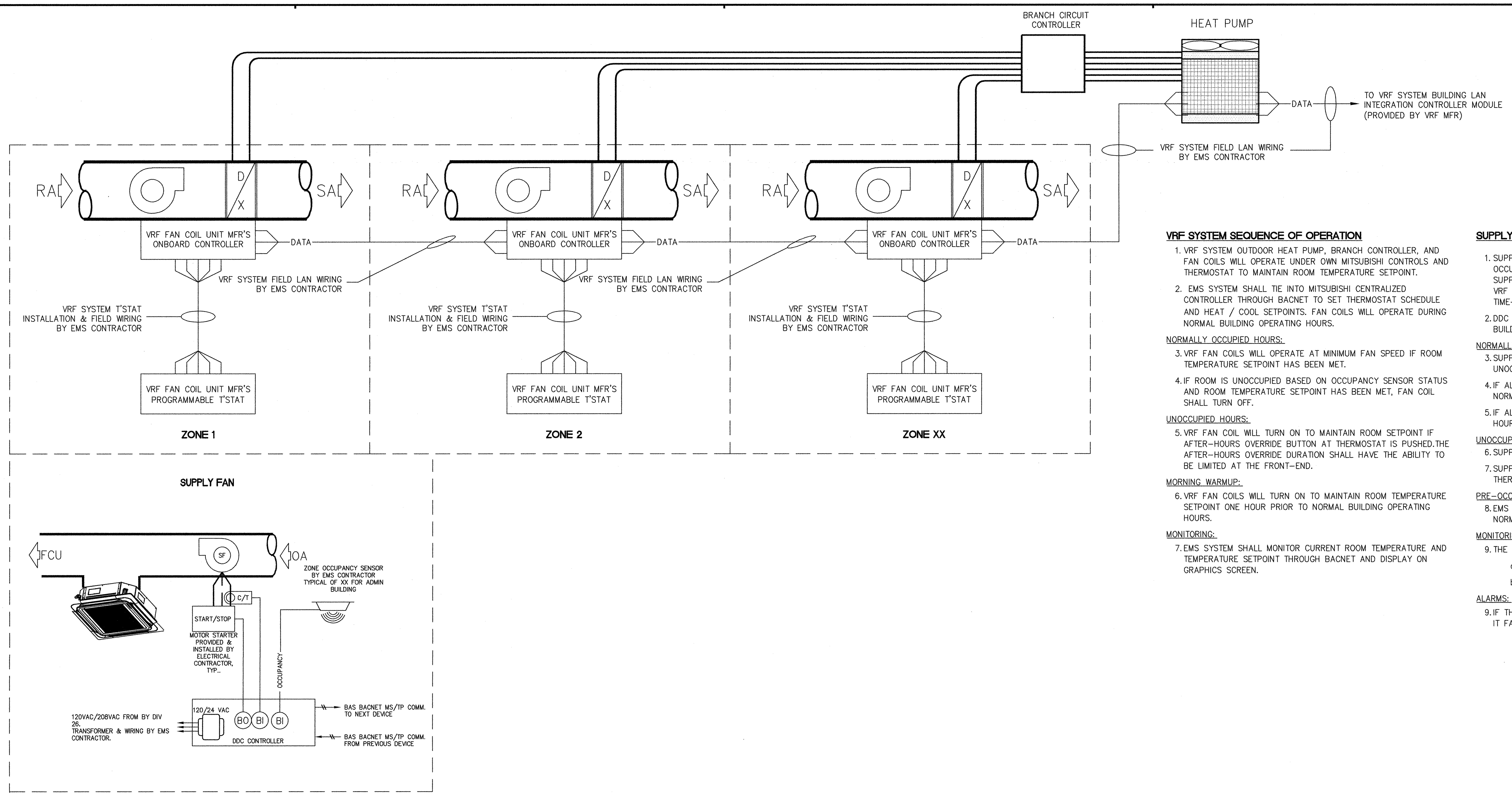

BRANCH CIRCUIT CONTROLLER
HEAT PUMP
DATA
TO VRF SYSTEM BUILDING LAN INTEGRATION CONTROLLER MODULE (PROVIDED BY VRF MFR)
VRF SYSTEM FIELD LAN WIRING BY EMS CONTRACTOR
RA
SA
D/X
VRF FAN COIL UNIT MFR'S ONBOARD CONTROLLER
DATA
VRF SYSTEM FIELD LAN WIRING BY EMS CONTRACTOR
VRF SYSTEM T'STAT INSTALLATION & FIELD WIRING BY EMS CONTRACTOR
VRF FAN COIL UNIT MFR'S PROGRAMMABLE T'STAT
ZONE 1
ZONE 2
ZONE XX
SUPPLY FAN
FCU
SF
OA
ZONE OCCUPANCY SENSOR BY EMS CONTRACTOR TYPICAL OF XX FOR ADMIN BUILDING
C/T
START/STOP
MOTOR STARTER PROVIDED & INSTALLED BY ELECTRICAL CONTRACTOR, TYP..
OCCUPANCY
120VAC/208VAC FROM BY DIV 26. TRANSFORMER & WIRING BY EMS CONTRACTOR.
120/24 VAC
BO
BI
BI
DDC CONTROLLER
BAS BACNET MS/TP COMM. TO NEXT DEVICE
BAS BACNET MS/TP COMM. FROM PREVIOUS DEVICE

1
M5.2

ADMIN VRF FAN COIL SYSTEM - EMS FIELD WIRING DIAGRAM

SCALE: NONE

VRF SYSTEM SEQUENCE OF OPERATION

1. VRF SYSTEM OUTDOOR HEAT PUMP, BRANCH CONTROLLER, AND FAN COILS WILL OPERATE UNDER OWN MITSUBISHI CONTROLS AND THERMOSTAT TO MAINTAIN ROOM TEMPERATURE SETPOINT.
2. EMS SYSTEM SHALL TIE INTO MITSUBISHI CENTRALIZED CONTROLLER THROUGH BACNET TO SET THERMOSTAT SCHEDULE AND HEAT / COOL SETPOINTS. FAN COILS WILL OPERATE DURING NORMAL BUILDING OPERATING HOURS.

NORMALLY OCCUPIED HOURS:

3. VRF FAN COILS WILL OPERATE AT MINIMUM FAN SPEED IF ROOM TEMPERATURE SETPOINT HAS BEEN MET.
4. IF ROOM IS UNOCCUPIED BASED ON OCCUPANCY SENSOR STATUS AND ROOM TEMPERATURE SETPOINT HAS BEEN MET, FAN COIL SHALL TURN OFF.

UNOCCUPIED HOURS:

5. VRF FAN COIL WILL TURN ON TO MAINTAIN ROOM SETPOINT IF AFTER–HOURS OVERRIDE BUTTON AT THERMOSTAT IS PUSHED.THE AFTER–HOURS OVERRIDE DURATION SHALL HAVE THE ABILITY TO BE LIMITED AT THE FRONT–END.

MORNING WARMUP:

6. VRF FAN COILS WILL TURN ON TO MAINTAIN ROOM TEMPERATURE SETPOINT ONE HOUR PRIOR TO NORMAL BUILDING OPERATING HOURS.

MONITORING:

7. EMS SYSTEM SHALL MONITOR CURRENT ROOM TEMPERATURE AND TEMPERATURE SETPOINT THROUGH BACNET AND DISPLAY ON GRAPHICS SCREEN.

SUPPLY FAN SEQUENCE OF OPERATION

1. SUPPLY FAN WILL BE SCHEDULED SAME TIME AS ANY ZONE VRF SYSTEM. THE VRF OCCUPANCY SCHEDULE WILL BE AVAILABLE THROUGH THE BACNET INTERFACE, WHILE SUPPLY FAN WILL BE SCHEDULED THROUGH THE DDC CONTROLLER. THE SUPPLY FAN AND VRF FCs WILL OPERATE DURING NORMAL BUILDING OPERATING HOURS THROUGH EMS TIME–CLOCK.
2. DDC CONTROLLER MONITORS OCCUPANCY SENSOR STATUS OF ALL ZONES IN ADMIN BUILDING.

NORMALLY OCCUPIED HOURS:

3. SUPPLY FAN SHALL BE ON DURING SCHEDULED HOURS UNLESS ALL ZONES ARE UNOCCUPIED.
4. IF ALL ZONES ARE UNOCCUPIED BASED ON OCCUPANCY SENSOR STATUS DURING NORMALLY SCHEDULED HOURS, THE SUPPLY FAN WILL TURN OFF.
5. IF ALL ZONES REMAIN UNOCCUPIED DURING SCHEDULED HOURS FOR MORE THAN ONE HOUR, SUPPLY FAN SHALL CYCLE ON TO PROVIDE OUTSIDE AIR FOR 15 MINUTES.

UNOCCUPIED HOURS:

6. SUPPLY FAN SHALL BE OFF DURING SCHEDULED BUILDING UNOCCUPIED HOURS.
7. SUPPLY FAN WILL TURN ON IF AFTER–HOURS OVERRIDE BUTTON IS PUSHED AT THERMOSTAT AND STAY ON FOR DURATION OF AFTER–HOURS OVERRIDE.

PRE–OCCUPANCY PURGE:

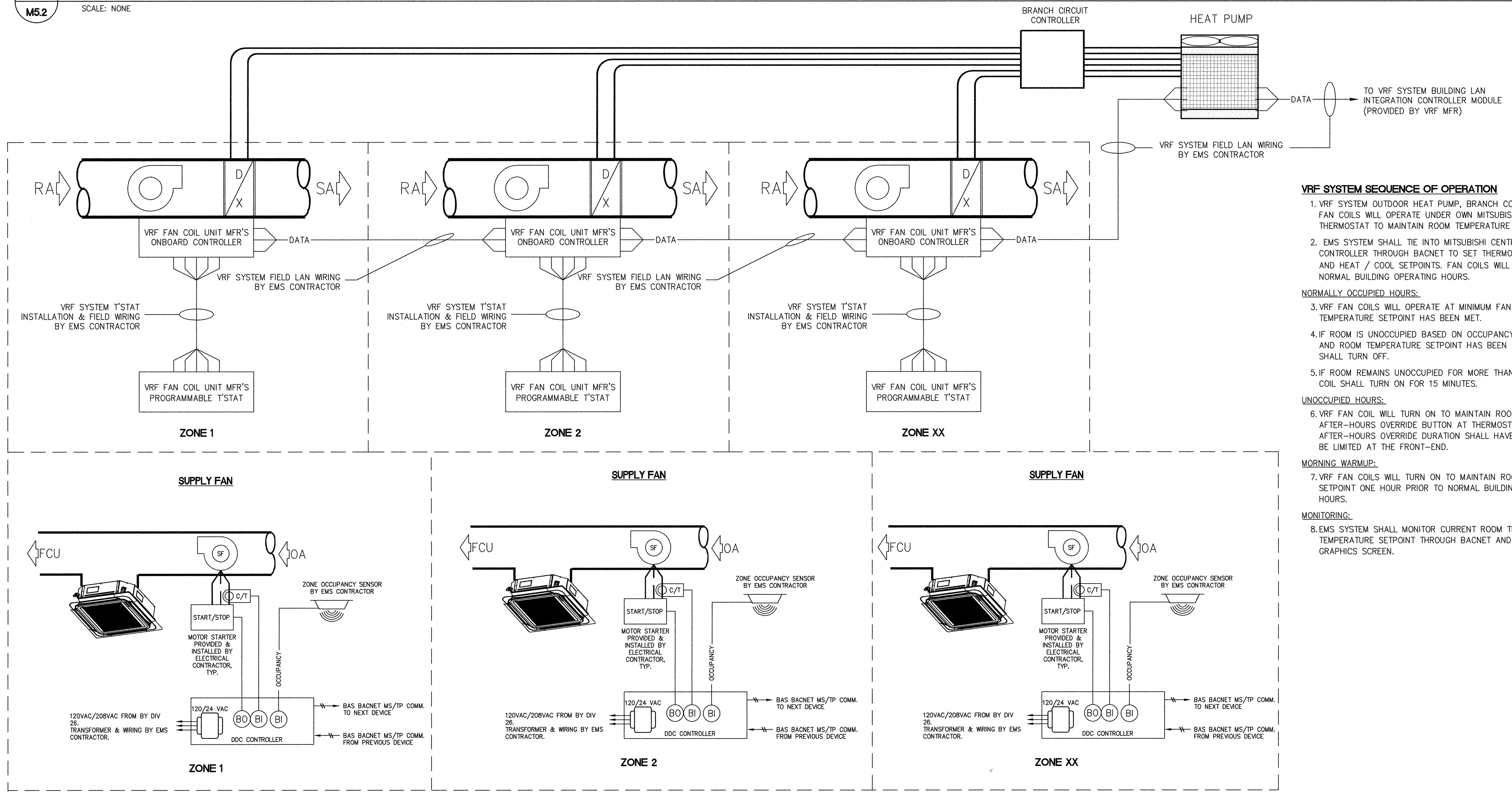
8. EMS SYSTEM WILL COMMAND SUPPLY FAN TO TURN ON ONE HOUR PRIOR TO SCHEDULED NORMAL BUILDING OPERATING HOURS.

MONITORING:

9. THE FOLLOWING CONDITIONS SHALL BE MONITORED:
   a. STATUS OF SUPPLY FAN.
   b. OCCUPANCY SENSOR STATUS

ALARMS:

9. IF THE SUPPLY FAN FAN RUNS WHILE COMMANDED BY THE EMS TO THE OFF STATE OR IF IT FAILS TO RUN WHILE COMMANDED TO THE ON STATE, AN ALARM SHALL BE DISPLAYED.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BAS BACNET MS/TP COMM. TO NEXT DEVICE
BAS BACNET MS/TP COMM. FROM PREVIOUS DEVICE
ZONE 1
ZONE 2
ZONE XX

2
M5.2

CLASSROOM VRF FAN COIL SYSTEM - EMS FIELD WIRING DIAGRAM

SCALE: NONE

VRF SYSTEM SEQUENCE OF OPERATION

1. VRF SYSTEM OUTDOOR HEAT PUMP, BRANCH CONTROLLER, AND FAN COILS WILL OPERATE UNDER OWN MITSUBISHI CONTROLS AND THERMOSTAT TO MAINTAIN ROOM TEMPERATURE SETPOINT.
2. EMS SYSTEM SHALL TIE INTO MITSUBISHI CENTRALIZED CONTROLLER THROUGH BACNET TO SET THERMOSTAT SCHEDULE AND HEAT / COOL SETPOINTS. FAN COILS WILL OPERATE DURING NORMAL BUILDING OPERATING HOURS.

NORMALLY OCCUPIED HOURS:

3. VRF FAN COILS WILL OPERATE AT MINIMUM FAN SPEED IF ROOM TEMPERATURE SETPOINT HAS BEEN MET.
4. IF ROOM IS UNOCCUPIED BASED ON OCCUPANCY SENSOR STATUS AND ROOM TEMPERATURE SETPOINT HAS BEEN MET, FAN COIL SHALL TURN OFF.
5. IF ROOM REMAINS UNOCCUPIED FOR MORE THAN ONE HOUR, FAN COIL SHALL TURN ON FOR 15 MINUTES.

UNOCCUPIED HOURS:

6. VRF FAN COIL WILL TURN ON TO MAINTAIN ROOM SETPOINT IF AFTER–HOURS OVERRIDE BUTTON AT THERMOSTAT IS PUSHED.THE AFTER–HOURS OVERRIDE DURATION SHALL HAVE THE ABILITY TO BE LIMITED AT THE FRONT–END.

MORNING WARMUP:

7. VRF FAN COILS WILL TURN ON TO MAINTAIN ROOM TEMPERATURE SETPOINT ONE HOUR PRIOR TO NORMAL BUILDING OPERATING HOURS.

MONITORING:

8. EMS SYSTEM SHALL MONITOR CURRENT ROOM TEMPERATURE AND TEMPERATURE SETPOINT THROUGH BACNET AND DISPLAY ON GRAPHICS SCREEN.

SUPPLY FAN SEQUENCE OF OPERATION

1. SUPPLY FAN WILL BE SCHEDULED SAME TIME AS ANY ZONE VRF SYSTEM. THE VRF OCCUPANCY SCHEDULE WILL BE AVAILABLE THROUGH THE BACNET INTERFACE, WHILE SUPPLY FAN WILL BE SCHEDULED THROUGH THE DDC CONTROLLER. THE SUPPLY FAN AND VRF FCs WILL OPERATE DURING NORMAL BUILDING OPERATING HOURS THROUGH EMS TIME–CLOCK.
2. SUPPLY FAN WILL NOT RUN UNLESS VRF FAN COIL IS ALSO ON.
3. DDC CONTROLLER MONITORS OCCUPANCY SENSOR STATUS OF ALL ZONES IN ADMIN BUILDING.

NORMALLY OCCUPIED HOURS:

4. SUPPLY FAN SHALL BE ON DURING SCHEDULED HOURS UNLESS CLASSROOM IS UNOCCUPIED.
5. IF CLASSROOM IS UNOCCUPIED BASED ON OCCUPANCY SENSOR STATUS DURING NORMALLY SCHEDULED HOURS, THE SUPPLY FAN WILL TURN OFF.
6. IF CLASSROOM REMAINS UNOCCUPIED DURING SCHEDULED HOURS FOR MORE THAN ONE HOUR, SUPPLY FAN SHALL CYCLE ON TO PROVIDE OUTSIDE AIR FOR 15 MINUTES.

UNOCCUPIED HOURS:

7. SUPPLY FAN SHALL BE OFF DURING SCHEDULED BUILDING UNOCCUPIED HOURS.
8. SUPPLY FAN WILL TURN ON IF AFTER–HOURS OVERRIDE BUTTON IS PUSHED AT THERMOSTAT AND STAY ON FOR DURATION OF AFTER–HOURS OVERRIDE.

PRE–OCCUPANCY PURGE:

9. EMS SYSTEM WILL COMMAND SUPPLY FAN TO TURN ON ONE HOUR PRIOR TO SCHEDULED NORMAL BUILDING OPERATING HOURS.

MONITORING:

10. THE FOLLOWING CONDITIONS SHALL BE MONITORED:
    a. STATUS OF SUPPLY FAN.
    b. OCCUPANCY SENSOR STATUS

ALARMS:

9. IF THE SUPPLY FAN FAN RUNS WHILE COMMANDED BY THE EMS TO THE OFF STATE OR IF IT FAILS TO RUN WHILE COMMANDED TO THE ON STATE, AN ALARM SHALL BE DISPLAYED.

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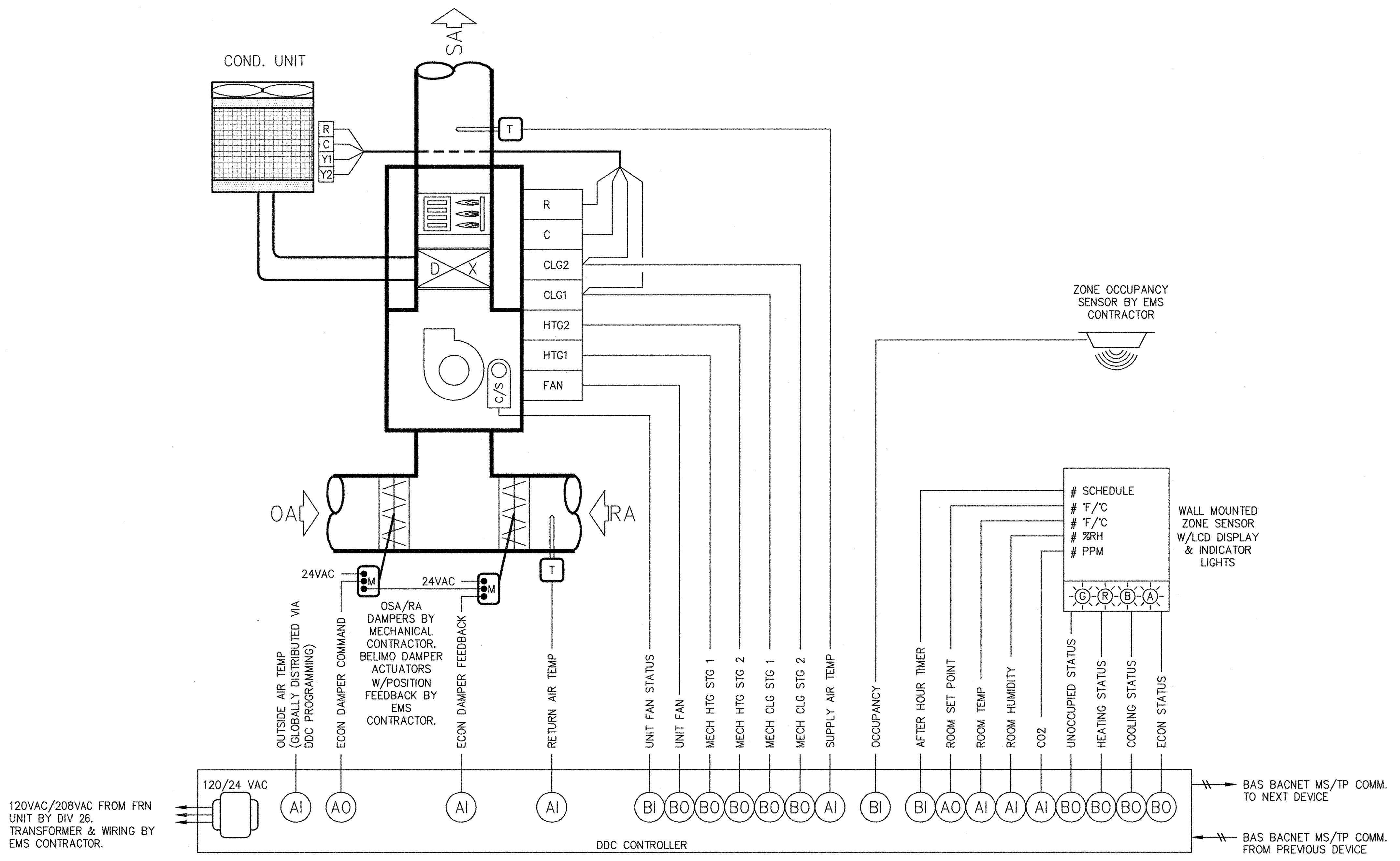


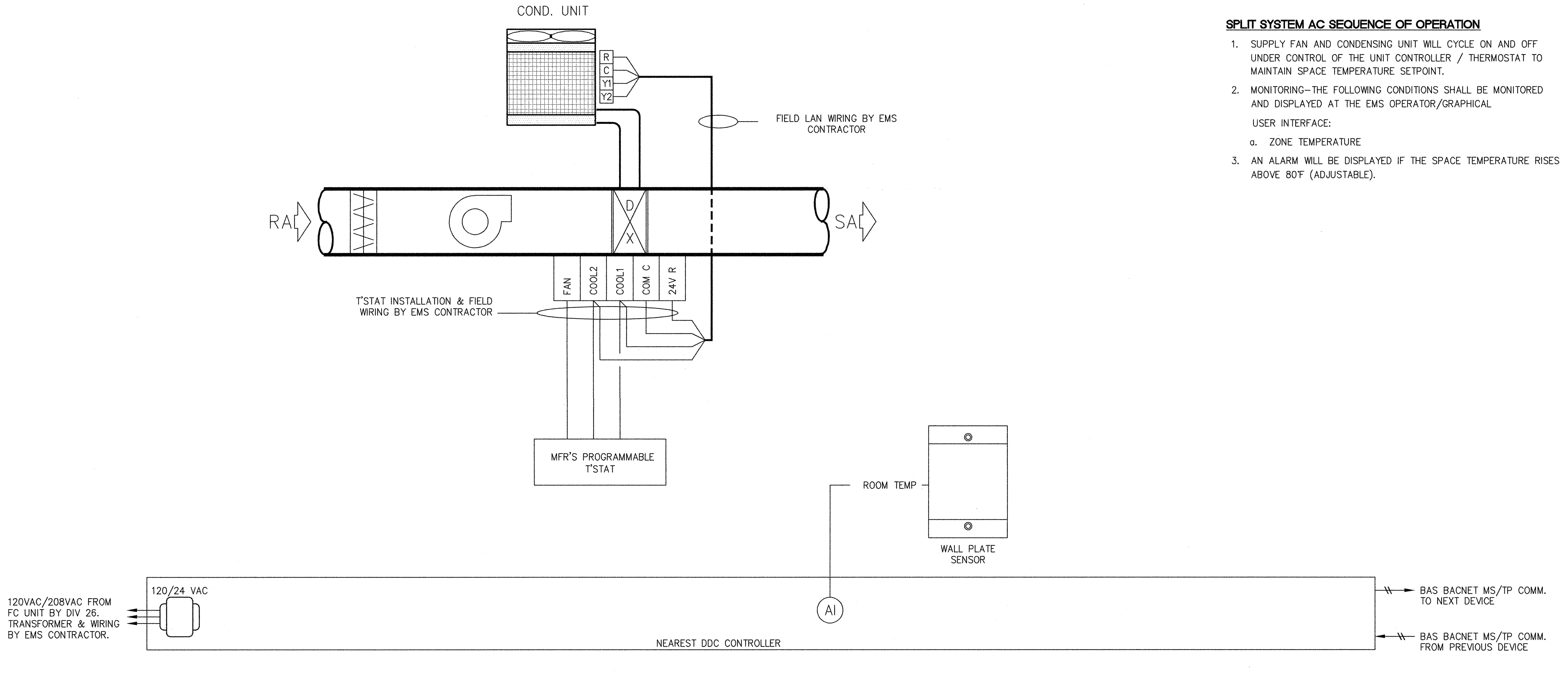
FURNACE WITH DX COOLING, ECONOMIZER, DVC, AND ZONE OCCUPANCY MONITORING SEQUENCE OF OPERATION

1. SYSTEM OVERVIEW
   - A. EACH FURNACE AND CONDENSING UNIT UNIT WILL BE DIRECTLY CONTROLLED BY ITS OWN DEDICATED EMS (ENERGY MANAGEMENT SYSTEM) UNITARY CONTROLLER.
   - B. EMS UNITARY CONTROLLER WILL BE CONNECTED TO A WALL MOUNTED ELECTRONIC ZONE TEMPERATURE SENSOR WITH INTEGRAL CO2 SENSOR.
   - C. ELECTRONIC ZONE TEMPERATURE SENSOR SHALL HAVE A TOUCH SCREEN LCD INTERFACE WHICH INCLUDES: 1) DIGITAL PUSHBUTTONS FOR WARMER/COOLER SETPOINT CONTROL; 2) VISUAL DISPLAY OF ROOM TEMPERATURE, ROOM HUMIDITY, ROOM CO2 AND AMBIENT OSA TEMPERATURE; AND 3) DIGITAL PUSHBUTTON AFTER–HOURS OVERRIDE TIMER CONTROL, WITH USER ADJUSTABLE DURATION. THE AFTER–HOURS OVERRIDE DURATION SHALL HAVE THE ABILITY TO BE LIMITED FROM THE FRONT–END.
2. OCCUPANCY/VACANCY MONITORING
   - A. EMS CONTRACTOR SHALL PROVIDE ZONE OCCUPANCY SENSOR FOR OCCUPANCY MONITORING.
3. UNIT FAN OPERATION
   - A. WHEN THE ZONE IS IN OCCUPIED MODE OR IN AFTERHOURS MODE, THE LEAD FAN SHALL RUN CONTINUOUSLY, UNLESS VACANT MODE HAS BEEN TRIGGERED. LEAD/LAG ON THE FANS WILL ALTERNATE ON WEEKLY BASIS TO EQUALIZE RUNTIME. IF THE LEAD SUPPLY FAN RUNS WHILE COMMANDED BY THE EMS TO THE OFF STATE OR IF IT FAILS TO RUN WHILE COMMANDED TO THE ON STATE, AN ALARM SHALL BE DISPLAYED AND ANNUNCIATED AT THE OPERATOR'S CONSOLE AND LAG SUPPLY FAN WILL BE ENABLED.
   - B. DURING THE UNOCCUPIED MODE AS DETERMINED BY EMS TIME SCHEDULE, THE UNIT FAN CYCLES WITH DEMAND AND THE TEMPERATURE IS CONTROLLED BY THE UNOCCUPIED SPACE TEMPERATURE HEATING AND COOLING SETPOINTS.
4. MINIMUM OUTDOOR AIR VENTILATION
   - A. DURING OCCUPIED MODE OR AFTERHOURS MODE, THE ECONOMIZER DAMPER SHALL BE COMMANDED BY THE EMS UNITARY CONTROLLER TO MAINTAIN A POSITION WHICH SATISFIES THE MINIMUM OUTDOOR AIR VENTILATION REQUIREMENTS FOR THE ZONE. DAMPER POSITION(S) DETERMINED BY AIR BALANCING CONTRACTOR.
5. DEMAND CONTROL VENTILATION
   - A. EMS UNITARY CONTROLLER WILL BE CONNECTED TO A WALL MOUNTED CO2 SENSOR TO MONITOR ZONE CO2 CONCENTRATION.
   - B. DURING OCCUPIED MODE OR AFTERHOURS MODE, THE EMS UNITARY CONTROLLER SHALL RESET THE OUTSIDE AIR DAMPER MINIMUM POSITION TO MAINTAIN THE CO2 CONCENTRATION BELOW 1,000 PPM.
6. AUTOMATIC DEMAND REDUCTION CONTROLS
   - A. EMS SHALL BE PROGRAMMED WITH CAPABILITY TO IMPLEMENT CENTRALIZED DEMAND SHED FOR ALL NON–CRITICAL ZONES UPON CALL FOR AUTOMATIC DEMAND REDUCTION. CRITICAL ZONES SHALL NOT BE IMPACTED BY DEMAND SHED CONSERVATION MEASURES.
7. VACANT MODE CONTROL
   - A. WHEN THE ZONE HAS BEEN SCHEDULED FOR OCCUPANCY FOR AT LEAST ONE HOUR AND THE OCCUPANCY SENSOR HAS CONFIRMED THAT ZONE HAS BEEN VACANT FOR 5 MINUTES (ADJUSTABLE: MAXIMUM 30 MINUTES), ZONE SHALL BE PLACED INTO VACANT MODE.
   - B. RESET COOLING AND HEATING SETPOINTS UP AND DOWN BY 2°F (ADJUSTABLE) OR MORE.
   - C. MINIMUM OUTDOOR AIR VENTILATION REQUIREMENTS IN THE ZONE NEED ONLY BE MAINTAINED 15 MINUTES OUT OF EVERY 60 MINUTES WHILE THE ZONE IS IN VACANT MODE.
   - D. UPON DETECTION OF OCCUPANCY, VACANT MODE SHALL BE CLEARED.
8. ZONE PRE–OCCUPANCY PURGE
   - A. THE EMS SHALL SCHEDULE THE ZONE TO BE IN OCCUPIED MODE ONE HOUR PRIOR TO THE ACTUAL TIME OF ANTICIPATED OCCUPANCY.
9. ECONOMIZER CONTROL
   - A. EMS UNITARY CONTROLLER SHALL BE DIRECTLY CONNECTED TO DISCHARGE AIR AND RETURN AIR TEMPERATURE SENSORS. GLOBAL DDC PROGRAMMING SHALL BE USED TO BROADCAST CENTRALIZED AMBIENT OUTSIDE AIR TEMPERATURE.
   - B. EMS UNITARY CONTROLLER SHALL ALSO BE DIRECTLY CONNECTED TO ECONOMIZER (OUTSIDE/RETURN AIR) DAMPER ACTUATOR, INCLUDING POSITION FEEDBACK SIGNAL.
   - C. SEE MINIMUM OUTDOOR AIR VENTILATION FOR OUTSIDE AIR DAMPER MIN CFM SETPOINT.
   - D. THE EMS UNITARY CONTROLLER SHALL CONTINUOUSLY COMPARE THE CURRENT OSA TEMPERATURE TO THE ESTABLISHED AIR ECONOMIZER HIGH LIMIT SHUT OFF (ECON LOCK OUT) TEMPERATURE SET POINT (ADJUSTABLE) AND RETURN AIR TEMPERATURE.
   - E. WHEN CURRENT OSA TEMP IS LESS THAN OR EQUAL TO ECON LOCK OUT TEMP AND THE RETURN AIR TEMPERATURE, EMS UNITARY CONTROLLER SHALL USE THE OUTSIDE AIR FOR FREE COOLING.
   - F. THE ECONOMIZER WILL REMAIN IN USE DURING MECHANICAL COOLING AS LONG AS DISCHARGE AIR TEMPERATURE REMAINS ABOVE 45°F (ADJUSTABLE) AND CURRENT OSA TEMP IS LESS THAN OR EQUAL TO ECON LOCK OUT TEMP AND RETURN AIR TEMP.
   - G. WHEN OSA TEMP IS ABOVE ECON LOCK OUT TEMP OR RETURN AIR TEMP, ECONOMIZER WILL BE DEACTIVATED AND ECONOMIZER SHALL BE COMMANDED TO MIN CFM SETPOINT.
   - H. ECONOMIZER WILL BE COMMANDED TO MIN CFM SETPOINT WHEN UNIT IS IN HEATING MODE.
   - I. WHEN UNIT FAN IS NOT OPERATING, OUTSIDE AIR DAMPER SHALL BE COMMANDED CLOSED.
10. HEATING OPERATION
    - A. THE CONTROLLER COMPARES THE HEATING SETPOINT WITH THE SPACE TEMPERATURE AND DETERMINES A NEED–HEATING CONTROL SIGNAL TO STAGE A GAS REGULATING VALVE ON THE UNIT.
    - B. ECONOMIZER TO BE COMMANDED TO MIN OUTSIDE AIR CFM SETPOINT AND MECHANICAL COOLING TO BE LOCKED OUT DURING HEATING MODE.
    - C. IF THE LEAD FURNACE IS NOT ABLE TO SATISFY THE HEATING SETPOINT, LAG FURNACE WILL BE TURNED ON TO SATISFY HEATING SETPOINT.
11. COOLING OPERATION
    - A. THE CONTROLLER COMPARES THE COOLING SETPOINT WITH THE SPACE TEMPERATURE AND DETERMINES A NEED–COOLING SIGNAL.
    - B. THE FIRST STAGE OF COOLING WILL ENABLE THE ECONOMIZER TO PROVIDE FREE COOLING FOR AS LONG AS POSSIBLE.
    - C. THE SECOND STAGE WILL ENABLE THE COMPRESSOR(S) TO MAINTAIN THE ROOM SET POINT.
    - D. MECHANICAL HEATING TO BE LOCKED OUT DURING COOLING MODE.
    - E. IF THE LEAD FURNACE IS NOT ABLE TO SATISFY THE COOLING SETPOINT, LAG FURNACE WILL BE TURNED ON TO SATISFY COOLING SETPOINT.
12. FAULT DETECTION DIAGNOSTICS
    - A. THE EMS DDC CONTROLLER SHALL MONITOR THE FOLLOWING ECONOMIZER ACTUATOR FAULT DETECTION DIAGNOSTIC CONDITIONS AND BROADCAST RESULTS VIA EMS NETWORK:
    - i. TEMPERATURE SENSOR FAILURE/FAULT
    - ii. ECONOMIZER NOT ECONOMIZING WHEN ENABLED
    - iii. ECONOMIZER ECONOMIZING WHEN DISABLED
    - iv. ECONOMIZER DAMPER MODULATION FAILURE
    - v. EXCESS OUTDOOR AIR
13. MONITORING – THE FOLLOWING CONDITIONS SHALL BE MONITORED AND DISPLAYED AT EMS OPERATOR WORKSTATION/GRAPHICAL USER INTERFACE:
    - A. SUPPLY AIR TEMPERATURE.
    - B. ROOM TEMPERATURE.
    - C. ROOM HUMIDITY.
    - D. ROOM CO2 CONCENTRATION.
    - E. ROOM OCCUPANCY STATUS.
    - F. CURRENT MODE (HEATING/COOLING/FAN).
    - G. SUPPLY AIR TEMPERATURE ATTAINED LAST TIME UNIT WAS IN HEATING.
    - H. SUPPLY AIR TEMPERATURE ATTAINED LAST TIME UNIT WAS IN COOLING.
    - I. CURRENT COMMAND STATUS OF FAN, ECONOMIZER, COMPRESSOR AND GAS VALVE.
    - J. RUN TIME METERS ON FAN, COMPRESSOR, AND HEAT.
    - K. FAN STATUS THRU CURRENT SWITCH.
    - L. ECONOMIZER ACTUATOR FEEDBACK STATUS.

1
M5.3

FURNACE WITH SPLIT SYSTEM DX COOLING WITH ECONOMIZER, DEMAND CONTROL VENTILATION AND OCCUPANCY MONITORING

SCALE: NONE


COND. UNIT
R
C
Y1
Y2
FIELD LAN WIRING BY EMS CONTRACTOR
RA
SA
D
X
FAN
COOL2
COOL1
COM C
24V R
T'STAT INSTALLATION & FIELD WIRING BY EMS CONTRACTOR
MFR'S PROGRAMMABLE T'STAT
ROOM TEMP
WALL PLATE SENSOR
120/24 VAC
AI
120VAC/208VAC FROM FC UNIT BY DIV 26. TRANSFORMER & WIRING BY EMS CONTRACTOR.
NEAREST DDC CONTROLLER
BAS BACNET MS/TP COMM. TO NEXT DEVICE
BAS BACNET MS/TP COMM. FROM PREVIOUS DEVICE

SPLIT SYSTEM AC SEQUENCE OF OPERATION

1. SUPPLY FAN AND CONDENSING UNIT WILL CYCLE ON AND OFF UNDER CONTROL OF THE UNIT CONTROLLER / THERMOSTAT TO MAINTAIN SPACE TEMPERATURE SETPOINT.
2. MONITORING–THE FOLLOWING CONDITIONS SHALL BE MONITORED AND DISPLAYED AT THE EMS OPERATOR/GRAPHICAL

   USER INTERFACE:
   - a. ZONE TEMPERATURE
3. AN ALARM WILL BE DISPLAYED IF THE SPACE TEMPERATURE RISES ABOVE 80°F (ADJUSTABLE).

2
M5.3

SPLIT SYSTEM AIR CONDITIONER

SCALE: NONE

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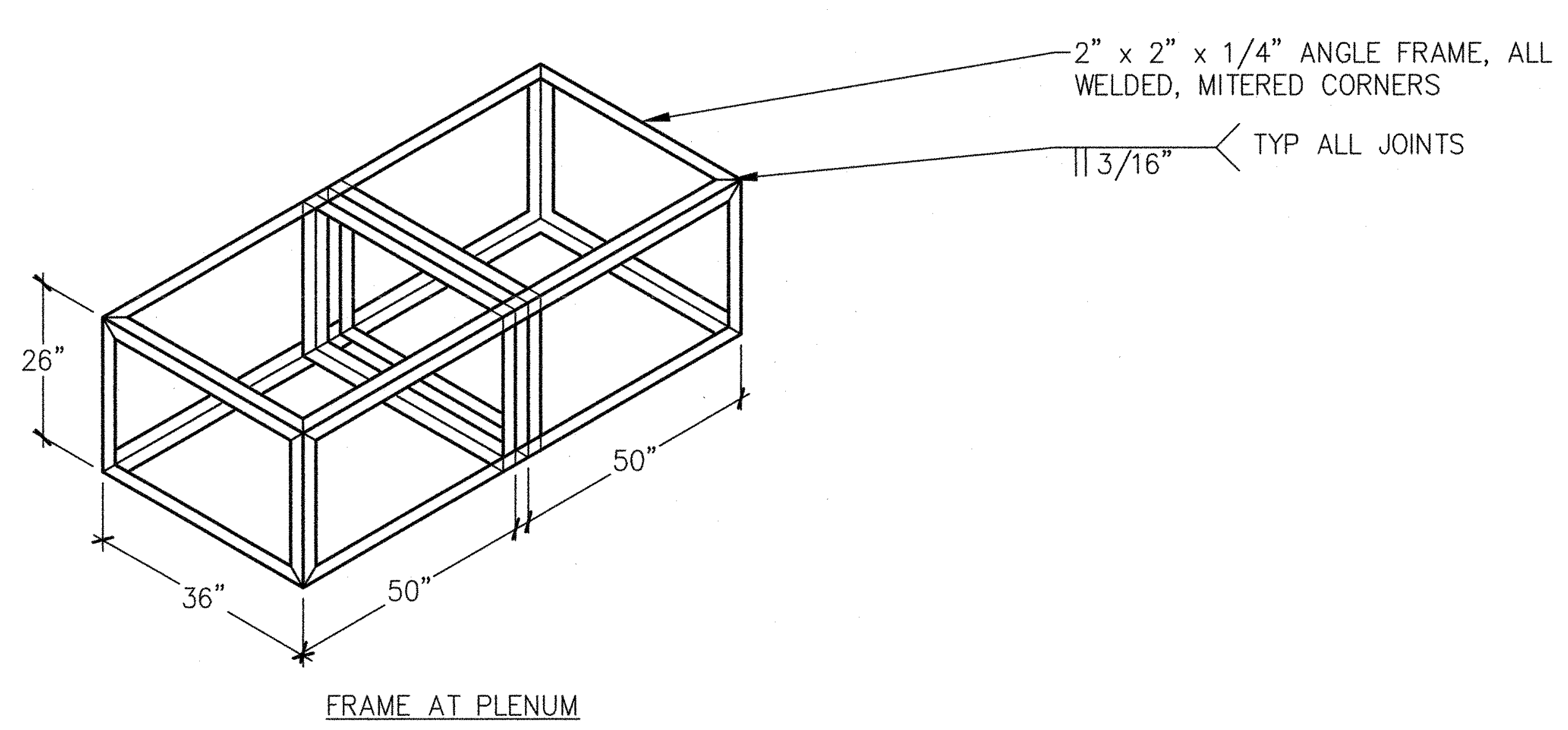
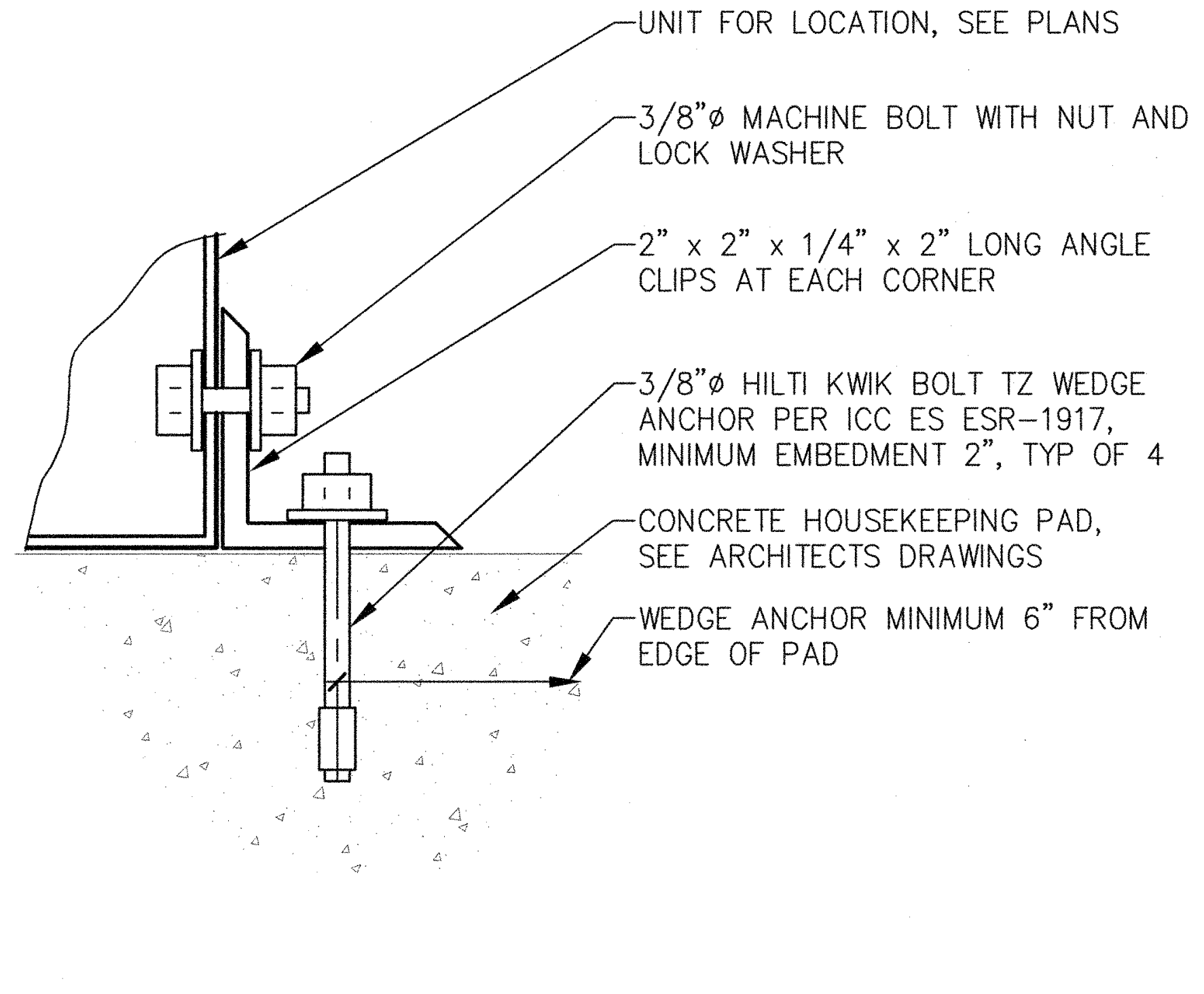
DATE: 04-09-2018

M5.3



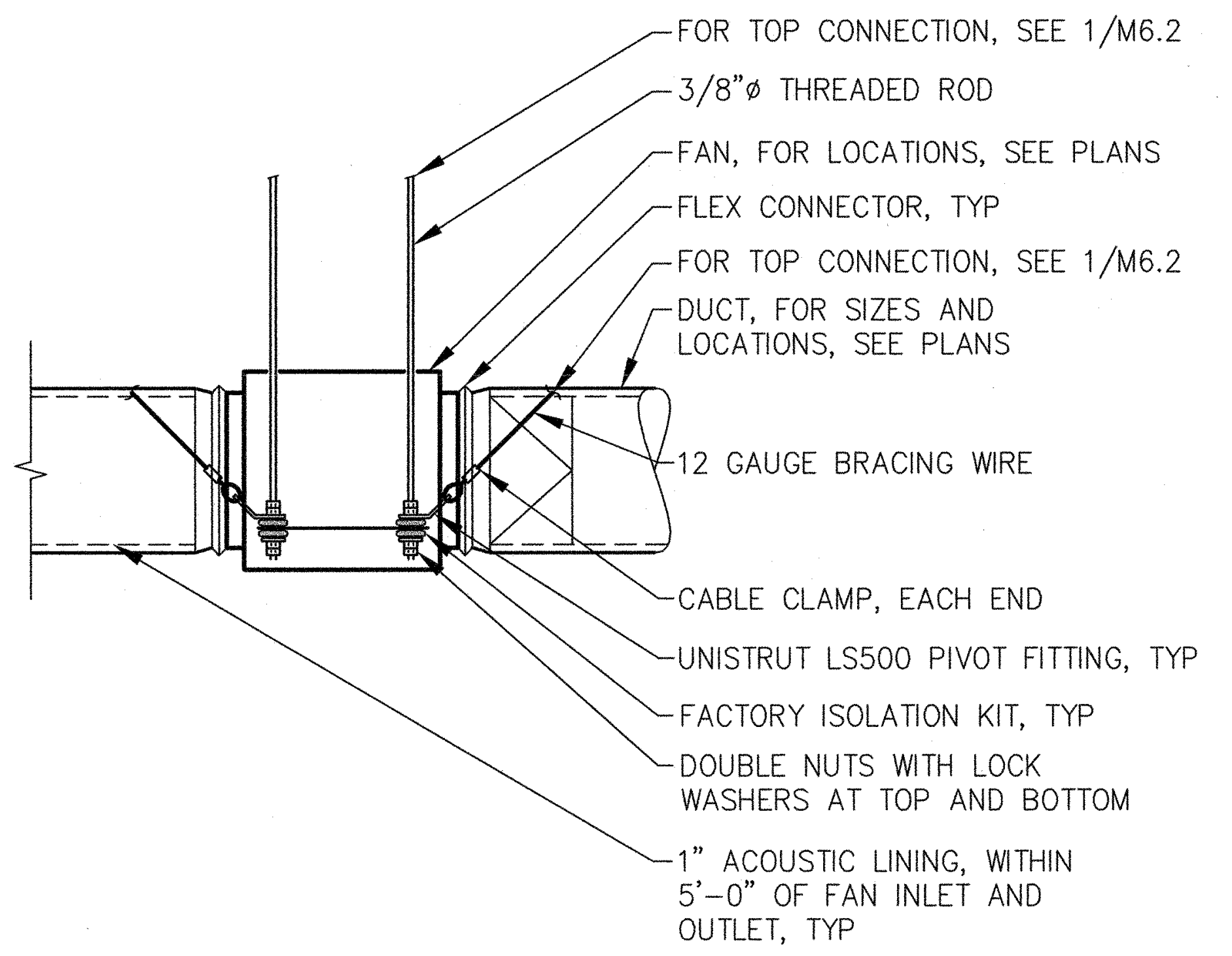
FRAME AT PLENUM


UNIT FOR LOCATION, SEE PLANS
3/8"ø MACHINE BOLT WITH NUT AND LOCK WASHER
2" x 2" x 1/4" x 2" LONG ANGLE CLIPS AT EACH CORNER
3/8"ø HILTI KWIK BOLT TZ WEDGE ANCHOR PER ICC ES ESR-1917, MINIMUM EMBEDMENT 2", TYP OF 4
CONCRETE HOUSEKEEPING PAD, SEE ARCHITECTS DRAWINGS
WEDGE ANCHOR MINIMUM 6" FROM EDGE OF PAD

9
M6.1

CONDENSING UNIT MOUNTING

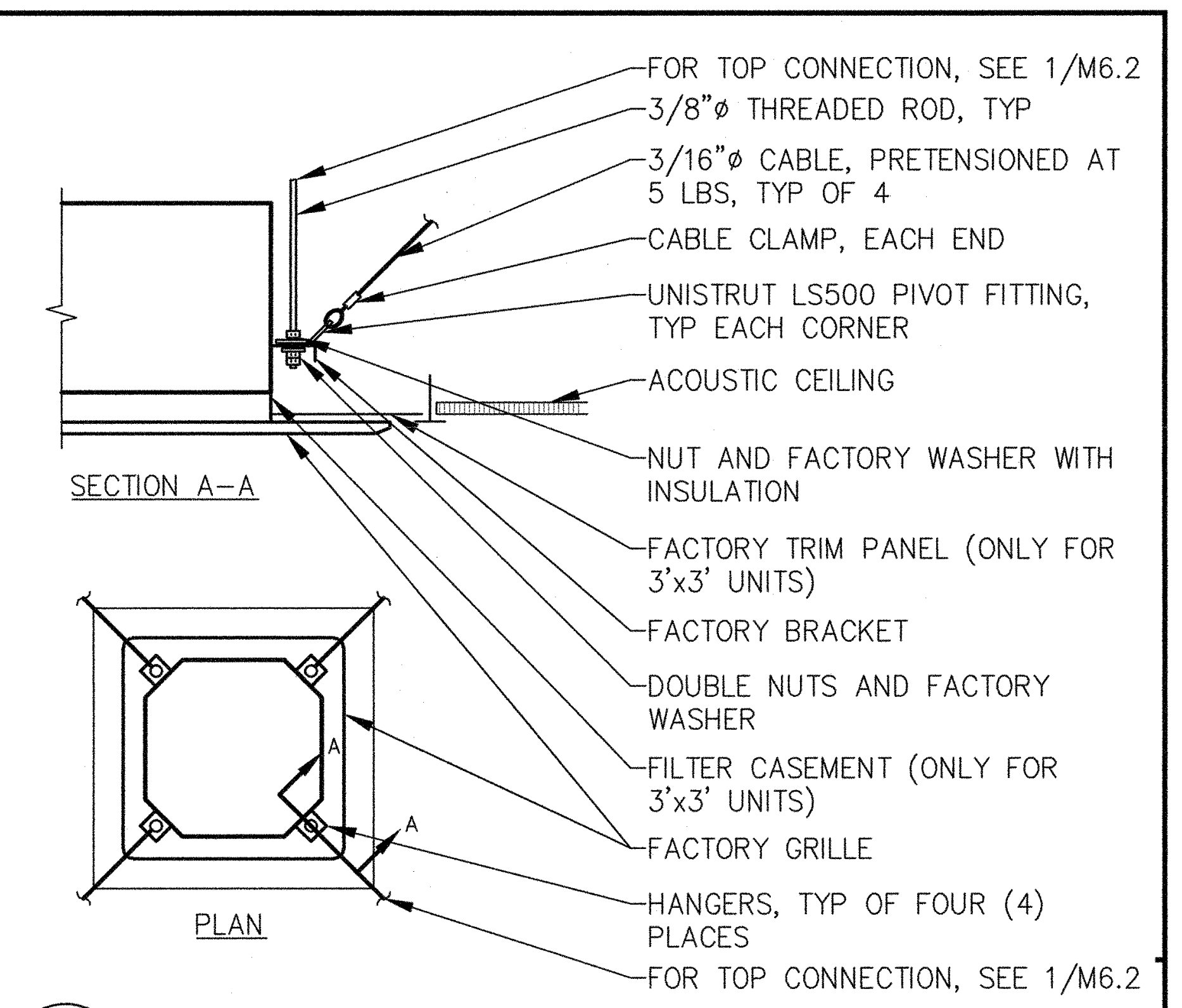
NO SCALE


FOR TOP CONNECTION, SEE 1/M6.2
3/8"ø THREADED ROD
FAN, FOR LOCATIONS, SEE PLANS
FLEX CONNECTOR, TYP
FOR TOP CONNECTION, SEE 1/M6.2
DUCT, FOR SIZES AND LOCATIONS, SEE PLANS
12 GAUGE BRACING WIRE
CABLE CLAMP, EACH END
UNISTRUT LS500 PIVOT FITTING, TYP
FACTORY ISOLATION KIT, TYP
DOUBLE NUTS WITH LOCK WASHERS AT TOP AND BOTTOM
1" ACOUSTIC LINING, WITHIN 5'-0" OF FAN INLET AND OUTLET, TYP

