GEORGE HALL ELEMENTARY SCHOOL - HVAC REPLACEMENT

130 SAN MIGUEL WAY, SAN MATEO, CA 94403

SAN MATEO-FOSTER CITY SCHOOL DISTRICT

CONSTRUCTION DOCUMENTS

DSA FILE NUMBER	41-26
DSA APPLICATION NUMBER	01-119523
PTN	69039-107

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119523 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 10/26/2021

aedis architects
www.aedisarchitects.com
387 S. 1st Street, Suite 300
San Jose, CA 95113
tel: (408)-300-5160
fax: (408)-300-5121

ABBREVIATIONS

&	AND
@	AT
A.B.	ANCHOR BOLT
ABV.	ABOVE
A.C.	ASPHALTIC CONCRETE
ACT	ACOUSTIC TILE
ADJ.	ADJUSTABLE
A.F.F.	ABOVE FINISHED FLOOR
ALUM.	ALUMINUM
A.P.	ACCESS PANEL
APPROX.	APPROXIMATELY
ARCH.	ARCHITECT
BD.	BOARD
BLDG.	BUILDING
BLKG.	BLOCKING
BM	BEAM
B.M.	BENCH MARK
BOT.	BOTTOM
BTWN	BETWEEN
B.W.	BOTH WAYS
CAB.	CABINET
C.B.	CATCH BASIN
C.C or O.C.	CENTER TO CENTER
CEM.	CEMENT
CER. TILE	CERAMIC TILE
C.G.	CORNER GUARD
C.I.	CAST IRON
C.J.	CONTROL JOINT
CLG.	CEILING
CLKG.	CAULKING
CLR.	CLEAR
CMU	CONCRETE MASONRY UNIT
CNTR.	COUNTER
C.O.	CLEANOUT
COL.	COLUMN
CONC.	CONCRETE
CONST.	CONSTRUCTION
CONT.	CONTINUOUS
CONTR.	CONTRACTOR
C.P.	CONCRETE PIPE
CTR.	CENTER
CTSK.	COUNTER SUNK
C.W.	COLD WATER
D.A.	DISABLED ACCESS
DBL	DOUBLE
D.F.	DRINKING FOUNTAIN
D.FIR	DOUGLAS FIR
DTL.	DETAIL
DIA. or Ø	DIAMETER
DIM.	DIMENSION
DISP.	DISPOSAL
DN	DOWN
DO	DITTO
DR.	DOOR
DS.	DOWNSPOUT
DWG.	DRAWING
(E)	EXISTING
E.	EAST
EA.	EACH
E.J.	EXPANSION JOINT
ELEC.	ELECTRIC or ELECTRICAL
EL.	ELEVATION
ELEV.	ELEVATOR
ENCL.	ENCLOSE and/or ENCLOSURE
EQ.	EQUAL
EQUIP.	EQUIPMENT
E.W.	EACH WAY
E.W.C.	ELECTRIC WATER COOLER
EX.	EXPANSION
EXP.	EXPOSED
EXT.	EXTERIOR
F.A.	FIRE ALARM
F.D.	FLOOR DRAIN
FDN.	FOUNDATION
F.E.	FIRE EXTINGUISHER
F.E.C.	FIRE EXTINGUISHER CABINET
F.H.	FIRE HYDRANT
F.H.C.	FIRE HOSE CABINET
F.H.S.M.S.	FLAT HEAD SHEET METAL SCREW
F.H.W.S.	FLAT HEAD WOOD SCREW
FIN.	FINISH
FL. or FLR.	FLOOR
F.O.C.	FACE OF CONCRETE
F.O.F.	FACE OF FINISH
F.O.M.	FACE OF MASONRY
F.O.S.	FACE OF STUD
F.S.	FINISH SLAB
FT.	FOOT OR FEET
FTG.	FOOTING
FURR.	FURRING
GA.	GAUGE
GALV.	GALVANIZED
G.B.	GRAB BAR
G.I.	GALVANIZED IRON
GL.	GLASS
GLU-LAM	GLUE-LAMINATED
GND.	GROUND
GR.	GRADE
GYP.	GYPSUM
H.B.	HOSE BIBB
H.C.	HOLLOW CORE
HDWD.	HARDWOOD
HDWR.	HARDWARE
H.M.	HOLLOW METAL
HORIZ.	HORIZONTAL
HR.	HOUR
HT.	HEIGHT
I.D.	INSIDE DIAMETER
INSUL.	INSULATION
INT.	INTERIOR
INV.	INVERT
JAN.	JANITOR
JT	JOINT
K.D.	KILN DRIED

LAB.	LABORATORY
LAM.	LAMINATE
LAV.	LAVATORY
LKR.	LOCKER
LT.	LIGHT
MAX.	MAXIMUM
M.B.	MACHINE BOLT
MECH.	MECHANICAL
MFR.	MANUFACTURER
M.H.	MANHOLE
MIN.	MINIMUM
MIR.	MIRROR
MISC.	MISCELLANEOUS
M.O.	MASONRY OPENING
M.S.	MACHINE SCREW
MTD.	MOUNTED
MTL.	METAL
MUL.	MULLION
(N)	NEW
N.	NORTH
N.I.C.	NOT IN CONTRACT
NO. or #	NUMBER
NOM.	NOMINAL
N.T.S.	NOT TO SCALE
OBS.	OBSCURE
O.C.	ON CENTER
OCC.	OCCUPANT(CY)
O.D.	OVERFLOW DRAIN and/or OUTSIDE DIAMETER
O.F.O.S.	OUTSIDE FACE OF STUD
O.F.C.I.	OWNER FURNISHED and CONTRACTOR INSTALLED
O.H.	OPPOSITE HAND
OPNG.	OPENING
OPP.	OPPOSITE
P.A.F.	POWDER ACTUATED FASTENER
PL	PLATE
P.L.	PROPERTY LINE
P. LAM	PLASTIC LAMINATE
PLAS.	PLASTER
PLYWD.	PLYWOOD
PR.	PAIR
PTD.	PAINTED
PTN.	PARTITION
Q.T.	QUARRY TILE
R. or RAD.	RADIUS
R.C.P.	REINFORCED CONCRETE PIPE
R.D.	ROOF DRAIN
R.E.	RIM ELEVATION
REF.	REFERENCE
REINF.	REINFORCING
REQ'D	REQUIRED
R.H.M.S.	ROUND HEAD METAL SCREW
R.H.W.S.	ROUND HEAD WOOD SCREW
RM.	ROOM
R.O.	ROUGH OPENING
RWD.	REDWOOD
R.W.L.	RAIN WATER LEADER
S	SOUTH
S.A.D.	SEE ARCHITECTURAL DRAWINGS
S.C.	SOLID CORE
S.C.D.	SEE CIVIL DRAWINGS
SCHED.	SCHEDULE
S.E.D.	SEE ELECTRICAL DRAWINGS
S.F.	SQUARE FEET
SHEATH.	SHEATHING
SHT.	SHEET
SIM.	SIMILAR
S.L.D.	SEE LANDSCAPE DRAWINGS
S.M.	SHEET METAL
S.M.D.	SEE MECHANICAL DRAWINGS
S.M.S.	SHEET METAL SCREW
S.O.V.	SHUT OFF VALVE
S.P.D.	SEE PLUMBING DRAWINGS
SPEC.	SPECIFICATIONS
SQ. or Ø	SQUARE
S.S.	STAINLESS STEEL
S.S.D.	SEE STRUCTURAL DRAWINGS
STAG.	STAGGERED
STD.	STANDARD
STL.	STEEL
STOR.	STORAGE
STRUCT.	STRUCTURAL
S.T.S.M.S.	SELF TAPPING SHEET METAL SCREW
SUSP.	SUSPENDED
T.& G.	TONGUE & GROOVE
TEL.	TELEPHONE
TERR.	TERRAZZO
THRES.	THRESHOLD
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 SLAB
T.O.W.	TOP OF WALL
TYP.	TYPICAL
U.O.N.	UNLESS OTHERWISE NOTED
VERT.	VERTICAL
V.C.P.	VITRIFIED CLAY PIPE
V.C.T.	VINYL COMPOSITION TILE
V.G.	VERTICAL GRAIN
V.I.F.	VERIFY IN FIELD
V.T.R.	VENT THROUGH ROOF
V.W.C.	VINYL WALL COVERING
W	WEST
W/	WITH
W.C.	WATER CLOSET
WD.	WOOD
W.H.	WATER HEATER
W/O	WITHOUT
W.O.	WHERE OCCURS
WP.	WATERPROOF / WEATHERPROOF
W. PT.	WORKING POINT
W.R.	WATER RESISTANT
WT.	WEIGHT

BOARD OF TRUSTEES

CONSULTANTS

MECHANICAL
CYPRESS ENGINEERING GROUP
8 HARRIS COURT, SUITE A8
MONTEREY, CA 93940
(831) 218 - 1802

ELECTRICAL
AMERICAN CONSULTING ENGINEERS ELECTRICAL, INC.
1590 THE ALAMEDA, SUITE 200
SAN JOSE, CA 95126
(408) 236 - 2312

STRUCTURAL
BASE DESIGN, INC.
582 MARKET STREET, SUITE 1042
SAN FRANSISCO, CA 94104
(415) 455-2997

REFERENCE STANDARDS

PARTIAL LIST OF APPLICABLE STANDARDS (AS REFERENCED IN 2019 CBC - CHAPTER 35 & CFC):

ADA STANDARDS FOR ACCESSIBLE DESIGN (APPENDIX A OF 28 CFR PART 36) — 2010 EDITION

APPLICABLE CODES

1 2019 BUILDING STANDARDS ADMINISTRATION CODE (PART 1, TITLE 24, CCR)
2 2019 CALIFORNIA BUILDING CODE (PART 2, VOLUMES 1 AND 2, TITLE 24, CCR)
3 2019 CALIFORNIA ELECTRICAL CODE (PART 3, TITLE 24, CCR)
4 2019 CALIFORNIA MECHANICAL CODE (PART 4, TITLE 24, CCR)
5 2019 CALIFORNIA PLUMBING CODE (PART 5, TITLE 24, CCR)
6 2019 CALIFORNIA ENERGY CODE (PART 6, TITLE 24, CCR)
7 2019 CALIFORNIA FIRE CODE (PART 9, TITLE 24, CCR)
8 2019 CALGREEN BUILDING STANDARDS CODE (PART 11, TITLE 24, CCR)
9 2019 CALIFORNIA REFERENCED STANDARDS CODE (PART 12, TITLE 24, CCR)
10 TITLE 19, CCR, PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS

ADMINISTRATIVE REQUIREMENTS

1. A COPY OF PART 1 TO 5 CCR SHALL BE KEPT ON SITE AT ALL TIMES.
2. ALL CONSTRUCTION CHANGE DOCUMENTS AND ADDENDA TO BE SIGNED BY THE ARCHITECT, THE OWNER, AND APPROVED BY DSA. CONSTRUCTION CHANGE DOCUMENTS ARE NOT VALID UNTIL APPROVED BY DSA PER SECTION 4-338.
3. ALL TESTS TO CONFORM TO THE REQUIREMENTS OF SECTION 4-335.
4. TESTS OF MATERIALS AND TESTING LABORATORY SHALL BE IN ACCORDANCE WITH SECTION 4-335.
5. DSA SHALL BE NOTIFIED AT THE START OF CONSTRUCTION AND PRIOR TO PLACEMENT OF CONCRETE PER SECTION 4-331.
6. INSPECTOR SHALL BE APPROVED BY DSA. INSPECTOR SHALL BE IN ACCORDANCE WITH SECTION 4-333(b). THE DUTY OF THE INSPECTOR SHALL BE IN ACCORDANCE WITH SECTION 4-342.
7. SUPERVISION OF CONSTRUCTION BY DSA SHALL BE IN ACCORDANCE WITH 4-334.
8. CONTRACTOR, INSPECTOR, ARCHITECT, AND ENGINEERS SHALL SUBMIT VERIFIED REPORTS (FORM 6) IN ACCORDANCE WITH SECTION 4-336 AND 4-343.
9. THE ARCHITECT AND THE STRUCTURAL ENGINEERS SHALL PERFORM THEIR DUTIES IN ACCORDANCE WITH SECTIONS 4-333(a) AND 4-341.
10. THE CONTRACTOR SHALL PERFORM HIS DUTIES IN ACCORDANCE WITH SECTION 4-343.
11. THE INTENT OF THE DRAWINGS AND SPECIFICATIONS IS THE (RE)CONSTRUCTION OF A SCHOOL BUILDING(S) IN ACCORDANCE WITH TITLE 24, C.C.R. SHOULD ANY CONDITIONS DEVELOP NOT COVERED BY THE CONTRACT DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH SAID C.C.R. A CONSTRUCTION CHANGE DOCUMENT DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED AND APPROVED BY DSA BEFORE PROCEEDING WITH THE WORK.
12. DSA IS NOT SUBJECT TO ARBITRATION.
13. CHANGES TO THE APPROVED DRAWINGS AND SPECIFICATIONS SHALL BE MADE BY AN ADDENDUM OR CONSTRUCTION CHANGE DOCUMENT (CCD) APPROVED BY THE DIVISION OF THE STATE ARCHITECT, AS REQUIRED BY SECTION 4-338, PART 1, TITLE 24, CCR.
14. A "DSA CERTIFIED" PROJECT INSPECTOR EMPLOYED BY THE DISTRICT (OWNER) AND APPROVED BY THE DSA SHALL PROVIDE CONTINUOUS INSPECTION OF THE WORK. THE DUTIES OF THE INSPECTOR ARE DEFINED IN SECTION 4-342, PART 1, TITLE 24, CRR.
15. A DSA ACCEPTED TESTING LABORATORY DIRECTLY EMPLOYED BY THE DISTRICT (OWNER) SHALL CONDUCT ALL THE REQUIRED TESTS AND INSPECTIONS FOR THE PROJECT.

SYMBOL LEGEND

REFER TO ARCHITECTURAL FLOR PLAN SHEETS AND CONSULTANT DRAWINGS FOR ADDITIONAL SYMBOLS AND REFERENCE DESIGNATIONS

DIMENSION REFERENCE

- 10" — FACE OF OBJECT
- 10" — CENTER LINE OF OBJECT

TAGS AND MARKERS

- 0 — PLAN REFERECE GRID
- STRUCTURAL GRID LINE
- 1 — REVISION MARKER
- 1 — PLAN KEY NOTES
- Room name / 101 — ROOM LABEL: ROOM NAME, ROOM NUMBER
- 1 — WALL TYPE MARKER
- 101a — DOOR ID: DOOR DESIGNATION, ROOM NUMBER
- ℄ — CENTER LINE
- XX-1 — FINISH TAG
- XX-1 — FLOOR FINISH TAG

MATERIALS REFERENCE

- EARTH
- GRAVEL / ROCK
- CONCRETE
- CONCRETE BLOCK (CMU)
- SAND, GROUT, OR PLASTER
- STEEL
- PLYWOOD
- WOOD, CONTINUOUS MEMBER
- WOOD, BLOCKING
- WOOD, FINISH GRADE

CABINET TYPES

- PC - PREFINISHED CABINETS
- PM - PREFINISHED MOBILE CABINETS
- PR - PREFINISHED MOVEABLE CABINETS
- PU - PREFINISHED UTILITY CABINETS
- PS - SCIENCE CABINETS

NOTE: REFER TO SPECIFICATIONS FOR SPECIFIC CABINET TYPE REQUIREMENTS.

SECTION REFERENCE

1 / A12.08, SIM — SECTION NUMBER; REFERENCE LABEL WHERE OCCURES; SHEET NUMBER

DETAIL REFERENCE

1 / A12.08, SIM — DETAIL NUMBER; REFERENCE LABEL WHERE OCCURES; SHEET NUMBER

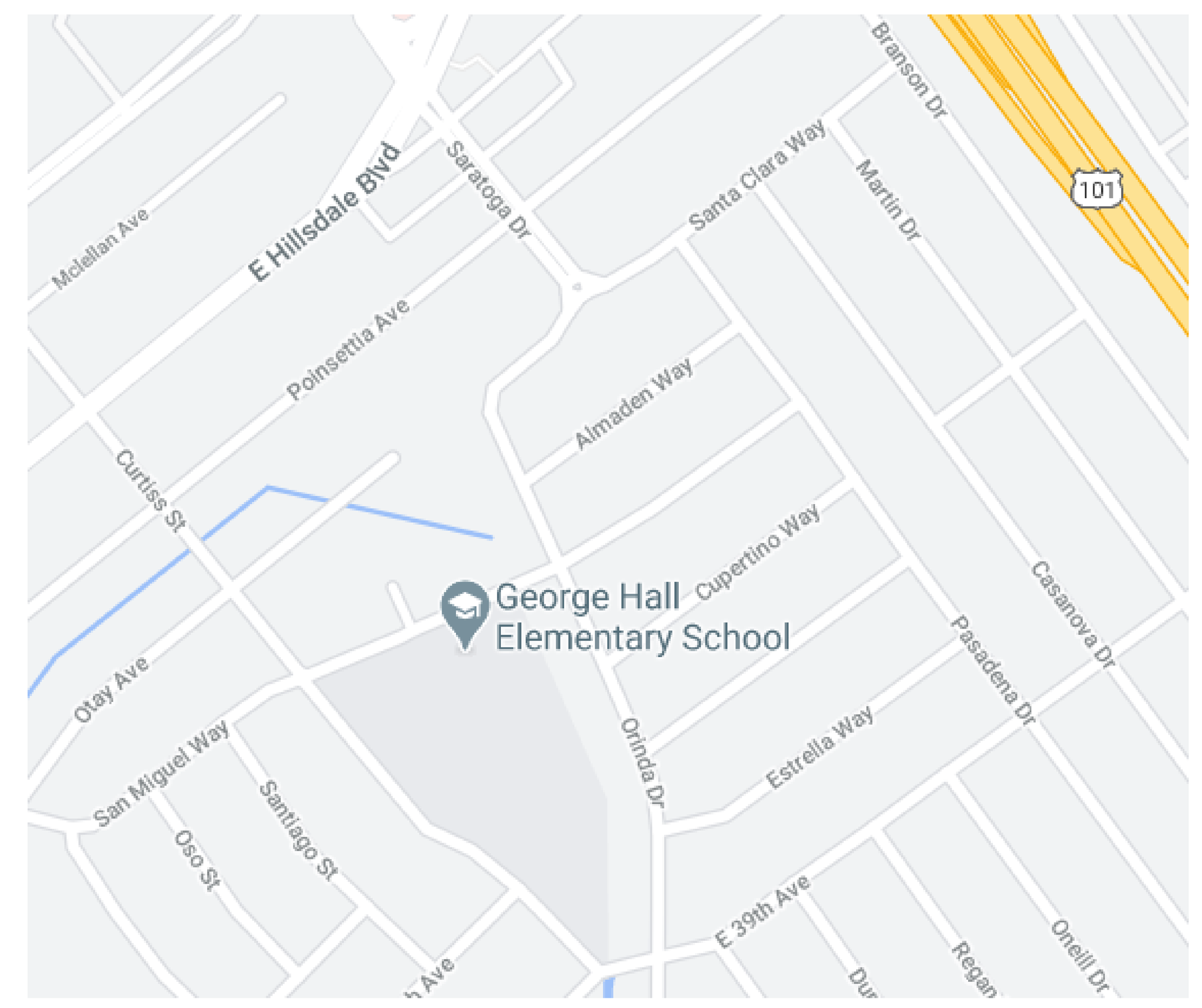
GENERAL NOTES

1. ITEMS OF A CIVIL, LANDSCAPE, STRUCTURAL, MECHANICAL, OR ELECTRICAL NATURE MAY NOT APPEAR ON THE ARCHITECTURAL DRAWINGS. SEE APPROPRIATE DRAWINGS FOR THESE ITEMS.
2. DIVISION OF THE STATE ARCHITECT (DSA) APPROVAL OF THIS APPLICATION DOES NOT INCLUDE FUTURE OR N.I.C. ITEMS.
3. ALL DEFERRED APPROVAL ITEMS SHALL BE SUBMITTED TO THE ARCHITECT AND THE APPROPRIATE CONSULTING ENGINEER FOR REVIEW & APPROVAL PRIOR TO SUBMITTING TO DSA FOR CHECKING & APPROVAL.
4. PRIOR TO BIDDING, THE GENERAL CONTRACTOR SHALL VISIT & INSPECT THE SITE TO FAMILIARIZE THEMSELVES WITH THE EXISTING CONDITIONS AFFECTING THE NEW WORK. THE GENERAL CONTRACTOR SHALL NOT DISPUTE, COMPLAIN, OR ASSERT THAT THERE IS ANY MISUNDERSTANDING IN REGARDS TO LOCATION, EXTENT, NATURE, OR AMOUNT OF WORK TO BE PERFORMED UNDER THIS CONTRACT DUE TO THE CONTRACTOR'S FAILURE TO INSPECT THE SITE AND/OR FAILURE TO INSPECT THE CONTRACT DOCUMENTS.
5. THE GENERAL CONTRACTOR & SUBCONTRACTORS ARE RESPONSIBLE FOR LOCATING & VERIFYING ALL EXISTING UNDERGROUND UTILITIES IN ALL AREAS OF THE NEW WORK PRIOR TO COMMENCEMENT OF EXCAVATION. EXISTING UTILITIES SHOWN ON THE DRAWINGS ARE APPROXIMATE ROUTING LOCATIONS AS BEST DETERMINED FROM EXISTING DRAWINGS & BY THE SCHOOL DISTRICT, BUT SHOULD NOT BE CONSTRUED TO REPRESENT ALL EXISTING UTILITIES.
6. ANY ALTERATIONS OF EXISTING FACILITIES TO ACCOMMODATE THE INSTALLATION OF NEW WORK SHALL BE REVIEWED BY THE ARCHITECT PRIOR TO COMMENCEMENT OF WORK.
7. ALL EXISTING FINISHES OR MATERIALS DAMAGED OR DEMOLISHED DUE TO NEW CONSTRUCTION SHALL BE RESTORED TO THEIR ORIGINAL STATE OR REPLACED WITH NEW MATERIALS FINISHED TO MATCH EXISTING.
8. CONTRACTOR SHALL COORDINATE ALL WORK TO AVOID DISRUPTION OF STUDENTS OR TEACHERS DURING SCHOOL HOURS. ANY DISRUPTION OF POWER, TELEPHONE, OR HVAC SYSTEMS MUST BE COORDINATED AND APPROVED BY THE DISTRICT REPRESENTATIVE PRIOR TO ANY WORK COMMENCING.
9. COMPLIANCE WITH CFC CHAPTER 33 (FIRE SAFETY DURING CONSTRUCTION AND DEMOLITION) AND CBC CHAPTER 33 (SAFEGUARDS DURING CONSTRUCTION) WILL BE ENFORCED.
10. ALL ITEMS ARE TO BE PROVIDED AS NEW, UNLESS OTHERWISE NOTED AS (E).

DEFERRED APPROVAL ITEMS

1. NONE

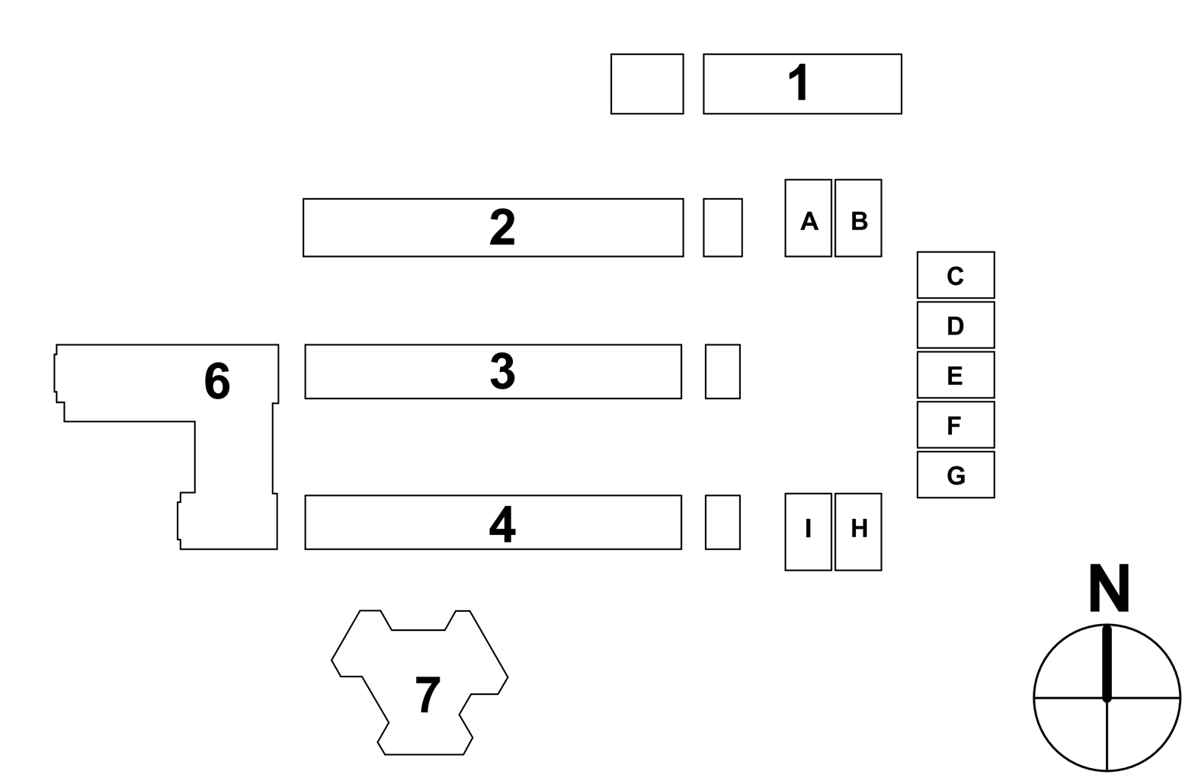
LOCATION MAP



SCOPE OF WORK

SCOPE OF WORK INCLUDES, BUT IS NOT LIMITED TO CAMPUS WIDE ELECTRICAL SERVICE UPGRADE AND REPLACEMENT OF HVAC EQUIPMENT AND ENCLOSURES. THIS PROJECT IS EXEMPT FROM PATH OF TRAVEL ALTERATION PER C.B.C. 11B-202.4, EXCEPTION 7.

BUILDING KEY



DRAWING INDEX

TOTAL SHEET COUNT: 40

* These drawings, and/or specifications, and/or calculations for the items listed above 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.
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))

THANG DO	10/04/21
PRINCIPAL IN CHARGE	**DATE -**
C-018127	11/30/21
CALIFORNIA LICENSE NUMBER	**EXPIRATION DATE**

PROJECT
GEORGE HALL ELEMENTARY SCHOOL - HVAC REPLACEMENT

SAN MATEO-FOSTER CITY SCHOOL DISTRICT

CONSULTANT

STAMP
LICENSED ARCHITECT
THANG N. DO
No. C-018127
REN. 11/30/21
STATE OF CALIFORNIA

STATE
DSA FILE NUMBER 41-26
APPL # 01-119523

REVISIONS

No.	Description	Date
△		

MILESTONES

SD	
90% CD	
DSA SUB	05/21/2021
BACKCHECK	10/04/2021

SHEET
TITLE SHEET

DATE 10/04/2021
JOB # 2021005.02
SHEET # T1

GENERAL SHEET NOTES

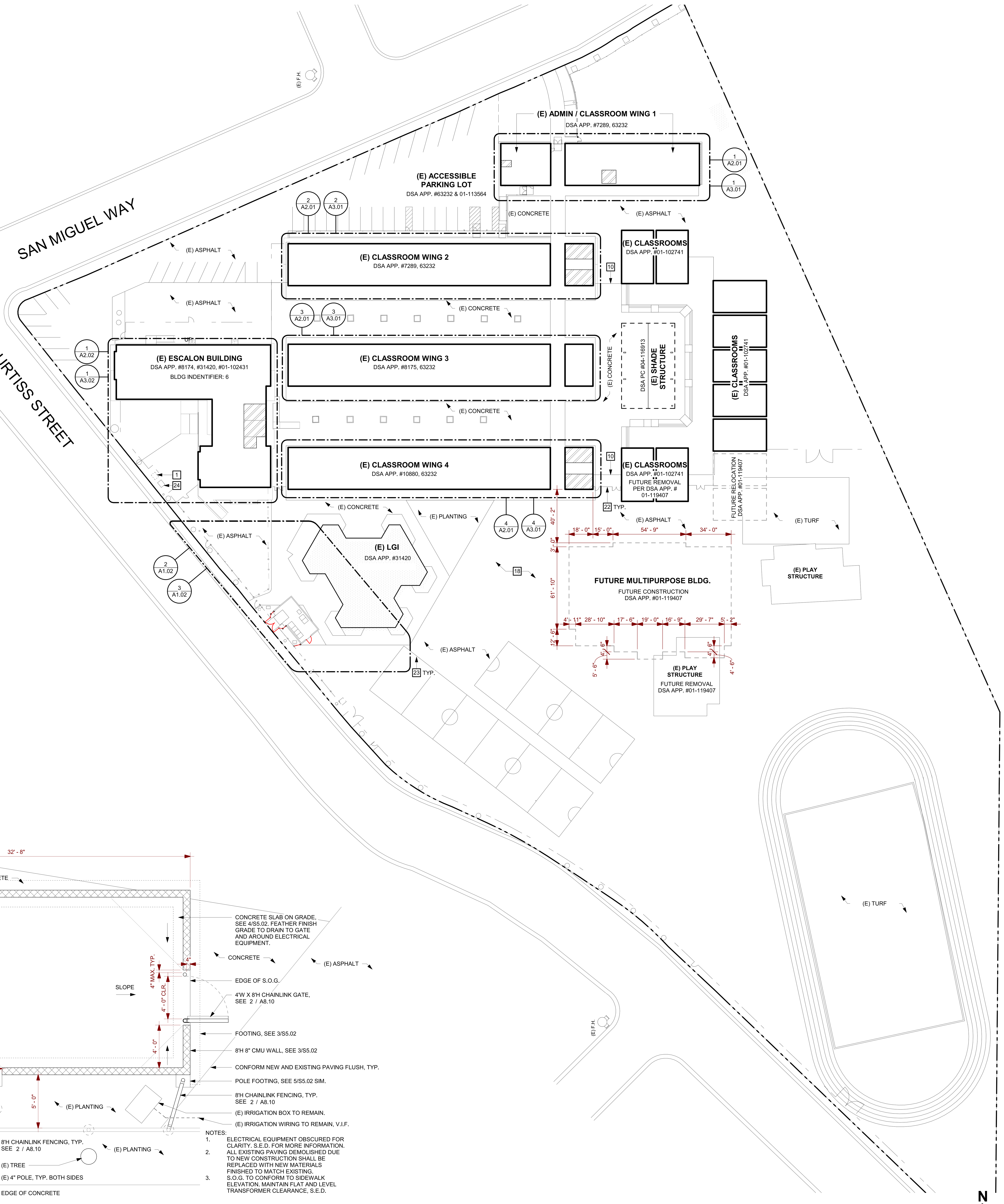
A BUILDINGS ARE UNSPRINKLERED, TYPE V-B CONSTRUCTION UNLESS OTHERWISE NOTED
B NO DEMOLITION SHALL BEGIN UNTIL PLANS INCLUDING THE DEMOLITION WORK HAVE BEEN APPROVED BY DSA
C CONTRACTOR SHALL MAINTAIN FIRE LANE ACCESS THROUGHOUT PROJECT.
D DO NOT INTERRUPT EXISTING UTILITY SERVICES SERVING OCCUPIED OR USED FACILITIES, EXCEPT WHEN AUTHORIZED IN WRITING BY AND COORDINATED WITH THE OWNER.
E PROTECT EXISTING & NEW STRUCTURES, UTILITIES, SIDEWALKS, PAVEMENTS, TREES AND SHRUBS FROM DAMAGE DURING CONSTRUCTION.
F REFER TO ELECTRICAL AND MECHANICAL DRAWINGS FOR EXTENT OF ELECTRICAL AND MECHANICAL WORK.

DEMO & NEW SITE PLAN KEYNOTES

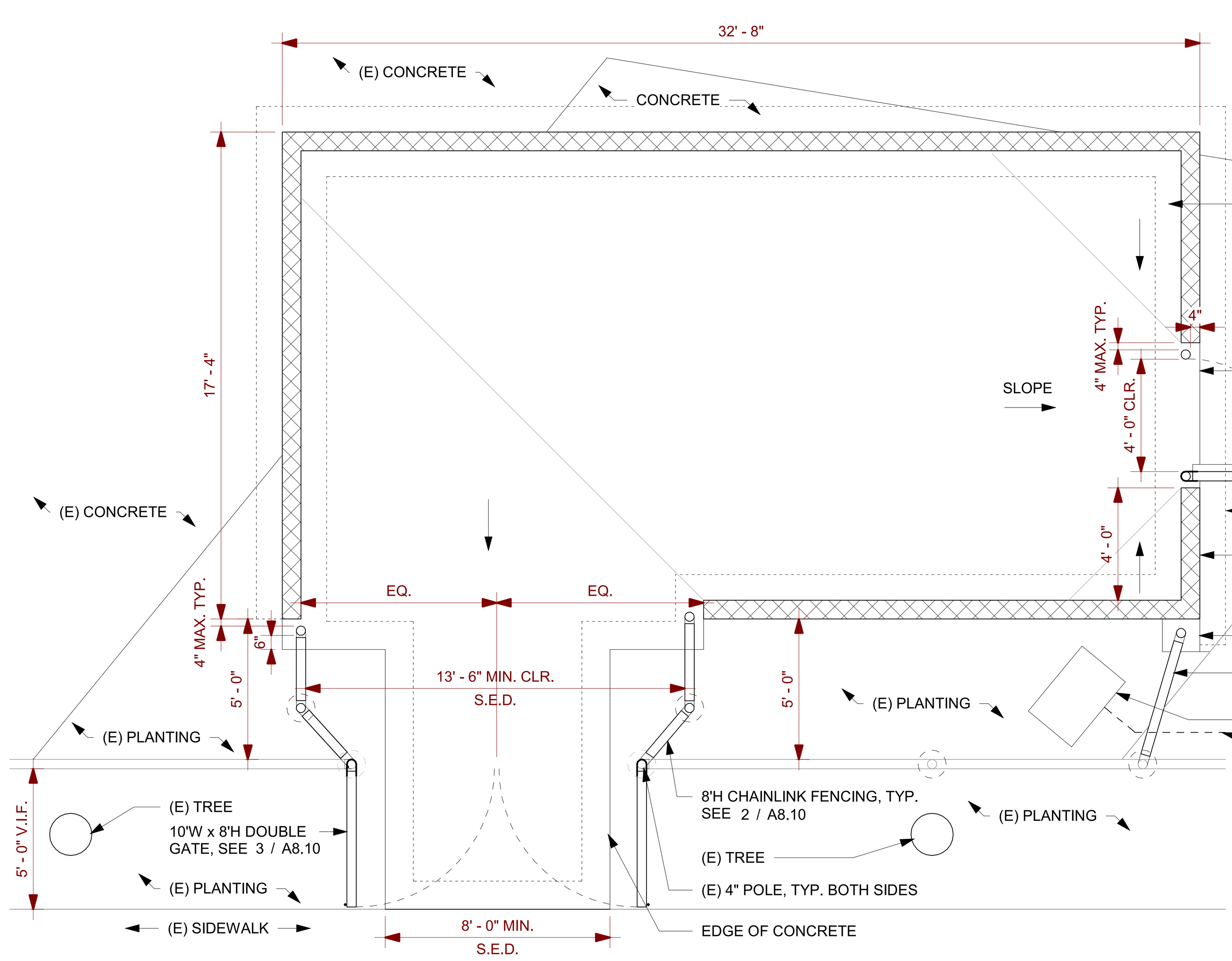
1 REMOVE (E) ELECTRICAL EQUIPMENT AND PAD, S.E.D.
2 (E) CHAINLINK FENCING TO REMAIN. SALVAGE AND REINSTALL FABRIC AND BOTTOM BAR AS REQUIRED FOR CONSTRUCTION ACCESS.
3 (E) GATE TO REMAIN
4 (E) ELECTRICAL BOX, S.E.D. CAP CONDUIT AND REMOVE ABANDONED PULL BOX.
5 (E) PLANTING AND IRRIGATION TO BE REMOVED. CAP IRRIGATION BEFORE REMOVAL. PREP FOR NEW WORK.
6 (E) IRRIGATION BOX TO REMAIN.
7 (E) PLANTING TO REMAIN
8 (E) SIDEWALK TO REMAIN
9 (E) CHAINLINK FENCING TO REMAIN.
10 PAVING MATERIAL TRANSITION, SEE DETAIL 9/A8.10
11 INFILL CONCRETE AT REMOVED PLANTING. SEE DETAIL 6/A8.10
12 AT CHAINLINK FENCING AND POSTS, 4" SPHERE SHALL NOT PASS BETWEEN FENCING AND ADJACENT SURFACES, TYP.
13 8'H CHAINLINK FENCE, SEE DETAIL 2/A8.10 AND S.E.D.
14 AT (E) 8'H CHAINLINK FENCING TO REMAIN ADJACENT REMOVED CHAINLINK, RECONNECT (E) CHAINLINK FABRIC TO (E) POLE. SEE DETAIL 4/A8.10 SIM. FOR REQUIREMENTS.
15 8'H 10'-0"W DOUBLE GATE, SEE DETAIL 3/A8.10 AND S.E.D.
16 FEATHER CONCRETE FINISH AT (N) PAVING TO FACILITATE DRAINAGE TOWARD OPENINGS IN CMU
17 8'H 4'-0"W GATE. SEE DETAIL 2/A8.10 AND S.E.D.
18 ROUTE ELECTRICAL CONDUIT 5' MIN. CLR. OF FUTURE CONSTRUCTION, S.E.D. FOR MORE INFORMATION
19 REMOVE (E) 8'H CHAINLINK FENCING FOR INSTALLATION OF (N) GATE. SEE NEW SITE PLAN FOR ADDITIONAL INFORMATION.
20 ELECTRICAL EQUIPMENT, S.E.D.
21 INFILL CONCRETE AT REMOVED PLANTING. SEE DETAIL 6/A8.10. CONFORM TO ADJACENT PAVING. SLOPE 2% MIN AWAY FROM (E) BUILDING.
22 REMOVE AND REINSTALL CHAINLINK RAILS AND FABRIC AS REQUIRED FOR TRENCHING, TYP.
23 RESTRIPE (E) PLAYGROUND STRIPING IN KIND AT TRENCHING, S.E.D.
24 (E) ELECTRICAL EQUIPMNET. S.E.D.

GRAPHIC KEY

EXISTING TOILET ROOMS.
EXISTING CONSTRUCTION TO REMAIN
EXISTING COVERED STRUCTURE
ASSUMED PROPERTY LINE
(E) CHAINLINK FENCE
(N) CHAINLINK FENCE
EXISTING FIRE HYDRANT

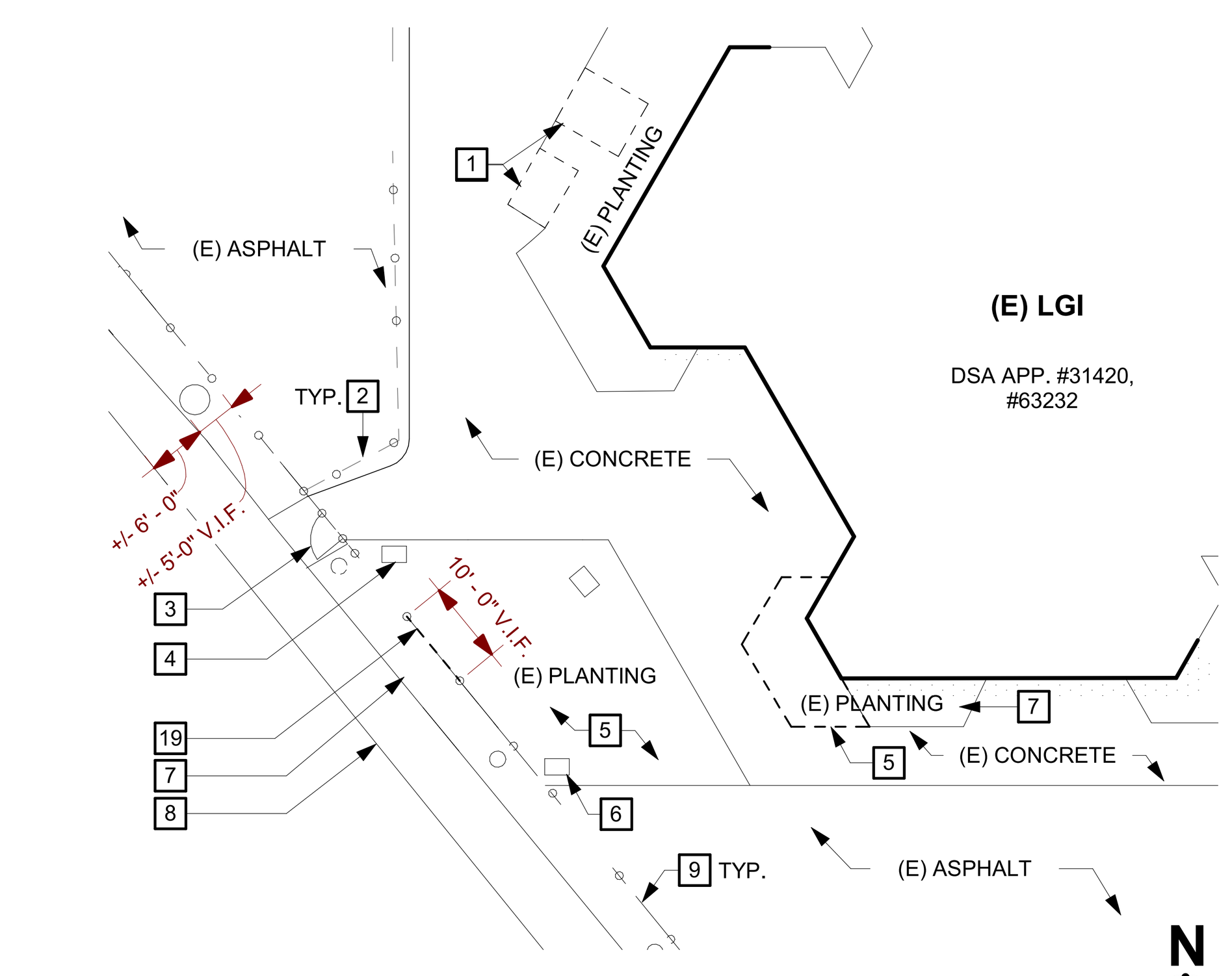


1 NEW SITE PLAN
SCALE: 1/32" = 1'-0"

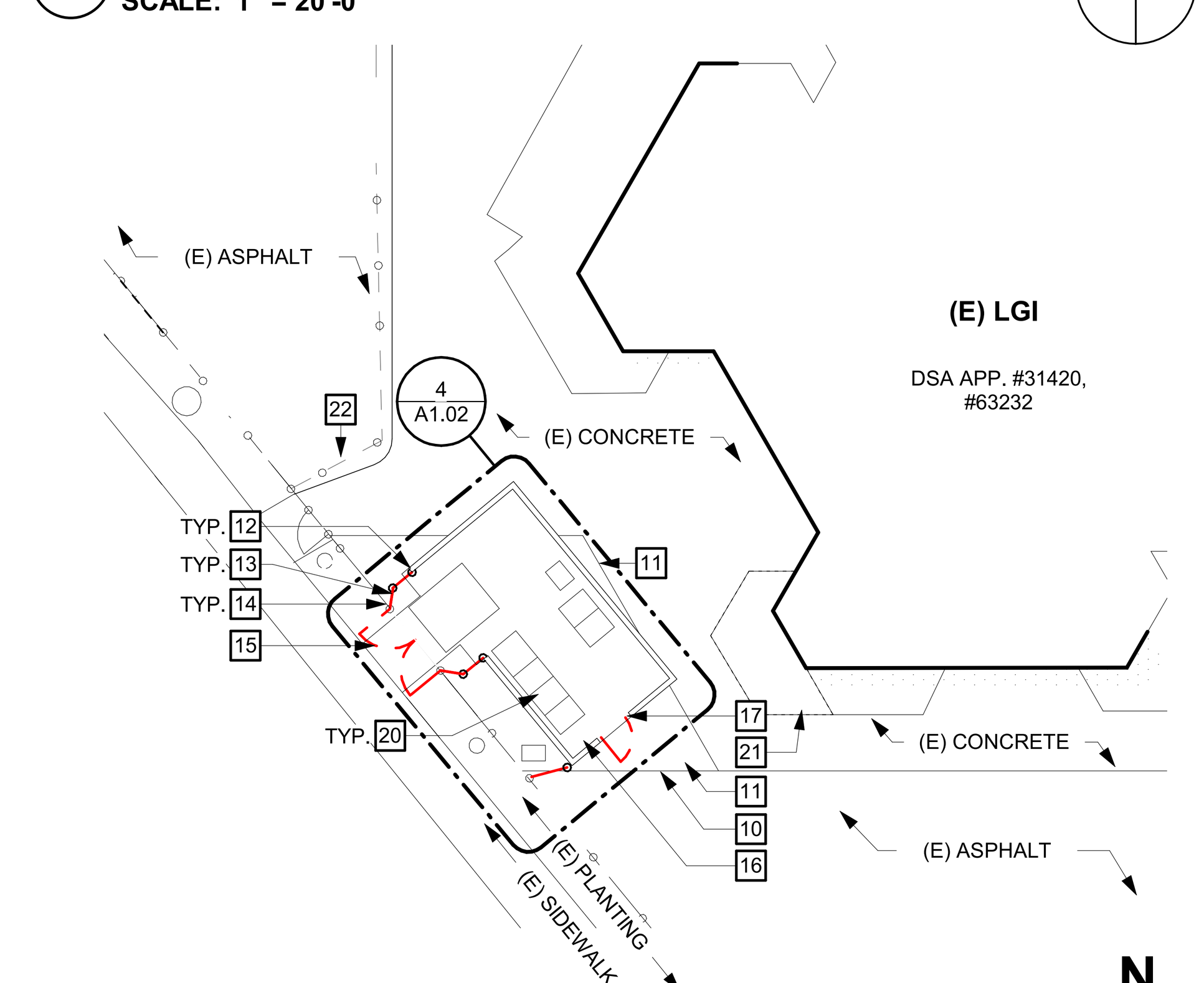


NOTES:
1. ELECTRICAL EQUIPMENT OBSCURED FOR CLARITY. S.E.D. FOR MORE INFORMATION.
2. ALL EXISTING PAVING DEMOLISHED DUE TO NEW CONSTRUCTION SHALL BE REPLACED WITH NEW MATERIALS FINISHED TO MATCH EXISTING.
3. S.O.G. TO CONFORM TO SIDEWALK ELEVATION. MAINTAIN FLAT AND LEVEL TRANSFORMER CLEARANCE, S.E.D.

4 ELECTRICAL ENCLOSURE ENLARGED LAYOUT
SCALE: 1/4" = 1'-0"



2 DEMOLITION ENLARGED SITE PLAN
SCALE: 1" = 20'-0"



3 NEW ENLARGED SITE PLAN
SCALE: 1" = 20'-0"

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SS ☑ FLS ☑ ACS ☑
DATE: 10/26/2021

aedis architects
www.aedisarchitects.com
387 S. 1st Street, Suite 300
San Jose, CA 95113
tel: (408)-300-5160
fax: (408)-300-5121

PROJECT
GEORGE HALL ELEMENTARY SCHOOL - HVAC REPLACEMENT

SAN MATEO-FOSTER CITY SCHOOL DISTRICT

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REVISIONS

No.	Description	Date
△		

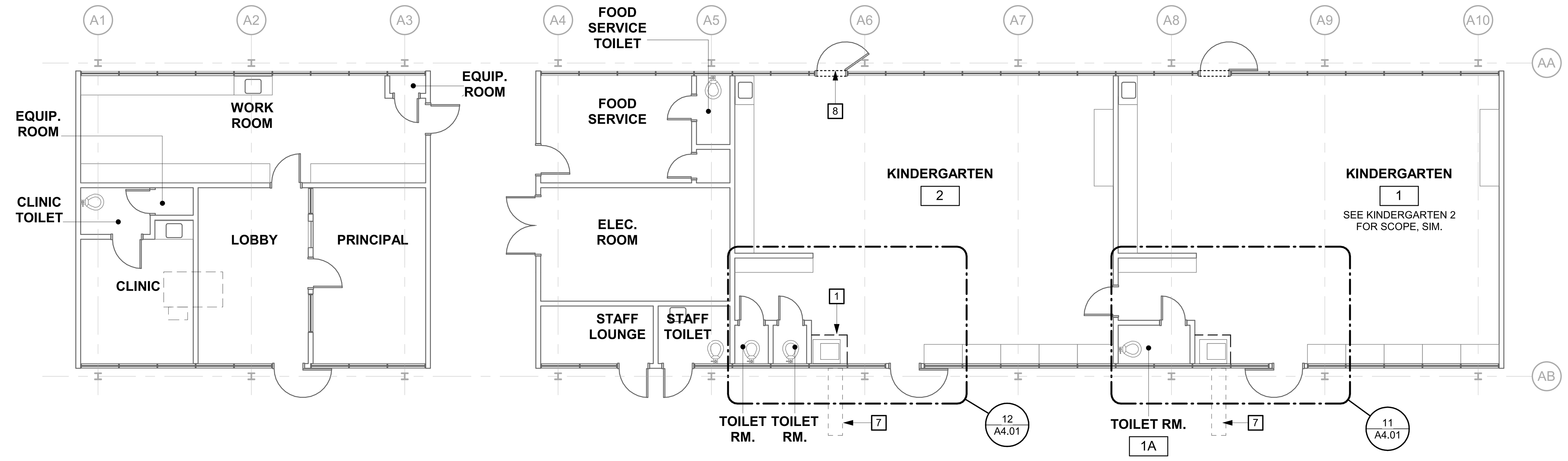
MILESTONES

DD	
90% CD	
DSA SUB	05/21/2021
BACKCHECK	10/04/2021

SHEET
DEMOLITION & NEW SITE PLAN

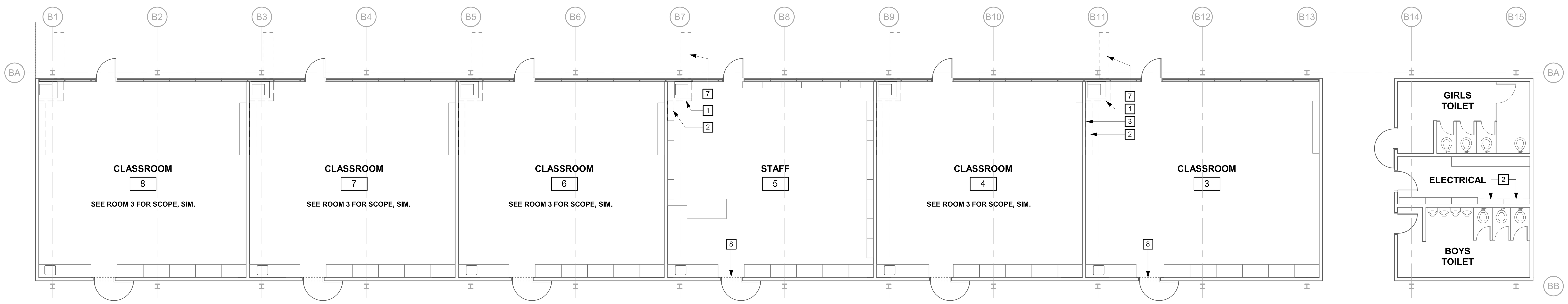
DATE 10/04/2021
JOB # 2021005.02
SHEET # A1.02

10/4/2021 1:23:08 PM
C:\Users\agaudia\Documents\2021005.02_George Hall ES - HVAC Replacement_Central(2019 version)_agaudia3Y7S9.rvt



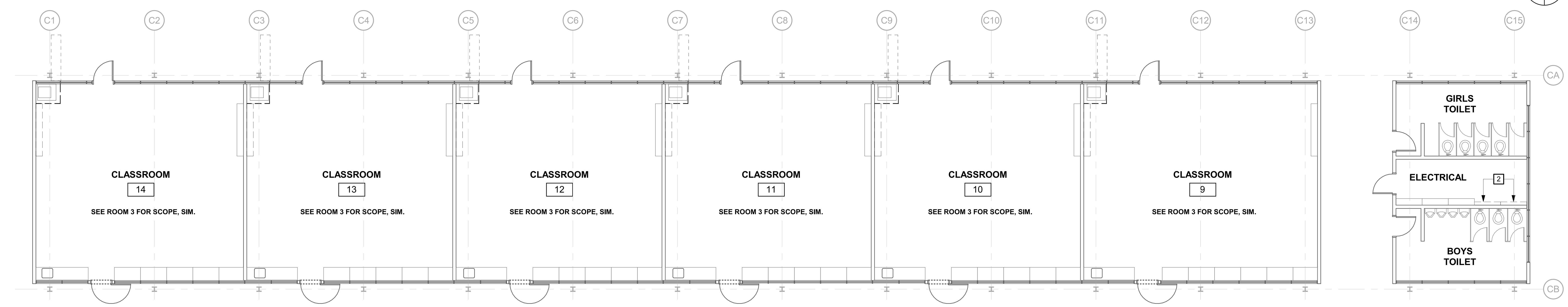
1 DEMOLITION FLOOR PLAN - WING 1
SCALE: 1/8" = 1'-0"

N



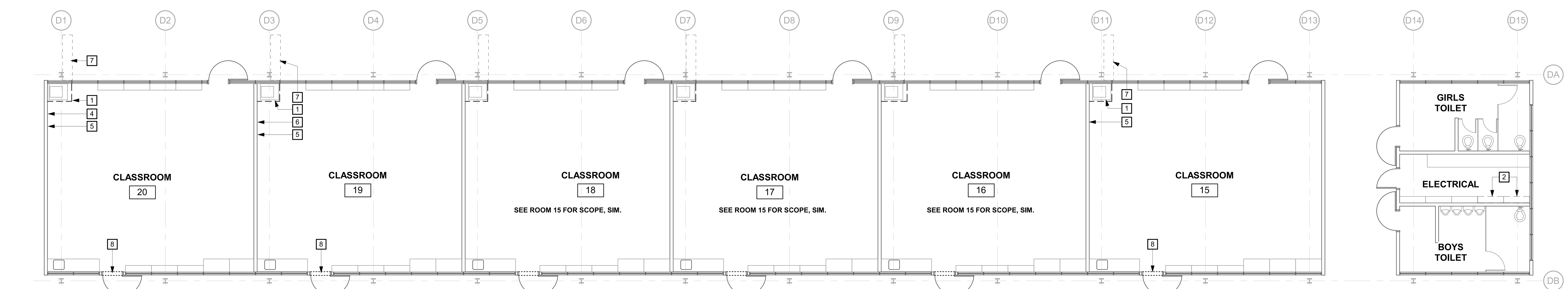
2 DEMOLITION FLOOR PLAN - WING 2
SCALE: 1/8" = 1'-0"

N



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

N



4 DEMOLITION FLOOR PLAN - WING 4
SCALE: 1/8" = 1'-0"

N

GENERAL SHEET NOTES

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

B REFER TO STRUCTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS FOR EXTENT OF STRUCTURAL, MECHANICAL, AND ELECTRICAL DEMOLITION WORK.

C VERIFY LIMITS OF DEMOLITION WITH SCOPE OF NEW WORK PRIOR TO COMMENCING WORK.

D ALL ITEMS SHOWN DASHED ARE TO BE DEMOLISHED UNLESS OTHERWISE NOTED ON PLANS.

E REMOVE ALL MISCELLANEOUS TRIM, CASEWORK, EQUIPMENT, CONDUIT, BASES, AND OTHER SURFACE MOUNTED ITEMS WHETHER SHOWN OR NOT, AS REQUIRED TO FACILITATE SCOPE OF WORK. REMOVE AND CAP ALL OUTLETS, SWITCHES, WIRES, THERMOSTATS, ETC. TO THEIR SOURCE AS REQUIRED. SEE MECHANICAL AND ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION AND SCOPE OF WORK.

F REMOVE ADJACENT FINISHES AS REQUIRED TO FACILITATE SCOPE OF WORK. PATCH BACK IN KIND.

G EXISTING EQUIPMENT INDICATED TO BE RELOCATED PER NEW PLAN IS TO BE STORED AND PROTECTED DURING CONSTRUCTION.

H NO DEMOLITION SHALL BEGIN UNTIL PLANS INCLUDING THE DEMOLITION WORK HAVE BEEN APPROVED BY DSA

I DIMENSIONS FOR EXISTING BUILDING ARE APPROXIMATE. CONTRACTOR TO FIELD VERIFY PRIOR TO START OF CONSTRUCTION.

DEMOLITION FLOOR PLAN KEYNOTES

1 REMOVE (E) MECHANICAL UNIT AND ENCLOSURE, S.M.D.
2 REMOVE (E) CABINET
3 REMOVE (E) 4'x 8' TACK PANEL
4 SALVAGE (E) 8'x 4' WHITEBOARD AND TURN OVER TO OWNER
5 SHORTEN (E) RACEWAY. COORDINATE LENGTH TIGHT TO NEW ENCLOSURE, SEE NEW FLOOR PLANS.
6 SALVAGE (E) 36" x 48" TACK PANEL AND TURN OVER TO DISTRICT
7 REMOVE PAVING AND PREP FOR NEW WORK, S.M.D.
8 REMOVE (E) WINDOW GLAZING ABOVE AND PREP FOR NEW WORK, S.M.D

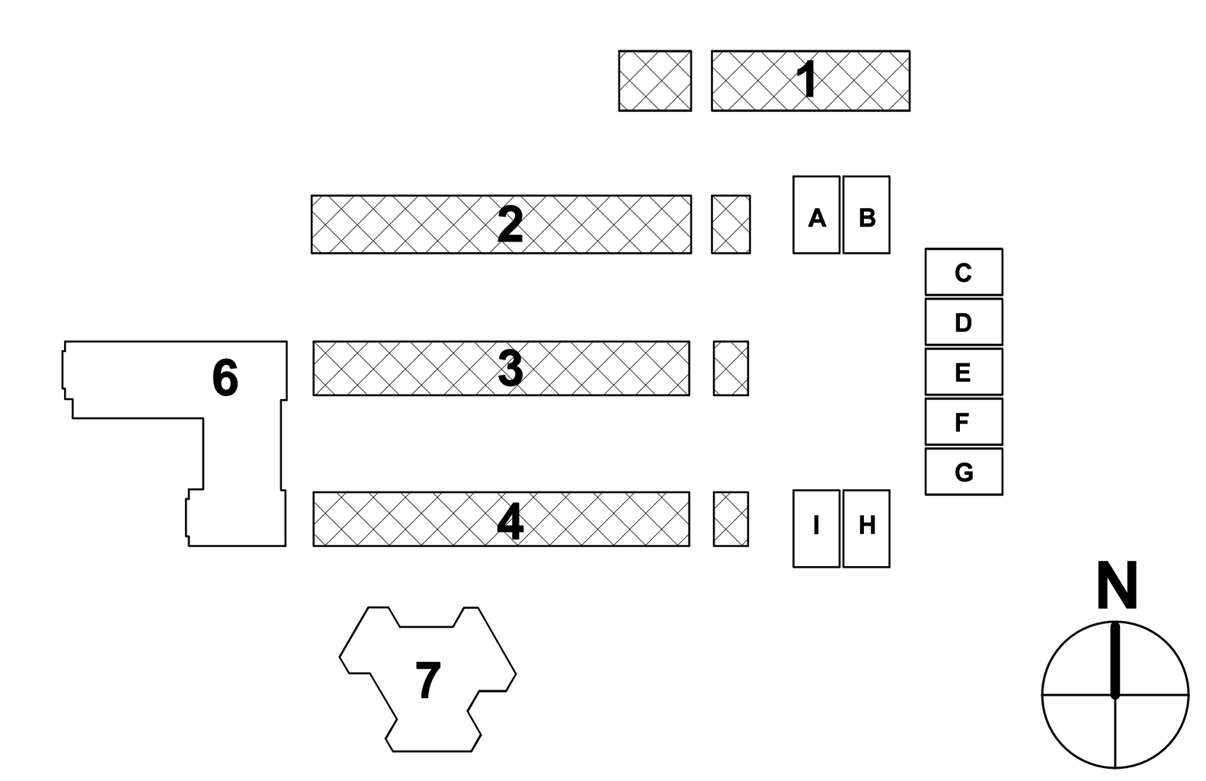
GRAPHIC KEY

EXISTING WALL TO BE DEMOLISHED.

EXISTING WALL TO REMAIN.

EXISTING STOREFRONT OR WINDOW TO REMAIN.

BUILDING KEY



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aedis architects
www.aedisarchitects.com
387 S. 1st Street, Suite 300
San Jose, CA 95113
tel: (408)-300-5160
fax: (408)-300-5121

PROJECT
GEORGE HALL ELEMENTARY SCHOOL - HVAC REPLACEMENT

SAN MATEO-FOSTER CITY SCHOOL DISTRICT

CONSULTANT

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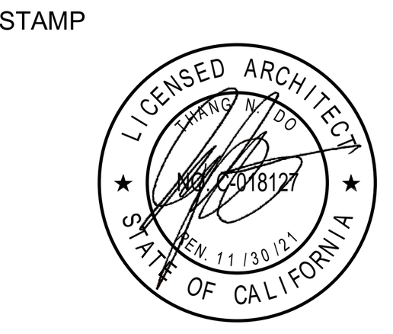

STATE
DSA FILE NUMBER 41-26
APPL # 01-119523

REVISIONS

No.	Description	Date
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MILESTONES

DD	
90% CD	
DSA SUB	05/21/2021
BACKCHECK	10/04/2021

SHEET
DEMOLITION FLOOR PLANS - WINGS 1, 2, 3 & 4

DATE 10/04/2021
JOB # 2021005.02
SHEET #
A2.01

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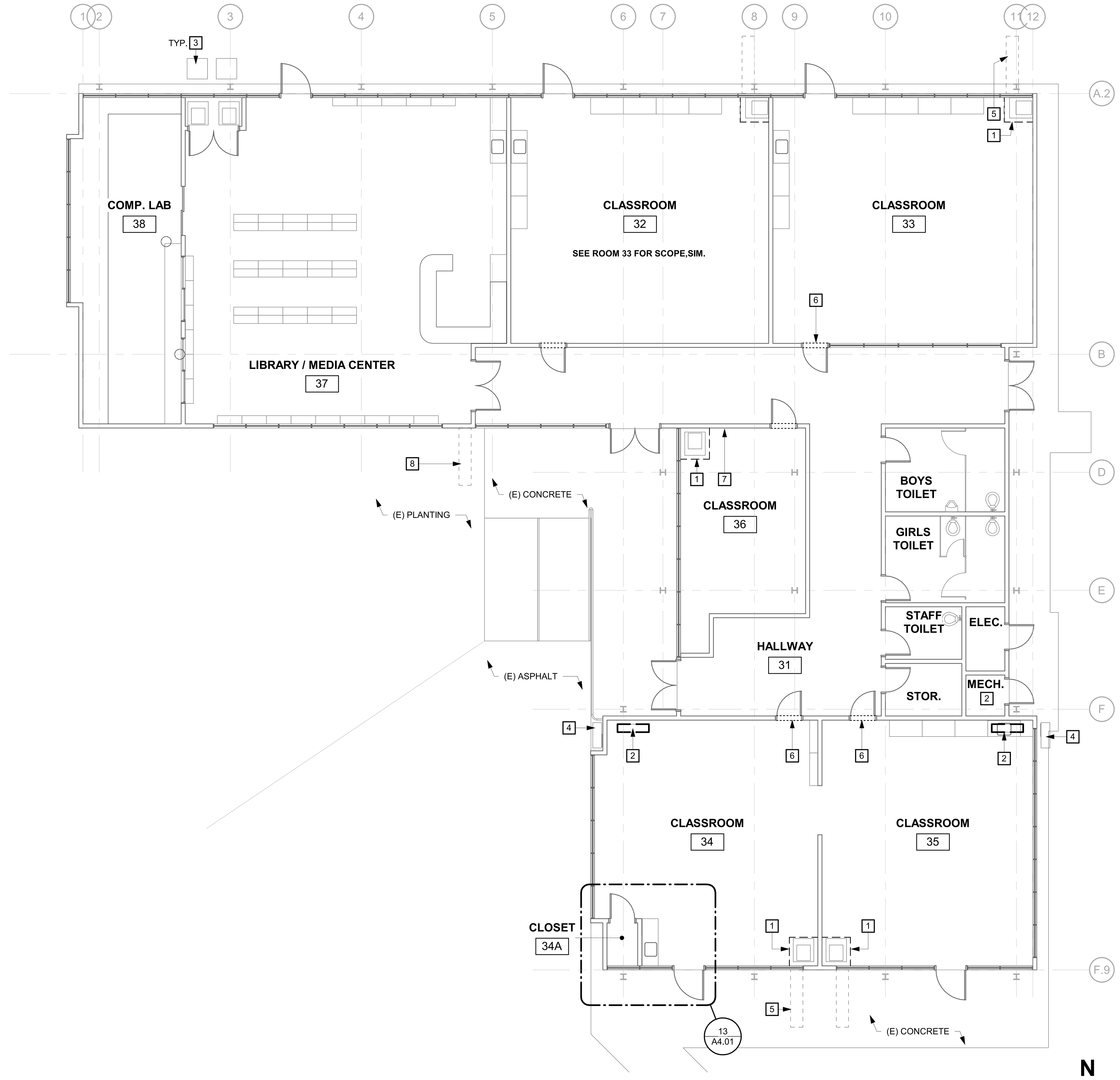


1 DEMOLITION FLOOR PLAN - ESCALON BLDG.
SCALE: 1/8" = 1'-0"

GENERAL SHEET NOTES

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

B REFER TO STRUCTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS FOR EXTENT OF STRUCTURAL, MECHANICAL, AND ELECTRICAL DEMOLITION WORK.

C VERIFY LIMITS OF DEMOLITION WITH SCOPE OF NEW WORK PRIOR TO COMMENCING WORK.

D ALL ITEMS SHOWN DASHED ARE TO BE DEMOLISHED UNLESS OTHERWISE NOTED ON PLANS.

E REMOVE ALL MISCELLANEOUS TRIM, CASEWORK, EQUIPMENT, CONDUIT, BASES, AND OTHER SURFACE MOUNTED ITEMS WHETHER SHOWN OR NOT, AS REQUIRED TO FACILITATE SCOPE OF WORK. REMOVE AND CAP ALL OUTLETS, SWITCHES, WIRES, THERMOSTATS, ETC. TO THEIR SOURCE AS REQUIRED. SEE MECHANICAL AND ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION AND SCOPE OF WORK.

F REMOVE ADJACENT FINISHES AS REQUIRED TO FACILITATE SCOPE OF WORK. PATCH BACK IN KIND.

G EXISTING EQUIPMENT INDICATED TO BE RELOCATED PER NEW PLAN IS TO BE STORED AND PROTECTED DURING CONSTRUCTION.

H NO DEMOLITION SHALL BEGIN UNTIL PLANS INCLUDING THE DEMOLITION WORK HAVE BEEN APPROVED BY DSA

I DIMENSIONS FOR EXISTING BUILDING ARE APPROXIMATE. CONTRACTOR TO FIELD VERIFY PRIOR TO START OF CONSTRUCTION.

DEMOLITION FLOOR PLAN KEYNOTES

1 REMOVE (E) MECHANICAL UNIT AND ENCLOSURE, S.M.D. RECONFIGURE (E) ADJACENT WIREMOLD
2 REMOVE (E) MECHANICAL UNIT; PATCH AND PAINT WALL TO MATCH ADJACENT
3 (E) EQUIPMENT TO REMAIN, S.M.D.
4 REMOVE (E) MECHANICAL UNIT AND ENCLOSURE; PATCH AND PAINT WALL TO MATCH ADJACENT
5 REMOVE PAVING AND PREP FOR NEW WORK, S.M.D.
6 REMOVE (E) WINDOW GLAZING ABOVE AND PREP FOR NEW WORK, S.M.D
7 SALVAGE (E) TACK PANEL AND PROJECTOR SCREEN, TURN OVER TO DISTRICT
8 REMOVE PLANTING AND PREP FOR NEW WORK. DO NOT CUT TREE ROOTS OVER 2" DIA. SEE NEW FLOOR PLAN FOR MORE INFORMATION

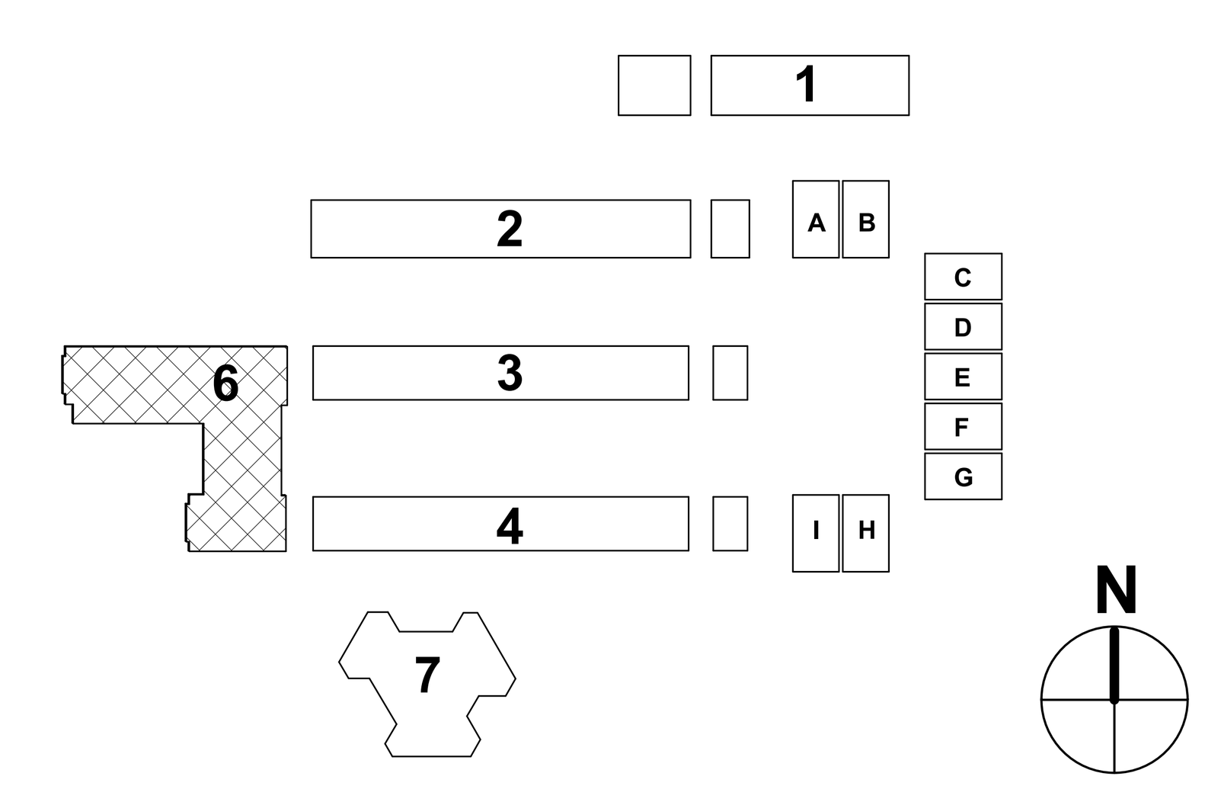
GRAPHIC KEY

EXISTING WALL TO BE DEMOLISHED.

EXISTING WALL TO REMAIN.

EXISTING STOREFRONT OR WINDOW TO REMAIN.

BUILDING KEY



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PROJECT

GEORGE HALL ELEMENTARY SCHOOL - HVAC REPLACEMENT

SAN MATEO-FOSTER CITY SCHOOL DISTRICT

CONSULTANT

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STATE
DSA FILE NUMBER 41-26
APPL # 01-119523

REVISIONS

No.	Description	Date
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MILESTONES

DD	
90% CD	
DSA SUB	05/21/2021
BACKCHECK	10/04/2021

SHEET

DEMOLITION FLOOR PLAN - ESCALON BLDG.

DATE 10/04/2021
JOB # 2021005.02
SHEET # A2.02

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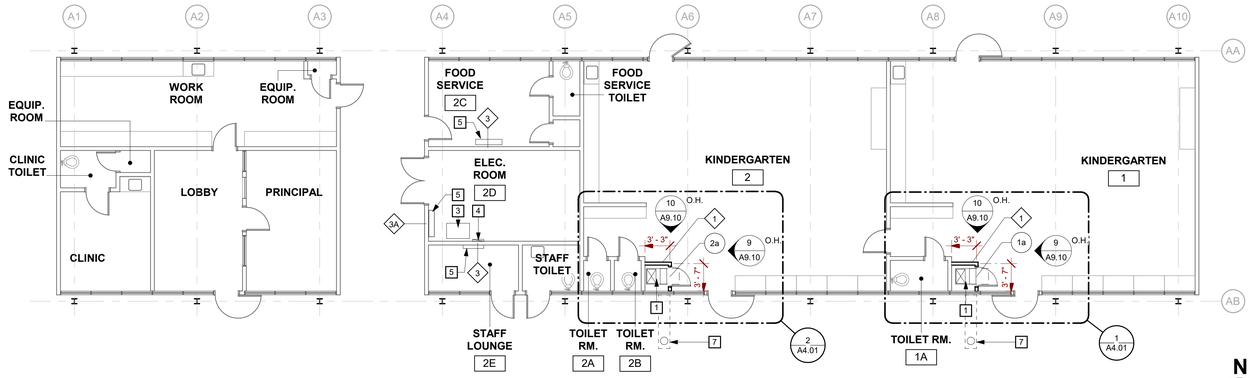
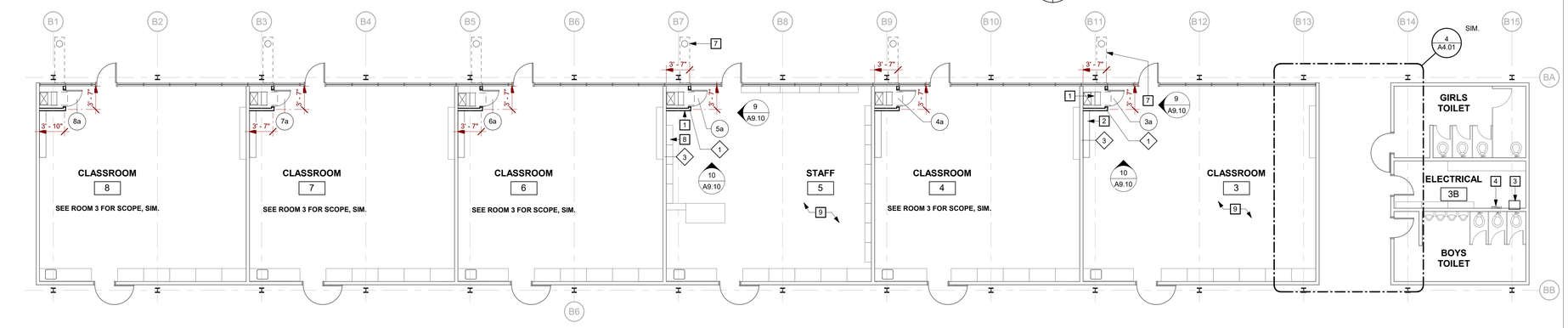


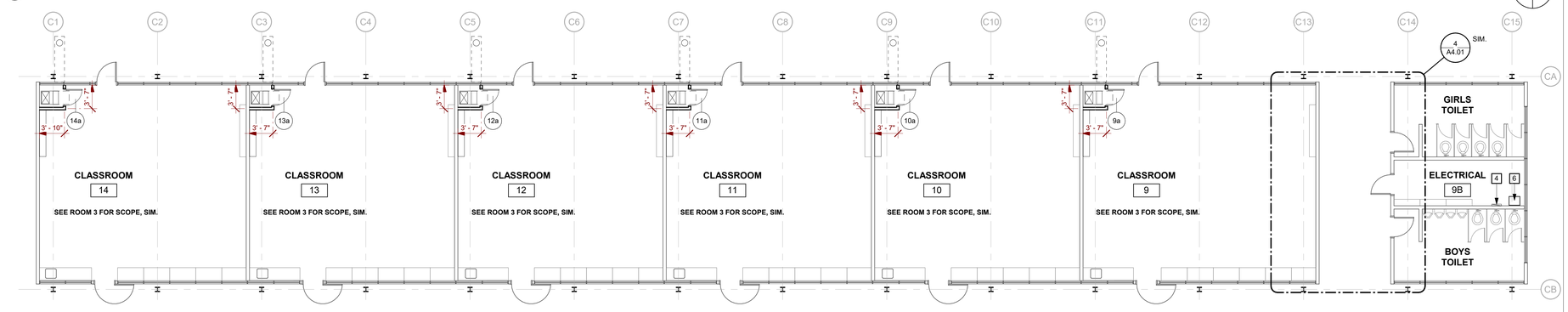
1 NEW FLOOR PLAN - WING 1

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



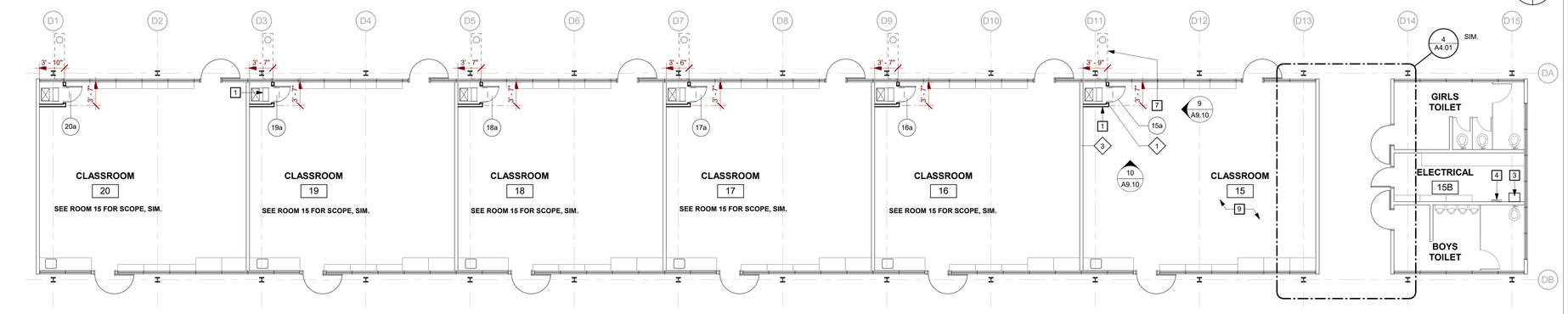
2 NEW FLOOR PLAN - WING 2

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



3 NEW FLOOR PLAN - WING 3

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



4 NEW FLOOR PLAN - WING 4

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

GENERAL SHEET NOTES

A ROOM NAMES OR NUMBERS MAY NOT BE CONSISTENT BETWEEN DEMOLITION AND FLOOR PLANS.

B REFER TO STRUCTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS FOR EXTENT OF STRUCTURAL, MECHANICAL, AND ELECTRICAL WORK.

C DIMENSIONS FOR EXISTING BUILDING ARE APPROXIMATE. CONTRACTOR TO FIELD VERIFY PRIOR TO START OF CONSTRUCTION.

D REMOVE AND REPLACE (E) WALL BASE AS REQUIRED FOR NEW CONSTRUCTION. PROVIDE NEW WALL BASE AT ALL REMOVED CASEWORK, NEW PARTITION WALLS, OR PATCHED FLOORING.

E RECONFIGURE A.C.T. GRID TIGHT TO NEW MECHANICAL ENCLOSURE WALL FINISH. PROVIDE NEW LAY IN CEILING TILES AT RECONFIGURED AREA. AREA CUT OR ALTERED IN EACH ROOM SHALL NOT EXCEED 10 PERCENT OF THE ENTIRE CEILING AREA.

F PATCH AND PAINT WALL AT BACKING, REMOVED CASEWORK, REMOVED WALL MOUNTED BOARDS, OR RECONFIGURED RACEWAY.

G SCRIBE FINISHES TIGHT TO ADJACENT CONDITIONS INCLUDING BUT NOT LIMITED TO WALL FINISHES, WINDOWS, CURTAIN RAILS, AND DUCTWORK.

NEW FLOOR PLAN KEYNOTES

1 FULL HEIGHT FRAMED MECHANICAL ENCLOSURE. MAINTAIN MIN. INTERIOR CLR. PER DETAIL 16/A9.10. PATCH ADJACENT FINISHES INCLUDING BUT NOT LIMITED TO WALLS AND CEILINGS. RECONFIGURE A.C.T. GRID AND REPLACE ACOUSTICAL TILES. V.I.F. FREE AND FIXED END OF GRID AND REPLACE IN KIND, SEE DETAILS 8/A9.10, 11/A9.10, & 12/A9.10

2 NONFIXED CABINET NOT MORE THAN 5'-9" IN HEIGHT. SEE CABINET SCHEDULE TYPE C-1.

3 TRANSFORMER, S.E.D

4 ELECTRICAL PANEL, PROVIDE BACKING, S.E.D.

5 MECHANICAL UNIT, S.M.D.

6 ELECTRICAL PANEL, PROVIDE BACKING, S.E.D.

7 PATCH PAVING AT DRY WELL. SEE 6/A8.10 AND S.M.D.

8 PATCH AND PAINT CASEWORK TO REMAIN ADJACENT REMOVED CASEWORK

9 REFER TO 5/A4.01 FOR TYPICAL CLASSROOM NEW REFLECTED CEILING PLAN

GRAPHIC KEY

WALL TYPES:

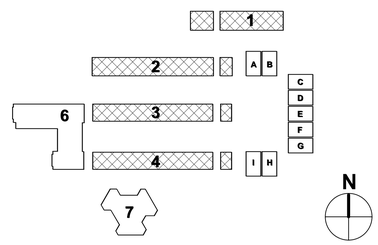
EXISTING NONRATED WALL TO REMAIN.

EXISTING STOREFRONT OR WINDOW TO REMAIN.

WALL TYPE. REFER TO SHEET A9.10 FOR WALL TYPE DESCRIPTION, TYP.

STUD WALL

BUILDING KEY



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aedis architects
www.aedisarchitects.com
387 S. 1st Street, Suite 300
San Jose, CA 95113
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PROJECT

GEORGE HALL ELEMENTARY SCHOOL - HVAC REPLACEMENT

SAN MATEO-FOSTER CITY SCHOOL DISTRICT

CONSULTANT

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STATE
DSA FILE NUMBER 41-26
APPL # 01-119523

REVISIONS

No.	Description	Date
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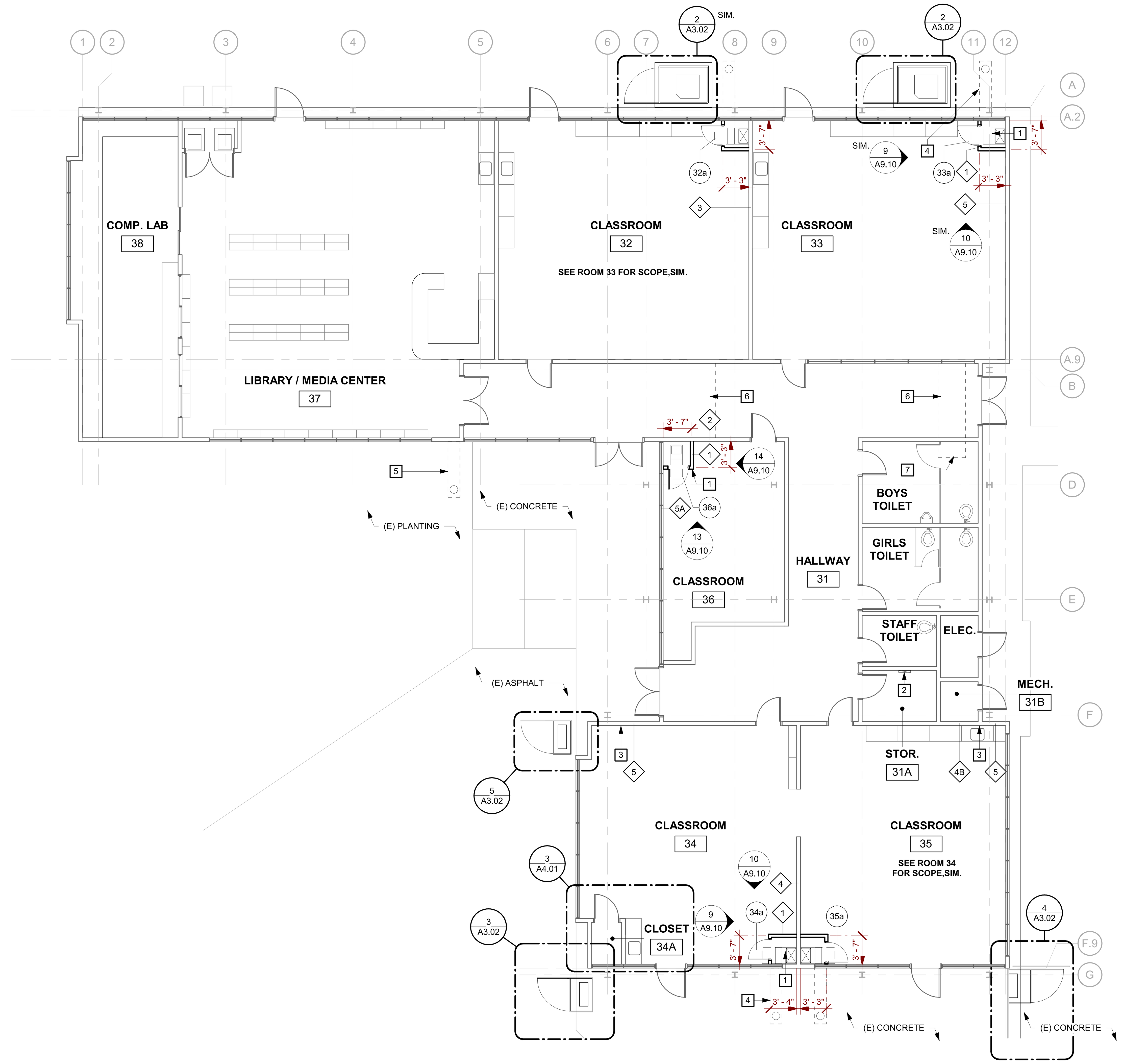
MILESTONES

DD	
90% CD	
DSA SUB	05/21/2021
BACKCHECK	10/04/2021

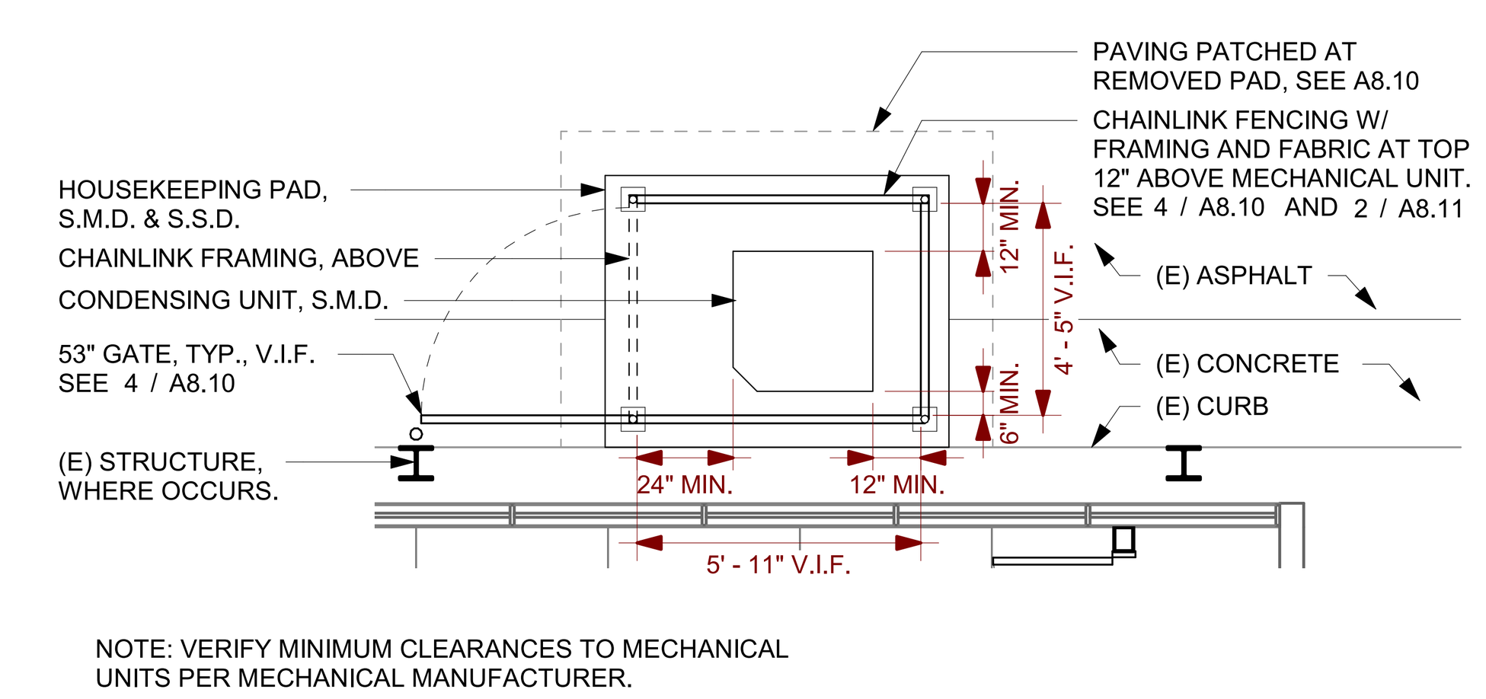
SHEET

NEW FLOOR PLANS - WINGS 1, 2, 3 & 4

DATE 10/04/2021
JOB # 2021005.02
SHEET # A3.01

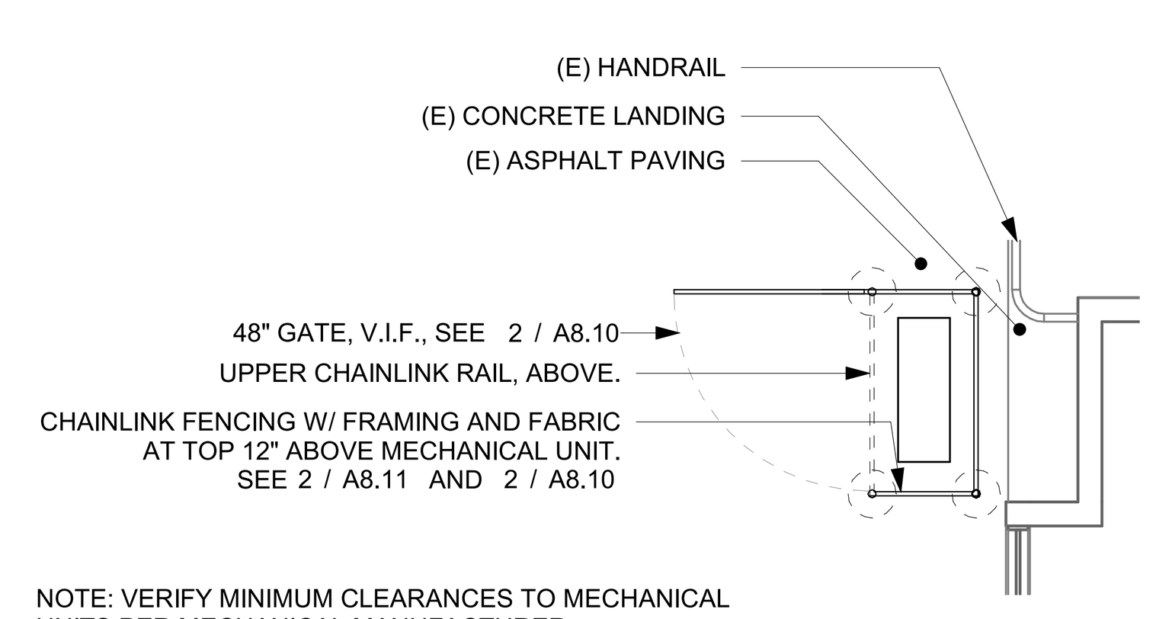


1 NEW FLOOR PLAN - ESCALON BLDG
SCALE: 1/8" = 1'-0"



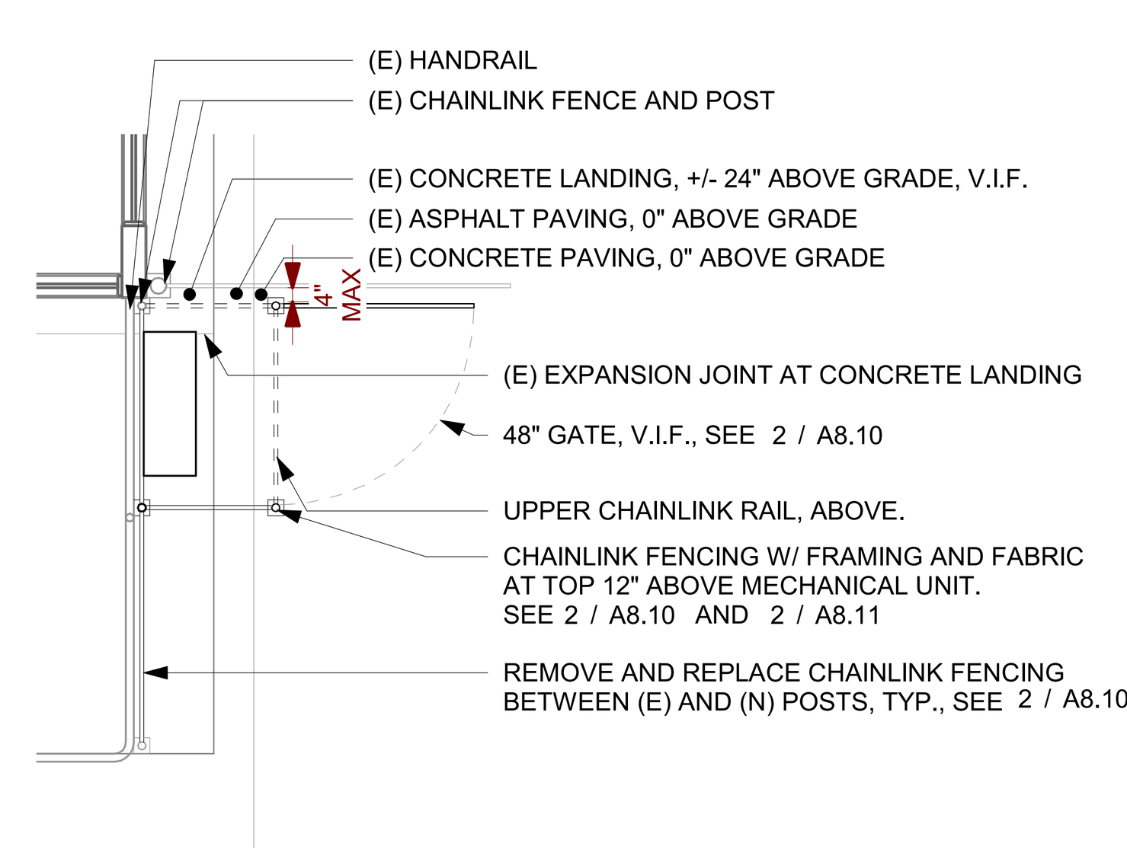
NOTE: VERIFY MINIMUM CLEARANCES TO MECHANICAL UNITS PER MECHANICAL MANUFACTURER.

2 ROOM 32 AND 33 ENLARGED CONDENSER PLAN
SCALE: 1/4" = 1'-0"

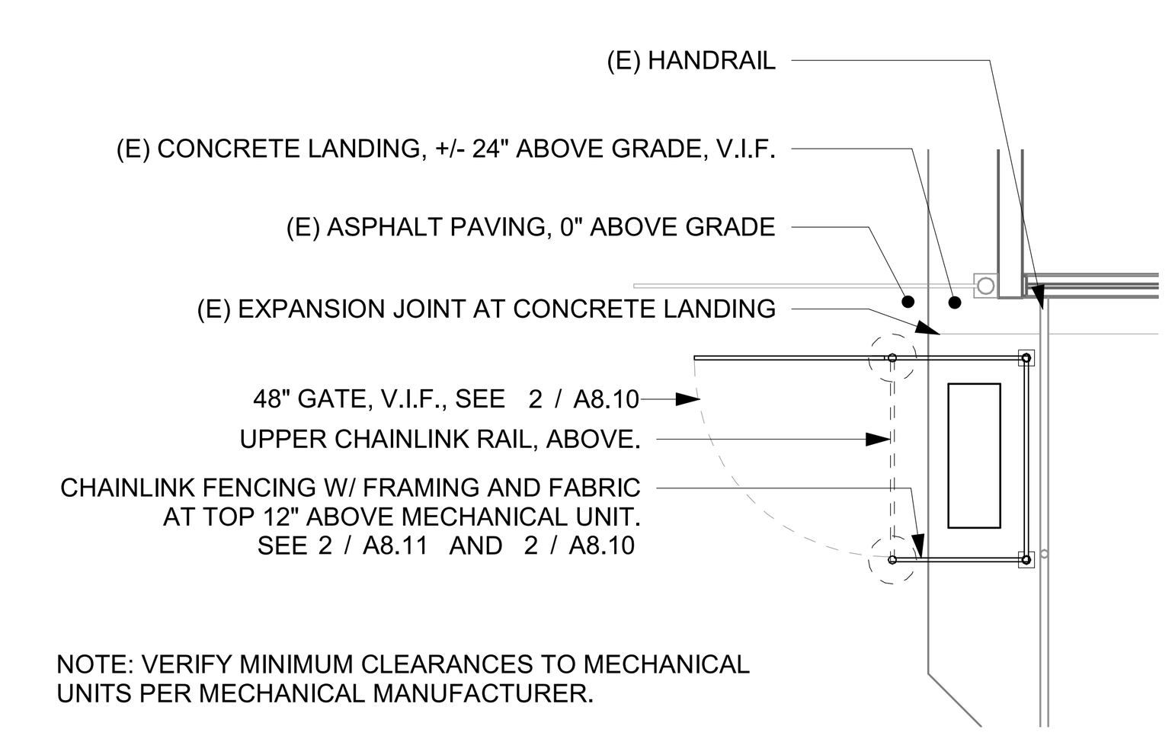


NOTE: VERIFY MINIMUM CLEARANCES TO MECHANICAL UNITS PER MECHANICAL MANUFACTURER.

5 ROOM 36 ENLARGED CONDENSER PLAN
SCALE: 1/4" = 1'-0"



4 ROOM 35 ENLARGED CONDENSER PLAN
SCALE: 1/4" = 1'-0"



NOTE: VERIFY MINIMUM CLEARANCES TO MECHANICAL UNITS PER MECHANICAL MANUFACTURER.

3 ROOM 34 ENLARGED CONDENSER PLAN
SCALE: 1/4" = 1'-0"

GENERAL SHEET NOTES

- A ROOM NAMES OR NUMBERS MAY NOT BE CONSISTENT BETWEEN DEMOLITION AND FLOOR PLANS.
- B REFER TO STRUCTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS FOR EXTENT OF STRUCTURAL, MECHANICAL, AND ELECTRICAL WORK.
- C DIMENSIONS FOR EXISTING BUILDING ARE APPROXIMATE. CONTRACTOR TO FIELD VERIFY PRIOR TO START OF CONSTRUCTION.
- D REMOVE AND REPLACE (E) WALL BASE AS REQUIRED FOR NEW CONSTRUCTION. PROVIDE NEW WALL BASE AT ALL REMOVED CASEWORK, NEW PARTITION WALLS, OR PATCHED FLOORING.
- E RECONFIGURE A.C.T. GRID TIGHT TO NEW MECHANICAL ENCLOSURE WALL FINISH. PROVIDE NEW LAY IN CEILING TILES AT RECONFIGURED AREA. AREA CUT OR ALTERED IN EACH ROOM SHALL NOT EXCEED 10 PERCENT OF THE ENTIRE CEILING AREA.
- F PATCH AND PAINT WALL AT BACKING, REMOVED CASEWORK, REMOVED WALL MOUNTED BOARDS, OR RECONFIGURED RACEWAY.
- G SCRIBE FINISHES TIGHT TO ADJACENT CONDITIONS INCLUDING BUT NOT LIMITED TO WALL FINISHES, WINDOWS, CURTAIN RAILS, AND DUCTWORK.

NEW FLOOR PLAN KEYNOTES

1. FULL HEIGHT FRAMED MECHANICAL ENCLOSURE. MAINTAIN MIN. INTERIOR CLR. PER DETAIL 16/A9.10. PATCH ADJACENT FINISHES INCLUDING BUT NOT LIMITED TO WALLS AND CEILINGS. RECONFIGURE A.C.T. GRID AND REPLACE ACOUSTICAL TILES. V.I.F. FREE AND FIXED END OF GRID AND REPLACE IN KIND, SEE DETAILS 8/A9.10, 11/A9.10, & 12/A9.10
2. ELECTRICAL PANEL, PROVIDE BACKING, S.E.D.
3. PATCH WALL FINISH. REMOVE & REPLACE (E) GLUE-UP ACT
4. PATCH PAVING AT DRY WELL. SEE 6/A8.10 AND S.M.D.
5. COORDINATE DRY WELL LOCATION AND DEPTH WITH EXISTING TREE. HAND DIG TRENCH. DO NOT CUT ROOTS OVER 3" DIA.
6. (E) GLUE-UP A.C.T. O/ GYP. BD. SOFFIT OVERHEAD. AS REQUIRED FOR CONSTRUCTION ACCESS, REMOVE FINISH ASSEMBLY AND PATCH BACK IN KIND. S.E.D.
7. (E) GYP. BD. SOFFIT OVERHEAD. AS REQUIRED FOR CONSTRUCTION ACCESS, REMOVE FINISH AND PATCH BACK IN KIND. S.E.D.