5
M6.1

INLINE FAN MOUNTING

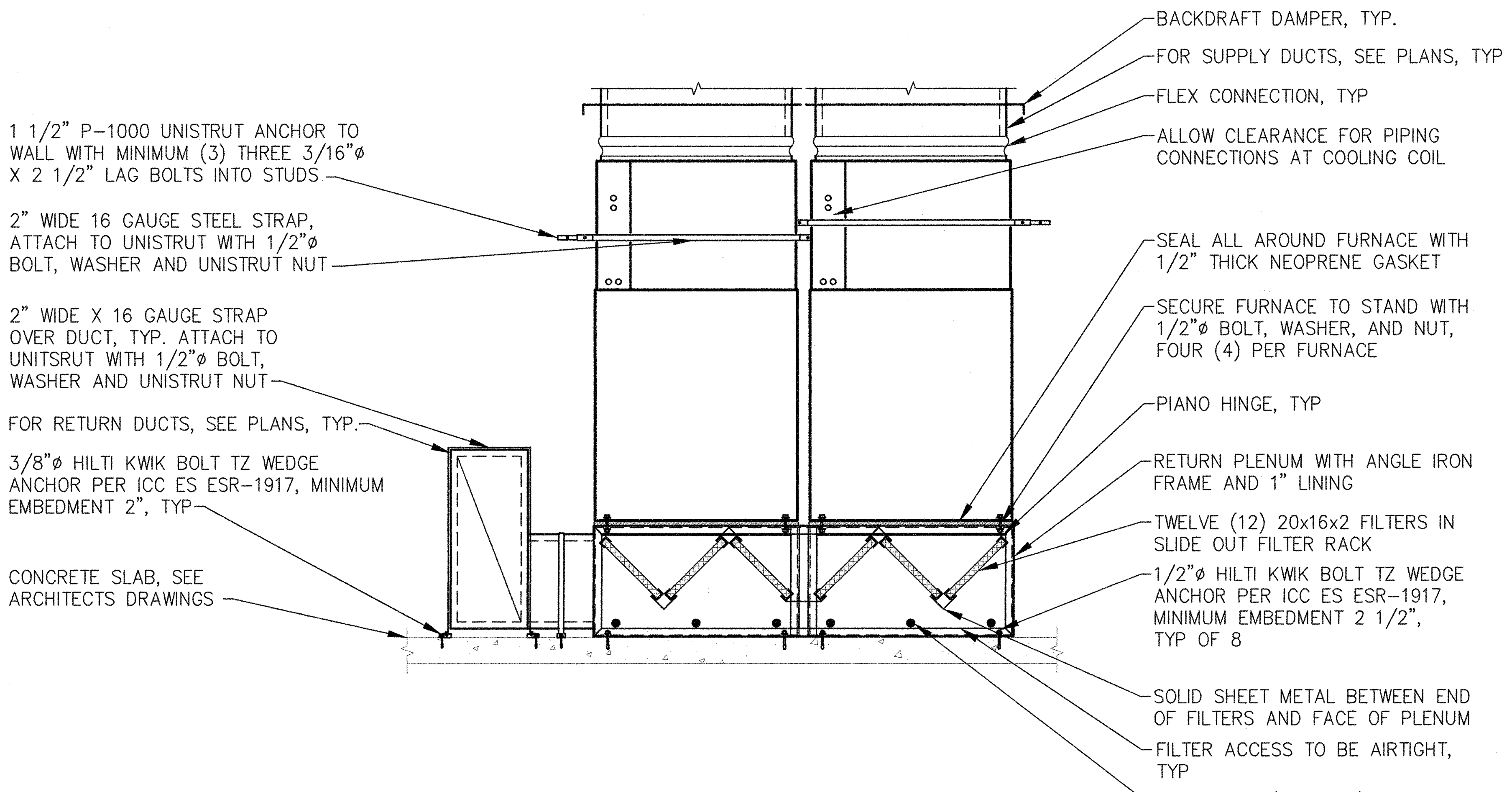
NO SCALE


FOR TOP CONNECTION, SEE 1/M6.2
3/8"ø THREADED ROD, TYP
3/16"ø CABLE, PRETENSIONED AT 5 LBS, TYP OF 4
CABLE CLAMP, EACH END
UNISTRUT LS500 PIVOT FITTING, TYP EACH CORNER
ACOUSTIC CEILING
NUT AND FACTORY WASHER WITH INSULATION
FACTORY TRIM PANEL (ONLY FOR 3'x3' UNITS)
FACTORY BRACKET
DOUBLE NUTS AND FACTORY WASHER
FILTER CASEMENT (ONLY FOR 3'x3' UNITS)
FACTORY GRILLE
HANGERS, TYP OF FOUR (4) PLACES
FOR TOP CONNECTION, SEE 1/M6.2
SECTION A-A
PLAN
A
A

1
M6.1

FAN COIL UNIT MOUNTING

NO SCALE

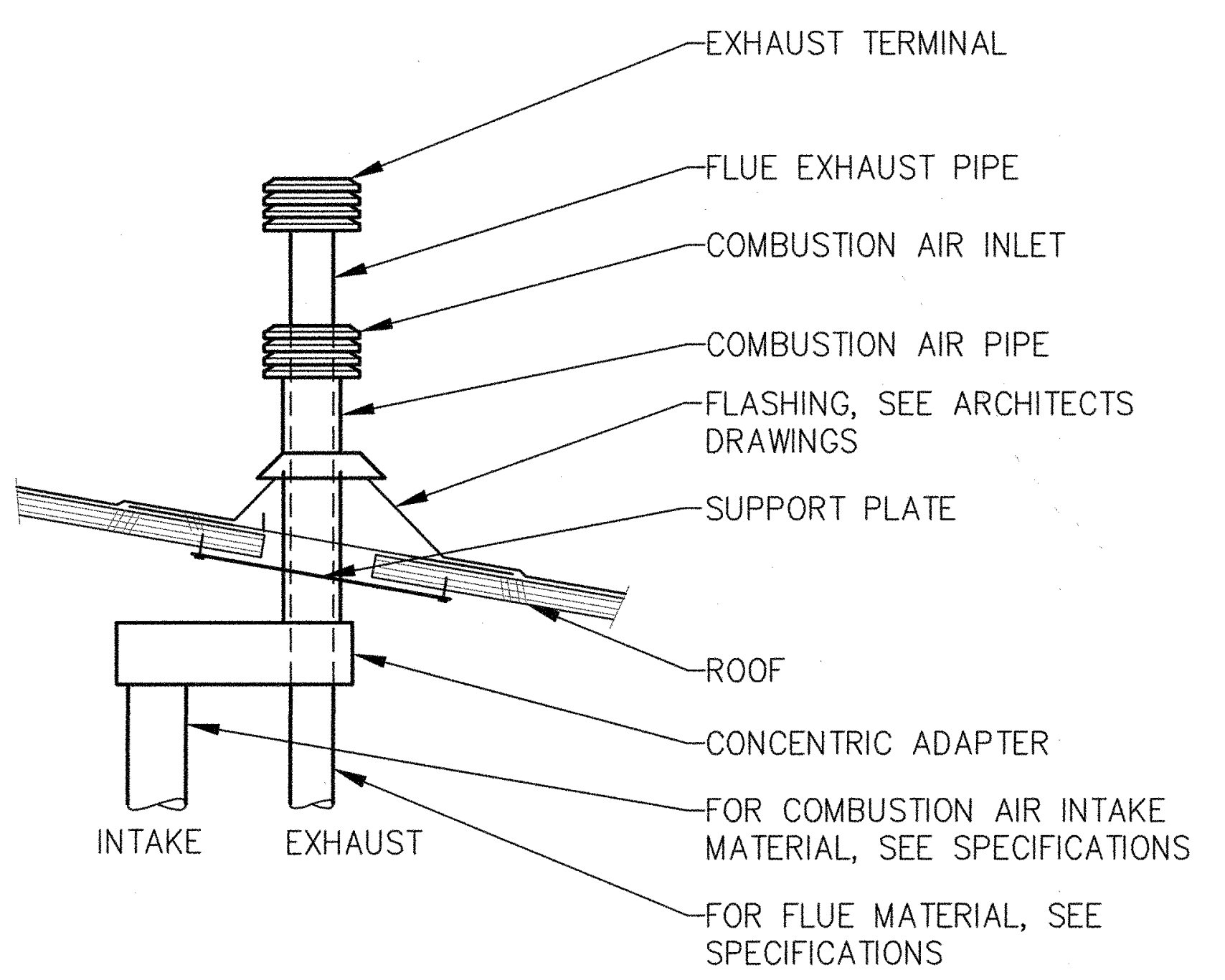

1 1/2" P-1000 UNISTRUT ANCHOR TO WALL WITH MINIMUM (3) THREE 3/16"ø X 2 1/2" LAG BOLTS INTO STUDS
2" WIDE 16 GAUGE STEEL STRAP, ATTACH TO UNISTRUT WITH 1/2"ø BOLT, WASHER AND UNISTRUT NUT
2" WIDE X 16 GAUGE STRAP OVER DUCT, TYP. ATTACH TO UNITSRUT WITH 1/2"ø BOLT, WASHER AND UNISTRUT NUT
FOR RETURN DUCTS, SEE PLANS, TYP.
3/8"ø HILTI KWIK BOLT TZ WEDGE ANCHOR PER ICC ES ESR-1917, MINIMUM EMBEDMENT 2", TYP
CONCRETE SLAB, SEE ARCHITECTS DRAWINGS
BACKDRAFT DAMPER, TYP.
FOR SUPPLY DUCTS, SEE PLANS, TYP
FLEX CONNECTION, TYP
ALLOW CLEARANCE FOR PIPING CONNECTIONS AT COOLING COIL
SEAL ALL AROUND FURNACE WITH 1/2" THICK NEOPRENE GASKET
SECURE FURNACE TO STAND WITH 1/2"ø BOLT, WASHER, AND NUT, FOUR (4) PER FURNACE
PIANO HINGE, TYP
RETURN PLENUM WITH ANGLE IRON FRAME AND 1" LINING
TWELVE (12) 20x16x2 FILTERS IN SLIDE OUT FILTER RACK
1/2"ø HILTI KWIK BOLT TZ WEDGE ANCHOR PER ICC ES ESR-1917, MINIMUM EMBEDMENT 2 1/2", TYP OF 8
SOLID SHEET METAL BETWEEN END OF FILTERS AND FACE OF PLENUM
FILTER ACCESS TO BE AIRTIGHT, TYP

SASH LOCK (NO TOOL) TYPE HINGES, TYP

13
M6.1

FURNACE AND COIL MOUNTING

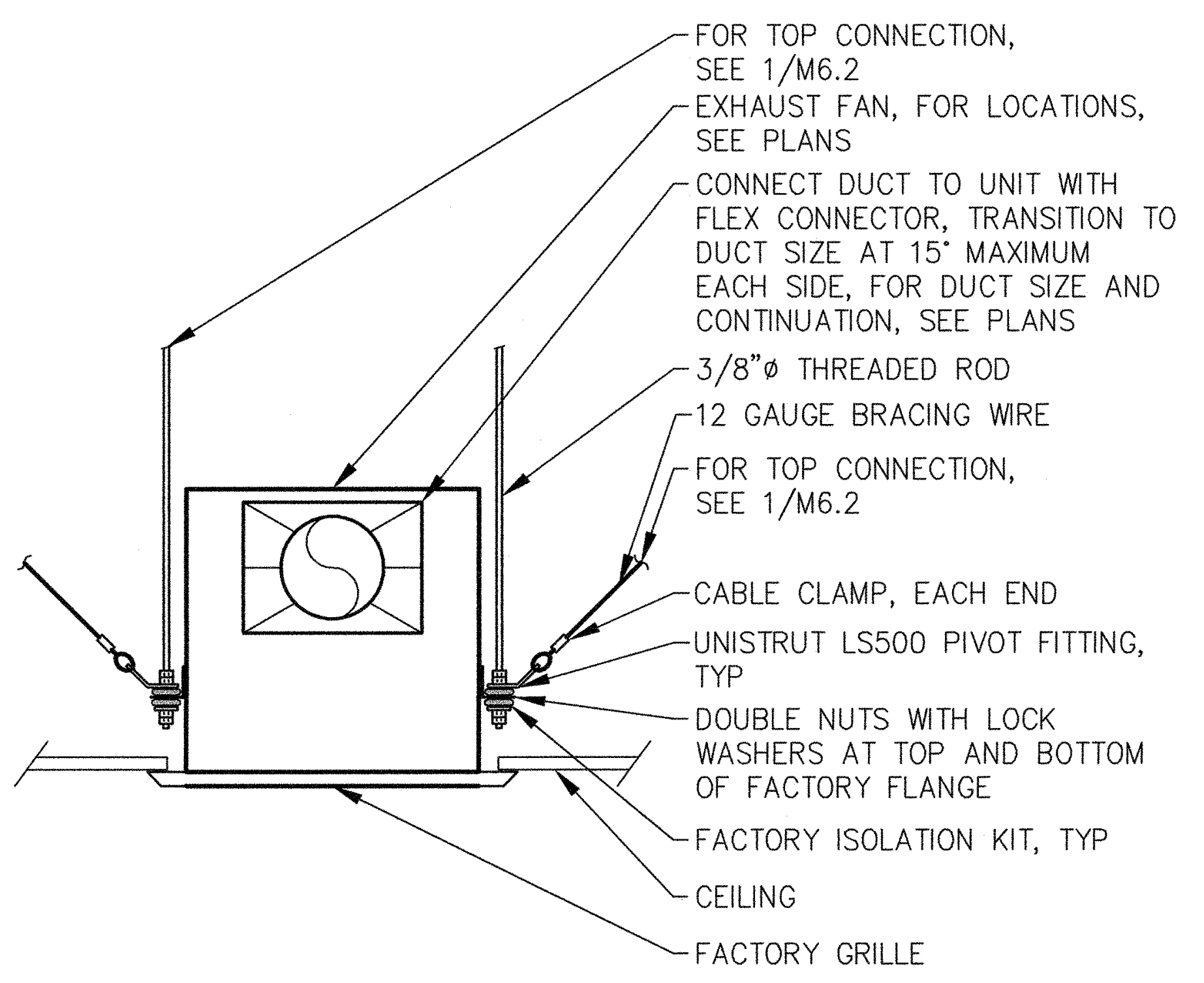
NO SCALE


EXHAUST TERMINAL
FLUE EXHAUST PIPE
COMBUSTION AIR INLET
COMBUSTION AIR PIPE
FLASHING, SEE ARCHITECTS DRAWINGS
SUPPORT PLATE
ROOF
CONCENTRIC ADAPTER
FOR COMBUSTION AIR INTAKE MATERIAL, SEE SPECIFICATIONS
FOR FLUE MATERIAL, SEE SPECIFICATIONS
INTAKE
EXHAUST

10
M6.1

CONCENTRIC VENT THROUGH ROOF

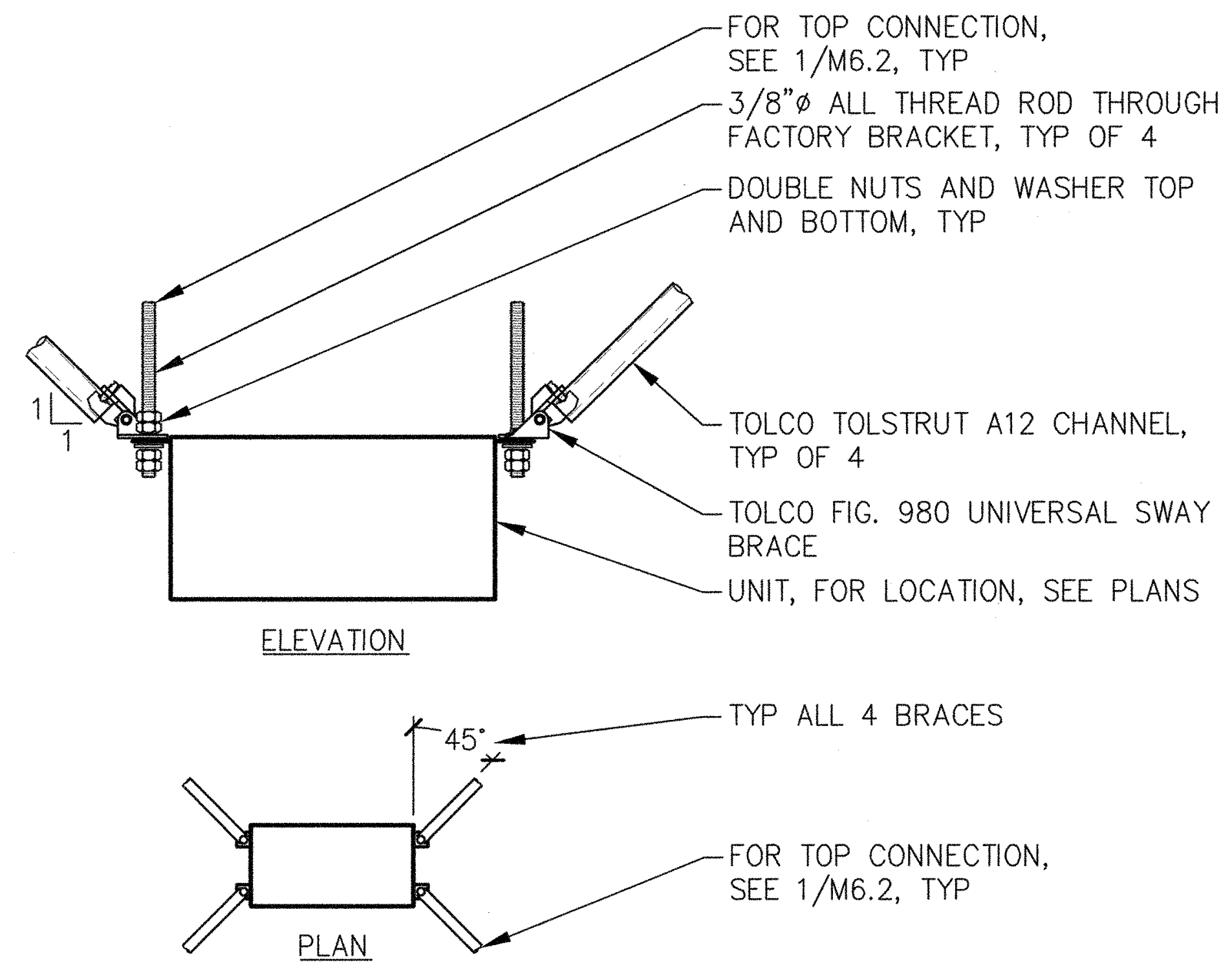
NO SCALE


FOR TOP CONNECTION, SEE 1/M6.2
EXHAUST FAN, FOR LOCATIONS, SEE PLANS
CONNECT DUCT TO UNIT WITH FLEX CONNECTOR, TRANSITION TO DUCT SIZE AT 15° MAXIMUM EACH SIDE, FOR DUCT SIZE AND CONTINUATION, SEE PLANS
3/8"ø THREADED ROD
12 GAUGE BRACING WIRE
FOR TOP CONNECTION, SEE 1/M6.2
CABLE CLAMP, EACH END
UNISTRUT LS500 PIVOT FITTING, TYP
DOUBLE NUTS WITH LOCK WASHERS AT TOP AND BOTTOM OF FACTORY FLANGE
FACTORY ISOLATION KIT, TYP
CEILING
FACTORY GRILLE

6
M6.1

CEILING MOUNTED FAN

NO SCALE

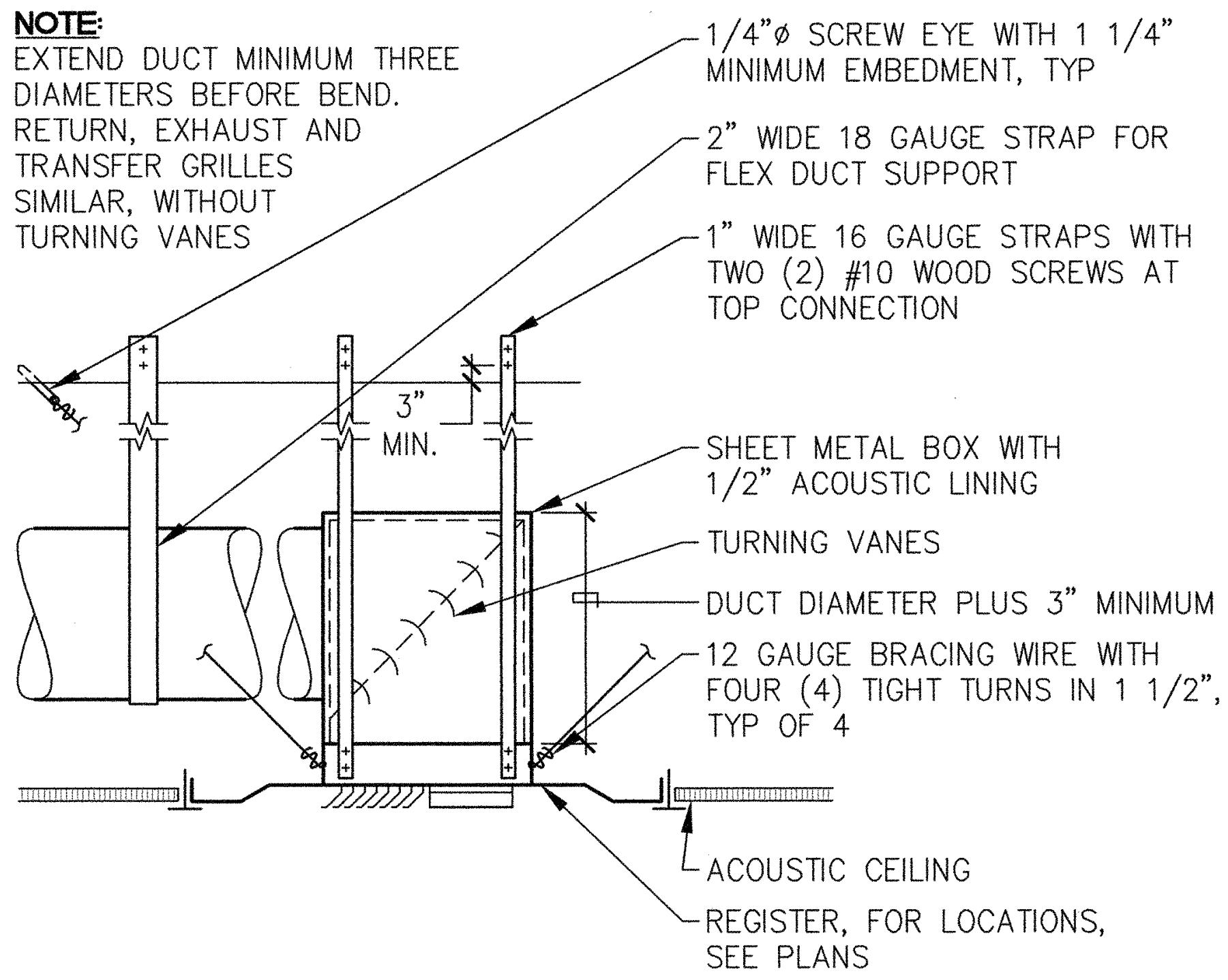

FOR TOP CONNECTION, SEE 1/M6.2, TYP
3/8"ø ALL THREAD ROD THROUGH FACTORY BRACKET, TYP OF 4
DOUBLE NUTS AND WASHER TOP AND BOTTOM, TYP
1
1
TOLCO TOLSTRUT A12 CHANNEL, TYP OF 4
TOLCO FIG. 980 UNIVERSAL SWAY BRACE
UNIT, FOR LOCATION, SEE PLANS
ELEVATION
45°
TYP ALL 4 BRACES
FOR TOP CONNECTION, SEE 1/M6.2, TYP
PLAN

2
M6.1

CONTROLLER MOUNTING

NO SCALE

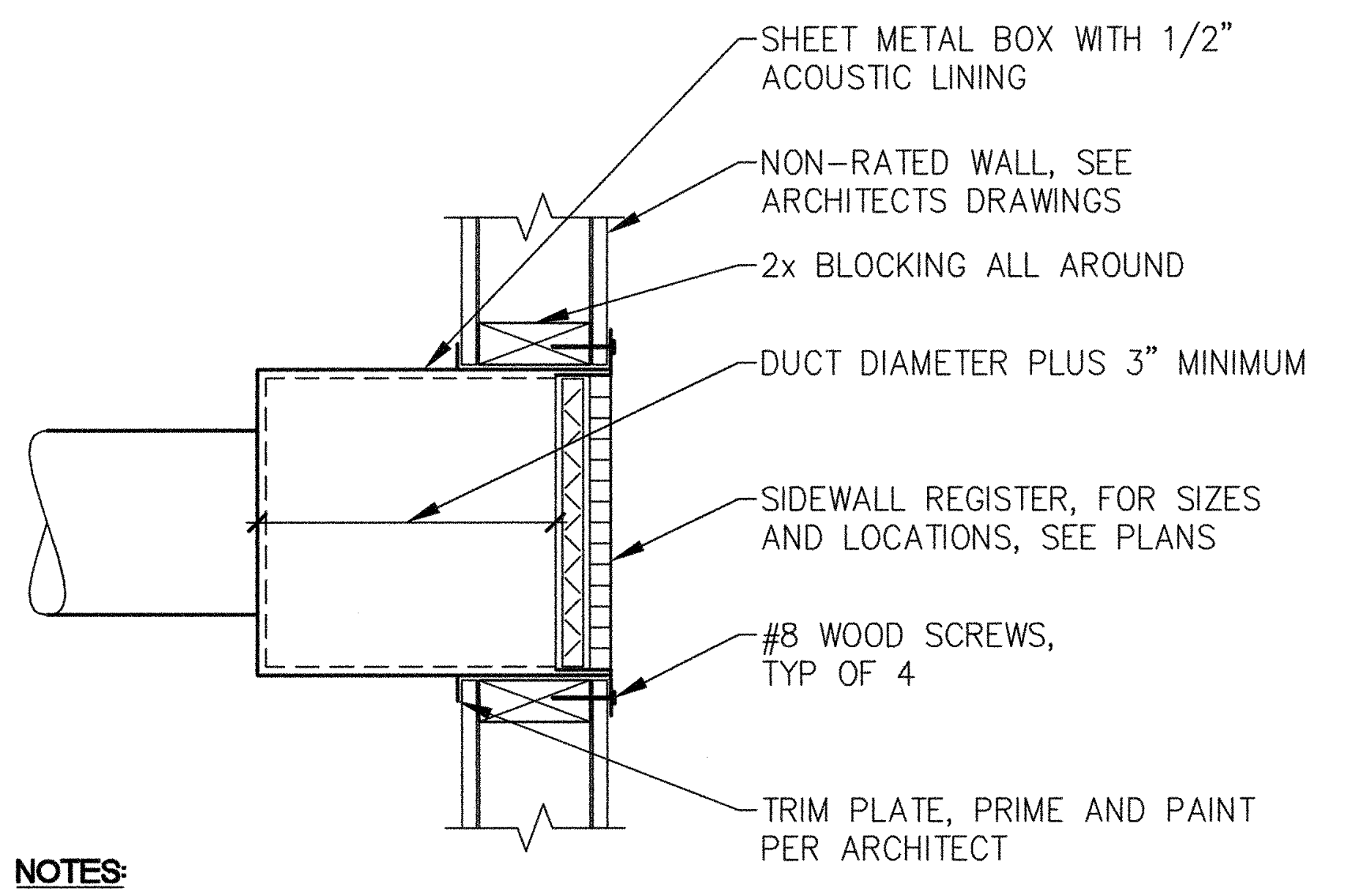
NOTE:
EXTEND DUCT MINIMUM THREE DIAMETERS BEFORE BEND. RETURN, EXHAUST AND TRANSFER GRILLES SIMILAR, WITHOUT TURNING VANES


1/4"ø SCREW EYE WITH 1 1/4" MINIMUM EMBEDMENT, TYP
2" WIDE 18 GAUGE STRAP FOR FLEX DUCT SUPPORT
1" WIDE 16 GAUGE STRAPS WITH TWO (2) #10 WOOD SCREWS AT TOP CONNECTION
3" MIN.
SHEET METAL BOX WITH 1/2" ACOUSTIC LINING
TURNING VANES
DUCT DIAMETER PLUS 3" MINIMUM
12 GAUGE BRACING WIRE WITH FOUR (4) TIGHT TURNS IN 1 1/2", TYP OF 4
ACOUSTIC CEILING
REGISTER, FOR LOCATIONS, SEE PLANS

16
M6.1

DIFFUSER MOUNTING T-BAR CEILING

NO SCALE

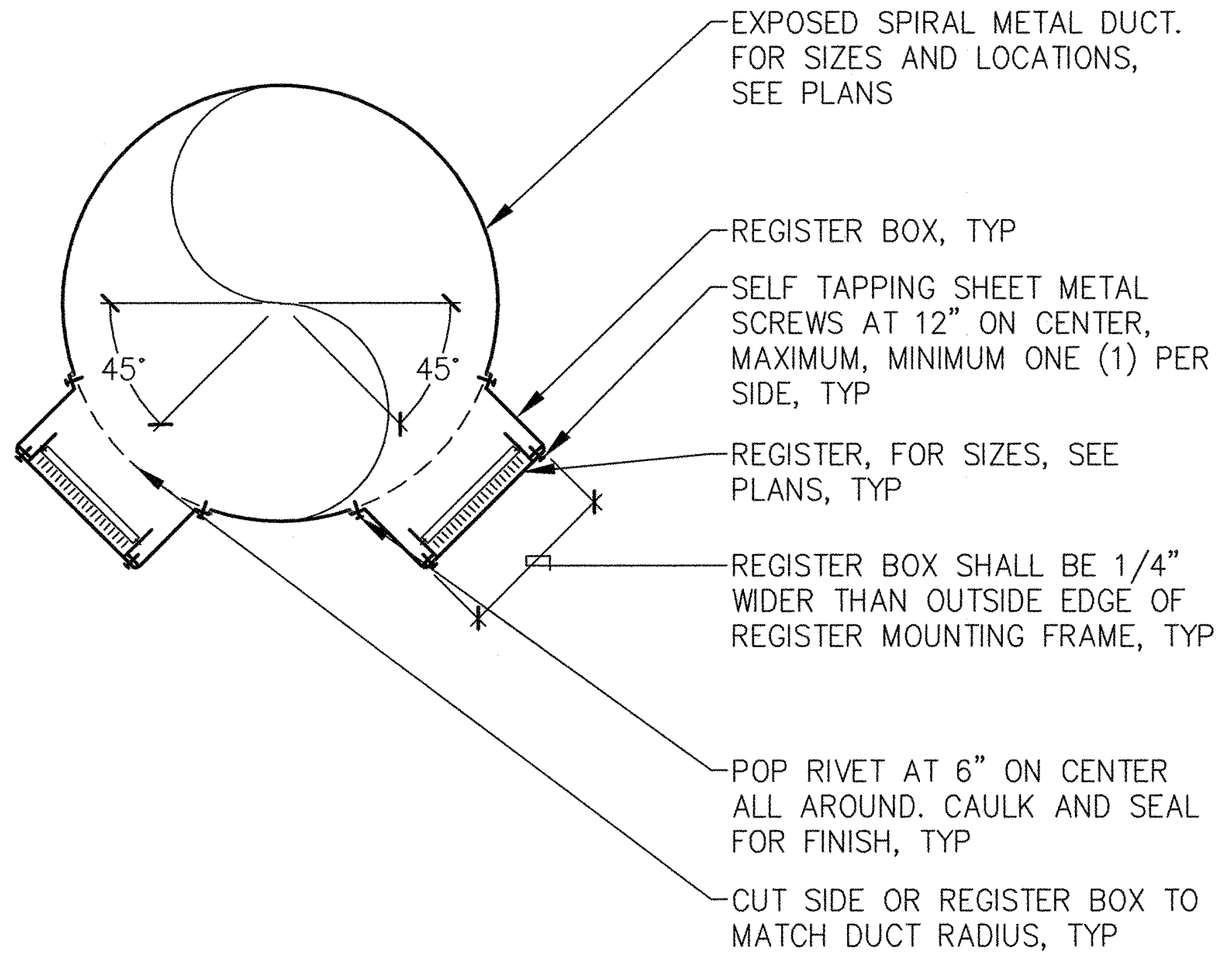

SHEET METAL BOX WITH 1/2" ACOUSTIC LINING
NON-RATED WALL, SEE ARCHITECTS DRAWINGS
2x BLOCKING ALL AROUND
DUCT DIAMETER PLUS 3" MINIMUM
SIDEWALL REGISTER, FOR SIZES AND LOCATIONS, SEE PLANS
#8 WOOD SCREWS, TYP OF 4
TRIM PLATE, PRIME AND PAINT PER ARCHITECT

NOTES:
1. SUPPLY, EXHAUST AND TRANSFER GRILLES SIMILAR.
2. EXTEND DUCT MINIMUM THREE DIAMETERS BEFORE BEND.

14
M6.1

SIDEWALL MOUNTING

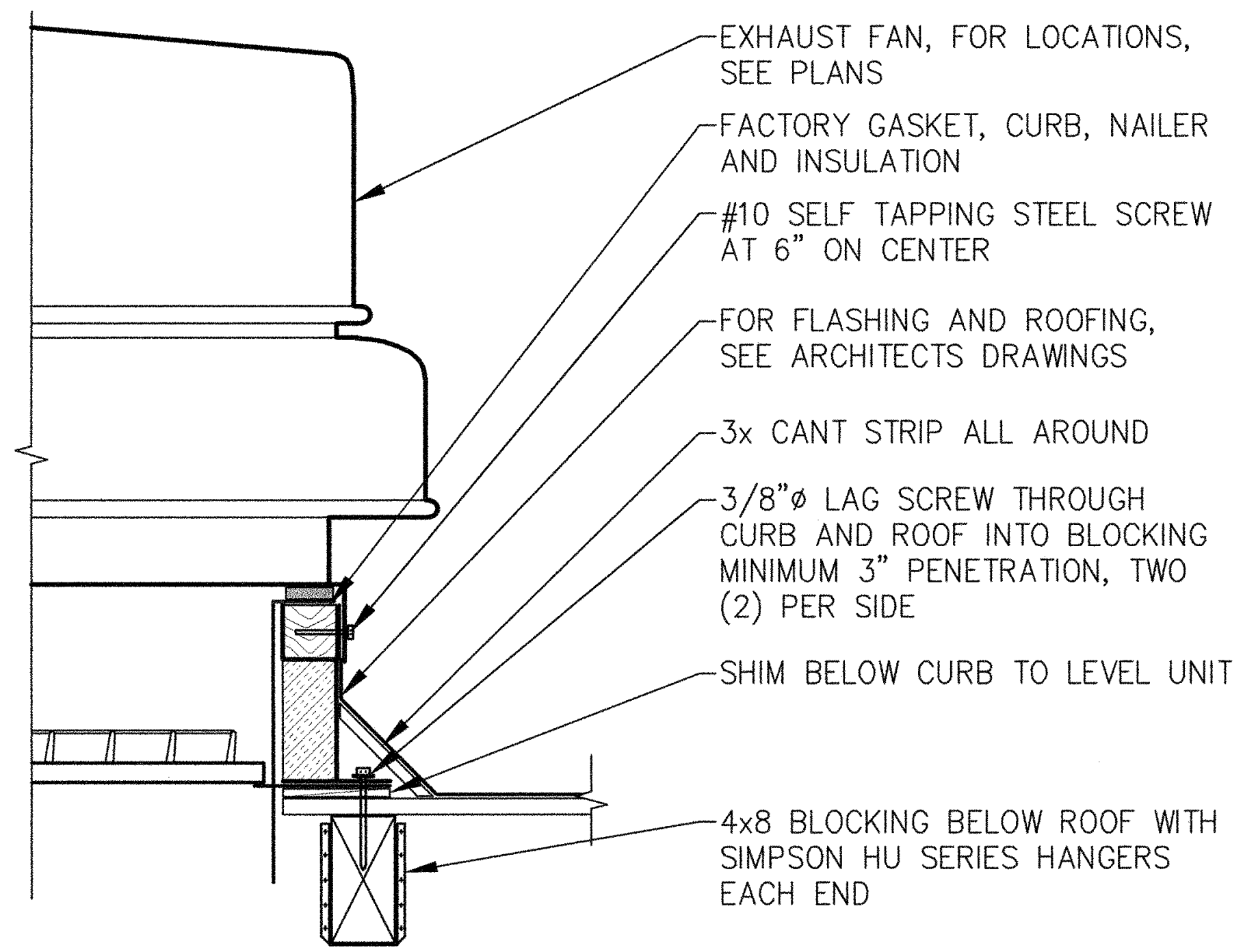
NO SCALE


EXPOSED SPIRAL METAL DUCT. FOR SIZES AND LOCATIONS, SEE PLANS
REGISTER BOX, TYP
SELF TAPPING SHEET METAL SCREWS AT 12" ON CENTER, MAXIMUM, MINIMUM ONE (1) PER SIDE, TYP
REGISTER, FOR SIZES, SEE PLANS, TYP
REGISTER BOX SHALL BE 1/4" WIDER THAN OUTSIDE EDGE OF REGISTER MOUNTING FRAME, TYP
POP RIVET AT 6" ON CENTER ALL AROUND. CAULK AND SEAL FOR FINISH, TYP
CUT SIDE OR REGISTER BOX TO MATCH DUCT RADIUS, TYP
45°
45°

11
M6.1

DUCT MOUNTED REGISTER

NO SCALE


EXHAUST FAN, FOR LOCATIONS, SEE PLANS
FACTORY GASKET, CURB, NAILER AND INSULATION
#10 SELF TAPPING STEEL SCREW AT 6" ON CENTER
FOR FLASHING AND ROOFING, SEE ARCHITECTS DRAWINGS
3x CANT STRIP ALL AROUND
3/8"ø LAG SCREW THROUGH CURB AND ROOF INTO BLOCKING MINIMUM 3" PENETRATION, TWO (2) PER SIDE
SHIM BELOW CURB TO LEVEL UNIT
4x8 BLOCKING BELOW ROOF WITH SIMPSON HU SERIES HANGERS EACH END

NOTE:
CRICKET FLASHING ON HIGH SIDE OF CURB AND SLOPE TO DRAIN

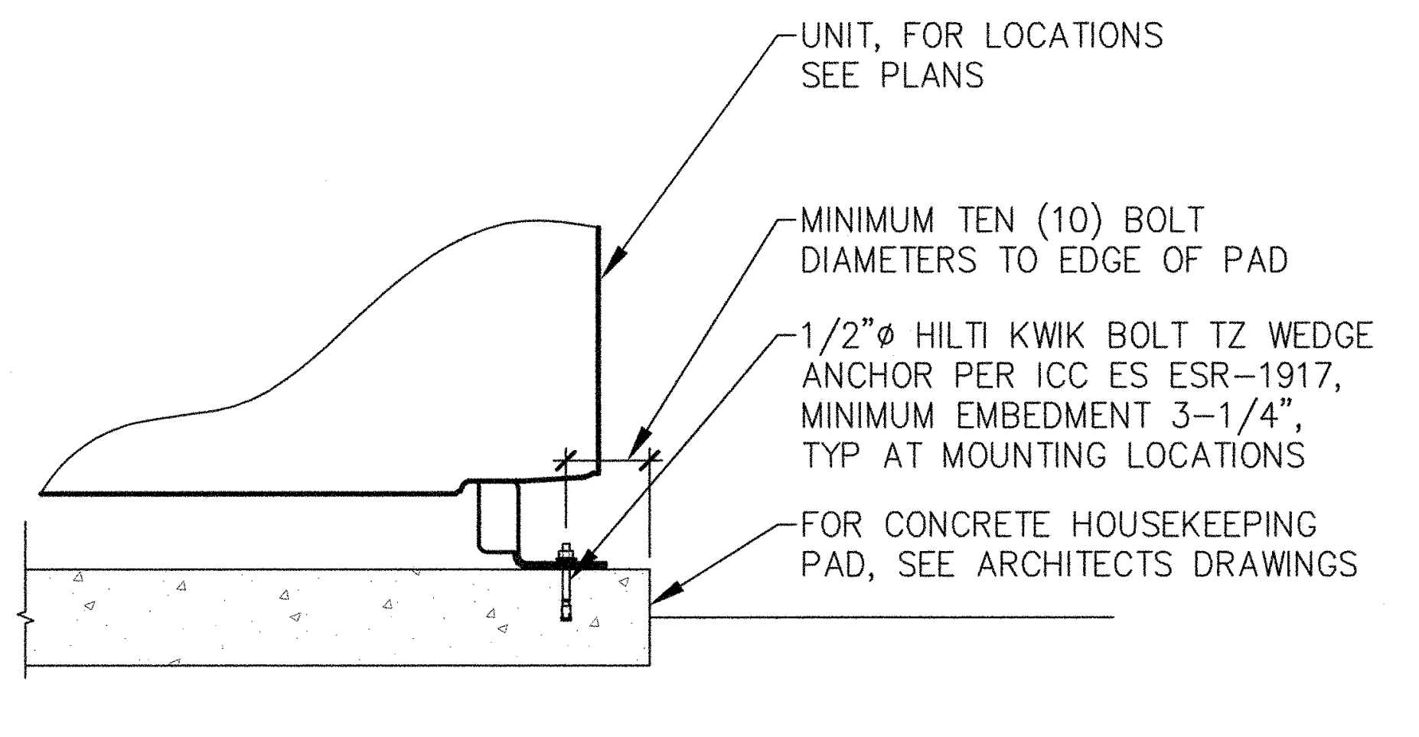
7
M6.1

ROOF MOUNTED FAN

NO SCALE

(HOODS AND CAPS SIMILAR)

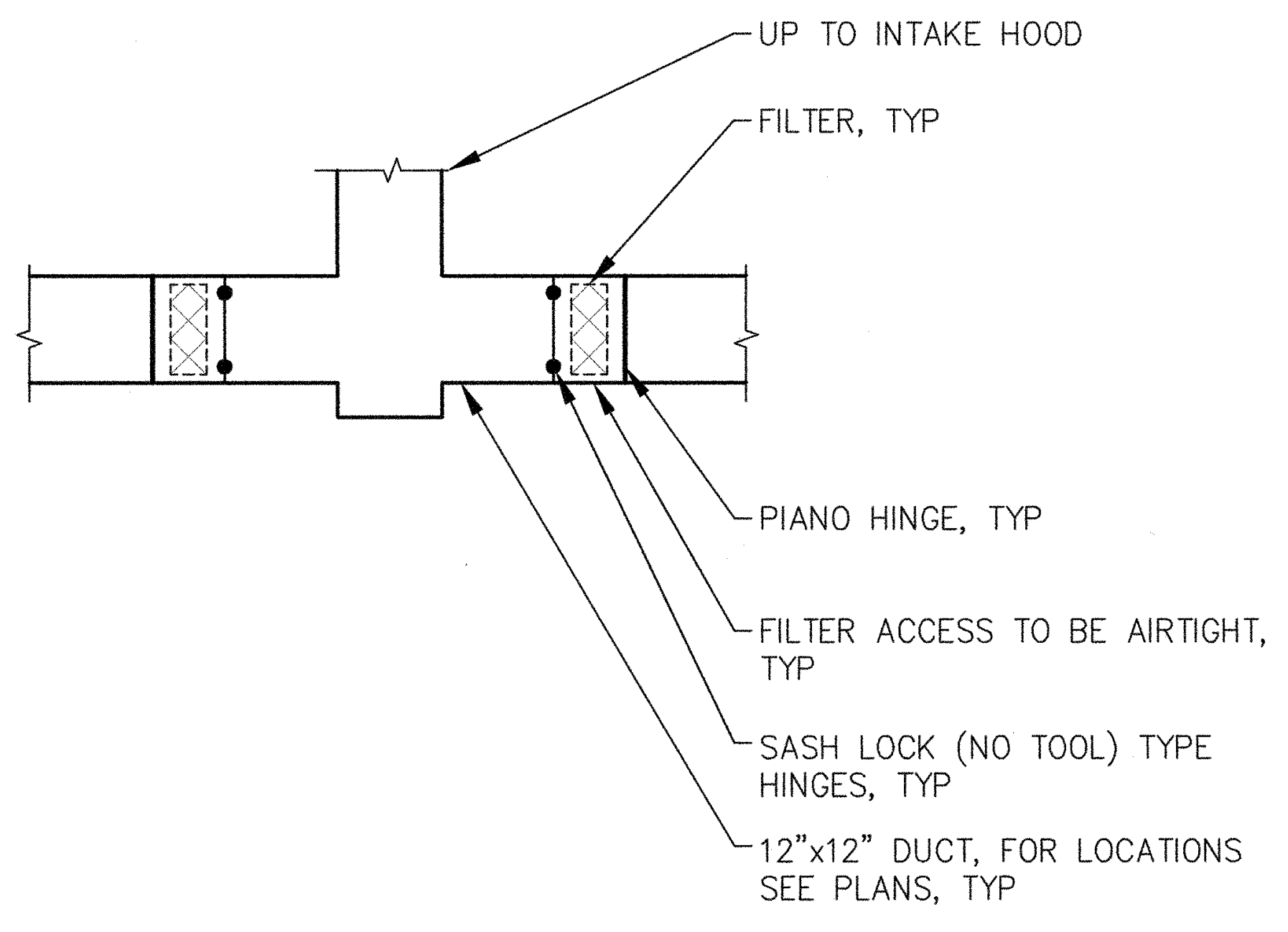
NOTE:
HP-A-1 - TYP. OF 12 MOUNTING LOCATIONS
HP-B-1 - TYP. OF 12 MOUNTING LOCATIONS
HP-C-1 - TYP. OF 12 MOUNTING LOCATIONS
HP-D-1 - TYP. OF 4 MOUNTING LOCATIONS


UNIT, FOR LOCATIONS SEE PLANS
MINIMUM TEN (10) BOLT DIAMETERS TO EDGE OF PAD
1/2"ø HILTI KWIK BOLT TZ WEDGE ANCHOR PER ICC ES ESR-1917, MINIMUM EMBEDMENT 3-1/4", TYP AT MOUNTING LOCATIONS
FOR CONCRETE HOUSEKEEPING PAD, SEE ARCHITECTS DRAWINGS

3
M6.1

HEAT PUMP MOUNTING

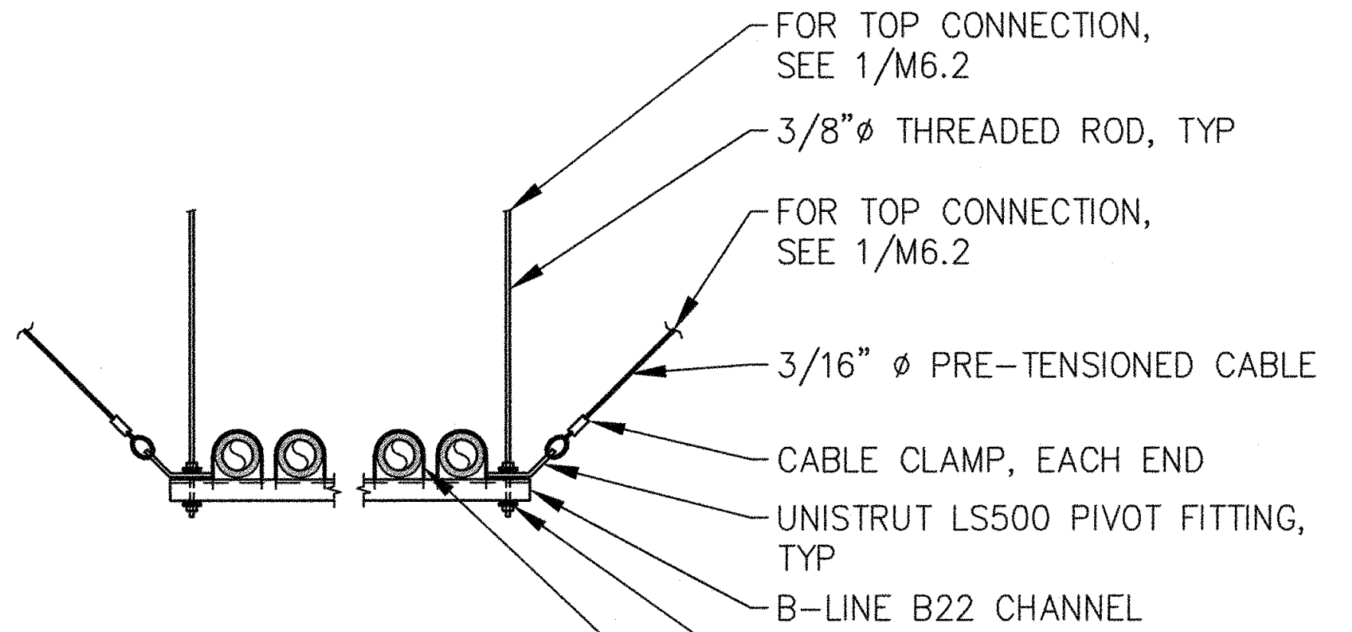
NO SCALE


UP TO INTAKE HOOD
FILTER, TYP
PIANO HINGE, TYP
FILTER ACCESS TO BE AIRTIGHT, TYP
SASH LOCK (NO TOOL) TYPE HINGES, TYP
12"x12" DUCT, FOR LOCATIONS SEE PLANS, TYP

17
M6.1

DUCT TRANSITION AT INTAKE HOOD AND FILTER BOX

NO SCALE

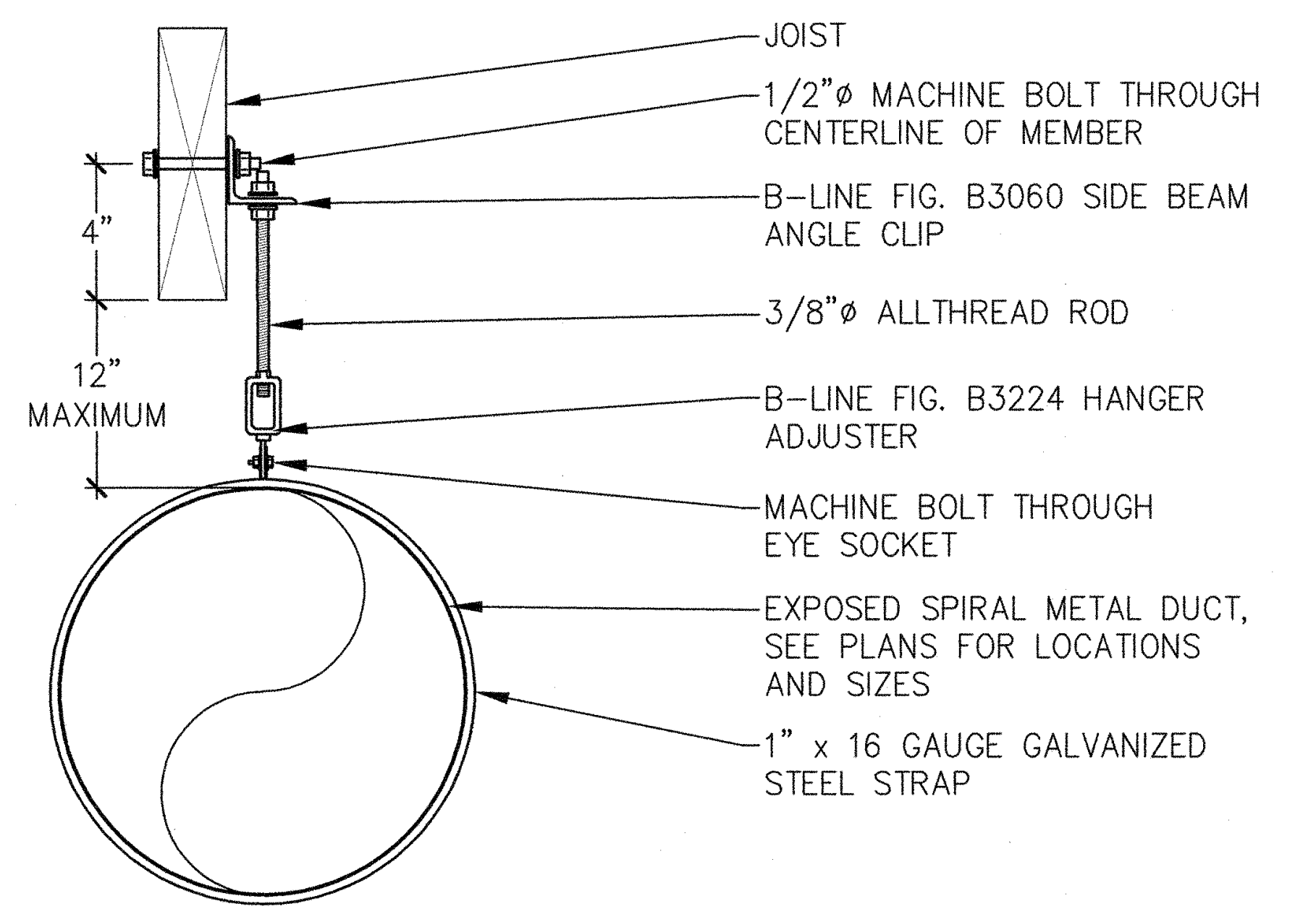

FOR TOP CONNECTION, SEE 1/M6.2
3/8"ø THREADED ROD, TYP
FOR TOP CONNECTION, SEE 1/M6.2
3/16" ø PRE-TENSIONED CABLE
CABLE CLAMP, EACH END
UNISTRUT LS500 PIVOT FITTING, TYP
B-LINE B22 CHANNEL
NUT AND WASHER TOP AND BOTTOM OF CHANNEL
B-LINE B2400 PIPE STRAP, TYP

NOTE:
SUPPORTS NOT MORE THAN 10'-0" ON CENTER. BRACING FOR MORE THAN 4 PIPES AT 20'-0" ON CENTER. BRACING FOR LESS THAN 4 PIPES AT 40'-0" ON CENTER.

15
M6.1

REFRIGERANT PIPE SUPPORTS

NO SCALE

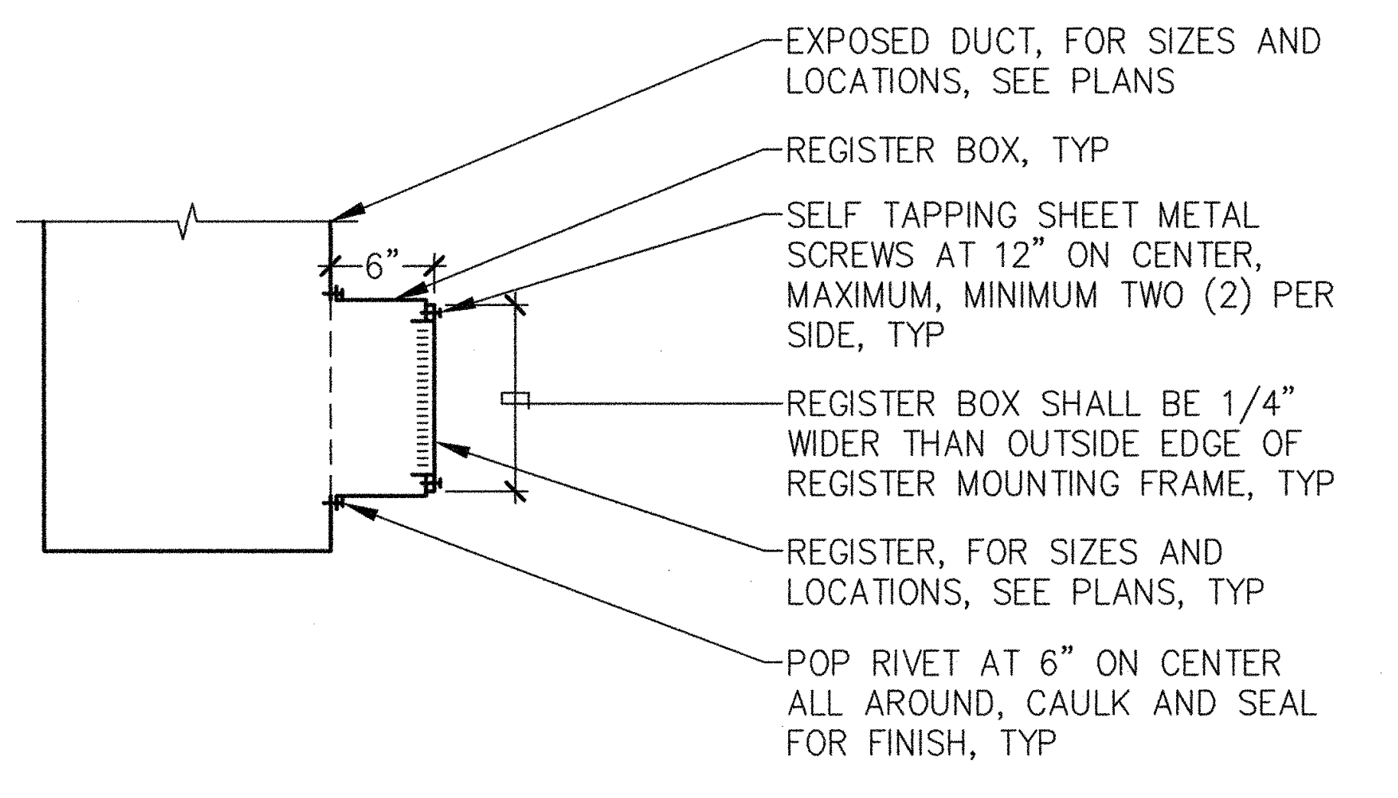

JOIST
1/2"ø MACHINE BOLT THROUGH CENTERLINE OF MEMBER
B-LINE FIG. B3060 SIDE BEAM ANGLE CLIP
3/8"ø ALLTHREAD ROD
B-LINE FIG. B3224 HANGER ADJUSTER
MACHINE BOLT THROUGH EYE SOCKET
EXPOSED SPIRAL METAL DUCT, SEE PLANS FOR LOCATIONS AND SIZES
1" x 16 GAUGE GALVANIZED STEEL STRAP
4"
12" MAXIMUM

NOTE:
SUPPORTS NOT MORE THAN 12'-0" ON CENTER.

12
M6.1

EXPOSED DUCT SUPPORT

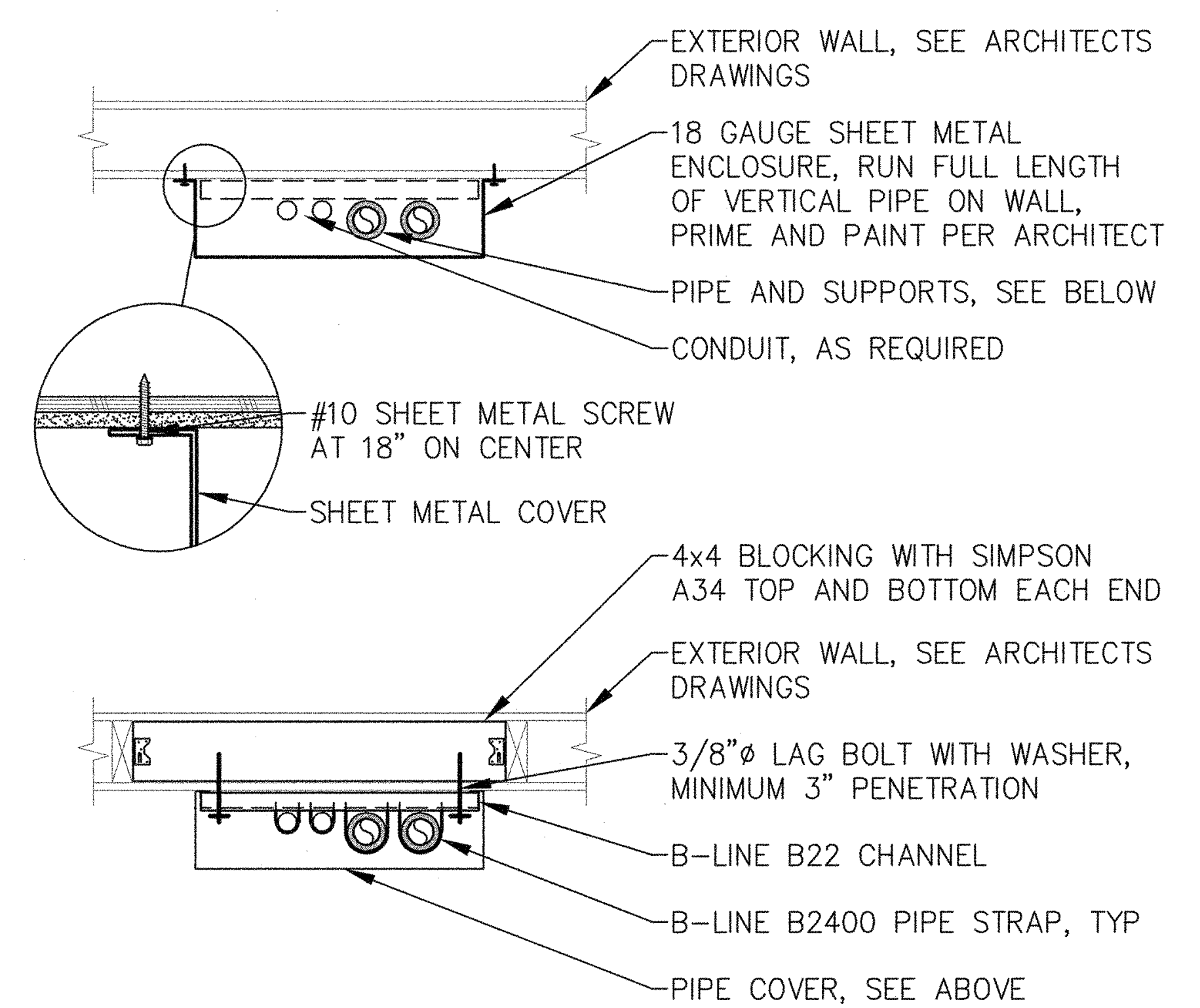
NO SCALE


EXPOSED DUCT, FOR SIZES AND LOCATIONS, SEE PLANS
REGISTER BOX, TYP
SELF TAPPING SHEET METAL SCREWS AT 12" ON CENTER, MAXIMUM, MINIMUM TWO (2) PER SIDE, TYP
REGISTER BOX SHALL BE 1/4" WIDER THAN OUTSIDE EDGE OF REGISTER MOUNTING FRAME, TYP
REGISTER, FOR SIZES AND LOCATIONS, SEE PLANS, TYP
POP RIVET AT 6" ON CENTER ALL AROUND, CAULK AND SEAL FOR FINISH, TYP
6"

8
M6.1

DUCT MOUNTED REGISTER

NO SCALE


EXTERIOR WALL, SEE ARCHITECTS DRAWINGS
18 GAUGE SHEET METAL ENCLOSURE, RUN FULL LENGTH OF VERTICAL PIPE ON WALL, PRIME AND PAINT PER ARCHITECT
PIPE AND SUPPORTS, SEE BELOW
CONDUIT, AS REQUIRED
#10 SHEET METAL SCREW AT 18" ON CENTER
SHEET METAL COVER
4x4 BLOCKING WITH SIMPSON A34 TOP AND BOTTOM EACH END
EXTERIOR WALL, SEE ARCHITECTS DRAWINGS
3/8"ø LAG BOLT WITH WASHER, MINIMUM 3" PENETRATION
B-LINE B22 CHANNEL
B-LINE B2400 PIPE STRAP, TYP
PIPE COVER, SEE ABOVE

4
M6.1

PIPE RACK AND COVER

NO SCALE

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EXP. JUNE 30, 2019
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REVISIONS

NO.	ITEM	DATE
	DD SUBMITTAL	12-8-17
	DSA SUBMITTAL	01-31-18
	BID SET	04-09-18

DSA FILE NUMBER 43-04

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APPL 01-117268
AC ___ FLS ___ SS ___
DATE MAY 10 2018

DRAWN BY: CADD
CHECKED BY: MS
JOB NO: 17102
DATE: 04-09-2018

M6.1

Drawing: H:\PROJ2017\20170290\DRAWINGS\LNA-FILS\HVA-M61.DWG May 04, 2018 3:33:58 p.m.
Xrefs: DT17-M61.DWG, DT16-M61.DWG, DT15-M61.DWG, DT14-M61.DWG, DT13-M61.DWG, DT12-M61.DWG, DT11-M61.DWG, DT10-M61.DWG, DT9-M61.DWG, DT8-M61.DWG, DT7-M61.DWG, DT6-M61.DWG, DT5-M61.DWG, DT4-M61.DWG, DT3-M61.DWG, DT2-M61.DWG, DT1-M61.DWG, MAS-BORD.DWG,

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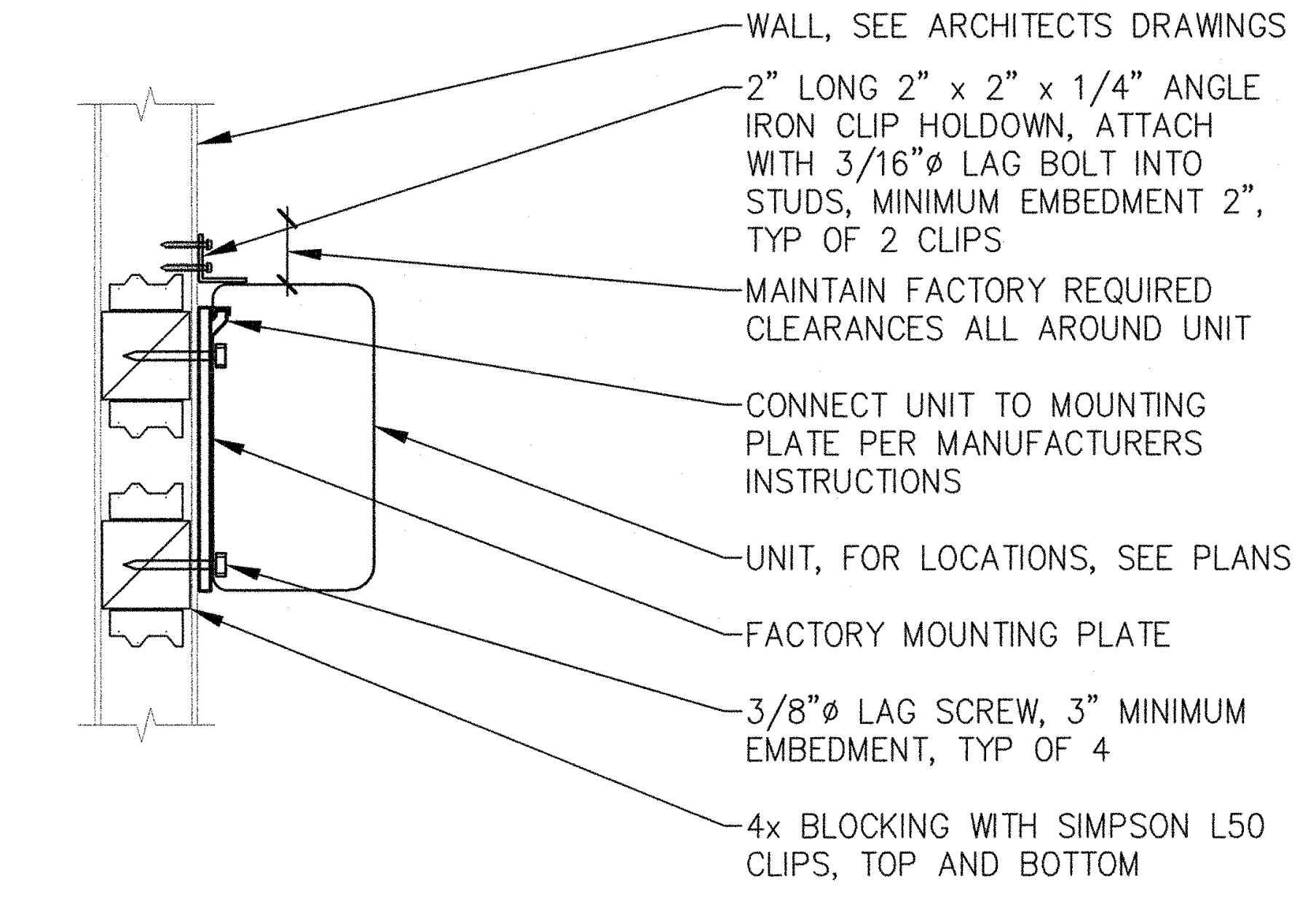
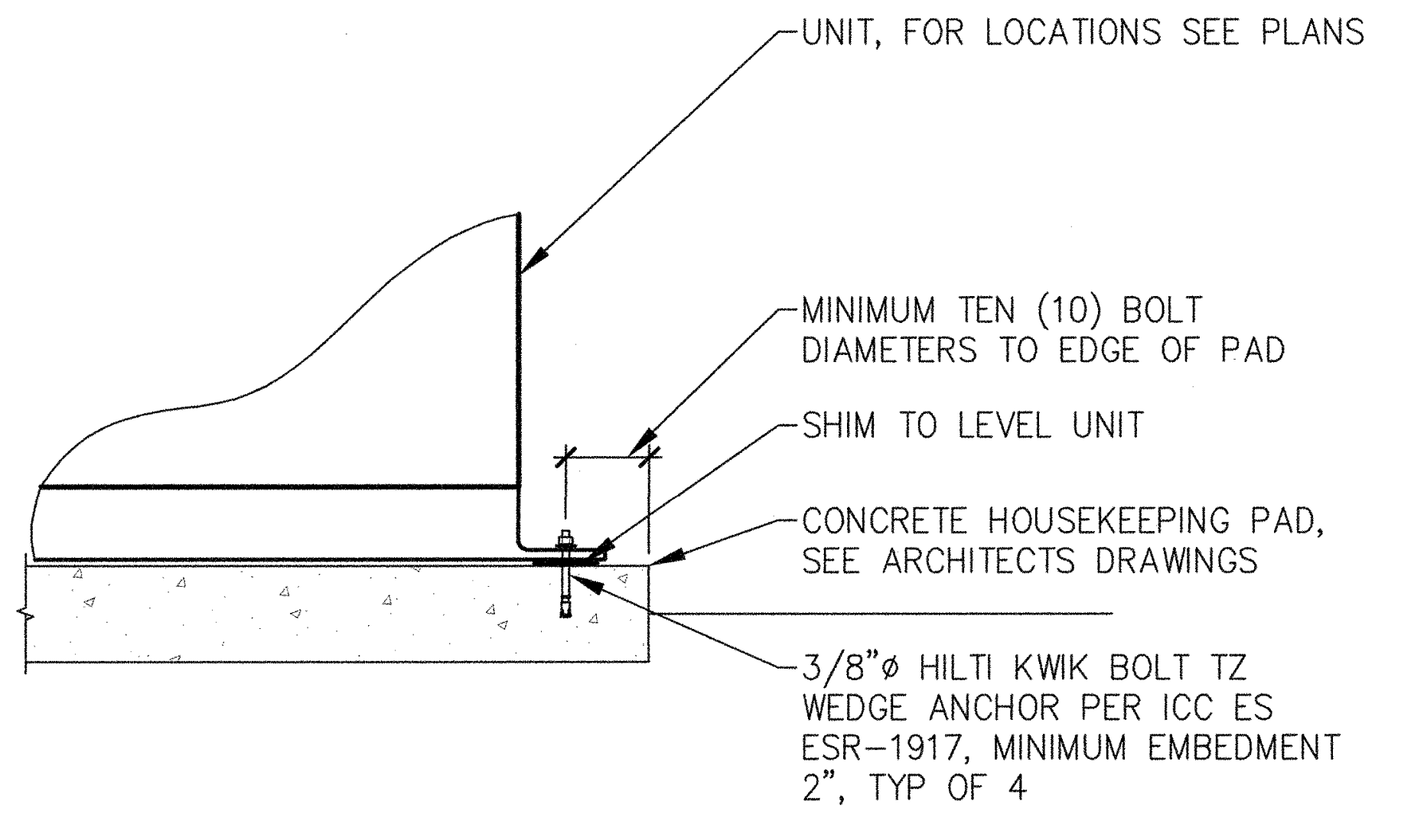

WALL, SEE ARCHITECTS DRAWINGS
2" LONG 2" x 2" x 1/4" ANGLE IRON CLIP HOLDOWN, ATTACH WITH 3/16"ø LAG BOLT INTO STUDS, MINIMUM EMBEDMENT 2", TYP OF 2 CLIPS
MAINTAIN FACTORY REQUIRED CLEARANCES ALL AROUND UNIT
CONNECT UNIT TO MOUNTING PLATE PER MANUFACTURERS INSTRUCTIONS
UNIT, FOR LOCATIONS, SEE PLANS
FACTORY MOUNTING PLATE
3/8"ø LAG SCREW, 3" MINIMUM EMBEDMENT, TYP OF 4
4x BLOCKING WITH SIMPSON L50 CLIPS, TOP AND BOTTOM

4
M6.2

FC MOUNTING

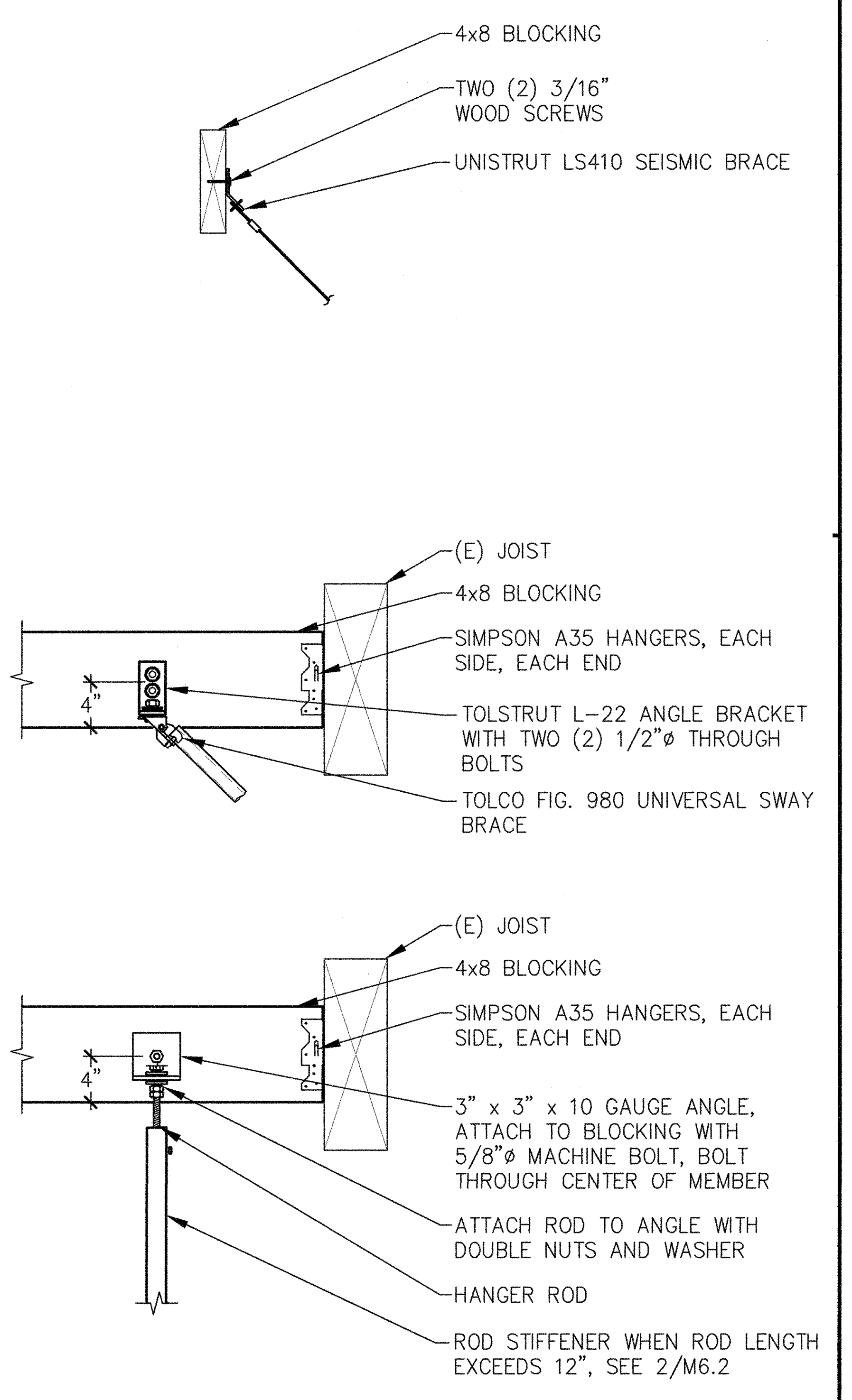
NO SCALE


UNIT, FOR LOCATIONS SEE PLANS
MINIMUM TEN (10) BOLT DIAMETERS TO EDGE OF PAD
SHIM TO LEVEL UNIT
CONCRETE HOUSEKEEPING PAD, SEE ARCHITECTS DRAWINGS
3/8"ø HILTI KWIK BOLT TZ WEDGE ANCHOR PER ICC ES ESR-1917, MINIMUM EMBEDMENT 2", TYP OF 4

5
M6.2

CONDENSING UNIT MOUNTING

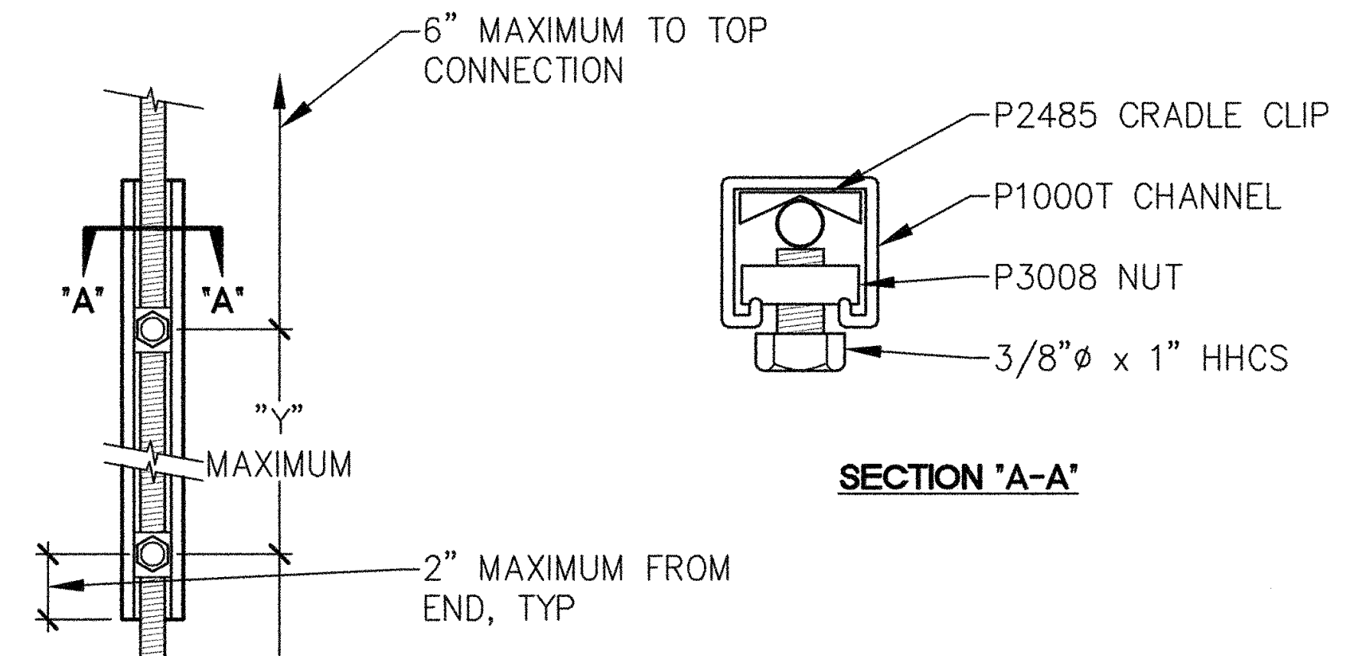
NO SCALE


4x8 BLOCKING
TWO (2) 3/16" WOOD SCREWS
UNISTRUT LS410 SEISMIC BRACE
(E) JOIST
4x8 BLOCKING
SIMPSON A35 HANGERS, EACH SIDE, EACH END
TOLSTRUT L-22 ANGLE BRACKET WITH TWO (2) 1/2"ø THROUGH BOLTS
TOLCO FIG. 980 UNIVERSAL SWAY BRACE
4"
(E) JOIST
4x8 BLOCKING
SIMPSON A35 HANGERS, EACH SIDE, EACH END
3" x 3" x 10 GAUGE ANGLE, ATTACH TO BLOCKING WITH 5/8"ø MACHINE BOLT, BOLT THROUGH CENTER OF MEMBER
ATTACH ROD TO ANGLE WITH DOUBLE NUTS AND WASHER
HANGER ROD
ROD STIFFENER WHEN ROD LENGTH EXCEEDS 12", SEE 2/M6.2
4"

1
M6.2

TOP CONNECTIONS

NO SCALE



SECTION "A-A"

HANGER ROD	"Y"
3/8"ø	12.7"
1/2"ø	16.7"
5/8"ø	21.1"
3/4"ø	25.8"

NOTES:

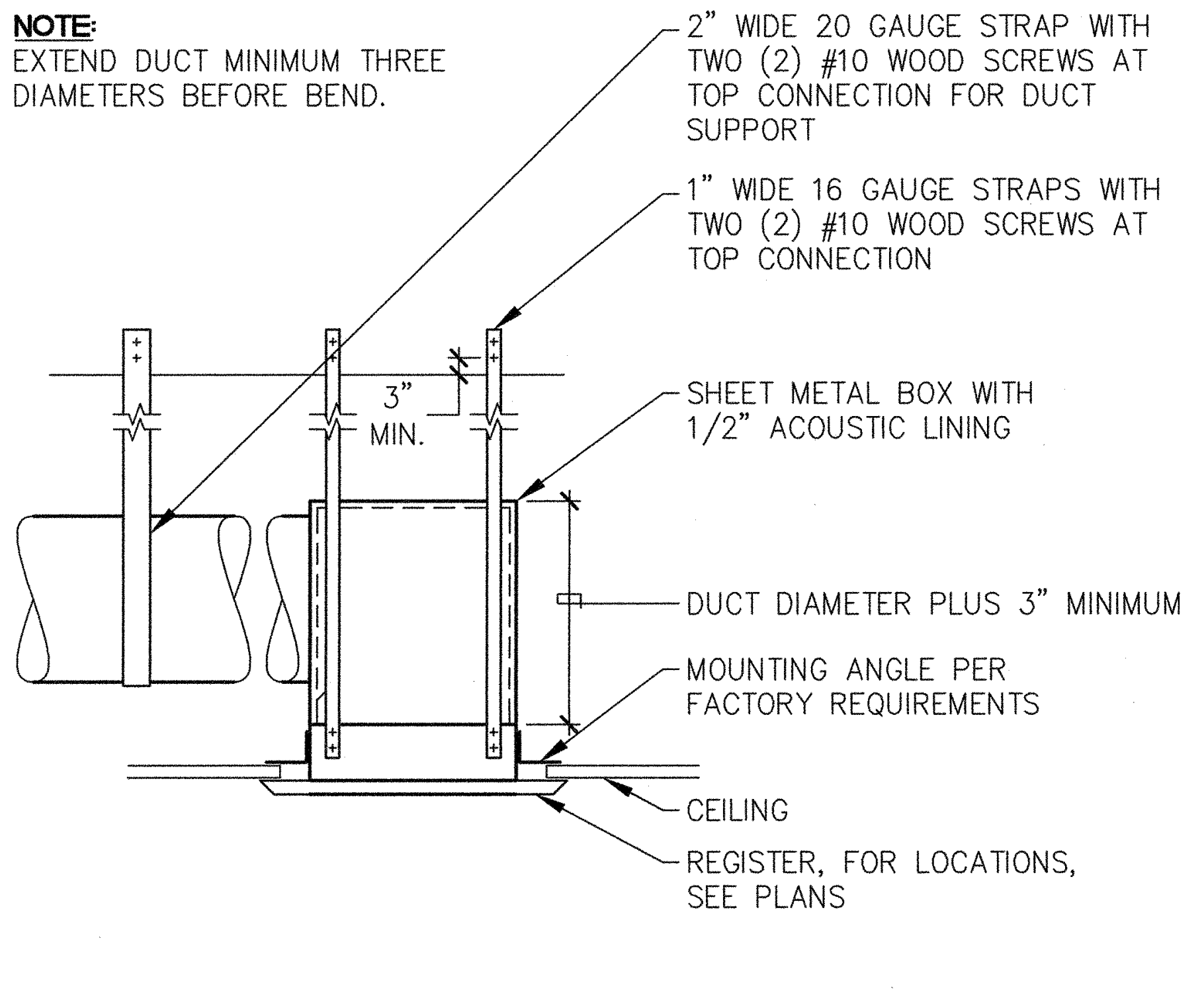
1. VERTICAL STIFFENER NOT REQUIRED IF TOTAL ROD LENGTH DOES NOT EXCEED THE "Y" DIMENSION.
2. MINIMUM OF STIFFENER ASSEMBLY CLAMPS AS REQUIRED BY MANUFACTURER.
3. ALL PART NUMBERS ARE UNISTRUT.

2
M6.2

ROD STIFFENER

NO SCALE

NOTE:
EXTEND DUCT MINIMUM THREE DIAMETERS BEFORE BEND.


2" WIDE 20 GAUGE STRAP WITH TWO (2) #10 WOOD SCREWS AT TOP CONNECTION FOR DUCT SUPPORT
1" WIDE 16 GAUGE STRAPS WITH TWO (2) #10 WOOD SCREWS AT TOP CONNECTION
3" MIN.
SHEET METAL BOX WITH 1/2" ACOUSTIC LINING
DUCT DIAMETER PLUS 3" MINIMUM
MOUNTING ANGLE PER FACTORY REQUIREMENTS
CEILING
REGISTER, FOR LOCATIONS, SEE PLANS

3
M6.2

REGISTER MOUNTING

NO SCALE

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EXP. JUNE 30, 2019
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ALUM ROCK UNION ELEMENTARY SCHOOL DISTRICT

REVISIONS

NO.	ITEM	DATE
	DD SUBMITTAL	12-8-17
	DSA SUBMITTAL	01-31-18
	BID SET	04-09-18

DSA FILE NUMBER 43-04

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APPL 01-117268
AC ____ FLS ____ SS ____
DATE MAY 10 2018

DRAWN BY: CADD
CHECKED BY: MS
JOB NO: 17102
DATE: 04-09-2018

M6.2

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May 04, 2018 3:34:01 p.m.
Drawing: H:\PROJ2017\20170290\DRAWINGS\LNA-FILS\HVA-M62.DWG
Xrefs: DT3-M62.DWG, DT5-M62.DWG, DT4-M62.DWG, DT2-M62.DWG, DT1-M62.DWG, MAS-BORD.DWG,

STATE OF CALIFORNIA

MECHANICAL SYSTEMS

CEC-NRCC-MCH-01-E (Revised 01/16)

CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-MCH-01-E
Mechanical Systems	Page 1 of 3
Project Name: CLYDE ARBUCKLE ELEMENTARY SCHOOL - HVAC UPGRADES	Date Prepared: JANUARY 22, 2018

A. MECHANICAL COMPLIANCE DOCUMENTS & WORKSHEETS (check box if worksheet is included)

For detailed instructions on the use of this and all Energy Efficiency Standards compliance forms, refer to the 2016 Nonresidential Manual

Note: The Enforcement Agency may require all forms to be incorporated onto the building plans.

YES	NO	Comp. Doc./Worksheet #	Title
●	○	NRCC-MCH-01-E (Part 1 of 3)	Certificate of Compliance, Declaration. Required on plans for all submittals.
●	○	NRCC-MCH-01-E (Part 2 of 3)	Certificate of Compliance, Required Acceptance Tests (MCH-02-A to 11-A). Required on plans for all submittals.
●	○	NRCC-MCH-01-E (Part 3 of 3)	Certificate of Compliance, Required Acceptance Tests (MCH-12-A to 18-A). Required on plans where applicable.
○	●	NRCC-MCH-02-E (Part 1 of 2)	Mechanical Dry Equipment Summary is required for all submittals with Central Air Systems. It is optional on plans.
○	●	NRCC-MCH-02-E (Part 2 of 2)	Mechanical Wet Equipment Summary is required for all submittals with chilled water, hot water or condenser water systems. It is optional on plans.
○	●	NRCC-MCH-03-E	Mechanical Ventilation and Reheat is required for all submittals with multiple zone heating and cooling systems. It is optional on plans.
○	●	NRCC-MCH-07-E (Part 1 of 2)	Power Consumption of Fans. Required on plans where applicable
○	●	NRCC-MCH-07-E (Part 2 of 2)	Power Consumption of Fans, Declaration. Required on plans where applicable

B. MECHANICAL HVAC ACCEPTANCE FORMS (check box for required compliance documents)

Test Performed By:

Designer:
This compliance document is to be used by the designer and attached to the plans. Listed below are all the acceptance tests for HVAC systems. The designer is required to check the applicable boxes for all acceptance tests that apply and list all equipment that requires an acceptance test. All equipment of the same type that requires a test, list the equipment description and the number of systems.

Installing Contractor:
The contractor who installed the equipment is responsible to either conduct the acceptance test themselves or have a qualified entity run the test for them. If more than one person has responsibility for the acceptance testing, each person shall sign and submit the Certificate of Acceptance applicable to the portion of the construction or installation for which they are responsible.

Enforcement Agency:
Plancheck - The NRCC-MCH-01-E compliance document is not considered a completed document and is not to be accepted by the building department unless the correct boxes are checked.
Inspector - Before occupancy permit is granted all newly installed process systems must be tested to ensure proper operations.

Test Description		MCH-02-A	MCH-03-A	MCH-04-A	MCH-05-A	MCH-06-A	MCH-07-A	MCH-08-A	MCH-09-A	MCH-10-A	MCH-11-A
Equipment Requiring Testing or Verification	# of Units	Outdoor Air	Single Zone Unitary	Air Distribution Ducts	Economizer Controls	Demand Controlled Ventilation (DCV)	Supply Fan VAV	Valve Leakage Test	Supply Water Temp. Reset	Hydronic System Variable Flow Control	Automatic Demand Shed Control
VRF FAN COILS / HEAT PUMPS	51 / 4	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐
FURNACE WITH DX COOLING	2	☑	☑	☑	☑	☑	☐	☐	☐	☐	☐
SPLIT SYSTEM AIR CONDITIONING	1	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐

STATE OF CALIFORNIA

MECHANICAL SYSTEMS

CEC-NRCC-MCH-01-E (Revised 01/16)

CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-MCH-01-E
Mechanical Systems	Page 2 of 3
Project Name: CLYDE ARBUCKLE ELEMENTARY SCHOOL - HVAC UPGRADES	Date Prepared: JANUARY 22, 2018

Add Row | Remove Last

C. MECHANICAL HVAC ACCEPTANCE FORMS (check box for required compliance documents)

Test Performed By:

Designer:
This compliance document is to be used by the designer and attached to the plans. Listed below are all the acceptance tests for HVAC systems. The designer is required to check the applicable boxes for all acceptance tests that apply and list all equipment that requires an acceptance test. All equipment of the same type that requires a test, list the equipment description and the number of systems.

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Enforcement Agency:
Plancheck - The NRCC-MCH-01-E compliance document is not considered a completed document and is not to be accepted by the building department unless the correct boxes are checked.
Inspector - Before occupancy permit is granted all newly installed process systems must be tested to ensure proper operations.

Test Description		MCH-12-A	MCH-13-A	MCH-14-A	MCH-15-A	MCH-16-A	MCH-17-A	MCH-18-A
Equipment Requiring Testing or Verification	# of Units	Fault Detection & Diagnostics for DX Units	Automatic Fault Detection & Diagnostics for Air & Zone	Distributed Energy Storage DX AC Systems	Thermal Energy Storage (TES) Systems	Supply Air Temperature Reset Controls	Condenser Water Reset Controls	ECMS
VRF FAN COILS / HEAT PUMPS	51 / 4	☑	☐	☐	☐	☐	☐	☑
FURNACE WITH DX COOLING	2	☑	☐	☐	☐	☐	☐	☑
SPLIT SYSTEM AIR CONDITIONING	1	☑	☐	☐	☐	☐	☐	☑

Add Row | Remove Last

STATE OF CALIFORNIA

MECHANICAL SYSTEMS

CEC-NRCC-MCH-01-E (Revised 01/16)

CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-MCH-01-E
Mechanical Systems	Page 3 of 3
Project Name: CLYDE ARBUCKLE ELEMENTARY SCHOOL - HVAC UPGRADES	Date Prepared: JANUARY 22, 2018

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: CHAHAN SHAH	Documentation Author Signature: Chahan s Shah
Company: AXIOM ENGINEERS	Signature Date: JANUARY 29, 2018
Address: 22 LOWER RAGSDALE DR., SUITE A	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: MONTEREY, CA, 93940	Phone: 8316498000

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: METIN SERTTUNC	Responsible Designer Signature:
Company : AXIOM ENGINEERS	Date Signed: JANUARY 29, 2018
Address: 22 LOWER RAGSDALE DR., SUITE A	License: M-31059
City/State/Zip: MONTEREY, CA, 93940	Phone: 8316498000

SUGIMURA FINNEY ARCHITECTS
SFA
ARCHITECTURE INTERIORS PLANNING
2155 SOUTH BASCOM AVE.
SUITE 200
CAMPBELL, CA 95008
PHONE: 408-879-0600
FAX: 408-377-6066

No. M31059
EXP. JUNE 30, 2019
MECHANICAL

vc. (831) 649-8000
fx. (831) 649-8038
email: mail@axiomengineers.com
AXIOM ENGINEERS SM
LEE & ASSOCIATES
CONSULTING ENGINEERS
22 Lower Ragsdale Dr., Suite A
Monterey, California 93940-5788
AE Project # : 20170290

TITLE 24 DOCUMENTATION - MECHANICAL

CLYDE ARBUCKLE ELEMENTARY SCHOOL - HVAC UPGRADES
1970 CINDERELLA LN., SAN JOSE, CA 95116
ALUM ROCK UNION ELEMENTARY SCHOOL DISTRICT

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Drawing: H:\PROJ2017\20170290\DRAWINGS\LNA-FILS\HVA-M71.DWG May 04, 2018 3:34:03 p.m.
Xrefs: MAS-BORD.DWG,

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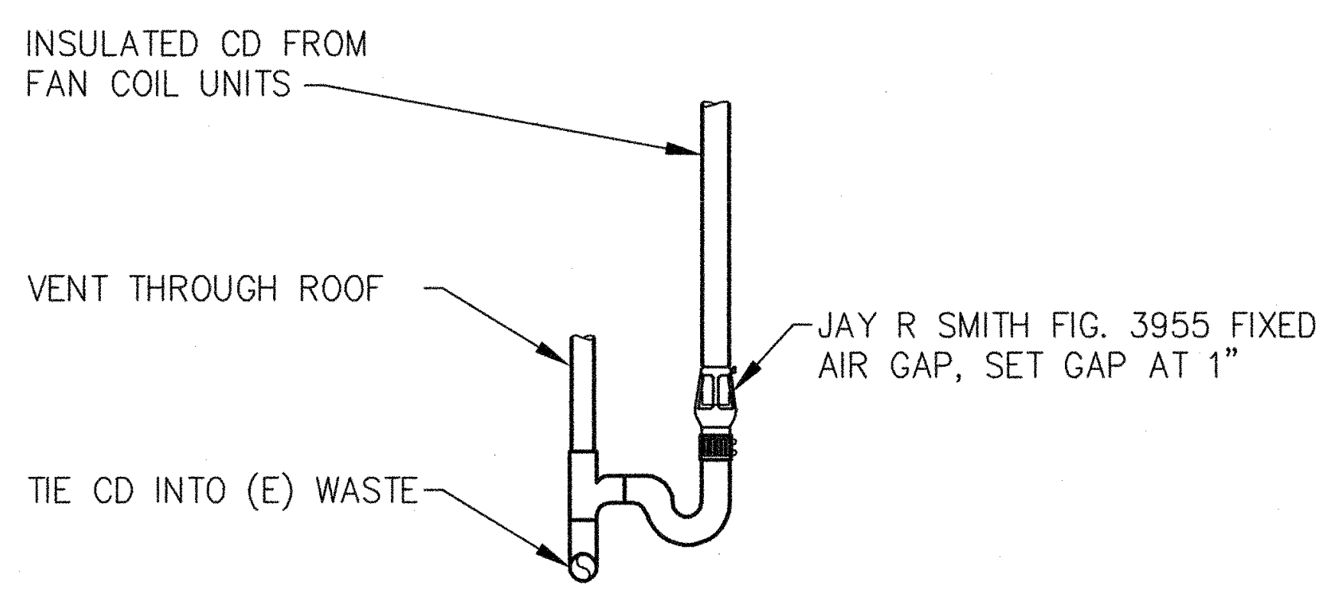
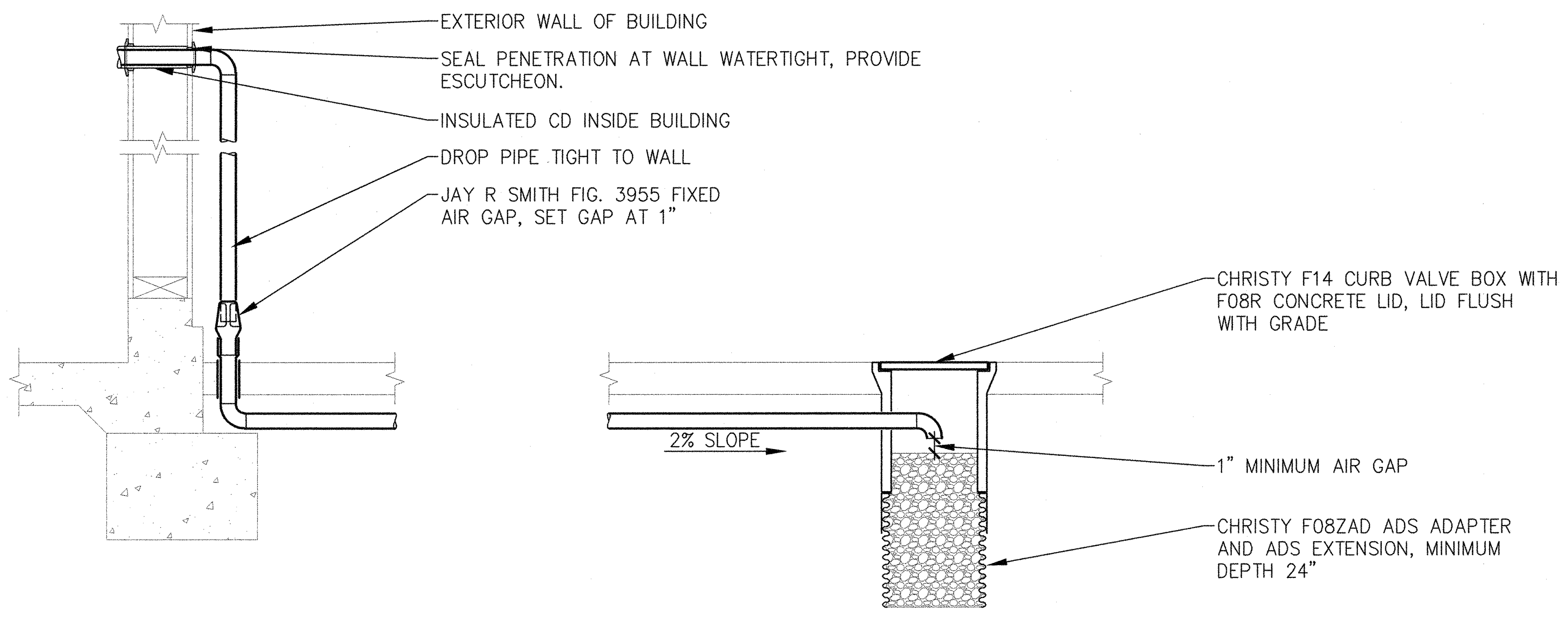
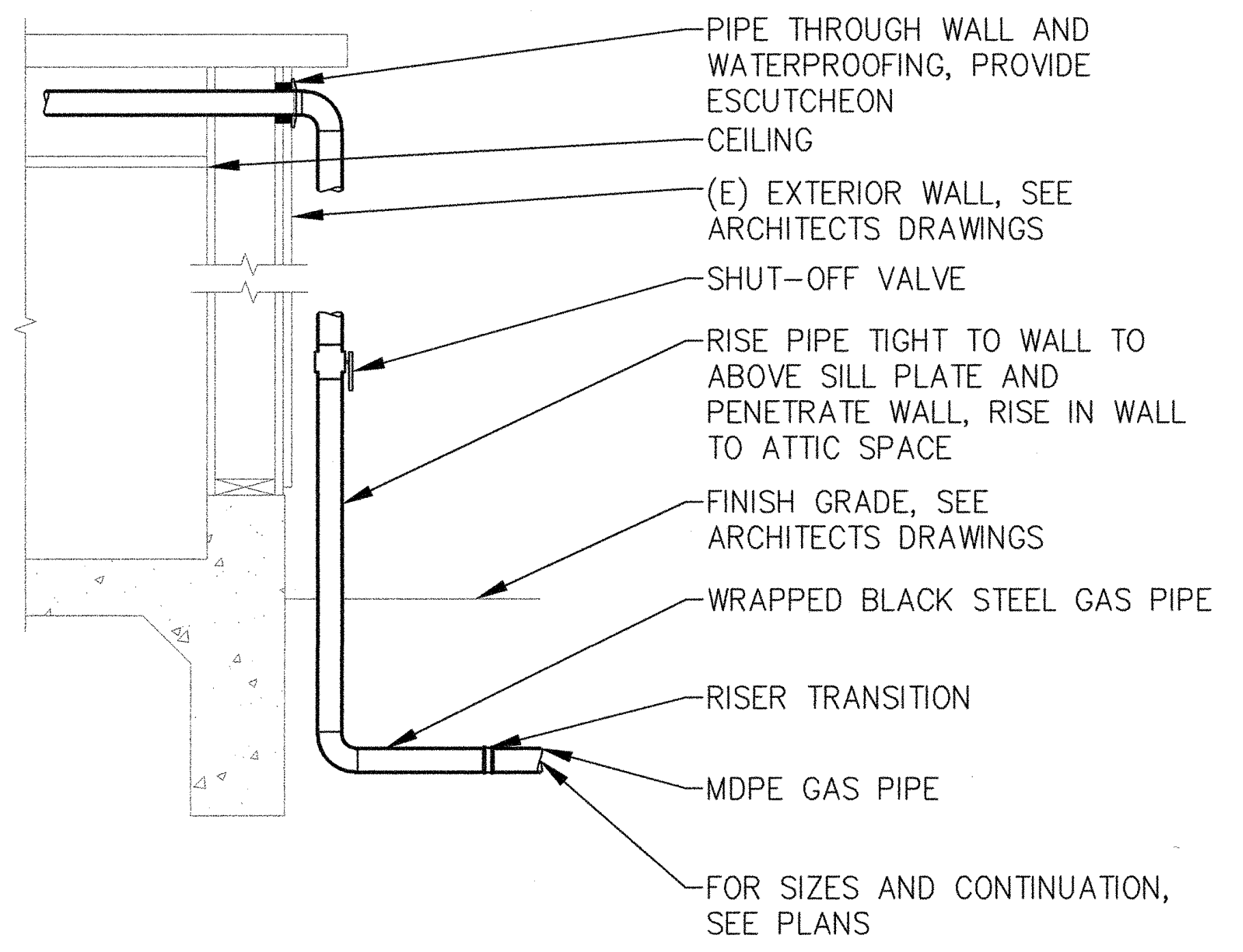