GRAPHIC KEY

WALL TYPES:

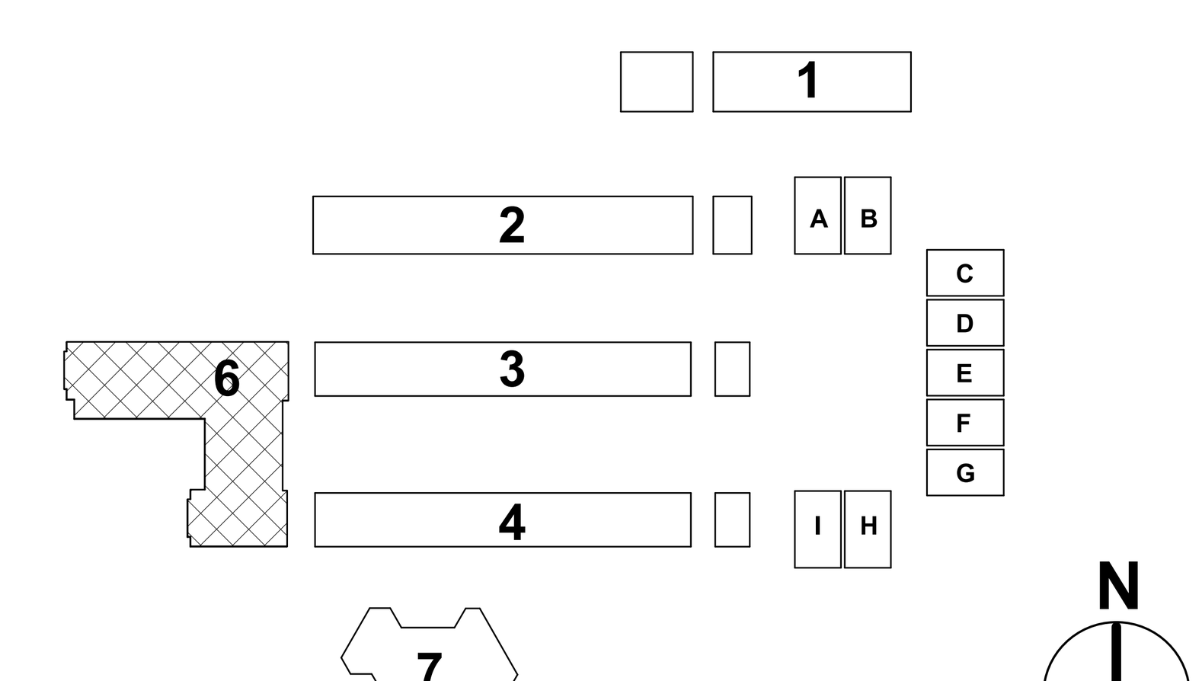
EXISTING NONRATED WALL TO REMAIN.

EXISTING STOREFRONT OR WINDOW TO REMAIN.

WALL TYPE. REFER TO SHEET A9.10 FOR WALL TYPE DESCRIPTION, TYP.

STUD WALL

BUILDING KEY



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PROJECT

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SAN MATEO-FOSTER CITY SCHOOL DISTRICT

CONSULTANT

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REVISIONS

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MILESTONES

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90% CD	
DSA SUB	05/21/2021
BACKCHECK	10/04/2021

SHEET

NEW FLOOR PLAN - ESCALON BLDG

DATE 10/04/2021

JOB # 2021005.02

SHEET # A3.02

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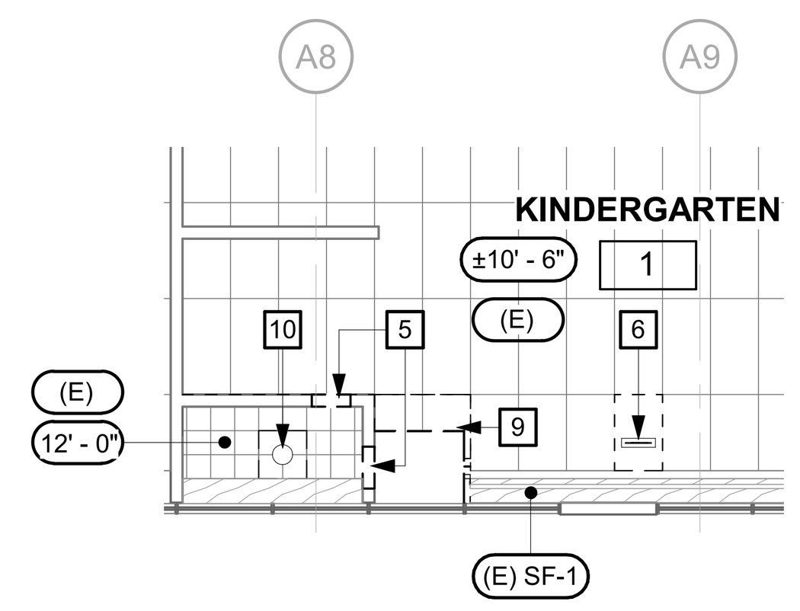
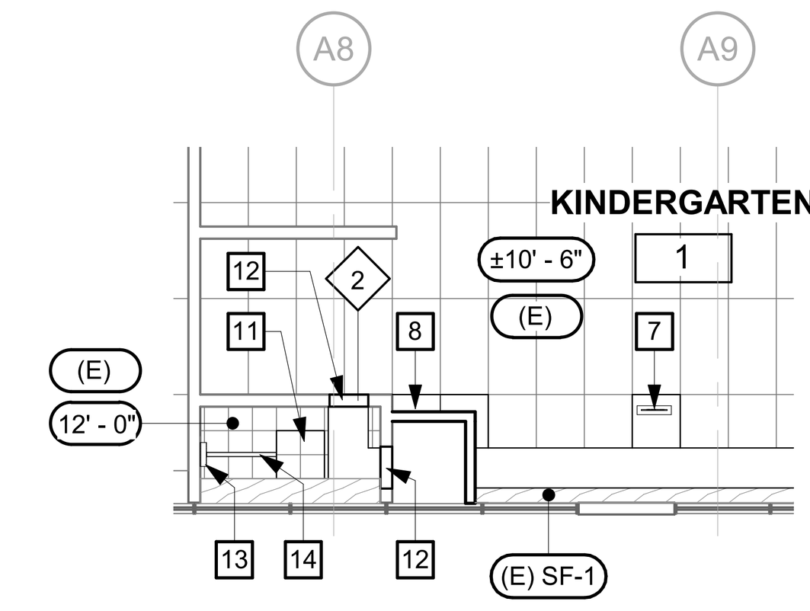
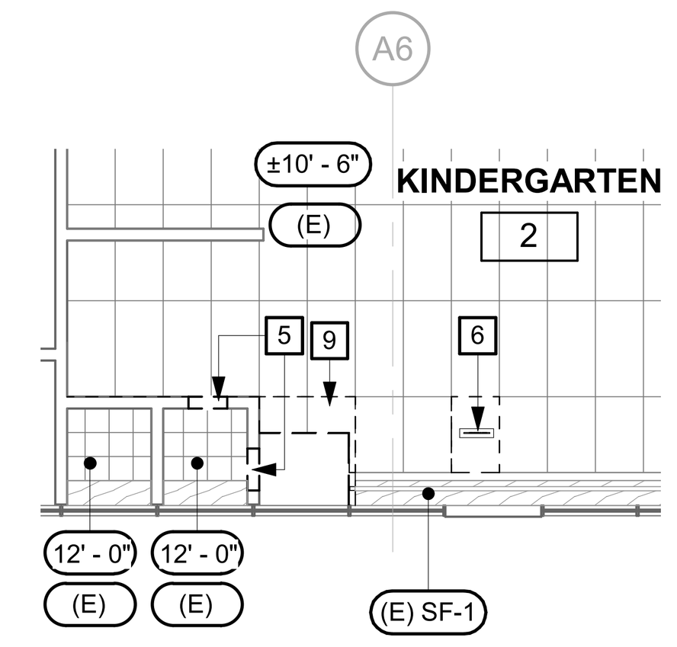


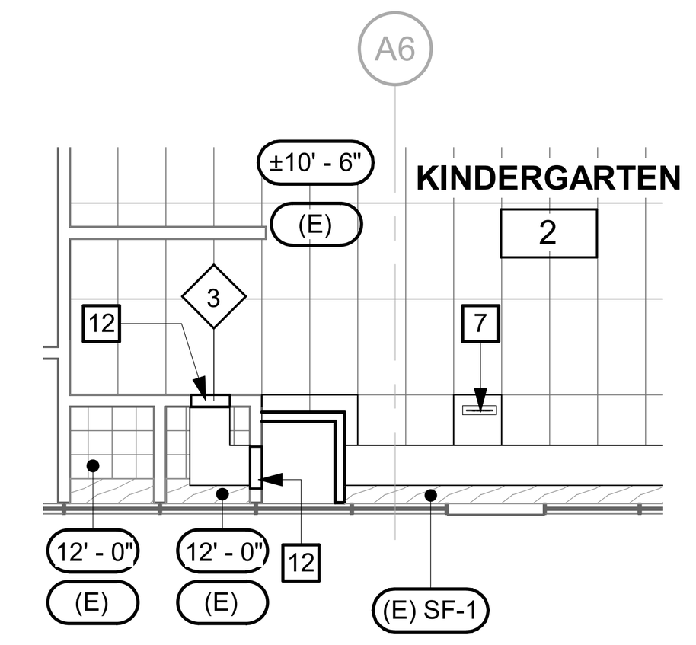
11 **DEMOLITION REFLECTED PLAN - ROOM 1**
SCALE: 1/8" = 1'-0"



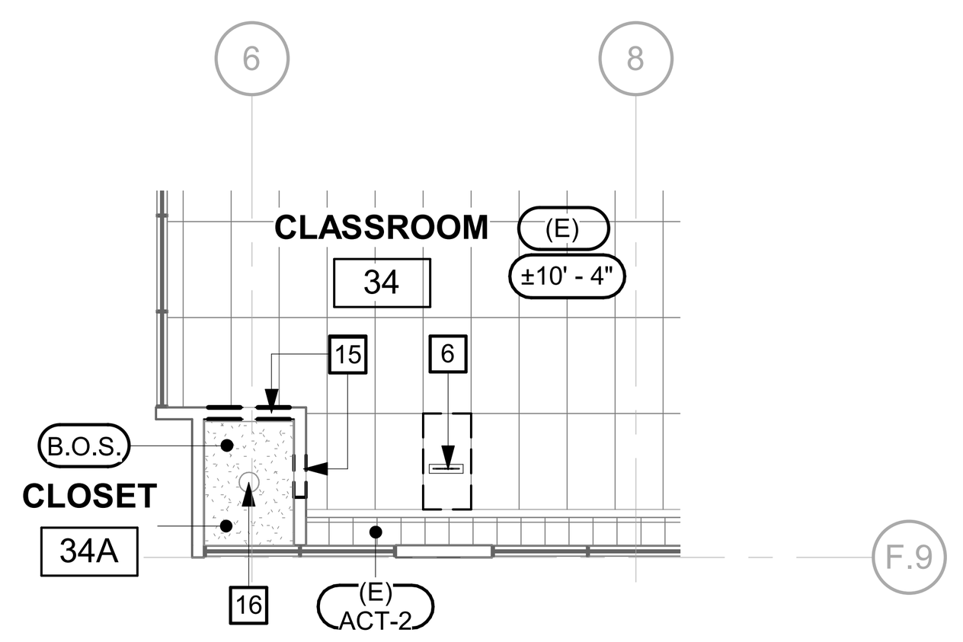
1 **NEW REFLECTED PLAN - ROOM 1**
SCALE: 1/8" = 1'-0"



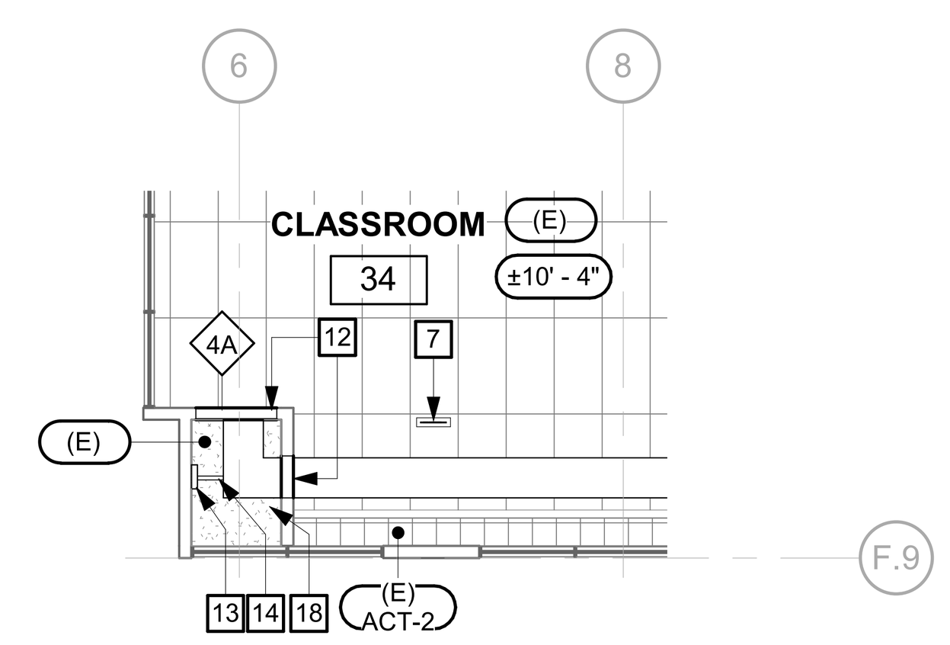
12 **DEMOLITION REFLECTED PLAN - ROOM 2**
SCALE: 1/8" = 1'-0"



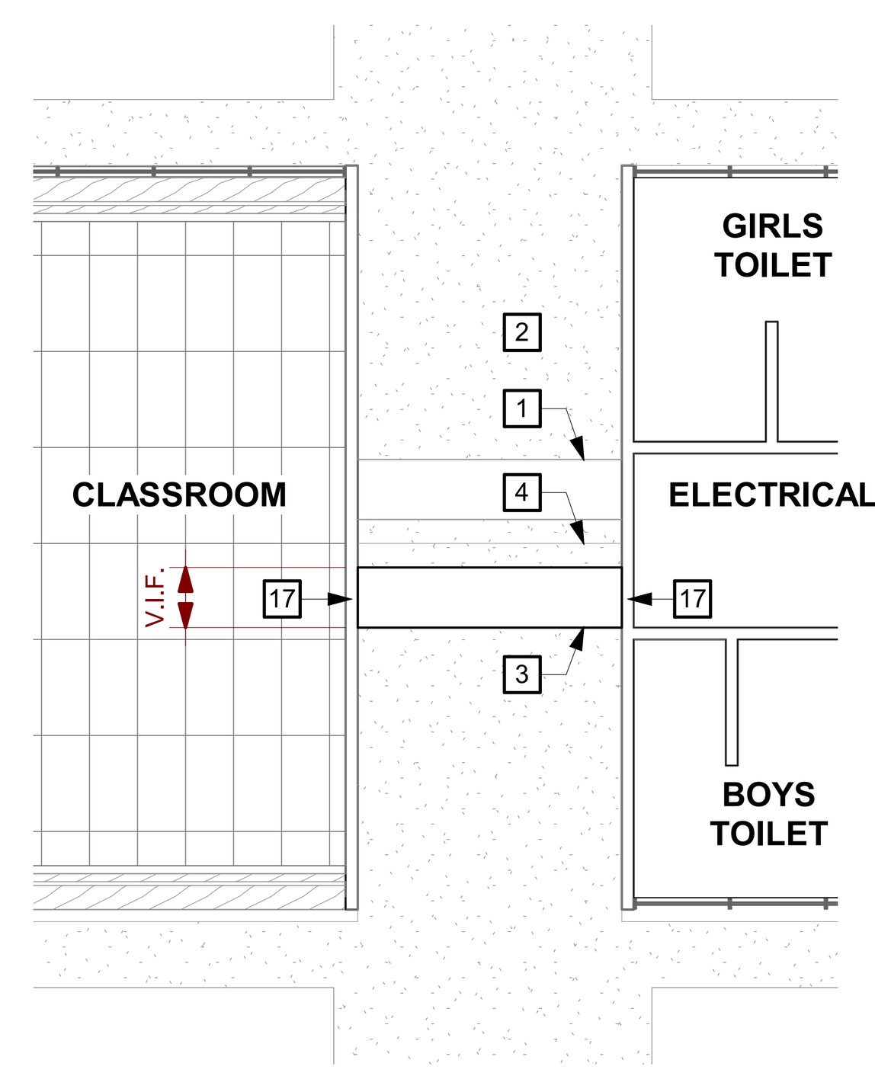
2 **NEW REFLECTED PLAN - ROOM 2**
SCALE: 1/8" = 1'-0"



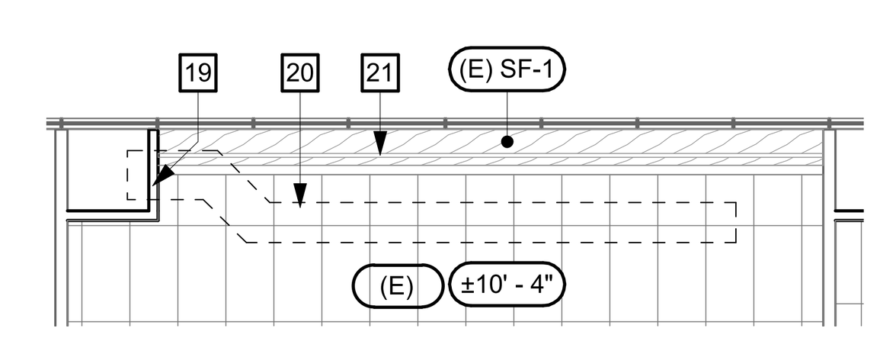
13 **DEMOLITION REFLECTED PLAN - ROOM 34**
SCALE: 1/8" = 1'-0"



3 **NEW REFLECTED PLAN - ROOM 34**
SCALE: 1/8" = 1'-0"



4 **NEW REFLECTED PLAN - TYPICAL EXT. WALKWAY**
SCALE: 1/8" = 1'-0"



5 **TYPICAL NEW CLASSROOM REFLECTED CEILING PLAN**
SCALE: 1/8" = 1'-0"

GENERAL SHEET NOTES

A ROOM NAMES OR NUMBERS MAY NOT BE CONSISTENT BETWEEN DEMOLITION AND NEW PLANS.

B REFER TO STRUCTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS FOR EXTENT OF STRUCTURAL, MECHANICAL, AND ELECTRICAL WORK.

C REFER TO FINISH SCHEDULE ON SHEET A11.01 FOR CEILING FINISHES NOT SHOWN.

E PROVIDE NEW CEILING TILE MATCHING ADJACENT TILES WHERE EXISTING LIGHTS, SPEAKERS OR OTHER EQUIPMENT WERE REMOVED.

F RECONFIGURE A.C.T. GRID TIGHT TO NEW MECHANICAL ENCLOSURE WALL FINISH. PROVIDE NEW LAY IN CEILING TILES AT RECONFIGURED AREA. AREA CUT OR ALTERED IN EACH ROOM SHALL NOT EXCEED 10 PERCENT OF THE ENTIRE CEILING AREA.

DEMO & NEW REFLECTED CEILING PLAN KEYNOTES

1 (E) 18 GA. PAINTED SHEET METAL CONDUIT ENCLOSURE TO REMAIN
2 (E) CEMENT PLASTER FINISH
3 PAINTED 18 GA. SHEET METAL CONDUIT ENCLOSURE, SEE DETAIL 3/A8.11 AND S.E.D.
4 (E) RIDGE
5 PATCH WALL AT MECHANICAL UNIT, S.M.D.
6 SALVAGE (E) ILLUMINATED EXIT SIGN FOR REINSTALLATION. REMOVE AND REPLACE CEILING TILE
7 REINSTALL SALVAGED ILLUMINATED EXIT SIGN
8 PATCH LAY IN CEILING TILE AT REMOVED MECHANICAL ENCLOSURE
9 REMOVE & REPLACE (E) LAY IN CEILING TILE
10 SALVAGE (E) LIGHT FIXTURE FOR REINSTALLATION. REMOVE ADJACENT GLUE-UP ACT
11 REPLACE GLUE-UP CEILING TILE AT REMOVED LIGHT FIXTURE
12 PATCH OPENING TIGHT TO MECHANICAL WORK, S.M.D AND SEE DETAIL 6/A9.10.
13 LIGHT FIXTURE AT 8' A.F.F., S.E.D.
14 CONT. WIREMOLD FROM REMOVED CEILING LIGHT FIXTURE LOCATION TO (N) WALL LIGHT FIXTURE LOCATION. ROUTE (N) WIREMOLD OVER (E) WIRMOLD AS REQ.
15 CUT AND FINISH OPENING FOR (N) DUCT AND (N) REGISTER
16 REMOVE (E) LIGHT FIXTURE & PATCH CEMENT PLASTER CEILING.
17 S.E.D. FOR CONDUIT PENETRATION DETAIL
18 PATCH PLASTER CEILING AT RELOCATED LIGHT FIXTURE
19 REPLACE PERIMETER TRIM AND PROVIDE NEW CEILING TILE ADJACENT. REPLACE FREE AND FIXED ENDS IN KIND, SEE DETAILS 8/A9.10, 11/A9.10, & 12/A9.10.
20 EXPOSED SUSPENDED DUCTWORK, S.M.D. OBSCURED FOR CLARITY.
21 (E) CURTAIN TRACK

GRAPHIC KEY

EXISTING WALL TO BE DEMOLISHED.

EXISTING NONRATED WALL TO REMAIN.

EXISTING STOREFRONT OR WINDOW TO REMAIN.

WALL TYPE. REFER TO SHEET A9.10 FOR WALL TYPE DESCRIPTION, TYP.

STUD WALL

(E) 2'-0" x 4'-0" A.C.T. CEILING SYSTEM

NOTE: (E) COMPRESSION STRUT TO REMAIN. DO NOT ALTER (E) ATTACHMENT.
SUSPENDED CEILING GRID
DIRECTION OF MAIN RUNNER
INSTALL CEILING GRID STARTING AT THE CENTER OF EACH ROOM AND WORK TO EXTERIOR WALLS. U.O.N.

(E) 12" x 12" GLUE UP CEILING TILES

INSTALL CEILING TILES STARTING AT THE CENTER OF EACH ROOM AND WORK TO EXTERIOR WALLS. U.O.N.

(E) CEMENT PLASTER SOFFIT

(E) WOOD SOFFIT

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www.aedisarchitects.com
387 S. 1st Street, Suite 300
San Jose, CA 95113
tel: (408)-300-5160
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PROJECT
GEORGE HALL ELEMENTARY SCHOOL - HVAC REPLACEMENT

SAN MATEO-FOSTER CITY SCHOOL DISTRICT

CONSULTANT

STAMP

STATE
DSA FILE NUMBER 41-26
APPL # 01-119523

REVISIONS

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MILESTONES

DD	
90% CD	
DSA SUB	05/21/2021
BACKCHECK	10/04/2021

SHEET
DEMOLITION & NEW REFLECTED CEILING PLANS

DATE 10/04/2021
JOB # 2021005.02
SHEET #
A4.01

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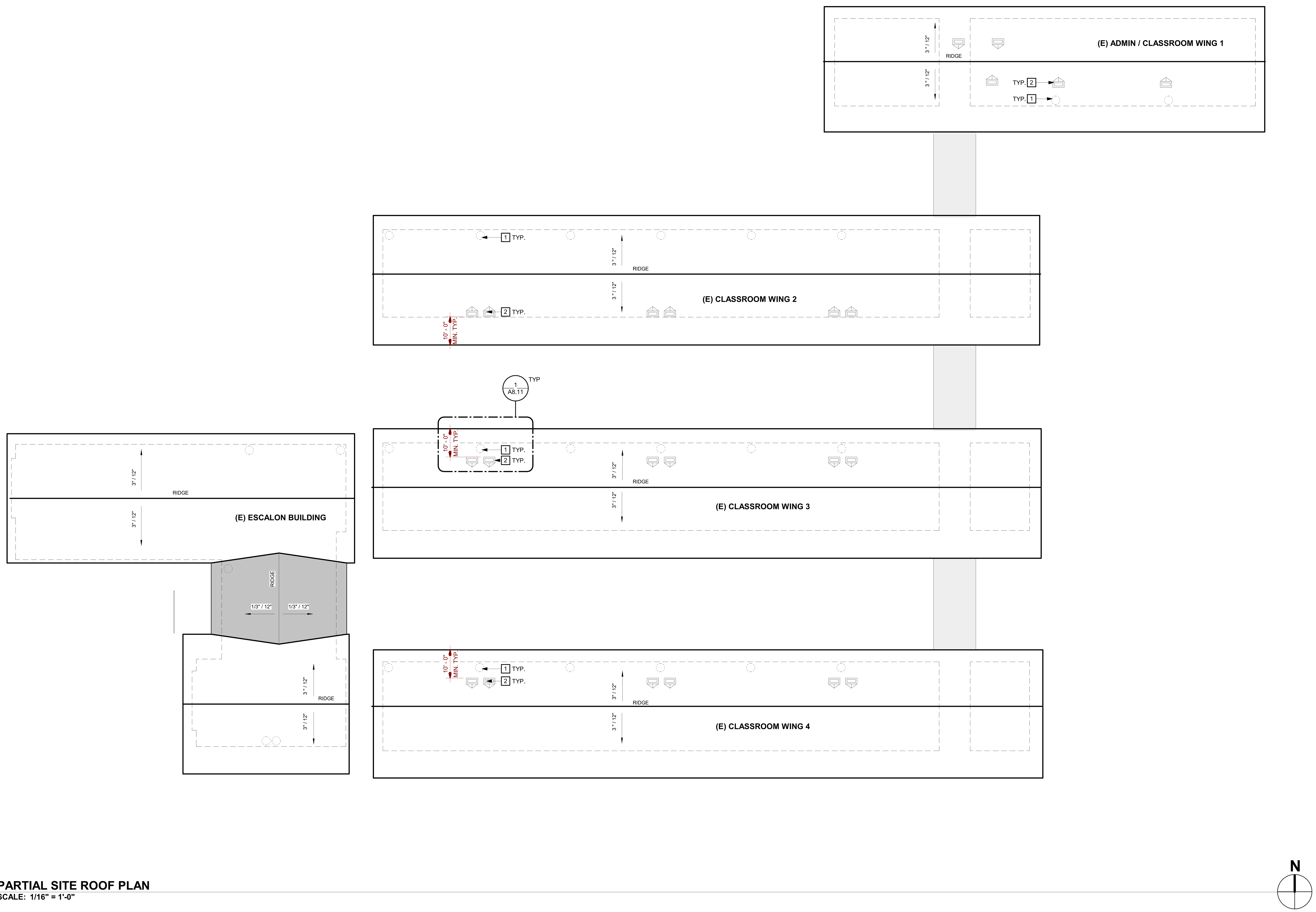


1 **PARTIAL SITE ROOF PLAN**
SCALE: 1/16" = 1'-0"

GENERAL SHEET NOTES

A REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR EXTENT OF MECHANICAL AND ELECTRICAL WORK.

B SIZE OF MECHANICAL EQUIPMENT PADS ARE FOR REFERENCE ONLY. THE CONTRACTOR SHALL VERIFY REQUIRED PAD DIMENSION WITH EQUIPMENT MANUFACTURER.

PARTIALSITE ROOF PLAN KEYNOTES

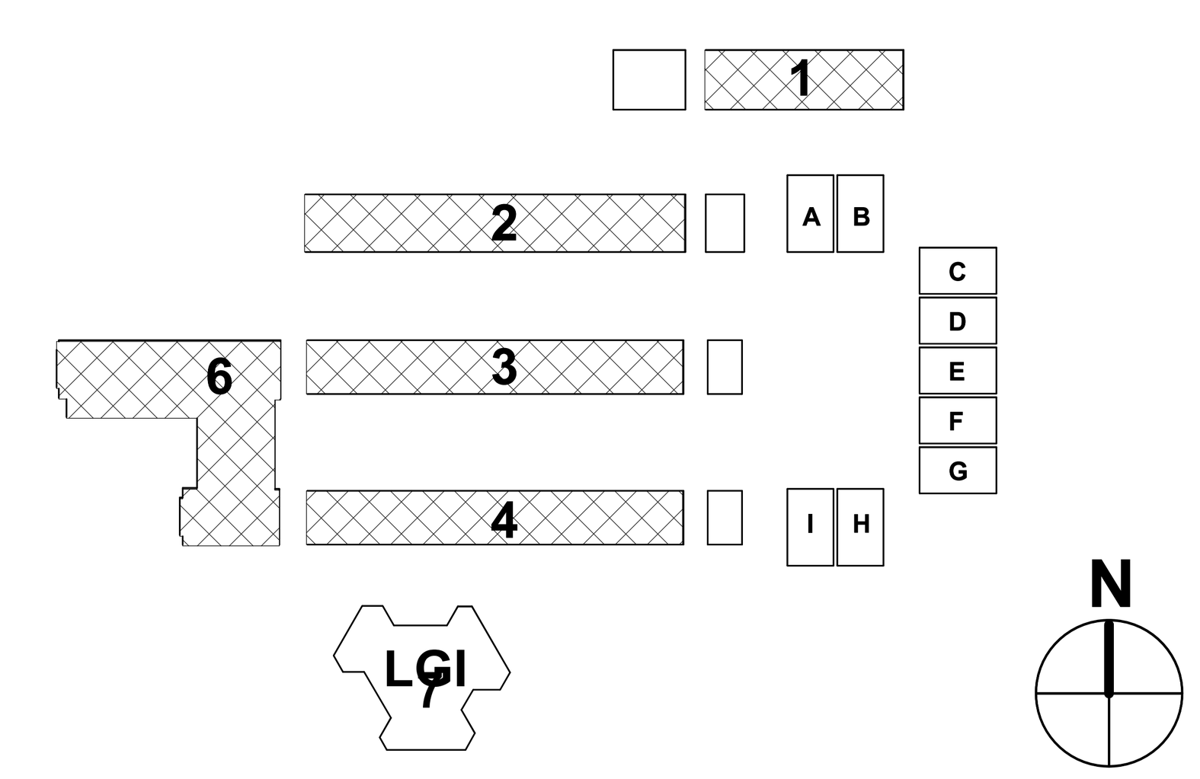
1 PATCH (E) PENETRATION AT REMOVED FLUE AND COMBUSTION AIR INTAKE AND PATCH (N) PENETRATIONS. S.M.D. AND SEE DETAIL 17/A8.10

2 MECHANICAL UNIT ON PLATFORM WITH CRICKET. S.M.D. AND SEE DETAIL 19/A8.10

GRAPHIC KEY

- (E) ASPHALT SHINGLE, CLASS C MINIMUM
- (E) TPO SINGLE PLY ROOFING, CLASS C MINIMUM
- (E) MINERAL CAP SHEET, CLASS C MINIMUM
- OUTLINE OF WALL BELOW.

BUILDING KEY



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SHEET
PARTIAL SITE ROOF PLAN

DATE 10/04/2021
JOB # 2021005.02
SHEET # A5.01

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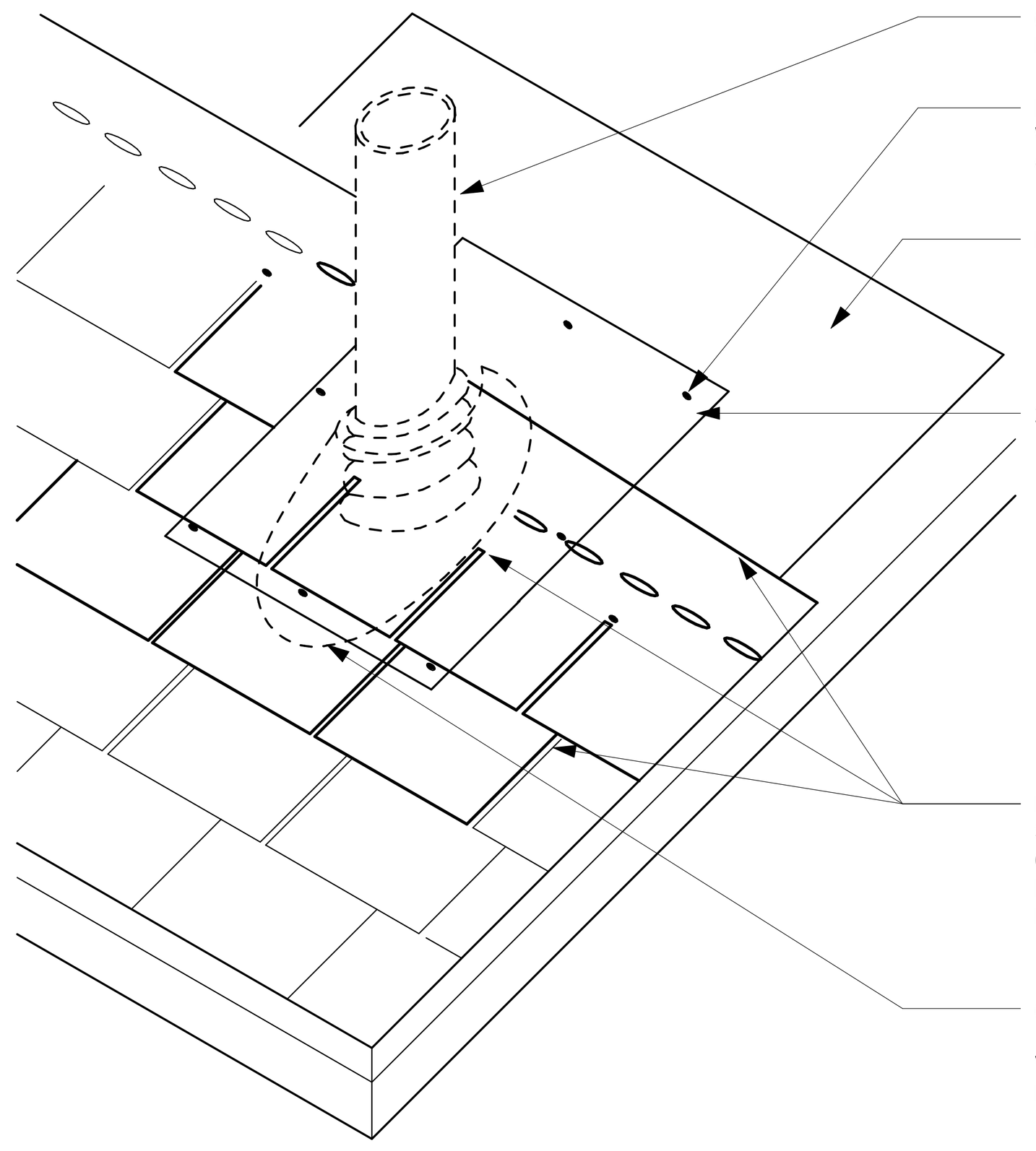
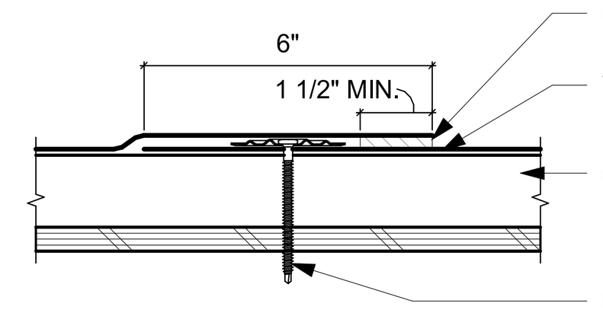
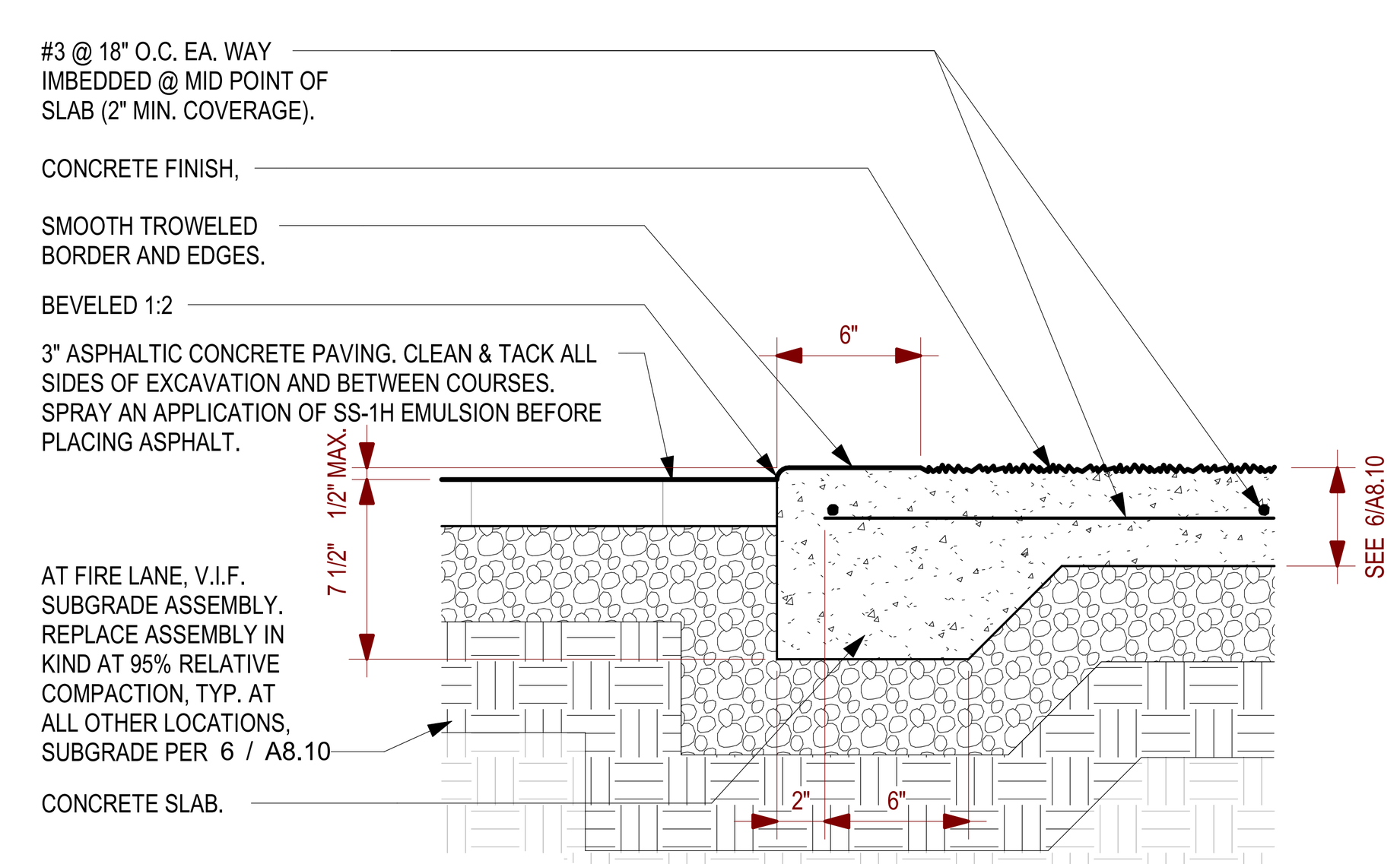


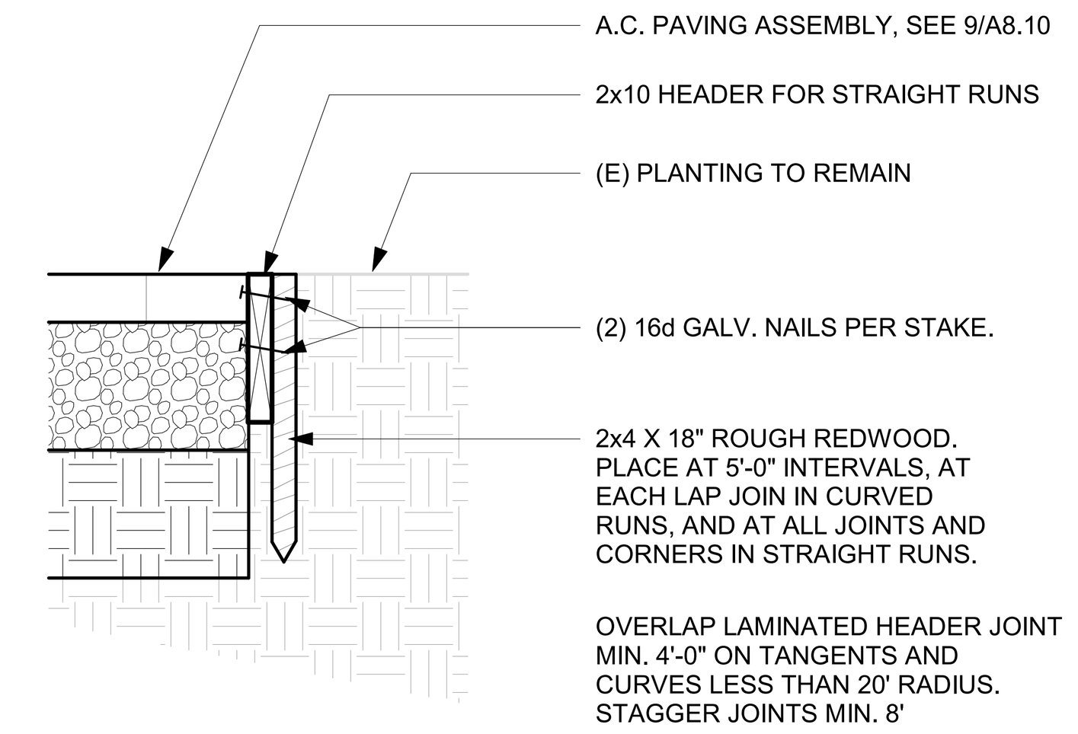
17 **ROOF PATCH AT REMOVED PIPES**
SCALE: 3" = 1'-0"



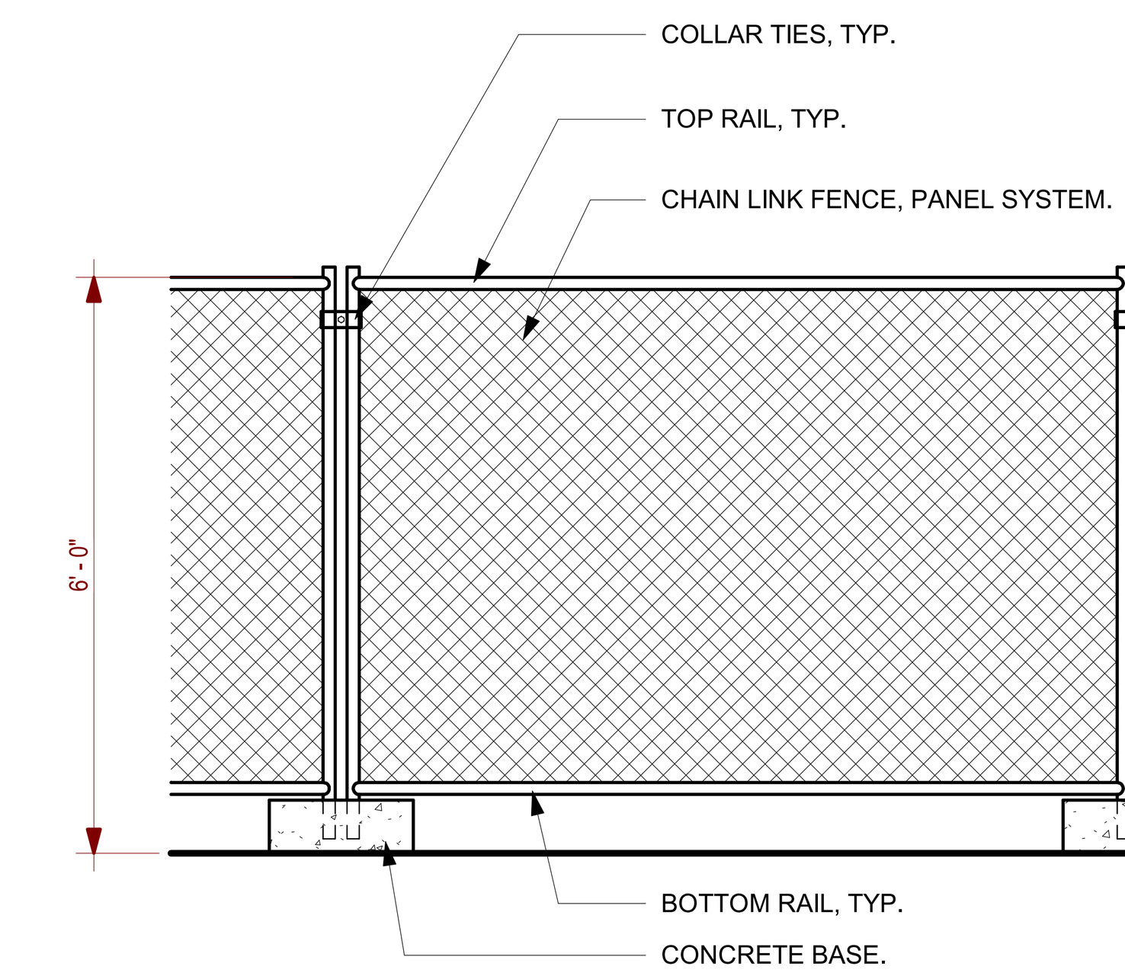
13 **SINGLE PLY ROOFING PATCH EDGE**
SCALE: 3" = 1'-0"



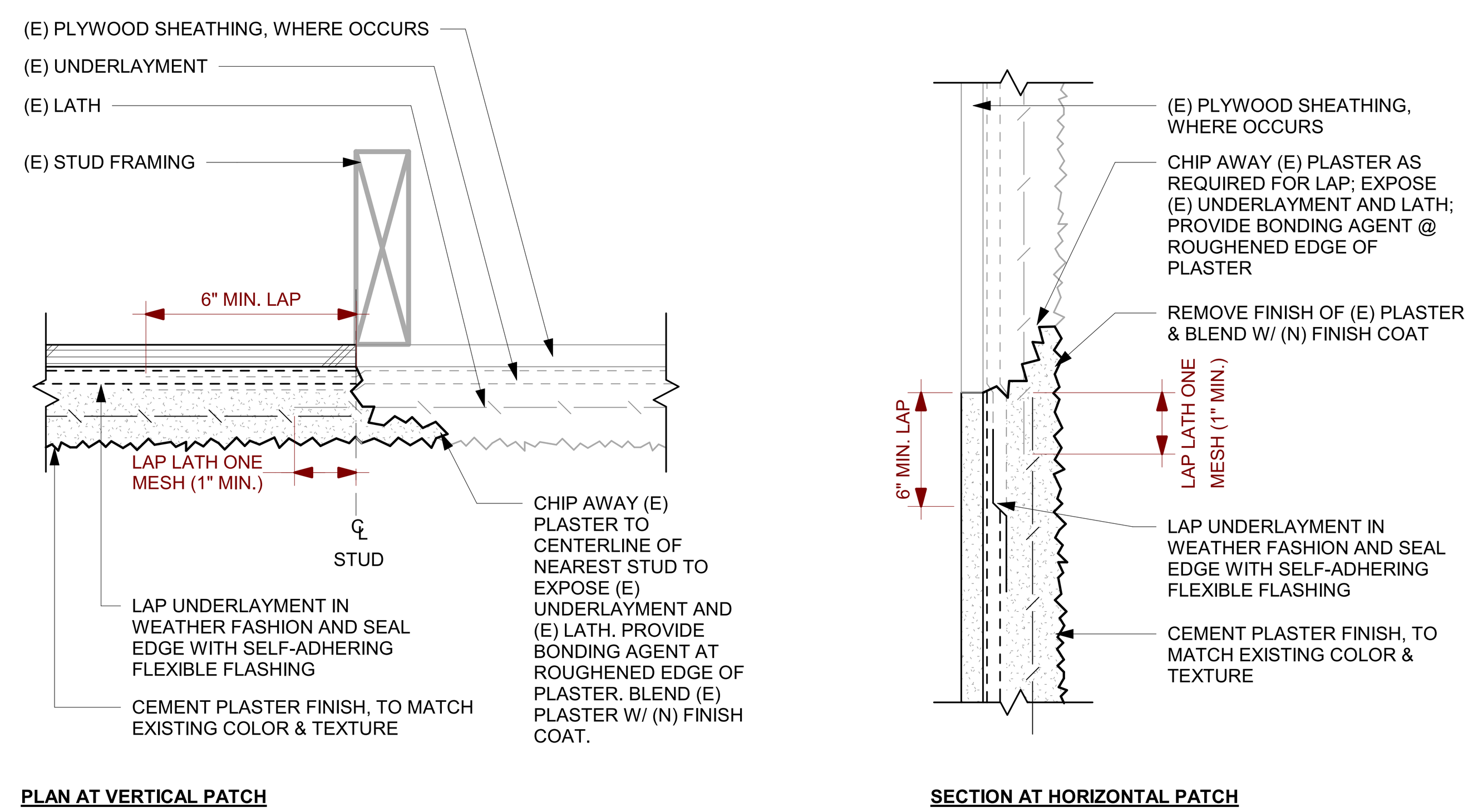
9 **ASPHALT/CONCRETE JOINT**
SCALE: 1 1/2" = 1'-0"



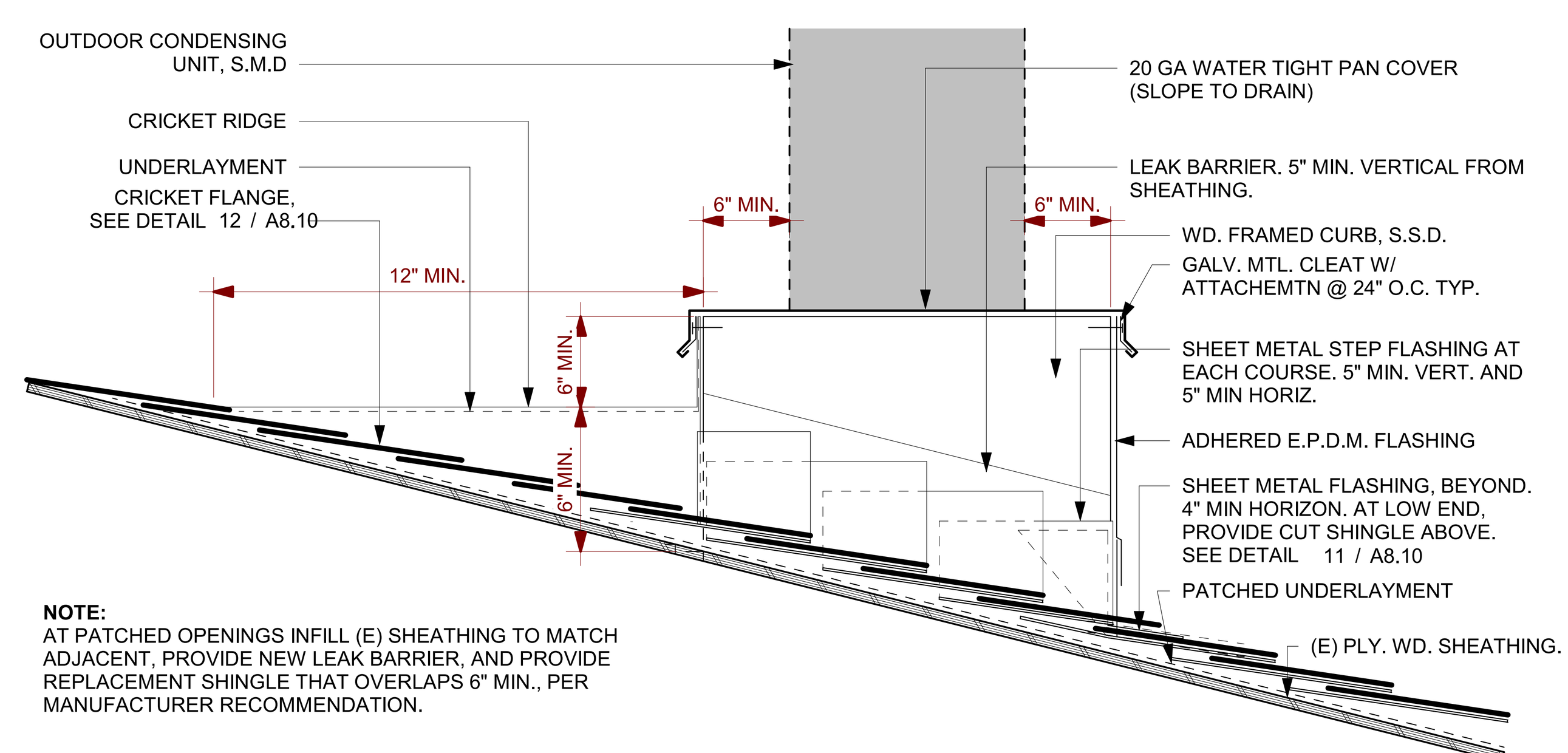
5 **EDGE OF ASPHALT PAVING**
SCALE: 1" = 1'-0"



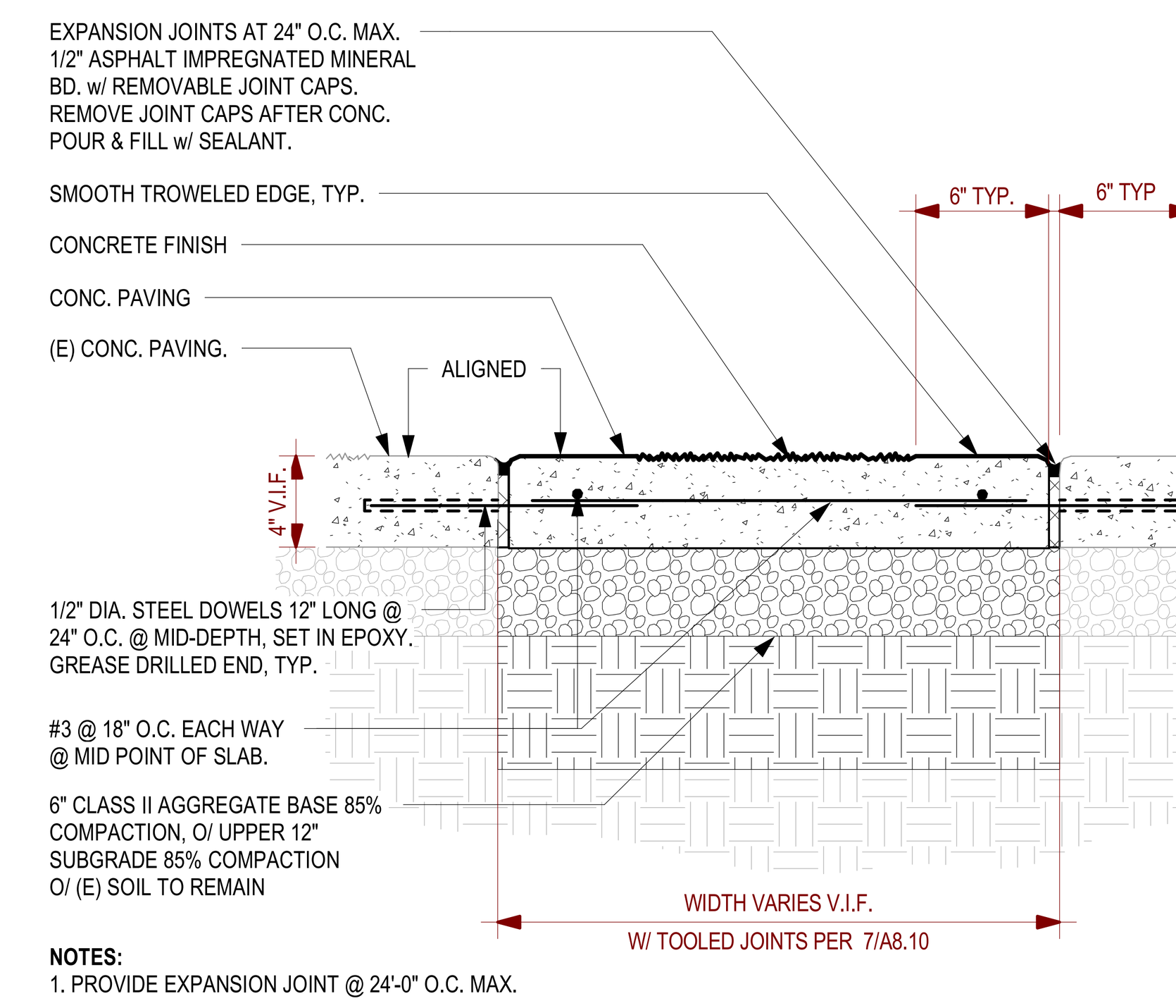
1 **REQ'D TEMPORARY CONSTRUCTION FENCE**
SCALE: 1/2" = 1'-0"



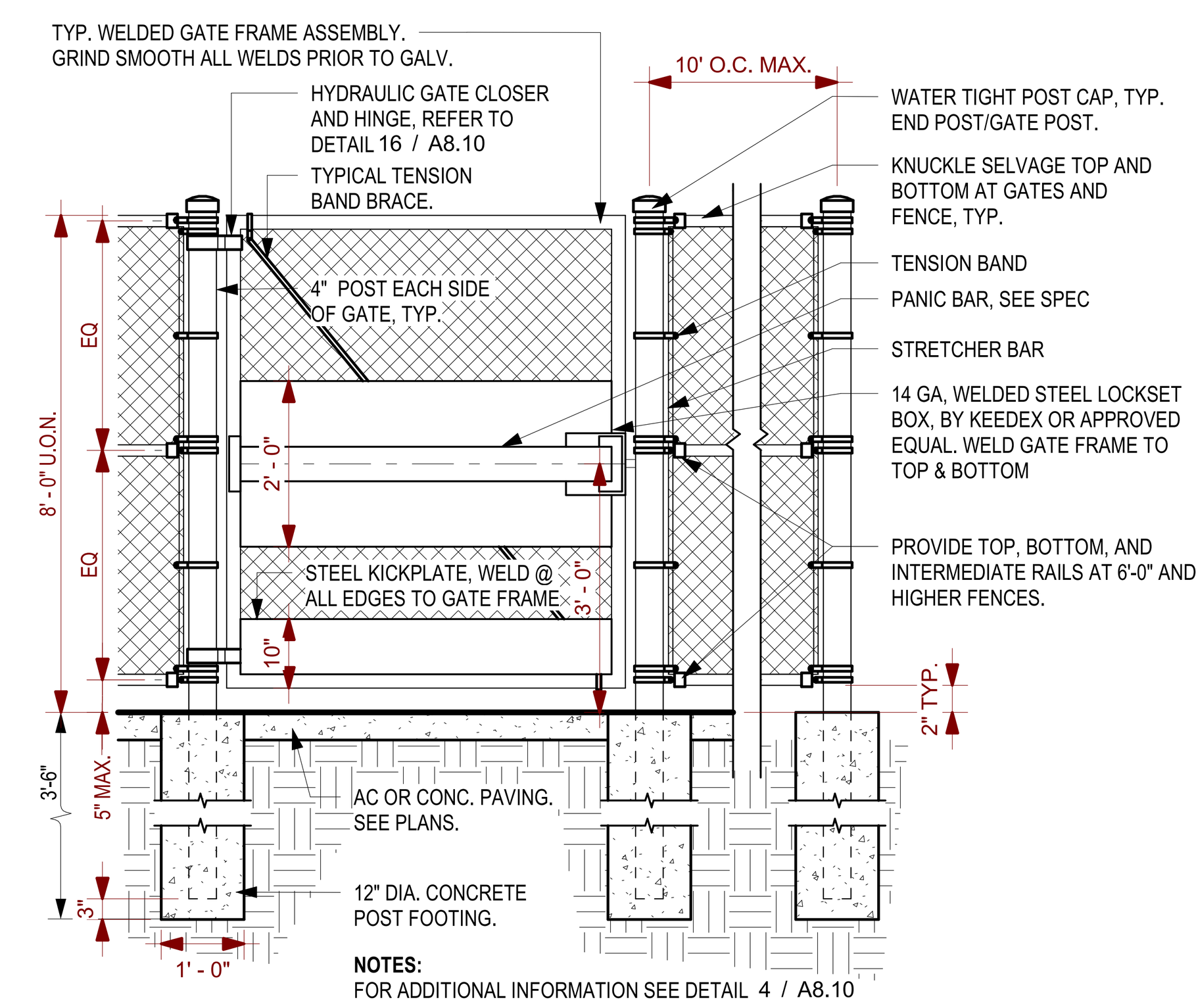
18 **CEMENT PLASTER PATCHING**
SCALE: 3" = 1'-0"



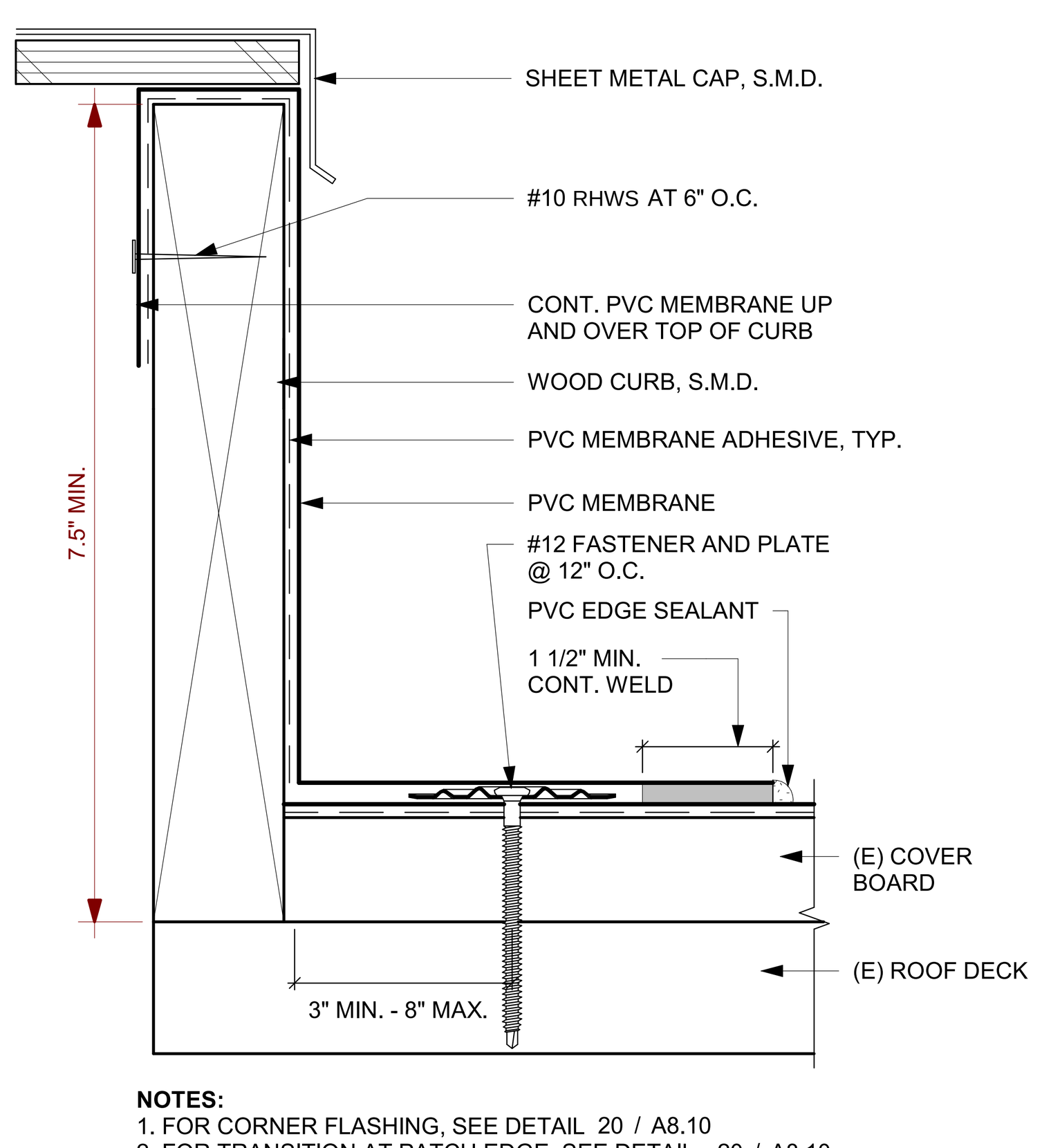
10 **SHINGLE SIDE FLASHING**
SCALE: 1 1/2" = 1'-0"



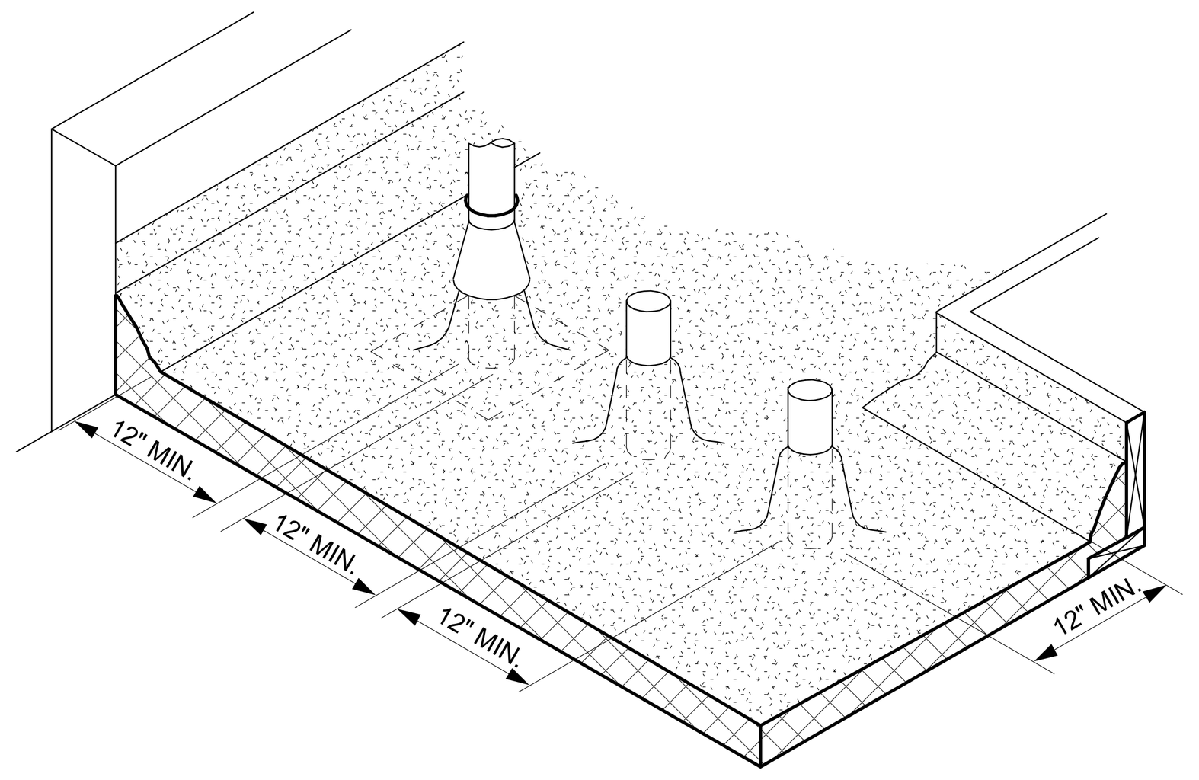
6 **CONCRETE PATCH**
SCALE: 1 1/2" = 1'-0"



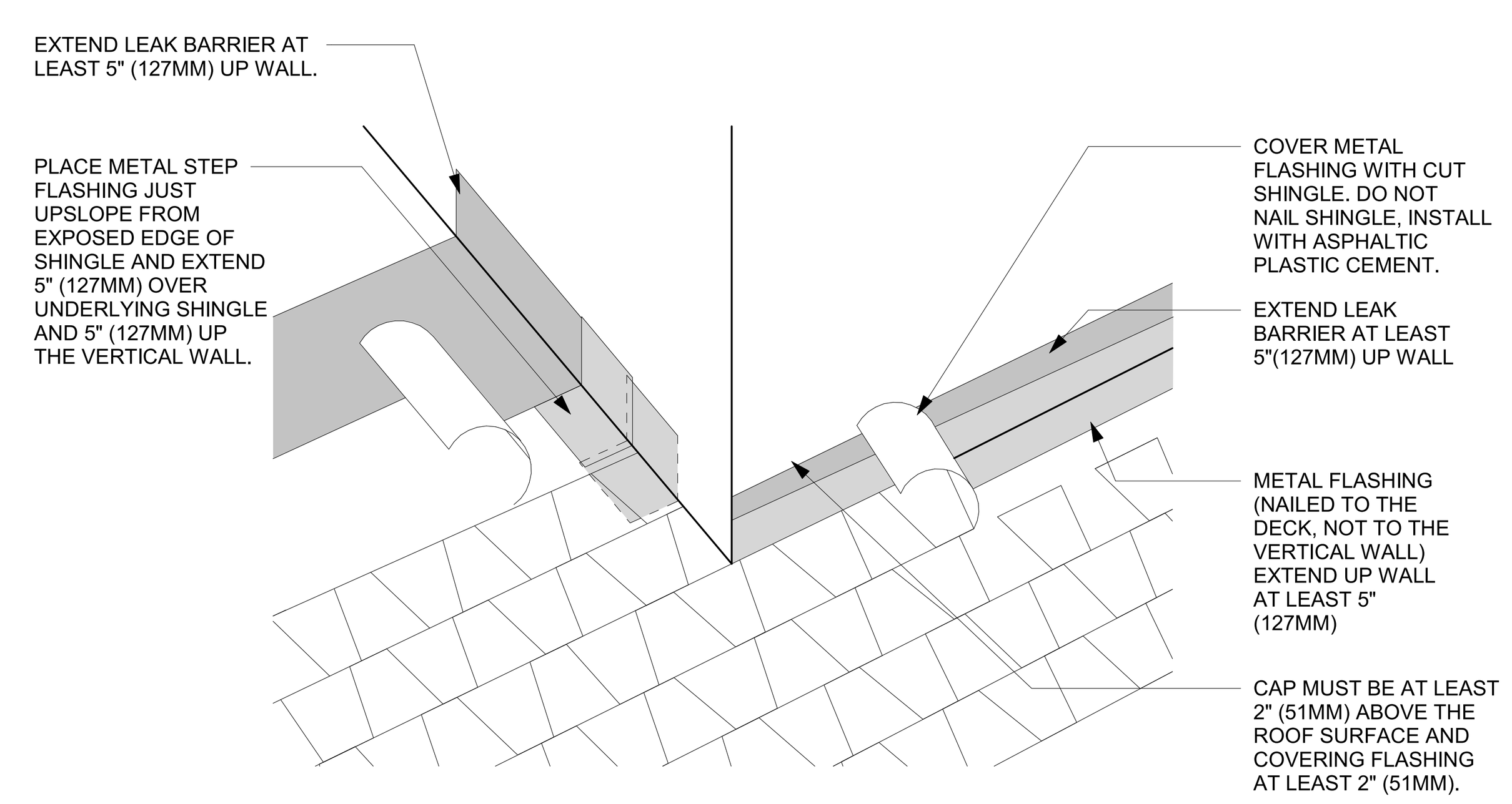
2 **TYPICAL CHAINLINK GATE (SINGLE, EGRESS)**
SCALE: 1/2" = 1'-0"



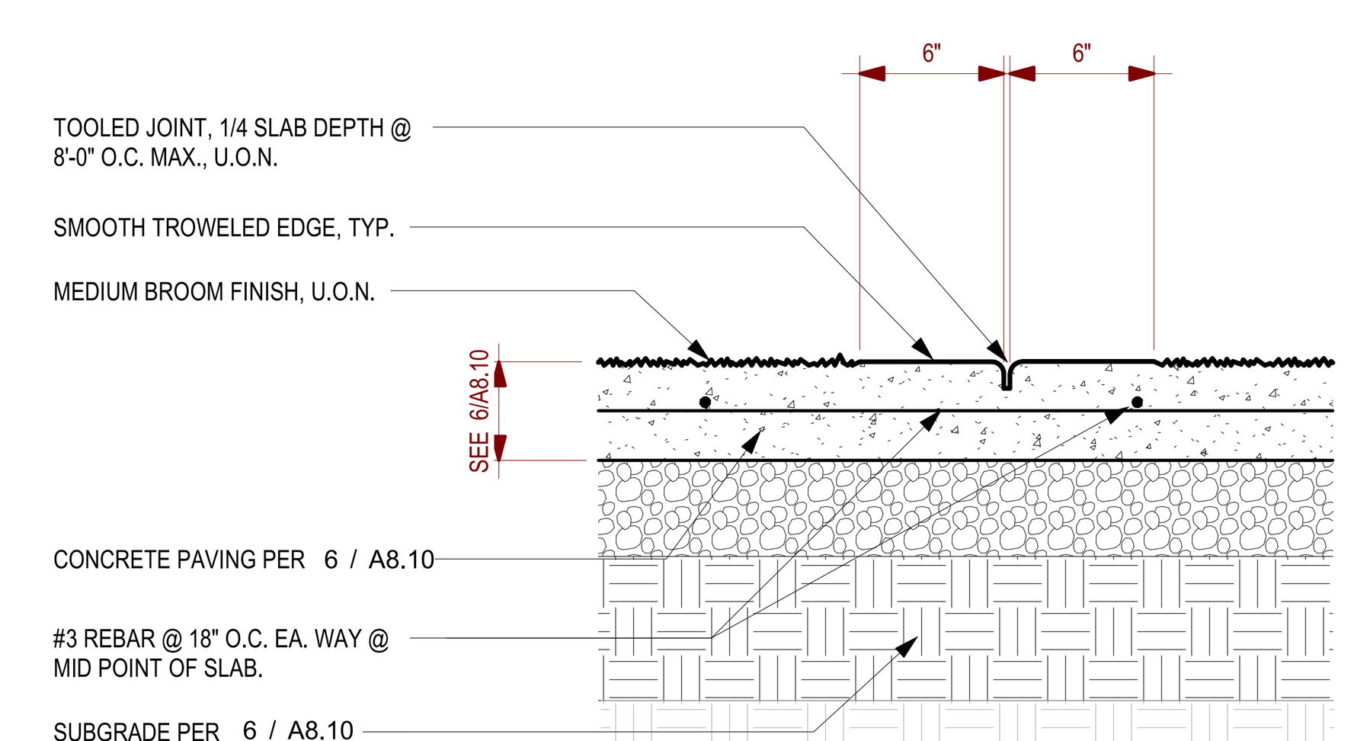
19 **SINGLE PLY CURB FLASHING**
SCALE: 6" = 1'-0"



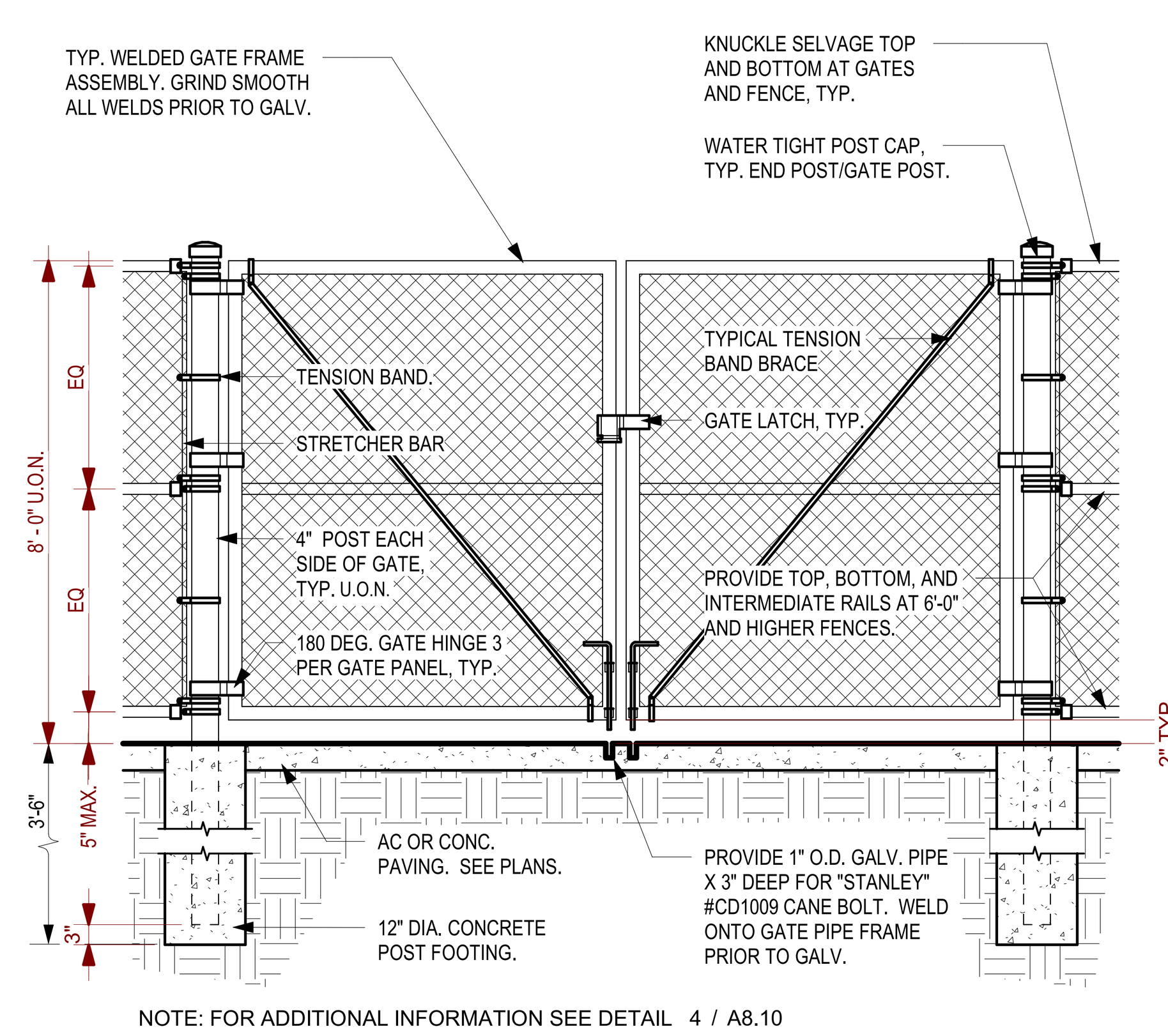
15 **CLEARANCES BETWEEN PIPES, WALLS & CURBS**
SCALE: 1" = 1'-0"



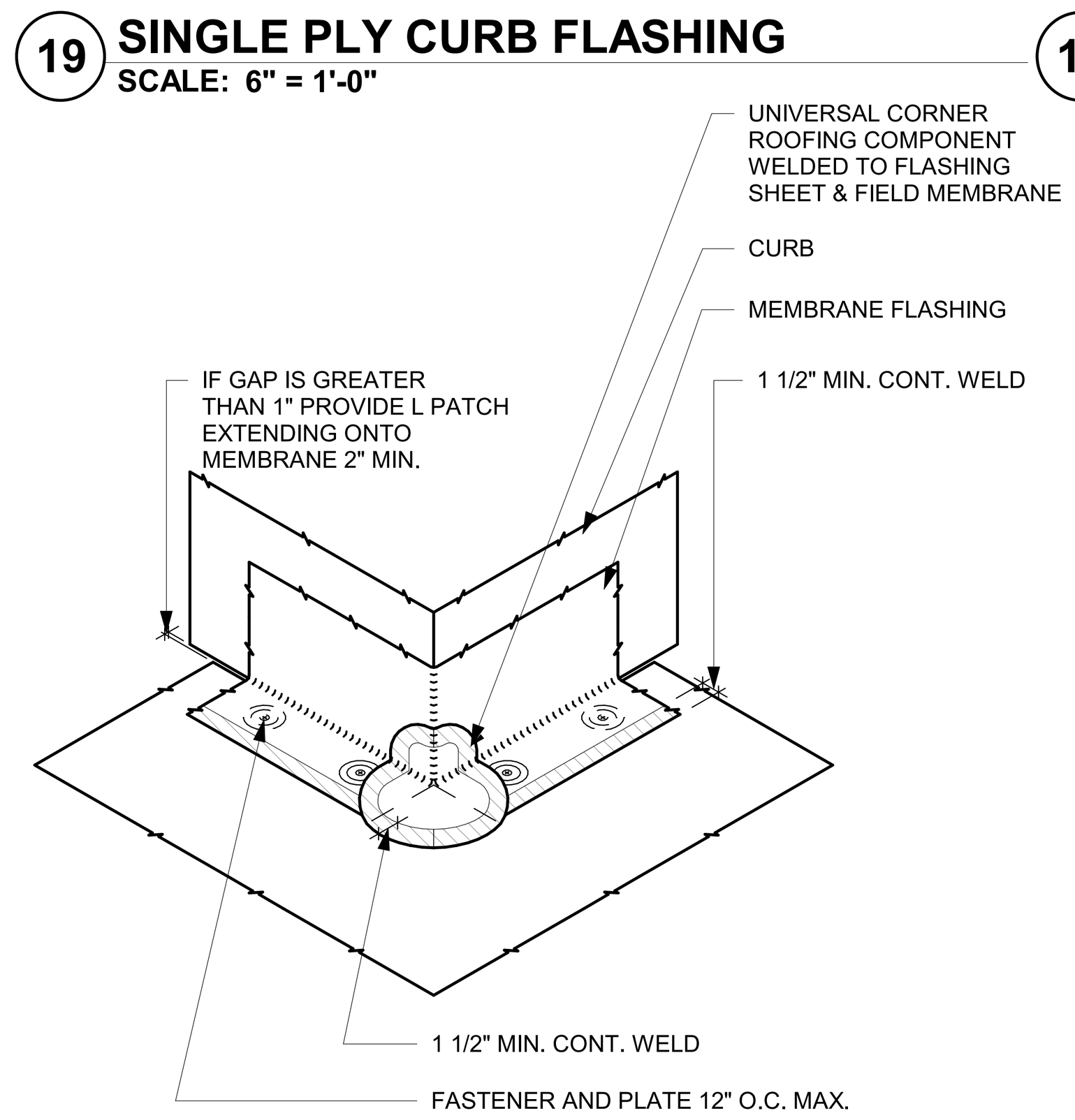
11 **SHINGLE LOWER FLASHING**
SCALE: 1" = 1'-0"



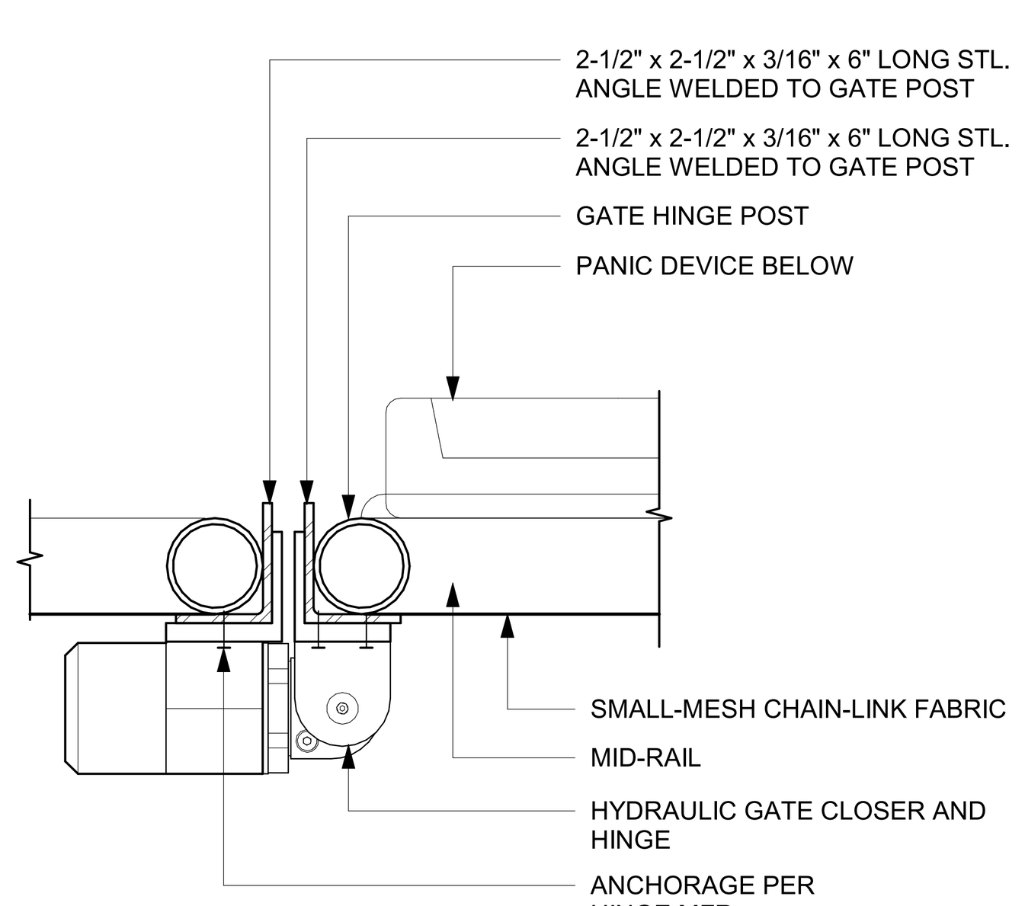
7 **TOOLED JOINT (TJ)**
SCALE: 1 1/2" = 1'-0"



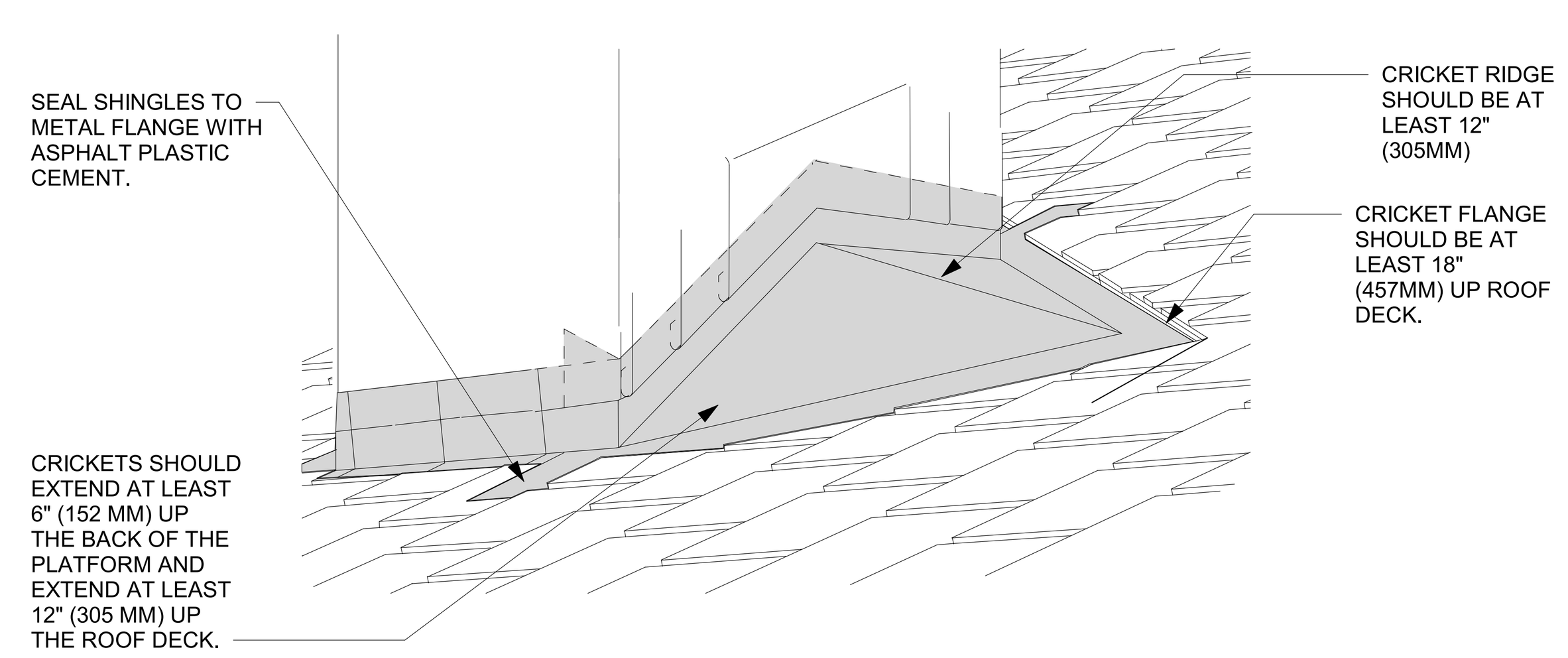
3 **TYPICAL CHAINLINK GATE (PAIR)**
SCALE: 1/2" = 1'-0"



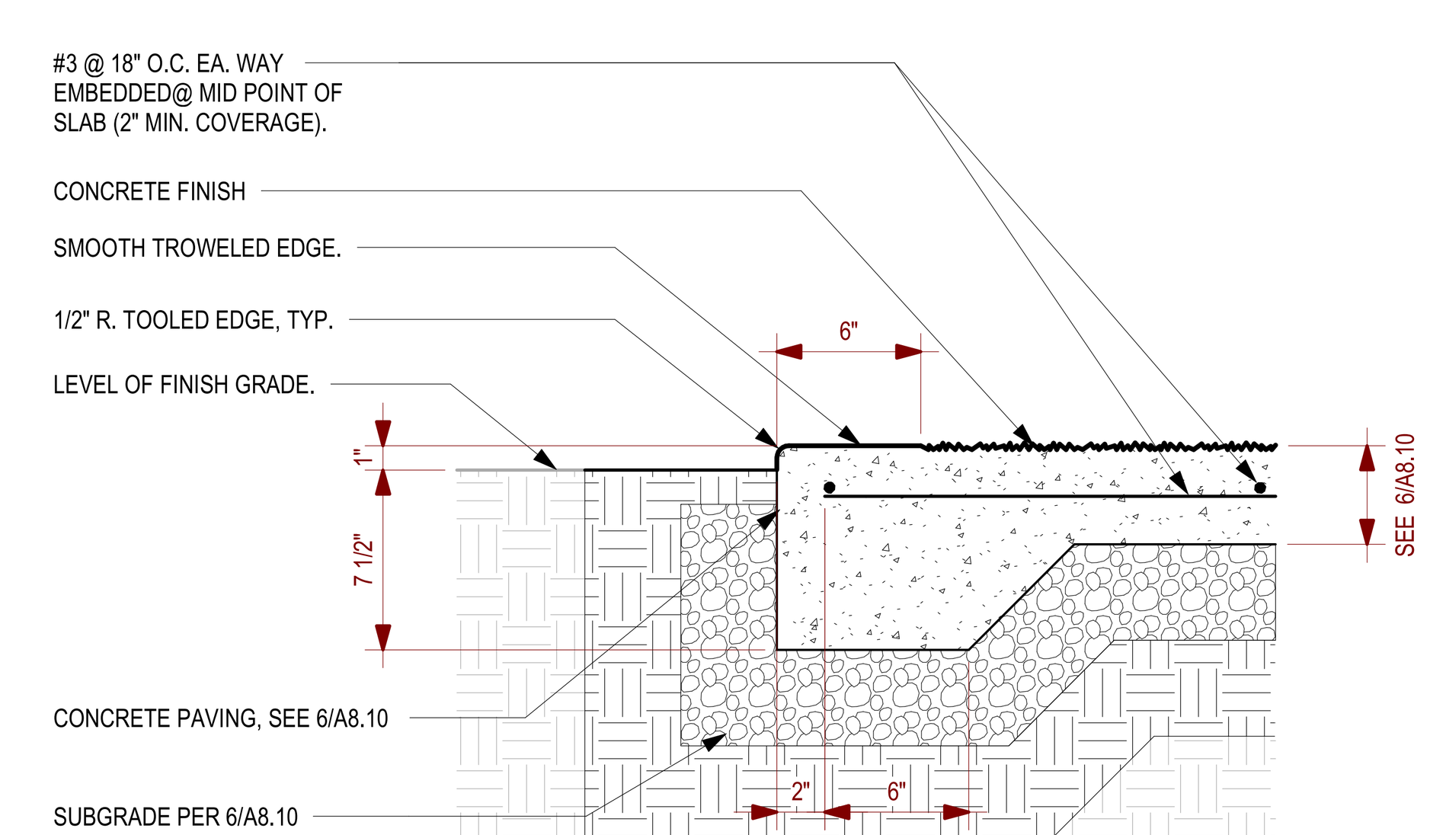
20 **SINGLE PLY CURB CORNER FLASHING**
SCALE: 1" = 1'-0"



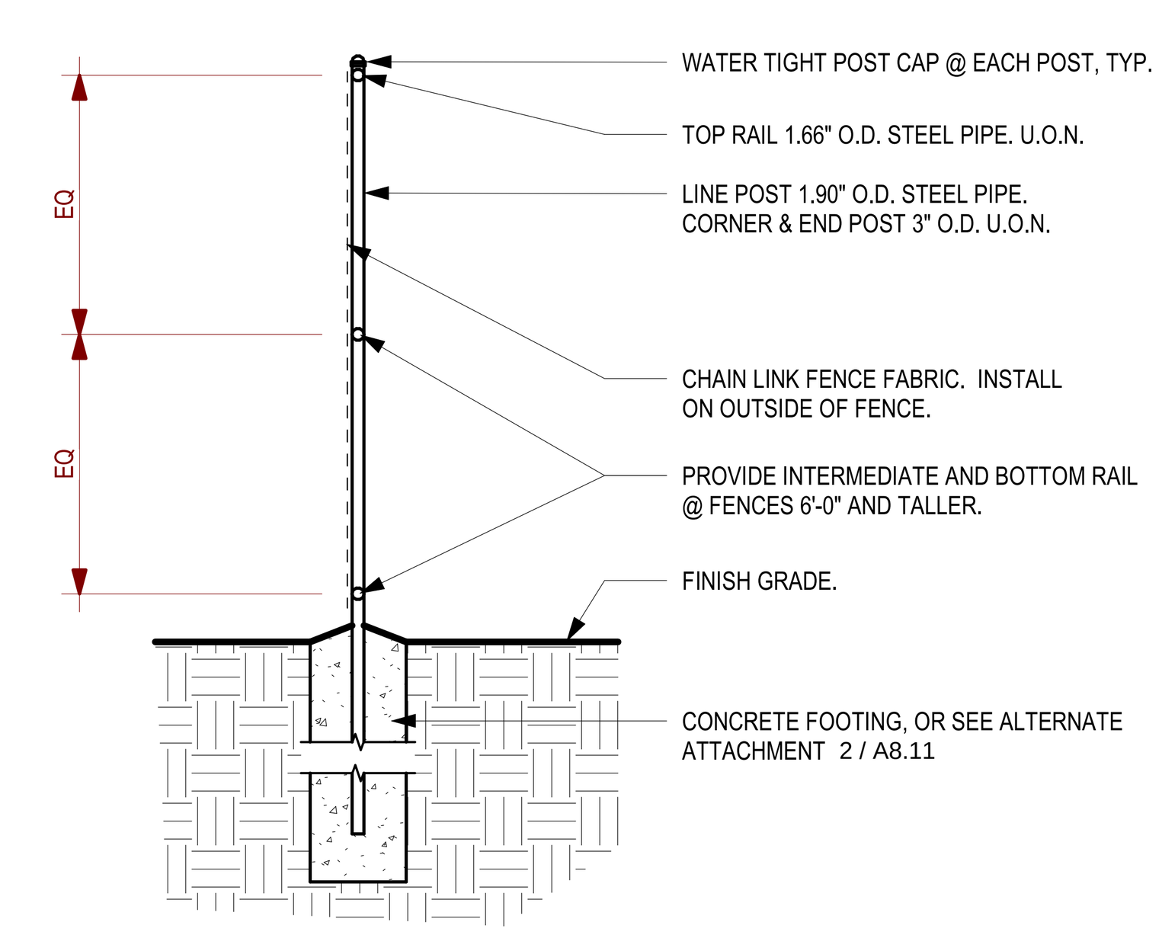
16 **HYDRAULIC HINGE AND CLOSER**
SCALE: 3" = 1'-0"



12 **CRICKET SHINGLE FLASHING**
SCALE: 1/2" = 1'-0"



8 **EDGE OF CONCRETE PAVING**
SCALE: 1 1/2" = 1'-0"



4 **TYPICAL CHAINLINK FENCE**
SCALE: 1/2" = 1'-0"

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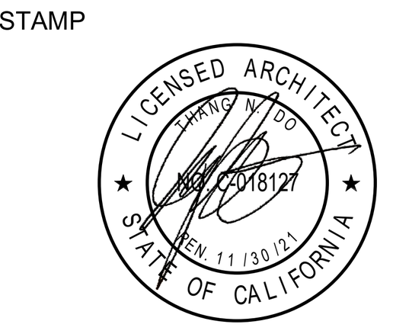

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SHEET
EXTERIOR DETAILS

DATE 10/04/2021
JOB # 2021005.02
SHEET #
A8.10

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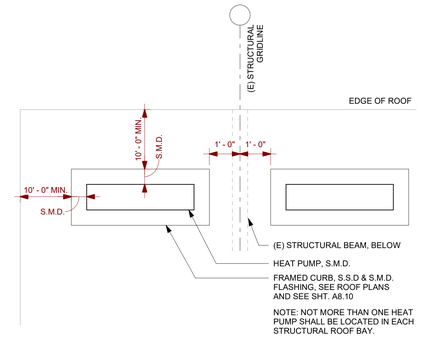
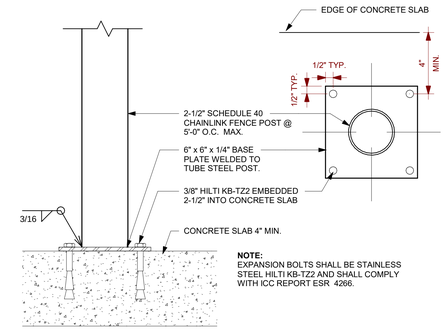
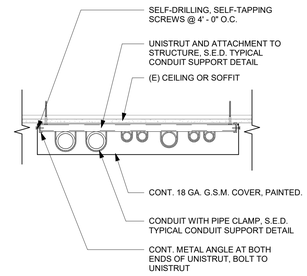


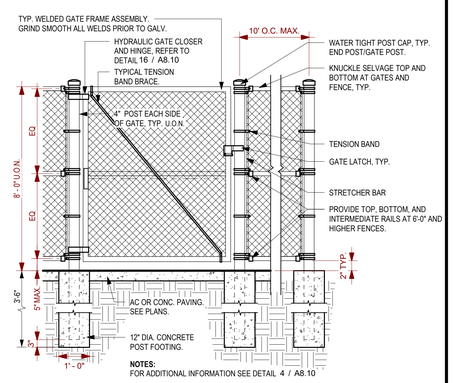
1 HEAT PUMP TYP. ROOF LAYOUT, N.T.S.
SCALE: 1/2" = 1'-0"



2 CHAINLINK FENCE BASE PLATE ANCHORAGE
SCALE: 3" = 1'-0"



3 CONDUIT ENCLOSURE
SCALE: 1 1/2" = 1'-0"



4 TYPICAL CHAINLINK GATE (SINGLE)
SCALE: 1/2" = 1'-0"

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San Jose, CA 95113
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GEORGE HALL ELEMENTARY SCHOOL - HVAC REPLACEMENT