INSULATED CD FROM FAN COIL UNITS
VENT THROUGH ROOF
TIE CD INTO (E) WASTE
JAY R SMITH FIG. 3955 FIXED AIR GAP, SET GAP AT 1"

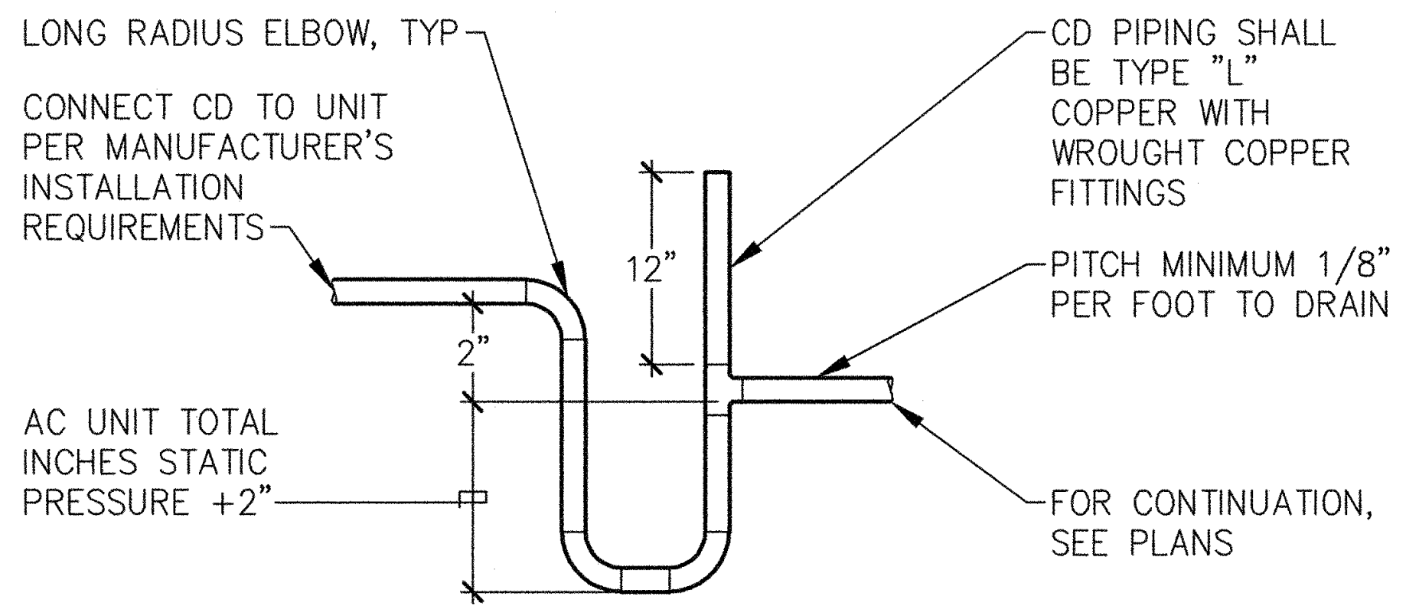
4 FIXED AIR GAP CONDENSATE
P0.1 NO SCALE


EXTERIOR WALL OF BUILDING
SEAL PENETRATION AT WALL WATERTIGHT, PROVIDE ESCUTCHEON.
INSULATED CD INSIDE BUILDING
DROP PIPE TIGHT TO WALL
JAY R SMITH FIG. 3955 FIXED AIR GAP, SET GAP AT 1"
CHRISTY F14 CURB VALVE BOX WITH F08R CONCRETE LID, LID FLUSH WITH GRADE
2% SLOPE
1" MINIMUM AIR GAP
CHRISTY F08ZAD ADS ADAPTER AND ADS EXTENSION, MINIMUM DEPTH 24"

1 CONDENSATE DRY WELL
P0.1 NO SCALE

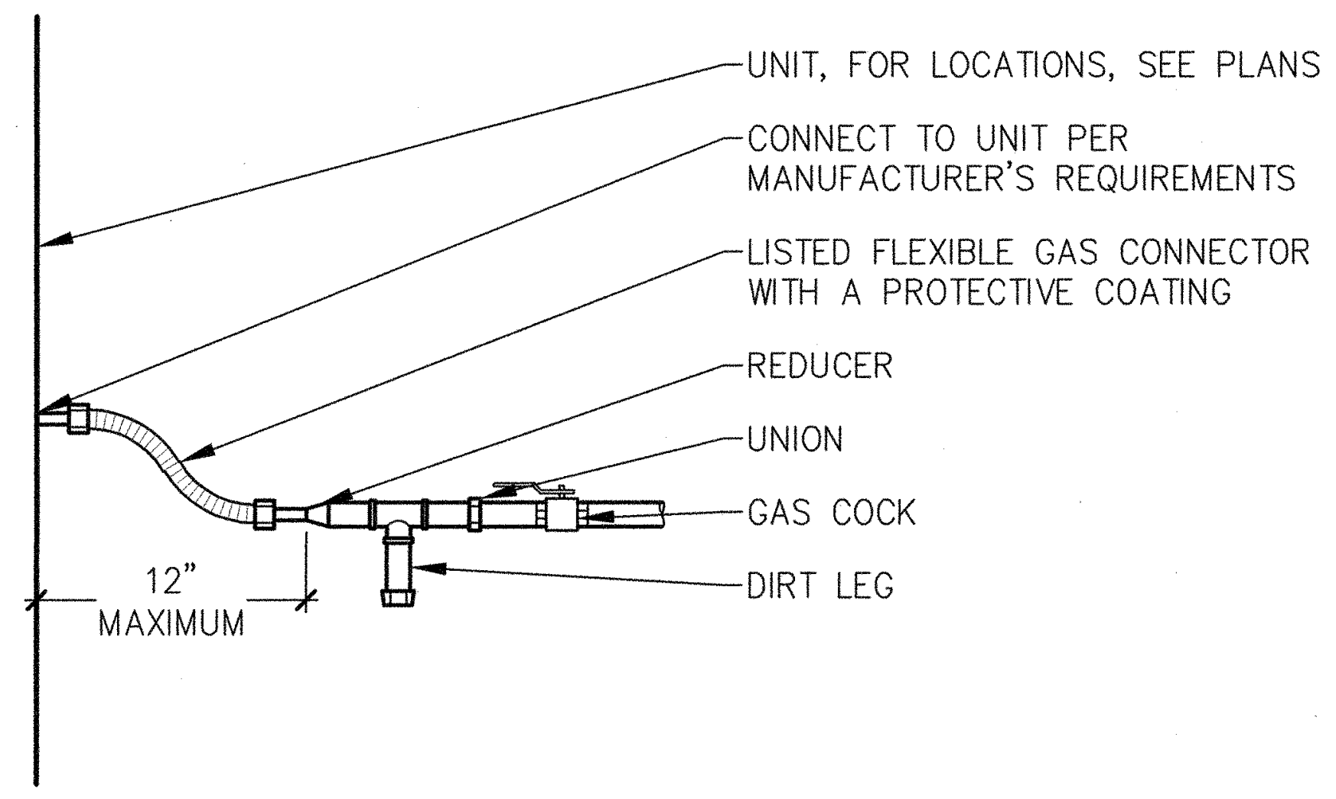

PIPE THROUGH WALL AND WATERPROOFING, PROVIDE ESCUTCHEON
CEILING
(E) EXTERIOR WALL, SEE ARCHITECTS DRAWINGS
SHUT-OFF VALVE
RISE PIPE TIGHT TO WALL TO ABOVE SILL PLATE AND PENETRATE WALL, RISE IN WALL TO ATTIC SPACE
FINISH GRADE, SEE ARCHITECTS DRAWINGS
WRAPPED BLACK STEEL GAS PIPE
RISER TRANSITION
MDPE GAS PIPE
FOR SIZES AND CONTINUATION, SEE PLANS

5 GAS RISER
P0.1 NO SCALE


LONG RADIUS ELBOW, TYP
CONNECT CD TO UNIT PER MANUFACTURER'S INSTALLATION REQUIREMENTS
AC UNIT TOTAL INCHES STATIC PRESSURE +2"
12"
2"
CD PIPING SHALL BE TYPE "L" COPPER WITH WROUGHT COPPER FITTINGS
PITCH MINIMUM 1/8" PER FOOT TO DRAIN
FOR CONTINUATION, SEE PLANS

NOTES:
1. CD PIPE SIZE SHALL NOT BE SMALLER THAN UNIT DRAIN CONNECTION SIZE.
2. FOR PIPE SIZES AND LOCATIONS, SEE PLANS.

3 COOLING COIL CONDENSATE TRAP
P0.1 NO SCALE


UNIT, FOR LOCATIONS, SEE PLANS
CONNECT TO UNIT PER MANUFACTURER'S REQUIREMENTS
LISTED FLEXIBLE GAS CONNECTOR WITH A PROTECTIVE COATING
REDUCER
UNION
GAS COCK
DIRT LEG
12" MAXIMUM

2 GAS CONNECTION AT UNIT
P0.1 NO SCALE

PLUMBING LEGEND

SYMBOL	ABBRV.	IDENTIFICATION	ABBRV.	IDENTIFICATION
—— — ——	CW	COLD WATER (DOMESTIC)	COORD	COORDINATE
—— – – ——	HW	HOT WATER	CONST	CONSTRUCTION
—— - - - ——	HWR	HOT WATER RETURN	DN	DOWN
- - - - - - - -	V	VENT	DWGS	DRAWINGS
——TP——	TP	TRAP PRIMER LINE	(E)	EXISTING
——G——	G	GAS (7"WC)	ELEC	ELECTRICAL
——MPG——	MPG	MEDIUM PRESSURE GAS	ELEV	ELEVATION
——W——	S OR W	SOIL OR WASTE ABOVE GRADE	EMBT	EMBEDMENT
— —W— —	S OR W	SOIL OR WASTE BELOW GRADE	EQUIP	EQUIPMENT
——RWL——	RWL	RAIN WATER LEADER	FFE	FINISHED FLOOR ELEVATION
——RD——	RD	ROOF DRAIN	FLA	FULL LOAD AMPS
——CD——	CD	CONDENSATE DRAIN	FLEX	FLEXIBLE
E——		CAP	FLR	FLOOR
∫——	CONT	CONTINUATION	FT	FEET
—⋈— OR ⊻		GATE VALVE	FT HD	FEET HEAD
			GPM	GALLONS PER MINUTE
——⋈——	SOV	SHUT-OFF VALVE	HP	HORSEPOWER
——╢├——		BUTTERFLY VALVE	HR	HOUR
——○——		BALL VALVE	HZ	HERTZ
⊳——	T&PRV	TEMP. & PRESS. RELIEF VALVE	IE	INVERT ELEVATION
			IN	INCH
⊳ OR —⊲—		ANGLE VALVE	INV	INVERT
			KW	KILOWATTS
——↗——	CKV	CHECK VALVE	LBS	POUNDS
			LRA	LOCKED ROTOR AMPS
——⊬——		STRAINER	MAX	MAXIMUM
—⋈— OR ⊻	GC	GAS COCK	MBH	1000 BTU PER HOUR
			MCA	MINIMUM CIRCUIT AMPS
——⋈——	GPR	GAS PRESSURE REGULATOR	MFR	MANUFACTURER
——╫——		UNION	MIN	MINIMUM
——⊠——	FC	FLEXIBLE CONNECTION	MOCP	MAXIMUM OVERCURRENT PROTECTION
T●T	WHA	WATER HAMMER ARRESTOR	(N)	NEW
——⊃+	HB	HOSE BIBB	NC	NORMALLY CLOSED
——Φ——	GCO/FCO	GRADE CLEANOUT/FLOOR CLEANOUT	NO	NORMALLY OPEN
⊖‖	WCO	WALL CLEANOUT	NTS	NOT TO SCALE
——◯——		CIRCULATION PUMP (DOMESTIC)	PD	PRESSURE DROP
⊞		THERMOMETER	PH	PHASE
			PRESS	PRESSURE
▬ ▪ ▪ ▬		RATED WALL, SEE ARCHITECTS DRAWINGS	PSI	POUNDS PER SQUARE INCH
——‖		CONDENSATE CLEAN OUT	QTY	QUANTITY
⊘T		TEMPERATURE GAUGE	REQD	REQUIRED
◕	P.O.C.	POINT OF CONNECTION	REQS	REQUIREMENTS
℄		CENTERLINE	RM	ROOM
	&	AND	RPM	REVOLUTIONS PER MINUTE
	@	AT	SOV	SHUT-OFF VALVE
	°F	DEGREES FAHRENHEIT	SPEC	SPECIFICATION
	AC	AIR CONDITIONER	SQ	SQUARE
	AFF	ABOVE FINISH FLOOR	STD	STANDARD
	AGGR	AGGREGATE	STRUCT	STRUCTURAL
	AMP	AMPERE	STSL	STAINLESS STEEL
	APPROX	APPROXIMATE	TDH	TOTAL DYNAMIC HEAD
	ARCH	ARCHITECT/ARCHITECTURAL	TEMP	TEMPERATURE
	BHP	BRAKE HORSEPOWER	TYP	TYPICAL
	BJ	BETWEEN JOISTS	UL	UNDERWRITER'S LABORATORIES
	BLDG	BUILDING	UON	UNLESS OTHERWISE NOTED
	BTU	BRITISH THERMAL UNIT	V	VOLT
	CFH	CUBIC FEET PER HOUR	VTR	VENT THROUGH ROOF
	CIRC	CIRCULATING	W/	WITH
	CLG	CEILING	WC	WATER COLUMN
	CONC	CONCRETE	WT	WEIGHT
	CONN	CONNECTION		

LIST OF GOVERNING CODES:

2016 BUILDING STANDARDS ADMINISTRATIVE CODE, PART 1, TITLE 24, C.C.R.
2016 CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24, C.C.R.
2016 CALIFORNIA ELECTRICAL CODE, PART 3, TITLE 24, C.C.R.
2016 CALIFORNIA MECHANICAL CODE (CMC), PART 4, TITLE 24, C.C.R.
2016 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24, C.C.R.
2016 CALIFORNIA ENERGY CODE (CEC), PART 6, TITLE 24, C.C.R.
2016 CALIFORNIA FIRE CODE (CFC), PART 9, TITLE 24, C.C.R.
2016 CALIFORNIA GREEN BUILDING STANDARDS CODE, PART 11, TITLE 24, C.C.R.
2016 CALIFORNIA REFERENCED STANDARDS CODE, PART 12, TITLE 24, C.C.R.
TITLE 19, C.C.R., PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS.

ALL SECTION NUMBERS BELOW REFER TO GROUP 1, CHAPTER 4, PART 1, TITLE 24, C.C.R.
1. ADDENDA, CONSTRUCTION CHANGES PER SECTION 4-338.
2. INSPECTOR APPROVED BY DSA. INSPECTOR AND CONTINUOUS INSPECTION OF WORK PER SECTION 4-333(b) AND 4-342.
3. TESTS AND TESTING LABORATORY PER SECT. 4-335.
4. SPECIAL INSPECTION PER SECT. 4-333(d).
5. CONTRACTOR SHALL SUBMIT VERIFIED REPORTS PER SECT. 4-336 AND 4-343(c).
6. ADMINISTRATION OF CONSTRUCTION PER PART 1, TITLE 24, C.C.R. – DUTIES OF ARCHITECT, STRUCTURAL ENGINEER OR PROFESSIONAL ENGINEER PER SECT. 4-333(a) AND 4-341.
7. GOVERNING CODES: TITLE 24.
8. A COPY OF PARTS 1, 2, 3, 4, AND 5 OF TITLE 24 SHALL BE KEPT AVAILABLE IN THE FIELD DURING CONSTRUCTION.
9. DSA SHALL BE NOTIFIED OF START OF CONSTRUCTION PER SECT. 4-331.
10. SUPERVISION BY THE OFFICE OF REGULATION SERVICE PER SECT. 4-334.

GENERAL NOTES:

1. THIS PROJECT IS NEW CONSTRUCTION AT AN EXISTING CAMPUS. THE PLANS AND SPECIFICATIONS INDICATE THE GENERAL EXTENT OF THE WORK BASED ON OWNER PROVIDED RECORD DRAWINGS AND LIMITED FIELD VERIFICATION. CONTRACTOR SHALL VISIT SITE, VERIFY EXISTING CONDITIONS, AND REPORT ANY DISCREPANCIES NOTED TO THE ARCHITECT PRIOR TO SUBMITTING A BID. CONTRACTOR SHALL BE RESPONSIBLE FOR THE DISCONNECTION AND RECONNECTION OF MECHANICAL, PLUMBING, AND ELECTRICAL SYSTEMS NECESSARY TO ACCOMPLISH THE WORK WHETHER OR NOT SPECIFIED AND/OR INDICATED.
2. CUTTING OR CORING OF STRUCTURAL MEMBERS OR FOOTINGS IS PROHIBITED WITHOUT THE PRIOR WRITTEN CONSENT OF THE STRUCTURAL ENGINEER AND THE ARCHITECT.
3. CONTRACTOR SHALL VERIFY THAT THE ELECTRICAL CONNECTIONS TO THE UNITS, INCLUDING CIRCUIT PROTECTION, CONFORM TO UNIT LABELS AND MANUFACTURER'S DIRECTIONS. WHERE WIRE SIZES SHOWN ON DRAWING EXCEED MANUFACTURER'S RECOMMENDATIONS, THE DRAWINGS SHALL GOVERN. ALL WIRING SHALL BE PER THE NATIONAL ELECTRICAL CODE.
4. FLASHING AND WEATHERPROOFING AT EXTERIOR PENETRATIONS ARE SHOWN ON THE ARCHITECTURAL DRAWINGS.
5. COORDINATE WITH OWNER ON SPACE REQUIRED AND TIME SCHEDULE FOR DELIVERY OF ALL ITEMS WHICH ARE TO BE GIVEN TO THE OWNER FOR HIS DISPOSITION.
6. FOR ROOF PENETRATIONS WITHOUT CURBS, PROVIDE WEATHERPROOF FLASHING PER SMACNA ARCHITECTURAL SHEET METAL MANUAL AND DRAWING NOTES.
7. LABEL ALL PIECES OF EQUIPMENT WITH MARK MATCHING SCHEDULE OR EQUIPMENT LIST WITH ENGRAVED PLASTIC LABELS WITH MINIMUM 1/4" HIGH LETTERS. LABELS EXPOSED TO WEATHER SHALL BE ENGRAVED BRASS.
8. PRIME AND PAINT ALL EXPOSED PIPING PER ARCHITECTURAL SPECIFICATIONS. PAINT SHALL NOT EXCEED THE FOLLOWING VOLATILE ORGANIC COMPOUND CONTENT LIMITS: FLATS < 50 GRAMS PER LITER, NON-FLATS < 100 GRAMS PER LITER.
9. COORDINATE WITH ELECTRICAL ON REQUIRED POWER OUTLETS AND LIGHT SWITCHES NEAR PLUMBING EQUIPMENT.
10. BRACE ALL PIPING IN MECHANICAL ROOMS THAT IS 1 1/4" NOMINAL OR LARGER. BRACE ALL PIPING 2 1/2" NOMINAL OR LARGER. PIPING SUSPENDED BY INDIVIDUAL HANGERS 12" OR LESS IN LENGTH, AS MEASURED FROM THE TOP OF THE PIPE TO THE BOTTOM OF THE SUPPORT WHERE THE HANGER IS ATTACHED, NEED NOT BE BRACED.
11. ALL PIPING, VALVES, EQUIPMENT, ETC. SHOWN IS NEW UNLESS OTHERWISE NOTED.

PLUMBING GENERAL NOTES:

1. SEE ARCHITECTS PLANS AND DETAILS FOR ACCESSIBLE PLUMBING FIXTURE MOUNTING HEIGHTS, ETC.
2. ACCESSIBLE FIXTURES SHALL HAVE LEVER OR PUSH TYPE OPERATORS THAT REQUIRE LESS THAN FIVE (5) POUNDS FORCE TO ACTIVATE.
3. OPERATING CONTROLS FOR ACCESSIBLE FIXTURES TO BE OPERABLE WITH ONE HAND, NO TIGHT GRASPING, PINCHING OR TWISTING OF THE WRIST.
4. FAUCETS WITH SELF-CLOSING VALVES SHALL REMAIN OPEN FOR NO LESS THAN 10 SECONDS AND NO MORE THAN 15 SECONDS.
5. INSULATE ALL PIPING UNDER ACCESSIBLE FIXTURES AND COVER ANY SHARP OR ABRASIVE SURFACES WITH PROTECTIVE PIPE COVERS.
6. ALL PLUMBING VENTS THROUGH ROOF SHALL OFFSET ABOVE CEILING AND NOT PENETRATE WALL TOP PLATE.
7. MAXIMUM DEPTH OF ACCESSIBLE SINKS SHALL BE 6 1/2".

DSA GENERAL NOTES

1. THE INTENT OF THE CONTRACT DOCUMENTS IS TO MODERNIZE AN EXISTING BUILDING. SHOULD ANY CONDITIONS DEVELOP NOT COVERED BY THE CONTRACT DOCUMENTS, A CONSTRUCTION CHANGE DOCUMENT DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED TO AND APPROVED BY DSA BEFORE PROCEEDING WITH THE WORK.
2. LATERAL SUPPORT FOR PIPE AND DUCTS TO COMPLY WITH SMACNA "GUIDELINES FOR SEISMIC RESTRAINTS OF MECHANICAL SYSTEMS AND PLUMBING SYSTEMS".
3. THE SEISMIC SUPPORT AND ANCHORAGE OF THE EQUIPMENT DESCRIBED ON THESE DRAWINGS HAVE BEEN ENGINEERED BY THE ENGINEER OF RECORD FOR CONFORMANCE WITH APPROPRIATE BUILDING CODES. THE ENGINEER OF RECORD WAS NOT RESPONSIBLE FOR THE EQUIPMENT DESIGN.
4. ALL MECHANICAL AND PLUMBING EQUIPMENT SHALL BE BRACED OR ANCHORED TO RESIST A HORIZONTAL FORCE ACTING IN ANY DIRECTION USING THE CRITERIA FROM CHAPTER 16A CALIFORNIA BUILDING CODE (CBC) 2016.
5. WHERE ANCHORAGE DETAILS ARE NOT SHOWN ON THE DRAWINGS, THE FIELD INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE STRUCTURAL ENGINEER AND THE FIELD REPRESENTATIVE OF THE DIVISION OF THE STATE ARCHITECT.

COMPONENT ANCHORAGE NOTES

ALL MECHANICAL AND PLUMBING COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. WHERE NO DETAIL IS INDICATED, THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2016 CBC, SECTIONS 1616A.1.18 THROUGH 1616A.1.26 AND ASCE 7-10 CHAPTERS 13, 26, AND 30.

1. ALL PERMANENT EQUIPMENT AND COMPONENTS.
2. TEMPORARY OR MOVABLE EQUIPMENT THAT IS PERMANENTLY ATTACHED (EG HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICAL, GAS, OR WATER.
3. MOVABLE EQUIPMENT WHICH IS STATIONED IN ONE PLACE FOR MORE THAN 8 HOURS AND HEAVIER THAN 400 POUNDS ARE REQUIRED TO BE ANCHORED WITH TEMPORARY ATTACHMENTS.

THE ATTACHMENT OF THE FOLLOWING MECHANICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE, BUT NEED NOT BE DETAILED ON THE PLANS. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT.

1. COMPONENTS WEIGHING LESS THAN 400 POUNDS AND HAVING A CENTER OF MASS LOCATED 4'-0" OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORTS THE EQUIPMENT.
2. COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR IN THE CASE OF DISTRIBUTED SYSTEMS, LESS THAN 5 POUNDS PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.

FOR THOSE ELEMENTS THAT DO NOT REQUIRE DETAILS ON THE APPROVED DRAWINGS, THE INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE STRUCTURAL ENGINEER OF RECORD AND THE DSA DISTRICT STRUCTURAL ENGINEER. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH ABOVE REQUIREMENTS.

PIPING AND DUCTWORK DISTRIBUTION SYSTEM BRACING NOTES

PIPING AND DUCTWORK DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-10 SECTION 13.3 AS DEFINED IN ASCE 7-10 SECTION 13.6.5.6., 13.6.8, 13.6.7, AND 2016 CBC, SECTIONS 1616A.1.23, 1616A.1.24, 1616A.1.25, AND 1616A.1.26.

THE BRACING AND ATTACHMENTS TO THE STRUCTURE SHALL BE DETAILED ON THE APPROVED DRAWINGS OR THEY SHALL COMPLY WITH ONE OF THE OSHPD PRE-APPROVALS (OPA #) AS MODIFIED TO SATISFY ANCHORAGE REQUIREMENTS OF ACI 318-14, CHAPTER 17.

COPIES OF THE MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE START OF HANGING AND BRACING OF THE PIPING AND DUCTWORK DISTRIBUTION SYSTEMS.

THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.

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LEGEND, SCHEDULES, DETAILS, AND NOTES - PLUMBING

CLYDE ARBUCKLE ELEMENTARY SCHOOL - HVAC UPGRADES
1970 CINDERELLA LN, SAN JOSE, CA 95116
ALUM ROCK UNION ELEMENTARY SCHOOL DISTRICT

REVISIONS

NO.	ITEM	DATE
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DSA FILE NUMBER 43-04

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APPL 01-117268
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DRAWN BY: CADD
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JOB NO: 17102
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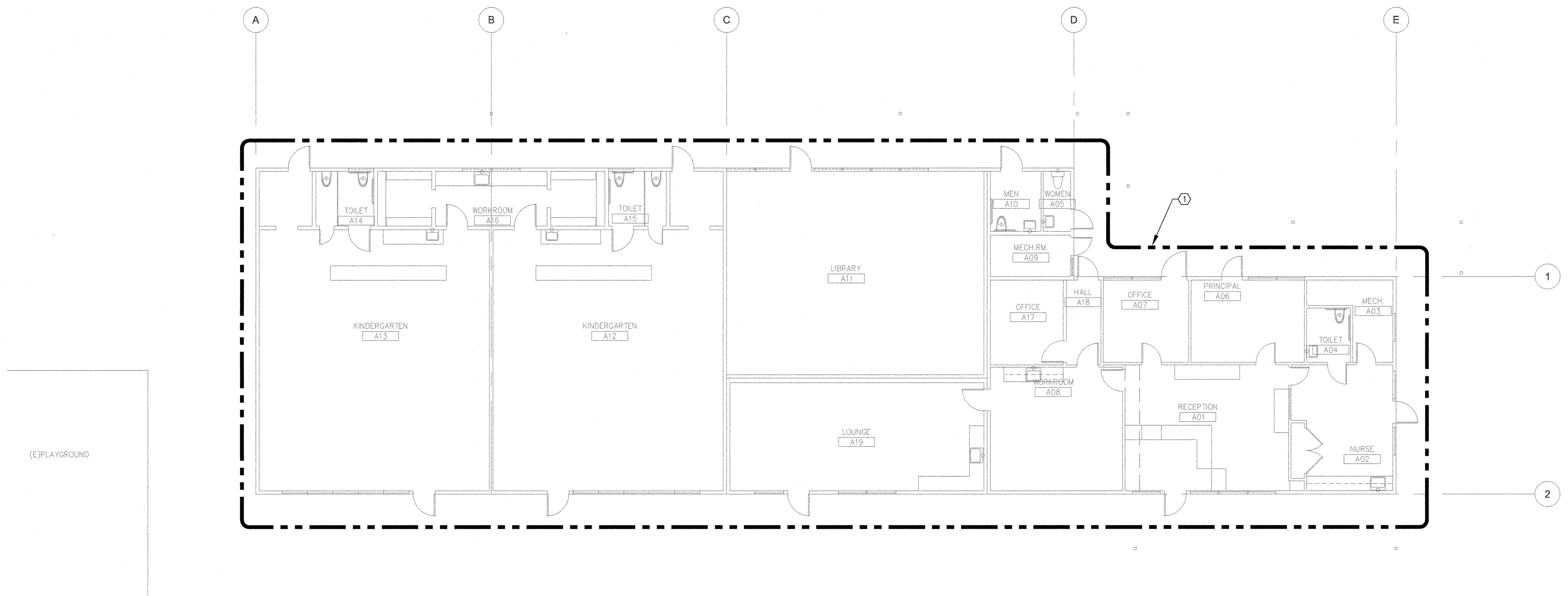


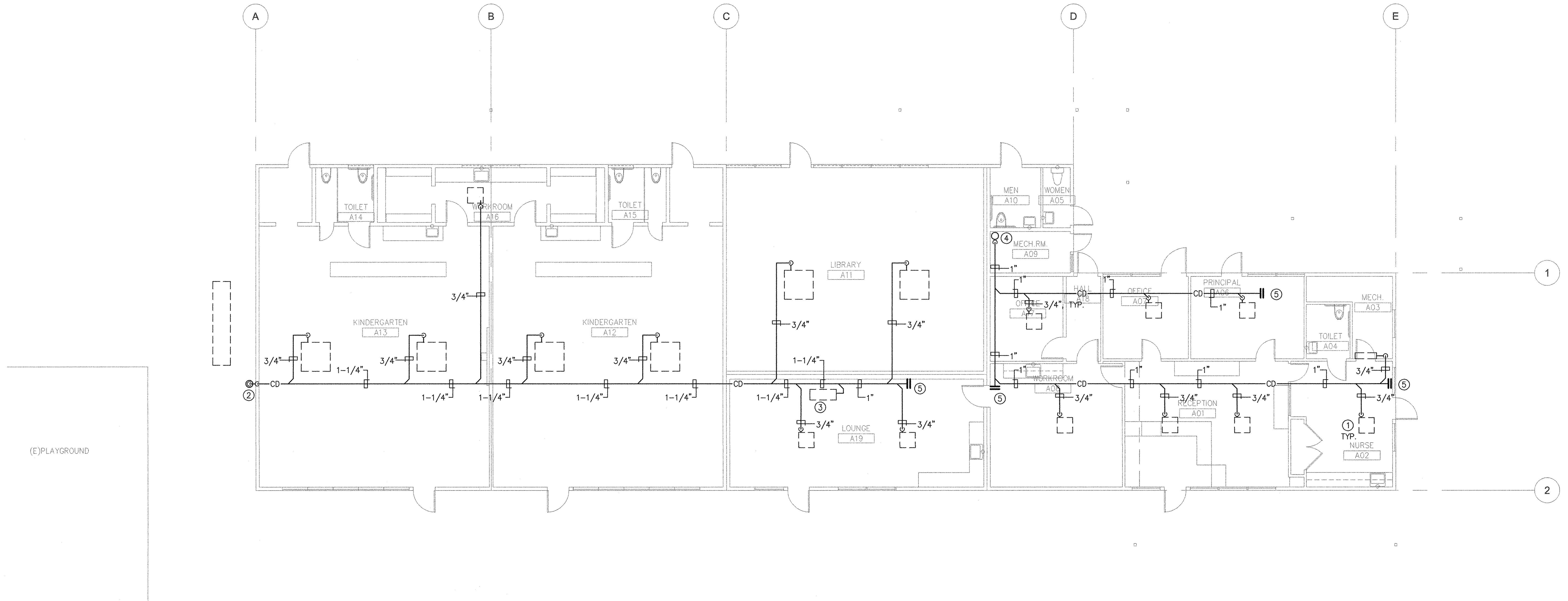
BUILDING A - PLUMBING DEMOLITION

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

TRUE NORTH REF NORTH

DEMOLITION KEY NOTES:

(1) ALL DEMOLITION SHOWN ON MECHANICAL DRAWINGS. NO DEMOLITION WORK RELATED TO PLUMBING.



BUILDING A - PLUMBING

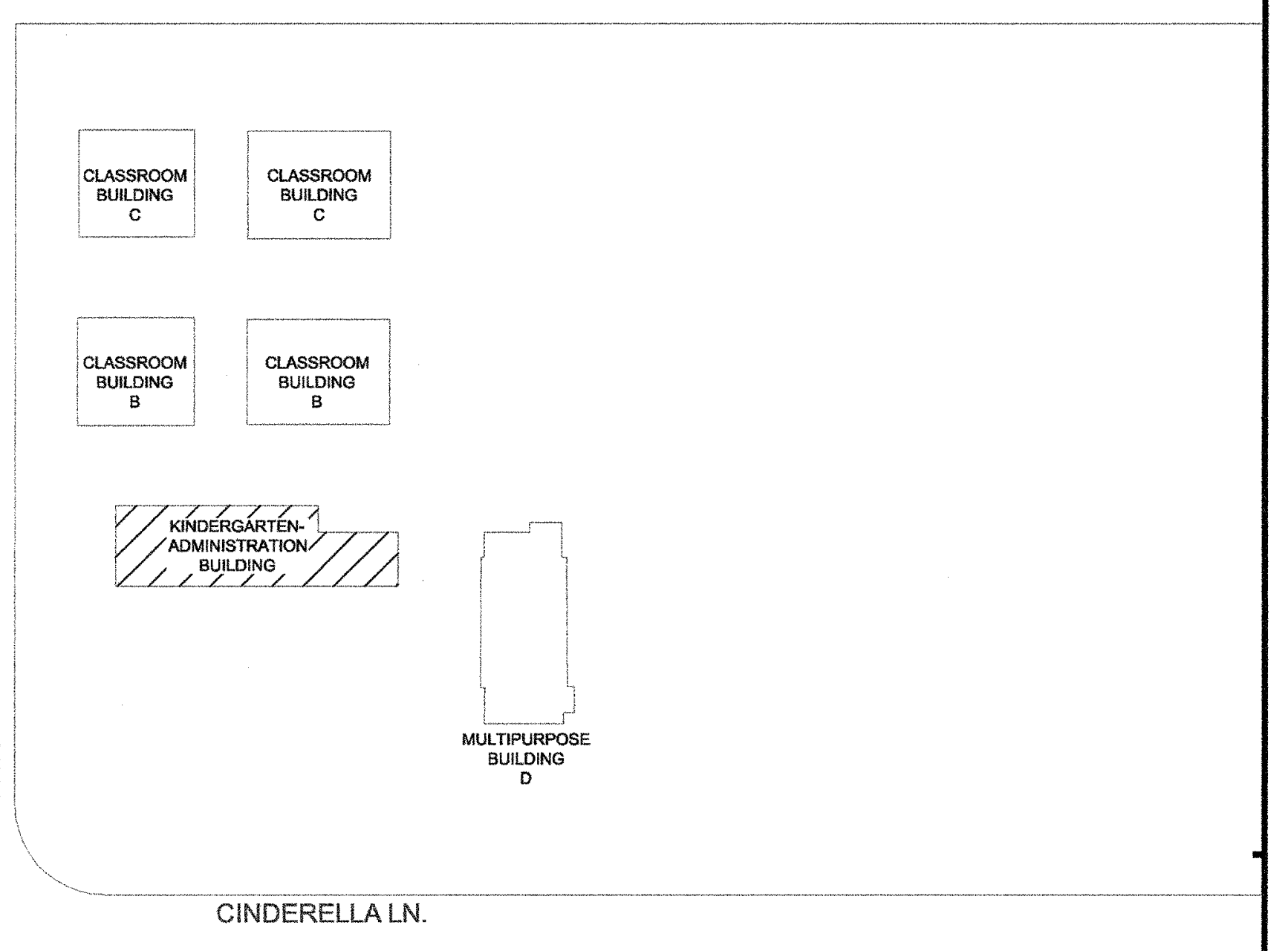
SCALE: 1/8" = 1'-0"

TRUE NORTH REF NORTH

KEY NOTES:

① FAN COIL UNIT, SEE MECHANICAL DRAWINGS.
② DROP CONDENSATE TO DRY WELL, SEE DETAIL 1/P0.1.
③ BRANCH CONTROLLER, SEE MECHANICAL DRAWINGS.
④ FIXED AIR GAP. TIE INTO (E) WASTE, SEE DETAIL 4/P0.1.
⑤ CONDENSATE CLEAN OUT

BUILDING KEY



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ADMINISTRATION, KINDERGARTEN BUILDING A -
FLOOR PLANS PLUMBING

CLYDE ARBUCKLE ELEMENTARY SCHOOL - HVAC UPGRADES
1970 CINDERELLA LN., SAN JOSE, CA 95116
ALUM ROCK UNION ELEMENTARY SCHOOL DISTRICT

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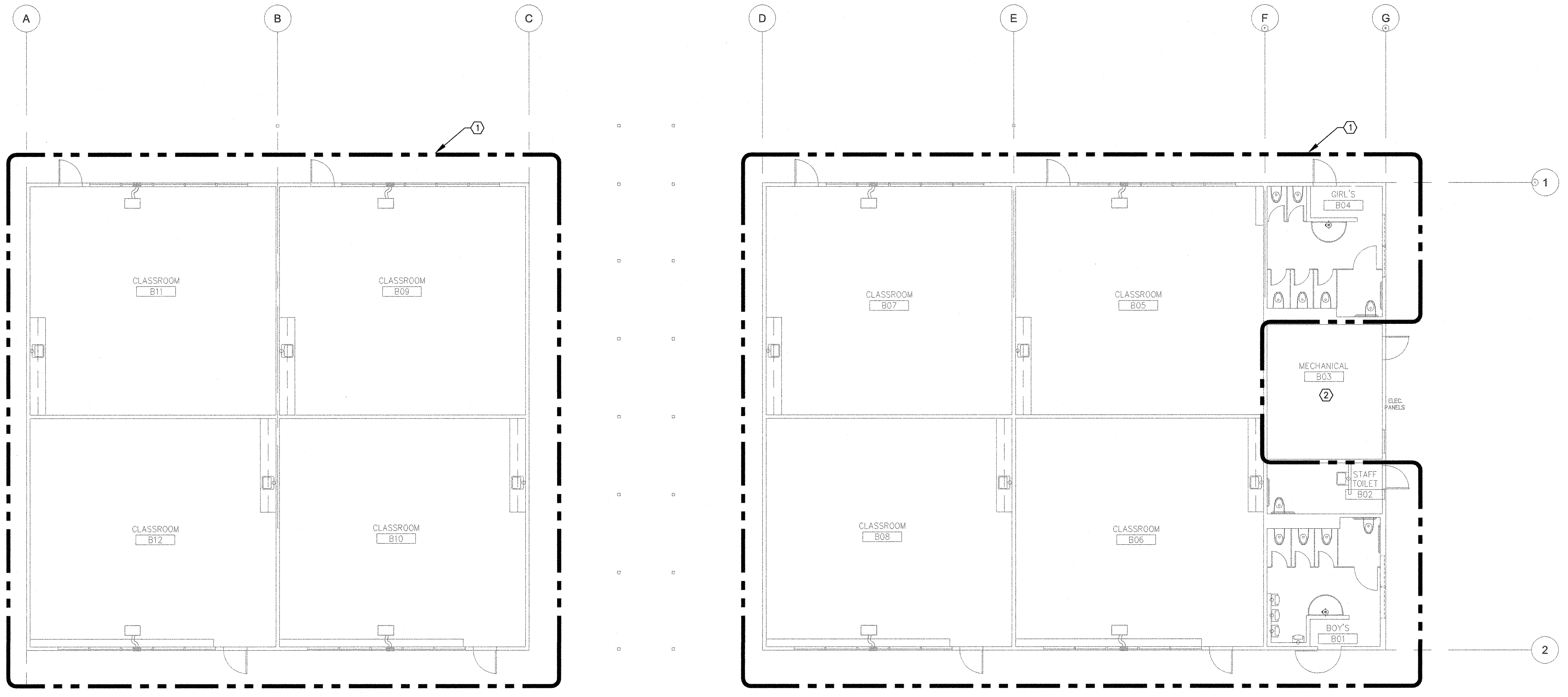


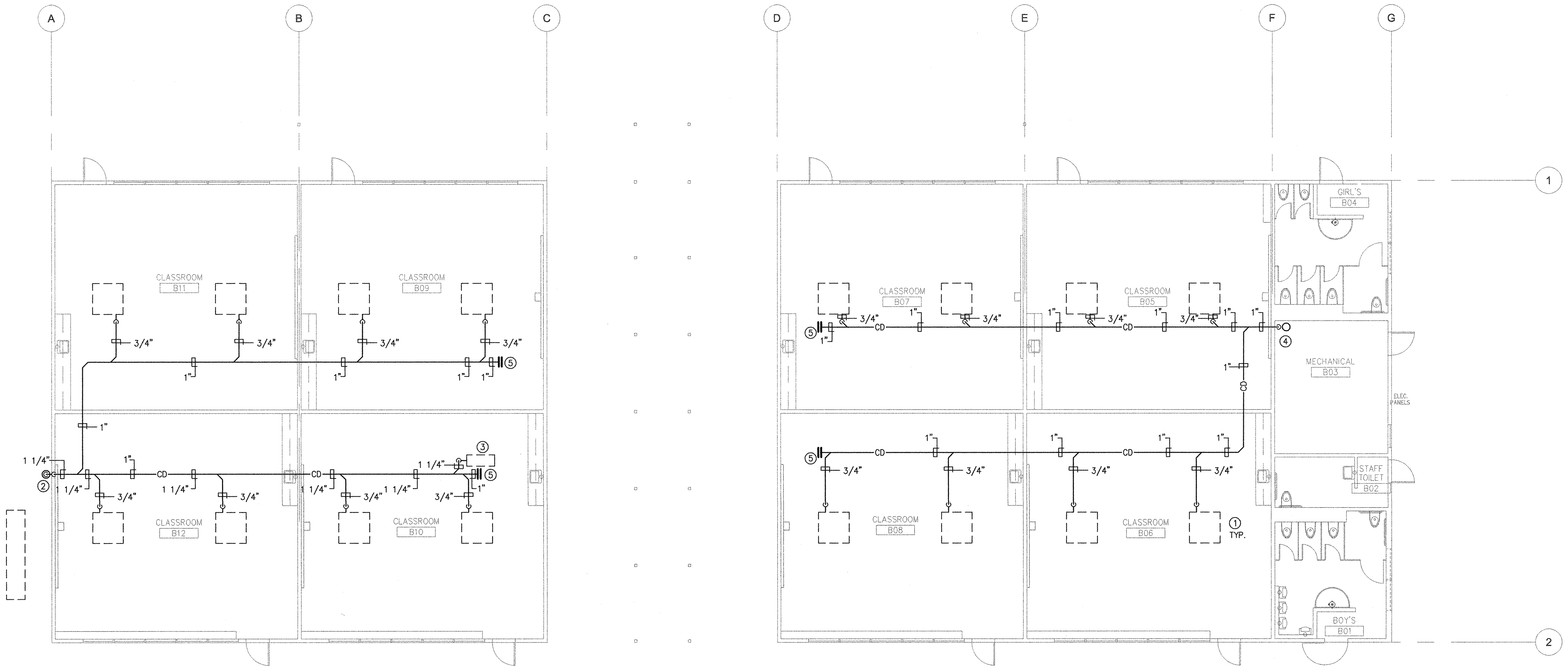
BUILDING B - PLUMBING DEMOLITION

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

TRUE NORTH REF NORTH

DEMOLITION KEY NOTES:

1. ALL DEMOLITION SHOWN ON MECHANICAL DRAWINGS. NO DEMOLITION WORK RELATED TO PLUMBING.
2. REMOVE (E) GAS PIPING AND SUPPORTS COMPLETE IN MECHANICAL ROOM. CAP PIPE AT CEILING.



BUILDING B - PLUMBING

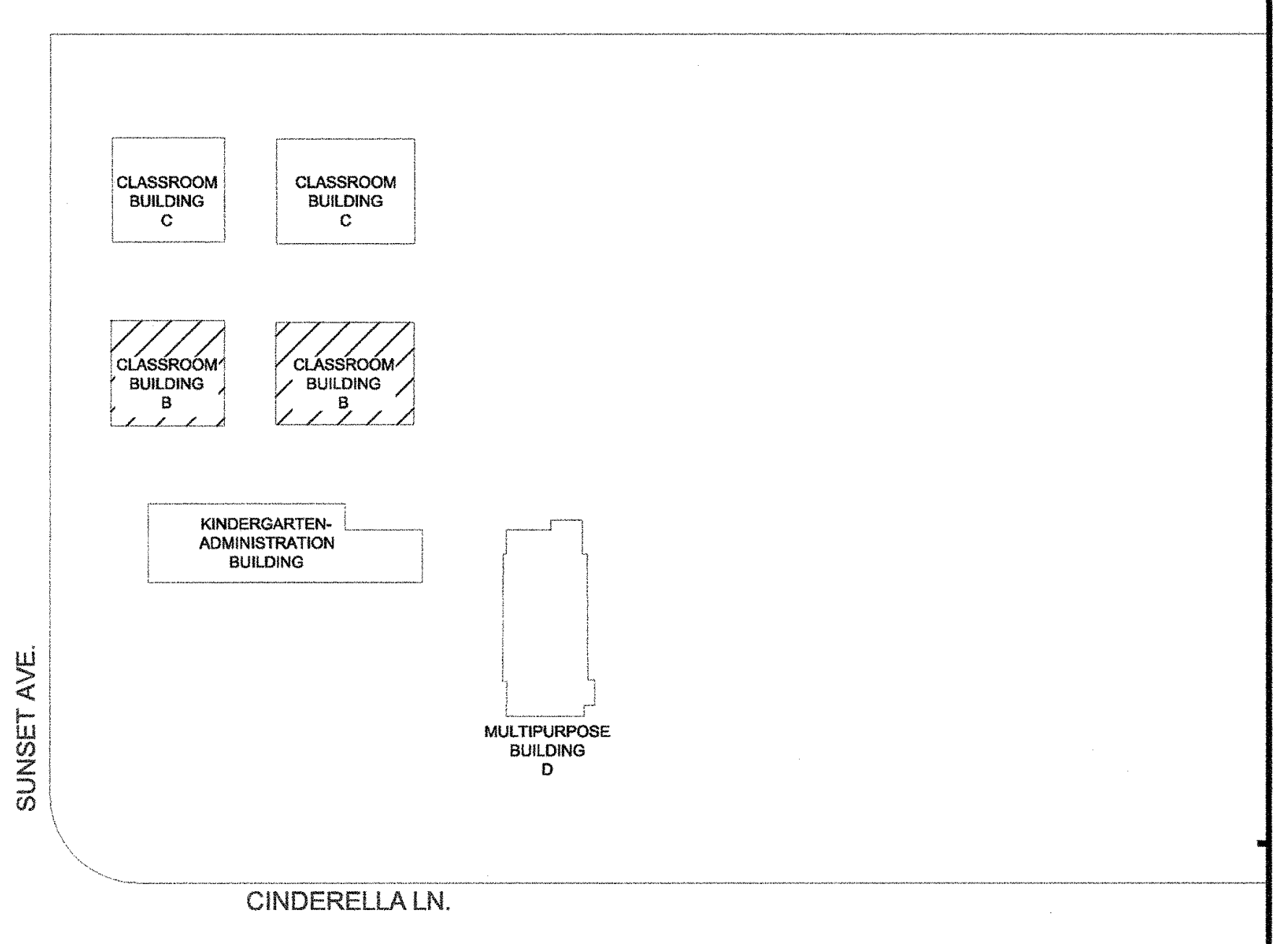
SCALE: 1/8" = 1'-0"

TRUE NORTH REF NORTH

KEY NOTES:

① FAN COIL UNIT, SEE MECHANICAL DRAWINGS.
② DROP CONDENSATE TO DRY WELL, SEE DETAIL 1/P0.1.
③ BRANCH CONTROLLER, SEE MECHANICAL DRAWINGS.
④ FIXED AIR GAP. TIE INTO (E) WASTE, SEE DETAIL 4/P0.1.
⑤ CONDENSATE CLEAN OUT

BUILDING KEY



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BUILDING B CLASSROOMS - FLOOR PLANS PLUMBING

CLYDE ARBUCKLE ELEMENTARY SCHOOL - HVAC UPGRADES
1970 CINDERELLA LN., SAN JOSE, CA 95116
ALUM ROCK UNION ELEMENTARY SCHOOL DISTRICT

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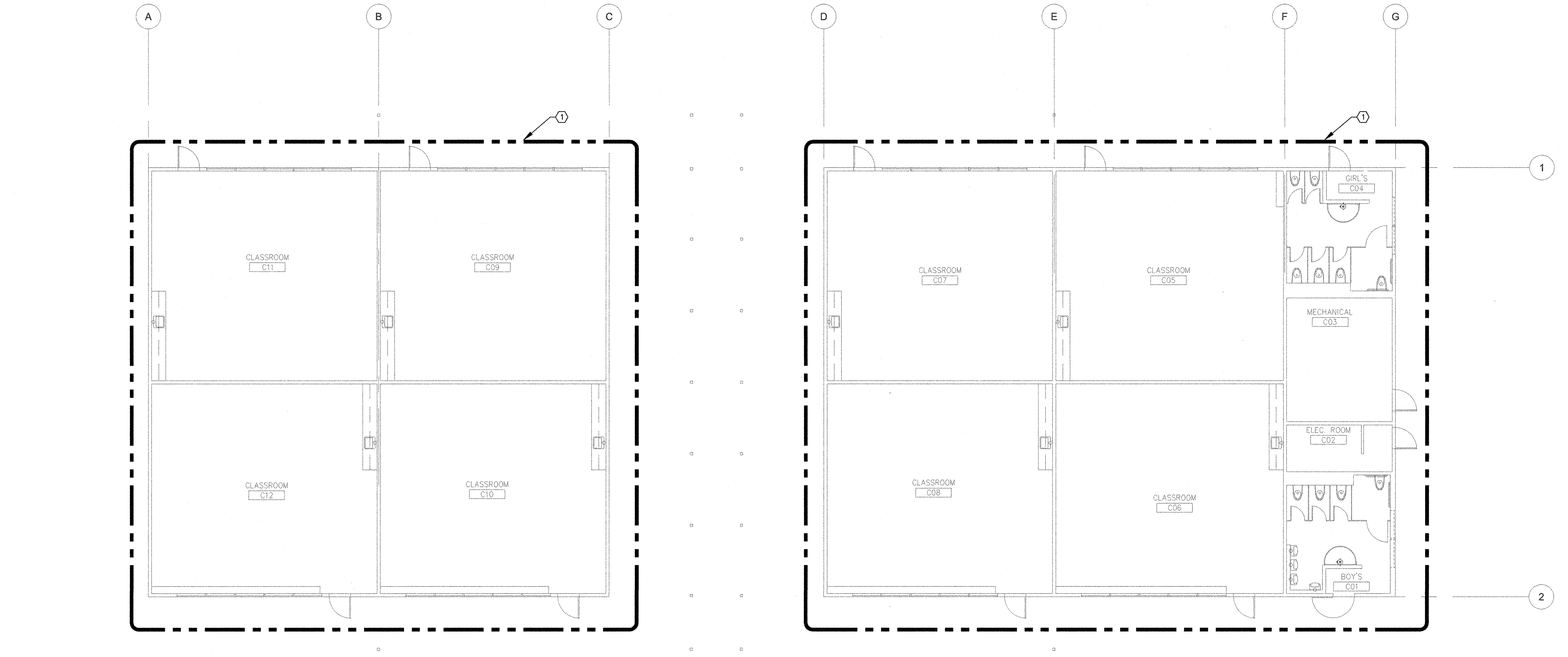


BUILDING C - PLUMBING DEMOLITION

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

TRUE NORTH REF NORTH

DEMOLITION KEY NOTES:

⟨1⟩ ALL DEMOLITION SHOWN ON MECHANICAL DRAWINGS. NO DEMOLITION WORK RELATED TO PLUMBING.

KEY NOTES:

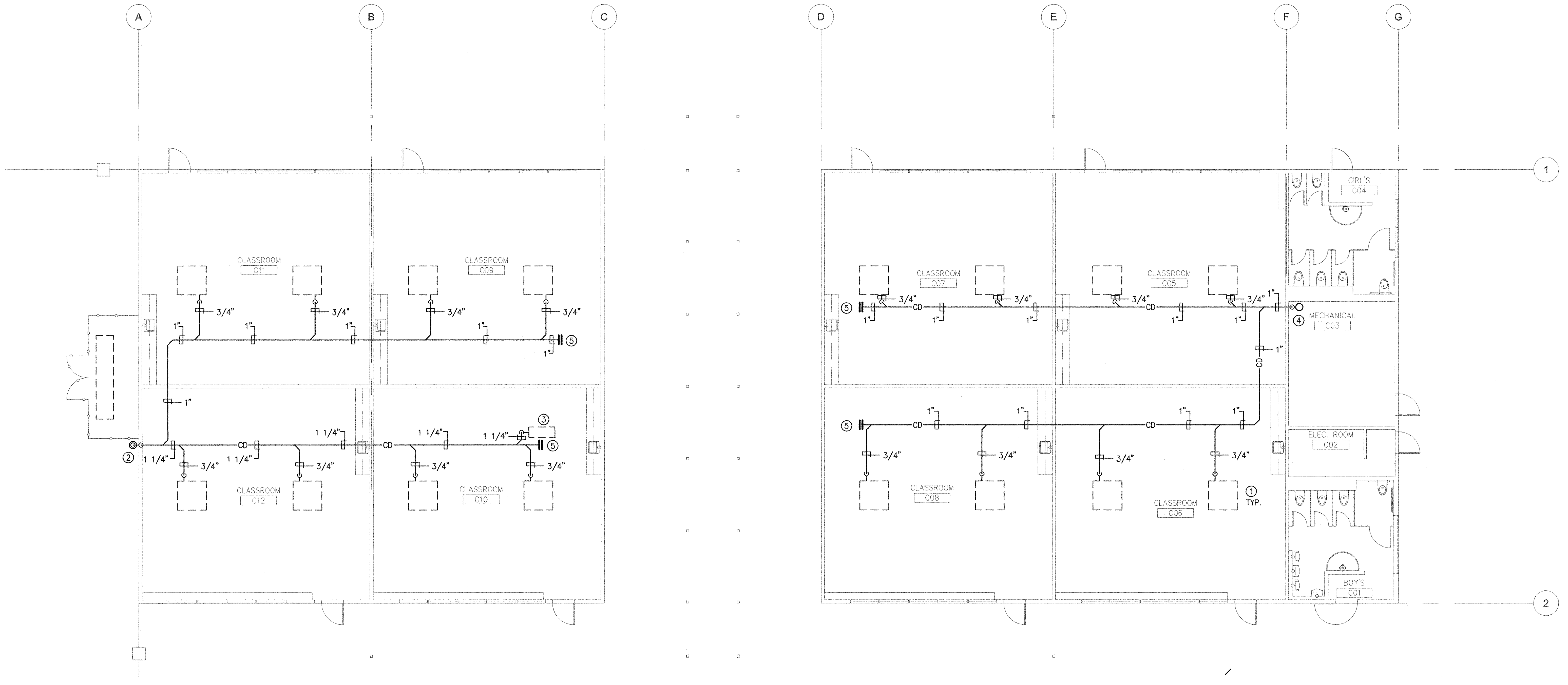
① FAN COIL UNIT, SEE MECHANICAL DRAWINGS.

② DROP CONDENSATE TO DRY WELL, SEE DETAIL 1/P0.1.

③ BRANCH CONTROLLER, SEE MECHANICAL DRAWINGS.

④ FIXED AIR GAP. TIE INTO (E) WASTE, SEE DETAIL 4/P0.1.

⑤ CONDENSATE CLEAN OUT

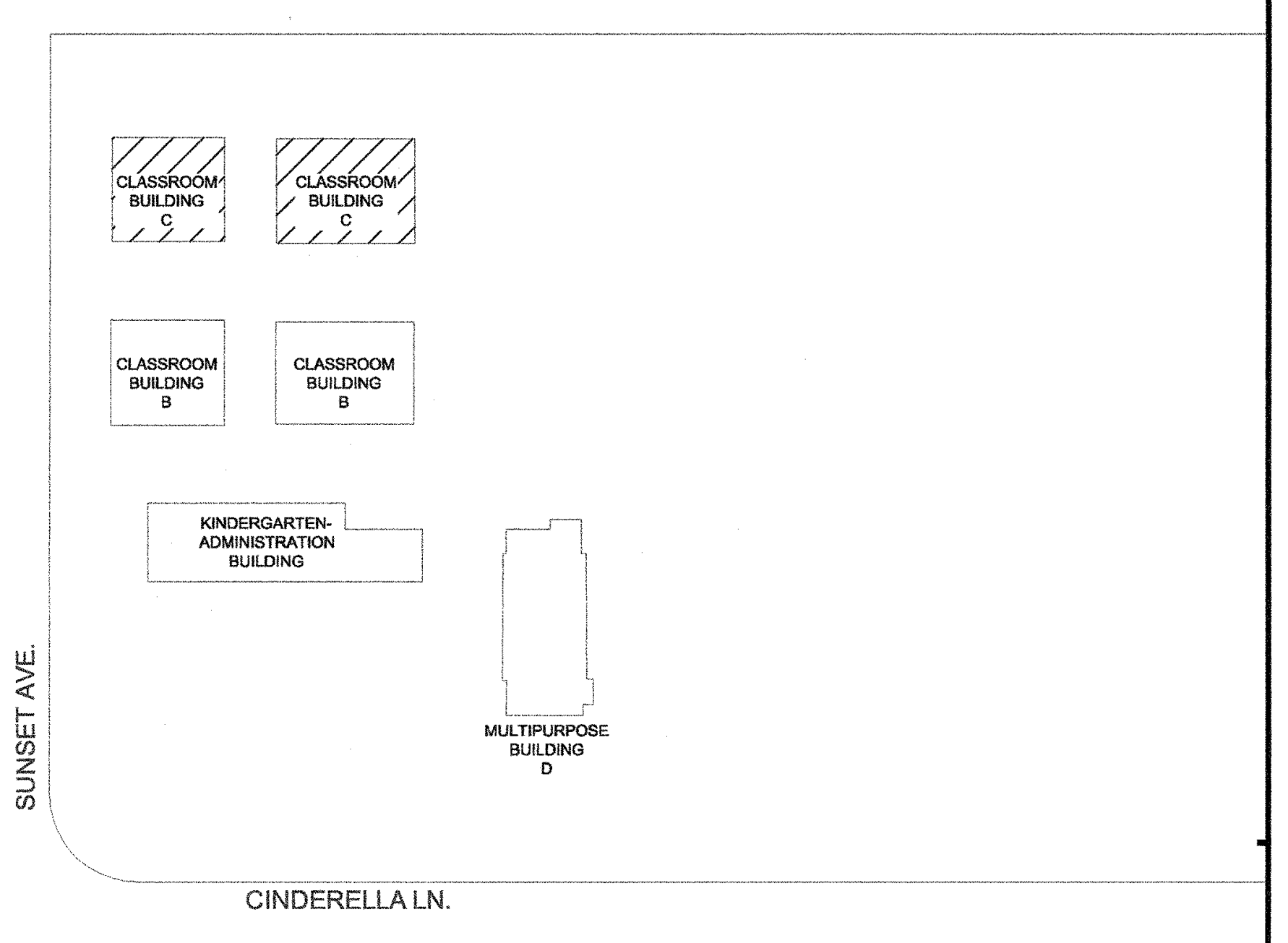


BUILDING C - PLUMBING

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

TRUE NORTH REF NORTH

BUILDING KEY



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AE Project # : 20170290

BUILDING C CLASSROOMS -
FLOOR PLANS PLUMBING

CLYDE ARBUCKLE ELEMENTARY SCHOOL - HVAC UPGRADES
1970 CINDERELLA LN., SAN JOSE, CA 95116
ALUM ROCK UNION ELEMENTARY SCHOOL DISTRICT

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DRAWN BY: CADD
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Xrefs: PLBC-MAIN.DWG, MASC-BKG.DWG, MAS-BORD.DWG,

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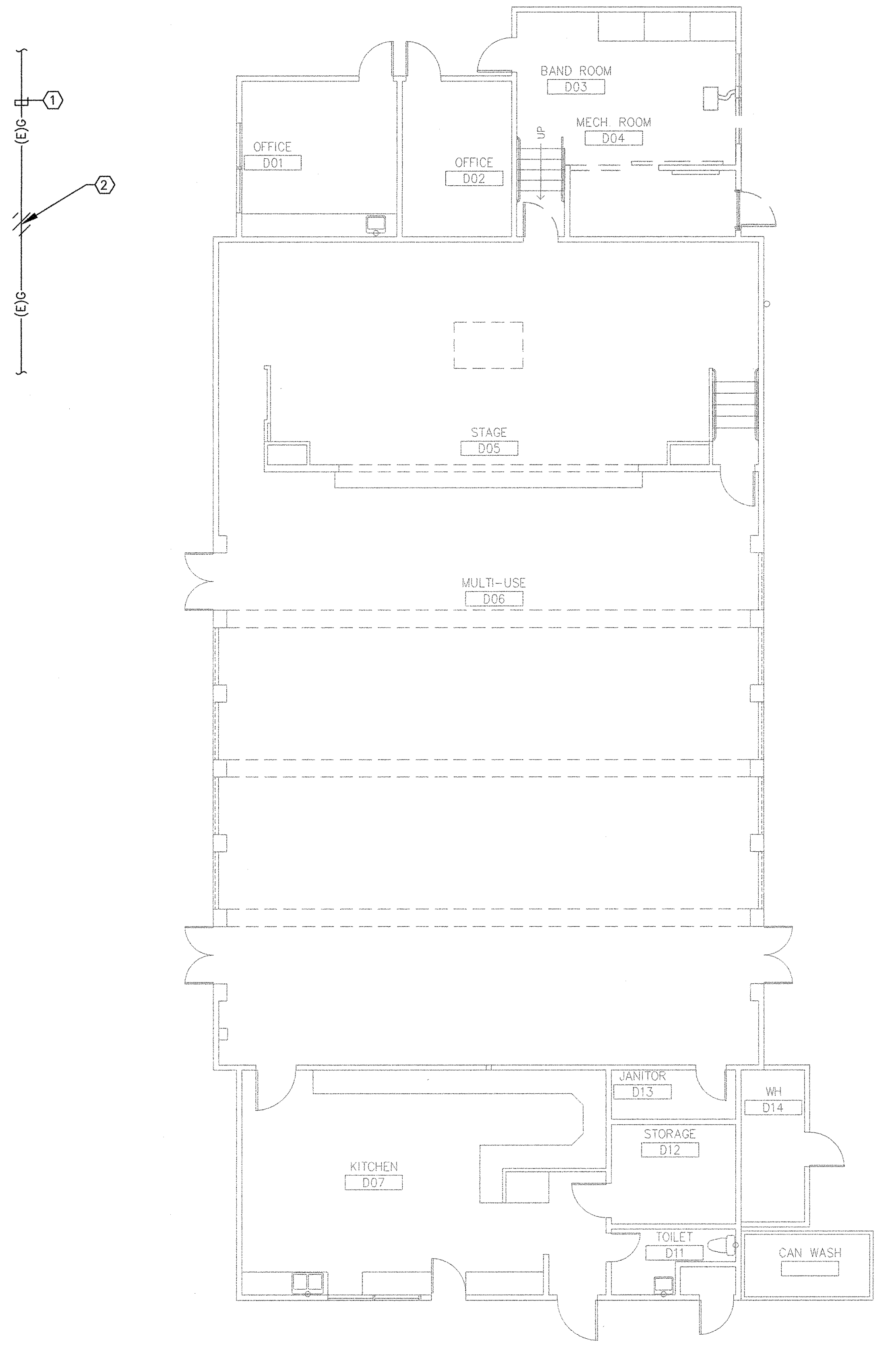
Xrefs: PLBD–MAIN.DWG, MASD–BKG.DWG, MAS–BORD.DWG,

DEMOLITION KEY NOTES:

1. (E) GAS UNDERGROUND, FIELD LOCATE
2. REMOVE (E) GAS IN PREPARATION TO GAS P.O.C., SEE NEW NOTES

KEY NOTES:

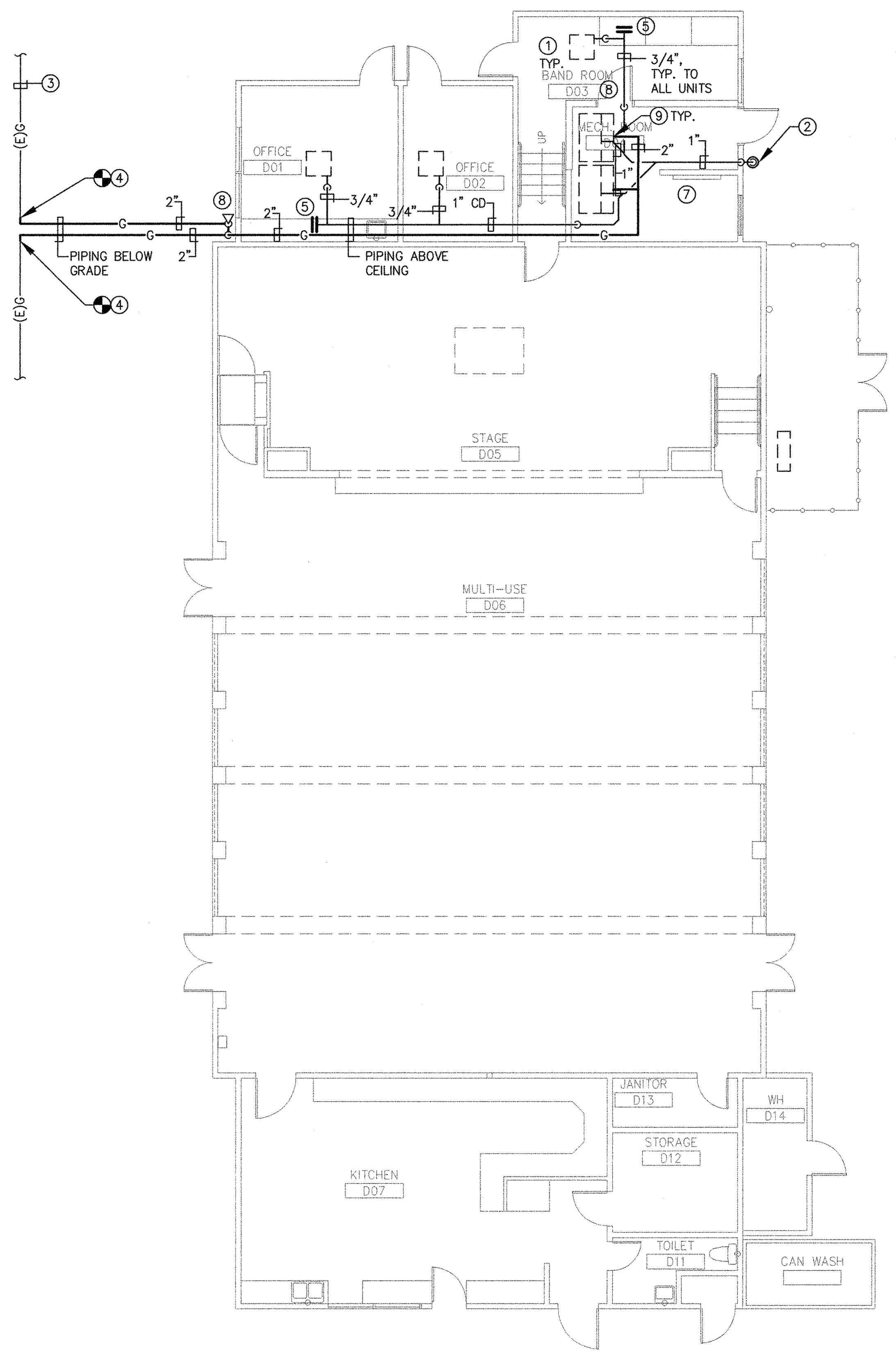
1. FAN COIL UNIT, SEE MECHANICAL DRAWINGS.
2. INSTALL TRENCH DRAIN ON HEAT PUMP HOUSEKEEPING PAD.
3. CONNECT TRENCH DRAIN TO DRY WELL.
4. DROP CONDENSATE TO DRY WELL, SEE DETAIL 1/P0.1.
5. (E) GAS UNDERGROUND, FIELD LOCATE
6. POINT OF CONNECTION TO (E) GAS
7. CONDENSATE CLEAN OUT
8. CONDENSATE ABOVE CEILING
9. CONDENSATE EXPOSED BELOW CEILING
10. BUILDING GAS SHUT OFF VALVE.
11. FOR GAS CONNECTION TO UNIT, SEE 2/P0.1.



BUILDING D - PLUMBING DEMOLITION

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

TRUE NORTH REF NORTH

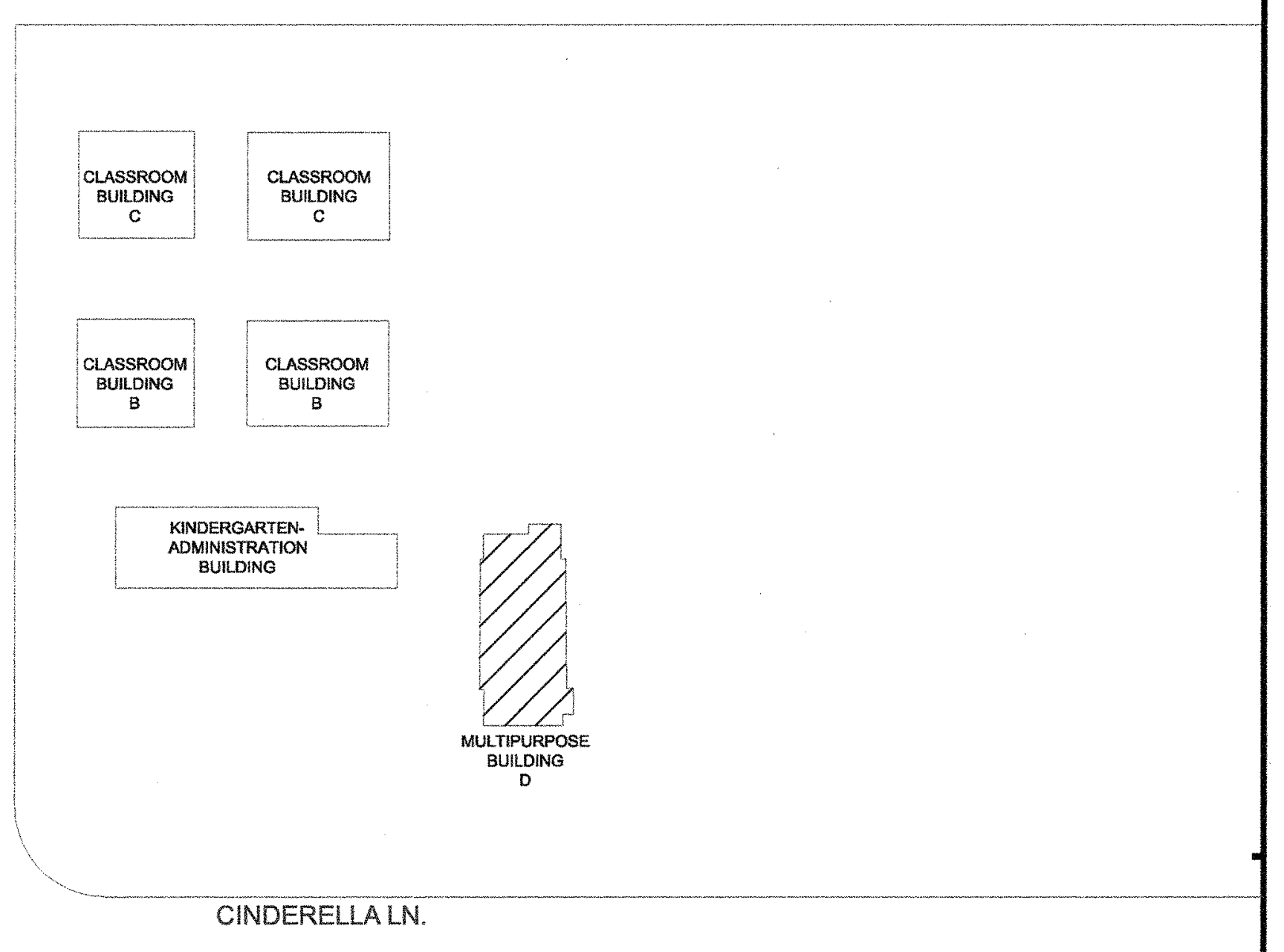


BUILDING D - PLUMBING

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

TRUE NORTH REF NORTH

BUILDING KEY



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BUILDING D MULTI-USE BUILDING - FLOOR PLANS PLUMBING

CLYDE ARBUCKLE ELEMENTARY SCHOOL - HVAC UPGRADES
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ALUM ROCK UNION ELEMENTARY SCHOOL DISTRICT

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ELECTRICAL SYMBOLS

○	SURFACE OR PENDANT MOUNTED FIXTURE AND OUTLET	REFER TO FIXTURE SCHEDULE FOR EXACT TYPE
⊢○	WALL MOUNTED FIXTURE AND OUTLET	
▣	CEILING RECESS MOUNTED FIXTURE AND OUTLET	
◧	CEILING RECESS MOUNTED WALL WASHER FIXTURE	
□ ▯ ▯	LIGHT FIXTURE	◪ DENOTES FIXTURE W/BATTERY PACK BACK-UP UNIT (EMERGENCY LIGHT)
⊢—⊣	STRIP FIXTURE	
⊗	UNIVERSAL MOUNTED EXIT FIXTURE AND OUTLET	PROVIDE ARROW AND NUMBER OF FACES AS REQUIRED "L" DENOTES LOW LEVEL
⊢⊗	WALL RECESS OR SURFACE MOUNTED EXIT FIXTURE AND OUTLET.	
⬡	FIXTURE IDENTIFICATION TAG – SEE SCHEDULE	
$a	1 POLE, 20A SPECIFICATION GRADE SWITCH. MOUNTED +44" U.O.N. a INDICATES LAMP SWITCHING.	
$3	3 WAY, 20A SPECIFICATION GRADE SWITCH MOUNTED +44" U.O.N.	
$4	4 WAY, 20A SPECIFICATION GRADE SWITCH MOUNTED +44" U.O.N.	
$M	MOMENTARY CONTACT SWITCH MOUNTED +44" U.O.N.	
$K	KEY OPERATED SWITCH	
$T	MANUAL MOTOR STARTER SWITCH FOR 3/4HP MOTORS AND BELOW	
⊢D	LED 0–10v DIMMING SWITCH WATT STOPPER DCLV1 WITH BZ POWER PACK OR EQUAL MOUINTED +44" U.O.N.	
D	LED 0–10V LUTRON DIMMING SWITCH WATT STOPPER LMDM–101 MOUINTED +44" U.O.N.	
RC	DIGITAL ROOM CONTROLLER MOUNTED ABOVE CEILING. WATT STOPPER LMRC–212/213	
(PC)	PHOTOELECTRIC CONTROL	
OS W	CEILING MOUNTED OCCUPANCY SENSOR WITH POWER PACK, W DENOTES WALL MOUNTED AT +8' AFF U.O.N..	
(OS) W	CEILING MOUNTED OCCUPANCY SENSOR WITH NO POWER PACK, W DENOTES WALL MOUNTED AT +8' AFF U.O.N.	
⊢OD	WALL MOUNTED OCCUPANCY SENSOR WITH OVERRIDE DIMMING SWITCH. MOUNTED +44" U.O.N. LUTRON MS–Z101–WH OR EQUAL	
⊢OS	WALL MOUNTED OCCUPANCY SENSOR WITH DUAL OVERRIDE SWITCHES. MOUNTED +44" U.O.N.	
⊢(OS)	WALL MOUNTED OCCUPANCY SENSOR WITH SINGLE ON/OFF SWITCH. MOUNTED +44" U.O.N.	
PP	OCCUPANCY SENSOR POWER PACK	
Ⓙ	JUNCTION BOX WITH COVER	
⊢⊘	SPECIAL RECEPTACLE OUTLET. AMPERE, VOLTAGE, PHASE AND NEMA RATING AS NOTED ON THE DRAWINGS	
⊢⊖	20A–120V DUPLEX RECEPTACLE OUTLET, NEMA 520R SPECIFICATION GRADE. WALL MOUNTED +18" U.O.N.	
⊢⊖	20A–120V DUPLEX RECEPTACLE OUTLET, NEMA 520R SPECIFICATION GRADE. MOUNTED ABOVE COUNTER SPLASH	
⊢⊕	20A–120V QUADRUPLEX RECEPTACLE OUTLET, NEMA 520R SPECIFICATION GRADE. MOUNTED ABOVE COUNTER SPLASH	
⊖	20A–120V CEILING MOUNTED DUPLEX RECEPTACLE OUTLET, NEMA 520R SPECIFICATION GRADE	
⊗	20A–120V CEILING MOUNTED QUADRUPLEX RECEPTACLE OUTLET NEMA 520R SPECIFICATION GRADE	
⊟	20A–120V DUPLEX FLOOR RECEPTACLE OUTLET	
⊢⊕	20A–120V TWO DUPLEX RECEPTACLE OUTLET IN ONE COVER PLATE. WALL MOUNTED +18" U.O.N.	
⊢⊟	20A–120V DUPLEX RECEPTACLE OUTLET FLUSH MOUNTED ON WIREMOLD.	
⊢⊞	20A–120V TWO DUPLEX RECEPTACLE OUTLET FLUSH MOUNTED ON WIREMOLD.	
◉	FLOOR MOUNTED POWER FEED MONUMENT OR POKE THROUGH	
— PD —	SURFACE MOUNTED NON–METALIC RACEWAY, 2 SECTION, 5 1/4" HIGH X 1 3/4" DEEP WITH COVER, WIREMOLD 5400 SERIES OR HUBBELL EQUAL WITH INLINE DUPLEX RECEPTACLES AND DATA OUTLET AS SHOWN AND ENTRANCE END FITTING ACCESSORIES FOR CONCEALED CONDUIT CONNECTION, U.O.N. MOUNT BOTTOM OF WIREMOLD AT +30" AFF.	
⬡	MECHANICAL EQUIPMENT TAG – SEE MECHANICAL EQUIPMENT SCHEDULE	
⌀	MOTOR CONNECTION	
⊠□	COMBINATION MAGNETIC MOTOR STARTER WITH NON–AUTOMATIC CIRCUIT BREAKER	
⊠	COMBINATION MAGNETIC MOTOR STARTER WITH FUSED DISCONNECT SWITCH	
□	HEAVY–DUTY FUSED DISCONNECT SWITCH, N.F. DENOTES NON FUSED, MOUNTED +6'–6" MAXIMUM	
□	MECHANICAL PACKAGED EQUIPMENT WITH INTEGRAL STARTER AND CONTROL PANEL	
VFD	VARIABLE FREQUENCY DRIVE CONTROLLER, PROVIDED BY MECH.	
▬	FLUSH MOUNTED PANELBOARD – SEE SCHEDULES	
▬	SURFACE MOUNTED PANELBOARD – SEE SCHEDULES	
▨	SWITCHBOARD, DISTRIBUTION PANEL, MCC – SEE SINGLE LINE DIAGRAM	
⊏⊐	RECESS MOUNTED TERMINAL CABINET/CONTROL PANEL	
⊏⊐	SURFACE MOUNTED TERMINAL CABINET/CONTROL PANEL	
T	TRANSFORMER	
(PC)	PHOTOELECTRIC CONTROL	
P	POWER PULL BOX	
S	SIGNAL PULL BOX	

—◠—	CIRCUIT BREAKER	
—◠—▭	CIRCUIT BREAKER WITH CURRENT LIMITING FUSES – SIZE AS SHOWN ON PLANS	
CT'S	CURRENT TRANSFORMER	
(W/H)	WATT/HOUR METER	
(VA)	VOLT/AMP METER	
⌶	NEUTRAL LINK	
⏦	TRANSFORMER	
◎	COPPER WELD GROUND ROD AND INSPECTION WELL – SEE TYPICAL DETAIL ON PLANS	
— G —	BARE COPPER GROUND CABLE BURRIED 24" MINIMUM BELOW FINISH GRADE U.O.N.	
—///—	CONDUIT AND CONDUCTORS INSTALLED UNDERGROUND OR BELOW SLAB	↗ DENOTES GROUND WIRE CROSS LINES DENOTES QUANTITY OF #12 CONDUCTORS UNLESS NOTED OTHERWISE NO CROSS LINES DENOTES 2#12 & 1#12 G UNLESS NOTED OTHERWISE
—///—	CONDUIT AND CONDUCTORS CONCEALED IN WALL OR CEILING	
—///—	CONDUIT AND CONDUCTORS INSTALLED EXPOSED	
A–1 —///→	HOMERUN TO SWITCHBOARD, PANELBOARD, TERMINAL CABINET, ETC.	
——o	WIRING TURNED UP	
——●	WIRING TURNED DOWN	
——⊐	CONDUIT OR DUCT STUB AND CAP	
——▶—	CONDUIT SEAL CROUSE–HINDS "EYS"	
∿	FLEXIBLE RACEWAY	
◁ W	SINGLE JACK DATA OUTLET, CEILING MOUNTED FOR WIRELESS ACCESS WITH (1) CAT 6 CABLE TO BUILDING MDF/IDF AS SHOWN.	
◁	DUAL JACKS DATA OUTLET, CEILING MOUNTED WITH (2) CAT 6 CABLES TO BUILDING MDF/IDF AS SHOWN.	
MS	CEILING MOUNTED SECURITY MOTION SENSOR	
FSD	FIRE SMOKE DAMPER	
RM	FIRE SMOKE RELAY CONTROL MODULE	
☓	FIRE ALARM STROBE.	
□◁ WP	FIRE ALARM SPEAKER, OUTDOOR TYPE MOUNTED MIN. OF 90" AFF.	
⊠◁	FIRE ALARM SPEAKER/STROBE	
○	SMOKE DETECTOR	
◐	HEAT DETECTOR	
◇1	SHEET NOTE IDENTIFICATION TAG, SEE RESPECTIVE "SHEET NOTES"	

SCHOOL EQUIPMENT ANCHORAGE NOTE

ALL ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. WHERE NO DETAIL IS INDICATED, THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2016 CBC, SECTIONS 1616A.1.18 THROUGH 1616A.1.26 AND ASCE 7–10 CHAPTER 13, 26 AND 30.

1. ALL PERMANENT EQUIPMENT AND COMPONENTS.
2. TEMPORARY OR MOVABLE EQUIPMENT ATTACHED (E.G. HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS OR WATER.
3. MOVABLE EQUIPMENT WHICH IS STATIONED IN ONE PLACE FOR MORE THAN 8 HOURS AND HEAVIER THAN 400 POUNDS ARE REQUIRED TO BE ANCHORED WITH TEMPORARY ATTACHMENTS.

THE ATTACHMENT OF THE FOLLOWING ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE, BUT NEED NOT BE DETAILED ON THE PLANS. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED PIPING, AND CONDUIT.

A. COMPONENTS WEIGHING LESS THAN 400 POUNDS AND HAVE A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT

B. COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR IN THE CASE OF DISTRIBUTED SYSTEMS, LESS THAN 5 POUNDS PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.

FOR THESE ELEMENTS THAT DO NOT REQUIRE DETAILS ON THE APPROVED DRAWINGS, THE INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE STRUCTURAL ENGINEER OF RECORD AND THE DSA DISTRICT STRUCTURAL ENGINEER. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEN ANCHORED IN ACCORDANCE WITH ABOVE REQUIREMENTS.

ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE

ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7–10 SECTION 13.3 AS DEFINED IN ASCE 7–10 SECTION 13.6.5.6, 13.6.7, 13.6.8 AND 2016 CBC, SECTIONS 1616A.1.24, 1616A 1.25 AND 1616A.1.26.

THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW. WHEN BRACING AND ATTACHMENTS ARE BASED ON A PRE–APPROVED INSTALLATION GUIDE (e.g. SMACNA OR OSHPD OPM), 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 BRACING AND ATTACHMENTS TO THE STRUCTURE SHALL BE DETAILED ON THE APPROVED DRAWINGS OR THEY SHALL COMPLY WITH ONE OF THE OSHPD PRE–APPROVALS (OPM OR OSP) AS MODIFIED TO SATISFY ANCHORAGE REQUIREMENTS OF ACI 318, APPENDIX D.

ELECTRICAL DISTRIBUTION SYSTEM:

☒ OPTION 1: DETAILED ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS.

☐ OPTION 2: SHALL COMPLY WITH THE APPLICABLE OSHPD PRE–APPROVAL (OPM #) # ________.

☐ OPTION 3: SHALL COMPLY WITH THE SMACNA SEISMIC RESTRAINT MANUAL, OSHPD EDITION (2009), INCLUDING ANY ADDENDA. FASTENERS AND OTHER ATTACHMENTS NOT SPECIFICALLY IDENTIFIED IN THE SMACNA SEISMIC RESTRAINT MANUAL, OSHPD EDITION, ARE DETAILED ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS. THE DETAILS SHALL ACCOUNT FOR THE APPLICABLE SEISMIC HAZARD LEVEL _____ AND CONNECTION LEVEL ______ FOR THE PROJECT AND CONDITIONS.

ABBREVIATIONS

A, AMPS	AMPERES
A/C	AIR CONDITIONER
AC	ALTERNATE CURRENT
AF	AMPERE FRAME
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AIC	AMPERE INTERRUPTION CURRENT
AL	ALUMINUM
APP.	APPROXIMATE
ARCH	ARCHITECT/ARCHITECTURAL
AT	AMPERES TRIP
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BC	BARE COPPER
BKBD	BACKBOARD
BKR	BREAKER
BLDG	BUILDING
C	CONDUIT
CB	CIRCUIT BREAKER
CC	CENTER TO CENTER
CAB.	CABINET
CKT	CIRCUIT
CL	CENTER LINE
CLG	CEILING
CLR	CLEAR
CO	CONDUIT ONLY
CTR	CENTER
CU	COPPER
DC	DIRECT CURRENT
DET.	DETAIL
DIA	DIAMETER
DIST	DISTRIBUTION
DN	DOWN
DP	DISTRIBUTION PANEL
DWG	DRAWING
EMERG	EMERGENCY
EMS	ENERGY MANAGEMENT SYSTEM
EMT	ELECTRICAL METALLIC TUBING
ENCL	ENCLOSURE/ENCLOSED
ELR	END–OF–LINE RESISTOR
EPO	EMERGENCY POWER OFF
EQ	EQUAL
EQUIP	EQUIPMENT
EWC	ELECTRIC WATER COOLER
<E>	EXISTING TO REMAIN
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FLA	FULL LOAD AMPERES
FLEX	FLEXIBLE
FUT, <F>	FUTURE
G	GROUND
GALV	GALVANIZED
GRS	GALVANIZED RIGID STEEL
GFI	GROUND FAULT INTERRUPTER
HD	HEAT DETECTOR
HH	HANDHOLE
HID	HIGH INTENSITY DISCHARGE
HO	HIGH OUTPUT
HOA	HAND–OFF–AUTO
HP	HORSEPOWER
HPS	HIGH PRESSURE SODIUM
HSP	HOUSE SERVICE PANEL
HV	HIGH VOLTAGE
HZ	HERTZ
IC	INTERCOM
ISC	INTERRUPTING SHORT CIRCUIT
IG	ISOLATED GROUND
INST	INSTANTANEOUS
JB	JUNCTION BOX
KCMIL	KILO CIRCULAR MILLS
KV	KILOVOLTS
KVA	KILOVOLT–AMPERES
KW	KILOWATTS
KWH	KILOWATT–HOURS
LCP	LIGHTING CONTROL PANEL
LPS	LOW PRESSURE SODIUM
LTG	LIGHTING
MAX	MAXIMUM
MCC	MOTOR CONTROL CENTER
MFG	MANUFACTURING
MFR	MANUFACTURER
MECH	MECHANICAL
MH	MANHOLE
MIC	MICROPHONE
MIN	MINIMUM
MISC	MISCELLANEOUS
MLO	MAIN LUGS ONLY
MTD	MOUNTED
MTG. HT.	MOUNTING HEIGHT
MSB	MAIN SWITCHBOARD
MSG	MAIN SWITCH GEAR
<N>	NEW
N	NEUTRAL
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN, NUMBER
NTS	NOT TO SCALE
OC	ON CENTER
OH	OVERHEAD
P	POLE
PH, ø	PHASE
PA	PUBLIC ADDRESS
PB	PUSHBUTTON
PDU	POWER DISTRIBUTION UNIT
PNL	PANEL
PVC	POLYVINYL CHLORIDE
<R>	REMOVED
<RE>	NEW LOCATION OF RELOCATED DEVICE
REC	RECEPTACLE
REQ'D	REQUIRED
<RL>	EXISTING TO BE RELOCATED
RS	RAPID START
RSC	RIGID STEEL CONDUIT
SEC	SECONDARY
SN	SOLID NEUTRAL
SPECS	SPECIFICATIONS
STD	STANDARD
SWBD	SWITCHBOARD
TEL	TELEPHONE
TYP	TYPICAL
UG	UNDERGROUND
UL	UNDERWRITERS LABORATORIES
UON	UNLESS OTHERWISE NOTED
V	VOLTS
VA	VOLT–AMPERES
W	WATTS, WIRE
WH	WATER HEATER
WP	WEATHERPROOF
WT	WATERTIGHT
XFMR	TRANSFORMER
XP	EXPLOSION PROOF
+4–6"	TYPICAL MOUNTING HEIGHT 4'–6" ABOVE FLOOR OR GRADE TO CENTER OF BOX

GENERAL NOTES

1. ALL ELECTRICAL WORK SHALL COMPLY WITH THE CURRENT APPROVED EDITION OF THE NATIONAL ELECTRICAL CODE, AS ACCEPTED AND AMENDED BY LOCAL ORDINANCES.
2. ANY EQUIPMENT AND MATERIALS FURNISHED BY THE CONTRACTOR SHALL BE NEW, UNUSED AND FREE FROM DEFECTS.
3. CONTRACTOR SHALL VERIFY FINAL PLACEMENT AND CONNECTION REQUIREMENTS PRIOR TO ROUGHING IN EQUIPMENT UTILITIES.
4. FINAL ACCEPTANCE OF WORK IN PLACE SHALL BE SUBJECT TO APPROVAL BY OWNER'S REPRESENTATIVE AND ARCHITECT/ENGINEER. INSTALLATION APPROVAL SHALL BE BASED ON APPROVED SUBMITTAL, SHOP DRAWINGS AND LOCAL INSPECTIONS.
5. ALL WORK SHOWN ON DRAWINGS IS IN PART SCHEMATIC, INTENDED TO CONVEY SCOPE OF WORK AND GENERAL LAYOUT. VERIFY ALL EXISTING CONDITIONS AND MAKE ADJUSTMENTS AS REQUIRED.
6. CONTRACTOR SHALL PROVIDE UPDATED/CORRECTED PANEL DIRECTORIES WITHIN EACH PANELBOARD PRIOR TO FINAL ACCEPTANCE OF WORK IN PLACE.
7. BRANCH CIRCUIT RACEWAY SHALL BE A MINIMUM OF 3/4" ELECTRICAL METALLIC TUBING (EMT) UNLESS OTHERWISE NOTED. RACEWAYS IN RAISED FLOOR OR IN PLENUM SPACE SHALL BE A MINIMUM OF 3/4" RIGID GALVANIZED STEEL (RGS) OR RIGID ALUMINUM (RAL) UNLESS OTHERWISE NOTED. RACEWAY BETWEEN RECESSED LIGHT FIXTURES SHALL BE A MINIMUM OF 1/2" FLEXIBLE STEEL METAL CONDUIT UNLESS OTHERWISE NOTED.
8. ALL INTERIOR OUTLETS, JUNCTION AND PULL BOXES SHALL BE METALLIC, SIZED PER CODE FOR THE NUMBER OF CONDUCTORS THEREIN.
9. ALL ELECTRICAL RACEWAYS SHALL BE CONCEALED IN THE WALLS AND ABOVE SUSPENDED CEILING OR BELOW RAISED FLOOR UNLESS OTHERWISE NOTED.
10. ALL CONDUCTORS SHALL BE #12 AWG MINIMUM TYPE THHN/THWN UNLESS NOTED OTHERWISE.
11. PROVIDE AND INSTALL MISCELLANEOUS STEEL FOR PROPER INSTALLATION OF THE ELECTRICAL EQUIPMENT. DETAILS OF THE STEEL SUPPORTS SHALL BE INDICATED ON THE SHOP DRAWINGS SUBMITTED FOR APPROVAL.
12. MC CABLE IS NOT ACCEPTABLE FOR ANY ELECTRICAL INSTALLATION.

DRAWING INDEX

E0.1 ELECTRICAL SYMBOLS, ABBREVIATIONS, GENERAL NOTES AND DRAWING INDEX
E0.2 ELECTRICAL – TITLE 24 COMPLIANCE
E1.1 ELECTRICAL SITE PLAN
E2.1 BUILDING A ADMIN–KINDER ELECTRICAL PLANS
E2.2 BUILDING B ELECTRICAL PLANS
E2.3 BUILDING C ELECTRICAL PLANS
E2.4 BUILDING D ELECTRICAL PLANS

E4.1 FIXTURE SCHEDULE AND DETAILS

E7.1 FIRE ALARM NOTES AND DETAILS
E7.2 FIRE ALARM CALCULATIONS

SUGIMURA
FINNEY
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SFA
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REGISTERED PROFESSIONAL ENGINEER
S. MARK FISHER
E16525
Exp. 12-31-19
ELECTRICAL
STATE OF CALIFORNIA

Date Signed 05/10/18

ALFATECH
1321 RIDDER PARK DRIVE, SUITE 50 408–487–1200
SAN JOSE, CALIFORNIA 95131 FAX: 408–487–1422
SAN JOSE SAN FRANCISCO • THAILAND SINGAPORE
SYDNEY MELBOURNE • DUBLIN • CORK LONDON DUBAI
PROJECT # 217280

ELECTRICAL SYMBOLS, ABBREVIATIONS,
GENERAL NOTES AND DRAWING INDEX

CLYDE ARBUCKLE ELEMENTARY SCHOOL - HVAC UPGRADES
1970 CINDERELLA LN., SAN JOSE, CA 95116
ALUM ROCK UNION ELEMENTARY SCHOOL DISTRICT

REVISIONS

NO.	ITEM	DATE
	DD SUBMITTAL	12-8-17
	DSA SUBMITTAL	01-31-18
	BID SET	04-06-18
	DSA BACK CHECK	05-10-18

DSA FILE NUMBER 43-04

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APPL 01-117268
AC ____ FLS ____ SS ____
DATE MAY 10 2018

DRAWN BY: AT
CHECKED BY: AT
JOB NO: 17102
DATE: 05/10/18

E0.1

STATE OF CALIFORNIA
INDOOR LIGHTING
CEC-NRCC-LTI-01-E (Revised 04/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-01-E
Indoor Lighting	(Page 1 of 6)
Project Name: Clyde Arbuckle Elementary School - HVAC Upgrades	Date Prepared: 1/23/2018

A. General Information

Climate Zone: 4	Conditioned Floor Area: 24,709					
	Unconditioned Floor Area: 0					
Building Type:	☑	Nonresidential	☐	High-Rise Residential	☐	Hotel/Motel
☐ Schools	☐	Relocatable Public Schools	☑	Conditioned Spaces	☐	Unconditioned Spaces
Phase of Construction:	☐	New Construction	☐	Addition	☑	Alteration
Method of Compliance:	☐	Complete Building	☑	Area Category	☐	Tailored

Project Address: 1970 Cinderella Lane, San Jose, CA. 95116

B. Lighting Compliance Documents (select yes for each document included)

For detailed instructions on the use of this and all Energy Efficiency Standards compliance documents, refer to the Nonresidential Manual published by the California Energy Commission.

YES	NO	COMP. DOC.	TITLE
☑	☐	NRCC-LTI-01-E	Certificate of Compliance. All Pages required on plans for all submittals.
☑	☐	NRCC-LTI-02-E	Lighting Controls, Certificate of Compliance, and PAF Calculation. All Pages required on plans for all submittals.
☑	☐	NRCC-LTI-03-E	Indoor Lighting Power Allowance
☐	☑	NRCC-LTI-04-E	Tailored Method Worksheets
☐	☑	NRCC-LTI-05-E	Line Voltage Track Lighting Worksheets
☐	☐	NRCC-LTI-06-E	Indoor Lighting Existing Conditions

STATE OF CALIFORNIA
INDOOR LIGHTING
CEC-NRCC-LTI-01-E (Revised 04/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-01-E
Indoor Lighting	(Page 2 of 6)
Project Name: Clyde Arbuckle Elementary School - HVAC Upgrades	Date Prepared: 1/23/2018

C. Summary of Allowed Lighting Power

Conditioned and Unconditioned space Lighting must not be combined for compliance

	Indoor Lighting Power for Conditioned Spaces		Watts	Indoor Lighting Power for Unconditioned Spaces		Watts
01	**Installed** Lighting NRCC-LTI-01-E, Table H, page 5	+	15,115	**Installed** Lighting NRCC-LTI-01-E, Table H, page 5	+	0
02	Portable Only for Offices NRCC-LTI-01-E, Table G, page 4	+				
03	Minus Lighting Control Credits NRCC-LTI-02-E, page 2	-	0	Minus Lighting Control Credits NRCC-LTI-02-E, page 2	-	0
04	Adjusted **Installed** Lighting Power (row 1 plus row 2 minus row 3)	=	15,115	Adjusted **Installed** Lighting Power (row 1 minus row 3)	=	0
	Complies ONLY if **Installed** ≤ **Allowed** (Box 04 < Box 05)			Complies ONLY if **Installed** ≤ **Allowed** (Box 04 < Box 05)		
05	**Allowed** Lighting Power Conditioned NRCC-LTI-03-E, page 1 Alterations with replacement luminaires that have at least 50/35% lower power compared to the original existing luminaires, may instead use the allowed wattage from NRCC-LTI-06, page 2		28,422	**Allowed** Lighting Power Unconditioned NRCC-LTI-03-E, page 1 Alterations with replacement luminaires that have at least 50/35% lower power compared to the original existing luminaires, may instead use the allowed wattage from NRCC-LTI-06, page 2		0

D. Declaration of Required Certificates of Installation

Declare by selecting yes for all of the Certificates that will be submitted. (Retain copies and verify forms are completed and signed.)

YES	NO	Compliance Document/Title	
☑	☐	NRCI-LTI-01-E - Must be submitted for all buildings	☐ Field Inspector
☑	☐	NRCI-LTI-02-E - Must be submitted for a lighting control system, or for an Energy Management Control System (EMCS), to be recognized for compliance.	☐ Field Inspector
☐	☑	NRCI-LTI-03-E - Must be submitted for a line-voltage track lighting integral current limiter, or for a supplementary overcurrent protection panel used to energize only line-voltage track lighting, to be recognized for compliance.	☐ Field Inspector
☐	☑	NRCI-LTI-04-E - Must be submitted for two interlocked systems serving an auditorium, a convention center, a conference room, a multipurpose room, or a theater to be recognized for compliance.	☐ Field Inspector
☐	☑	NRCI-LTI-05-E - Must be submitted for a Power Adjustment Factor (PAF) to be recognized for compliance.	☐ Field Inspector
☐	☑	NRCI-LTI-06-E - Must be submitted for additional wattage installed in a video conferencing studio to be recognized for compliance.	☐ Field Inspector

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STATE OF CALIFORNIA
INDOOR LIGHTING
CEC-NRCC-LTI-01-E (Revised 04/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-01-E
Indoor Lighting	(Page 3 of 6)
Project Name: Clyde Arbuckle Elementary School - HVAC Upgrades	Date Prepared: 1/23/2018

E. Declaration of Required Certificates of Acceptance

Declare by selecting yes for all of the Certificates that will be submitted. (Retain copies and verify forms are completed and signed.)

YES	NO	Compliance Document/Title	
☑	☐	NRCA-LTI-02-A - Must be submitted for occupancy sensors and automatic time switch controls.	☐ Field Inspector
☑	☐	NRCA-LTI-03-A - Must be submitted for automatic daylight controls.	☐ Field Inspector
☐	☑	NRCA-LTI-04-A - Must be submitted for demand responsive lighting controls.	☐ Field Inspector
☐	☑	NRCA-LTI-05-A – Must be submitted for institutional tuning power adjustment factor (PAF).	☐ Field Inspector

A Separate Lighting Schedule Must Be Filled Out for Conditioned and Unconditioned Spaces. Installed Lighting Power listed on this Lighting Schedule is only for:
☐ **CONDITIONED SPACE** ☐ **UNCONDITIONED SPACE**

F. Indoor Lighting Schedule and Field Inspection Energy Checklist

- ☐ The actual indoor lighting power listed on the next 2 pages includes all installed permanent and planned portable lighting systems.
- ☐ When Complete Building Method is used for compliance, list each different type of luminaire on separate lines.
- ☐ When Area Category Method or Tailored Method is used for compliance, list each different type of luminaire by each different function area on separate lines
- ☐ Also include track lighting in schedule, and submit the track lighting compliance document (NRCC-LTI-05-E) when line-voltage track lighting is installed.

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CERTIFICATE OF COMPLIANCE	NRCC-LTI-01-E
Indoor Lighting	(Page 4 of 6)
Project Name: Clyde Arbuckle Elementary School - HVAC Upgrades	Date Prepared: 1/23/2018

G. Installed Portable Luminaires in Offices – Exception to Section 140.6(a)

- ☐ This section shall be filled out ONLY for portable luminaires in offices (As defined in §100.1). All other planned portable luminaires shall be documented on next page of this compliance document.
- ☐ This section is used to determine if greater than 0.3 watts of portable lighting is planned for any office
- ☐ Fill out a separate line for each different office. Small offices that are typical (having the same general and portable lighting) may be grouped together. This allowance shall not be traded between offices having different lighting systems.