SAN MATEO-FOSTER CITY SCHOOL DISTRICT

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EXTERIOR DETAILS

DATE 10/04/2021

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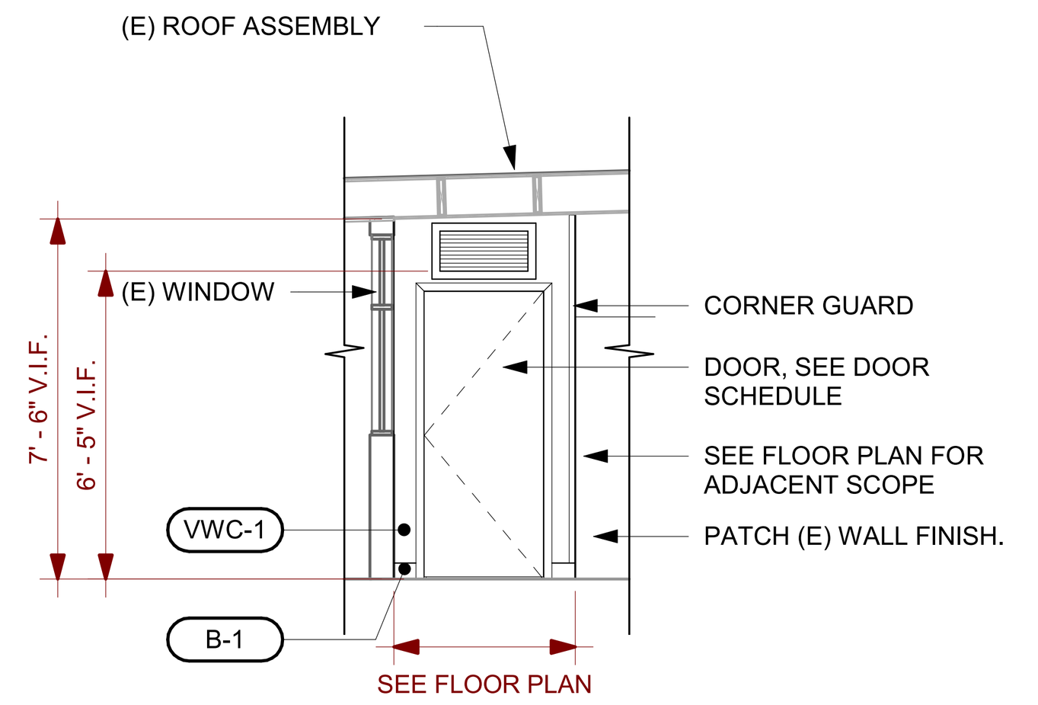
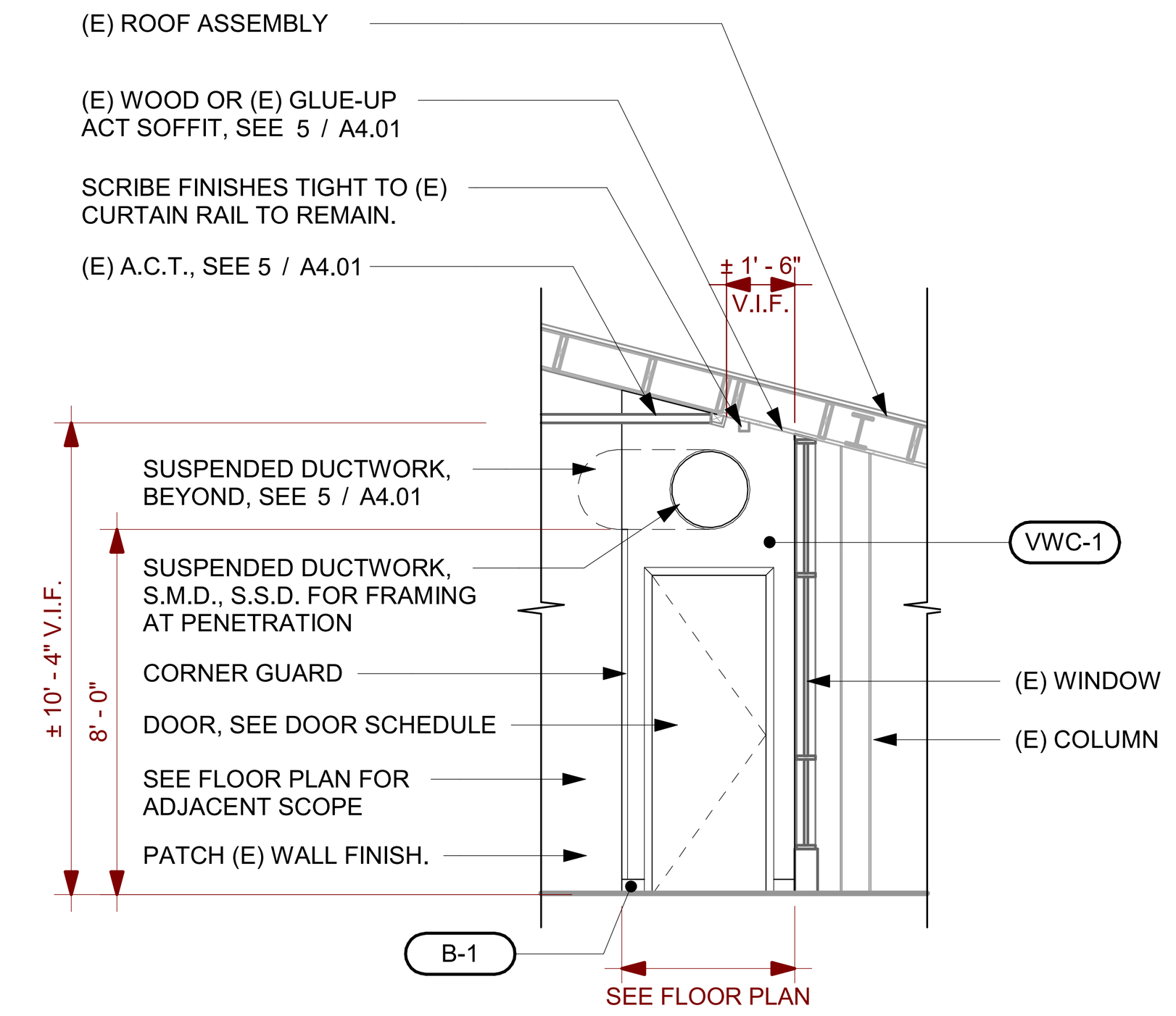
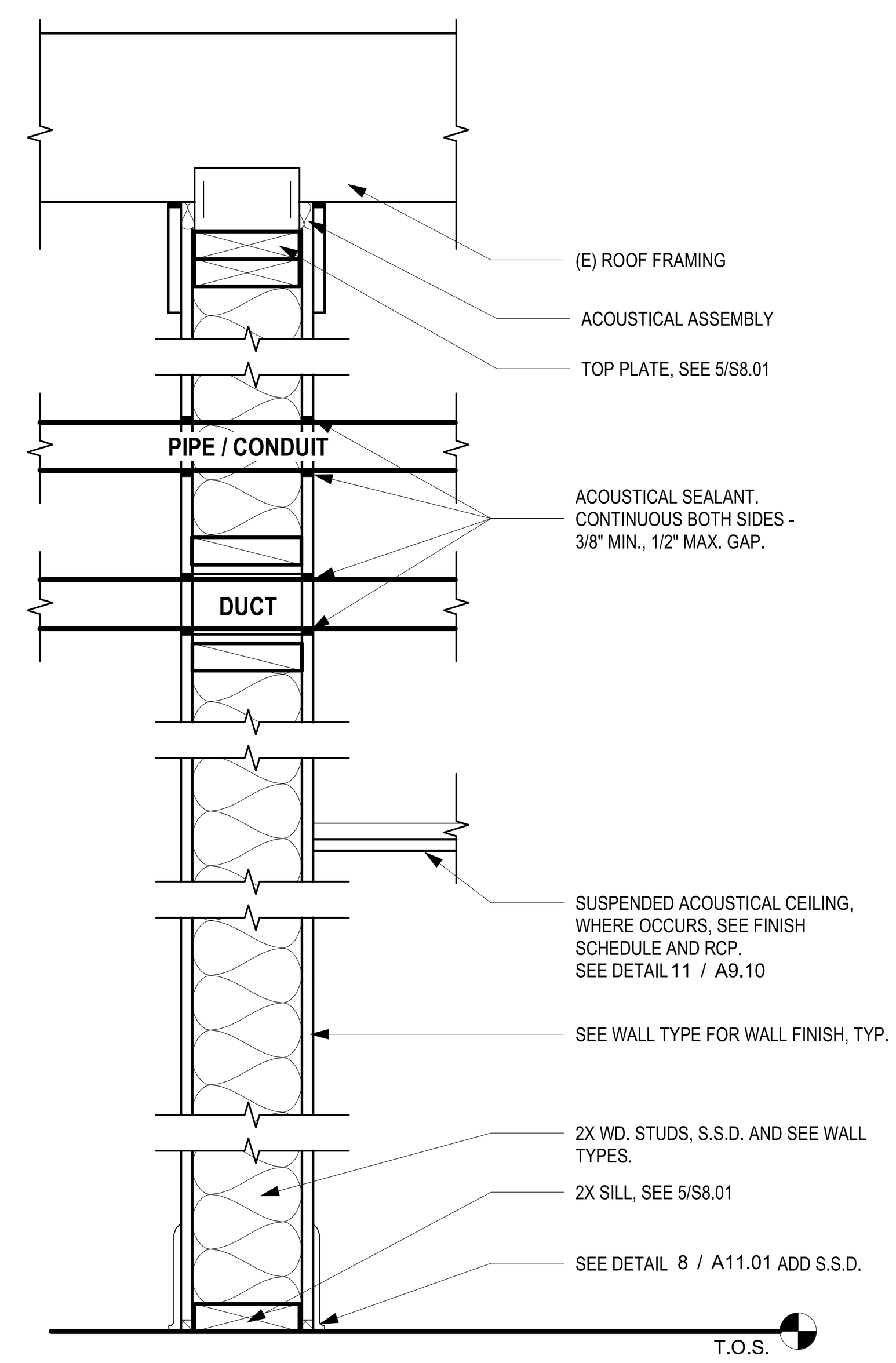
A8.11



13 HVAC ENCLOSURE ELEVATION - ROOM 36
SCALE: 1/4" = 1'-0"

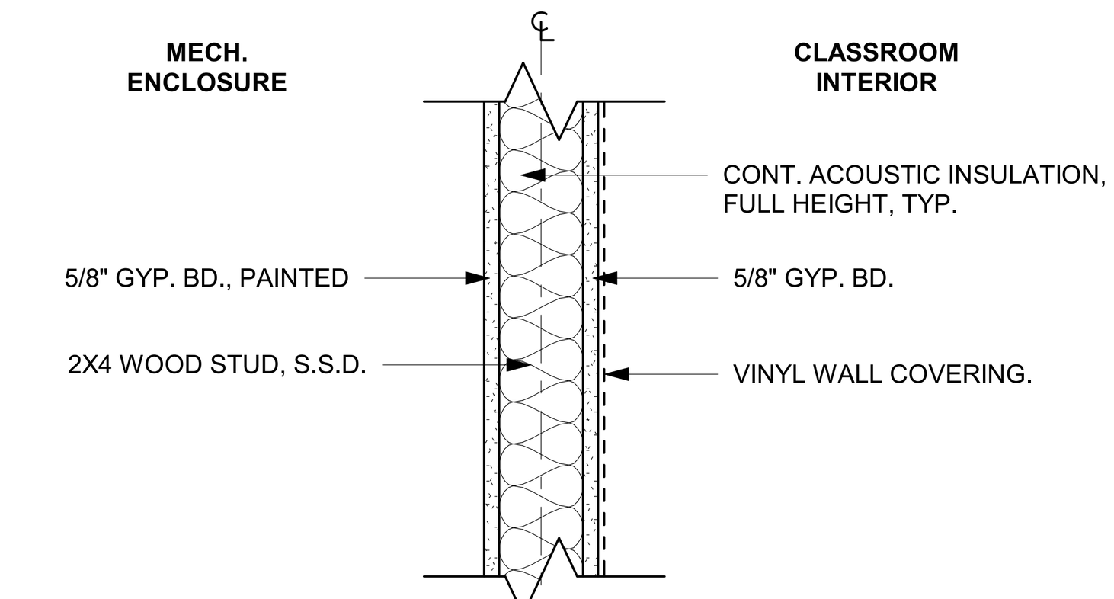


9 HVAC ENCLOSURE TYPICAL ELEVATION
SCALE: 1/4" = 1'-0"

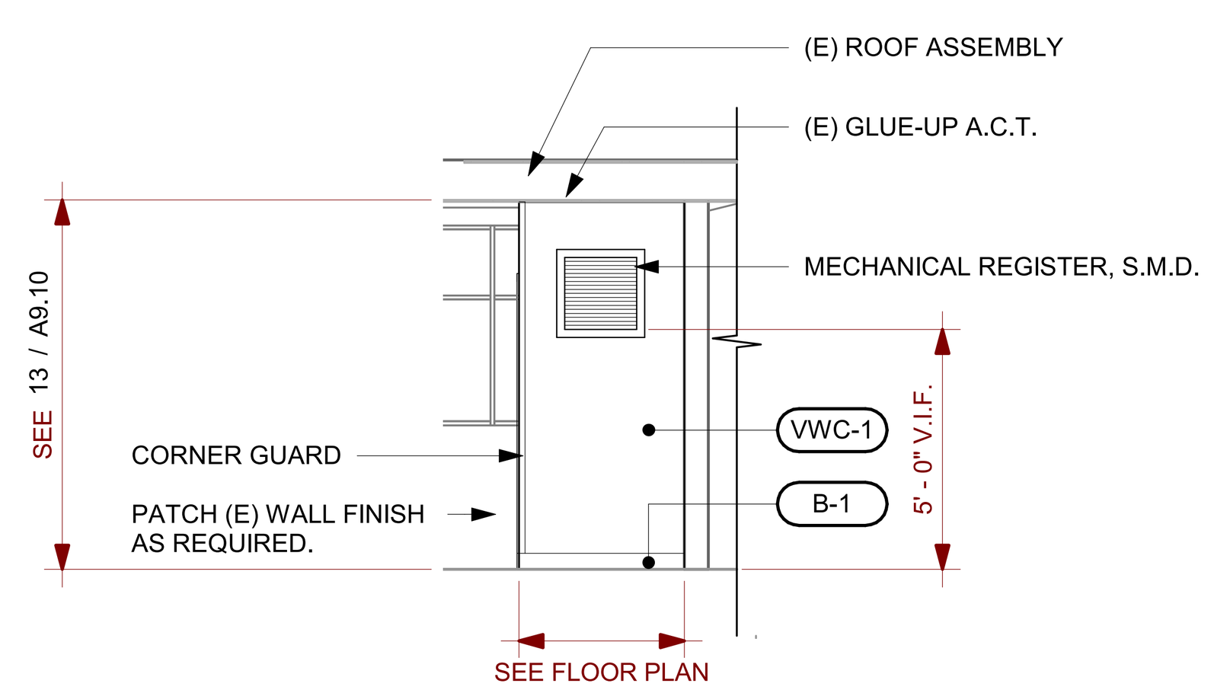


NOTES:
1. FOR RECESSED ACCESSORIES OR CABINETS, PROVIDE BLOCKING, GYPSUM BOARD AND ACOUSTICAL SEALANT SIMILAR TO DETAIL AT DUCT.

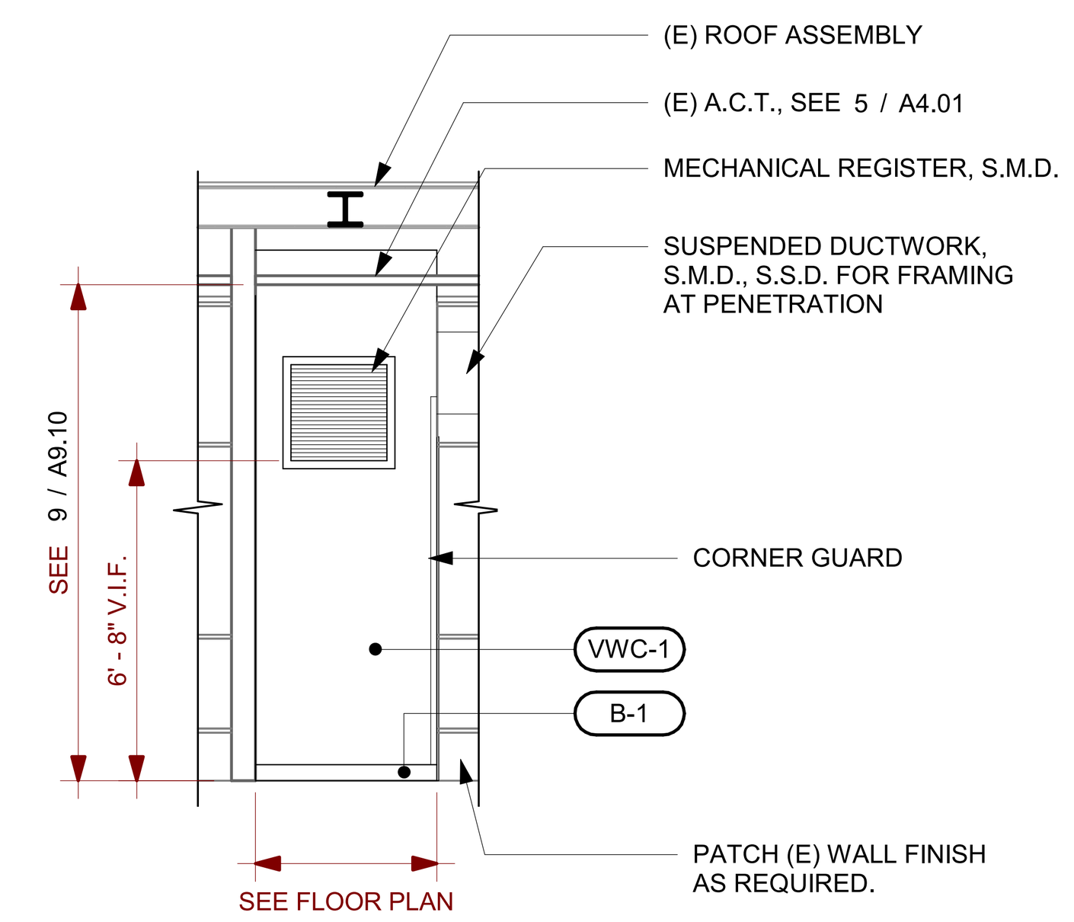
6 TYPICAL SOUND TREATED NONRATED WALL
SCALE: 1 1/2" = 1'-0"



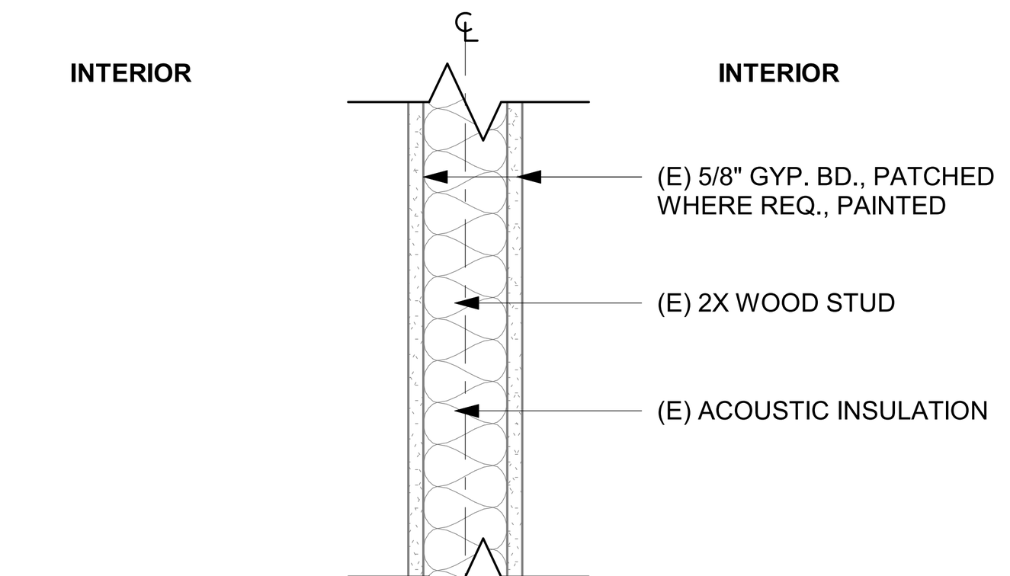
1 WALL TYPE - MECHANICAL ENCLOSURE
SCALE: 1 1/2" = 1'-0"



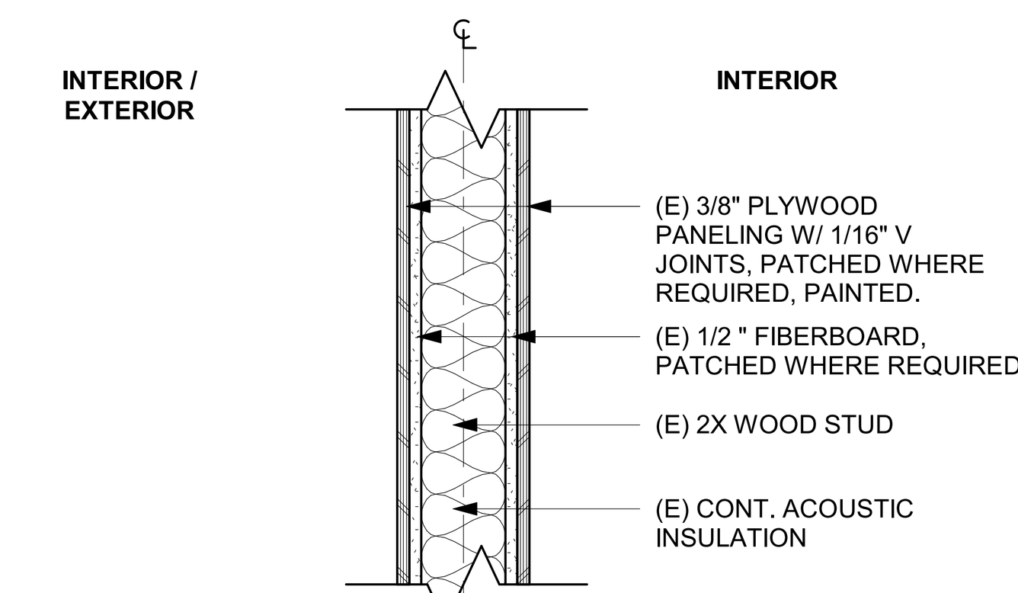
14 HVAC ENCLOSURE ELEVATION - ROOM 36
SCALE: 1/4" = 1'-0"



10 HVAC ENCLOSURE TYPICAL ELEVATION
SCALE: 1/4" = 1'-0"



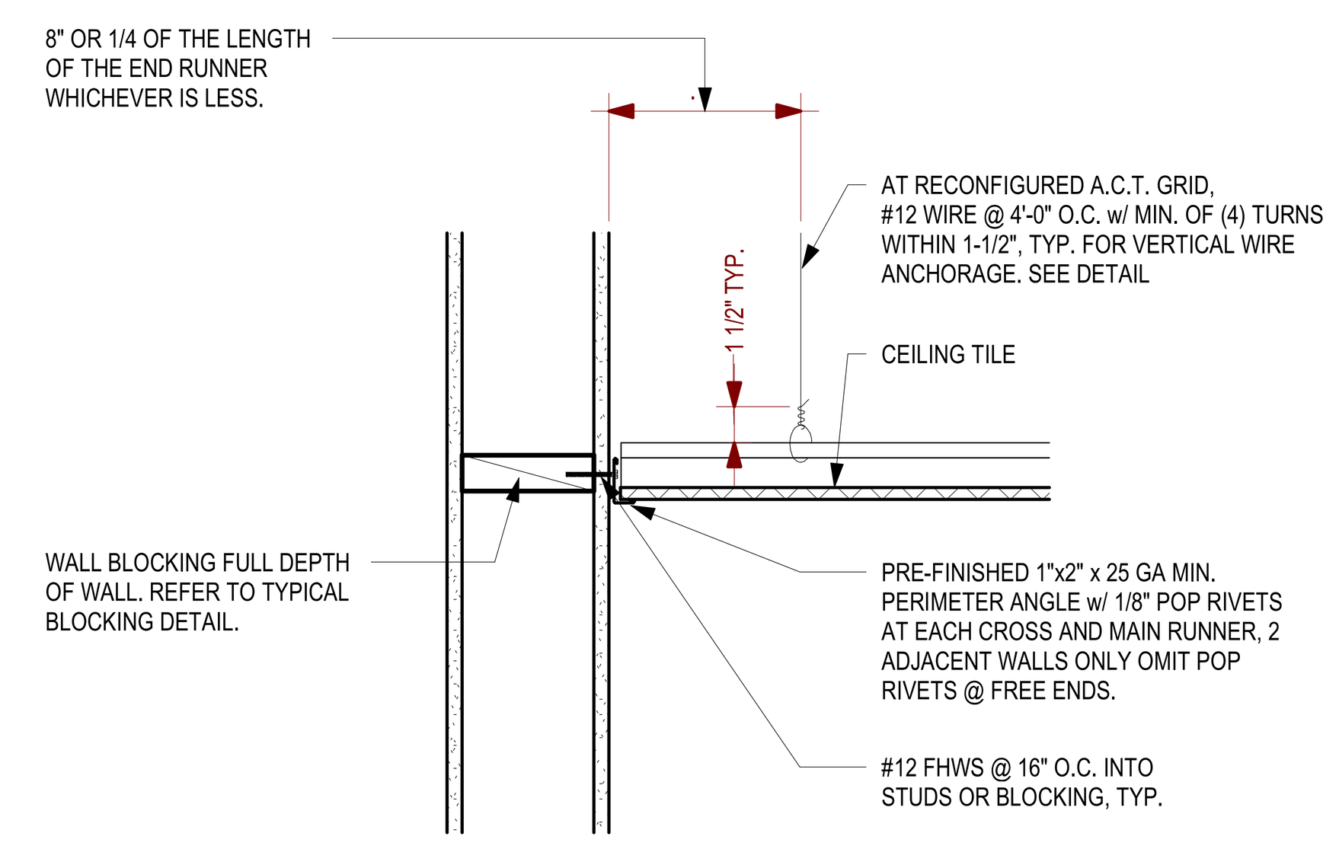
2 (E) WALL TYPE - GYP. BD.
SCALE: 1 1/2" = 1'-0"



ADDITIONAL WALL TYPES

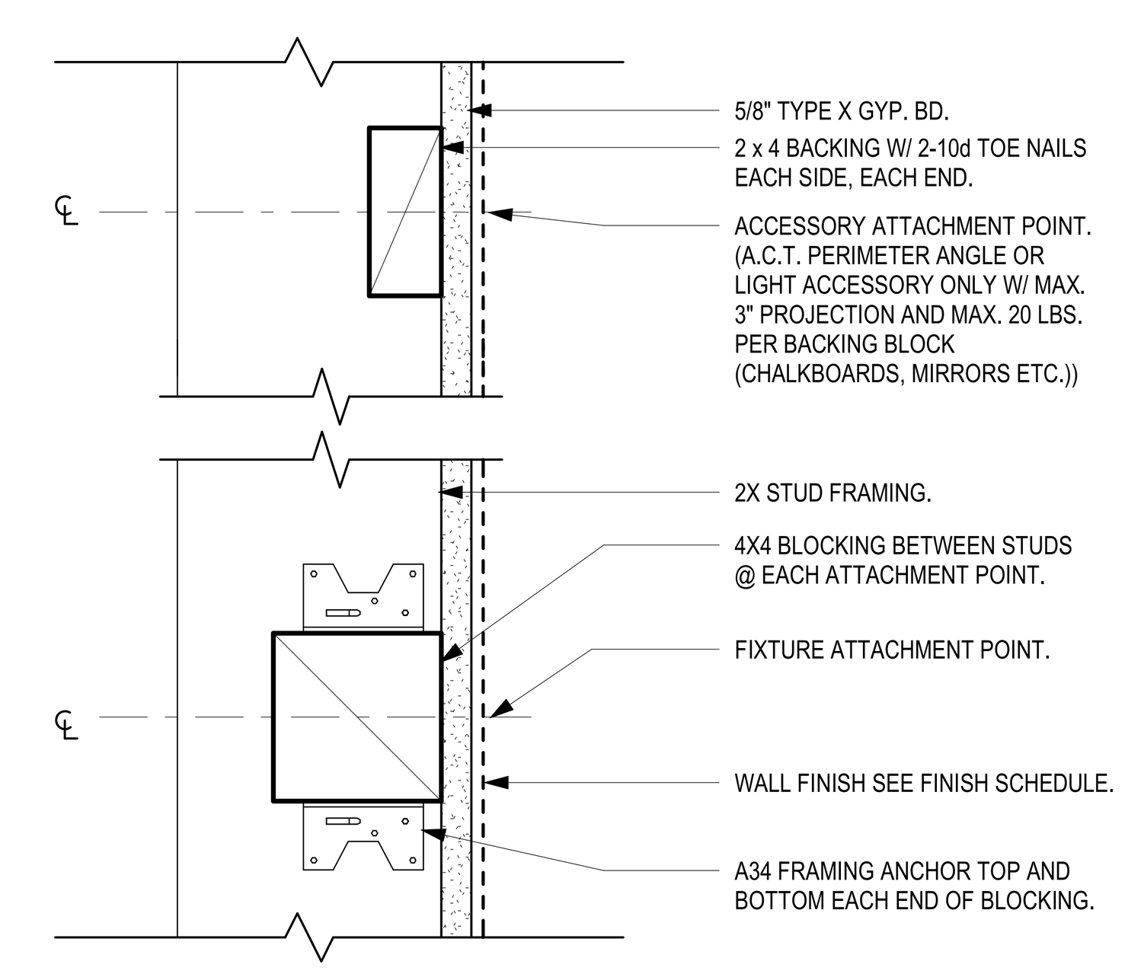
3A - REPLACE (E) 3/8" PLYWOOD PANELING AT EXTERIOR SIDE WITH (E) 7/8" EXTERIOR CEMENT PLASTER O/ SELF-FURRING METAL LATH O/ (2) LAYERS BUILDING PAPER

3 (E) WALL TYPE - PLYWOOD PANEL
SCALE: 1 1/2" = 1'-0"

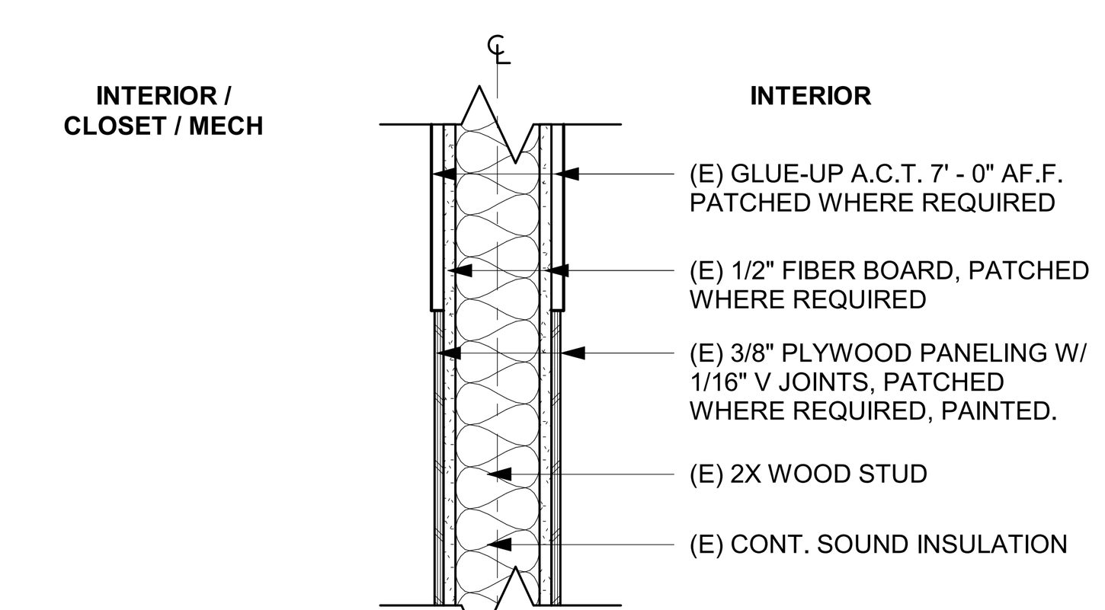


NOTE:
PERIMETER ANGLE TO BE MIN. 2" PER IR 25-2.13, OR, "SEISMIC RX CODE COMPLIANT SOLUTION" BERC 2 CLIP (ARMSTRONG SYSTEM ONLY).

11 SUSP. CEILING FIXED END CONNECTION
SCALE: 1 1/2" = 1'-0"



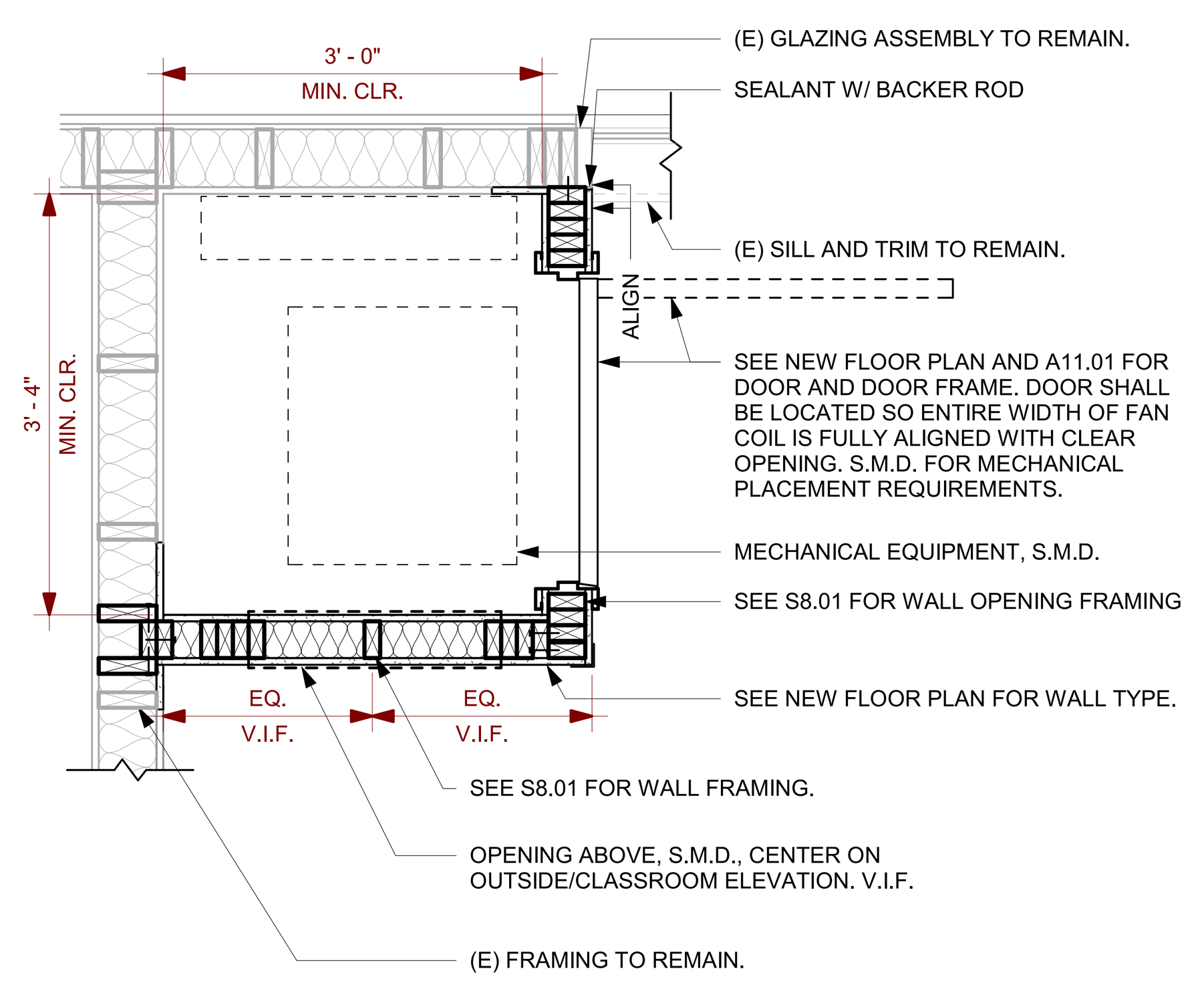
7 TYPICAL WOOD WALL BACKING/ BLOCKING
SCALE: 3" = 1'-0"



ADDITIONAL WALL TYPES

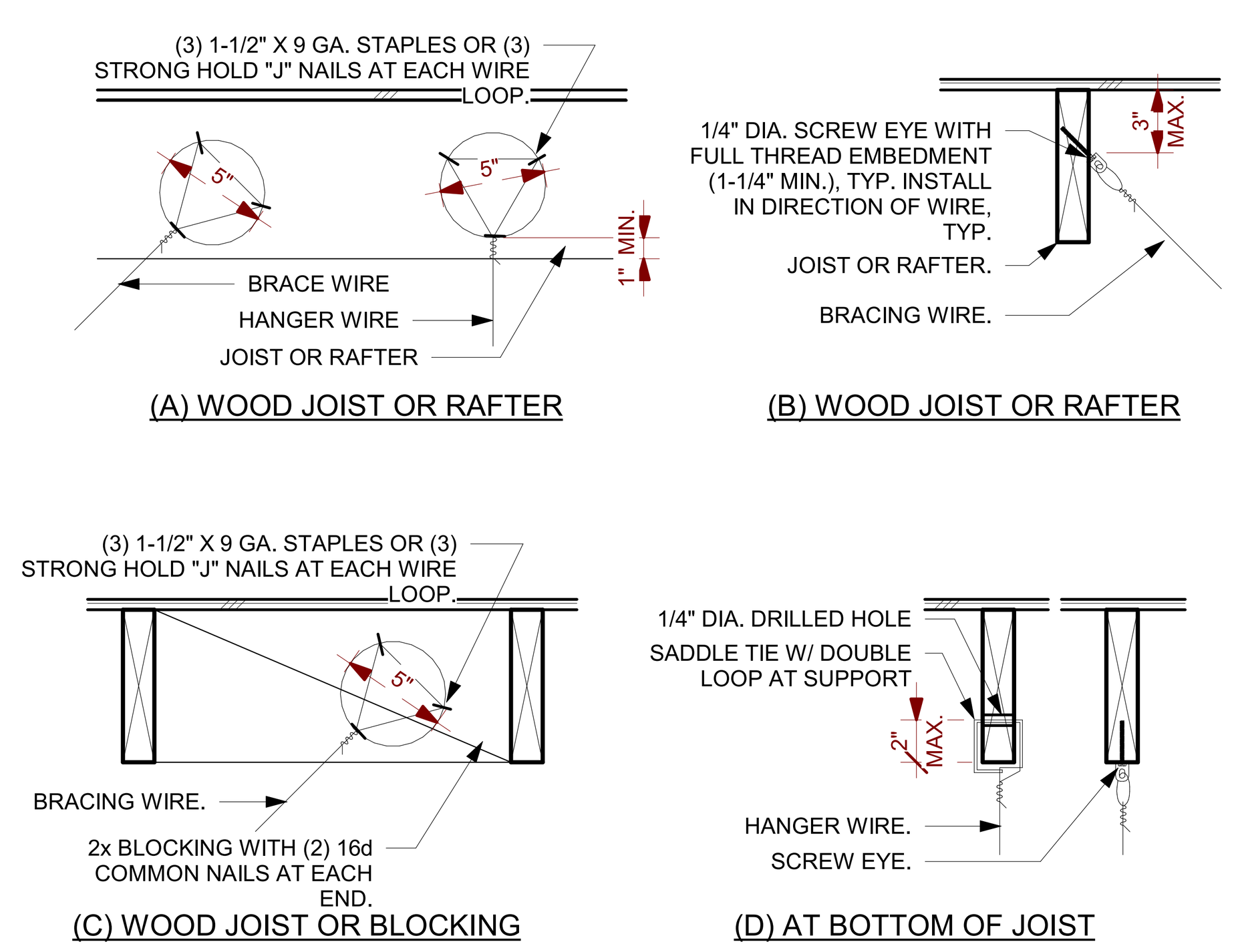
4A - REMOVE (E) GLUE-UP A.C.T. AT CLOSET
4B - REPLACE (E) GLUE-UP A.C.T., (E) 3/8" PLYWOOD PANELING, AND (E) 1/2" FIBER BOARD WITH (E) 5/8" GYP. BD. AT MECH

4 (E) WALL TYPE - GLUE-UP ACT
SCALE: 1 1/2" = 1'-0"



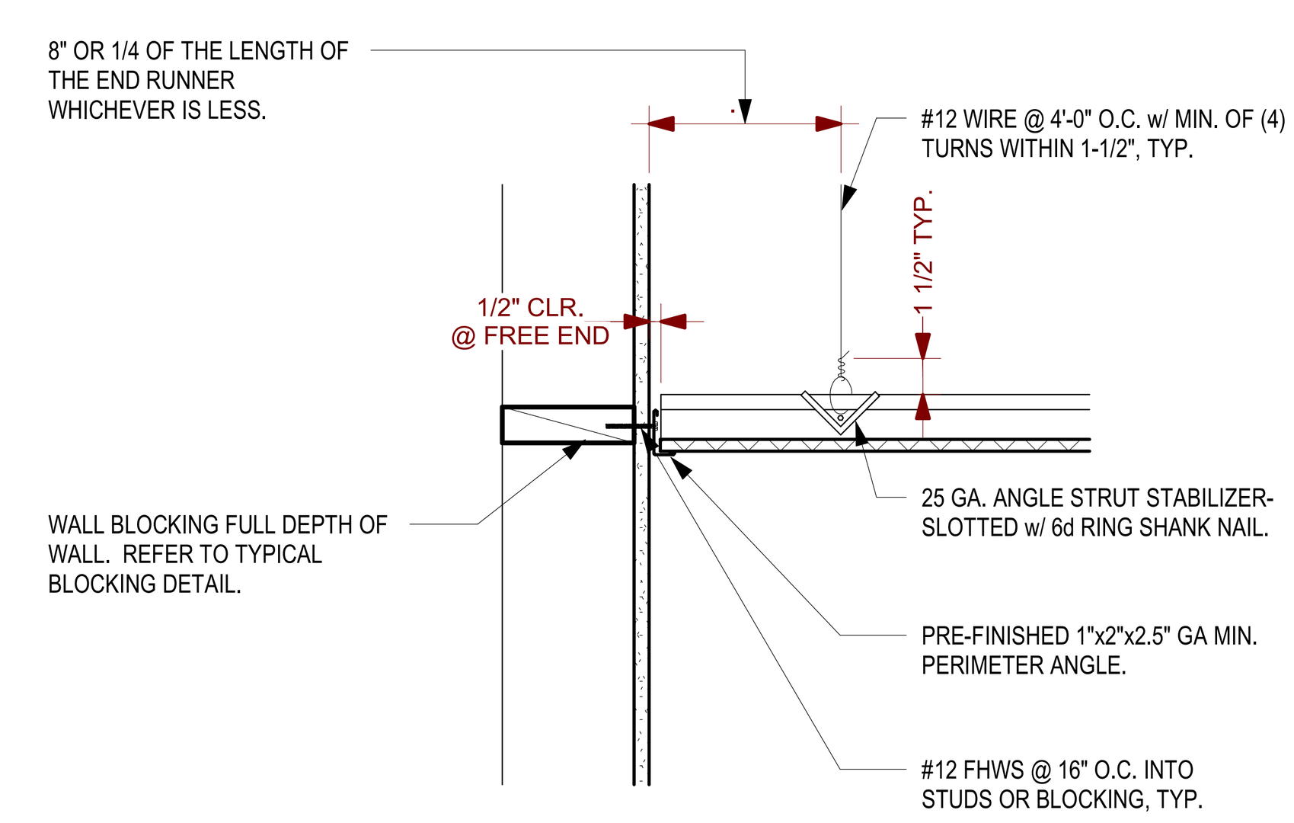
NOTE: NOT ALL MECHANICAL ELEMENTS SHOWN. S.M.D. FOR MORE INFORMATION.

16 MECH. ENCLOSURE CLEARANCES, TYP.
SCALE: 3/4" = 1'-0"



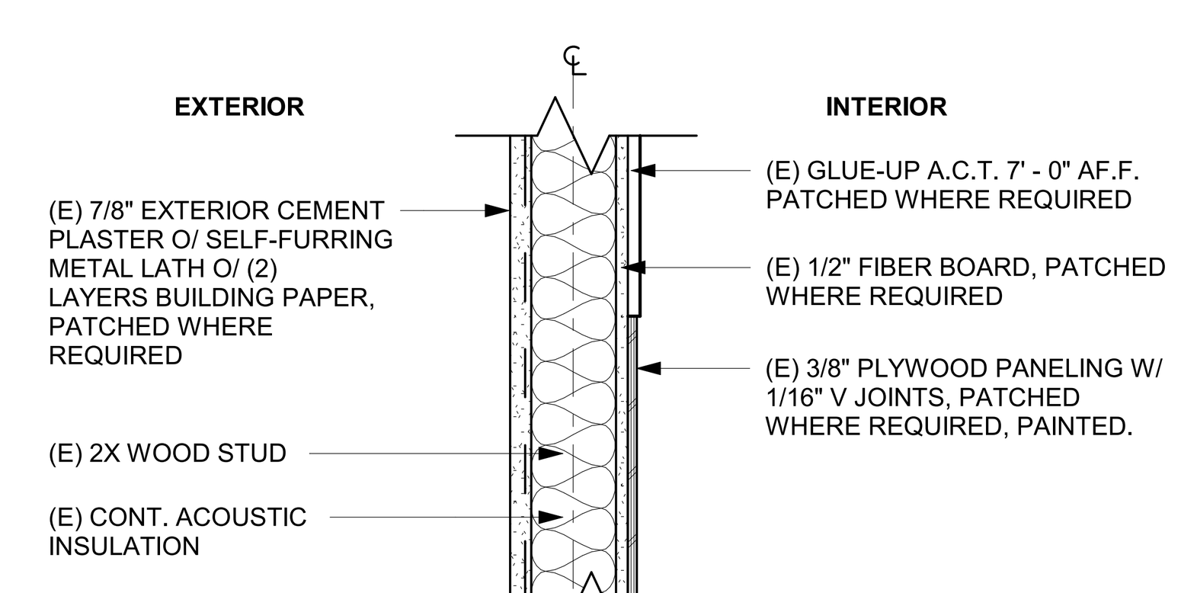
NOTE: HANGER WIRE AT WOOD FRAMING SHALL BE #12 GAGE WITH (3) TIGHT TURNS WITHIN 3",. AT BRACE WIRE PROVIDE (4) TIGHT TURNS AT 1 1/2"

12 WIRE ATTACHMENT AT WOOD FRAMING
SCALE: 1 1/2" = 1'-0"



NOTE:
PERIMETER ANGLE TO BE MIN. 2" PER IR 25-2.13, OR, "SEISMIC RX CODE COMPLIANT SOLUTION" BERC 2 CLIP (ARMSTRONG SYSTEM ONLY).

8 SUSP. CEILING FREE END CONNECTION
SCALE: 1 1/2" = 1'-0"



ADDITIONAL WALL TYPES

5A - REPLACE (E) GLUE-UP A.C.T., (E) 3/8" PLYWOOD PANELING, AND (E) 1/2" FIBER BOARD WITH (E) 5/8" GYP. BD. AT INTERIOR.

5 WALL TYPE - CEMENT PLASTER / GLUE-UP ACT
SCALE: 1 1/2" = 1'-0"

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119523 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 10/26/2021

aedis architects
www.aedisarchitects.com
387 S. 1st Street, Suite 300
San Jose, CA 95113
tel: (408)-300-5160
fax: (408)-300-5121

PROJECT
GEORGE HALL ELEMENTARY SCHOOL - HVAC REPLACEMENT

SAN MATEO-FOSTER CITY SCHOOL DISTRICT

CONSULTANT

STAMP

STATE
DSA FILE NUMBER 41-26
APPL # 01-119523

REVISIONS

No.	Description	Date

MILESTONES

DD	
90% CD	
DSA SUB	05/21/2021
BACKCHECK	10/04/2021

SHEET
INTERIOR DETAILS, WALL TYPES, AND INTERIOR ELEVATIONS

DATE 10/04/2021
JOB # 2021005.02
SHEET # A9.10

10/4/2021 1:23:20 PM
C:\Users\agaudia\Documents\2021005.02_George Hall ES - HVAC Replacement_Central(2019 version)_agaudia3Y7S9.rvt

FURNITURE SCHEDULE					
CABINET	WOODWORK INSTITUTE CASEWORK DESIGN SERIES #	WIDTH	HEIGHT	DEPTH	COMMENTS
C-1	100	7' - 4"	2' - 6"	1' - 0"	

GENERAL FURNITURE SCHEDULE NOTES

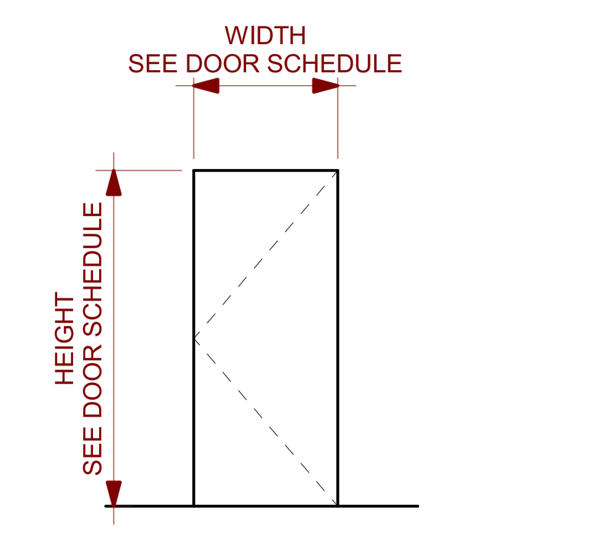
1 ALL SHELVING IS TO BE ADJUSTABLE UNLESS OTHERWISE NOTED

2 VERIFY SIZING IN FIELD PER EXISTING CASEWORK SIZE AND NEW MECHANICAL ENCLOSURE SIZE.

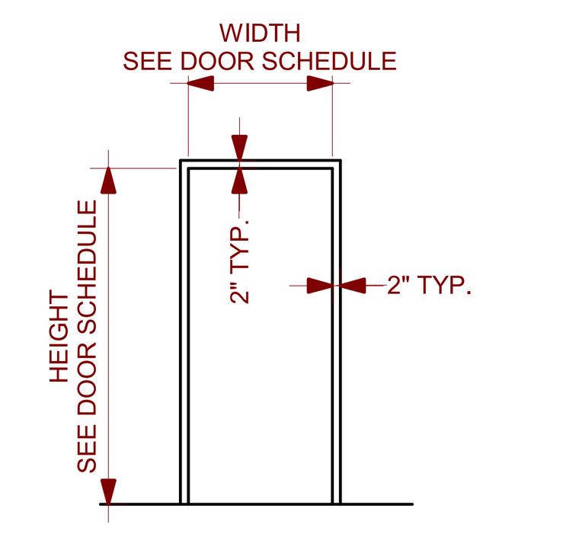
3 ALL FIXTURES ARE TO BE NONFIXED FURNITURE CABINET NOT MORE THAN 5'-9" IN HEIGHT PER CBC 105.2.