Office Portable Luminaire Schedule	Office Installed Portable Luminaire W/ft²							Office Location	Field Inspector	
1	2	3	4	5	6	7	8	9	10	
Complete Luminaire Description (i.e., LED, under cabinet, furniture mounted direct/indirect)	Watts per Luminaire	Number of Luminaires	Installed portable luminaire watts in this office (G02 x G03)	Square feet of this office	Watts per square foot (G04 / G05)	If G06 ≤ 0.3, enter zero; if G06 > 0.3, (G06-0.3)	(G05 x G07)	Identify Office area in which these portable luminaires are installed	Pass	Fail
									☐	☐
									☐	☐
									☐	☐
									☐	☐
									☐	☐
Total installed portable luminaire watts that are greater than 0.3 W/ft² per office:								Enter sum total of all pages into NRCC-LTI-01-E; Page 1		

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CERTIFICATE OF COMPLIANCE	NRCC-LTI-01-E
Indoor Lighting	(Page 5 of 6)
Project Name: Clyde Arbuckle Elementary School - HVAC Upgrades	Date Prepared: 1/23/2018

A Separate Lighting Schedule Must Be Filled Out for Conditioned and Unconditioned Spaces. Installed Lighting Power listed on this Lighting Schedule is only for:
☑ **CONDITIONED SPACE** ☐ **UNCONDITIONED SPACE**

H. Indoor Lighting Schedule and Field Inspection Energy Checklist

Luminaire Schedule		Installed Watts					Location	Field Inspector[1]	
01	02	03	04		05	06	07	08	
			How wattage was determined						
Name or Item Tag	Complete Luminaire Description (i.e, 3 lamp fluorescent troffer, F32T8, one dimmable electronic ballast)	Watts per Luminaire	CEC Default from NA8	According to §130.0(c)	Number Luminaires	Total Installed Watts in this area (H03 x H05)	Primary Function area in which these luminaires are installed	Pass	Fail
A	2x4 Recessed Led	41.0	☑	☐	6	246	Office > 250 sqft	☐	☐
A	2x4 Recessed Led	41.0	☑	☐	4	164	Office <= 250 sqft	☐	☐
A	2x4 Recessed Led	41.0	☑	☐	8	328	Lounge, Recreation	☐	☐
A/A1	2x4 Recessed Led	41.0	☑	☐	16	656	Library, Reading Area	☐	☐
A/A1	2x4 Recessed Led	41.0	☑	☐	232	9,512	Classroom, Lecture, Training	☐	☐
A2	2X2 Recessed Led	43.0	☑	☐	16	688	Office <= 250 sqft	☐	☐
A2/A3	2X2 Recessed Led	43.0	☑	☐	12	516	Lobby, Main Entry	☐	☐
B	1x4 Surface Led Wraparound	51.0	☑	☐	3	153	Electrical, Mechanical Room	☐	☐
B	1x4 Surface Led Wraparound	51.0	☑	☐	2	102	Convention/Conference/Meetin	☐	☐
INSTALLED WATTS PAGE TOTAL:						12,365	Enter sum total of all pages into NRCC-LTI-01-E; Page 2		

STATE OF CALIFORNIA
INDOOR LIGHTING
CEC-NRCC-LTI-01-E (Revised 04/16) CALIFORNIA ENERGY COMMISSION

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Luminaire Schedule		Installed Watts					Location	Field Inspector[1]	
01	02	03	04		05	06	07	08	
			How wattage was determined						
Name or Item Tag	Complete Luminaire Description (i.e, 3 lamp fluorescent troffer, F32T8, one dimmable electronic ballast)	Watts per Luminaire	CEC Default from NA8	According to §130.0(c)	Number Luminaires	Total Installed Watts in this area (H03 x H05)	Primary Function area in which these luminaires are installed	Pass	Fail
B	1x4 Surface Led Wraparound	51.0	☑	☐	1	51	Corridor/Restroom/Support	☐	☐
B	1x4 Surface Led Wraparound	51.0	☑	☐	4	204	Office <= 250 sqft	☐	☐
B/B1	1x4 Surface Led Wraparound	51.0	☑	☐	6	306	Corridor/Restroom/Support	☐	☐
B1	1x4 Surface Led Wraparound	51.0	☑	☐	5	255	Corridor/Restroom/Support	☐	☐
D/D1	2x4 Surfaces Led	59.0	☑	☐	30	1,770	Convention/Conference/Meetin	☐	☐
F	4ft Surface Lensed Led Strip	41.0	☑	☐	4	164	Electrical, Mechanical Room	☐	☐
			☐	☐				☐	☐
			☐	☐				☐	☐
			☐	☐				☐	☐
INSTALLED WATTS PAGE TOTAL:						2,750	Enter sum total of all pages into NRCC-LTI-01-E; Page 2		

STATE OF CALIFORNIA
INDOOR LIGHTING – LIGHTING CONTROLS
CEC-NRCC-LTI-02-E (Revised 01/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-02-E
Indoor Lighting - Lighting Controls	(Page 1 of 3)
Project Name: Clyde Arbuckle Elementary School - HVAC Upgrades	Date Prepared: 1/23/2018

A. Mandatory Lighting Control Declaration Statements (Indicate if the measure applies by checking yes or no below.)

YES	NO	Control Requirements
☑	☐	Lighting shall be controlled by self-contained lighting control devices which are certified to the Energy Commission according to the Title 20 Appliance Efficiency Regulations in accordance with Section 110.9.
☑	☐	Lighting shall be controlled by a lighting control system or energy management control system in accordance with §110.9. An Installation Certificate shall be submitted in accordance with Section 130.4(b).
☐	☑	One or more Track Lighting Integral Current Limiters shall be installed which have been certified to the Energy Commission in accordance with §110.9 and §130.0. Additionally, an Installation Certificate shall be submitted in accordance with Section 130.4(b).
☐	☑	A Track Lighting Supplementary Overcurrent Protection Panel shall be installed in accordance with Section 110.9 and Section 130.0. Additionally, an Installation Certificate shall be installed in accordance with Section 130.4(b).
☑	☐	All lighting controls and equipment shall comply with the applicable requirements in §110.9 and shall be installed in accordance with the manufacturer's instructions in accordance with Section 130.1.
☑	☐	All luminaires shall be functionally controlled with manually switched ON and OFF lighting controls in accordance with Section 130.1(a).
☑	☐	General lighting shall be separately controlled from all other lighting systems in an area. Floor and wall display, window display, case display, ornamental, and special effects lighting shall each be separately controlled on circuits that are 20 amps or less. When track lighting is used, general, display, ornamental, and special effects lighting shall each be separately controlled; in accordance with Section 130.1(a)4.
☑	☐	The general lighting of any enclosed area 100 square feet or larger, with a connected lighting load that exceeds 0.5 watts per square foot shall meet the multi-level lighting control requirements in accordance with Section 130.1(b).
☑	☐	All installed indoor lighting shall be equipped with controls that meet the applicable Shut-OFF control requirements in Section 130.1(c).
☑	☐	Lighting in all Daylit Zones shall be controlled in accordance with the requirements in Section 130.1(d) and daylit zones are shown on the plans.
☐	☑	Lighting power in buildings larger than 10,000 square feet shall be capable of being automatically reduced in response to a Demand Responsive Signal in accordance with Section 130.1(e).
☑	☐	Before an occupancy permit is granted for a newly constructed building or area, or a new lighting system serving a building, area, or site is operated for normal use, indoor lighting controls serving the building, area, or site shall be certified as meeting the Acceptance Requirements for Code Compliance in accordance with Section 130.4.(a). The controls required to meet the Acceptance Requirements include automatic daylight controls, automatic shut-OFF controls, and demand responsive controls.

STATE OF CALIFORNIA
INDOOR LIGHTING
CEC-NRCC-LTI-01-E (Revised 04/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-01-E
Indoor Lighting	(Page 6 of 6)
Project Name: Clyde Arbuckle Elementary School - HVAC Upgrades	Date Prepared: 1/23/2018

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Mark Fisher	Documentation Author Signature:
Company: Alfa Tech	Signature Date: 1/23/2018
Address: 1321 Ridder Park Drive, No. 50	CEA Certification Identification (if applicable): E16525
City/State/Zip: San Jose, CA 95131	Phone: (408)487-1200

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: Mark Fisher	Responsible Designer Signature:
Company : ALFATECH	Date Signed: 01-29-18
Address: 1321 Ridder Park Drive, No. 50	License: E16525
City/State/Zip: San Jose, CA 95131	Phone: (408)487-1200

STATE OF CALIFORNIA
INDOOR LIGHTING – LIGHTING CONTROLS
CEC-NRCC-LTI-02-E (Revised 01/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-02-E
Indoor Lighting - Lighting Controls	(Page 2 of 3)
Project Name: Clyde Arbuckle Elementary School - HVAC Upgrades	Date Prepared: 1/23/2018

A separate document must be filled out for Conditioned and Unconditioned Spaces. This page is used only for the following:
☑ CONDITIONED SPACES ☐ UNCONDITIONED SPACES

B. Mandatory and Prescriptive Indoor Lighting Control Schedule, PAF Calculation, and Field Inspection Checklist

Lighting Control Schedule			Standards Complying With[1] (✓ all that apply, or enter 'E' if Exempted)							PAF Credit Calculation[2]					
										Watts of Controlled Lighting	PAF	Control Credit (K x L)	✓ if Acceptance Test Required	Field Inspector	
01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	
Location in Building	Type/Description of Lighting Control (i.e.: occupancy sensor, automatic time switch, dimmer, automatic daylight, etc...)	# of Units	§130.1(a)	§130.0(b)	§130.1(c)	§130.1(d)	§130.1(e)	§140.6(a)2	§140.6(d)					Pass	Fail
Bldg. A,B,C,D	Multi Level	1	☐	☑	☐	☐	☐	☐	☐				✓	☐	☐
Bldg. A,B,C,D	Occupancy Sensor	1	☐	☐	☑	☐	☐	☐	☐				✓	☐	☐
Bldg. A,B,C,D	Automatic Time Switch	1	☐	☐	☑	☐	☐	☐	☐				✓	☐	☐
Bldg. A,B,C,D	Automatic Daylighting	1	☐	☐	☐	☑	☐	☐	☐				✓	☐	☐
Bldg. A,B,C,D	Secondary Daylighting	1	☐	☐	☐	☐	☐	☐	☑				✓	☐	☐
Bldg. A,B,C,D	Manual Area	1	☑	☐	☐	☐	☐	☐	☐				✓	☐	☐
Control Credit PAGE TOTAL (Sum of Column 13):												0			
IF MULTIPLE PAGES ARE USED, ENTER SUM TOTAL OF Control Credit for all pages HERE (Sum of all Column 13):												0			
												Enter Control Credit total into NRCC-LTI-01-E; Page 1.			

1. §130.1(a) = Manual area controls; §130.0(b) = Multi Level; §130.1(c) = Auto Shut-Off; §130.1(d) = Mandatory Daylight; §130.1(e) = Demand Responsive; §140.6(d) = Additional lighting controls installed to earn a PAF; §140.6(d) = Prescriptive Secondary Sidelit Daylight Controls.
2. Check Table 140.6-A for correct Factor. PAFs shall not be traded between conditioned and unconditioned spaces. As a condition to earn a PAF, an Installation Certificate is also required to be filled out, signed, and submitted.

STATE OF CALIFORNIA
INDOOR LIGHTING POWER ALLOWANCE
CEC-NRCC-LTI-03-E (Revised 04/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-03-E
Certificate of Compliance - Indoor Lighting Power Allowance	(Page 1 of 4)
Project Name: Clyde Arbuckle Elementary School - HVAC Upgrades	Date Prepared: 1/23/2018

A separate page must be filled out for Conditioned and Unconditioned Spaces. This page is only for:
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A. SUMMARY TOTALS OF LIGHTING POWER ALLOWANCES

- ☐ If using Complete Building Method for compliance, use only the total in column (a) as total allowed building watts.
- ☐ If using Area Category Method, Tailored Method, or a combination of Area Category and Tailored Method for compliance, use only the total in column (b) as the total allowed building watts

	(a)	(b)
01 Complete Building Method Allowed Watts. Documented in section B of NRCC-LTI-03-E (below on this page)		
02 Area Category Method Allowed Watts. Documented in section C-1 of NRCC-LTI-03-E (below on this page)		28,422
03 Tailored Method Allowed Watts. Documented in section A of NRCC-LTI-04-E		0
TOTAL ALLOWED BUILDING WATTS. Enter number into correct cell on NRCC-LTI-01, Page 2, Row 1		28,422

☐ Check here if building contains both conditioned and unconditioned areas.

B. COMPLETE BUILDING METHOD LIGHTING POWER ALLOWANCE

01	02		03		04
TYPE OF BUILDING (From §140.6 Table 140.6-B)	WATTS PER ft²	X	COMPLETE BLDG. AREA	=	ALLOWED WATTS
Total Area:					
Total Watts. Enter Total Watts into section A, row 1 (Above on this page)					

C -1 AREA CATEGORY METHOD TOTAL LIGHTING POWER ALLOWANCES	**Watts**
Total from section C-2.	28,422
Total from section C-3.	0
Total Watts. Enter Total Watts into section A, row 2 (Above on this page).	28,422
For Alterations Only – Reduced lighting power option (Total Allowed Watts x 0.85). Enter this value into section A, row 2 if using this option.	

STATE OF CALIFORNIA
INDOOR LIGHTING POWER ALLOWANCE
CEC-NRCC-LTI-03-E (Revised 04/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-03-E
Certificate of Compliance - Indoor Lighting Power Allowance	(Page 2 of 4)
Project Name: Clyde Arbuckle Elementary School - HVAC Upgrades	Date Prepared: 1/23/2018

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C -2 AREA CATEGORY METHOD GENERAL LIGHTING POWER ALLOWANCE

- ☐ Do not include portable lighting for offices. Portable lighting for offices shall be documented only in Section G of NRCC-LTI-01-E.
- ☐ Separately list lighting for each primary function area as defined in §100.1 of the Standards.

01		02		03		04
AREA CATEGORY (From §140.6 Table 140.6-C)						
Location in Building	Primary Function Area per Table 140.6-C	WATTS PER ft²	X	AREA (ft²)	=	ALLOWED WATTS
Classrooms	Classroom, Lecture, Training	1.20		17,106		20,527
Lounge	Lounge, Recreation	0.90		524		472
Reception	Lobby, Main Entry	0.95		393		373
Offices <250 sqft	Office <= 250 sqft	1.00		1,199		1,199
Offices >250 sqft	Office > 250 sqft	0.75		312		234
Corridors/Restrooms/Supports	Corridor/Restroom/Support	0.60		475		285
Electrical,Mechanical	Electrical, Mechanical Room	0.55		319		175
Multi Purpose	Convention/Conference/Meeting	1.20		3,370		4,044
Library	Library, Reading Area	1.10		1,011		1,112
			TOTALS	24,709		
Enter sum total Area Category allowed watts into section C-1 of NRCC-LTI-03-E (this compliance document)						28,422
						WATTS

STATE OF CALIFORNIA
INDOOR LIGHTING – LIGHTING CONTROLS
CEC-NRCC-LTI-02-E (Revised 01/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-02-E
Indoor Lighting - Lighting Controls	(Page 3 of 3)
Project Name: Clyde Arbuckle Elementary School - HVAC Upgrades	Date Prepared: 1/23/2018

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STATE OF CALIFORNIA
INDOOR LIGHTING POWER ALLOWANCE
CEC-NRCC-LTI-03-E (Revised 04/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-03-E
Certificate of Compliance - Indoor Lighting Power Allowance	(Page 3 of 4)
Project Name: Clyde Arbuckle Elementary School - HVAC Upgrades	Date Prepared: 1/23/2018

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C-3 AREA CATEGORY METHOD ADDITIONAL LIGHTING WATTAGE ALLOWANCE (from Table 140.6-C Footnotes)

01	02	03[2]	04	05	06	07
Primary Function	Sq Ft or Linear ft[1]	Additional Watts Allowed	Wattage Allowance (02 x 03)	Description(s) and Quantity of Special Luminaire Types in each Primary Function Area	Total Design Watts[3]	ALLOWED WATTS Smaller of 04 or 06
TOTALS – Enter into TOTAL AREA CATEGORY METHOD ADDITIONAL ALLOWANCES – Section C-1						0

1. Use linear feet only for additional allowance for white board or chalk board. All other additional Area Category allowances shall use watts per square foot.
2 . Additional watts are available only when allowed according to the footnotes on bottom of Table 140.6-C, which include: Specialized task work; Ornamental lighting; Precision commercial and industrial work; Per linear foot of white board or chalk board; Accent, display and feature lighting; and Videoconferencing studio lighting..
3. Luminaire classification and wattage shall be determined in accordance with §130.0(c) of the Standards.

STATE OF CALIFORNIA
INDOOR LIGHTING POWER ALLOWANCE
CEC-NRCC-LTI-03-E (Revised 04/16) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-03-E
Certificate of Compliance - Indoor Lighting Power Allowance	(Page 4 of 4)
Project Name: Clyde Arbuckle Elementary School - HVAC Upgrades	Date Prepared: 1/23/2018

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SUGIMURA
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2155 SOUTH BASCOM AVE.
SUITE 200
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PHONE: 408-879-0600
FAX: 408-377-6066

S. MARK FISHER
E16525
Exp. 12-31-19

Date Signed 05/10/18

ALFATECH
1321 RIDDER PARK DRIVE, SUITE 50 408-487-1200
SAN JOSE, CALIFORNIA 95131 FAX: 408-487-1422
SAN JOSE SAN FRANCISCO • THAILAND SINGAPORE
SYDNEY MELBOURNE • DUBLIN • CORK LONDON DUBAI
PROJECT # 217280

ELECTRICAL TITLE 24 COMPLIANCE

CLYDE ARBUCKLE ELEMENTARY SCHOOL - HVAC UPGRADES
1970 CINDERELLA LN., SAN JOSE, CA 95116
ALUM ROCK UNION ELEMENTARY SCHOOL DISTRICT

REVISIONS

NO.	ITEM	DATE
	DD SUBMITTAL	12-8-17
	DSA SUBMITTAL	01-31-18
	BID SET	04-06-18
	DSA BACK CHECK	05-10-18

DSA FILE NUMBER 43-04

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APPL 01-117268
AC ___ FLS ___ SS ___
DATE MAY 10 2018

DRAWN BY: AT
CHECKED BY: AT
JOB NO: 17102
DATE: 05/10/18

E0.2

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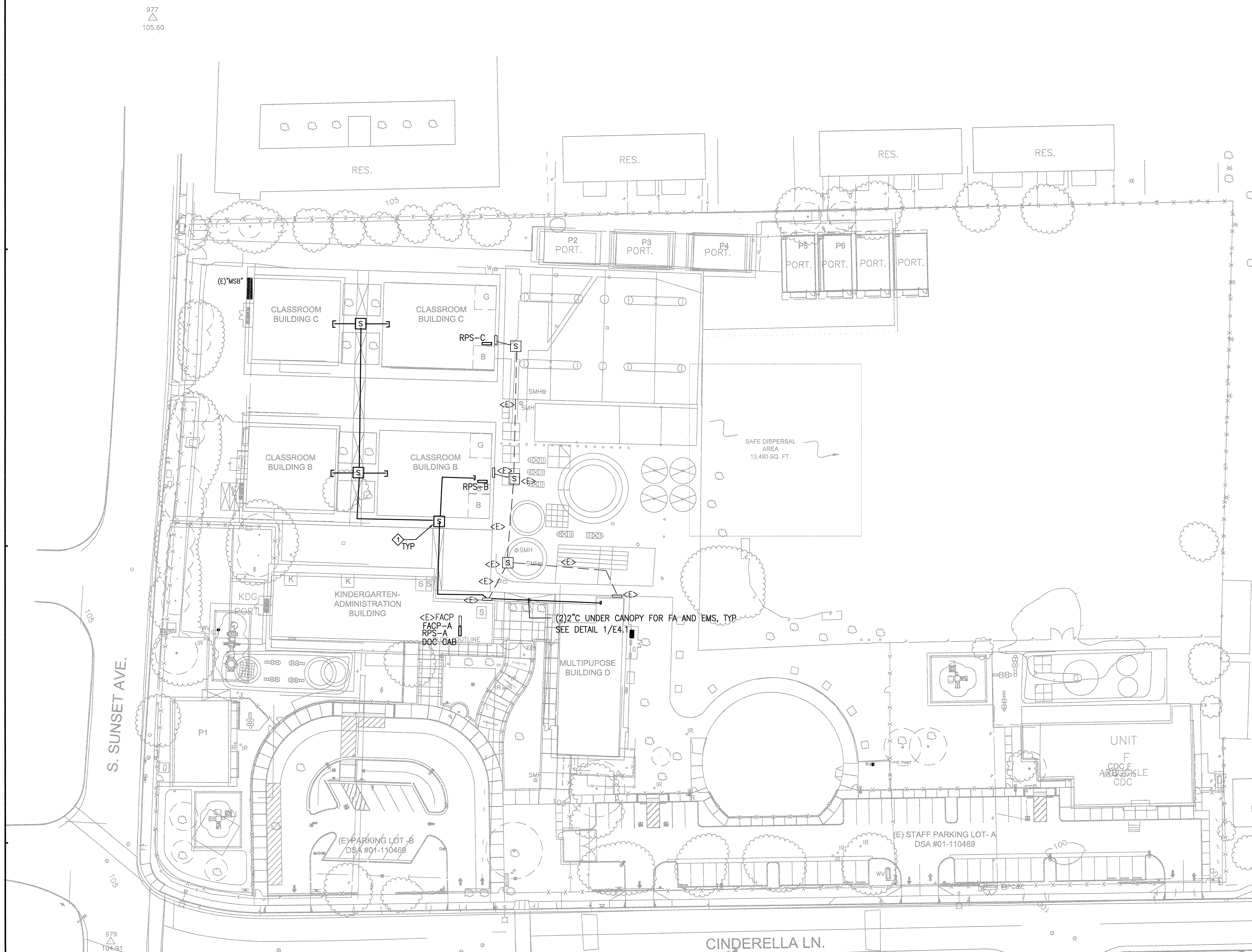

ELECTRICAL SITE PLAN
SCALE: 1" = 30'-0"

GENERAL NOTES

1. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN AN INDEPENDANT UTILITY LOCATER TO IDENTIFY ALL <E> UTILITIES PRIOR TO TRENCHING / BORING.

SHEET NOTES

◇1 PROVIDE 12"X12"X6" WP PULL BOX UNDER CANOPY FOR CONDUIT CONNECTION.

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Exp. 12-31-19

Date Signed 05/10/18

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PROJECT # 217280

ELECTRICAL SITE PLAN

CLYDE ARBUCKLE ELEMENTARY SCHOOL - HVAC UPGRADES
1970 CINDERELLA LN., SAN JOSE, CA 95116
ALUM ROCK UNION ELEMENTARY SCHOOL DISTRICT

REVISIONS

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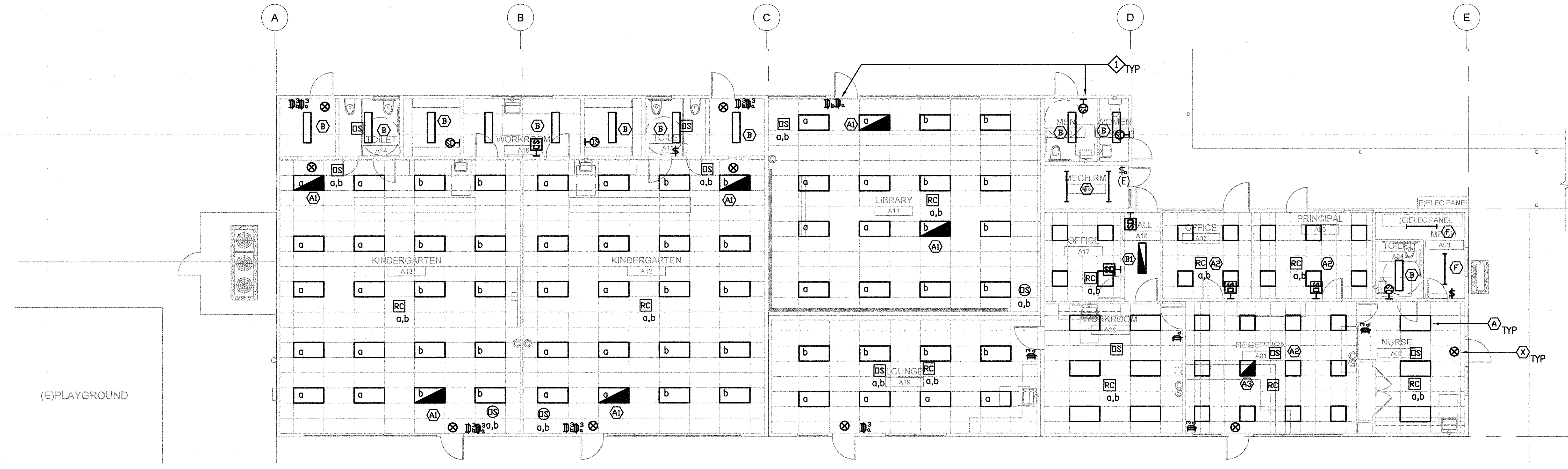
DSA FILE NUMBER 43-04

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APPL 01-117268
AC ____ FLS ____ SS ____
DATE ____
MAY 10 2018

DRAWN BY: AT
CHECKED BY: AT
JOB NO: 17102
DATE: 05/10/18

E1.1

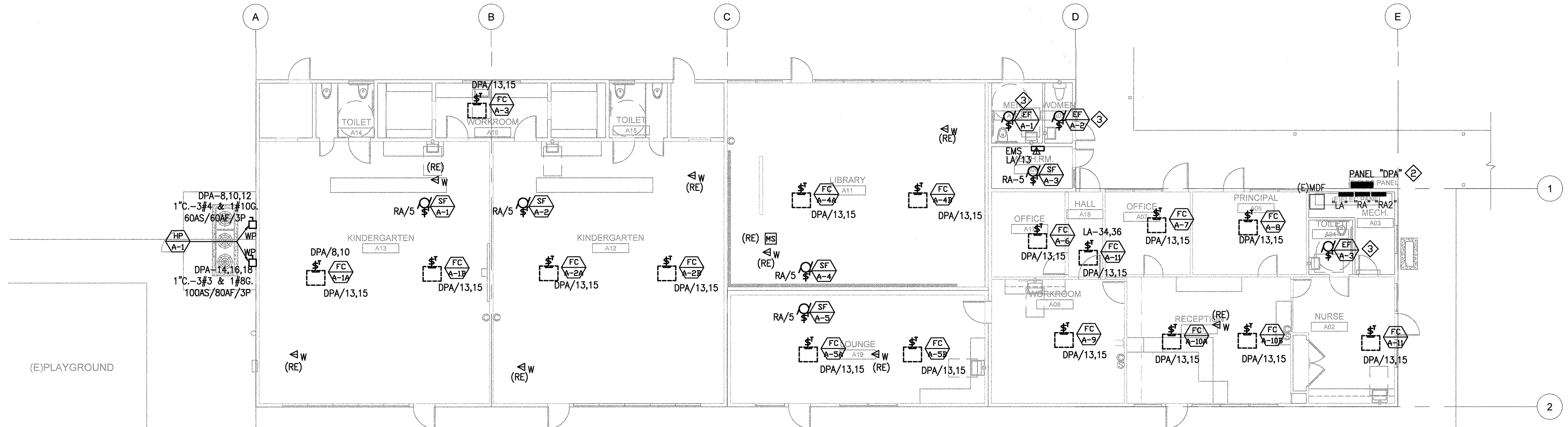


1 BUILDING A ADMIN-KINDER - LIGHTING PLAN

1/8" = 1'-0"

0 2' 4' 8' 16' 24'

TRUE NORTH REF NORTH

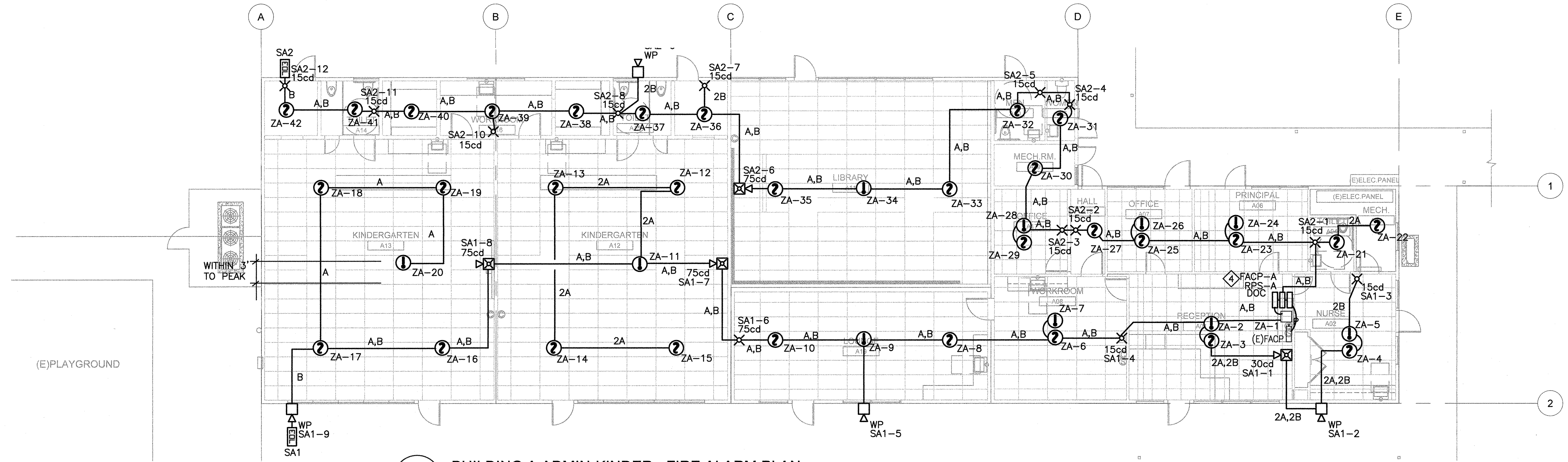


2 BUILDING A ADMIN-KINDER - ELECTRICAL PLAN

1/8" = 1'-0"

0 2' 4' 8' 16' 24'

TRUE NORTH REF NORTH



3 BUILDING A ADMIN-KINDER - FIRE ALARM PLAN

1/8" = 1'-0"

0 2' 4' 8' 16' 24'

TRUE NORTH REF NORTH

DEMOLITION NOTES:

1. DISCONNECT AND REMOVE ALL EXISTING LIGHT FIXTURES AND CONTROL FOR INSTALLATION OF NEW FIXTURE/CONTROL AS SHOWN AT NEW CEILING AREA, U.O.N. RETAIN AND MODIFY <E> CIRCUITRY FOR RECONNECTION OF NEW FIXTURES WITH SWITCHING ZONES AS SHOWN. CONNECT EMERGENCY LIGHT AND EXIT SIGN TO <E> UN-SWITCHED CIRCUIT IN THE AREA.
2. DISCONNECT AND REMOVE EXISTING CEILING MOUNTED WIRELESS ACCESS DATA JACK AND SECURITY MOTION SENSORS AS SHOWN. RETAIN <E> JACKS / CABLES FOR REINSTALLATION AND RECONNECTION AT NEW CEILING. PROVIDE TESTING TO ENSURE PROPER OPERATION.
3. DISCONNECT AND REMOVE <E> FA DEVICES AND CABLES IN THE SCOPE AREA. REMOVE WIRES BACK TO THE NEAREST SOURCE. PROVIDE BLANK COVERS PLATE AT REMOVED DEVICES. RETAIN <E> CONDUIT FOR INSTALLATION OF NEW CABLES.
4. COORDINATE WITH MECH TO DISCONNECT AND REMOVE <E> POWER CONNECTIONS OF REMOVED MECH UNITS. REMOVE CONDUITS AND WIRES BACK TO SOURCE.
5. DISCONNECT AND REMOVE <E> UN-USED SURFACE MOUNTED RACEWAY / WIREMOLD BACK TO THE NEAREST SOURCE.

GENERAL NOTES:

1. SEE WIRING DIAGRAM FOR LIGHTING CONTROL REQUIREMENT.
2. PROVIDE SURFACE WIREMOLD 2300 AT NON-ACCESSIBLE WALL /CEILING SURFACE FOR CABLING AS NEEDED.
3. ALL CONDUITS SHALL BE CONCEALED IN WALLS, ABOVE CEILING AND NOT ALLOWED ON ROOF, U.O.N.

SHEET NOTES:

◇1 REPLACE <E> SWITCHES WITH NEW CONTROL AS SHOWN.

◇2 REPLACE <E> PANEL WITH NEW. DISCONNECT AND INTERCEPT <E> FEEDER/BRANCH FEEDER CONDUIT AND CONDUCTORS FOR RECONNECTION.

◇3 CONNECT EXHAUST FAN TO <E> LIGHTING CIRCUIT VIA LIGHTING CONTROL.

◇4 CONNECT NEW FACP-A TO <E> FACP DEDICATED 20A CIRCUIT.

FA CABLE LEGEND

INITIATION
'A' = WEST PENN 994 - ABOVE GRADE
WEST PENN AQ226 - BELOW GRADE

VISUAL NOTIFICATION
'B' = 2 EACH THHN #12 - RACEWAY
2 EACH THWN #12 - BELOW GRADE
WEST PENN 998 - ABOVE GRADE WITHOUT RACEWAY

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PHONE: 408-879-0600
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REGISTERED PROFESSIONAL ENGINEER
S. MARK FISHER
E16525
Exp. 12-31-19
ELECTRICAL
STATE OF CALIFORNIA

Date Signed 05/10/18

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BUILDING A ADMIN-KINDER -
ELECTRICAL PLANS

CLYDE ARBUCKLE ELEMENTARY SCHOOL - HVAC UPGRADES
1970 CINDERELLA LN., SAN JOSE, CA 95116
ALUM ROCK UNION ELEMENTARY SCHOOL DISTRICT

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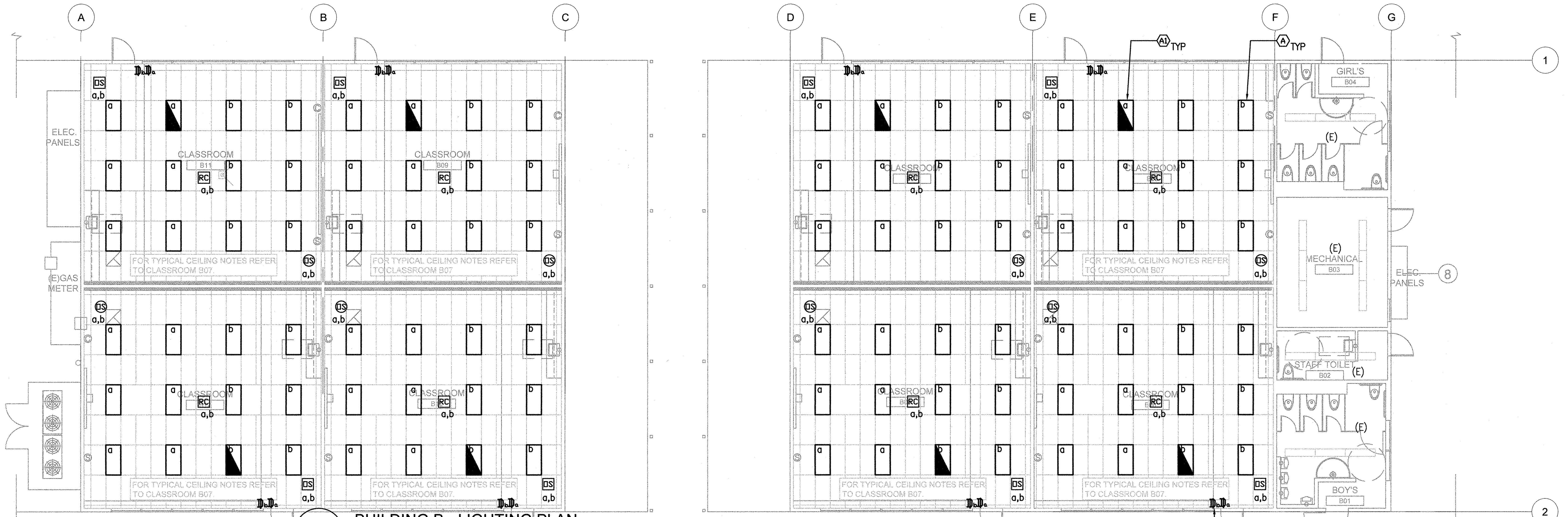
	BID SET	04-06-18
	DSA BACK CHECK	05-10-18

DSA FILE NUMBER 43-04

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APPL 01-117268
AC FLS SS
DATE MAY 10 2018

DRAWN BY: AT
CHECKED BY: AT
JOB NO: 17102
DATE: 05/10/18

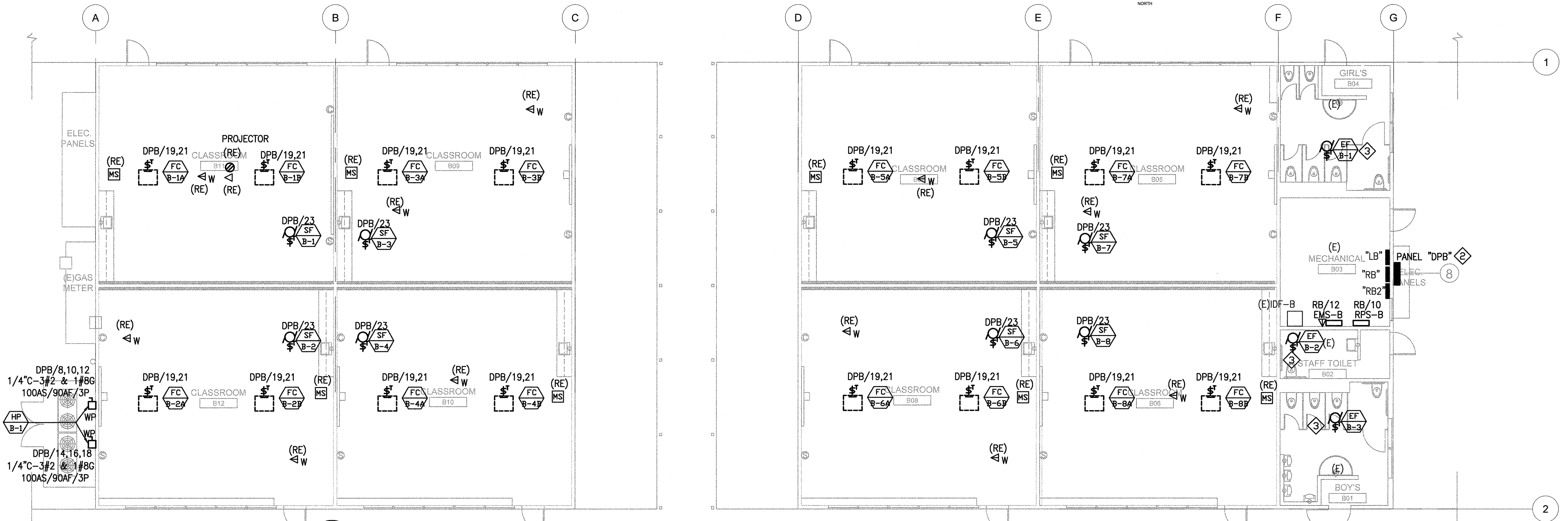
E2.1



1 BUILDING B - LIGHTING PLAN

1/8" = 1'-0"

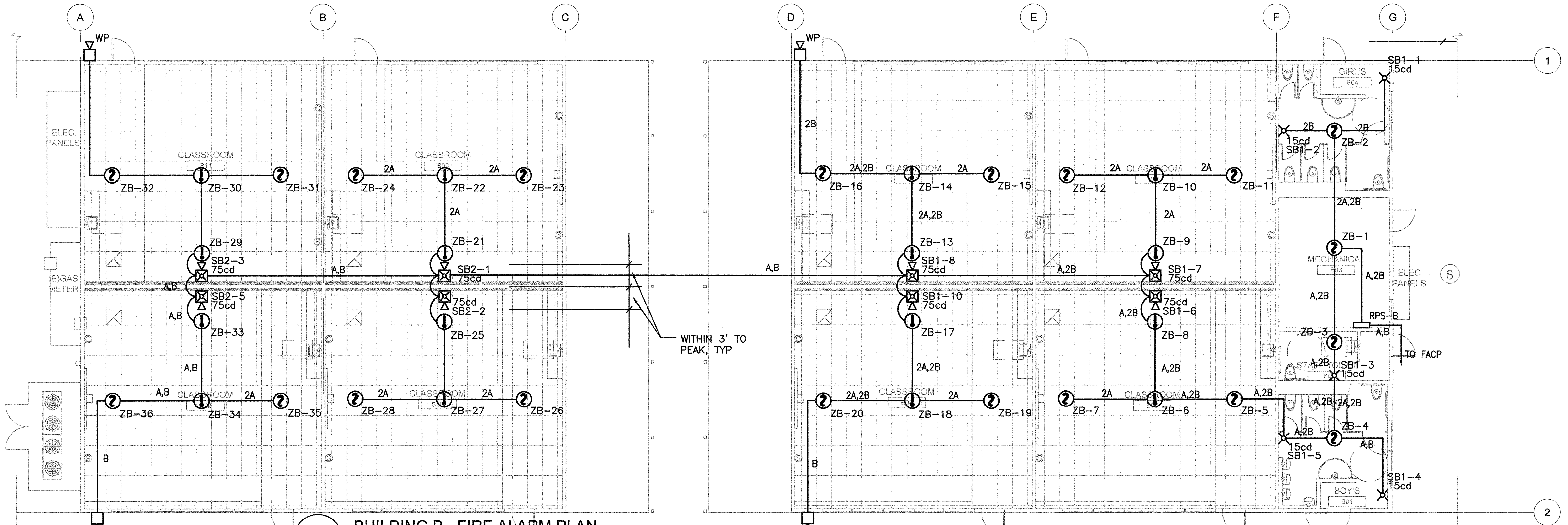
0 2' 4' 8' 16' 24'



2 BUILDING B - ELECTRICAL PLAN

1/8" = 1'-0"

0 2' 4' 8' 16' 24'



3 BUILDING B - FIRE ALARM PLAN

1/8" = 1'-0"

0 2' 4' 8' 16' 24'

DEMOLITION NOTES:

1. DISCONNECT AND REMOVE ALL EXISTING LIGHT FIXTURES AND CONTROL FOR INSTALLATION OF NEW FIXTURE/CONTROL AS SHOWN AT NEW CEILING AREA, U.O.N. RETAIN AND MODIFY <E> CIRCUITRY FOR RECONNECTION OF NEW FIXTURES WITH SWITCHING ZONES AS SHOWN. CONNECT EMERGENCY LIGHT AND EXIT SIGN TO <E> UN-SWITCHED CIRCUIT IN THE AREA.
2. DISCONNECT AND REMOVE EXISTING CEILING MOUNTED WIRELESS ACCESS DATA JACK AND SECURITY MOTION SENSORS AS SHOWN. RETAIN <E> JACKS / CABLES FOR REINSTALLATION AND RECONNECTION AT NEW CEILING. PROVIDE TESTING TO ENSURE PROPER OPERATION.
3. DISCONNECT AND REMOVE <E> FA DEVICES AND CABLES IN THE SCOPE AREA. REMOVE WIRES BACK TO THE NEAREST SOURCE. PROVIDE BLANK COVERS PLATE AT REMOVED DEVICES. RETAIN <E> CONDUIT FOR INSTALLATION OF NEW CABLES.
4. COORDINATE WITH MECH TO DISCONNECT AND REMOVE <E> POWER CONNECTIONS OF REMOVED MECH UNITS. REMOVE CONDUITS AND WIRES BACK TO SOURCE.
5. DISCONNECT AND REMOVE <E> UN-USED SURFACE MOUNTED RACEWAY / WIREMOLD BACK TO THE NEAREST SOURCE.
6. DISCONNECT AND REMOVE POWER CONNECTION FOR THE OVERHEAD PROJECTOR. RETAIN AND EXTEND <E> CIRCUITRY TO NEW POWER OUTLET MOUNTED AT NEW T BAR CEILING FOR THE REINSTALLED PROJECTOR. REFER TO ARCH DWG. FOR MOUNTING DETAIL. PROVIDE TESTING TO ENSURE PROPER OPERATION.

GENERAL NOTES:

1. SEE WIRING DIAGRAM FOR LIGHTING CONTROL REQUIREMENT.
2. PROVIDE SURFACE WIREMOLD 2300 AT NON-ACCESSIBLE WALL /CEILING SURFACE FOR CABLING AS NEEDED.
3. ALL CONDUITS SHALL BE CONCEALED IN WALLS, ABOVE CEILING AND NOT ALLOWED ON ROOF, U.O.N.

SHEET NOTES:

◇1 REPLACE <E> SWITCHES WITH NEW CONTROL AS SHOWN.

◇2 REPLACE <E> PANEL WITH NEW. DISCONNECT AND INTERCEPT <E> FEEDER/BRANCH FEEDER CONDUIT AND CONDUCTORS FOR RECONNECTION.

◇3 CONNECT EXHAUST FAN TO <E> LIGHTING CIRCUIT VIA LIGHTING CONTROL.

FA CABLE LEGEND

INITIATION
'A' = WEST PENN 994 – ABOVE GRADE
WEST PENN AQ226 – BELOW GRADE

VISUAL NOTIFICATION
'B' = 2 EACH THHN #12 – RACEWAY
2 EACH THWN #12 – BELOW GRADE
WEST PENN 998 – ABOVE GRADE WITHOUT RACEWAY

SUGIMURA FINNEY ARCHITECTS
SFA
ARCHITECTURE INTERIORS PLANNING

2155 SOUTH BASCOM AVE.
SUITE 200
CAMPBELL, CA 95008
PHONE: 408-879-0600
FAX: 408-377-6066

REGISTERED PROFESSIONAL ENGINEER
S. MARK FISHER
E16525
Exp. 12-31-19
ELECTRICAL
STATE OF CALIFORNIA

Date Signed 05/10/18

ALFATECH
1321 RIDDER PARK DRIVE, SUITE 50 408–487–1200
SAN JOSE, CALIFORNIA 95131 FAX: 408–487–1422
SAN JOSE SAN FRANCISCO • THAILAND SINGAPORE
SYDNEY MELBOURNE • DUBLIN • CORK LONDON DUBAI
PROJECT # 217280

BUILDING B - ELECTRICAL PLANS

CLYDE ARBUCKLE ELEMENTARY SCHOOL - HVAC UPGRADES
1970 CINDERELLA LN., SAN JOSE, CA 95116
ALUM ROCK UNION ELEMENTARY SCHOOL DISTRICT

REVISIONS

NO.	ITEM	DATE
	DD SUBMITTAL	12-8-17
	DSA SUBMITTAL	01-31-18
	BID SET	04-06-18
	DSA BACK CHECK	05-10-18

DSA FILE NUMBER 43-04

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DRAWN BY:	AT
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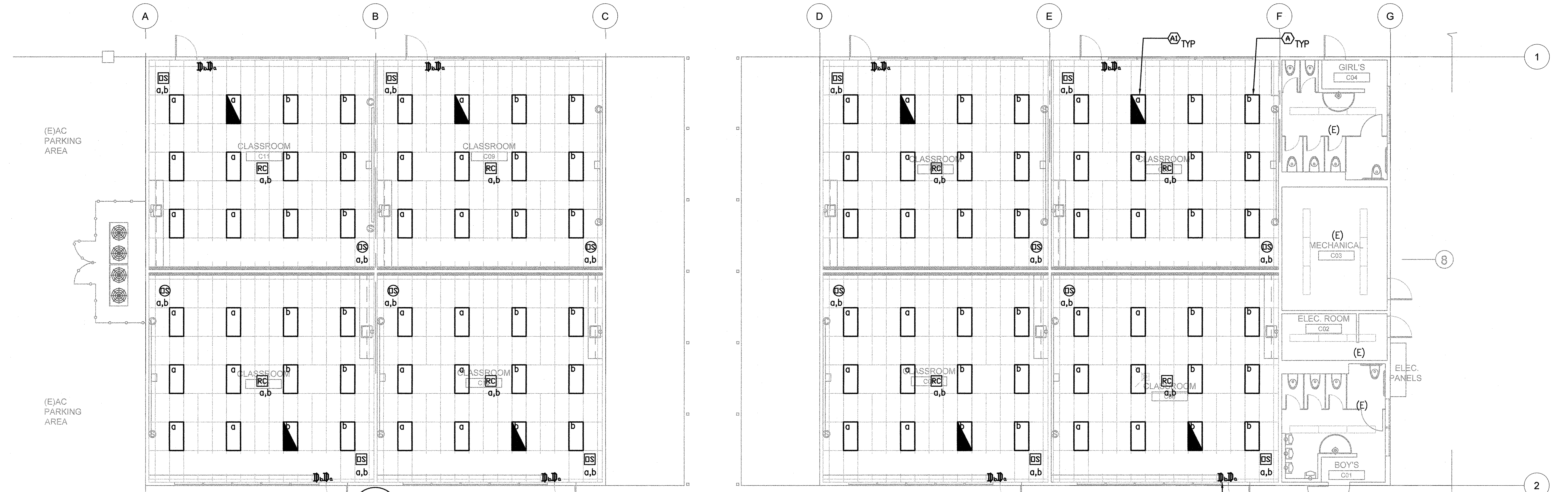
JOB NO:	DATE:
17102	05/10/18

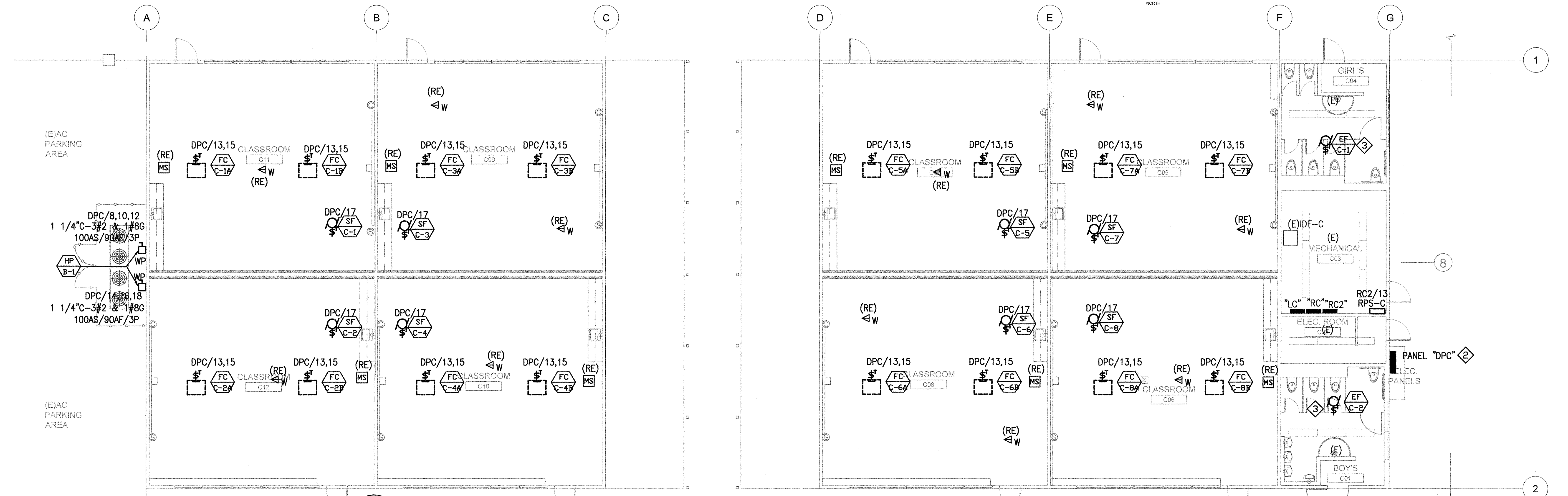
E2.2

I:\2017\217280 ARUSD Arbuckle HVAC Upgrade Electrical Design\CAD\280E22.dwg TIME: May04, 18–12:50PM LOGIN: janec



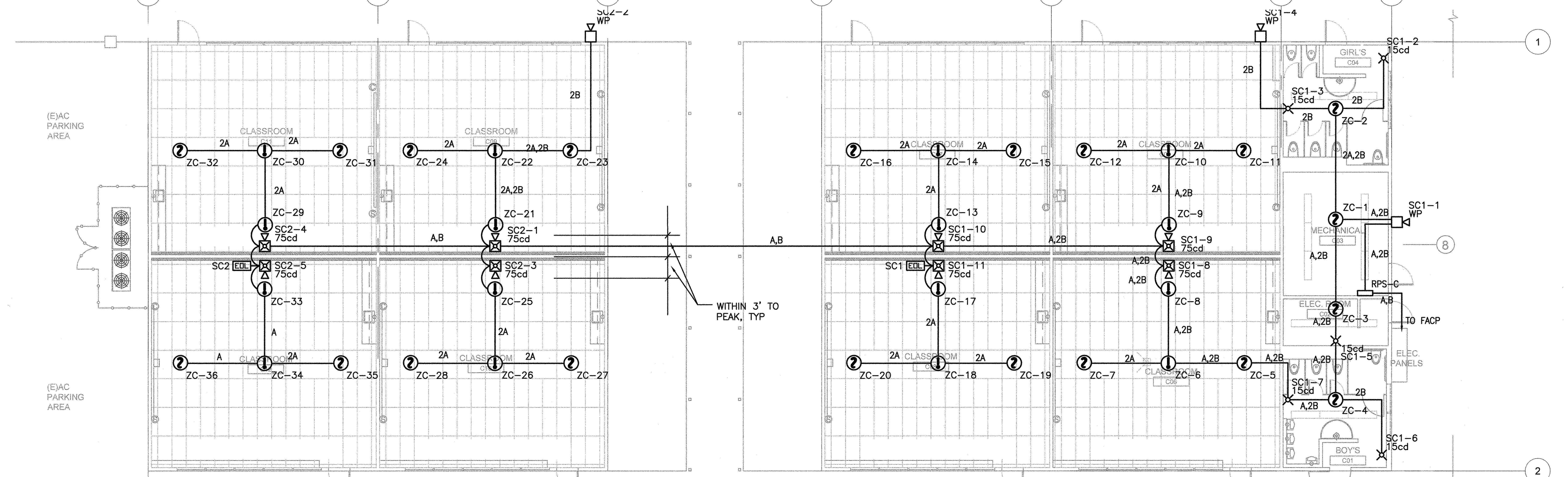
1 BUILDING C - LIGHTING PLAN

1/8" = 1'-0"
0 2' 4' 8' 16' 24'
TRUE NORTH REF NORTH



2 BUILDING C - ELECTRICAL PLAN

1/8" = 1'-0"
0 2' 4' 8' 16' 24'
TRUE NORTH REF NORTH



3 BUILDING C - FIRE ALARM PLAN

1/8" = 1'-0"
0 2' 4' 8' 16' 24'
TRUE NORTH REF NORTH

DEMOLITION NOTES:

1. DISCONNECT AND REMOVE ALL EXISTING LIGHT FIXTURES AND CONTROL FOR INSTALLATION OF NEW FIXTURE/CONTROL AS SHOWN AT NEW CEILING AREA, U.O.N. RETAIN AND MODIFY <E> CIRCUITRY FOR RECONNECTION OF NEW FIXTURES WITH SWITCHING ZONES AS SHOWN. CONNECT EMERGENCY LIGHT AND EXIT SIGN TO <E> UN-SWITCHED CIRCUIT IN THE AREA.
2. DISCONNECT AND REMOVE EXISTING CEILING MOUNTED WIRELESS ACCESS DATA JACK AND SECURITY MOTION SENSORS AS SHOWN. RETAIN <E> JACKS / CABLES FOR REINSTALLATION AND RECONNECTION AT NEW CEILING. PROVIDE TESTING TO ENSURE PROPER OPERATION.
3. DISCONNECT AND REMOVE <E> FA DEVICES AND CABLES IN THE SCOPE AREA. REMOVE WIRES BACK TO THE NEAREST SOURCE. PROVIDE BLANK COVERS PLATE AT REMOVED DEVICES. RETAIN <E> CONDUIT FOR INSTALLATION OF NEW CABLES.
4. COORDINATE WITH MECH TO DISCONNECT AND REMOVE <E> POWER CONNECTIONS OF REMOVED MECH UNITS. REMOVE CONDUITS AND WIRES BACK TO SOURCE.
5. DISCONNECT AND REMOVE <E> UN-USED SURFACE MOUNTED RACEWAY / WIREMOLD BACK TO THE NEAREST SOURCE.