DOOR SCHEDULE

	OPENING SIZE		DOOR		FRAME		DETAILS				HARDWARE
DOOR ID	WIDTH	HEIGHT	TYPE	FINISH	TYPE	FINISH	HEAD	JAMB-1	JAMB-2	SILL	GROUP
1a	2' - 6"	7' - 0"	A	P-2	F1	P-3	11/A11.01	11/A11.01	11/A11.01	3/A11.01	01
2a	2' - 6"	7' - 0"	A	P-2	F1	P-3	11/A11.01	11/A11.01	11/A11.01	3/A11.01	01
3a	2' - 6"	7' - 0"	A	P-2	F1	P-3	11/A11.01	11/A11.01	11/A11.01	3/A11.01	01
4a	2' - 6"	7' - 0"	A	P-2	F1	P-3	11/A11.01	11/A11.01	11/A11.01	3/A11.01	01
5a	2' - 6"	7' - 0"	A	P-2	F1	P-3	11/A11.01	11/A11.01	11/A11.01	3/A11.01	01
6a	2' - 6"	7' - 0"	A	P-2	F1	P-3	11/A11.01	11/A11.01	11/A11.01	3/A11.01	01
7a	2' - 6"	7' - 0"	A	P-2	F1	P-3	11/A11.01	11/A11.01	11/A11.01	3/A11.01	01
8a	2' - 6"	7' - 0"	A	P-2	F1	P-3	11/A11.01	11/A11.01	11/A11.01	3/A11.01	01
9a	2' - 6"	7' - 0"	A	P-2	F1	P-3	11/A11.01	11/A11.01	11/A11.01	3/A11.01	01
10a	2' - 6"	7' - 0"	A	P-2	F1	P-3	11/A11.01	11/A11.01	11/A11.01	3/A11.01	01
11a	2' - 6"	7' - 0"	A	P-2	F1	P-3	11/A11.01	11/A11.01	11/A11.01	3/A11.01	01
12a	2' - 6"	7' - 0"	A	P-2	F1	P-3	11/A11.01	11/A11.01	11/A11.01	3/A11.01	01
13a	2' - 6"	7' - 0"	A	P-2	F1	P-3	11/A11.01	11/A11.01	11/A11.01	3/A11.01	01
14a	2' - 6"	7' - 0"	A	P-2	F1	P-3	11/A11.01	11/A11.01	11/A11.01	3/A11.01	01
15a	2' - 6"	7' - 0"	A	P-2	F1	P-3	11/A11.01	11/A11.01	11/A11.01	3/A11.01	01
16a	2' - 6"	7' - 0"	A	P-2	F1	P-3	11/A11.01	11/A11.01	11/A11.01	3/A11.01	01
17a	2' - 6"	7' - 0"	A	P-2	F1	P-3	11/A11.01	11/A11.01	11/A11.01	3/A11.01	01
18a	2' - 6"	7' - 0"	A	P-2	F1	P-3	11/A11.01	11/A11.01	11/A11.01	3/A11.01	01
19a	2' - 6"	7' - 0"	A	P-2	F1	P-3	11/A11.01	11/A11.01	11/A11.01	3/A11.01	01
20a	2' - 6"	7' - 0"	A	P-2	F1	P-3	11/A11.01	11/A11.01	11/A11.01	3/A11.01	01
32a	2' - 6"	7' - 0"	A	P-2	F1	P-3	11/A11.01	11/A11.01	11/A11.01	3/A11.01	01
33a	2' - 6"	7' - 0"	A	P-2	F1	P-3	11/A11.01	11/A11.01	11/A11.01	3/A11.01	01
34a	2' - 6"	7' - 0"	A	P-2	F1	P-3	11/A11.01	11/A11.01	11/A11.01	3/A11.01	01
35a	2' - 6"	7' - 0"	A	P-2	F1	P-3	11/A11.01	11/A11.01	11/A11.01	3/A11.01	01
36a	2' - 6"	6' - 0"	A	P-2	F1	P-3	11/A11.01	11/A11.01	11/A11.01	3/A11.01	01



A WOOD
RATED - 0 MIN



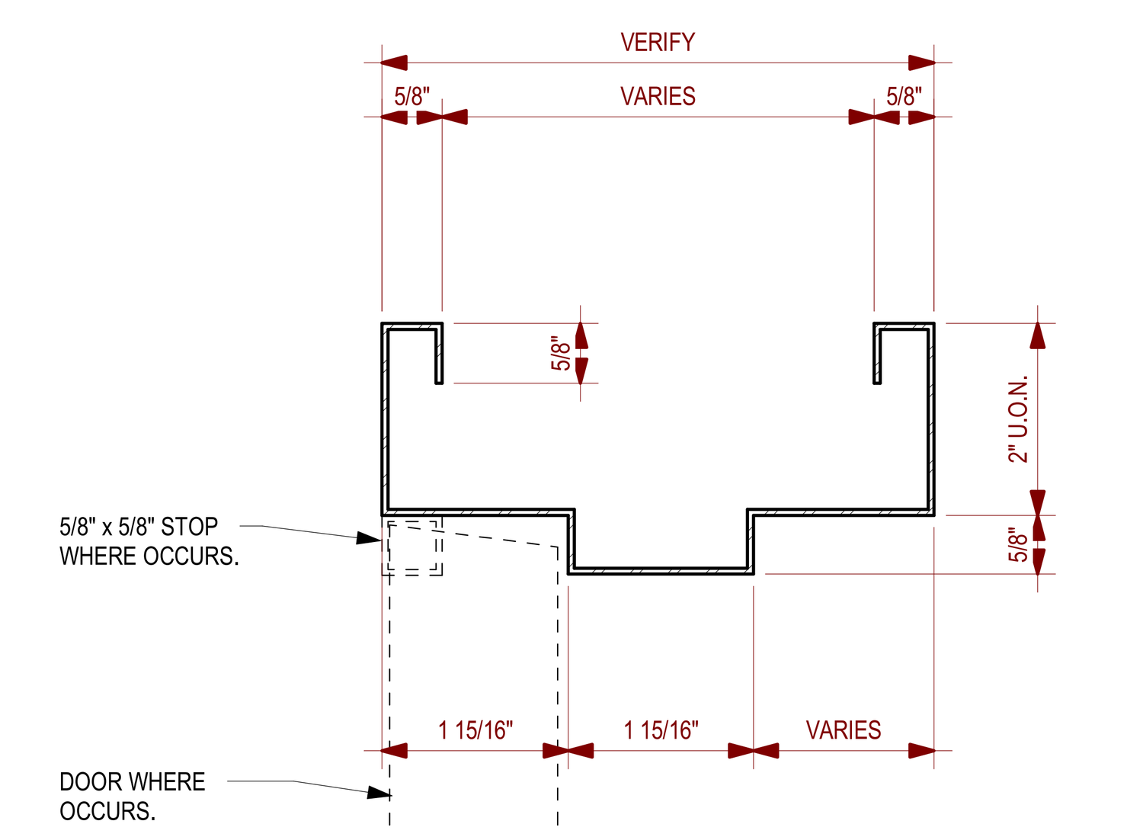
F1 METAL

DOOR TYPES
SCALE: 1/4" = 1'-0"

FRAME TYPES
SCALE: 1/4" = 1'-0"

GENERAL DOOR SCHEDULE NOTES

1 CONTRACTOR SHALL COORDINATE, PRIOR FABRICATION, DOOR FRAME DEPTH TO ACCEPT ALL WALL FINISHES AS DETAILED IN THE DRAWINGS.



10 **TYPICAL STEEL FRAME DOOR PROFILE**
SCALE: 6" = 1'-0"

FINISH LEGEND

MARK	DESCRIPTION	MFR. / BRAND	COLOR / FINISH	COMMENTS
(E) CPT-1	(E) CARPET (SHEET)			
(E) SF-1	(E) WOOD SOFFIT			
(E) VCT-1	VINYL COMPOSITION TILE			
(E) VCT-2	VINYL COMPOSITION TILE			
(E) VSF-1	VINYL SHEET FLOORING			
ACT-1	2'-0" X 4'-0" ACOUSTICAL CEILING TILES	SEE SPEC.		SEE 11/A9.10
ACT-2	12" X 12" GLUE-UP ACOUSTICAL CEILING TILES	SEE SPEC.		
B-1	4" RUBBER TOP SET BASE	SEE SPEC.		SEE 8/A11.01
GB-1	GYPSUM BOARD	SEE SPEC.		
P-1	PAINT			
P-2	PAINT			
P-3	PAINT			
PLY-1	PLYWOOD	SEE SPEC.		
VWC-1	VINYL WALL COVERING	SEE SPEC.		

FINISH SCHEDULE						
ROOM		FLOOR				
NUMBER	NAME	FLOOR FINISH	BASE FINISH	WALL FINISH	CEILING FINISH	COMMENTS
1	KINDERGARTEN	(E) VCT-1	B-1	VWC-1, GB-1	ACT-1. (E) SF-1	
1A	TOILET RM.	(E) VCT-1	B-1	VWC-1, GB-1	ACT-2, (E) SF-1	
2	KINDERGARTEN	(E) VSF-1	B-1	VWC-1, GB-1	ACT-1. (E) SF-1	
2A	TOILET RM.	(E) VSF-1	B-1	VWC-1, GB-1	ACT-2, (E) SF-1	
2B	TOILET RM.	(E) VSF-1	B-1	VWC-1, GB-1	ACT-2, (E) SF-1	
2C	FOOD SERVICE	(E) VCT-1	B-1	VWC-1, GB-1, PLY-1	ACT-2, (E) SF-1	
2D	ELEC. ROOM	(E) VCT-1	B-1	VWC-1, GB-1, PLY-1	ACT-2	
2E	STAFF LOUNGE	(E) VCT-1	B-1	VWC-1, GB-1, PLY-1	ACT-2, (E) SF-1	
3	CLASSROOM	(E) CPT-1	B-1	VWC-1, GB-1	ACT-1. (E) SF-1	
3B	ELECTRICAL					
4	CLASSROOM	(E) CPT-1	B-1	VWC-1, GB-1	ACT-1. (E) SF-1	
5	STAFF	(E) VCT-2	B-1	VWC-1, GB-1	ACT-1. (E) SF-1	
6	CLASSROOM	(E) CPT-1	B-1	VWC-1, GB-1	ACT-1. (E) SF-1	
7	CLASSROOM	(E) CPT-1	B-1	VWC-1, GB-1	ACT-1. (E) SF-1	
8	CLASSROOM	(E) VCT-2	B-1	VWC-1, GB-1	ACT-1. (E) SF-1	
9	CLASSROOM	(E) VCT-2	B-1	VWC-1, GB-1	ACT-1. (E) SF-1	
9B	ELECTRICAL					
10	CLASSROOM	(E) CPT-1	B-1	VWC-1, GB-1	ACT-1. (E) SF-1	
11	CLASSROOM	(E) CPT-1	B-1	VWC-1, GB-1	ACT-1. (E) SF-1	
12	CLASSROOM	(E) VCT-2	B-1	VWC-1, GB-1	ACT-1. (E) SF-1	
13	CLASSROOM	(E) CPT-1	B-1	VWC-1, GB-1	ACT-1. (E) SF-1	
14	CLASSROOM	(E) CPT-1	B-1	VWC-1, GB-1	ACT-1. (E) SF-1	
15	CLASSROOM	(E) CPT-1	B-1	VWC-1, GB-1	ACT-1. (E) SF-1	
15B	ELECTRICAL					
16	CLASSROOM	(E) CPT-1	B-1	VWC-1, GB-1	ACT-1. (E) SF-1	
17	CLASSROOM	(E) CPT-1	B-1	VWC-1, GB-1	ACT-1. (E) SF-1	
18	CLASSROOM	(E) CPT-1	B-1	VWC-1, GB-1	ACT-1. (E) SF-1	
19	CLASSROOM	(E) CPT-1	B-1	VWC-1, GB-1	ACT-1. (E) SF-1	
20	CLASSROOM	(E) CPT-1	B-1	VWC-1, GB-1	ACT-1. (E) SF-1	
31A	STOR.					
31B	MECH.					
32	CLASSROOM	(E) CPT-1	B-1	VWC-1, GB-1,ACT-3	ACT-1. (E) SF-1	
33	CLASSROOM	(E) CPT-1	B-1	VWC-1, GB-1,ACT-3	ACT-1. (E) SF-1	
34	CLASSROOM	(E) VCT-2	B-1	VWC-1, GB-1,ACT-3	ACT-1	
34A	CLOSET	(E) VCT-2	B-1	VWC-1, GB-1	CP-1	
35	CLASSROOM	(E) VCT-2	B-1	VWC-1, GB-1,ACT-3	ACT-1	
36	CLASSROOM	(E) CPT-1, (E) VCT-1	B-1	VWC-1, GB-1	ACT-1	

GENERAL FINISH SCHEDULE NOTES

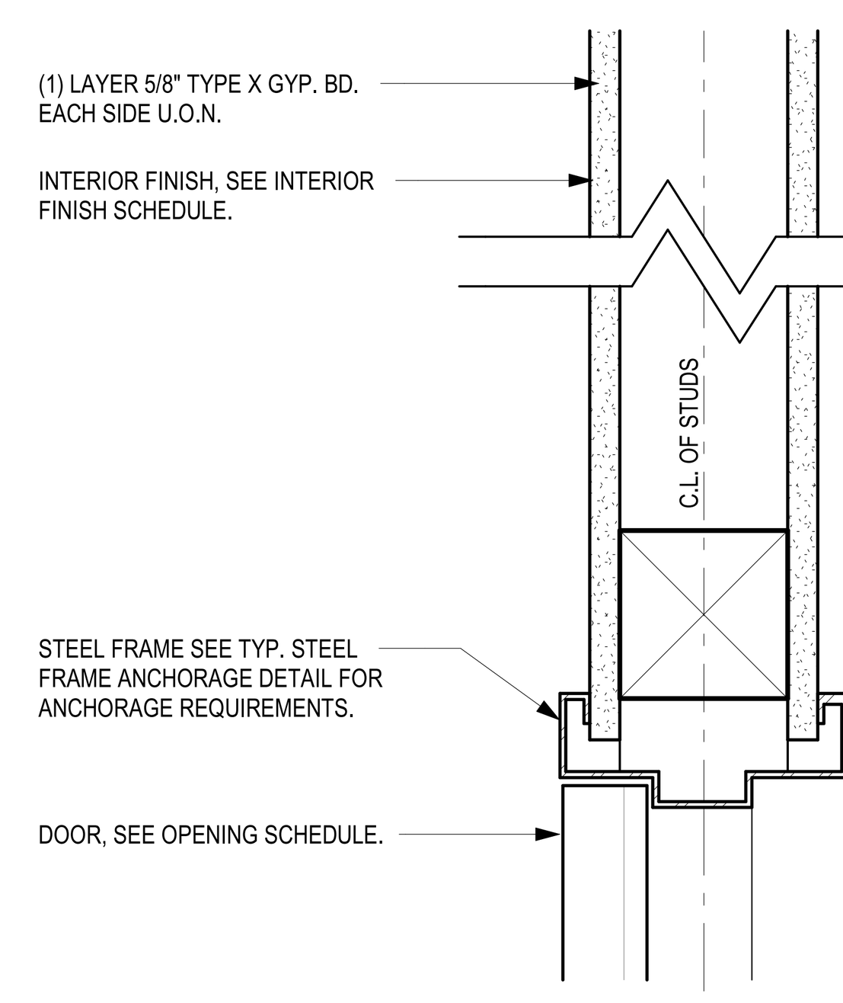
A WHERE MULTIPLE FINISHES ARE CALLED OUT, REFER TO INTERIOR ELEVATIONS FOR LOCATIONS OF INDIVIDUAL FINISHES.

B PROVIDE FINISHES TO COMPLY WITH FLAME SPREAD & SMOKE DENSITY REQUIREMENTS OF CBC 803 and 804.

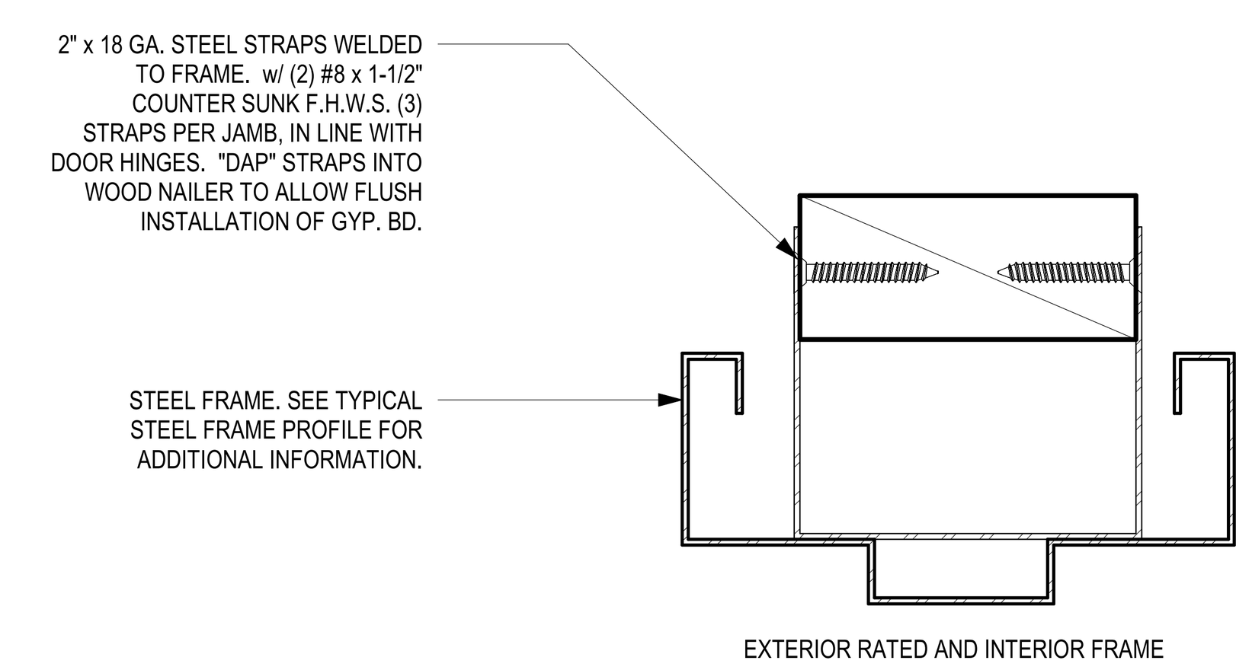
C PATCH FINISHES TO MATCH ADJACENT AT ALL SURFACES REMOVED TO FACILITATE CONSTRUCTION.

D EXISTING FINISHES THAT MIGHT OCCUR OUTSIDE OF THE AREA OF WORK HAVE BEEN OMITTED.

E (E) FLOORING INDICATED FOR REFERENCE ONLY

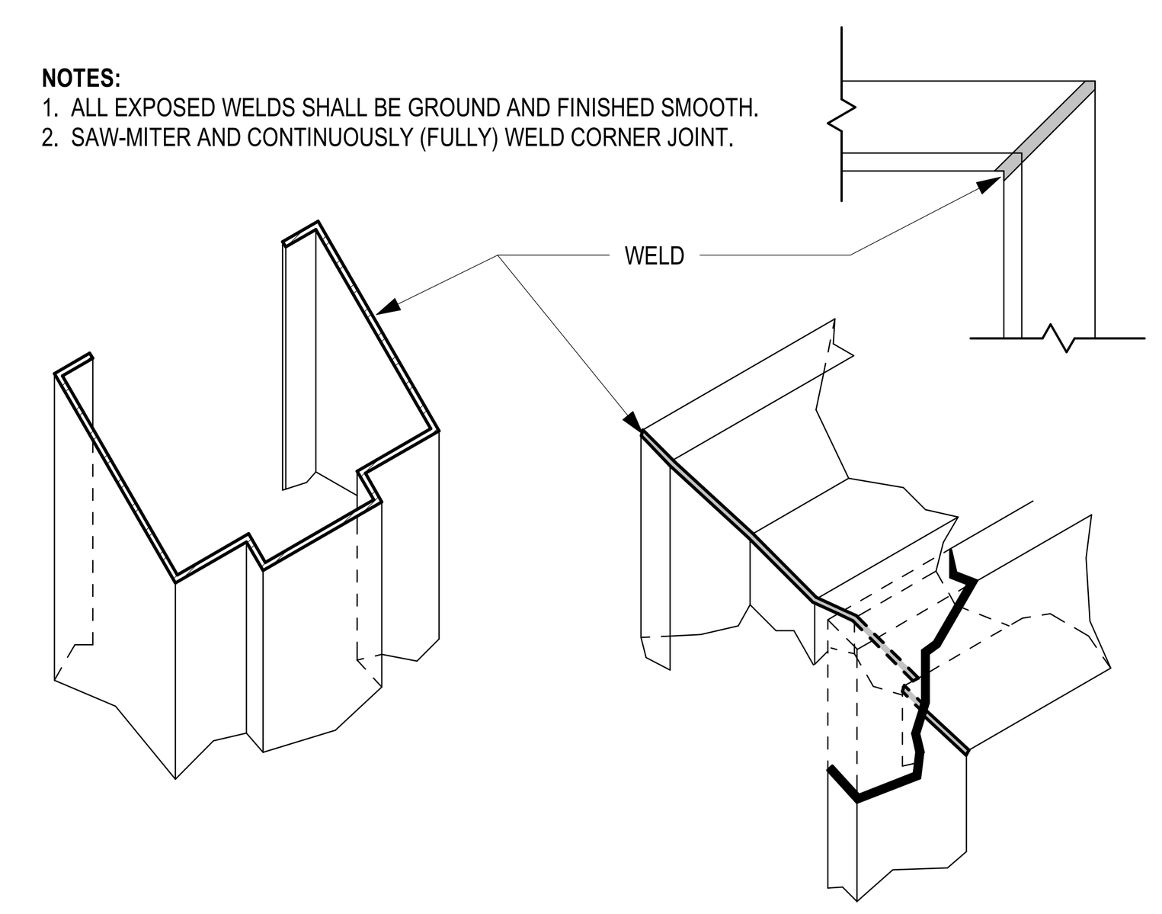


11 **INTERIOR STEEL FRAME HEAD AND JAMB**
SCALE: 3" = 1'-0"

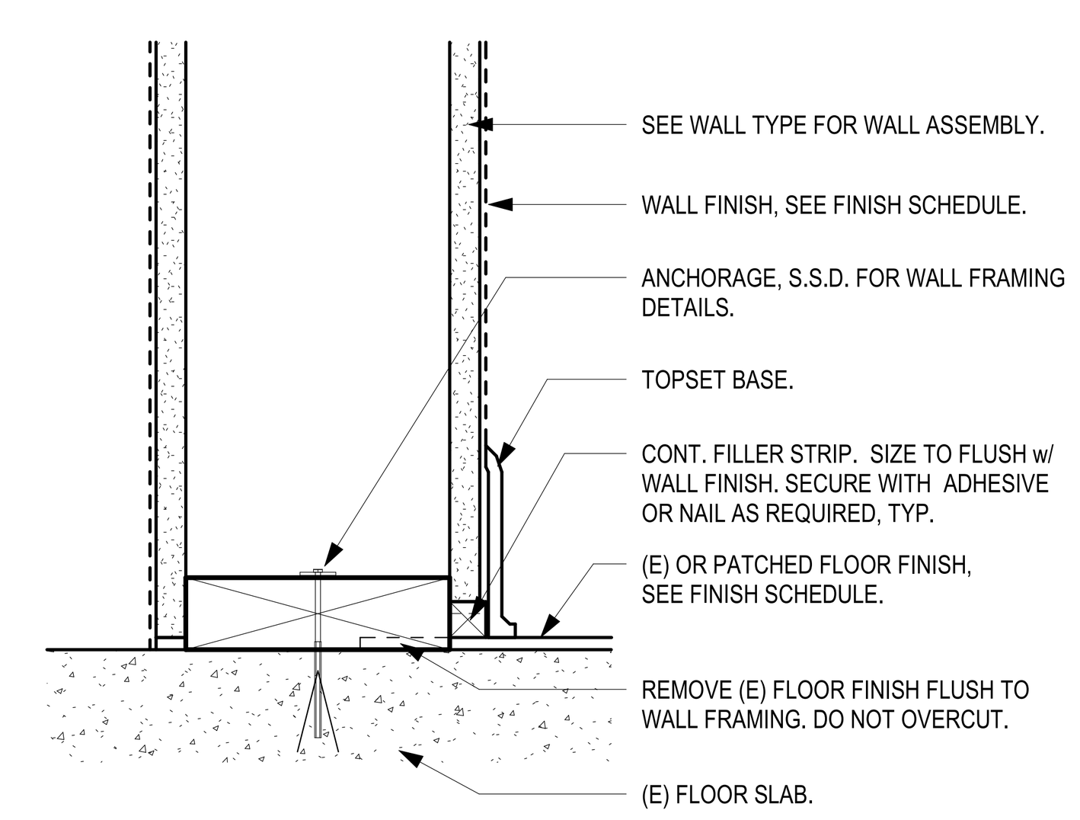


7 **TYPICAL STEEL FRAME ANCHORAGE**
SCALE: 6" = 1'-0"

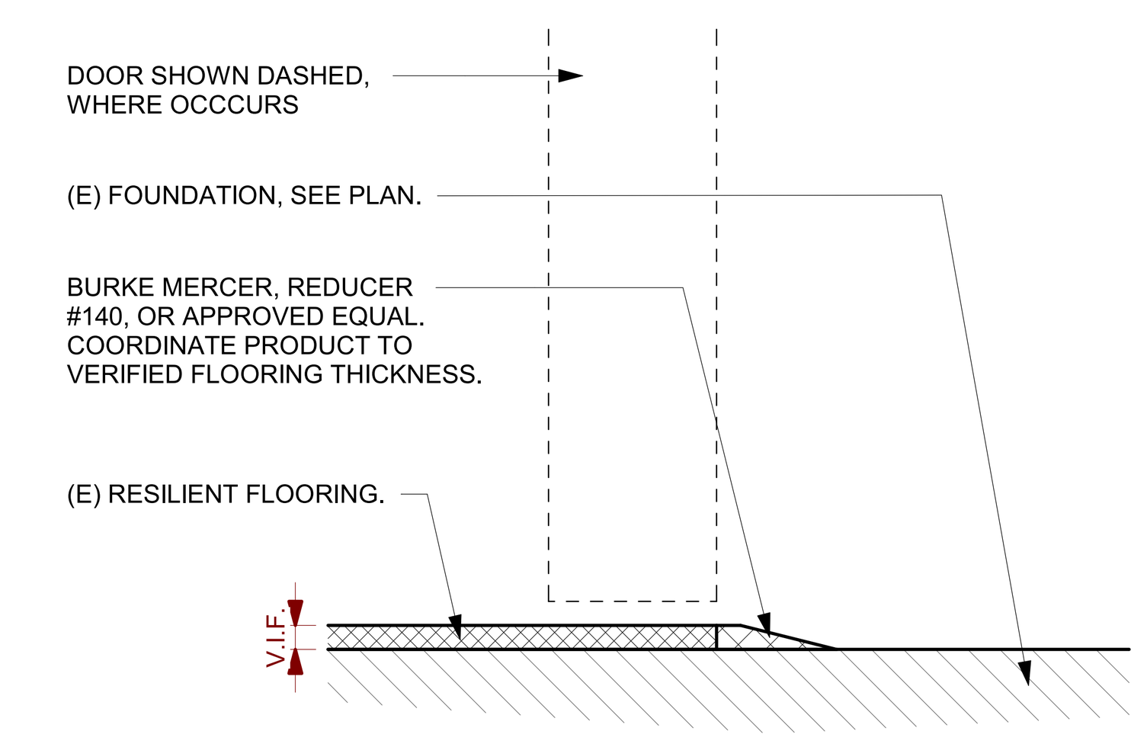
NOTES:
1. ALL EXPOSED WELDS SHALL BE GROUND AND FINISHED SMOOTH.
2. SAW-MITER AND CONTINUOUSLY (FULLY) WELD CORNER JOINT.



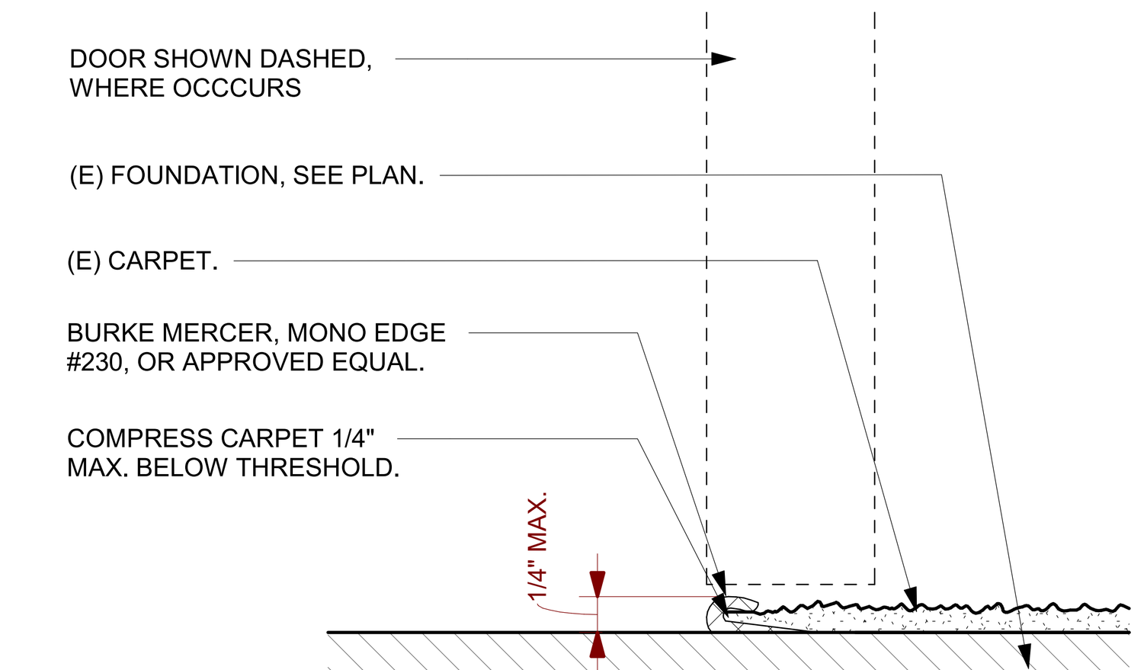
12 **TYP. WELDING @ STEEL FRAME CORNER**
SCALE: 1 : 1



8 **INTERIOR WALL BASE**
SCALE: 3" = 1'-0"



A RESILIENT FLOORING TRANSITION



B CARPET TRANSITION

3 **FLOORING TRANSITION**
SCALE: 6" = 1'-0"

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119523 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 10/26/2021

aedis architects
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387 S. 1st Street, Suite 300
San Jose, CA 95113
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PROJECT
GEORGE HALL ELEMENTARY SCHOOL - HVAC REPLACEMENT

SAN MATEO-FOSTER CITY SCHOOL DISTRICT

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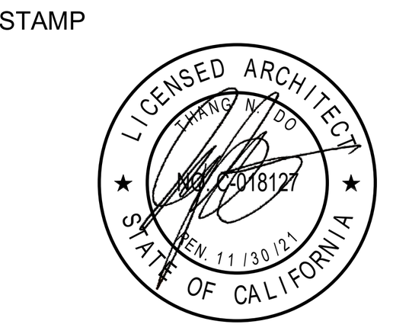
STAMP



STATE
DSA FILE NUMBER 41-26
APPL # 01-119523

REVISIONS

No.	Description	Date
△		

MILESTONES

DD	
90% CD	
DSA SUB	05/21/2021
BACKCHECK	10/04/2021

SHEET
FINISH SCHEDULE & FURNITURE SCHEDULE, & OPENING SCHEDULE, LEGENDS, & DETAILS

DATE 10/04/2021
JOB # 2021005.02
SHEET # A11.01

I. GENERAL REQUIREMENTS

A. THE STRUCTURAL DRAWINGS AND PROJECT SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THE MEANS, METHODS, PROCEDURES AND SEQUENCE OF CONSTRUCTION ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO MAINTAIN AND ENSURE THE INTEGRITY OF THE STRUCTURE AT ALL STAGES OF CONSTRUCTION.

B. DURING THE CONSTRUCTION PERIOD, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF PERSONNEL AND PROPERTY ON AND AROUND THE JOBSITE. THE CONTRACTOR SHALL PROVIDE SHORING, BRACING, GUYS, ETC. IN ACCORDANCE WITH ALL LOCAL, STATE, AND NATIONAL STANDARDS.

C. ALL CONSTRUCTION, TESTING, AND INSPECTIONS SHALL CONFORM TO THE BUILDING CODE REFERENCED UNDER THE HEADING "BASIS OF DESIGN" BELOW.

D. STANDARDS REFERENCED IN THESE DRAWINGS SHALL BE THE LATEST EDITION, UNLESS OTHERWISE NOTED.

E. SEE DRAWINGS OTHER THAN STRUCTURAL FOR: FLOOR FINISHES; DEPRESSIONS IN FLOOR SLABS; OPENINGS IN WALLS AND FLOORS REQUIRED BY ARCHITECTURAL AND MEP FEATURES; EXTERIOR PAVING; CURBS; SLOPES; DRAINS; PADS; NON-STRUCTURAL PARTITIONS; EMBEDDED ITEMS; ETC. COORDINATE THESE ITEMS WITH THE STRUCTURAL DRAWINGS.

F. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AT THE JOB SITE BEFORE COMMENCING WORK AND SHALL REPORT ANY DISCREPANCIES TO THE ARCHITECT.

G. OMISSIONS OR DISCREPANCIES BETWEEN THE VARIOUS ELEMENTS OF THE CONTRACT DOCUMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND STRUCTURAL ENGINEER AND RESOLVED BEFORE PROCEEDING WITH THE WORK.

H. DO NOT SCALE THE DRAWINGS; USE WRITTEN DIMENSIONS ONLY. WHERE NO DIMENSIONS ARE PROVIDED OR WHERE DIMENSIONS PROVIDED CONFLICT WITH OTHER DRAWINGS, CONSULT THE ARCHITECT AND SEOR BEFORE PROCEEDING WITH THE WORK.

I. WHERE MEMBER LOCATIONS ARE NOT DIMENSIONED, MEMBERS SHALL BE LOCATED ON COLUMN LINES OR EQUALLY SPACED BETWEEN MEMBERS ON COLUMN LINES OR BETWEEN MEMBERS OTHERWISE LOCATED. CENTERLINES OF COLUMNS, WALLS, FRAMING MEMBERS, AND FOUNDATIONS COINCIDE WITH GRIDLINES, UNLESS OTHERWISE NOTED.

J. TYPICAL DETAILS ARE INTENDED TO APPLY TO APPLICABLE SITUATIONS, UNLESS OTHERWISE NOTED. TYPICAL DETAILS MAY NOT BE SPECIFICALLY LOCATED.

K. DETAILS SHALL BE APPLIED TO EVERY LIKE CONDITION WHETHER OR NOT THEY ARE REFERENCED IN EVERY INSTANCE. FOR CONDITIONS NOT SPECIFICALLY SHOWN, USE DETAILS SIMILAR TO THOSE PROVIDED.

l. THE CONTRACTOR SHALL VERIFY THAT CONSTRUCTION LOADS DO NOT EXCEED THE CAPACITY OF THE STRUCTURE AT THE TIME THE LOADS ARE PLACED.

II. EXISTING CONSTRUCTION

A. WORK SHOWN IS NEW UNLESS OTHERWISE NOTED AS EXISTING, (E).

B. EXISTING CONSTRUCTION SHOWN IN THESE DRAWINGS WAS OBTAINED FROM AS-BUILT DRAWINGS AND INDICATED FOR REFERENCE ONLY. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS, REVIEW ALL AVAILABLE EXISTING DRAWINGS AND VERIFY DIMENSIONS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT AND SEOR OF ALL DISCREPANCIES AND EXCEPTIONS BEFORE PROCEEDING WITH THE WORK.

C. THE REMOVAL, CUTTING, DRILLING, ETC. OF EXISTING WORK SHALL BE PERFORMED WITH GREAT CARE AND SMALL TOOLS IN ORDER TO MAINTAIN THE STRUCTURAL INTEGRITY OF THE BUILDING. IF EXISTING STRUCTURAL MEMBERS NOT INDICATED FOR REMOVAL INTERFERE WITH THE NEW WORK, THE SEOR SHALL BE NOTIFIED IMMEDIATELY. APPROVAL SHALL BE OBTAINED PRIOR TO REMOVAL OF THE EXISTING MEMBERS.

D. THE CONTRACTOR SHALL SAFELY SHORE EXISTING CONSTRUCTION WHEREVER EXISTING SUPPORTS ARE REMOVED TO ALLOW INSTALLATION OF THE NEW WORK. THE EXISTING CONSTRUCTION SHALL BE CONNECTED AND/OR EMBEDDED INTO THE NEW CONSTRUCTION AS SHOWN OR SPECIFIED.

E. ALL SHORING METHODS AND SEQUENCING OF DEMOLITION SHALL BE SPECIFIED BY A LICENSED CIVIL OR STRUCTURAL ENGINEERING IN THE STATE OF CALIFORNIA TO BE RETAINED BY THE CONTRACTOR. SEE SPECIFICATIONS FOR DETAILED REQUIREMENTS.

F. THE CONTRACTOR SHALL VERIFY THE LOCATION OF EXISTING UTILITIES BEFORE BEGINNING WORK. SPECIAL CARE SHALL BE TAKEN TO PROTECT UTILITIES THAT ARE TO REMAIN IN SERVICE DURING CONSTRUCTION.

G. THE CONTRACTOR SHALL PROMPTLY REPAIR DAMAGE CAUSED DURING OPERATIONS WITH SIMILAR MATERIALS AND WORKMANSHIP.

H. THE CONTRACTOR SHALL LOCATE EXISTING REINFORCING STEEL WHERE EXISTING CONCRETE IS TO BE CUT, CORED OR SAWN. LOCATION SHALL BE DONE USING A NON-DESTRUCTIVE METHOD. DO NOT DAMAGE EXISTING REINFORCING WITHOUT NOTIFYING THE ARCHITECT AND SEOR.

III. BASIS OF DESIGN

A. THE STRUCTURAL DESIGN OF THIS PROJECT IS GOVERNED BY THE 2019 CALIFORNIA BUILDING CODE (CBC) WITH SS/DSA AMMENDMENTS.

B. RISK CATEGORY = III

D. LIVE LOADS:
1. ROOF = 20 PSF

E. WIND DESIGN DATA:
1. BASIC WIND SPEED = 100 mph (3 SECOND GUST)
2. EXPOSURE CATEGORY = C

F. SEISMIC DESIGN DATA:
1. I = 1.25
2. Fa = 1.2
3. Fv = N/A
4. Ss = 1.825
5. S1 = 0.747
6. SDS = 1.46
7. SD1 = N/A
8. SITE CLASS = D (DEFAULT)
9. SEISMIC DESIGN CATEGORY = D

IV. CONCRETE

A. MIXING, BATCHING, TRANSPORTING AND PLACING OF ALL CONCRETE SHALL CONFORM TO ACI 301, SPECIFICATION FOR STRUCTURAL CONCRETE FOR BUILDINGS.

B. ALL CONCRETE SHALL BE THOROUGHLY CONSOLIDATED.

C. THE SCHEDULE BELOW INDICATES THE MINIMUM CONCRETE DESIGN MIX REQUIREMENTS. SEE THE SPECIFICATIONS FOR ADDITIONAL CONCRETE PROPERTIES.

LOCATION	MINIMUM 28-DAY STRENGTH (PSI)	MAXIMUM WEIGHT (PCF)	MAX W/C RATIO
SLAB ON GRADE AND FOUNDATION	3000	150	0.5

D. CONCRETE CLEAR COVER OVER MILD REINFORCING STEEL SHALL BE AS FOLLOWS, UNLESS OTHERWISE NOTED:
1. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH = 3"
2. CONCRETE EXPOSED TO EARTH OR WEATHER:
   a. NO. 5 BARS AND SMALLER = 1-1/2"
   b. NO. 6 BARS AND LARGER = 2"
3. CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND:
   a. SLABS, WALLS, JOISTS:
4. NO. 11 BARS AND SMALLER = 3/4"
5. NO. 14 BARS AND LARGER = 1-1/2"
a. BEAMS, COLUMNS:
6. PRIMARY REINFORCEMENT, TIES, STIRRUPS, SPIRALS = 1-1/2"
   a. SHELLS, FOLDED PLATE MEMBERS:
7. NO. 5 BARS AND SMALLER = 1/2"
8. NO. 6 BARS AND LARGER = 3/4"

E. NON-SHRINK GROUT SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 6000 PSI AT 28 DAYS.

F. CONSTRUCTION JOINTS
1. NO HORIZONTAL CONSTRUCTION JOINTS ARE PERMITTED IN BEAMS, WALLS OR SLABS UNLESS APPROVED BY THE SEOR IN WRITING.
2. ALL CONSTRUCTION JOINTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH TYPICAL CONSTRUCTION JOINT DETAILS.
3. ALL CONSTRUCTION JOINT LOCATIONS SHALL BE COORDINATED AND CONSTRUCTED IN ACCORDANCE WITH ARCHITECTURAL FINISHES AND TREATMENTS.
4. ALL SURFACES OF CONSTRUCTION JOINTS SHALL BE CLEANED TO REMOVE DUST, CHIPS OR OTHER FOREIGN MATTER PRIOR TO PLACING ADJACENT CONCRETE.

V. REINFORCING STEEL

A. ALL REINFORCING BARS SHALL BE DEFORMED BARS CONFORMING TO THE REQUIREMENTS OF ASTM A615 AND ASTM A706 WHERE REQUIRED; ALL BARS TO BE GRADE 60 UNLESS OTHERWISE NOTED.

B. REINFORCING BARS TO BE WELDED SHALL BE ASTM A706.

C. WELDED WIRE REINFORCING SHALL BE ASTM A185.

D. WELDED BAR ANCHORS SHALL BE NELSON D2L DEFORMED BAR ANCHORS PER ICC-ES ESR-5217.

E. DETAIL REINFORCING STEEL BASED ON THE PROJECT REQUIREMENTS, ACI 318, AND ACI 315.

F. TERMINATION OF REINFORCEMENT:
1. TERMINATE ALL BARS IN LAPS, 90 DEGREE BENDS OR WITH DOWELS EPOXIED INTO EXISTING CONCRETE.
2. PROVIDE DOWELS INTO FOOTINGS BELOW AND SLABS ABOVE AT WALLS AND COLUMNS OF SAME SIZE AND SPACING AS VERTICAL REINFORCEMENT.

G. WHERE A 90 DEGREE, 135 DEGREE OR 180 DEGREE HOOK IS GRAPHICALLY INDICATED, PROVIDE CORRESPONDING ACI STANDARD HOOK PER DETAIL 2&3/S5.01.

H. SPLICES
1. LAP REINFORCING STEEL AS SPECIFICALLY DETAILED ON THE DRAWINGS. SEE REBAR OFFSET AND LAP SPLICE SCHEDULE IN DETAIL 7/S5.01.
2. UNLESS OTHERWISE NOTED, ALL LAP SPLICES ARE TO BE CLASS B.
3. MECHANICAL SPLICES, IF USED AT CONTRACTOR'S OPTION, SHALL BE ICC-ES APPROVED AND CAPABLE OF DEVELOPING 125% OF THE SPECIFIED MINIMUM YIELD STRENGTH OF THE BAR IN TENSION OR COMPRESSION.
4. LOCATE LAPS IN REINFORCING STEEL AS FOLLOWS:
   a. TOP HORIZONTAL REINFORCEMENT IN BEAMS AND WALLS AT SUPPORTS.
   b. BOTTOM HORIZONTAL REINFORCEMENT IN BEAMS AND WALLS AT MIDSPAN.
   c. VERTICAL REINFORCEMENT AT INSIDE FACE OF WALL AT SUPPORTS.
   d. VERTICAL REINFORCEMENT AT OUTSIDE FACE OF WALL AT MIDHEIGHT OF WALL.

VI. WOOD

A. ALL WOOD FRAMING SHALL CONFORM TO NATIONAL DESIGN SPECIFICATIONS (NDS) FOR WOOD CONSTRUCTION AND APA PDS, PLYWOOD DESIGN SPECIFICATION.

B. ALL WOOD FRAMING SHALL BE DOUGLAS FIR LARCH, UNLESS OTHERWISE NOTED. GRADE SHALL BE AS FOLLOWS:
1. WALL STUDS = NO 2
2. SILL PLATES = PRESSURE TREATED
3. BLOCKING AND MISCELLANEOUS = NO 2

C. REJECTION OF WOOD MEMBERS: THE PROVISION IN DOC PS 20 (AS REFERENCED BY CBC 2303.1.1) WHICH PERMITS FIVE PERCENT OF THE MATERIAL TO FALL BELOW GRADE SHALL NOT BE CONSTRUED TO PERMIT BELOW-GRADE MATERIAL TO BE USED AS LOAD-CARRYING MEMBERS WHICH HAVE BEEN DESIGNED FOR SPECIFIC ALLOWABLE STRESSES AND ACCEPTABLE SAFETY FACTORS. MATERIALS WHICH FALL BELOW GRADE SHALL BE REJECTED FOR LOAD-CARRYING USE. WOOD MEMBERS WHICH ARE REQUIRED TO CARRY DESIGN LOADS AND WHICH THE PROJECT ARCHITECT, SEOR OR INSPECTOR JUDGE TO BE MISGRADED SHALL BE REINSPECTED BY A QUALIFIED LUMBER GRADING INSPECTOR TO VERIFY THE PROPER GRADING OF THE MATERIAL. WOOD MEMBERS WHICH HAVE PERMISSIBLE GRADE CHARACTERISTICS OR DEFECTS IN SUCH COMBINATION AS TO AFFECT THE SERVICEABILITY OF THE MEMBER SHALL BE REJECTED BY THE PROJECT INSPECTOR WITH THE CONCURRENCE OF THE ARCHITECT OR SEOR.

D. ALL LUMBER IN CONTACT WITH CONCRETE OR CONCRETE MASONRY 0'-8" OR LESS ABOVE THE GROUND SHALL BE PRESSURE TREATED.

E. MAXIMUM MOISTURE CONTENT SHALL BE 15%AT TIME OF FRAMING FOR NEW WOOD MEMBERS ADJACENT TO EXISTING WOOD MEMBERS. ALL OTHER MEMBERS SHALL HAVE A MAXIMUM MOISTURE CONTENT OF 19% AT TIME OF FRAMING. REFER TO ARCHITECTURAL DRAWINGS, PROJECT SPECIFICATIONS AND CLADDING MANUFACTURERS' INFORMATION FOR MORE STRINGENT MOISTURE CONTENT REQUIREMENTS.

F. WOOD CONNECTORS SHALL BE AS MANUFACTURED BY SIMPSON STRONG TIE OR EQUAL PRODUCT IF APPROVED BY SEOR. SIMPSON DESIGNATIONS USED IN THESE DRAWINGS.

G. NAILS SHALL BE COMMON WIRE GAGE, UNLESS OTHERWISE NOTED AND CONFORM TO CBC TABLE 2304.10.1. USE OF MACHINE NAILING IS SUBJECT TO A SATISFACTORY JOBSITE DEMONSTRATION FOR EACH PROJECT AND THE APPROVAL OF THE PROJECT ARCHITECT, STRUCTURAL ENGINEER AND DSA.

H. LAG BOLTS AND UNFINISHED MACHINE BOLTS SHALL CONFORM TO ASTM A307. PROVIDE WASHERS UNDER THE HEADS AND NUTS OF ALL BOLTS AND LAG SCREWS BEARING ON WOOD.

I. ANCHOR RODS SHALL CONFORM TO ASTM F1554 GR 36.

J. FASTENERS INSTALLED IN PRESSURE TREATED OR FIRE RETARDANT TREATED WOOD SHALL BE GALVANIZED.

K. PROVIDE LATERAL SUPPORT FOR BEAMS, JOISTS, AND RAFTERS PER CBC SECTION 2308.8.5.

VII. POST-INSTALLED ANCHORS

A. POST-INSTALLED ANCHORS INCLUDE EXPANSION ANCHORS, EPOXY ANCHORS AND REINFORCING STEEL DOWELS, SCREW ANCHORS AND POWDER-ACTUATED FASTENERS. AS DETAILED IN THE DRAWINGS.

B. DO NOT DAMAGE OR CUT EXISTING REINFORCING STEEL WHILE INSTALLING POST-INSTALLED ANCHORS. NOTIFY SEOR IF EXISTING REINFORCING STEEL INTERFERES WITH INSTALLATION OF POST-INSTALLED ANCHORS.

C. ALL MIS-DRILLED OR UNACCEPTABLE HOLES SHALL NOT BE USED AND SHALL BE GROUTED SOLID.

D. ALL POST-INSTALLED ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH APPLICABLE ICC-ES REPORT AND MANUFACTURER'S RECOMMENDATIONS.

E. PROVIDE SPECIAL INSPECTION FOR THE INSTALLATION OF ALL POST-INSTALLED ANCHORS, UNLESS OTHERWISE NOTED.

F. FIELD TEST POST-INSTALLED ANCHORS, UNLESS OTHERWISE NOTED. FIELD TESTING SHALL BE IN COMPLIANCE WITH THE FOLLOWING:
1. 10% OF POST-INSTALLED ANCHORS USED FOR SILL PLATE BOLTING SHALL BE TESTED; 100% OF ALL OTHER POST-INSTALLED ANCHORS USED FOR STRUTURAL APPLICATIONS SHALL BE TESTED.
2. 50% OF POST-INSTALLED ANCHORS USED FOR NON-STRUCTURAL APPLICATIONS SHALL BE TESTED, INCLUDING ONE HALF OF ALL ANCHORS IN EACH GROUP.
   a. IF ANY ANCHOR FAILS TESTING, ALL ANCHORS OF THE SAME TYPE THAT ARE UNTESTED SHALL BE TESTED UNTIL 20 CONSECUTIVE ANCHORS PASS.
   b. NO TESTING REQUIRED FOR POWDER-ACTUATED FASTENERS USED TO ATTACH TRACKS OF INTERIOR, NON-STRUCTURAL PARTITION WALLS WHERE THERE ARE AT LEAST THREE FASTENERS PER PIECE OF TRACK.
3. NO TESTING REQUIRED OF REINFORCING STEEL DOWELS ACROSS COLD JOINTS IN CONCRETE SLABS ON GRADE.
4. TORQUE TESTING MAY BE USED FOR TORQUE CONTROLLED POST-INSTALLED ANCHORS; TENSION TEST ALL OTHER POST-INSTALLED ANCHORS.
5. TORQUE TESTING SHALL BE IN ACCORDANCE WITH CBC SECTION 1910A.5.5.2.
6. TENSION TESTING SHALL BE IN ACCORDANCE WITH CBC SECTION 1910A.5.5.1.
7. ALL FIELD TESTING SHALL BE DONE UNDER THE OBSERVATION OF THE PROJECT INSPECTOR.
8. TESTING SHALL OCCUR AT LEAST 24 HOURS AFTER THE ANCHOR HAS BEEN INSTALLED.

G. EPOXY ANCHORS AND REINFORCING STEEL DOWELS
1. FOR INSTALLATION IN CONCRETE, EPOXY SHALL BE ONE OF THE FOLLOWING:
   a. SET-XP PER ICC-ES ESR-2508 AS MANUFACTURED BY SIMPSON STRONG TIE
   b. HIT-RE 500-SD PER ICC-ES ESR-2322 AS MANUFACTURED BY HILTI, INC.
   c. HY-200 MAX-SD PER ICC- ESR-3187 AS MANUFACTURED BY HILTI, INC.
2. FOR INSTALLATION IN FULLY-GROUTED MASONRY, EPOXY SHALL BE ONE OF THE FOLLOWING:
   a. SET-HIGH STRENGTH PER ICC-ES ESR-2508 AS MANUFACTURED BY SIMPSON STRONG TIE.
   b. HY-150 PER ICC-ES ESR-1967 AS MANUFACTURED BY HILTI, INC.
3. EPOXIED ANCHOR RODS SHALL BE CARBON STEEL THREADED RODS PER APPROPRIATE ICC-ES REPORT; EPOXIED REINFORCING STEEL DOWELS SHALL BE ASTM A615 GR 60 UNLESS OTHERWISE NOTED. MINIMUM ANCHOR EMBEDMENT AND TENSION TEST VALUES ARE AS FOLLOWS:

EPOXY ANCHORS IN NORMAL-WEIGHT CONCRETE (f'c = 3000 PSI MIN)				
THREADED ROD DIAMETER (IN)	EMBED (IN)	TENSION TEST VALUE (LBS)		
		HY-200 MAX-SD	HIT-RE 500-SD	SET-XP
3/8	3	3360	3510	3620
1/2	4	6010	6150	5690
5/8	5	9440	9330	7640
3/4	6	7120	12860	9770
7/8	7	15750	13620	12250
1	8	20670	16440	15430
1 1/4	10	32500	22060	24100

ANCHORS SHALL NOT BE INSTALLED INTO CONCRETE THAT IS LESS THAN 21 DAYS OLD.

H. EXPANSION ANCHORS
1. FOR INSTALLATION IN CONCRETE, EXPANSION ANCHORS SHALL BE ONE OF THE FOLLOWING:
   a. STRONG BOLT 2 PER ICC-ES ESR-3037 AS MANUFACTURED BY SIMPSON STRONG TIE.
   b. KWIK BOLT TZ2 PER ICC-ES ESR-4266 AS MANUFACTURED BY HILTI, INC.
2. USE STAINLESS STEEL AT EXTERIOR, WEATHER-EXPOSED OR DAMP LOCATIONS; CARBON STEEL EXPANSION ANCHORS MAY BE USED AT ALL OTHER LOCATION, UNLESS OTHERWISE NOTED.
3. MINIMUM ANCHOR EMBEDMENT AND TORQUE TEST VALUES ARE AS FOLLOWS:

KWIK BOLT TZ2 IN NORMAL WEIGHT CONCRETE (f'c = 3000 PSI MIN)			
ANCHOR DIAMETER	EMBED (IN)	MINIMUM HOLE	TORQUE TEST
(IN)		DEPTH (IN)	VALUE (FT-LBS)
3/8	2 5/16	2 5/8	30
1/2	2 3/8	2 5/8	50
5/8	4 1/16	4 3/4	60
3/4	5 9/16	5 3/4	125

STRONG BOLT 2 IN NORMAL WEIGHT CONCRETE (f'c = 3000 PSI MIN)			
ANCHOR DIAMETER	EMBED (IN)	MINIMUM HOLE	TORQUE TEST
(IN)		DEPTH (IN)	VALUE (FT-LBS)
3/8	1 7/8	2	30
1/2	2 3/4	3	60
5/8	5 3/8	5 3/8	90
3/4	5 1/4	6	150

4. WHERE EXPANSION ANCHORS ARE INSTALLED IN CONTACT WITH WOOD FRAMING, PROVIDE AN OVERSIZE WASHER IN ORDER TO ACHIEVE TORQUE REQUIRED BY ICC-ES REPORT. USE 1/4"x3"x3" WASHER, MINIMUM.
5. CONTRACTOR SHALL PROVIDE ANCHORS WITH SUFFICIENT TOTAL LENGTH FOR THE SPECIFIED EMBEDMENT LENGTH, THICKNESS OF FASTENED PART, WASHER AND NUT.

I. SCREW ANCHORS
1. FOR INSTALLATION IN CONCRETE, SCREW ANCHORS SHALL BE ONE OF THE FOLLOWING:
   a. TITEN HD PER ICC-ES ESR-2713 AS MANUFACTURED BY SIMPSON STRONG TIE.
   b. KWIK HUS-EZ PER ICC-ES ESR-3027 AS MANUFACTURED BY HILTI, INC.
2. MINIMUM ANCHOR EMBEDMENT AND TENSION TEST VALUES ARE AS FOLLOWS:

TITEN HD IN NORMAL WEIGHT CONCRETE (f'c = 3000 PSI MIN)			
ANCHOR DIAMETER	EMBED (IN)	MINIMUM HOLE	TENSION TEST
(IN)		DEPTH (IN)	VALUE (FT-LBS)
3/8	2 1/2	3	1200
1/2	3 1/4	3 3/4	2973
5/8	4	4 1/2	3935
3/4	5 1/2	6	5895

KWIK HUS-EZ IN NORMAL WEIGHT CONCRETE (f'c = 3000 PSI MIN)			
ANCHOR DIAMETER	EMBED (IN)	MINIMUM HOLE	TENSION TEST
(IN)		DEPTH (IN)	VALUE (FT-LBS)
1/4	2 1/2	2 7/8	1133
3/8	2 1/2	2 3/4	2093
1/2	2 1/4	2 5/8	1547
5/8	3 1/4	3 5/8	3049
3/4	4	4 3/8	4118

J. POWDER-ACTUATED FASTENERS
1. PAF SHALL BE ONE OF THE FOLLOWING:
   a. SIMPSON STRONG TIE POWDER-ACTUATED FASTENERS PER ICC-ES ESR-2138 FOR ANCHORAGE OF METAL TO CONCRETE, MASONRY OR STEEL.
   b. HILTI, INC. X-U PER ICC-ES ESR-2269 FOR ANCHORAGE OF METAL TO CONCRETE, MASONRY OR STEEL
   c. HILTI, INC. X-CP 72 PER ICC-ES ESR-2379 FOR ANCHORAGE OF SILL PLATES TO CONCRETE
   d. DEWALT POWDER-ACTUATED FASTENERS PER ICC-ES ESR-2024 FOR ANCHORAGE OF METAL TO CONCRETE, MASONRY OR STEEL AND ANCHORAGE OF WOOD SILLS TO CONCRETE.
2. PROVIDE 0.08"x1.1"x1.1" SQUARE OR 0.08"x1.425" DIAMETER ROUND WASHER AT EACH PAF.
3. MINIMUM PAF EMBED INTO CONCRETE SHALL BE 1", UNLESS OTHERWISE NOTED.
4. MINIMUM PAF EMBED INTO STEEL SHALL BE PER MANUFACTURER.

VIII. CONCRETE MASONRY

A. MASONRY CONSTRUCTION SHALL BE IN ACCORDANCE WITH TMS 602/ACI 530.1/ASCE 6.

B. THE SCHEDULE BELOW INDICATES THE PROPERTIES OF CONCRETE MASONRY ASSEMBLIES:

BLOCK WEIGHT	f'm (PSI)	GROUT f'g (PSI)	MORTAR
NORMAL WEIGHT	2000, UON	2000	ASTM C270 TYPE S

C. CONCRETE BLOCKS SHALL CONFORM TO ASTM C90, GRADE N, TYPE 1.

D. MORTAR SHALL CONFORM TO ASTM C270.

E. GROUT SHALL CONFORM TO ASTM C476. STRENGTH INDICATED ABOVE IS MINIMUM 28 DAY STRENGTH.

F. ALL CELLS SHALL BE FULLY GROUTED.

G. LAY MASONRY UNITS IN RUNNING BOND.

H. PIPES AND CONDUITS SHALL NOT BE EMBEDDED IN ANY CONCRETE MASONRY UNITS UNLESS APPROVED BY SEOR.

IX. STRUCTURAL TESTS / SPECIAL INSPECTIONS

A. THE FOLLOWING ITEMS ARE EXEMPT FROM DSA REQUIREMENTS FOR STRUCTURAL TESTS / SPECIAL INSPECTION PER DSA FORM 103 AND SPECIFICATIONS:

1. FOOTING EXCAVATIONS.

2. BATCH PLANT INSPECTION OF CONCRETE IS WAIVED IN COMPLIANCE WITH CBC SECTION 1705A.3.3.2. SEE SPECIFICATIONS FOR REQUIRED CERTIFICATION OF CEMENT AND REINFORCING, TAKING AND SAMPLING OF STRENGTH TEST, AND PROVISION OF WEIGHMASTER'S BATCH TICKETS.

3. NON-BEARING NON-SHEAR MASONRY WALLS AS SHOWN ON DETAIL 3/S5.02.

4. TESTING OF REINFORCING BARS IS NOT REQUIRED SUBJECT TO THE REQUIREMENTS AND LIMITATIONS GIVEN IN CBC SECTION 1910A.2.

5. MANUFACTURED SUPPORT FRAMES AND CURBS USING HOT ROLLED OR COLD-FORMED STEEL FOR MECHANICAL, ELECTRICAL, OR PLUMBING EQUIPMENT WEIGHING LESS THAN 2000#.

6. MANUFACTURED COMPONENTS FOR MECHANICAL, ELECTRICAL, OR PLUMBING HANGER SUPPORT AND BRACING.

7. ANY SUPPORT FOR EXEMPT NON-STRUCTURAL COMPONENTS GIVEN IN CBC SECTION 1617A.1.18 MEETING THE FOLLOWING: A) WHEN SUPPORTED ON A FLOOR/ROOF, <400# AND RESULTING COMPOSITE CENTER OF MASS < 4' ABOVE SUPPORTING FLOOR/ROOF, B) WHEN HUNG FROM A WALL OR ROOF/FLOOR, <20# FOR DISCRETE UNITS OR <5 PLF FOR DISTRIBUTED SYSTEMS.

ABBREVIATION

ABBREVIATION	DESCRIPTION
(E)	EXISTING
(N)	NEW
AB	ANCHOR BOLT
ADDL	ADDITIONAL
ALT	ALTERNATE
APPRX	APPROXIMATE
AR	ANCHOR ROD
ARCH	ARCHITECT OR ARCHITECTURAL
AVG	AVERAGE
BLDG	BUILDING
BLKG	BLOCKING
BM	BEAM
BOT	BOTTOM
BRDG	BRIDGING
BTWN	BETWEEN
CIP	CAST-IN-PLACE
CJ	CONTROL/CONSTRUCTION JOINT
CJP	COMPLETE JOINT PENETRATION
CL	CENTER LINE
CLR	CLEAR OR CLEARANCE
COL	COLUMN
CONC	CONCRETE
CONN	CONNECTION(S)
CONST	CONSTRUCTION
CONT	CONTINUOUS
CTR	CENTER
CTRD	CENTERED
CTRSK	COUNTERSINK
db	DIAMETER OF BOLT OR REBAR
DBL	DOUBLE
DEMO	DEMOLISH
DET	DETAIL
DF	DOUGLAS FIR
DIA	DIAMETER
DIAG	DIAGONAL
DIM(S)	DIMENSION(S)
DL	DEAD LOAD
DWG(S)	DRAWING(S)
DWL	DOWEL(S)
EA	EACH
ECC	ECCENTRICITY
EF	EACH FACE
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRICAL
EMBED	EMBEDMENT
EN	EDGE NAIL
ENGR	ENGINEER
EOS	EDGE OF SLAB
EQ	EQUAL
EQUIP	EQUIPMENT
ES	EACH SIDE
EW	EACH WAY
EXP	EXPANSION
EXT	EXTERIOR
FF	FINISH FLOOR
FIN	FINISH(ED)
FLR	FLOOR
FN	FIELD NAILING
FND	FOUNDATION
FO	FACE OF
FRM'G	FRAMING
FS	FAR SIDE
FTG	FOOTING
GA	GAGE, GAUGE
GALV	GALVANIZED
GB	GRADE BEAM
GEN	GENERAL
GLB	GLUE-LAMINATED BEAM
GR	GRADE
GYP	GYPSUM
HD	HOLDOWN
HDR	HEADER
HGR	HANGER
HK	HOOK
HORIZ	HORIZONTAL
HT	HEIGHT
HVAC	HEATING VENTING AND AIR CONDITIONING
ID	INSIDE DIAMETER
IF	INSIDE FACE
INFO	INFORMATION
INT	INTERIOR
JH	JOIST HANGER
JST(S)	JOIST(S)
JT	JOINT
LBS	POUNDS
LL	LIVE LOAD
LLH	LONG LEG HORIZONTAL

ABBREVIATION	DESCRIPTION
LLV	LONG LEG VERTICAL
LOC	LOCATION
LONG	LONGITUDINAL
LW	LIGHTWEIGHT
LWC	LIGHTWEIGHT CONCRETE
MATL	MATERIAL
MAX	MAXIMUM
MB	UNFINISHED MACHINE BOLT
MECH	MECHANICAL
MEP	MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION
MEZZ	MEZZANINE
MFR	MANUFACTURER
MID	MIDDLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MTL	METAL
N/A	NOT APPLICABLE
NIC	NOT IN CONTRACT
NO	NUMBER
NOM	NOMINAL
NS	NEAR SIDE
NTS	NOT TO SCALE
NW	NORMAL WEIGHT
NWC	NORMALWEIGHT CONCRETE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OF	OUTSIDE FACE
OH	OPPOSITE HAND
OPNG(S)	OPENING(S)
OPP	OPPOSITE
OSB	ORIENTED STRAND BOARD
PAF	POWDER ACTUATED FASTENER
PERP	PERPENDICULAR
PL	PLATE
PLY	PLYWOOD
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSL	PARALLEL STRAND LUMBER
RAD	RADIUS
REF	REFERENCE
REINF	REINFORCE(D) (ING) OR (MENT)
REQD	REQUIRED
REV	REVISION
RWD	REDWOOD
SAD	SEE ARCHITECTURAL DRAWINGS
SCD	SEE CIVIL DRAWINGS
SCHED	SCHEDULE(D)
SECT	SECTION
SEOR	STRUCTURAL ENGINEER OF RECORD
SF	SQUARE FOOT (FEET)
SHT	SHEET
SIM	SIMILAR
SLRS	SEISMIC LOAD RESISTING SYSTEM
SMD	SEE MECHANICAL DRAWINGS
SMS	SHEET METAL SCREW(S)
SOG	SLAB ON GRADE
SP	SPACE
SPEC(S)	SPECIFICATION(S)
SQ	SQUARE
STAGG'D	STAGGERED
STD	STANDARD
STIFF	STIFFENER
STL	STEEL
STR	STRUCTURE
STRCTL	STRUCTURAL
SYMM	SYMMETRICAL
T&B	TOP AND BOTTOM
T&G	TONGUE AND GROOVE
TD	TIE DOWN
TEMP	TEMPERATURE OR TEMPORARY
THK	THICK OR THICKNESS
THRD'D	THREADED
TO	TOP OF
TRANSV	TRANSVERSE
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
VERT	VERTICAL
VIF	VERIFY IN FIELD
W/	WITH
W/O	WITHOUT
WD	WOOD
WF	WIDE FLANGE
WP	WORK POINT
WT	WEIGHT
WWR	WELDED WIRE REINFORCEMENT

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119523 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 10/26/2021

aedis architects
www.aedisarchitects.com
387 S. 1st Street, Suite 300
San Jose, CA 95113
tel: (408)-300-5160
fax: (408)-300-5121

PROJECT
GEORGE HALL ELEMENTARY SCHOOL - HVAC REPLACEMENT

SAN MATEO-FOSTER CITY SCHOOL DISTRICT

CONSULTANT
BASE DESIGN
582 MARKET ST. STE. 1402
SAN FRANCISCO, CA 94104
Office:(415) 466-2997
www.BASEdesigninc.com

STAMP
REGISTERED PROFESSIONAL ENGINEER
GOKHAN AKALAN
NO. 5594
STRUCTURAL
STATE OF CALIFORNIA

STATE
DSA FILE NUMBER 41-26
APPL # 01-119523

REVISIONS

No.	Description	Date

MILESTONES

DD	
90% CD	
DSA SUB	05/21/2021
BACKCHECK	10/04/2021

SHEET
ABBREVIATIONS AND GENERAL NOTES

DATE 10/04/2021
JOB # 2021005.02
SHEET # S1.01

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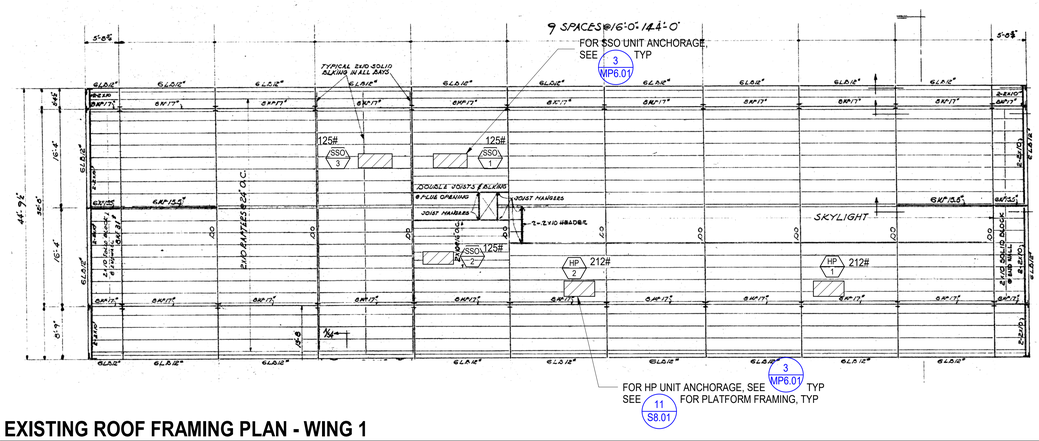
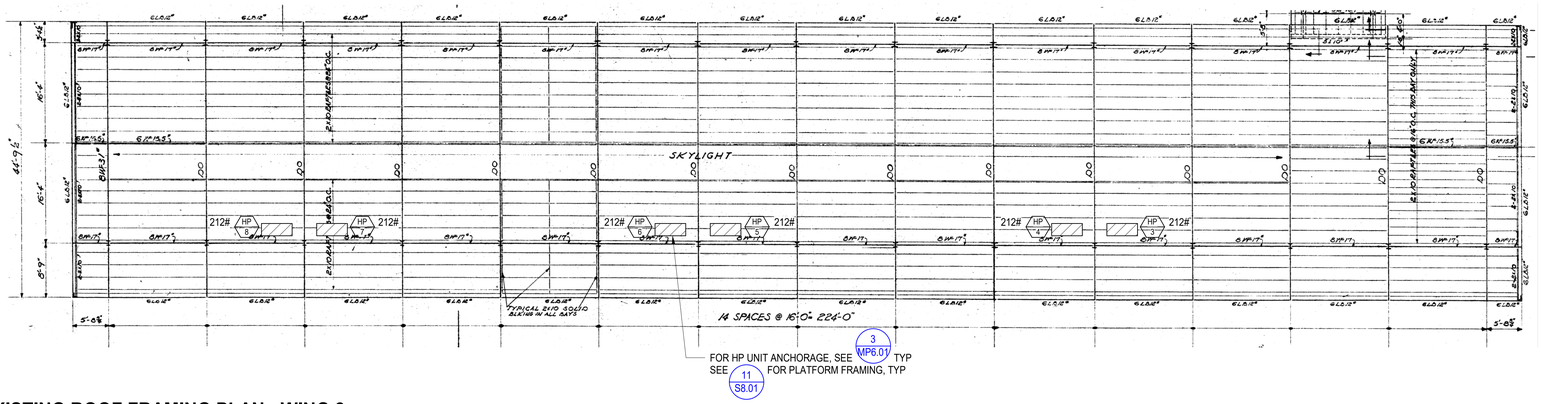
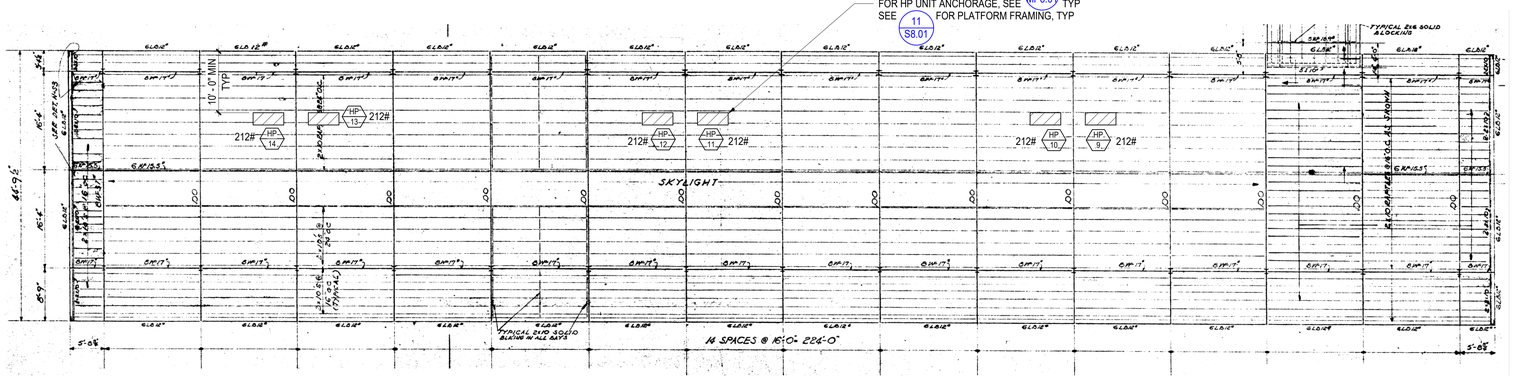


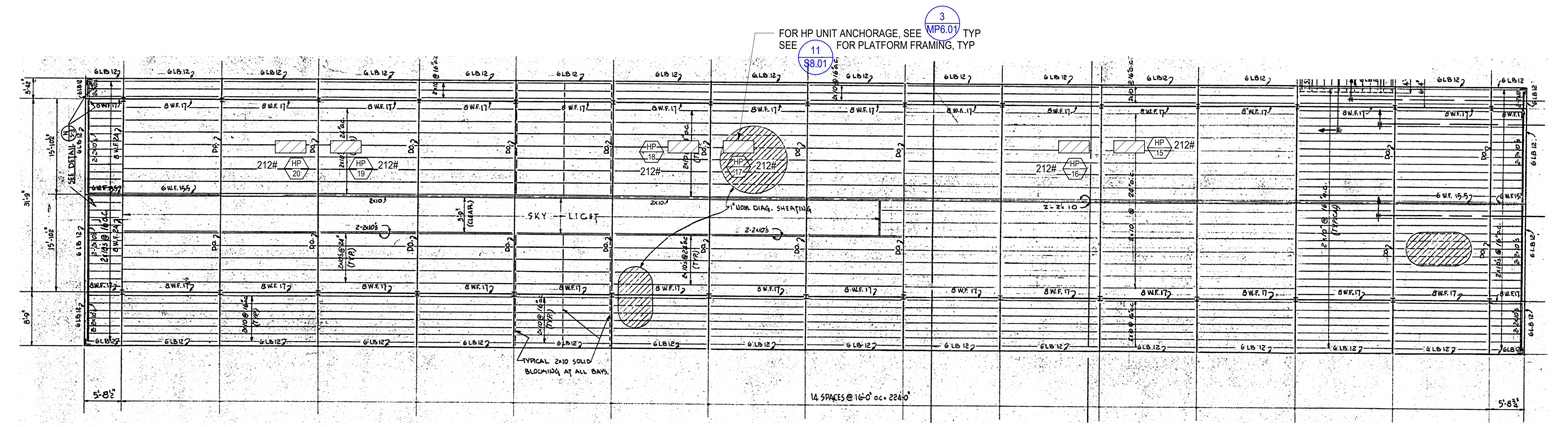
1 EXISTING ROOF FRAMING PLAN - WING 1



2 EXISTING ROOF FRAMING PLAN - WING 2



3 EXISTING ROOF FRAMING PLAN - WING 3



4 EXISTING ROOF FRAMING PLAN - WING 4

SHEET NOTES:

1. LOCATIONS OF MECHANICAL UNITS ARE SHOWN FOR REFERENCE ONLY. FOR EXACT UNIT LAYOUT, SEE 13 A8.10
2. EXISTING STRUCTURAL FRAMING PLAN SHOWN IS TAKEN FROM DSA APPROVED AS-BUILT DRAWINGS AND IS SHOWN FOR REFERENCE ONLY.
3. SEE GENERAL NOTES ON SHEET S1.01.
4. SEE TYPICAL FRAMING DETAILS ON SHEET S8.01.

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aedis architects
www.aedisarchitects.com
387 S. 1st Street, Suite 300
San Jose, CA 95113
tel: (408)-300-5160
fax: (408)-300-5121

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CONSULTANT

BASE DESIGN
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SAN FRANCISCO, CA 94104
Office:(415) 466-2997
www.BASEdesigninc.com

STAMP

REGISTERED PROFESSIONAL ENGINEER
GOKHAN AKALAN
NO. 5594
STRUCTURAL
STATE OF CALIFORNIA

STATE
DSA FILE NUMBER 41-26
APPL # 01-119523

REVISIONS

No.	Description	Date

MILESTONES

DD	
90% CD	
DSA SUB	05/21/2021
BACKCHECK	10/04/2021

SHEET

EXISTING ROOF FRAMING PLANS - WINGS 1, 2, 3 & 4

DATE 10/04/2021

JOB # 2021005.02

SHEET # S2.01

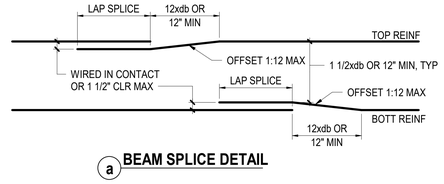
CONCRETE STRENGTH		3000 PSI			
REINFORCING CONFIGURATION		CASE 1		CASE 2	
BAR SIZE \ BAR LOCATION		TOP	OTHER	TOP	OTHER
"CLASS A LAP SPLICE AND STRAIGHT DEVELOPMENT LENGTH, Ld (INCHES)"	#3	22	17	32	25
	#4	29	22	43	33
	#5	36	28	54	41
	#6	43	33	64	50
	#7	63	48	94	72
CLASS B LAP SPLICE (INCHES)	#3	28	22	42	32
	#4	37	29	56	43
	#5	47	36	70	54
	#6	56	43	84	64
	#7	81	63	122	94

NOTES:
1. VALUES IN THE TABLE ARE FOR NON-EPOXY COATED GRADE 60 REINFORCING STEEL AND NORMAL WEIGHT CONCRETE.
2. CASES 1 AND 2 ARE DEPENDENT ON THE TYPE OF CONCRETE ELEMENT, CONCRETE COVER AND CENTER-TO-CENTER SPACING OD REINFORCING BARS. THEY ARE DEFINED AS:
   CASE 1:
   BEAM AND COLUMNS:
   - CONCRETE COVER >= db
   - CENTER-TO-CENTER SPACING >= 2x db, AND
   - STIRRUPS OR TIES PROVIDED THROUGHTOUT ld

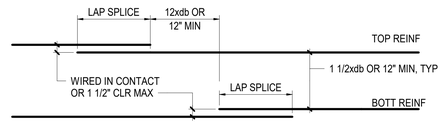
   OTHER ELEMENTS:
   - CONCRETE COVER >= db AND
   - CENTER-TO-CENTER SPACING >= 3x db

   CASE 2:
   BEAM AND COLUMNS:
   - CONCRETE COVER < db
   - CENTER-TO-CENTER SPACING < 2x db

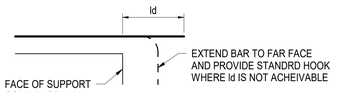
   OTHER ELEMENTS:
   - CONCRETE COVER < db AND
   - CENTER-TO-CENTER SPACING < 2x db
3. TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 12" OF FRESH CONCRETE BELOW. OTHER BAR INCLUDE ALL VERTICAL REINFORCING, ALL HORIZONTAL WALL REINFORCING AND HORIZONTAL REINFORCING WITH LESS THAN 12" OF RESH CONCRETE BELOW BAR.
4. PROVIDE CLASS B LAP SPLICES, U.O.N.
5. FOR LIGHTWEIGHT CONCRETE, MULTIPLY THE VALUES IN THIS TABLE BY 1.3.
6. WHERE ld IS NOT OBTAINABLE DUE TO SPACE RETRICTIONS, PROVIDE A STANDARD HOOK PER DETAIL 2/-
7. FOR EPOXY-COATED BARS, MULTIPLY THE VALUE IN THIS TABLE BY 1.5.
8. SPLICES OF HORIZONTAL REINFORCING BARS IN WALLS AND SLABS SHALL BE STAGGERED. SPLICES OF HORIZONTAL REINFORCING BARS IN WALLS AND SLABS CONTAINING TWO CURTAINS OF REINFORCEMENT SHALL NOT OCCUR IN THE SAME LOCATION; SPLICES SHALL BE OFFSET BY THE MAXIMUM OF 12 INCHES AND 12 BAR DIAMETERS.
9. SEE SHORTCRETE NOTES FOR LAP SPLICES IN SHOTCRETE WALLS.
10. MECHANICAL COUPLERS MAY BE USED IN LIEU OF LAP SPLICES. MECHANICAL COUPLERS SHALL HAVE AN APPROVED ICC REPORT AND RESIST 125% OF REINFORCING BAR YIELD STRENGTH.
11. WHERE BARS OF DIFFERENT SIZES ARE SPLICED, SPLICE LENGTH SHALL BE THE MAXIMUM OF ld OF THE LARGER BAR AND THE LAP SPLICE LENGTH OF THE SMALLER BAR.
12. LAP TOP BARS AT MIDSPAN AND BOTTOM BARS AT SUPPORT, U.O.N.
13. NON-CONTACT LAP SPLICED BARS SHALL BE SPLACED AT LEAST 1 ½" AND NO MORE THAN THE MAXIMUM OF ONE-FIFTH OF THE LAP SPLICE AND 6".



a BEAM SPLICE DETAIL



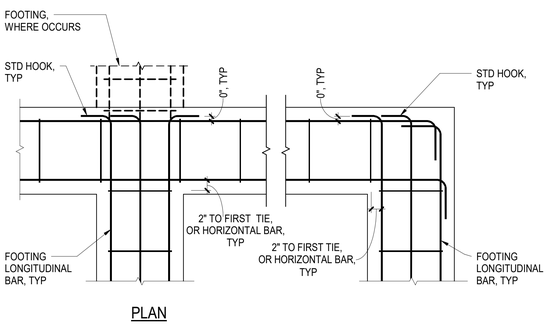
b STRAGGERED WALL OR SLAB SPLICE DETAIL



c BEAM AT SUPPORT

7 LAP SPLICE + STRAIGHT BAR DEVELOPMENT LENGTHS

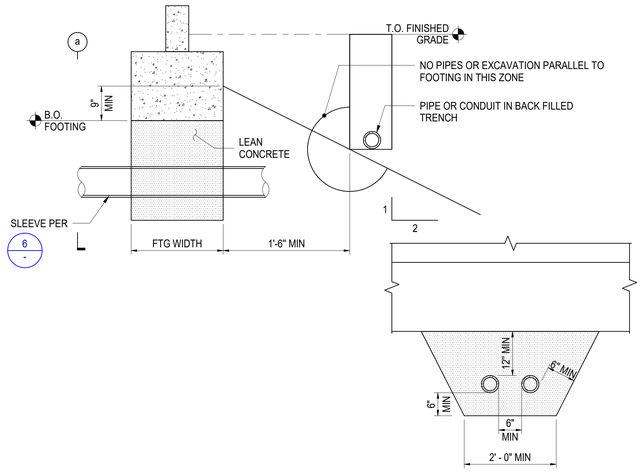
NTS



PLAN

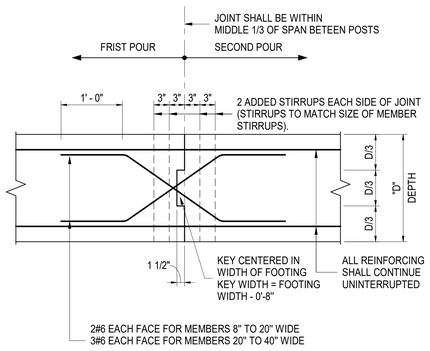
11 CONTINUOUS FOOTING INTERSECTIONS

NTS



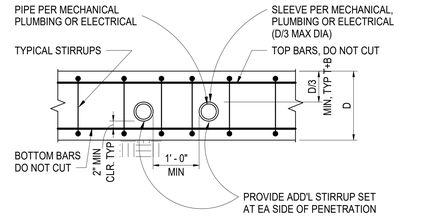
8 TYPICAL EXCAVATION PARALLEL TO FTG

NTS

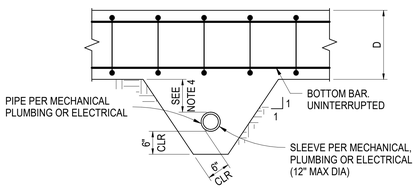


9 CONTINUOUS FOOTING CONSTRUCTION JOINT DETAIL

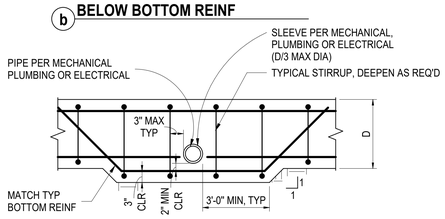
NTS



a CLEAR OF TOP & BOTTOM REINF



b BELOW BOTTOM REINF



c AT BOTTOM REINF

NOTES:
1. ALL PIPES AND CONDUITS SHALL CLEAR SLEEVE BY 1" ALL AROUND U.O.N.
2. SEAL VOID BETWEEN PIPE AND SLEEVE WITH ELASTIC WATERPROOF MATERIAL, TYP.
3. DETAIL APPLICABLE TO MAXIMUM 8" DIA SLEEVE.
4. NO FTG EXTENSION REQ'D FOR PIPE DEEPER THAN 12" BELOW FTG (SLEEVE STILL REQ'D). SEE DETAIL 8 ON THIS SHEET.
5. WHERE PENETRATION CONFLICTS WITH REBAR TIE, OMIT TIE & PROVIDE 1 ADDITIONAL TIE EA SIDE OF SLEEVE.
6. IF PIPE OR CONDUIT SLEEVE IS ASTM A53 SCHEDULE 40 OR GREATER PIPE, ADDITIONAL STIRRUPS MAY BE ELIMINATED, SLEEVE SHALL GALVAIZED.

6 TYPICAL FOOTING PENETRATION

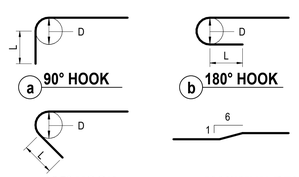
NTS

HOOKED BAR DEVELOPMENT LENGTH, Ldh			
BAR SIZE	CONCRETE STRENGTH		
	3000 PSI	4000 PSI	5000 PSI
#3	0' - 8"	0' - 7"	0' - 6"
#4	0' - 11"	0' - 9"	0' - 9"
#5	1' - 2"	1' - 0"	0' - 11"
#6	1' - 4"	1' - 2"	1' - 1"
#7	1' - 7"	1' - 5"	1' - 3"

NOTES:
1. THE HOOKED BAR DEVELOPMENT LENGTHS IN THIS TABLE ARE FOR NORMALWEIGHT CONCRETE. FOR LIGHTWEIGHT CONCRETE, THE HOOKED BAR DEVELOPMENT LENGTH SHALL NOT BE LESS THEN 10xdb, 7 ½" AND 1.3xLdh PER THE TABLE ABOVE.
2. THE HOOKED BAR DEVELOPMENT LENGTHS IN THIS TABLE APPLY TO MEMBERS WITH:
   a. SIDE COVER EQUAL TO AT LEAST 2 ½".
   b. END COVER EQUAL TO AT LEAST 2".

2 HOOKED BAR DEVELOPMENT LENGTHS

NTS



a 90° HOOK

b 180° HOOK

c 135° HOOK

d MAXIMUN BEND IN MAIN REINFORCING

MAIN REINFORCING HOOKS			
BAR SIZE	BEND DIAMETER, D (IN)	90° HOOK L (IN)	180° HOOK L (IN)
#3	2 1/4	4 1/2	2 1/2
#4	3	6	2 1/2
#5	3 3/4	7 1/2	2 1/2
#6	4 1/2	9	3
#7	5 1/4	10 1/2	3 1/2

STIRRUP + TIE REINFORCING HOOKS			
BAR SIZE	BEND DIAMETER, D (IN)	90° HOOK L (IN)	180° HOOK L (IN)
#3	1 1/2	3	3
#4	2	3	3
#5	2 1/2	3 3/4	3 3/4
#6	4 1/2	9	4 1/2
#7	5 1/4	10 1/2	5 1/4

3 TYPICAL BAR HOOKS

NTS

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DIV. OF THE STATE ARCHITECT
APP: 01-119523 INC:
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SS ☑ FLS ☑ ACS ☑
DATE: 10/26/2021

aedis architects
www.aedisarchitects.com
387 S. 1st Street, Suite 300
San Jose, CA 95113
tel: (408)-300-5160
fax: (408)-300-5121

PROJECT

GEORGE HALL ELEMENTARY SCHOOL - HVAC REPLACEMENT

SAN MATEO-FOSTER CITY SCHOOL DISTRICT

CONSULTANT

BASE DESIGN
582 MARKET ST. STE. 1402
SAN FRANCISCO, CA 94104
Office:(415) 466-2997
www.BASEdesigninc.com

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SHEET

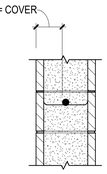
TYPICAL CONCRETE DETAILS

DATE 10/04/2021

JOB # 2021005.02

SHEET # S5.01

LAP SPLICE LENGTH (f 'm=2000PSI)			
BAR SIZE	FOR K≥2db	FOR K≥3db	FOR K≥4db
#3	N/A	2'-2"	1'-7"
#4	3'-0"	2'-10"	2'-2"
#5	3'-9"	3'-6"	2'-8"
#6	4'-6"	4'-6"	4'-2"
#7	5'-3"	5'-3"	4'-10"
#8	6'-0"	6'-0"	6'-0"
#9	6'-10"	6'-10"	6'-10"

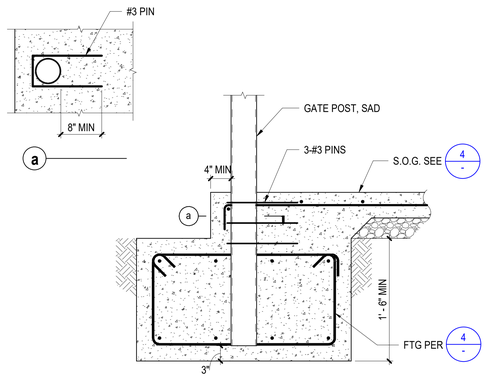


NOTES:

1. "K" SHALL BE TAKEN AS THE CMU COVER DIMENSION OR THE CLEAR SPACING BETWEEN ADJACENT BARS, WHICHEVER IS LESS. SEE ABOVE.
2. WHERE EPOXY-COATED REINFORCING IS USED, INCREASE LAP SPLICE LENGTH BY 50%.
3. SPLICES OF HORIZONTAL REINFORCEMENT IN WALLS SHALL BE STAGGERED.
4. SPLICES OF HORIZONTAL REINFORCEMENT IN WALLS CONTAINING TWO CURTAINS OF REINFORCEMENT SHALL NOT OCCUR IN THE SAME LOCATION.
5. "N/A" MEANS "NOT ALLOWABLE" INCREASE "K" FOR ALLOWABLE LAP SPLICE.

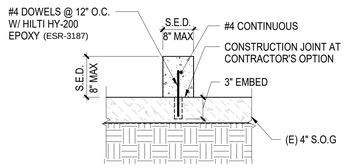
13 REBAR OFFSET AND LAP SPLICE CMU f 'm=2000 PSI

NTS

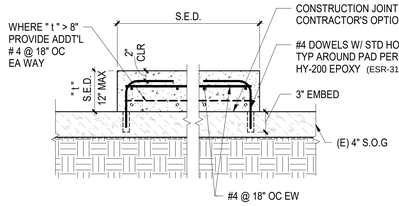


14 ENCLOSURE GATE POST EMBEDMENT DETAIL

1" = 1'-0"



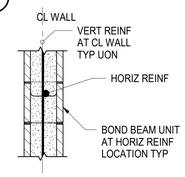
B CURB AT SLAB-ON-GRADE



A CURB WIDTH > 8"

9 CURBS AND HOUSEKEEPING PADS AT (E) S.O.G

NTS



CMU WALL SECTION

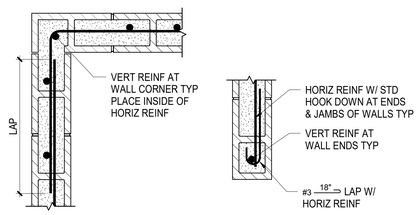
REINFORCING SCHEDULE FOR CONCRETE MASONRY WALL			
NOMINAL THICKNESS	VERTICAL REINF	HORIZONTAL REINF	No. OF REINF CURTAIN
8"	#5 @ 16" OC	#4 @ 16" OC	SINGLE

NOTES:

1. SEE PLANS FOR WALL TYPE LOCATIONS.
2. LAP SPLICE REINFORCING PER 13 -
3. CMU SHALL BE RUNNING BOND & FULLY GROUTED UON
4. USE DOUBLE OPEN END BLOCKS TO THE EXTENT PRACTICAL TYP DO NOT PLACE CLOSED SIDES BACK TO BACK.
5. SEE STRUCTURAL GENERAL NOTES FOR MATERIAL SPECIFICATIONS
6. FOR WALL CORNERS & INTERSECTIONS SEE DETAIL 11 -

10 CMU WALL REINFORCING SCHEDULE

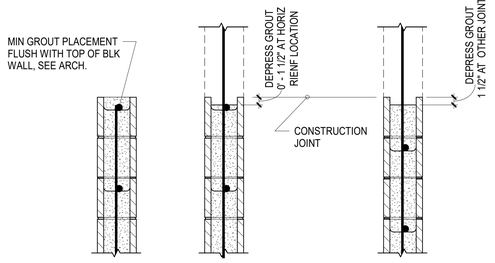
NTS



WALL CORNERS WALL ENDS

11 CMU WALL CORNERS AND ENDS

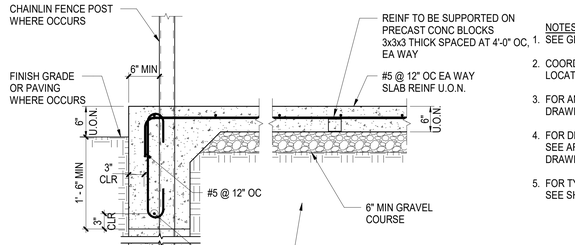
NTS



WALL SECTION

12 CMU WALL CONSTRUCTION JOINTS

NTS



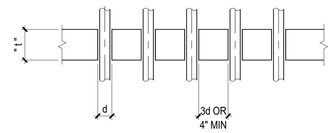
EDGE OF SLAB

SLAB-ON-GRADE

NOTE:
OVER EXCAVATE TO REMOVE ANY CRACKED OR LOOSE EXISTING MATERIAL BELOW SLAB AND FOOTING EXCAVATIONS. BACKFILL WITH LEAN CONCRETE f'c=1500 PSI @ 28 DAYS AS REQUIRED.

5 SLAB-ON-GRADE DETAIL

NTS

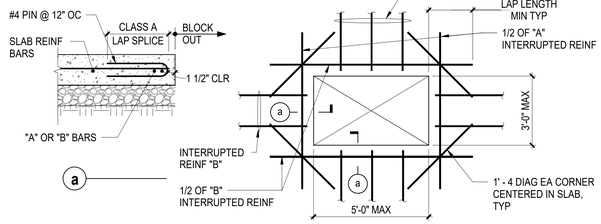


NOTES:

1. DO NOT CUT REINFORCING.
2. IF 4" MINIMUM CLEAR DISTANCE BETWEEN SLEEVES IS NOT POSSIBLE, THIS CONDITION SHALL BE TREATED AS A SLAB OPENING PER DETAIL 7 -
3. USE OF ALUMINUM CONDUIT IS PROHIBITED.

6 PIPING & CONDUIT THROUGH SLAB

NTS



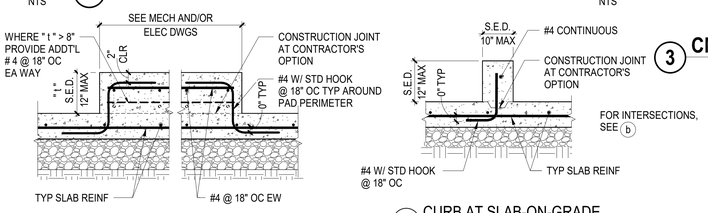
PLAN

NOTES:

1. OPENING SIZE, LOCATION, AND REINFORCING SHALL BE SUBMITTED AS PART OF THE REINFORCING SHOP DRAWING SUBMITTAL FOR REVIEW AND APPROVAL.
2. AT EACH SIDE OF THE OPENING, ADD NOT LESS THAN ONE-HALF THE AREA OF REINFORCING THAT IS INTERRUPTED BY THE OPENING. WHERE THE BAR LENGTH PAST THE OPENING IS INTERRUPTED BY AN EDGE OF SLAB, PROVIDE A STANDARD HOOK AT THE DISCONTINUOUS END.
3. WHERE THE DIAGONAL LENGTH IS INTERRUPTED BY AN EDGE OF SLAB, PROVIDE A STANDARD HOOK.
4. NOT REQUIRED AT COLUMN LOCATIONS.

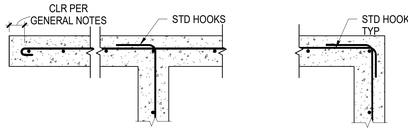
7 OPENING IN SLAB-ON-GRADE

NTS



b HOUSEKEEPING PAD AT SLAB-ON-GRADE

a CURB AT SLAB-ON-GRADE



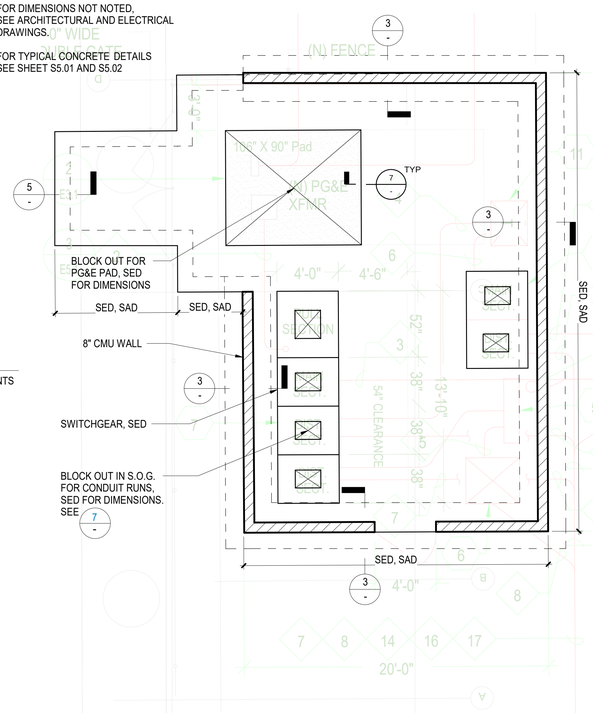
c CONCRETE CURB INTERSECTIONS

8 CURBS AND HOUSEKEEPING PADS

NTS

NOTES:

1. SEE GENERAL NOTES ON SHEET S1.01
2. COORDINATE ELECTRICAL EQUIPMENT LOCATIONS WITH ELECTRICAL DRAWINGS.
3. FOR ANCHORAGE INFO SEE ELECTRICAL DRAWINGS.
4. FOR DIMENSIONS NOT NOTED, SEE ARCHITECTURAL AND ELECTRICAL DRAWINGS.
5. FOR TYPICAL CONCRETE DETAILS SEE SHEET S5.01 AND S5.02

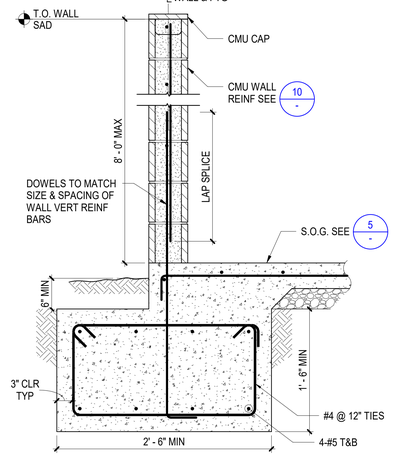


2 SWITCHGEAR SLAB

1/4" = 1'-0"

3 CMU SECTION

NTS



IDENTIFICATION STAMP
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DATE: 10/26/2021

aedis architects
www.aedisarchitects.com
387 S. 1st Street, Suite 300
San Jose, CA 95113
tel: (408)-300-5160
fax: (408)-300-5121

PROJECT

GEORGE HALL ELEMENTARY SCHOOL - HVAC REPLACEMENT

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CONSULTANT

BASE DESIGN
582 MARKET ST. STE. 1402
SAN FRANCISCO, CA 94104
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www.BASEdesigninc.com

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CONCRETE AND CMU DETAILS

DATE 10/04/2021

JOB # 2021005.02

SHEET # S5.02

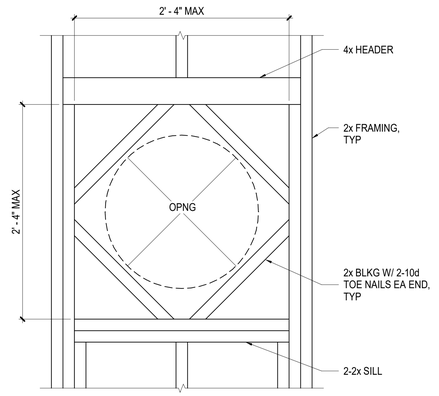
FASTENING SCHEDULE		
DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENER	SPACING AND LOCATION
ROOF		
1. Blocking between ceiling joists, rafters or trusses to top plate or other framing below	3-8d common (2 1/2" × 0.131"); or 3-10d box (3" × 0.128"); or 3-3" × 0.131" nails; or 3-3" 14 gage staples, 7/16" crown	Each end, toenail
Blocking between rafters or truss not at the wall top plate, to rafter or truss	2-8d common (2 1/2" × 0.131") 2-3" × 0.131" nails 2-3" 14 gage staples	Each end, toenail
	2-16 d common (3 1/2" × 0.162") 3-3" × 0.131" nails 3-3" 14 gage staples	End nail
Flat blocking to truss and web filler	16d common (3 1/2" × 0.162") @ 6" o.c. 3" × 0.131" nails @ 6" o.c. 3" × 14 gage staples @ 6" o.c	Face nail
2. Ceiling joists to top plate	3-8d common (2 1/2" × 0.131"); or 3-10d box (3" × 0.128"); or 3-3" × 0.131" nails; or 3-3" 14 gage staples, 7/16" crown	Each joist, toenail
3. Ceiling joist not attached to parallel rafter, laps over partitions (no thrust)	3-16d common (3 1/2" x 0.163") 4-10d box (3" × 0.128"); or 4-3" × 0.131" nails; or 4-3" 14 gage staples, 7/16" crown	Face nail
4. Ceiling joist attached to parallel rafter (heel joint)	Per Table 2308.7.3.1, CBC 2019	Face nail
5. Collar tie to rafter	3-10d common (3" × 0.148"); or 4-10d box (3" × 0.128"); or 4-3" × 0.131" nails; or 4-3" 14 gage staples, 7/16" crown	Face nail
6. Rafter or roof truss to top plate	3-10 common (3" × 0.148"); or 3-16d box (3 1/2" × 0.135"); or 4-10d box (3" × 0.128"); or 4-3" × 0.131 nails; or 4-3" 14 gage staples, 7/16" crown	Toenail[c]
7. Roof rafters to ridge valley or hip rafters; or roof rafter to 2-inch ridge beam	2-16d common (3 1/2" × 0.162"); or 3-10d box (3" × 0.128"); or 3-3" × 0.131" nails; or 3-3"14 gage staples, 7/16" crown; or	End nail
	3-10d common (3 1/2" × 0.148"); or 4-16d box (3 1/2" × 0.135"); or 4-10d box (3" × 0.128"); or 4-3" × 0.131" nails; or 4-3" 14 gage staples, 7/16" crown	Toenail
WALL		
8. Stud to stud (not at braced wall panels)	16d common (3 1/2" × 0.162");	24" o.c. face nail
	10d box (3" × 0.128"); or 3" × 0.131" nails; or 3-3" 14 gage staples, 7/16" crown	16" o.c. face nail
9. Stud to stud and abutting studs at intersecting wall corners (at braced wall panels)	16d common (3 1/2" × 0.162"); or	16" o.c. face nail
	16d box (3 1/2" × 0.135"); or	12" o.c. face nail
	3" × 0.131" nails; or 3-3" 14 gage staples, 7/16" crown	12" o.c. face nail
10. Built-up header (2" to 2" header)	16d common (3 1/2" × 0.162"); or	16" o.c. each edge, face nail
	16d box (3 1/2" × 0.135")	12" o.c. each edge, face nail
11. Continuous header to stud	4-8d common (2 1/2" × 0.131"); or 4-10d box (3" × 0.128")	Toenail
12. Top plate to top plate	16d common (3 1/2" × 0.162"); or	16" o.c. face nail
	10d box (3" × 0.128"); or 3" × 0.131" nails; or 3" 14 gage staples, 7/16" crown	12" o.c. face nail
13. Top plate to top plate, at end joints	8-16d common (3 1/2" × 0.162"); or 12-10d box (3" × 0.128"); or 12-3" × 0.131" nails; or 12-3" 14 gage staples, 7/16" crown	Each side of end joint, face nail (minimum 24" lap splice length each side of end joint)
14. Bottom plate to joist, rim joist, band joist or blocking (not at braced wall panels)	16d common (3 1/2"x0.163"); or	16" o.c. face nail
	16d box (3 1/2" × 0.135"); or 3" × 0.131" nails; or 3" 14 gage staples, 7/16" crown	12" o.c. face nail
15. Bottom plate to joist, rim joist, band joist or blocking at braced wall panels	2-16d common (3 1/2 " × 0.162"); or 3-16d box (3 1/2" × 0.135"); or 4-3" × 0.131" nails; or 4-3" 14 gage staples, 7/16" crown	16" o.c. face nail
16. Stud to top or bottom plate	4-8d common (2 1/2" × 0.131"); or 4-10d box (3" × 0.128"); or 4-3" × 0.131" nails; or 4-3" 14 gage staples, 7/16" crown; or	Toenail
	2-16d common (3 1/2" × 0.162"); or 3-10d box (3" × 0.128"); or 3-3" × 0.131" nails; or 3-3" 14 gage staples, 7/16" crown	End nail
17. Top plates, laps at corners and intersections	2-16d common (3 1/2" × 0.162"); or 3-10d box (3" × 0.128"); or 3-3" × 0.131" nails; or 3-3" 14 gage staples, 7/16" crown	Face nail
18. 1" brace to each stud and plate	2-8d common (2 1/2" × 0.131"); or 2-10d box (3" × 0.128"); or 2-3" × 0.131" nails; or 2-3" 14 gage staples, 7/16" crown	Face nail
19. 1" × 6" sheathing to each bearing	2-8d common (2 1/2" × 0.131"); or 2-10d box (3" × 0.128")	Face nail
20. 1" × 8" and wider sheathing to each bearing	3-8d common (2 1/2" × 0.131"); or 3-10d box (3" × 0.128")	Face nail

For SI: 1 inch = 25.4 mm.

a. Nails spaced at 6 inches at intermediate supports where spans are 48 inches or more. Nails for wall sheathing are permitted to be common, box or casing.
b. Spacing shall be 6 inches on center on the edges and 12 inches on center at intermediate supports for nonstructural applications. Panel supports at 16 inches (20 inches if strength axis in the long direction of the panel, unless otherwise marked).
c. Where a rafter is fastened to an adjacent parallel ceiling joist in accordance with this schedule and the ceiling joist is fastened to the top plate in accordance with this schedule, the number of toenails in the rafter shall be permitted to be reduced by one nail.
d. RSRS-01 is a Roof Sheathing Ring Shank nail meeting the specifications in ASTM F1667.