GENERAL NOTES:

1. SEE WIRING DIAGRAM FOR LIGHTING CONTROL REQUIREMENT.
2. PROVIDE SURFACE WIREMOLD 2300 AT NON-ACCESSIBLE WALL /CEILING SURFACE FOR CABLING AS NEEDED.
3. ALL CONDUITS SHALL BE CONCEALED IN WALLS, ABOVE CEILING AND NOT ALLOWED ON ROOF, U.O.N.

SHEET NOTES:

◇1 REPLACE <E> SWITCHES WITH NEW CONTROL AS SHOWN.

◇2 REPLACE <E> PANEL WITH NEW. DISCONNECT AND INTERCEPT <E> FEEDER/BRANCH FEEDER CONDUIT AND CONDUCTORS FOR RECONNECTION.

◇3 CONNECT EXHAUST FAN TO <E> LIGHTING CIRCUIT VIA LIGHTING CONTROL.

FA CABLE LEGEND

INITIATION
'A' = WEST PENN 994 – ABOVE GRADE
WEST PENN AQ226 – BELOW GRADE

VISUAL NOTIFICATION
'B' = 2 EACH THHN #12 – RACEWAY
2 EACH THWN #12 – BELOW GRADE
WEST PENN 998 – ABOVE GRADE WITHOUT RACEWAY

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FAX: 408-377-6066

S. MARK FISHER
E16525
Exp. 12-31-19

Date Signed 05/10/18

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PROJECT # 217280

BUILDING C - ELECTRICAL PLANS

CLYDE ARBUCKLE ELEMENTARY SCHOOL - HVAC UPGRADES
1970 CINDERELLA LN., SAN JOSE, CA 95116
ALUM ROCK UNION ELEMENTARY SCHOOL DISTRICT

REVISIONS

NO.	ITEM	DATE
	DD SUBMITTAL	12-8-17
	DSA SUBMITTAL	01-31-18
	BID SET	04-06-18
	DSA BACK CHECK	05-10-18

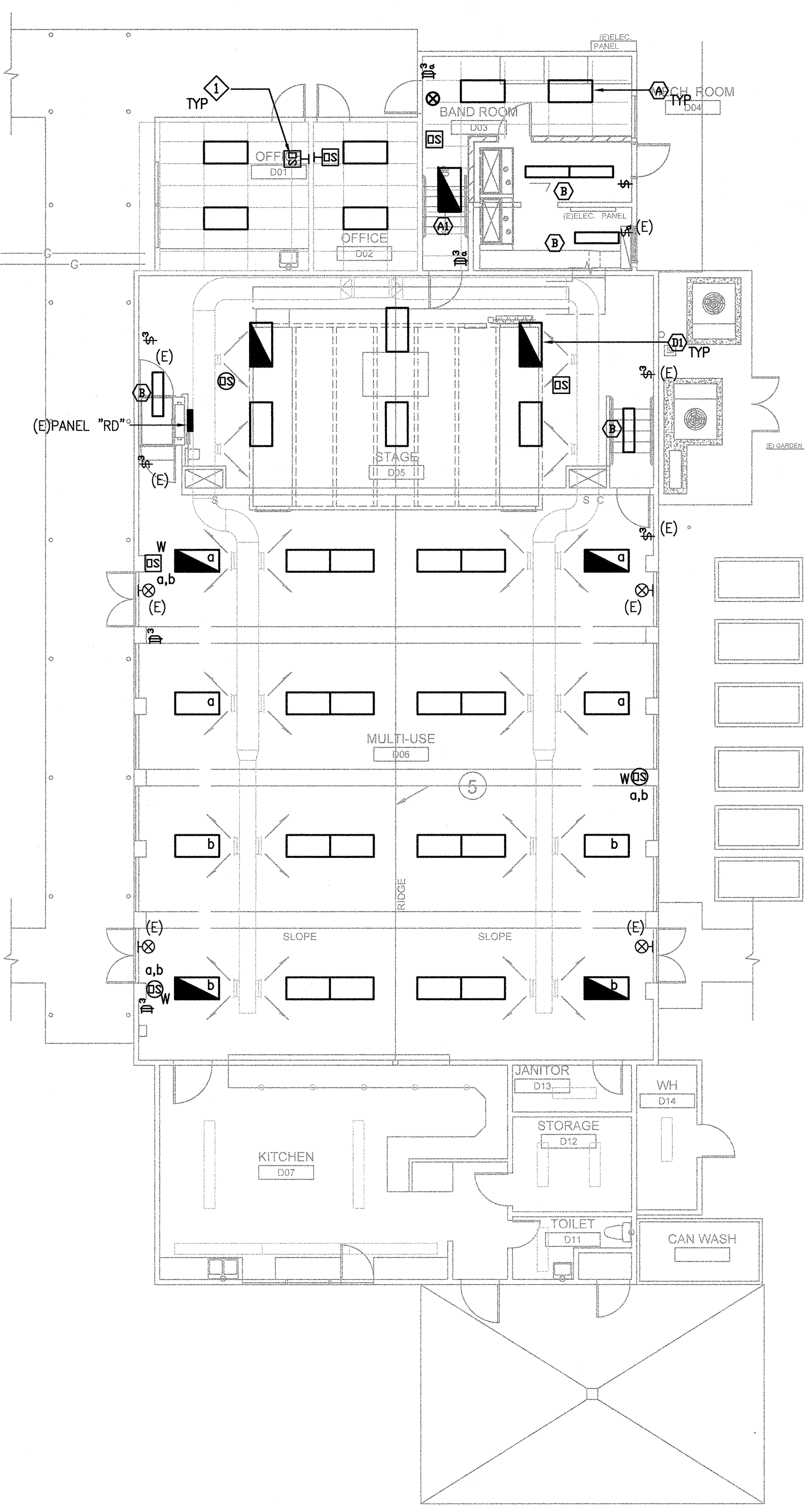
DSA FILE NUMBER 43-04

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APPL 01-117268
AC ___ FLS ___ SS ___
DATE MAY 10 2018

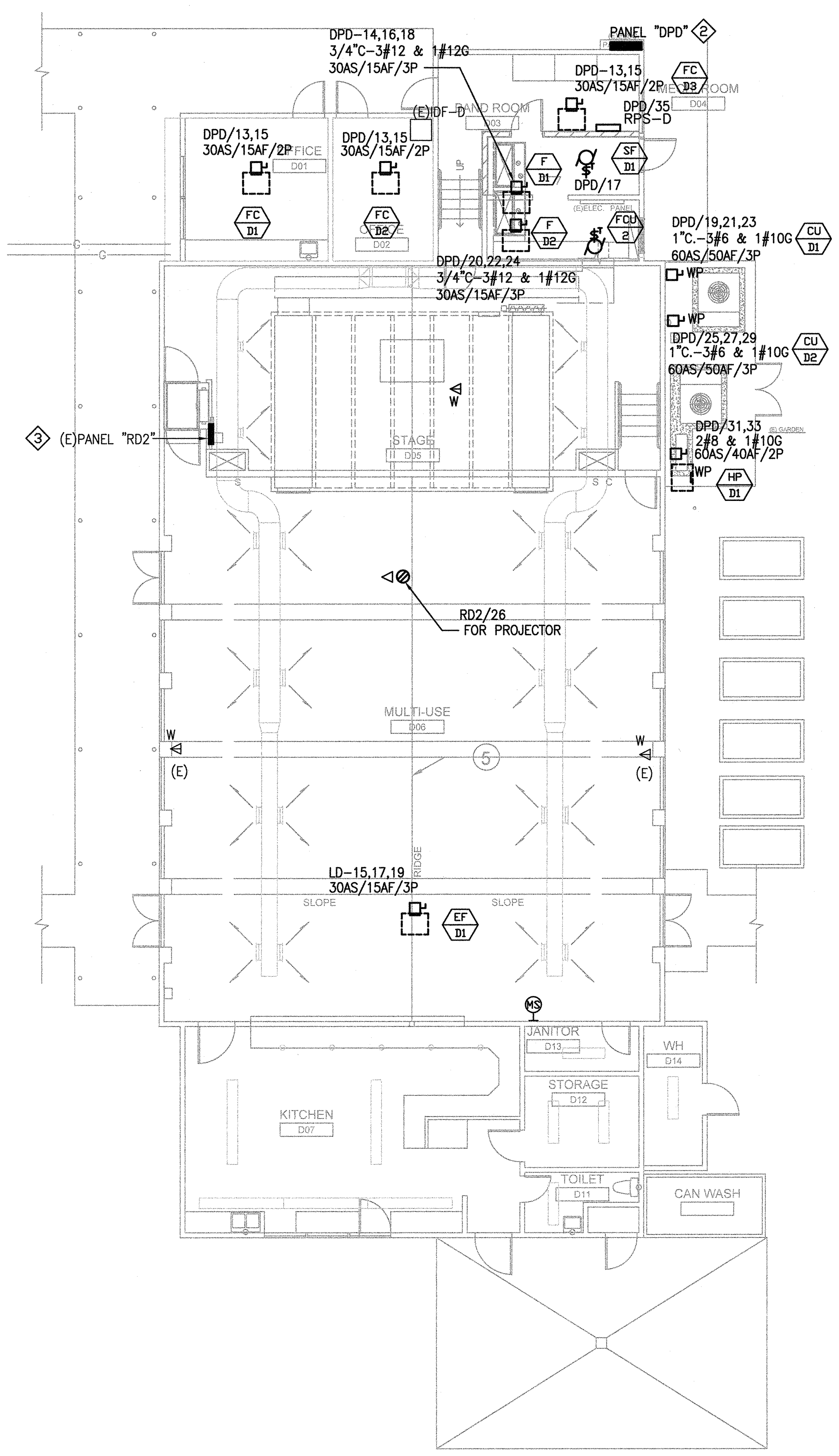
DRAWN BY: AT
CHECKED BY: AT
JOB NO: 17102
DATE: 05/10/18

E2.3

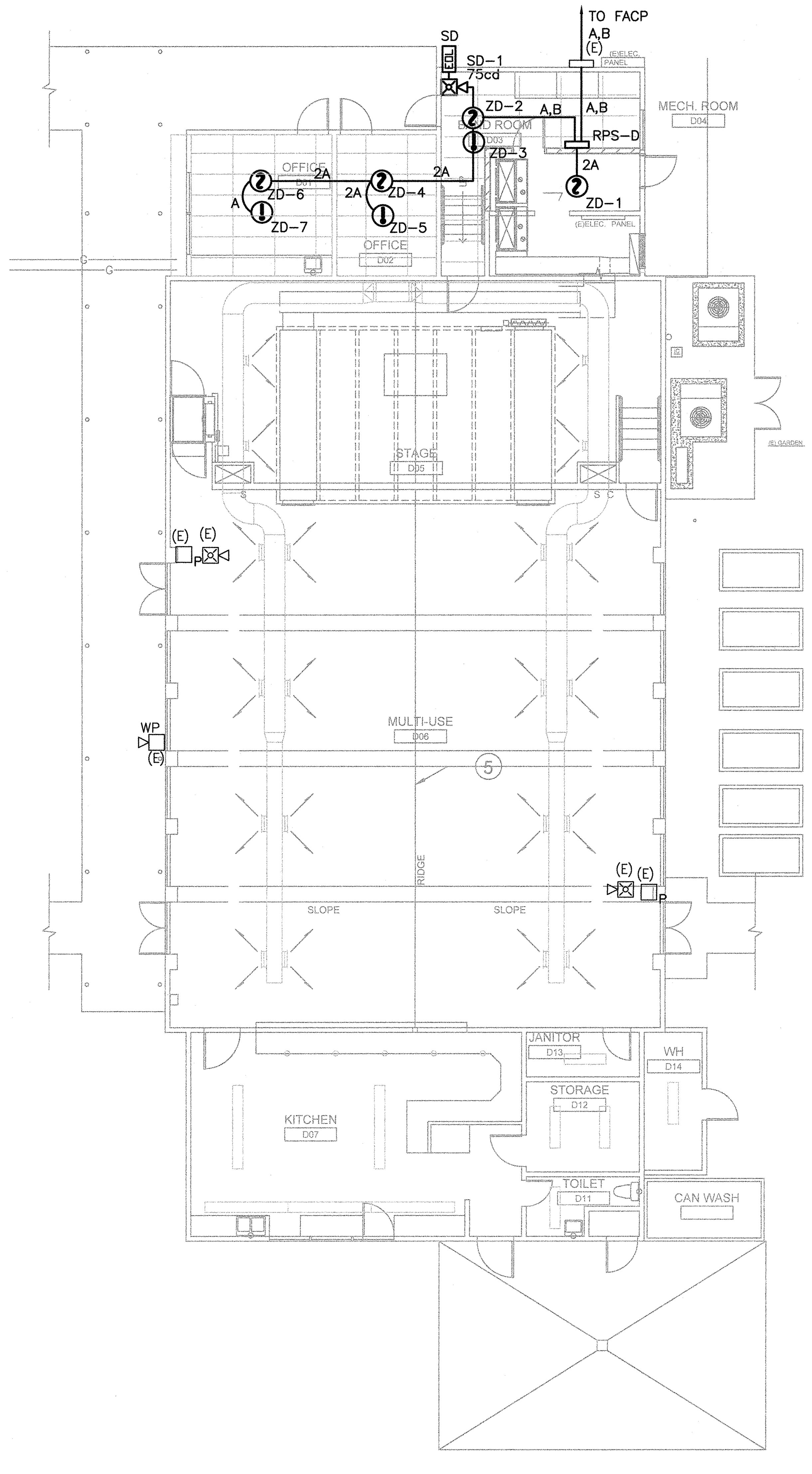
L:\2017\217280 ARUSD Arbuckle HVAC Upgrade Electrical Design\CAD\280E23.dwg TIME: May04, 18-12:51PM LOGIN: janec



1 BUILDING D - LIGHTING PLAN
1/8" = 1'-0"
0 2' 4' 8' 16' 24'



2 BUILDING D - ELECTRICAL PLAN
1/8" = 1'-0"
0 2' 4' 8' 16' 24'



3 BUILDING D - FIRE ALARM PLAN
1/8" = 1'-0"
0 2' 4' 8' 16' 24'

FA CABLE LEGEND

INITIATION
'A' = WEST PENN 994 – ABOVE GRADE
WEST PENN AQ226 – BELOW GRADE

VISUAL NOTIFICATION
'B' = 2 EACH THHN #12 – RACEWAY
2 EACH THWN #12 – BELOW GRADE
WEST PENN 998 – ABOVE GRADE WITHOUT RACEWAY

SHEET NOTES:

1. REPLACE <E> SWITCHES WITH NEW CONTROL AS SHOWN.
2. REPLACE <E> PANEL WITH NEW. DISCONNECT AND INTERCEPT <E> FEEDER/BRANCH FEEDER CONDUIT AND CONDUCTORS FOR RECONNECTION.
3. PROVIDE (1) 20A/1P BREAKER AT AVAILABLE SPACES. THE NEW BREAKERS SHALL BE COMPATIBLE WITH THE <E> PANEL AIC RATING. PROVIDE LABELS AT NEW BREAKERS.

GENERAL NOTES:

1. SEE WIRING DIAGRAM FOR LIGHTING CONTROL REQUIREMENT.
2. PROVIDE SURFACE WIREMOLD 2300 AT NON-ACCESSIBLE WALL /CEILING SURFACE FOR CABLING AS NEEDED.
3. ALL CONDUITS SHALL BE CONCEALED IN WALLS, ABOVE CEILING AND NOT ALLOWED ON ROOF, U.O.N.

DEMOLITION NOTES:

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3. COORDINATE WITH MECH TO DISCONNECT AND REMOVE <E> POWER CONNECTIONS OF REMOVED MECH UNITS. REMOVE CONDUITS AND WIRES BACK TO SOURCE.
4. DISCONNECT AND REMOVE <E> UN-USED SURFACE MOUNTED RACEWAY / WIREMOLD BACK TO THE NEAREST SOURCE.

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PROJECT # 217280

BUILDING D - ELECTRICAL PLAN

CLYDE ARBUCKLE ELEMENTARY SCHOOL - HVAC UPGRADES
1970 CINDERELLA LN., SAN JOSE, CA 95116
ALUM ROCK UNION ELEMENTARY SCHOOL DISTRICT

REVISIONS

NO.	ITEM	DATE
	DD SUBMITTAL	12-8-17
	DSA SUBMITTAL	01-31-18
	BID SET	04-06-18
	DSA BACK CHECK	05-10-18

DSA FILE NUMBER 43-04

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MAY 1 8 2018

DRAWN BY: AT
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E2.4

PANEL "DPA"					LOCATION: BLDG A							
TYPE	DESCRIPTION	LOAD	BKR	CIR	A	B	C	CIR	BKR	LOAD	DESCRIPTION	TYPE
O	<E>PANEL "LA"	5000	150/3	1	10000			2	225/3	5000	<E> PANEL "RA"	O
O	-	5000	-	3		10000		4	-	5000	-	O
O	-	5000	-	5			10000	6	-	5000	-	O
O	<E>PANEL "RA2"	5000	225/3	7	10000			8	60/3	5000	HP-A1	M3
O	-	5000	-	9		10000		10	-	5000	-	M3
O	-	5000	-	11			10000	12	-	5000	-	M3
M2	FC-A/1A THRU FA-A11	500	20/2	13	6700			14	80/3	6200	HP-A1	M3
M2	-	500	-	15		6700		16	-	6200	-	M3
	SPARE		20/1	17			6200	18	-	6200	-	M3
	SPARE		20/1	19	0			20	20/1		SPARE	
	SPARE		20/1	21		0		22	20/1		SPARE	
	SPARE		20/1	23			0	24	20/1		SPARE	
	SPACE			25	0			26			SPACE	
	SPACE			27		0		28			SPACE	
	SPACE			29			0	30			SPACE	
	SPACE			31	0			32			SPACE	
	SPACE			33		0		34			SPACE	
	SPACE			35			0	36			SPACE	
	SPACE			37	0			38			SPACE	
	SPACE			39		0		40			SPACE	
	SPACE			41			0	42			SPACE	
				VA	26700	26700	26200					
				AMPS	222	222	218					

BUS RATING:	400	GROUND:	BUS	NOTES:
VOLTAGE:	208 /120V	MOUNTING:	SURFACE	
PHASE:	3	ENCLOSURE:	NEMA 3R	
WIRE:	4	FEED:		
MCB OR LUGS:	400 MCB 80%	CONNECTED KVA:	79.6	
AIC RATING:	10K	CONNECTED AMPS:	220.9	
BUS:	400	R - RECEPTACLE KVA LOAD:	0.0	
NEUTRAL:	100%	L - LIGHTING KVA LOAD:	0.0	
MAX. ALLOWED AMPS	320	M1, M2 OR M3 - MOTOR KVA LOAD:	39.3	
		O - OTHER KVA LOAD:	45.0	
		FEEDER LOAD AMP:	233.9	

PANEL "DPB"					LOCATION: BLDG B							
TYPE	DESCRIPTION	LOAD	BKR	CIR	A	B	C	CIR	BKR	LOAD	DESCRIPTION	TYPE
O	<E>PANEL "LB"	5000	150/3	1	10000			2	225/3	5000	<E> PANEL "BA"	O
O	-	5000	-	3		10000		4	-	5000	-	O
O	-	5000	-	5			10000	6	-	5000	-	O
O	<E>PANEL "RB"	5000	225/3	7	12000			8	90/3	7000	HP-B1	M3
O	-	5000	-	9		12000		10	-	7000	-	M3
O	-	5000	-	11			12000	12	-	7000	-	M3
O	<E>PANEL "DPP"	5000	225/3	13	12000			14	90/3	7000	HP-B1	M3
O	-	5000	-	15		12000		16	-	7000	-	M3
O	-	5000	-	17			12000	18	-	7000	-	M3
M2	FC-B/1A THRU FC-B11	500	20/2	19	500			20	20/1		SPARE	
M2		500	-	21		500		22	20/1		SPARE	
M1	SF-B1,2,3	1200	20/1	23			1200	24	20/1		SPARE	
	SPACE			25	0			26			SPACE	
	SPACE			27		0		28			SPACE	
	SPACE			29			0	30			SPACE	
	SPACE			31	0			32			SPACE	
	SPACE			33		0		34			SPACE	
	SPACE			35			0	36			SPACE	
	SPACE			37	0			38			SPACE	
	SPACE			39		0		40			SPACE	
	SPACE			41			0	42			SPACE	
				VA	34500	34500	35200					
				AMPS	287	287	293					

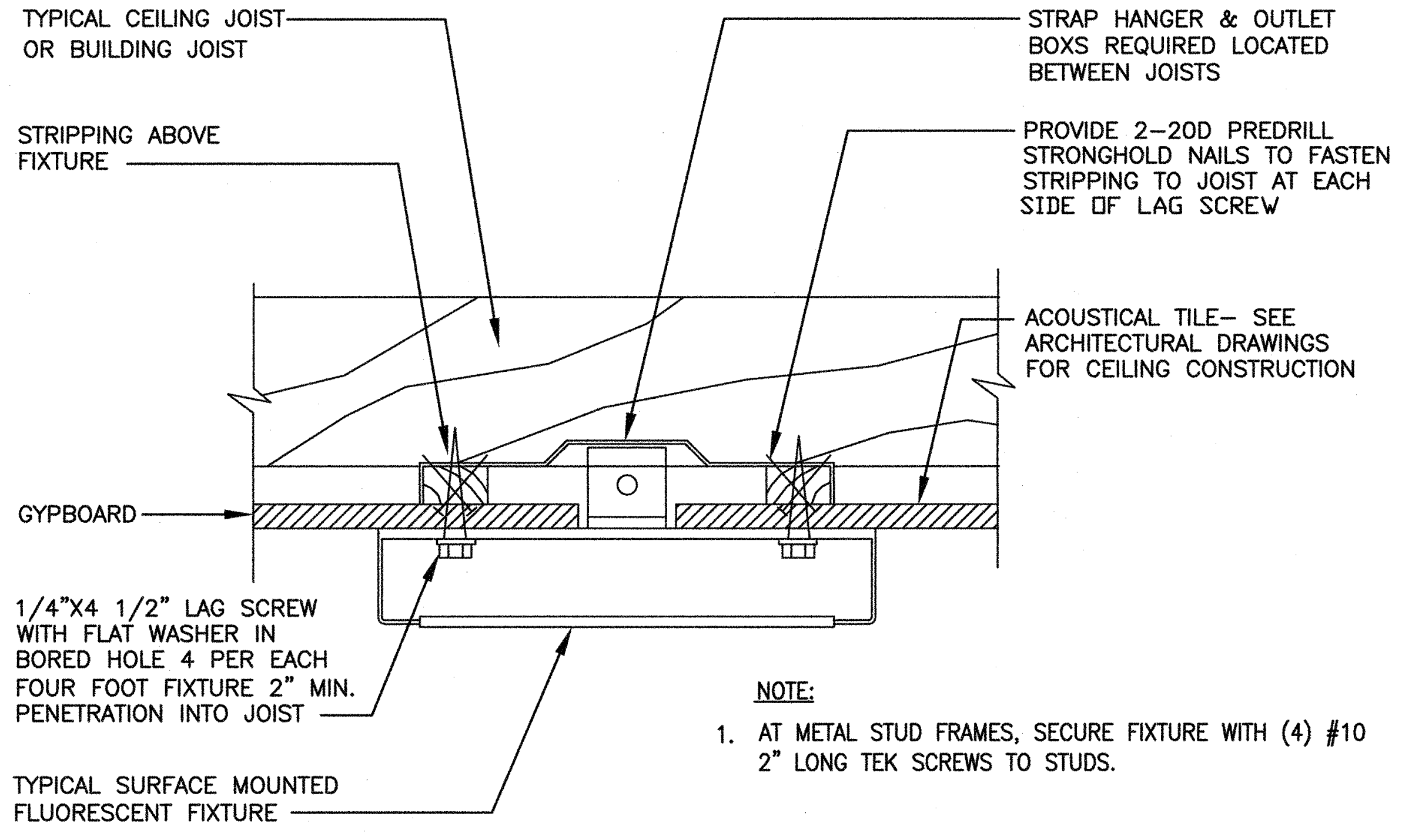
BUS RATING:	400	GROUND:	BUS	NOTES:
VOLTAGE:	208 /120V	MOUNTING:	SURFACE	
PHASE:	3	ENCLOSURE:	NEMA 3R	
WIRE:	4	FEED:		
MCB OR LUGS:	400 MCB 80%	CONNECTED KVA:	104.2	
AIC RATING:	10K	CONNECTED AMPS:	289.2	
BUS:	400	R - RECEPTACLE KVA LOAD:	0.0	
NEUTRAL:	100%	L - LIGHTING KVA LOAD:	0.0	
MAX. ALLOWED AMPS	320	M1, M2 OR M3 - MOTOR KVA LOAD:	49.5	
		O - OTHER KVA LOAD:	60.0	
		FEEDER LOAD AMP:	303.8	

PANEL "DPC"					LOCATION: BLDG C							
TYPE	DESCRIPTION	LOAD	BKR	CIR	A	B	C	CIR	BKR	LOAD	DESCRIPTION	TYPE
O	<E>PANEL "LC"	5000	150/3	1	10000			2	225/3	5000	<E> PANEL "RC"	O
O	-	5000	-	3		10000		4	-	5000	-	O
O	-	5000	-	5			10000	6	-	5000	-	O
O	<E>PANEL "RC2"	5000	225/3	7	12000			8	90/3	7000	HP-C1	M3
O	-	5000	-	9		12000		10	-	7000	-	M3
O	-	5000	-	11			12000	12	-	7000	-	M3
M2	FC-C/1A THRU FC-C/8B	500	20/2	13	7500			14	90/3	7000	HP-C1	M3
M2	-	500	-	15		7500		16	-	7000	-	M3
M1	SF-C1,2,3	800	20/1	17			7800	18	-	7000	-	M3
	SPARE		20/1	19	0			20	20/1		SPARE	
	SPARE		20/1	21		0		22	20/1		SPARE	
	SPARE		20/1	23			0	24	20/1		SPARE	
	SPACE			25	0			26			SPACE	
	SPACE			27		0		28			SPACE	
	SPACE			29			0	30			SPACE	
	SPACE			31	0			32			SPACE	
	SPACE			33		0		34			SPACE	
	SPACE			35			0	36			SPACE	
	SPACE			37	0			38			SPACE	
	SPACE			39		0		40			SPACE	
	SPACE			41			0	42			SPACE	
				VA	29500	29500	29800					
				AMPS	246	246	248					

BUS RATING:	400	GROUND:	BUS	NOTES:
VOLTAGE:	208 /120V	MOUNTING:	SURFACE	
PHASE:	3	ENCLOSURE:	NEMA 3R	
WIRE:	4	FEED:		
MCB OR LUGS:	400 MCB 80%	CONNECTED KVA:	88.8	
AIC RATING:	10K	CONNECTED AMPS:	246.5	
BUS:	400	R - RECEPTACLE KVA LOAD:	0.0	
NEUTRAL:	100%	L - LIGHTING KVA LOAD:	0.0	
MAX. ALLOWED AMPS	320	M1, M2 OR M3 - MOTOR KVA LOAD:	49.1	
		O - OTHER KVA LOAD:	45.0	
		FEEDER LOAD AMP:	261.1	

PANEL "DPD"					LOCATION: BLDG D							
TYPE	DESCRIPTION	LOAD	BKR	CIR	A	B	C	CIR	BKR	LOAD	DESCRIPTION	TYPE
O	<E>PANEL "LD"	5000	150/3	1	10000			2	225/3	5000	<E> PANEL "RD2"	O
O	-	5000	-	3		10000		4	-	5000	-	O
O	-	5000	-	5			10000	6	-	5000	-	O
O	<E>PANEL "RD"	5000	225/3	7	12000			8	90/3	7000	HP-D1	M3
O	-	5000	-	9		12000		10	-	7000	-	M3
O	-	5000	-	11			12000	12	-	7000	-	M3
M2	FC-D1,2,3	500	20/2	13	1500			14	15/3	1000	F-D1	M3
M2	-	500	-	15		1500		16	-	1000	-	M3
M1	SF-D1	115	20/1	17			1115	18	-	1000	-	M3
M3	CU-D1	5000	50.3	19	6000			20	15/3	1000	F-D2	M3
M3	-	5000	-	21		6000		22	-	1000	-	M3
M3	-	5000	-	23			6000	24	-	1000	-	M3
M3	CU-D2	5000	50,3	25	5000			26	20/1		SPARE	
M3	-	5000	-	27		5000		28	20/1		SPARE	
M3	-	5000	-	29			5000	30	20/1		SPARE	
M2	HP-D1	3000	40/2	31	3000			32	20/1		SPARE	
M2	-	3000	-	33		3000		34	20/1		SPARE	
O	RPS-D	200	*20/1	35			200	36	20/1		SPARE	
	SPARE		20/1	37	0			38	20/1		SPARE	
	SPARE		20/1	39		0		40	20/1		SPARE	
	SPARE		20/1	41			0	42	20/1		SPARE	
				VA	37500	37500	34315					
				AMPS	312	312	286					

BUS RATING:	400	GROUND:	BUS	NOTES:
VOLTAGE:	208 /120V	MOUNTING:	SURFACE	* PROVIDE LOCK ON
PHASE:	3	ENCLOSURE:	NEMA 3R	DEVICE
WIRE:	4	FEED:		
MCB OR LUGS:	400 MCB 80%	CONNECTED KVA:	109.3	
AIC RATING:	10K	CONNECTED AMPS:	303.4	
BUS:	400	R - RECEPTACLE KVA LOAD:	0.0	
NEUTRAL:	100%	L - LIGHTING KVA LOAD:	0.0	
MAX. ALLOWED AMPS	320	M1, M2 OR M3 - MOTOR KVA LOAD:	69.4	
		O - OTHER KVA LOAD:	45.2	
		FEEDER LOAD AMP:	318.0	

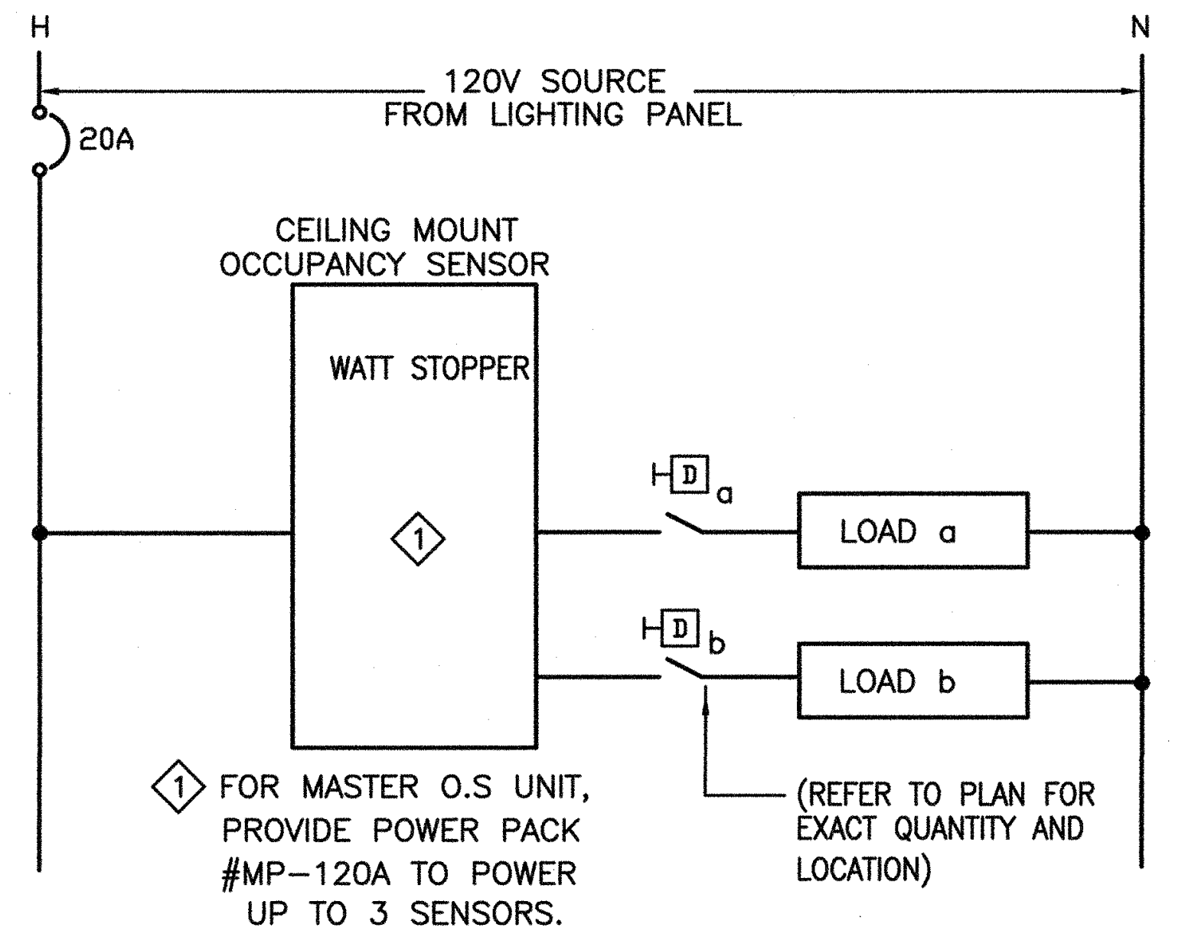

TYPICAL CEILING JOIST OR BUILDING JOIST
STRIPPING ABOVE FIXTURE
GYPBOARD
1/4"X4 1/2" LAG SCREW WITH FLAT WASHER IN BORED HOLE 4 PER EACH FOUR FOOT FIXTURE 2" MIN. PENETRATION INTO JOIST
TYPICAL SURFACE MOUNTED FLUORESCENT FIXTURE
STRAP HANGER & OUTLET BOXS REQUIRED LOCATED BETWEEN JOISTS
PROVIDE 2-20D PREDRILL STRONGHOLD NAILS TO FASTEN STRIPPING TO JOIST AT EACH SIDE OF LAG SCREW
ACOUSTICAL TILE- SEE ARCHITECTURAL DRAWINGS FOR CEILING CONSTRUCTION

NOTE:

1. AT METAL STUD FRAMES, SECURE FIXTURE WITH (4) #10 2" LONG TEK SCREWS TO STUDS.

3 SURFACE MOUNTED FIXTURE

SCALE: NOT TO SCALE

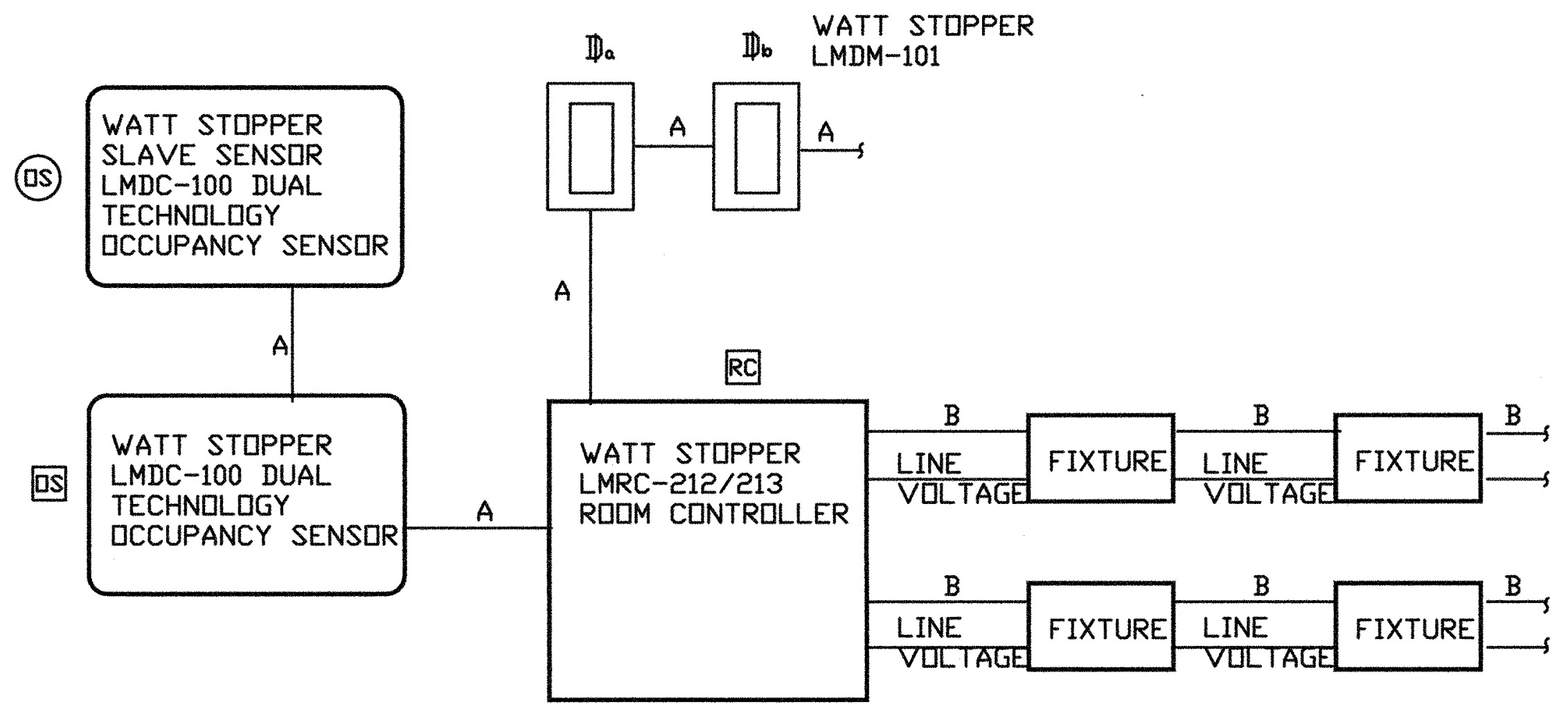

H
N
120V SOURCE FROM LIGHTING PANEL
20A
CEILING MOUNT OCCUPANCY SENSOR
WATT STOPPER
1
D a
D b
LOAD a
LOAD b
1 FOR MASTER O.S UNIT, PROVIDE POWER PACK #MP-120A TO POWER UP TO 3 SENSORS.
(REFER TO PLAN FOR EXACT QUANTITY AND LOCATION)

NOTE:

1. CONFIRM WITH WATT STOPPER FOR APPROPRIATE SENSOR USED IN EACH AREA SHOWN ON THE PLANS PRIOR TO ORDERING. PROVIDE ALL NECESSARY POWER PACK FOR A COMPLETE DIMMING CONTROL SYSTEM.

4 CEILING-MOUNTED OS WITH WALL MOUNTED DIMMER CONTROL

SCALE: NOT TO SCALE


Da
Db
WATT STOPPER LMDM-101
OS
WATT STOPPER SLAVE SENSOR LMDC-100 DUAL TECHNOLOGY OCCUPANCY SENSOR
DS
WATT STOPPER LMDC-100 DUAL TECHNOLOGY OCCUPANCY SENSOR
A
RC
WATT STOPPER LMRC-212/213 ROOM CONTROLLER
B
LINE VOLTAGE
FIXTURE

NOTE:

1. REFER TO PLAN FOR EXACT LOCATION AND ZONE CONTROL REQUIREMENT.
2. CONTRACTOR SHALL PROVIDE ALL COMPONENT REQUIRED FOR DIGITAL CONTROL SYSTEM IN EACH AREA.
3. CONTRACTOR SHALL SCHEDULE A PRE-INSTALLATION SITE VISIT WITH WATT STOPPER REPRESENTATIVE AFTER RECEIPT OF APPROVED SUBMITTAL FOR THE CONTROL FUNCTION OVERVIEW AND INSTALLATION REQUIREMENTS.

CABLE LEGEND:

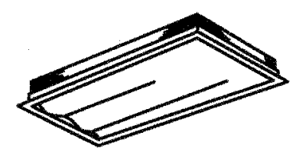
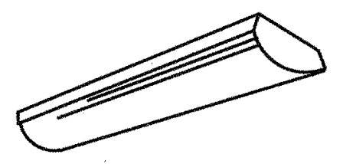
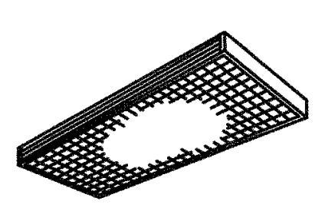
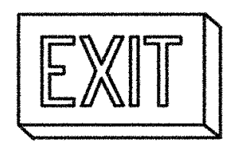
A = WATT STOPPER LMRJ CABLE

B = CLASS 2 0-10V CONTROL CABLE

5 DIGITAL CONTROL DIAGRAM

SCALE: NOT TO SCALE

FIXTURE SCHEDULE-INTERIOR

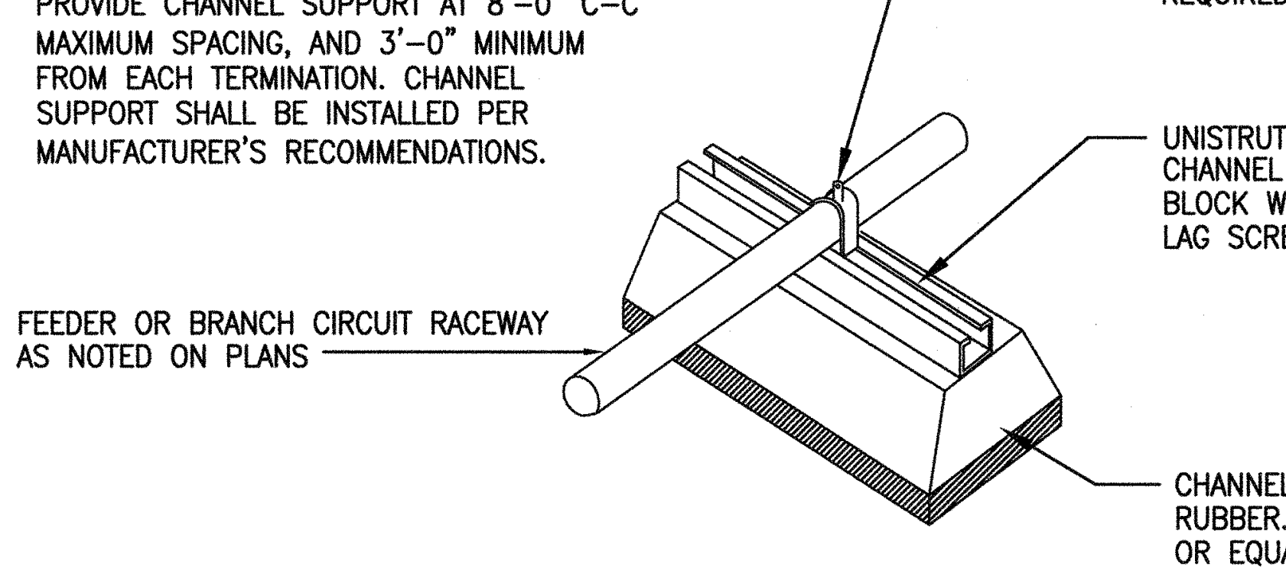
TYPE	SKETCH	DESCRIPTION	FINISH	MANUFACTURER	LAMP
A		2'X4' T BAR LAY IN LED LUMINAIRE WITH COLD ROLLED STEEL HOUSING, REFLECTORS, DIFFUSE CENTER OPTIC IMPACT RESISTANT FROSTED WAVE ACRYLIC LENS, 0-10V LED DIMMING DRIVER. 120VAC	WHITE	FINELITE HPR-LED-WAV2X4-DCO-HO-3500K-120V-SC-C1	41W LED 3500K 90 CRI
A1		SIMILAR TO TYPE "A" EXCEPT WITH 1700 LUMEN EMERGENCY BATTERY PACK.	WHITE	FINELITE HPR-LED-WAV2X4-DCO-HO-3500K-120V-SC-C1-EM	41W LED 3500K 90 CRI
A2		SIMILAR TO TYPE "A" EXCEPT 2'X2'.	WHITE	FINELITE HPR-LED-WAV2X2-DCO-HO-3500K-120V-SC-C1	43W LED 3500K 90 CRI
A3		SIMILAR TO TYPE "A2" EXCEPT WITH EMERGENCY BATTERY PACK.	WHITE	FINELITE HPR-LED-WAV2X2-DCO-HO-3500K-120V-SC-C1-EM	43W LED 3500K 90 CRI
B		4' SURFACE MOUNTED LED WRAPAROUND WITH COLD GAUGE STEEL HOUSING, ACRYLIC PRISMATIC DIFFUSER, IRON PHOSPHATE FINISH, CURVED PRISMATIC DIFFUSER LENS, LED DRIVERS. 120VAC	WHITE	WILLIAMS 394-L52-835-DRV-UNV OR DAYBRITE, METALUX EQUAL	51W LED 3500K
B1		SIMILAR TO TYPE "B" EXCEPT WITH EMERGENCY BATTERY PACK.	WHITE	WILLIAMS 394-L52-835-EM-DRV-UNV OR DAYBRITE, METALUX EQUAL	51W LED 3500K
D		2'X4' SURFACE MOUNTED LED LUMINAIRE WITH COLD ROLLED STEEL POST PAINTED HOUSING, FROSTED ACRYLIC LENS, FLAT DOOR FRAME, LED DIMMING DRIVER. 120VAC	WHITE	WILLIAMS 124-L52/935-FAF12125-DIM-120V OR APPROVED EQUAL	59W LED 3500K 90 CRI
D1		SIMILAR TO TYPE "D" EXCEPT WITH EMERGENCY BATTERY PACK.	WHITE	WILLIAMS 124-L52/935-FAF12125-EM-DIM-120V OR APPROVED EQUAL	59W LED 3500K 90 CRI
F		4' SURFACE MOUNTED LENSED LED STRIP FIXTURE WITH CODE GAUGE CRS CHANNEL AND 0.125" THICK ACRYLIC LENS, LED DIMMING DRIVER. 120VAC	WHITE	WILLIAMS 75L4-L38/935-A12125-DIM-120V OR DAYBRITE, METALUX EQUAL	41W LED 3500K 90 CRI
X		WALL MOUNTED LED EXIT SIGN WITH GREEN LETTERS ON WHITE BACKGROUND, THERMOPLASTIC HOUSING, INDICATING ARROWS AS SHOWN AND EMERGENCY BATTERY PACK. 277VAC	WHITE W/GREEN LETTERS	SURE-LITES LPX SERIES LPX70DG-WH EMERGI-LITE OR APPROVED EQUAL	LED

GENERAL NOTES:

1. ALL LED FIXTURES SHALL HAVE EFFICACY OF 85 LUMEN/WATT MIN. AND 85 CRI MIN. TO QUALIFY FOR UTILITY ENGERGY REBATE.
2. EMERGENCY FIXTURE SHALL BE WIRED TO BE SWITCH & SHALL NOT BE WIRED AS NIGHT LIGHT.

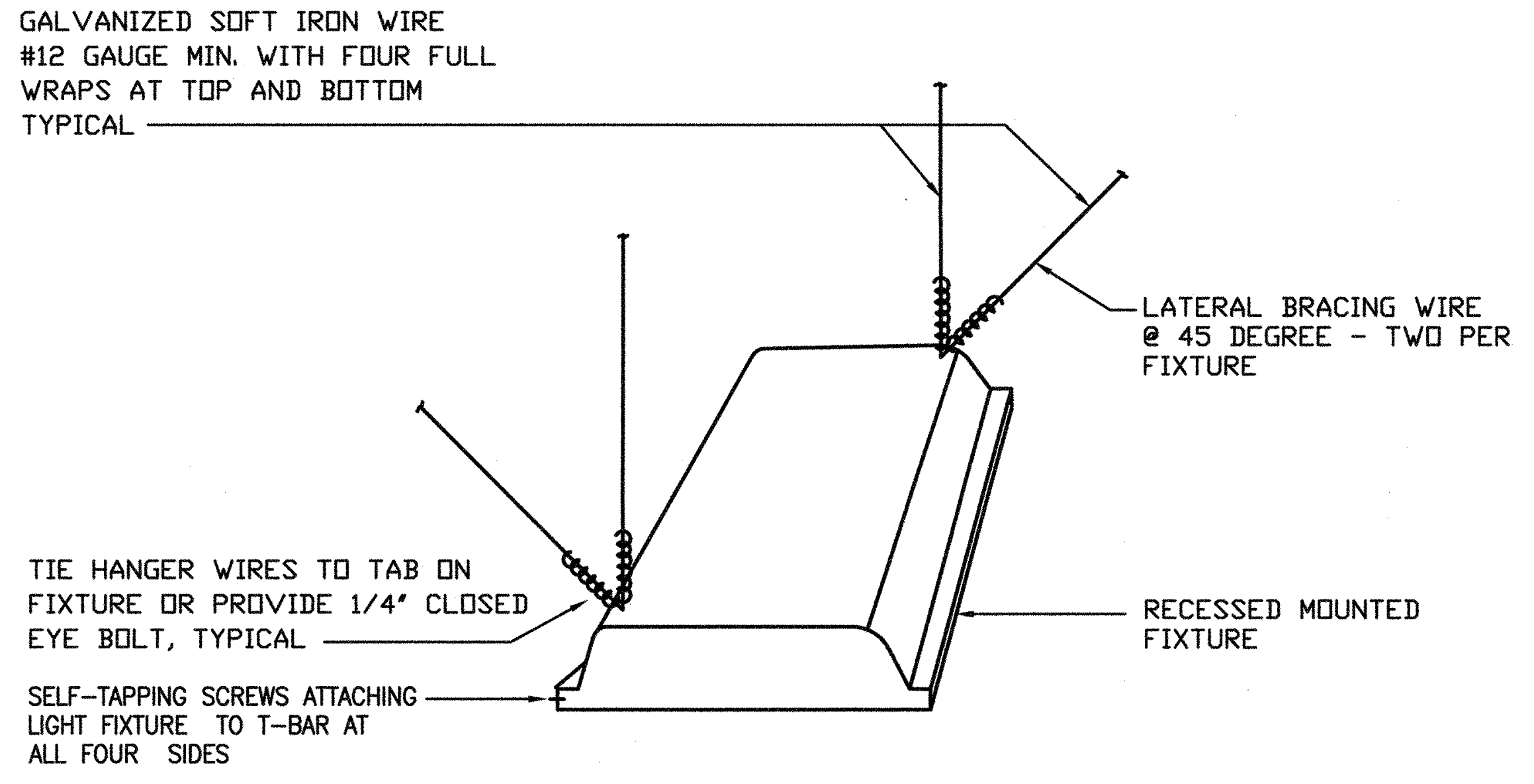
NOTE:

PROVIDE CHANNEL SUPPORT AT 8'-0" C-C MAXIMUM SPACING, AND 3'-0" MINIMUM FROM EACH TERMINATION. CHANNEL SUPPORT SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.


GALVANIZED UNISTRUT PIPE CLAMP FOR RIGID STEEL CONDUIT - SIZE AS REQUIRED
UNISTRUT #P-1000 GALVANIZED CHANNEL SECURE TO REDWOOD BLOCK WITH 2 - 1/4" O X 1 1/2" LAG SCREWS
FEEDER OR BRANCH CIRCUIT RACEWAY AS NOTED ON PLANS
CHANNEL SUPPORT, 5"H X 6"W, RUBBER. B-LINE SERIES C OR EQUAL

1 ROOF SLEEPER/CONDUIT SUPPORT

SCALE: NOT TO SCALE


GALVANIZED SOFT IRON WIRE #12 GAUGE MIN. WITH FOUR FULL WRAPS AT TOP AND BOTTOM TYPICAL
LATERAL BRACING WIRE @ 45 DEGREE - TWO PER FIXTURE
TIE HANGER WIRES TO TAB ON FIXTURE OR PROVIDE 1/4" CLOSED EYE BOLT, TYPICAL
SELF-TAPPING SCREWS ATTACHING LIGHT FIXTURE TO T-BAR AT ALL FOUR SIDES
RECESSED MOUNTED FIXTURE

2 TYPICAL RECESSED FIXTURE IN T-BAR CEILING

SCALE: NOT TO SCALE

SUGIMURA
FINNEY
ARCHITECTS
SFA
ARCHITECTURE INTERIORS PLANNING

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SUITE 200
CAMPBELL, CA 95008
PHONE: 408-879-0600
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S. MARK FISHER
E16525
Exp. 12-31-19

Date Signed 05/10/18

1321 RIDDER PARK DRIVE, SUITE 50 408-487-1200
SAN JOSE, CALIFORNIA 95131 FAX: 408-487-1422
SAN JOSE SAN FRANCISCO • THAILAND SINGAPORE
SYDNEY MELBOURNE • DUBLIN • CORK LONDON DUBAI
PROJECT # 217280

FIXTURE SCHEDULE AND DETAILS

CLYDE ARBUCKLE ELEMENTARY SCHOOL - HVAC UPGRADES
1970 CINDERELLA LN., SAN JOSE, CA 95116
ALUM ROCK UNION ELEMENTARY SCHOOL DISTRICT

REVISIONS

NO.	ITEM	DATE
	DD SUBMITTAL	12-8-17
	DSA SUBMITTAL	01-31-18
	BID SET	04-06-18
	DSA BACK CHECK	05-10-18

DSA FILE NUMBER 43-04

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APPL 01-117268
AC FLS SS
DATE MAY 10 2018

DRAWN BY:	AT
CHECKED BY:	AT
JOB NO:	DATE:
17102	05/10/18

E4.1

:\2017\217280 ARUSD Arbuckle HVAC Upgrade Electrical Design\CAD\280E41.dwg TIME: May04, 18-12:52PM LOGIN: janec

FIRE ALARM MATERIAL LIST

SYMBOL	NAME	DESCRI PTI ON	CALIFORNIA STATE FIRE MARSHAL LISTING
FACP	FIRE ALARM CONTROL PANEL ADDRESSIBLE WITH UDACT	GAMEWELL/FCI S3 CONTROL PANEL	7165–1703:0176
RPS	NEW FIRE ALARM REMOTE POWER SUPPLY WITH 8 AMP BATTERY BACK–UP	GAMEWELL/FCI HPF24S8	7315–1637:0102
☓	FIRE ALARM STROBE LIGHT WITH CANDELLA AS NOTED	WHEELOCK STR	7125–0785:0168
⊠◁	FIRE ALARM HORN/STROBE WITH CANELLA AS NOTED	WHEELOCK HS	7125–0785:0168
☐◁ WP	FIRE ALARM EXTERIOR HORN WITH WEATHERPROOF BACK–BOX	WHEELOCK AH–24WP–R	7125–0785:0131
☐P	FIRE ALARM ADDRESSABLE MANUAL PULL STATION	GAMEWELL/FCI MS–7AF	7150–1703:0109
②	FIRE ALARM PHOTOELECTRONIC SMOKE DETECTOR 30 FT. RECOMMENDED SPACING	GAMEWEEL/FCI #ASD–PL2F/ADB–FLF	7272–1703:0121 7300–1703:0103
①	FIRE ALARM HEAT DETECTOR ABOVE CEILING, "C" INDICATES BELOW CEILING	GAMEWELL/FCI #ATD–HL2F/ADB–FLF	7270–1703:0115 7300–1703:0103
MM	MONITOR MODULE	GAMEWELL/FCI #AMM–2F	7300–1703:0102
RM	RELAY MODULE	GAMEWELL/FCI #AOM–2RF	7300–1703:0102
DOC	RECORD DOCUMENT CABINET	SPACE AGE SRD	7300–0553:0110
EOL	END OF LINE DEVICE		

INITIATION
'A' = WEST PENN 994 – ABOVE GRADE
WEST PENN AQ226 – BELOW GRADE

VISUAL NOTIFICATION
'B' = 2 EACH THHN #12 – RACEWAY
2 EACH THWN #12 – BELOW GRADE
WEST PENN 998 – ABOVE GRADE WITHOUT RACEWAY

APPLICABLE CODES:

2016 BUILDING STANDARDS' ADMINISTRATIVE CODE, PART 1, TITLE 24, C.C.R.
2016 CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24, C.C.R.
(2015 INTERNATIONAL BUILDING CODE AND 2016 CALIFORNIA AMENDMENTS)
2016 CALIFORNIA ELECTRICAL CODE (CEC), PART 3, TITLE 24, C.C.R.
(2011 NATIONAL ELECTRICAL CODE AND 2016 CALIFORNIA AMENDMENTS)
2016 CALIFORNIA MECHANICAL CODE (CMC), PART 4, TITLE 24, C.C.R.
(2015 UNIFORM MECHANICAL CODE AND 2016 CALIFORNIA AMENDMENTS)
2016 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24, C.C.R.
(2015 UNIFORM PLUMBING CODE AND 2016 CALIFORNIA AMENDMENTS)
2016 CALIFORNIA ENERGY CODE, PART 6, TITLE 24, C.C.R.
2016 CALIFORNIA FIRE CODE, PART 9, TITLE 24, C.C.R.
(2015 INTERNATIONAL FIRE CODE AND 2016 CALIFORNIA AMENDMENTS)
TITLE 19 C.C.R. PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS.
PARTIAL LIST OF APPLICABLE STANDARDS:

NFPA 13	AUTOMATIC SPRINKLER SYSTEMS	2016 EDITION
NFPA 14	STANDPIPE SYSTEMS (CA AMENDED)	2013 EDITION
NFPA 17A	WET CHEMICAL SYSTEMS	2013 EDITION
NFPA 24	PRIVATE FIRE MAINS (CA AMENDED)	2016 EDITION
NFPA 72	NATIONAL FIRE ALARM CODE (CA AMENDED)	2016 EDITION

REFERENCE CODE SECTION FOR NFPA STANDARDS, 2016 CBC (SFM) CHAPTER 35.

SCOPE OF WORK :
PROVIDE NEW ADDRESSABLE, AUTOMATIC FIRE ALARM DEVICES AND CABLING AT BLDG. A, B, C, D NEW CEILING AREAS WITH CROSS TRIP CONNECTION TO <E> CAMPUS FIRE ALARM SYSTEM.

THE NEW FIRE ALARM SYSTEM COMPLIES WITH GREEN OAKS FAMILY ACADEMY ELEMENTRY SCHOOL FIRE PROTECTION ACT (SB 575)

CLASSROOMS DO NOT CONTAIN FUEL–BURNING APPLIANCE, FUEL BURNING FIREPLACE OR GAS FIRED FORCED–AIR FURNACE HENCE CARBON MONOXIDE DETECTION IS NOT REQUIRED.

TYPE OF SYSTEM

THIS IS A MANUAL / AUTOMATIC ADDRESSABLE FIRE ALARM SYSTEM.
CLASS "B" PER 2016 NFPA 72 SECTION 12.3.2.

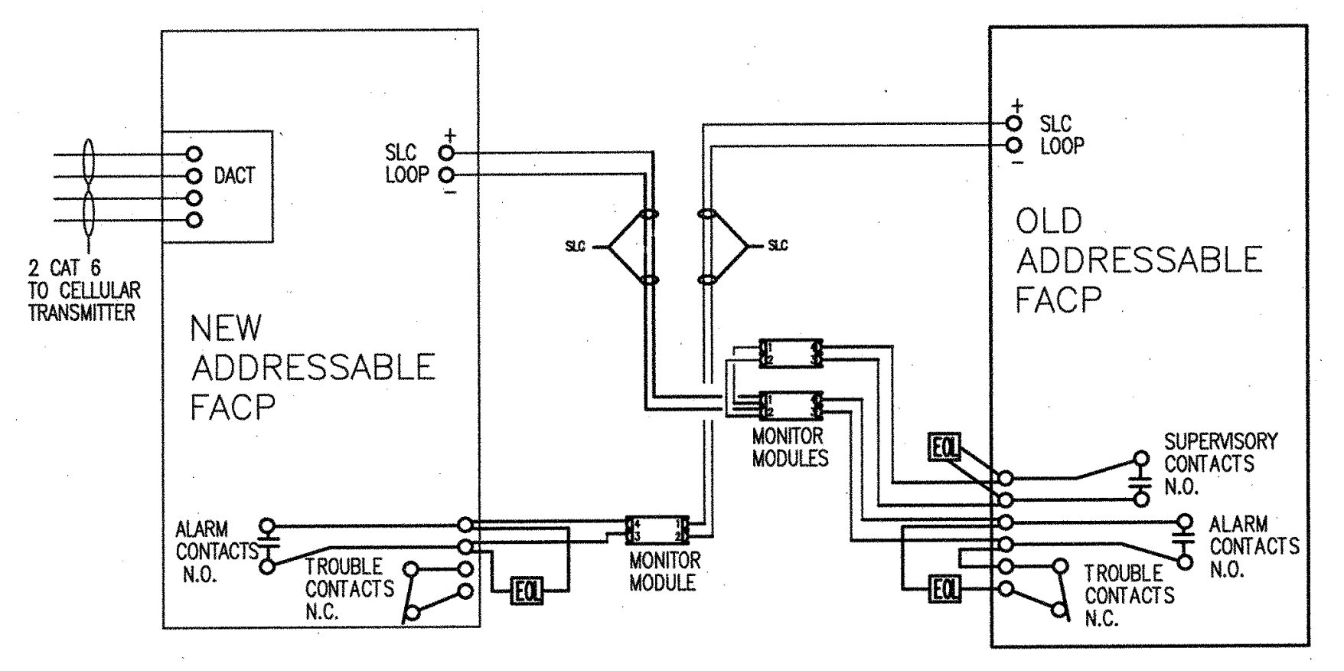
FIRE ALARM NOTES

1. POWER SERVICE SHALL BE ON A DEDICATED BRANCH CIRCUIT WITH A RED MARKING AND IDENTIFIED AS "FIRE ALARM CIRCUIT CONTROL".
2. PROVIDE TEMPORAL–THREE DISTINCTIVE FIRE ALARM SOUND.
3. AUDIBLE FIRE ALARM SOUND LEVEL SHALL BE AT LEAST 15 dBA ABOVE THE AVERAGE AMBIENT SOUND LEVEL IN ALL OCCUPIABLE AREAS. (I.E. CLASSROOM AVERAGE AMBIENT ROOM NOISE IS 45 dBA PLUS 15 dBA EQUALS = 60 dBA MINIMUM ALARM TONE REQUIRED.)
4. STROBES SHALL FLASH AT A RATE OF NOT EXCEEDING TWO FLASHES PER SECOND NOR BE LESS THAN ONE FLASH EVERY SECOND.
5. AUDIBLE SIGNALS INTENDED FOR OPERATION IN THE PUBLIC MODE SHOULD HAVE A SOUND LEVEL OF NOT LESS THAN 75 dBA AT 10 FEET OR MORE THAN 100 dBA AT THE MINIMUM HEARING DISTANCE FROM THE AUDIBLE APPLIANCE.
6. FINAL FIRE ALARM TEST SHALL BE MADE WITH THE DSA INSPECTOR OF RECORD (IOR). LOCAL FIRE AUTHORITY SHALL BE NOTIFIED OF DATE AND TIME OF FINAL FIRE ALARM TESTING AND SHALL ASSIST/WITNESS SUCH TESTING AT THEIR DISCRETION.
7. FIRE ALARM CONTRACTOR SHALL PROVIDE A "RECORD OF COMPLETION" TO THE INSPECTOR OF RECORD (IOR)/DSA AFTER COMPLETION OF OPERATIONAL ACCEPTANCE TEST.
8. FINAL FIRE ALARM TEST SHALL BE MADE WITH DSA INSPECTOR OF RECORD. LOCAL FIRE AUTHORITY SHALL BE NOTIFIED OF DATE AND TIME OF FINAL FIRE ALARM TESTING AND SHALL ASSIST/WITNESS SUCH TESTING WHEN AVAILABLE.
9. ALL FIRE ALARM WIRE SHALL BE INSTALLED IN CONDUIT MIN. SIZE 3/4" OR 800 WIREMOLD AT FINISHED AREA UNLESS OTHERWISE NOTED. EXTERIOR AND UNDERGROUND CONDUITS SHALL HAVE WATER TIGHT FITTINGS. (CEC 110–11 AND 300–6). FIRE RATED CABLE MAY BE ROUTED IN OPEN AIR ABOVE T–BAR CEILING WITHOUT CONDUITS.
10. CONTRACTOR SHALL VERIFY EXACT DEVICE AND CABLE TYPE WITH FACP MANUFACTURER TO ENSURE COMPATIBILITY PRIOR TO ORDERING.PROVIDE ALL NECESSARY MODULES, RELAYS, ETC TO ENSURE A COMPLETE OPERATING SYSTEM.

OPERATION MATRIX

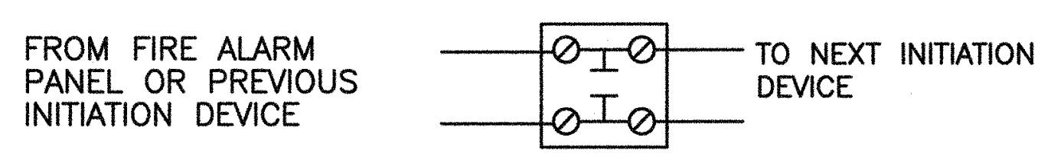
ALARM

	ACTUATE COMMON ALARM SIGNAL INDICATOR	ACTUATE AUDIBLE ALARM SIGNAL	ACTUATE COMMON SUPERVISORY SIGNAL INDICATOR	ACTUATE AUDIBLE SUPERVISORY SIGNAL	TRANSMIT ~~SUPERVISORY~~ SIGNAL TO SUPERVISING STATAION		
MANUAL STATIONS	✕	✕			✕		
SMOKE DETECTOR	✕	✕			✕		
HEAT DETECTOR	✕	✕			✕		

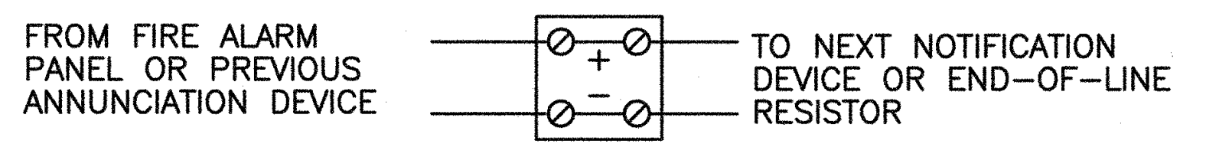


TYPICAL FACP CROSS CONNECT CIRCUIT DETAIL

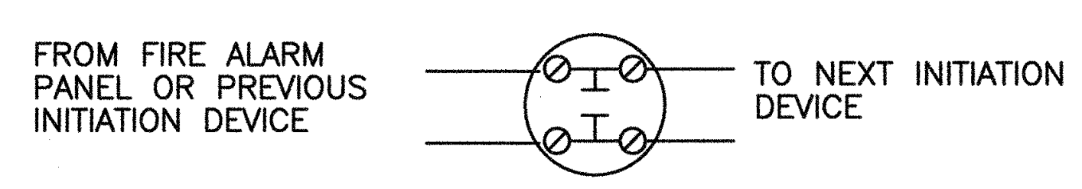
TYPICAL FIRE ALARM DETAILS



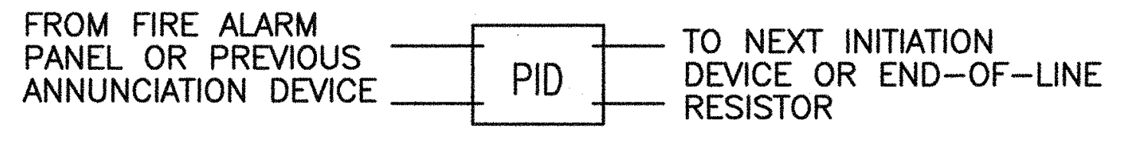
TYPICAL PULL STATION



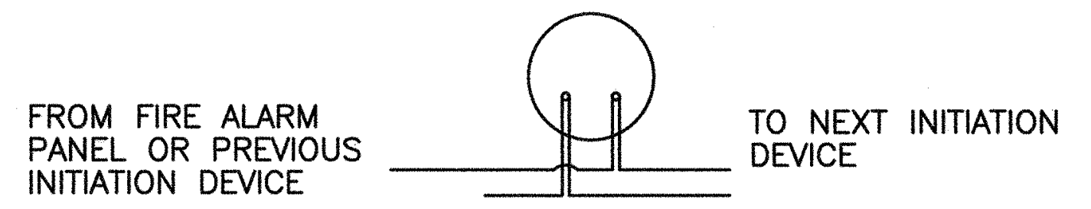
TYPICAL HORN



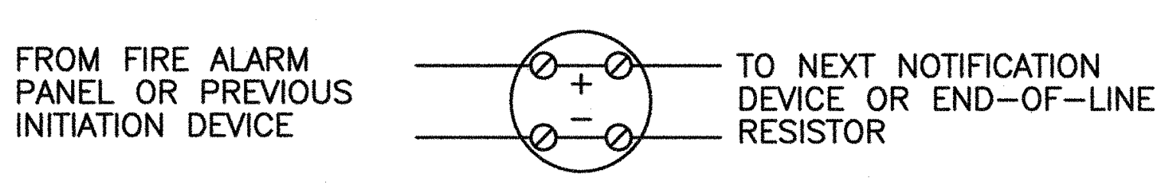
TYPICAL HEAT DETECTOR



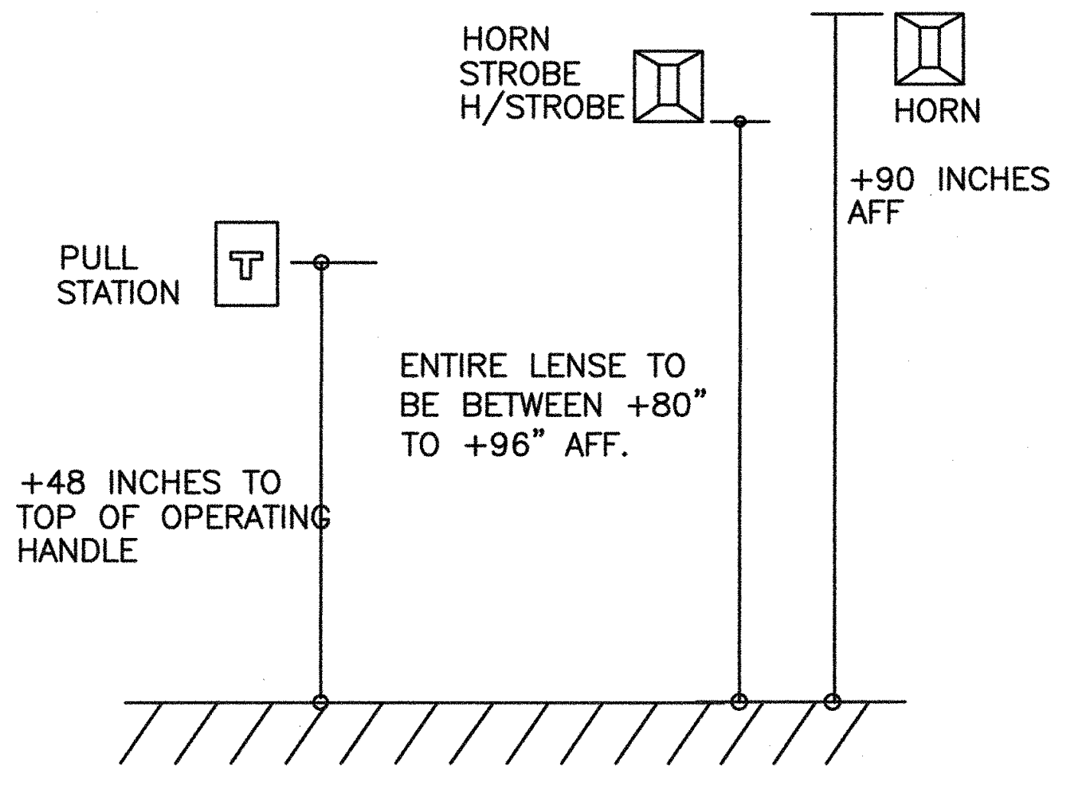
TYPICAL ADDRESSABLE MODULE



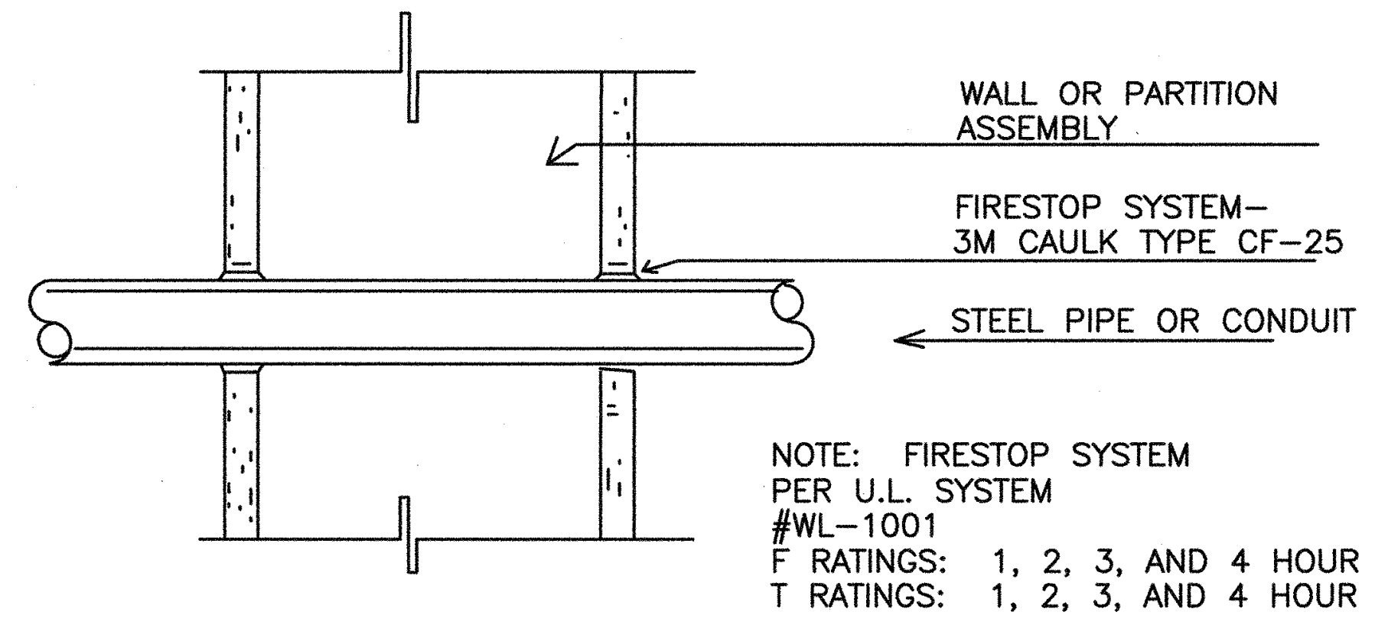
TYPICAL SMOKE DETECTOR



TYPICAL STROBE LIGHT

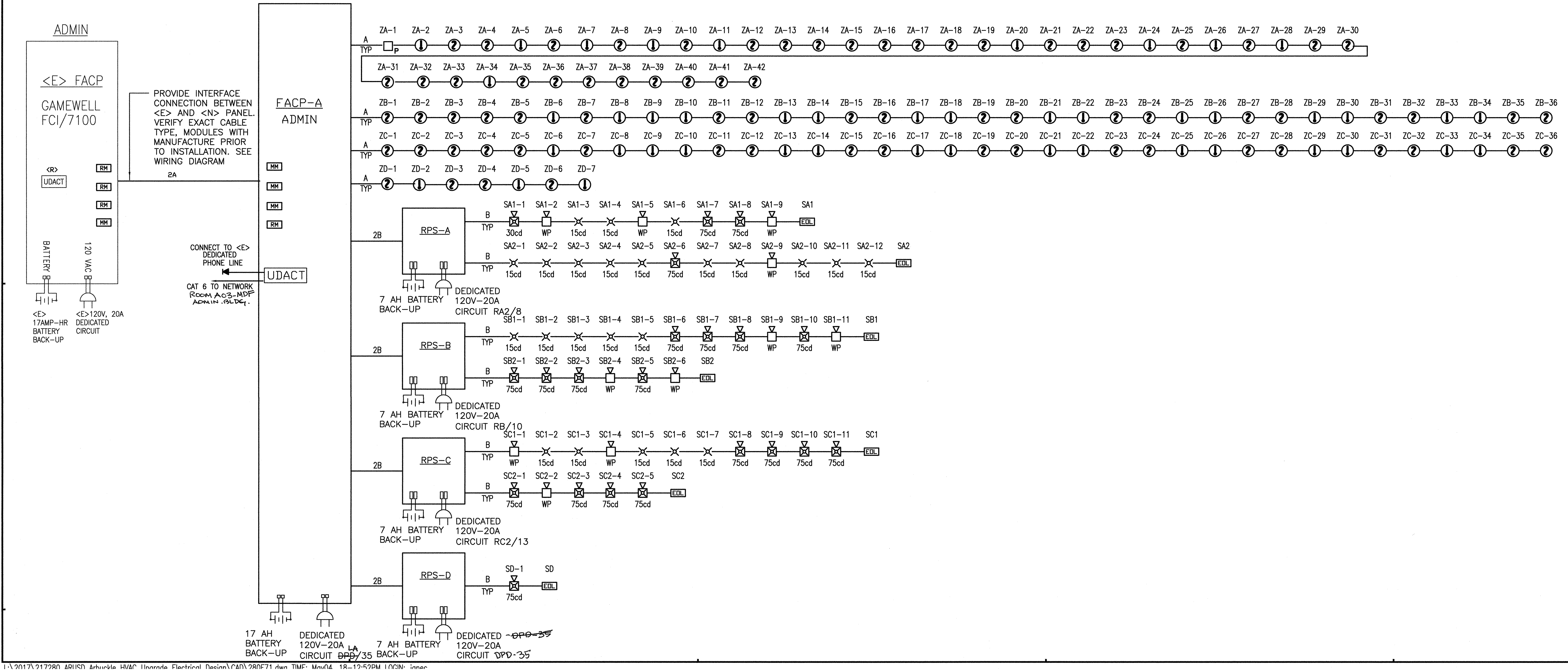


TYPICAL ELEVATIONS
PULLS/HORN/STROBE



NOTE: FIRESTOP SYSTEM
PER U.L. SYSTEM
#WL–1001
F RATINGS: 1, 2, 3, AND 4 HOUR
T RATINGS: 1, 2, 3, AND 4 HOUR

CONDUIT PENETRATION
U.L. SYSTEM #WL–1001


ADMIN
<E> FACP
GAMEWELL
FCI/7100
<R>
UDACT
RM
RM
RM
MM
BATTERY
120 VAC
<E>
17AMP–HR
BATTERY
BACK–UP
<E>120V, 20A
DEDICATED
CIRCUIT
2A
FACP–A
ADMIN
MM
MM
MM
RM
CONNECT TO <E>
DEDICATED
PHONE LINE
UDACT
CAT 6 TO NETWORK
17 AH
BATTERY
BACK–UP
DEDICATED
120V–20A
CIRCUIT
A
TYP
ZA–1 ZA–2 ZA–3 ZA–4 ZA–5 ZA–6 ZA–7 ZA–8 ZA–9 ZA–10 ZA–11 ZA–12 ZA–13 ZA–14 ZA–15 ZA–16 ZA–17 ZA–18 ZA–19 ZA–20 ZA–21 ZA–22 ZA–23 ZA–24 ZA–25 ZA–26 ZA–27 ZA–28 ZA–29 ZA–30
P
ZA–31 ZA–32 ZA–33 ZA–34 ZA–35 ZA–36 ZA–37 ZA–38 ZA–39 ZA–40 ZA–41 ZA–42
ZB–1 ZB–2 ZB–3 ZB–4 ZB–5 ZB–6 ZB–7 ZB–8 ZB–9 ZB–10 ZB–11 ZB–12 ZB–13 ZB–14 ZB–15 ZB–16 ZB–17 ZB–18 ZB–19 ZB–20 ZB–21 ZB–22 ZB–23 ZB–24 ZB–25 ZB–26 ZB–27 ZB–28 ZB–29 ZB–30 ZB–31 ZB–32 ZB–33 ZB–34 ZB–35 ZB–36
ZC–1 ZC–2 ZC–3 ZC–4 ZC–5 ZC–6 ZC–7 ZC–8 ZC–9 ZC–10 ZC–11 ZC–12 ZC–13 ZC–14 ZC–15 ZC–16 ZC–17 ZC–18 ZC–19 ZC–20 ZC–21 ZC–22 ZC–23 ZC–24 ZC–25 ZC–26 ZC–27 ZC–28 ZC–29 ZC–30 ZC–31 ZC–32 ZC–33 ZC–34 ZC–35 ZC–36
ZD–1 ZD–2 ZD–3 ZD–4 ZD–5 ZD–6 ZD–7
2B
RPS–A
B
TYP
SA1–1 SA1–2 SA1–3 SA1–4 SA1–5 SA1–6 SA1–7 SA1–8 SA1–9 SA1
30cd WP 15cd 15cd WP 15cd 75cd 75cd WP
EOL
SA2–1 SA2–2 SA2–3 SA2–4 SA2–5 SA2–6 SA2–7 SA2–8 SA2–9 SA2–10 SA2–11 SA2–12 SA2
15cd 15cd 15cd 15cd 15cd 75cd 15cd 15cd WP 15cd 15cd 15cd
EOL
7 AH BATTERY
BACK–UP
DEDICATED
120V–20A
CIRCUIT RA2/8
2B
RPS–B
SB1–1 SB1–2 SB1–3 SB1–4 SB1–5 SB1–6 SB1–7 SB1–8 SB1–9 SB1–10 SB1–11 SB1
15cd 15cd 15cd 15cd 15cd 75cd 75cd 75cd WP 75cd WP
EOL
SB2–1 SB2–2 SB2–3 SB2–4 SB2–5 SB2–6 SB2
75cd 75cd 75cd WP 75cd WP
EOL
7 AH BATTERY
BACK–UP
DEDICATED
120V–20A
CIRCUIT RB/10
2B
RPS–C
SC1–1 SC1–2 SC1–3 SC1–4 SC1–5 SC1–6 SC1–7 SC1–8 SC1–9 SC1–10 SC1–11 SC1
WP 15cd 15cd WP 15cd 15cd 15cd 75cd 75cd 75cd 75cd
EOL
SC2–1 SC2–2 SC2–3 SC2–4 SC2–5 SC2
75cd WP 75cd 75cd 75cd
EOL
7 AH BATTERY
BACK–UP
DEDICATED
120V–20A
CIRCUIT RC2/13
2B
RPS–D
SD–1 SD
75cd
EOL
7 AH BATTERY
BACK–UP
DEDICATED
120V–20A

PROVIDE INTERFACE CONNECTION BETWEEN <E> AND <N> PANEL. VERIFY EXACT CABLE TYPE, MODULES WITH MANUFACTURE PRIOR TO INSTALLATION. SEE WIRING DIAGRAM

ROOM A03-MDF
ADMIN. BLDG.

CIRCUIT ~~DPD~~ LA/35

DEDICATED ~~DPD-35~~
CIRCUIT DPD-35

SUGIMURA
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ARCHITECTURE INTERIORS PLANNING

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SUITE 200
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REGISTERED PROFESSIONAL ENGINEER
S. MARK FISHER
E16525
Exp. 12-31-19
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STATE OF CALIFORNIA

Date Signed 05/10/18

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SAN JOSE SAN FRANCISCO • THAILAND SINGAPORE
SYDNEY MELBOURNE • DUBLIN • CORK LONDON DUBAI
PROJECT # 217280

FIRE ALARM NOTES AND DETAILS

CLYDE ARBUCKLE ELEMENTARY SCHOOL - HVAC UPGRADES
1970 CINDERELLA LN., SAN JOSE, CA 95116
ALUM ROCK UNION ELEMENTARY SCHOOL DISTRICT

REVISIONS

NO.	ITEM	DATE
	DD SUBMITTAL	12-8-17
	DSA SUBMITTAL	01-31-18
	BID SET	04-06-18
	DSA BACK CHECK	05-10-18

DSA FILE NUMBER 43-04

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APPL 01-117268
AC FLS SS
DATE MAY 10 2018

DRAWN BY: AT
CHECKED BY: AT
JOB NO: 17102
DATE: 05/10/18

E7.1

I:\2017\217280 ARUSD Arbuckle HVAC Upgrade Electrical Design\CAD\280E71.dwg TIME: May04, 18–12:52PM LOGIN: janec

FACP

CONTROL PANEL BATTERY CALCULATION

QTY <N>	QTY <E>	PRODUCT ID	DESCRIPTION	STANDBY EACH	STANDBY TOTAL	ALARM EACH	ALARM TOTAL
1	0	S3	CONTROL PANEL	0.125000	0.125000	0.171000	0.171000
1	0	ILI-MB-E3	ANALOG MODULE	0.055000	0.055000	0.055000	0.055000
45	0	AST-HL2F	HEAT DETECTORS	0.000300	0.013500	0.006500	0.292500
0	0	DNR	DUCT SMOKE DETECTORS	0.000300	0.000000	0.006500	0.000000
75	0	ASD-PL2F	SMOKE DETECTORS	0.000300	0.022500	0.006500	0.487500
1	0	MS-7AF	PULL STATION	0.000300	0.000300	0.010000	0.010000
0	0	AMM-2F	MONITOR MODULE	0.000375	0.000000	0.000600	0.000000
2	0	AOM-2RF	RELAY CONTROL MODULE	0.000375	0.000750	0.000600	0.001200
			TOTAL STANDBY CURRENT		0.217050		
			X 24 HOURS STANDBY		5.209200		
			TOTAL ALARM CURRENT				1.017200
			5 MINUTES OF ALARM (X ..83)				0.084428
			TOTAL BATTERY WITH 20% SPARE				6.352353
			BATTERY SUPPLIED				17 AH

RPS-A

BATTERY CALCULATION

QTY	PRODUCT ID	DESCRIPTION	STANDBY EACH	STANDBY TOTAL	ALARM EACH	ALARM TOTAL
1	HPF24S8	POWER SUPPLY	0.040000	0.040000	0.050000	0.050000
0	HS-2415	HORN/STROBE 15cd	0.000000	0.000000	0.082000	0.000000
1	HS-2430	HORN/STROBE 30cd	0.000000	0.000000	0.102000	0.102000
3	HS-2475	HORN/STROBE 75cd	0.000000	0.000000	0.148000	0.444000
0	HS-24110	HORN/STROBE 110cd	0.000000	0.000000	0.197000	0.000000
13	ST-2415	STROBE 15cd	0.000000	0.000000	0.057000	0.741000
0	ST-2430	STROBE 30cd	0.000000	0.000000	0.085000	0.000000
0	ST-2475	STROBE 75cd	0.000000	0.000000	0.135000	0.000000
0	ST-24110	STROBE 110cd	0.000000	0.000000	0.182000	0.000000
4	AH-24WP	EXTERIOR HORN	0.000000	0.000000	0.080000	0.320000
		TOTAL DEVICE STANDBY CURRENT		0.040000		
		X 24 HOURS STANDBY		0.960000		
		TOTAL DEVICE ALARM CURRENT				1.337000
		TOTAL ALARM CURRENT				1.337000
		5 MINUTES OF ALARM (X .083)				0.110971
		TOTAL BATTERY WITH 20% SPARE				1.285165
		BATTERY SUPPLIED				7AH

RPS-B

BATTERY CALCULATION

QTY	PRODUCT ID	DESCRIPTION	STANDBY EACH	STANDBY TOTAL	ALARM EACH	ALARM TOTAL
1	HPF24S8	POWER SUPPLY	0.040000	0.040000	0.050000	0.050000
0	HS-2415	HORN/STROBE 15cd	0.000000	0.000000	0.082000	0.000000
0	HS-2430	HORN/STROBE 30cd	0.000000	0.000000	0.102000	0.000000
8	HS-2475	HORN/STROBE 75cd	0.000000	0.000000	0.148000	1.184000
0	HS-24110	HORN/STROBE 110cd	0.000000	0.000000	0.197000	0.000000
5	ST-2415	STROBE 15cd	0.000000	0.000000	0.057000	0.285000
0	ST-2430	STROBE 30cd	0.000000	0.000000	0.085000	0.000000
0	ST-2475	STROBE 75cd	0.000000	0.000000	0.135000	0.000000
0	ST-24110	STROBE 110cd	0.000000	0.000000	0.182000	0.000000
4	AH-24WP	EXTERIOR HORN	0.000000	0.000000	0.080000	0.320000
		TOTAL DEVICE STANDBY CURRENT		0.040000		
		X 24 HOURS STANDBY		0.960000		
		TOTAL DEVICE ALARM CURRENT				1.519000
		TOTAL ALARM CURRENT				1.519000
		5 MINUTES OF ALARM (X .083)				0.126077
		TOTAL BATTERY WITH 20% SPARE				1.303292
		BATTERY SUPPLIED				7AH

RPS-C

BATTERY CALCULATION

QTY	PRODUCT ID	DESCRIPTION	STANDBY EACH	STANDBY TOTAL	ALARM EACH	ALARM TOTAL
1	HPF24S8	POWER SUPPLY	0.040000	0.040000	0.050000	0.050000
0	HS-2415	HORN/STROBE 15cd	0.000000	0.000000	0.082000	0.000000
0	HS-2430	HORN/STROBE 30cd	0.000000	0.000000	0.102000	0.000000
8	HS-2475	HORN/STROBE 75cd	0.000000	0.000000	0.148000	1.184000
0	HS-24110	HORN/STROBE 110cd	0.000000	0.000000	0.197000	0.000000
5	ST-2415	STROBE 15cd	0.000000	0.000000	0.057000	0.285000
0	ST-2430	STROBE 30cd	0.000000	0.000000	0.085000	0.000000
0	ST-2475	STROBE 75cd	0.000000	0.000000	0.135000	0.000000
0	ST-24110	STROBE 110cd	0.000000	0.000000	0.182000	0.000000
3	AH-24WP	EXTERIOR HORN	0.000000	0.000000	0.080000	0.240000
		TOTAL DEVICE STANDBY CURRENT		0.040000		
		X 24 HOURS STANDBY		0.960000		
		TOTAL DEVICE ALARM CURRENT				1.519000
		TOTAL ALARM CURRENT				1.519000
		5 MINUTES OF ALARM (X .083)				0.126077
		TOTAL BATTERY WITH 20% SPARE				1.303292
		BATTERY SUPPLIED				7AH

RPS-D

BATTERY CALCULATION

QTY	PRODUCT ID	DESCRIPTION	STANDBY EACH	STANDBY TOTAL	ALARM EACH	ALARM TOTAL
1	HPF24S8	POWER SUPPLY	0.040000	0.040000	0.050000	0.050000
0	HS-2415	HORN/STROBE 15cd	0.000000	0.000000	0.082000	0.000000
0	HS-2430	HORN/STROBE 30cd	0.000000	0.000000	0.102000	0.000000
1	HS-2475	HORN/STROBE 75cd	0.000000	0.000000	0.148000	0.148000
0	HS-24110	HORN/STROBE 110cd	0.000000	0.000000	0.197000	0.000000
0	ST-2415	STROBE 15cd	0.000000	0.000000	0.057000	0.000000
0	ST-2430	STROBE 30cd	0.000000	0.000000	0.085000	0.000000
0	ST-2475	STROBE 75cd	0.000000	0.000000	0.135000	0.000000
0	ST-24110	STROBE 110cd	0.000000	0.000000	0.182000	0.000000
0	AH-24WP	EXTERIOR HORN	0.000000	0.000000	0.080000	0.000000
		TOTAL DEVICE STANDBY CURRENT		0.040000		
		X 24 HOURS STANDBY		0.960000		
		TOTAL DEVICE ALARM CURRENT				0.198000
		TOTAL ALARM CURRENT				0.198000
		5 MINUTES OF ALARM (X .083)				0.016434
		TOTAL BATTERY WITH 20% SPARE				1.171721
		BATTERY SUPPLIED				7AH

VOLTAGE DROP (VD) CALCULATION

PROJ. NAME------- CLYDE ARBUCKLE ELEMENTARY SCHOOL - HVAC UPGRADES

SIG CKT #-------- SA1

DEVICE #	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
GAUGE WIRE	12	12	12	12	12	12	12	12	12	12
DISTANCE (FT)	50	31	42	111	65	47	32	52	67	0
AMPS @ DEVICE	0.102	0.08	0.057	0.057	0.08	0.135	0.148	0.148	0.08	0
AMPS DEVELOPE	0.887	0.785	0.705	0.648	0.591	0.511	0.376	0.228	0.08	0
VOLT. DROP	0.141033	0.0773853	0.0941598	0.22873104	0.1221597	0.0763741	0.0382618	0.03770208	0.0170448	0

** FORMULA **
I X FEET X OHMS/ /FT

SIGNAL CIRCUIT = SA1
TOTAL CKT V.D.= 0.83285154
CKT VOLTAGE= 20.4
VOLTAGE AT
FINAL DEVICE= 19.56714846

% VOLTAGE DR 4.08260559

WIRE SIZE	RESIS. /M FT.	CIRC. MILS.
10	1.21	10380
12	1.59	6530
14	2.52	4110
16	4.02	2580
18	6.39	1620
20	10.1	1020
22	16.2	640
24	25.7	404

VOLTAGE DROP (VD) CALCULATION

PROJ. NAME------- CLYDE ARBUCKLE ELEMENTARY SCHOOL - HVAC UPGRADES

SIG CKT #-------- SA2

DEVICE #	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th
GAUGE WIRE	12	12	12	12	12	12	12	12	12	12	12	12
DISTANCE (FT)	94	54	22	47	26	77	39	37	27	40	30	40
AMPS @ DEVICE	0.057	0.057	0.057	0.057	0.057	0.148	0.057	0.057	0.08	0.057	0.057	0.057
AMPS DEVELOPE	0.798	0.741	0.684	0.627	0.57	0.513	0.365	0.308	0.251	0.171	0.114	0.057
VOLT. DROP	0.23853816	0.12724452	0.04785264	0.09371142	0.0471276	0.1256132	0.0452673	0.03623928	0.0215509	0.0217512	0.0108756	0.0072504

** FORMULA **
I X FEET X OHMS/ /FT

SIGNAL CIRCUIT = SA2
TOTAL CKT V.D.= 0.82302216
CKT VOLTAGE= 20.4
VOLTAGE AT
FINAL DEVICE= 19.57697784

% VOLTAGE DR 4.03442235

WIRE SIZE	RESIS. /M FT.	CIRC. MILS.
10	1.21	10380
12	1.59	6530
14	2.52	4110
16	4.02	2580
18	6.39	1620
20	10.1	1020
22	16.2	640
24	25.7	404

VOLTAGE DROP (VD) CALCULATION

PROJ. NAME------- CLYDE ARBUCKLE ELEMENTARY SCHOOL - HVAC UPGRADES

SIG CKT #-------- SB1

DEVICE #	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th
GAUGE WIRE	12	12	12	12	12	12	12	12	12	12	12
DISTANCE (FT)	64	42	61	42	42	57	22	52	64	64	63
AMPS @ DEVICE	0.057	0.057	0.057	0.057	0.057	0.148	0.148	0.148	0.08	0.148	0.08
AMPS DEVELOPE	1.037	0.98	0.923	0.866	0.809	0.752	0.604	0.456	0.308	0.228	0.08
VOLT. DROP	0.21105024	0.1308888	0.17904354	0.11566296	0.10805004	0.136308	0.0422558	0.0754042	0.0626842	0.0464026	0.0160272

** FORMULA **
I X FEET X OHMS/ /FT

SIGNAL CIRCUIT = SB1
TOTAL CKT V.D.= 1.12377702
CKT VOLTAGE= 20.4
VOLTAGE AT
FINAL DEVICE= 19.27622298

% VOLTAGE DR 5.50871088

WIRE SIZE	RESIS. /M FT.	CIRC. MILS.
10	1.21	10380
12	1.59	6530
14	2.52	4110
16	4.02	2580
18	6.39	1620
20	10.1	1020
22	16.2	640
24	25.7	404

VOLTAGE DROP (VD) CALCULATION

PROJ. NAME------- CLYDE ARBUCKLE ELEMENTARY SCHOOL - HVAC UPGRADES

SIG CKT #-------- SB2

DEVICE #	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
GAUGE WIRE	12	12	12	12	12	12	12	12	12	12
DISTANCE (FT)	200	22	55	64	65	63	0	0	0	0
AMPS @ DEVICE	0.148	0.148	0.148	0.08	0.148	0.08	0	0	0	0
AMPS DEVELOPE	0.752	0.604	0.456	0.308	0.228	0.08	0	0	0	0
VOLT. DROP	0.478272	0.04225584	0.0797544	0.06268416	0.0471276	0.016027	0	0	0	0

** FORMULA **
I X FEET X OHMS/ /FT

SIGNAL CIRCUIT = SB2
TOTAL CKT V.D.= 0.7261212
CKT VOLTAGE= 20.4
VOLTAGE AT
FINAL DEVICE= 19.6738788

% VOLTAGE DR 3.55941765

WIRE SIZE	RESIS. /M FT.	CIRC. MILS.
10	1.21	10380
12	1.59	6530
14	2.52	4110
16	4.02	2580
18	6.39	1620
20	10.1	1020
22	16.2	640
24	25.7	404

VOLTAGE DROP (VD) CALCULATION

PROJ. NAME------- CLYDE ARBUCKLE ELEMENTARY SCHOOL - HVAC UPGRADES

SIG CKT #-------- SC1

DEVICE #	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th
GAUGE WIRE	12	12	12	12	12	12	12	12	12	12	12
DISTANCE (FT)	34	58	42	33	73	42	35	56	22	52	22
AMPS @ DEVICE	0.08	0.057	0.057	0.08	0.057	0.057	0.057	0.148	0.148	0.148	0.148
AMPS DEVELOPE	1.037	0.957	0.9	0.843	0.763	0.706	0.649	0.592	0.444	0.296	0.148
VOLT. DROP	0.11212044	0.17650908	0.120204	0.08846442	0.17712282	0.094293	0.0722337	0.1054234	0.0310622	0.0489466	0.0103541

** FORMULA **
I X FEET X OHMS/ /FT

SIGNAL CIRCUIT = SC1
TOTAL CKT V.D.= 1.03673406
CKT VOLTAGE= 20.4
VOLTAGE AT
FINAL DEVICE= 19.36326594

% VOLTAGE DR 5.08202971

WIRE SIZE	RESIS. /M FT.	CIRC. MILS.
10	1.21	10380
12	1.59	6530
14	2.52	4110
16	4.02	2580
18	6.39	1620
20	10.1	1020
22	16.2	640
24	25.7	404

VOLTAGE DROP (VD) CALCULATION

PROJ. NAME------- CLYDE ARBUCKLE ELEMENTARY SCHOOL - HVAC UPGRADES

SIG CKT #-------- SC2

DEVICE #	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
GAUGE WIRE	12	12	12	12	12	12	12	12	12	12
DISTANCE (FT)	207	63	64	55	22	0	0	0	0	0
AMPS @ DEVICE	0.148	0.08	0.148	0.148	0.148	0	0	0	0	0
AMPS DEVELOPE	0.672	0.524	0.444	0.296	0.148	0	0	0	0	0
VOLT. DROP	0.44235072	0.10497816	0.09036288	0.0517704	0.01035408	0	0	0	0	0

** FORMULA **
I X FEET X OHMS/ /FT

SIGNAL CIRCUIT = SC2
TOTAL CKT V.D.= 0.69981624
CKT VOLTAGE= 20.4
VOLTAGE AT
FINAL DEVICE= 19.70018376

% VOLTAGE DR 3.43047176

WIRE SIZE	RESIS. /M FT.	CIRC. MILS.
10	1.21	10380
12	1.59	6530
14	2.52	4110
16	4.02	2580
18	6.39	1620
20	10.1	1020
22	16.2	640
24	25.7	404

VOLTAGE DROP (VD) CALCULATION

PROJ. NAME------- CLYDE ARBUCKLE ELEMENTARY SCHOOL - HVAC UPGRADES

SIG CKT #-------- SD

DEVICE #	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
GAUGE WIRE	12	12	12	12	12	12	12	12	12	12
DISTANCE (FT)	39	0	0	0	0	0	0	0	0	0
AMPS @ DEVICE	0.148	0	0	0	0	0	0	0	0	0
AMPS DEVELOPE	0.148	0	0	0	0	0	0	0	0	0
VOLT. DROP	0.01835496	0	0	0	0	0	0	0	0	0

** FORMULA **
I X FEET X OHMS/ /FT

SIGNAL CIRCUIT = SD
TOTAL CKT V.D.= 0.01835496
CKT VOLTAGE= 20.4
VOLTAGE AT
FINAL DEVICE= 20.38164504

% VOLTAGE DR 0.08997529

WIRE SIZE	RESIS. /M FT.	CIRC. MILS.
10	1.21	10380
12	1.59	6530
14	2.52	4110
16	4.02	2580
18	6.39	1620
20	10.1	1020
22	16.2	640
24	25.7	404

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S. MARK FISHER
E16525
Exp. 12-31-19
ELECTRICAL

Date Signed 05/10/18

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SAN JOSE SAN FRANCISCO • THAILAND SINGAPORE
SYDNEY MELBOURNE • DUBLIN • CORK LONDON DUBAI
PROJECT # 217280

FIRE ALARM CALCULATIONS

CLYDE ARBUCKLE ELEMENTARY SCHOOL - HVAC UPGRADES
1970 CINDERELLA LN., SAN JOSE, CA 95116
ALUM ROCK UNION ELEMENTARY SCHOOL DISTRICT

REVISIONS

NO.	ITEM	DATE
	DD SUBMITTAL	12-8-17
	DSA SUBMITTAL	01-31-18
	BID SET	04-06-18
	DSA BACK CHECK	05-10-18

DSA FILE NUMBER 43-04

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APPL 01-117268
AC ___ FLS ___ SS ___
DATE MAY 10 2018

DRAWN BY: AT
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E7.2