12 NAILING SCHEDULE

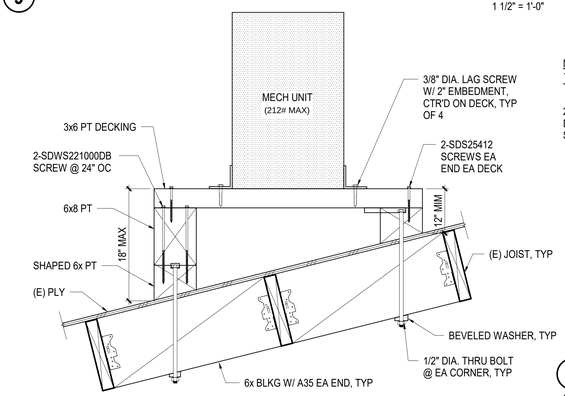
NTS



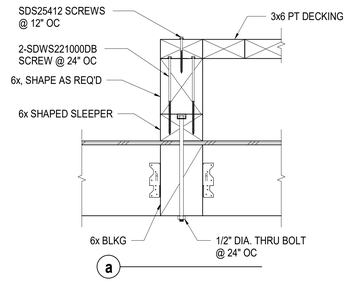
NOTES:
1. FOR INFO NOT SHOWN OR NOTED, SEE 5

9 FRAMING DETAIL AT ROUND OPENING

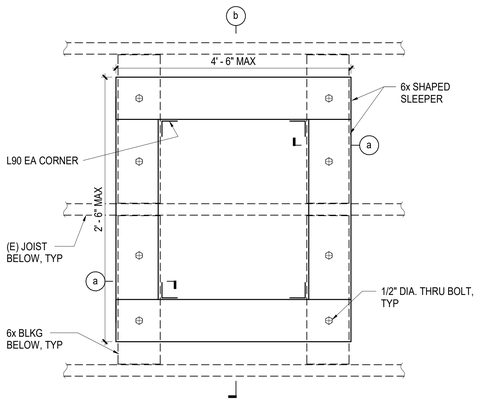
1 1/2" = 1'-0"



b



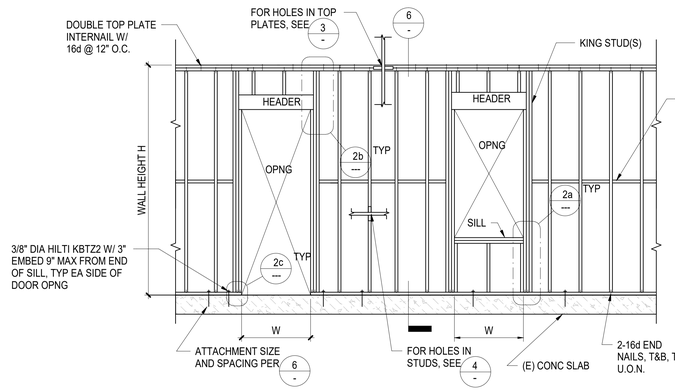
a



PLAN VIEW

11 MECH UNIT PLATFORM FRAMING DETAIL

1 1/2" = 1'-0"



NON-BEARING WALL STUD SCHEDULE		
WALL HEIGHT	STUD SIZE	SPACING
H < 13'-0"	2x4	16"

b

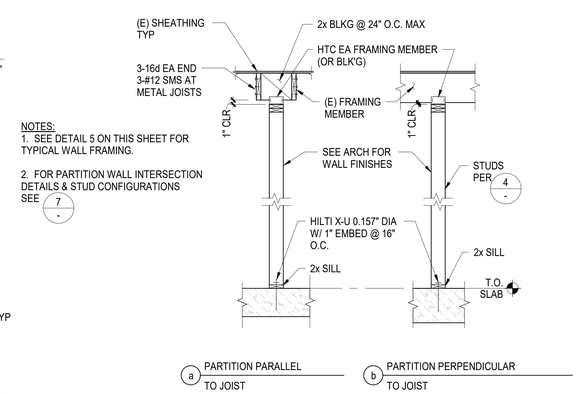
NON-BEARING WALL SCHEDULE AT OPENINGS				
OPENING WIDTH	KING STUD(S)	HEADER DEPTH	BEARING STUD(S)	SILL
W< 4'-6"	2x	4x	1-2x	2-2x

a

NOTE:
STUD, SILL, AND HEADER WIDTHS TO MATCH WALL FRAMING SIZE.

5 TYPICAL INTERIOR NON-BEARING WALL FRAMING

NTS



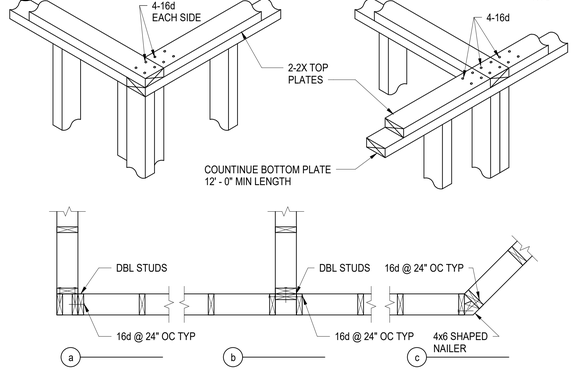
NOTES:
1. SEE DETAIL 5 ON THIS SHEET FOR TYPICAL WALL FRAMING.
2. FOR PARTITION WALL INTERSECTION DETAILS & STUD CONFIGURATIONS SEE 7

a PARTITION PARALLEL TO JOIST

b PARTITION PERPENDICULAR TO JOIST

6 NON-BEARING WALL PARTITION

NTS

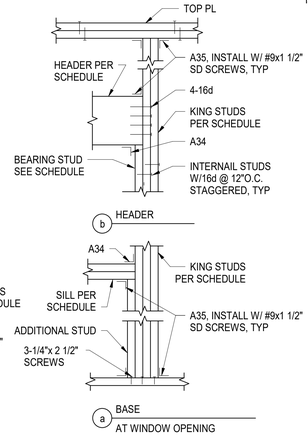


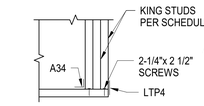
a b c

7 WALL INTERSECTIONS

NTS

NOTES:
1. FOR MEMBER SIZES, SEE 5
2. USE 20d NAILS AT 3x STUDS



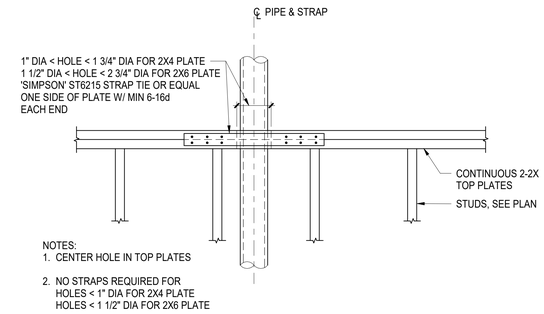


c BASE AT DOOR OPENING

a BASE AT WINDOW OPENING

2 WALL OPENING

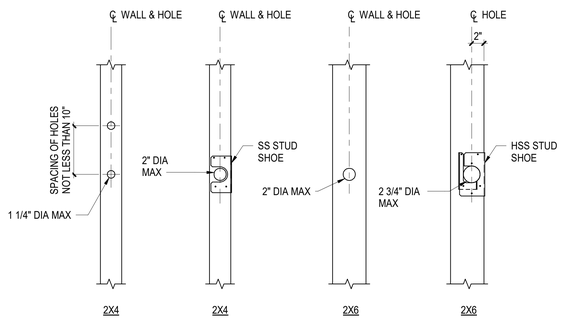
NTS



NOTES:
1. CENTER HOLE IN TOP PLATES
2. NO STRAPS REQUIRED FOR HOLES < 1" DIA FOR 2X4 PLATE
HOLES < 1 1/2" DIA FOR 2X6 PLATE

3 TOP PLATE PENETRATIONS

NTS



4 PENETRATIONS IN STUDS

NTS

aedis architects
www.aedisarchitects.com
387 S. 1st Street, Suite 300
San Jose, CA 95113
tel: (408)-300-5160
fax: (408)-300-5121

PROJECT

GEORGE HALL ELEMENTARY SCHOOL - HVAC REPLACEMENT

SAN MATEO-FOSTER CITY SCHOOL DISTRICT

CONSULTANT

BASE DESIGN
582 MARKET ST. STE. 1402
SAN FRANCISCO, CA 94104
Office:(415) 466-2997
www.BASEdesigninc.com

STAMP

REGISTERED PROFESSIONAL ENGINEER GOKHAN AKALAN NO. S5594 STRUCTURAL STATE OF CALIFORNIA

STATE
DSA FILE NUMBER 41-26
APPL # 01-119523

REVISIONS

No.	Description	Date

MILESTONES

DD	
90% CD	
DSA SUB	05/21/2021
BACKCHECK	10/04/2021

SHEET

FRAMING DETAILS AND NAILING SCHEDULE

DATE 10/04/2021

JOB # 2021005.02

SHEET # S8.01

ABBREVIATIONS

&	AND	ESP	EXTERNAL STATIC PRESSURE	PH	PHASE
°F	DEGREES FAHRENHEIT	EW	ENTERING WATER	POC	POINT OF CONNECTION
AAV	AUTOMATIC AIR VENT	EWB	ENTERING WET BULB	PRV	PRESSURE REDUCING VALVE
AC	AIR CONDITIONER	EWT	ENTERING WATER TEMPERATURE	PSI (G) (A)	POUNDS PER SQUARE INCH (GAUGE) (ABSOLUTE)
AD	ACCESS DOOR	EXT	EXTERIOR	P/T	PRESSURE/TEMPERATURE
AFF	ABOVE FINISH FLOOR	FD	FLOOR DRAIN	QTY	QUANTITY
AFUE	ANNUAL FUEL UTILIZATION EFFICIENCY	FFE	FINISHED FLOOR ELEVATION	RA	RETURN AIR
AL	ACOUSTICALLY LINED	FLA	FULL LOAD AMPS	RAD	RETURN AIR DAMPER
AMP	AMPERE	FLEX	FLEXIBLE	RH	RELATIVE HUMIDITY
AP	ACCESS PANEL	FPM	FEET PER MINUTE	RL	REFRIGERANT LIQUID
APPROX	APPROXIMATE	FS	FLOOR SINK	RM	ROOM
ARCH	ARCHITECT/ARCHITECTURAL	FT	FEET	RPM	REVOLUTIONS PER MINUTE
BDD	BACK DRAFT DAMPER	FT HD	FEET HEAD	RS	REFRIGERANT SUCTION
BFP	BACK FLOW PREVENTER	FTR	FLUE THRU ROOF	RV	RELIEF VALVE
BHP	BRAKE HORSEPOWER	GA	GAUGE	SA	SUPPLY AIR
BLDG	BUILDING	GAL	GALLON	SC	SENSIBLE COOLING
BOD	BOTTOM OF DUCT	GPM	GALLONS PER MINUTE	SEER	SEASONAL ENERGY EFFICIENCY RATIO
BOP	BOTTOM OF PIPE	HP	HORSEPOWER	SD	SMOKE DAMPER
BTU	BRITISH THERMAL UNIT	HR	HOUR	SM	SHEET METAL
BTUH	BRITISH THERMAL UNITS PER HOUR	HTG	HEATING	SOV	SHUT-OFF VALVE
CA	COMBUSTION AIR	HZ	HERTZ	SP	STATIC PRESSURE
CFH	CUBIC FEET PER HOUR	IE	INVERT ELEVATION	SPEC	SPECIFICATION
CFM	CUBIC FEET PER MINUTE	IN	INCH	SQ	SQUARE
CHWR	CHILLED WATER RETURN	INV	INVERT	SQFT, FT^2	SQUARE FEET
CHWS	CHILLED WATER SUPPLY	KW	KILOWATTS	SQIN, IN^2	SQUARE INCHES
CIRC	CIRCULATING	KWH	KILOWATT HOUR	STRUCT	STRUCTURAL
CLG	COOLING, CEILING	LAT	LEAVING AIR TEMPERATURE	T	THERMOSTAT, "X" INDICATES DEVICE CONTROLLED. 48" AFF (TO TOP OF STAT)
CLR	CLEAR	LBS	POUNDS	TC	TOTAL COOLING
CONC	CONCRETE	LVR	LOUVER	TDH	TOTAL DYNAMIC HEAD
CONN	CONNECTION	LWT	LEAVING WATER TEMPERATURE	TEMP	TEMPERATURE
CONT	CONTINUED, CONTINUATION	LWB	LEAVING WET BULB	THRU	THROUGH
COOL	COOLING	MAD, MD	MANUAL AIR DAMPER	TSP	TOTAL STATIC PRESSURE
COP	COEFFICIENT OF PERFORMANCE	MAV	MANUAL AIR VENT	TV	TURNING VANES
DB	DRY BULB	MAX	MAXIMUM	TYP	TYPICAL
DF	DRINKING FOUNTAIN	MBH	1000 BTU PER HOUR	UL	UNDERWRITER'S LABORATORIES
D/L	DOOR LOUVER	MCA	MINIMUM CIRCUIT AMPS	UON	UNLESS OTHERWISE NOTED
DN	DOWN	MCP	MECHANICAL CONTROL PANEL	V	VOLT
DP	DIFFERENTIAL PRESSURE	MECH	MECHANICAL	VFD	VARIABLE FREQUENCY DRIVE
DWGS	DRAWINGS	MFR	MANUFACTURER	VTR	VENT THROUGH ROOF
(E)	EXISTING	MIN	MINIMUM	W	WATTS
EA	EXHAUST AIR	MOCP	MAXIMUM OVERCURRENT PROTECTION	W/	WITH
EAD	EXHAUST AIR DAMPER	(N)	NEW	WB	WET BULB
EAT	ENTERING AIR TEMPERATURE	NC	NORMALLY CLOSED	WC	WATER COLUMN
EDB	ENTERING DRY BULB	NIC	NOT IN CONTRACT	WH	WATER HEATER
EER	ENERGY EFFICIENCY RATIO	NO	NORMALLY OPEN	WT	WEIGHT
EFF	EFFICIENCY	NTS	NOT TO SCALE		
ELEC	ELECTRICAL	OA	OUTSIDE AIR		
ELEV	ELEVATION	OAD	OUTSIDE AIR DAMPER		
ENT	ENTERING	OC	ON CENTER		
EQ	EQUAL	OD	OUTSIDE DIAMETER		
EQUIP	EQUIPMENT	PD	PRESSURE DROP		

LIST OF GOVERNING CODES

2019 BUILDING STANDARDS ADMINISTRATIVE CODE, PART 1, TITLE 24, C.C.R.
2019 CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24, C.C.R.
2019 CALIFORNIA ELECTRICAL CODE, PART 3, TITLE 24, C.C.R.
2019 CALIFORNIA MECHANICAL CODE (CMC), PART 4, TITLE 24, C.C.R.
2019 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24, C.C.R.
2019 CALIFORNIA ENERGY CODE (CEC), PART 6, TITLE 24, C.C.R.
2019 CALIFORNIA FIRE CODE (CFC), PART 9, TITLE 24, C.C.R.
2019 CALIFORNIA GREEN BUILDING STANDARDS CODE, PART 11, TITLE 24, C.C.R.
2019 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 SECTION 4-335.
4. SPECIAL INSPECTION PER SECTION 4-333(c).
5. CONTRACTOR SHALL SUBMIT VERIFIED REPORTS PER SECTION 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 SECTION 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 SECTION 4-331.
10. SUPERVISION BY THE DIVISION OF THE STATE ARCHITECT PER SECTION 4-334.

DSA GENERAL NOTES

1. THE INTENT OF THE CONTRACT DOCUMENTS IS TO MODERNIZE THE SCHOOL'S CAMPUS. 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. 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.
3. 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) 2019.
4. 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.
5. NO DEMOLITION SHALL BEGIN UNTIL PLANS INCLUDING THE DEMOLITION WORK HAVE BEEN APPROVED BY DSA.

MEP COMPONENT ANCHORAGE NOTE

ALL MECHANICAL, PLUMBING AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON DSA APPROVED CONSTRUCTION DOCUMENTS. THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2019 CBC, SECTIONS 1617A.1.18 THROUGH 1617A.1.26 AND ASCE 7-16 CHAPTER 13, 26 AND 30.

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

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

A. COMPONENTS WEIGHING LESS THAN 400 POUNDS AND 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

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

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE

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

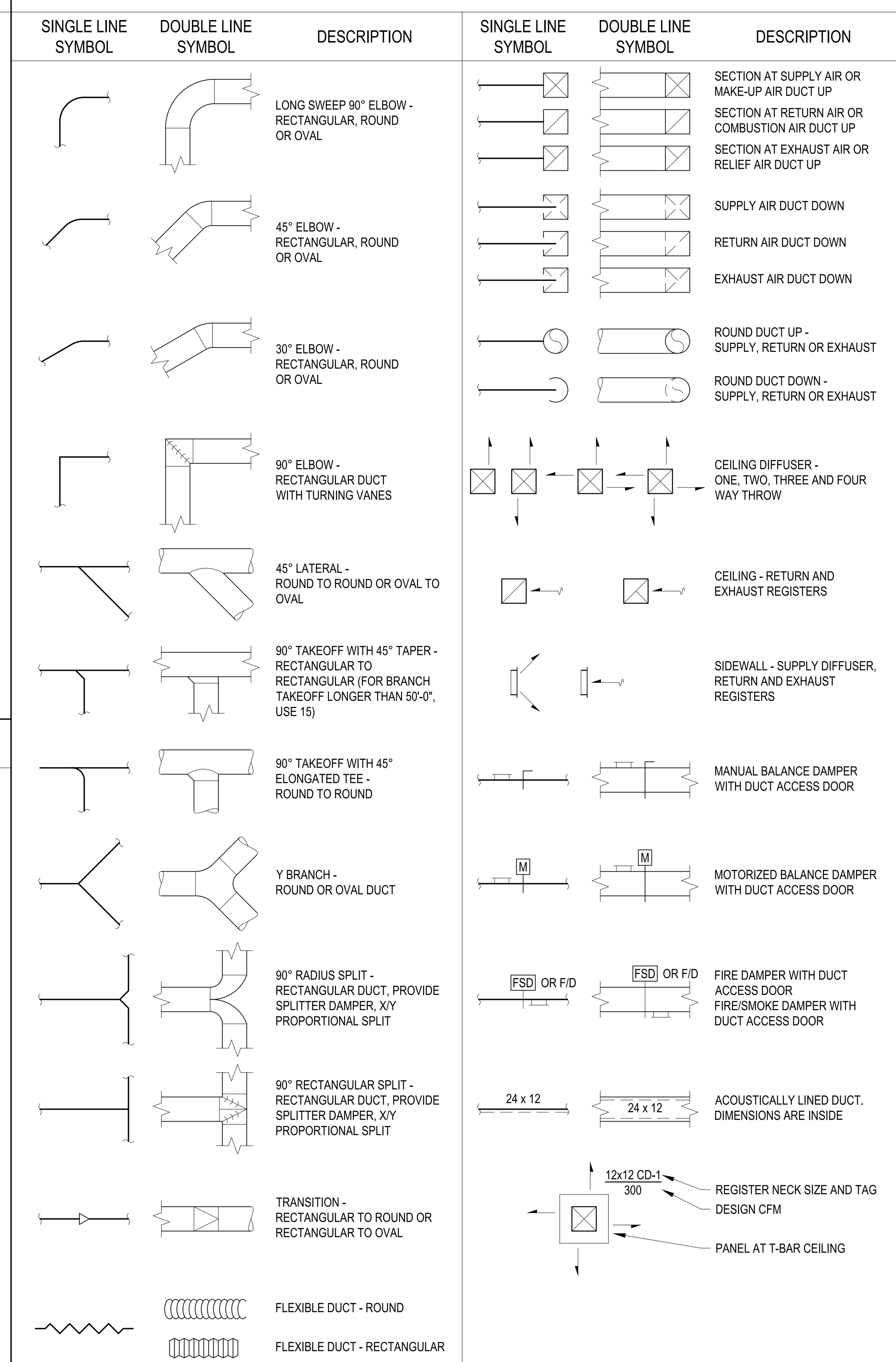
THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW. WHEN BRACING AND ATTACHMENTS ARE BASED ON A PREAPPROVED INSTALLATION GUIDE (E.G., OSHPD OPM FOR 2013 BC OR LATER), COPIES OF THE BRACING SYSTEM INSTALLATION GUIDE OR MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE START OF AND DURING THE HANGING AND BRACING OF THE DISTRIBUTION SYSTEMS. THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.

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

MP [ ] MD [ ] PP [ ] E [ ] - OPTION 1: DETAILED ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS.

MP [X] MD [X] PP [ ] E [ ] - OPTION 2: SHALL COMPLY WITH THE APPLICABLE OSHPD PRE-APPROVAL (OPM #) #0043-13, "MASON WEST, INC. SEISMIC RESTRAINT GUIDELINES FOR SUSPENDED DISTRIBUTION SYSTEMS" OR #0052-13, "B-LINE/TOLCO SEISMIC RESTRAINT SYSTEMS GUIDELINES"

SYMBOL LEGEND



SYMBOL	ABBRV.	IDENTIFICATION	SYMBOL	ABBRV.	IDENTIFICATION
		CAP		P.O.C.	POINT OF CONNECTION
	CONT	CONTINUATION			REMOVE EXISTING
		UNION			TEE DOWN
		LINE BREAK			90 DOWN
	CKV	CHECK VALVE	FC / A-1		EQUIPMENT DESIGNATION
	T&PRV	TEMP. & PRESS. RELIEF VALVE			TAG NUMBER
OR		VALVE	1 / M2.1		SECTION 1 / SHEET M2.1
		CONCENTRIC & ECCENTRIC REDUCERS			
	AD, AP	ACCESS DOOR, ACCESS PANEL			
	MAV	MANUAL AIR VENT			
T	T	THERMOSTAT MOUNTED @ 48" AFF. MAX.			
CO2	CO2	CARBON DIOXIDE (CO2) SENSOR			

GENERAL NOTES

1. CONTRACTOR SHALL VISIT THE SITE PRIOR TO SUBMISSION OF FINAL BID TO VERIFY ALL EXISTING SITE CONDITIONS WHICH MAY AFFECT THE COMPLETION OF THE INSTALLATION. ALL METHODS AND REQUIREMENTS FOR INSTALLATION SHALL BE DETERMINED PRIOR TO BID DATE. CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER OF RECORD OF ANY REQUIRED MODIFICATIONS WHICH ARE NOT REFERENCED ON THESE PLANS PRIOR TO SUBMITTING BID. SUBMITTAL OF THE CONTRACTOR'S BID DEMONSTRATES THE CONTRACTOR'S AWARENESS OF ALL SITE CONDITIONS AND REQUIRED WORK TO BE PERFORMED.
2. CONTRACTOR SHALL INCLUDE AND PROVIDE IN BID ALL LABOR AND MATERIALS NECESSARY FOR A COMPLETE AND OPERATIONAL INSTALLATION OF ALL SYSTEMS.
3. THE DRAWINGS INCLUDED IN THIS SET ARE DIAGRAMMATIC. THEY ARE REPRESENTATIVE OF THE ENGINEER OF RECORD'S DESIGN INTENT FOR ALL EQUIPMENT AND RELATED PIPING ETC. INDIVIDUAL POWER NEEDS, CONTROLS AND OTHER CONNECTIONS SHALL BE COORDINATED AND COMPLETED/ PROVIDED FOR COMPLETE SYSTEM OPERATION BY CONTRACTOR.
4. EVERYTHING IS NEW UNLESS OTHERWISE NOTED.
5. EQUIPMENT LOCATIONS AND PIPE ROUTING ARE NOT PRECISE AND SHALL BE COORDINATED, VERIFIED, AND DETERMINED IN THE FIELD. CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND ROUTE PIPING IN LOCATIONS WHICH MEET CODE REQUIREMENTS AND DO NOT INTERFERE WITH ANY BUILDING STRUCTURES, UTILITIES, OR OTHER TRADE EQUIPMENT.
6. (E) DUCTWORK, PIPING AND ITEMS TO BE REMOVED ARE SHOWN HATCHED. SEE LEGEND. COORDINATE CLOSELY WITH (N) DUCTWORK AND P.O.C.'S SHOWN. ALL OTHER (E) DUCTWORK, ETC. TO REMAIN.
7. REMOVE ALL ABANDONED PIPING, DUCTWORK, EQUIPMENT, WIRING, EQUIPMENT, AND FIXTURES INTERFERING WITH NEW WORK WHETHER NEW WORK IS ARCHITECTURAL, STRUCTURAL, MECHANICAL, OR ELECTRICAL
8. ABANDON IN PLACE BEHIND NEW FINISHES ALL PIPING, WIRING, AND DUCTWORK NOT INTERFERING WITH NEW WORK UNLESS REQUIRED FOR CONTINUED SERVICE.
9. ALL EQUIPMENT, EQUIPMENT CONNECTIONS, PIPING, MOUNTING LOCATIONS ETC. ARE TO BE VERIFIED WITH OWNER'S REPRESENTATIVE AND EQUIPMENT SUPPLIER PRIOR TO BEGINNING OF THE ROUGH-IN.
10. ALL WORK SHALL BE PERFORMED TO STATE, LOCAL, NATIONAL AND DISTRICT STANDARDS AND CODES. COORDINATE SPECIFIC REQUIREMENTS WITH DISTRICT STANDARDS AND AUTHORITY HAVING JURISDICTION.
11. ALL EQUIPMENT SHALL BE NEW AND CLEARLY LABELED AND IDENTIFIED. LABELS SHALL NOT BE COVERED BY OTHER CONSTRUCTION ELEMENTS.
12. UNLESS OTHERWISE NOTED IN CONTRACT DOCUMENTS, CONTRACTOR SHALL GUARANTEE ALL EQUIPMENT AND WORK FOR A PERIOD OF ONE YEAR.
13. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REQUIRED SAW CUTTING, CORE DRILLING, PATCHING, REFINISHING, ETC. AS REQUIRED FOR INSTALLATION OF SYSTEMS. ANY PENETRATIONS OR OPENINGS MADE IN WALLS OR STRUCTURES SHALL BE PATCHED AND/OR SEALED AS REQUIRED TO MAINTAIN THE INTEGRITY OF THE WALL OR STRUCTURE.
14. CONTRACTOR IS RESPONSIBLE FOR COMPLETING ALL FINAL CONNECTIONS TO OWNER FURNISHED EQUIPMENT AND SHALL INCLUDE THE PRICE OF INSTALLING ALL CONNECTIONS AS REQUIRED IN THEIR BIDS.
15. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR THE APPROVAL OF THE ENGINEER OF RECORD . ALL APPROVALS BY THE ENGINEER OF RECORD MUST BE SECURED PRIOR TO COMPLETION OF ANY PURCHASE ORDERS OR ROUGH-IN WORK.
16. THESE DRAWINGS AND ASSOCIATED SPECIFICATIONS ARE TO BE CONSIDERED CONTRACT DOCUMENTS FOR AGENCY REVIEW/ APPROVAL AND CONTRACTOR BIDDING PURPOSES.
17. AT THE COMPLETION OF THE PROJECT THE CONTRACTOR SHALL PROVIDE THE OWNER WITH A COMPLETE SET OF AS-BUILT DRAWINGS.
18. ANY AND ALL WORK THAT REQUIRES AN INTERRUPTION TO BUILDING SERVICES(S) (ELECTRICAL/ HVAC/ PLUMBING ETC.) MUST BE COORDINATED WITH THE DISTRICT A MINIMUM OF 48 HOURS IN ADVANCE. ANY SERVICE DOWNTIME SHALL NOT OCCUR DURING SCHOOL OPERATION HOURS.
19. IN INSTANCES WHERE A CONFLICT BETWEEN THE DRAWINGS AND THE SPECIFICATIONS AND INSTALLATION MANUALS FOR THE PROJECT EXISTS, THE CONTRACTOR SHALL ADHERE TO THE MORE STRINGENT REQUIREMENT.
20. ANY EXISTING BUILDING STRUCTURES OR SURFACES DAMAGED BY DEMOLITION OR DURING INSTALLATION ACTIVITIES SHALL BE REPAIRED, PATCHED, AND/OR REFINISHED TO THE SATISFACTION OF THE OWNER.
21. FURNISH AND INSTALL MANUAL AIR DAMPERS AT ALL DUCT BRANCH TAKEOFFS TO A SINGLE SUPPLY DIFFUSER.
22. FOR ALL VOLUME DAMPERS LOCATED ABOVE CEILINGS, PROVIDE 12" LONG 1/2" WIDE FLUORESCENT ORANGE TAPE TO MARK DAMPER LOCATIONS.
23. ALL DUCTWORK, CONDUITS, BOXES, SURFACE MOUNTED RACEWAYS, SUPPORT DEVICES, AND ASSOCIATED FITTINGS SHALL BE MOUNTED IN CONCEALED LOCATIONS ABOVE CEILINGS, DUCTS, TRUSSES, BEAMS, ETC. WHERE WORK HAS TO BE INSTALLED IN EXPOSED LOCATIONS, IT SHALL BE PAINTED TO MATCH THE ADJACENT SURFACES OR PER ARCHITECT'S DIRECTION.
24. CONTRACTOR SHALL PREPARE AND SUBMIT THE CALIFORNIA ENERGY COMMISSION TITLE 24 CERTIFICATE OF ACCEPTANCE FORMS RELATED TO INSTALLED EQUIPMENT AND SYSTEMS.
25. 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.
26. 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. COORDINATE WITH OWNER FOR LOCATION AND PROCEDURES.
27. ALL BUILDING MATERIALS MUST BE ASBESTOS FREE.
28. 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.
29. TITLE 24 COMPLIANCE: THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS IS THAT THE WORK IS TO BE IN ACCORDANCE WITH TITLE 24, CALIFORNIA CODE OF REGULATIONS (2019 CBC). SHOULD ANY CONDITIONS BE DISCOVERED NOT COVERED BY THE CONTRACT DOCUMENTS WHERE IN THE FINISHED WORK DOES NOT COMPLY WITH 2019 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.

DRAWING INDEX

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119523 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 10/26/2021

aedis architects
www.aedisarchitects.com
387 S. 1st Street, Suite 300
San Jose, CA 95113
tel: (408)-300-5160
fax: (408)-300-5121

PROJECT

GEORGE HALL ELEMENTARY SCHOOL - HVAC REPLACEMENT

SAN MATEO-FOSTER CITY SCHOOL DISTRICT

CONSULTANT

CEG JOB NO: 21034
CYPRESS Engineering Group
HVAC, Plumbing, Fire Protection
Building Commissioning
Industrial Refrigeration
Environmental Compliance
Training & Technical Support

STAMP

REGISTERED PROFESSIONAL ENGINEER
No. M31059
EXP. JUNE 30, 2023
MECHANICAL
STATE OF CALIFORNIA

STATE
DSA FILE NUMBER 41-26
APPL # 01-119523

REVISIONS

No.	Description	Date

MILESTONES

DD	
90% CD	
DSA SUB	05/21/2021
BACKCHECK	10/04/2021

SHEET

SYMBOL LEGENDS, ABBREVIATIONS, NOTES - MECHANICAL & PLUMBING

DATE 10/04/2021

JOB # 2021005.02

SHEET # MP0.01

SPLIT SYSTEM AIR CONDITIONERS SCHEDULE

TAG	MANUFACTURER	MODEL	WING / BUILDING	LOCATION	COOLING	HEATING	AIRFLOW CFM	REFRIGERANT PIPING		SEER	ELECTRICAL			WEIGHT LBS	MOUNTING DETAIL	NOTES
					TOTAL MBH	TOTAL MBH		LIQUID	GAS		V / PH	MCA	MOCP			
SSO-1	SAMSUNG	AR24TSFYBWKXCV	WING 1	ROOF	22	24	—	1/4"	5/8"	18	208 / 1	20	30	125	2/MP6.01	
SSI-1	SAMSUNG	AR24TSFYBWKNCV		KITCHEN			657	1/4"	5/8"	—	NOTE 1			30	3/MP6.01	2, 3, 4, 5
SSO-2	SAMSUNG	AR09TSFYBWKXCV	WING 1	ROOF	9	11	—	1/4"	3/8"	23.5	208 / 1	12	20	70	2/MP6.01	
SSI-2	SAMSUNG	AR09TSFYBWKNCV		PSYCH 2A			371	1/4"	3/8"	—	NOTE 1			25	3/MP6.01	2, 3, 4, 5
SSO-3	SAMSUNG	AR24TSFYBWKXCV	WING 1	ROOF	22	NOTE 6	—	1/4"	5/8"	18	208 / 1	20	30	125	2/MP6.01	
SSI-3	SAMSUNG	AR24TSFYBWKNCV		ELECTRICAL ROOM			657	1/4"	5/8"	—	NOTE 1			30	3/MP6.01	2, 3, 4, 5

1. INDOOR UNITS ARE POWERED BY OUTDOOR UNIT.
2. PROVIDE WITH WALL MOUNTING BRACKET.
3. PROVIDE WITH SAMSUNG WALL MOUNTED THERMOSTAT.
4. PROVIDE WITH BACNET INTERFACE CARD. SEE MP5.01 FOR CONTROLS.
5. PROVIDE WITH CONDENSATE PUMP.
6. LOCK OUT HEATING.

AIR DISTRIBUTION SCHEDULE

TAG	MANUFACTURER	MODEL NO.	DESCRIPTION	BORDER TYPE	MOUNTING DETAIL	NOTES
HSS-1	TITUS	S300FL	HIGH SIDEWALL SUPPLY	TYPE 1	12/MP6.01	1, 2, 4
HSS-2	TITUS	300RL	HIGH SIDEWALL SUPPLY	TYPE 1	13/MP6.01	1, 2
HSR-1	TITUS	350RL	HIGH SIDEWALL RETURN	TYPE 1	13/MP6.01	2, 3
RG-1	TITUS	30RL	RELIEF GRILLE	TYPE 1	10/MP6.01	2, 5

1. SET BLADES AT 22.5° DEFLECTION.
2. PRIME AND PAINT PER ARCHITECT'S INSTRUCTIONS. REGISTER COLOR SELECTED BY ARCHITECT.
3. PROVIDE WITH AIRSAN COMPACT DUCT SILENCER.
4. PROVIDE WITH ASD AIR SCOOP DEVICE.
5. CONTRACTOR TO FIELD VERIFY (E) DIMENSIONS PRIOR TO ORDERING.

CLASSROOM SPLIT SYSTEM HEAT PUMPS SCHEDULE

TAG	MANUFACTURER	MODEL	BUILDING / WING	LOCATION	COOLING	HEATING	AIRFLOW CFM	OUTSIDE AIR CFM	REFRIGERANT PIPING		SEER	HSPF	ELECTRICAL			WEIGHT LBS	MOUNTING DETAIL	NOTES
					TOTAL MBH	TOTAL MBH			LIQUID	GAS			V / PH	MCA	MOCP			
FC-1	SAMSUNG	AC054KNZDCH/AA	WING 1	CLASSROOM 1	54	60	1600	450	3/8"	3/4"	-	-	NOTE 8			164	1/MP6.01	2, 3, 4, 6, 7, 8
HP-1	SAMSUNG	AC054KXADCH/AA		ROOF			-	-	3/8"	3/4"	17.1	9.0	208 / 1	42	70	212	3/MP6.01	1
FC-2	SAMSUNG	AC054KNZDCH/AA		CLASSROOM 2	54	60	1600	450	3/8"	3/4"	-	-	NOTE 8			164	1/MP6.01	2, 3, 4, 6, 7, 8
HP-2	SAMSUNG	AC054KXADCH/AA		ROOF			-	-	3/8"	3/4"	17.1	9.0	208 / 1	42	70	212	3/MP6.01	1
FC-3	SAMSUNG	AC054KNZDCH/AA	WING 2	CLASSROOM 3	54	60	1155	450	3/8"	3/4"	-	-	NOTE 8			164	1/MP6.01	2, 3, 4, 6, 7, 8
HP-3	SAMSUNG	AC054KXADCH/AA		ROOF			-	-	3/8"	3/4"	17.1	9.0	208 / 1	42	70	212	3/MP6.01	1
FC-4	SAMSUNG	AC054KNZDCH/AA		CLASSROOM 4	54	60	1155	450	3/8"	3/4"	-	-	NOTE 8			164	1/MP6.01	2, 3, 4, 6, 7, 8
HP-4	SAMSUNG	AC054KXADCH/AA		ROOF			-	-	3/8"	3/4"	17.1	9.0	208 / 1	42	70	212	3/MP6.01	1
FC-5	SAMSUNG	AC054KNZDCH/AA		CLASSROOM 5	54	60	1155	450	3/8"	3/4"	-	-	NOTE 8			164	1/MP6.01	2, 3, 4, 6, 7, 8
HP-5	SAMSUNG	AC054KXADCH/AA		ROOF			-	-	3/8"	3/4"	17.1	9.0	208 / 1	42	70	212	3/MP6.01	1
FC-6	SAMSUNG	AC054KNZDCH/AA		CLASSROOM 6	54	60	1155	450	3/8"	3/4"	-	-	NOTE 8			164	1/MP6.01	2, 3, 4, 6, 7, 8
HP-6	SAMSUNG	AC054KXADCH/AA		ROOF			-	-	3/8"	3/4"	17.1	9.0	208 / 1	42	70	212	3/MP6.01	1
FC-7	SAMSUNG	AC054KNZDCH/AA		CLASSROOM 7	54	60	1155	450	3/8"	3/4"	-	-	NOTE 8			164	1/MP6.01	2, 3, 4, 6, 7, 8
HP-7	SAMSUNG	AC054KXADCH/AA		ROOF			-	-	3/8"	3/4"	17.1	9.0	208 / 1	42	70	212	3/MP6.01	1
FC-8	SAMSUNG	AC054KNZDCH/AA		CLASSROOM 8	54	60	1155	450	3/8"	3/4"	-	-	NOTE 8			164	1/MP6.01	2, 3, 4, 6, 7, 8
HP-8	SAMSUNG	AC054KXADCH/AA		ROOF			-	-	3/8"	3/4"	17.1	9.0	208 / 1	42	70	212	3/MP6.01	1
FC-9	SAMSUNG	AC054KNZDCH/AA	WING 3	CLASSROOM 9	54	60	1155	450	3/8"	3/4"	-	-	NOTE 8			164	1/MP6.01	2, 3, 4, 6, 7, 8
HP-9	SAMSUNG	AC054KXADCH/AA		ROOF			-	-	3/8"	3/4"	17.1	9.0	208 / 1	42	70	212	3/MP6.01	1
FC-10	SAMSUNG	AC054KNZDCH/AA		CLASSROOM 10	54	60	1155	450	3/8"	3/4"	-	-	NOTE 8			164	1/MP6.01	2, 3, 4, 6, 7, 8
HP-10	SAMSUNG	AC054KXADCH/AA		ROOF			-	-	3/8"	3/4"	17.1	9.0	208 / 1	42	70	212	3/MP6.01	1
FC-11	SAMSUNG	AC054KNZDCH/AA		CLASSROOM 11	54	60	1155	450	3/8"	3/4"	-	-	NOTE 8			164	1/MP6.01	2, 3, 4, 6, 7, 8
HP-11	SAMSUNG	AC054KXADCH/AA		ROOF			-	-	3/8"	3/4"	17.1	9.0	208 / 1	42	70	212	3/MP6.01	1
FC-12	SAMSUNG	AC054KNZDCH/AA		CLASSROOM 12	54	60	1155	450	3/8"	3/4"	-	-	NOTE 8			164	1/MP6.01	2, 3, 4, 6, 7, 8
HP-12	SAMSUNG	AC054KXADCH/AA		ROOF			-	-	3/8"	3/4"	17.1	9.0	208 / 1	42	70	212	3/MP6.01	1
FC-13	SAMSUNG	AC054KNZDCH/AA		CLASSROOM 13	54	60	1155	450	3/8"	3/4"	-	-	NOTE 8			164	1/MP6.01	2, 3, 4, 6, 7, 8
HP-13	SAMSUNG	AC054KXADCH/AA		ROOF			-	-	3/8"	3/4"	17.1	9.0	208 / 1	42	70	212	3/MP6.01	1
FC-14	SAMSUNG	AC054KNZDCH/AA		CLASSROOM 14	54	60	1155	450	3/8"	3/4"	-	-	NOTE 8			164	1/MP6.01	2, 3, 4, 6, 7, 8
HP-14	SAMSUNG	AC054KXADCH/AA		ROOF			-	-	3/8"	3/4"	17.1	9.0	208 / 1	42	70	212	3/MP6.01	1
FC-15	SAMSUNG	AC054KNZDCH/AA	WING 4	CLASSROOM 15	54	60	1155	450	3/8"	3/4"	-	-	NOTE 8			164	1/MP6.01	2, 3, 4, 6, 7, 8
HP-15	SAMSUNG	AC054KXADCH/AA		ROOF			-	-	3/8"	3/4"	17.1	9.0	208 / 1	42	70	212	3/MP6.01	1
FC-16	SAMSUNG	AC054KNZDCH/AA		CLASSROOM 16	54	60	1155	450	3/8"	3/4"	-	-	NOTE 8			164	1/MP6.01	2, 3, 4, 6, 7, 8
HP-16	SAMSUNG	AC054KXADCH/AA		ROOF			-	-	3/8"	3/4"	17.1	9.0	208 / 1	42	70	212	3/MP6.01	1
FC-17	SAMSUNG	AC054KNZDCH/AA		CLASSROOM 17	54	60	1155	450	3/8"	3/4"	-	-	NOTE 8			164	1/MP6.01	2, 3, 4, 6, 7, 8
HP-17	SAMSUNG	AC054KXADCH/AA		ROOF			-	-	3/8"	3/4"	17.1	9.0	208 / 1	42	70	212	3/MP6.01	1
FC-18	SAMSUNG	AC054KNZDCH/AA		CLASSROOM 18	54	60	1155	450	3/8"	3/4"	-	-	NOTE 8			164	1/MP6.01	2, 3, 4, 6, 7, 8
HP-18	SAMSUNG	AC054KXADCH/AA		ROOF			-	-	3/8"	3/4"	17.1	9.0	208 / 1	42	70	212	3/MP6.01	1
FC-19	SAMSUNG	AC054KNZDCH/AA		CLASSROOM 19	54	60	1155	450	3/8"	3/4"	-	-	NOTE 8			164	1/MP6.01	2, 3, 4, 6, 7, 8
HP-19	SAMSUNG	AC054KXADCH/AA		ROOF			-	-	3/8"	3/4"	17.1	9.0	208 / 1	42	70	212	3/MP6.01	1
FC-20	SAMSUNG	AC054KNZDCH/AA		CLASSROOM 20	54	60	1155	450	3/8"	3/4"	-	-	NOTE 8			164	1/MP6.01	2, 3, 4, 6, 7, 8
HP-20	SAMSUNG	AC054KXADCH/AA		ROOF			-	-	3/8"	3/4"	17.1	9.0	208 / 1	42	70	212	3/MP6.01	1
FC-32	SAMSUNG	AC054KNZDCH/AA	ESCALON BLDG	CLASSROOM 32	54	60	1155	450	3/8"	3/4"	-	-	NOTE 8			164	1/MP6.01	2, 3, 4, 6, 7, 8
HP-32	SAMSUNG	AC054KXADCH/AA		ROOF			-	-	3/8"	3/4"	17.1	9.0	208 / 1	42	70	212	15/MP6.01	1
FC-33	SAMSUNG	AC054KNZDCH/AA		CLASSROOM 33	54	60	1155	450	3/8"	3/4"	-	-	NOTE 8			164	1/MP6.01	2, 3, 4, 6, 7, 8
HP-33	SAMSUNG	AC054KXADCH/AA		ROOF			-	-	3/8"	3/4"	17.1	9.0	208 / 1	42	70	212	15/MP6.01	1
FC-34	SAMSUNG	AC054KNZDCH/AA		CLASSROOM 34	54	60	1155	450	3/8"	3/4"	-	-	NOTE 8			164	1/MP6.01	2, 3, 4, 6, 7, 8
HP-34	SAMSUNG	AC054KXADCH/AA		ROOF			-	-	3/8"	3/4"	17.1	9.0	208 / 1	42	70	212	15/MP6.01	1
FC-35	SAMSUNG	AC054KNZDCH/AA		CLASSROOM 35	54	60	900	450	3/8"	3/4"	-	-	NOTE 8			164	1/MP6.01	2, 3, 4, 6, 7, 8
HP-35	SAMSUNG	AC054KXADCH/AA		ROOF			-	-	3/8"	3/4"	17.1	9.0	208 / 1	42	70	212	15/MP6.01	1
FC-36	SAMSUNG	AC024KNZDCH/AA		CLASSROOM 36	24	27	760	150	1/4"	5/8"	-	-	NOTE 8			100	1/MP6.01	2, 3, 4, 5, 6, 7, 8
HP-36	SAMSUNG	AC024JXADCH/AA		ROOF			-	-	1/4"	5/8"	19.5	11.5	208 / 1	13.6	20	145	15/MP6.01	1

1. SPLIT SYSTEM SHALL BE ABLE TO OPERATE AT 94% HEATING CAPACITY DOWN TO 32°F OUTDOOR AMBIENT TEMPERATURE.
2. CFM BASED ON 0.55 ESP.
3. PROVIDE WITH SAMSUNG MIM-A60UN 24VAC THERMOSTAT ADAPTER AND 24VAC TRANSFORMER.
4. PROVIDE WITH DELTA CONTROL THERMOSTAT WITH CO2 SENSOR. SEE MP5.01 FOR CONTROLS.
5. PROVIDE WITH CONDENSATE PUMP.
6. PROVIDE WITH MERV-13 FILTERS WITH FILTER ACCESS PANEL.
7. FAN COIL SHALL BE ADJUSTED TO OPERATE AT CONSTANT SPEED AT INDICATED CFM.
8. INDOOR UNIT POWERED BY OUTDOOR UNIT.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119523 INC:
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aedis architects

www.aedisarchitects.com
387 S. 1st Street, Suite 300
San Jose, CA 95113
tel: (408)-300-5160
fax: (408)-300-5121

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CONSULTANT

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CYPRESS Engineering Group
HVAC, Plumbing, Fire Protection
Building Commissioning
Industrial Refrigeration
Environmental Compliance
Training & Technical Support
831.218.1802
8 Harris Court, Suite A8
Monterey, CA 93940
cypresseg.com

STAMP

REGISTERED PROFESSIONAL ENGINEER
METIN SERTTUNC
No. M31059
EXP. JUNE 30, 2023
MECHANICAL
STATE OF CALIFORNIA

STATE
DSA FILE NUMBER 41-26
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No. Description Date

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SHEET

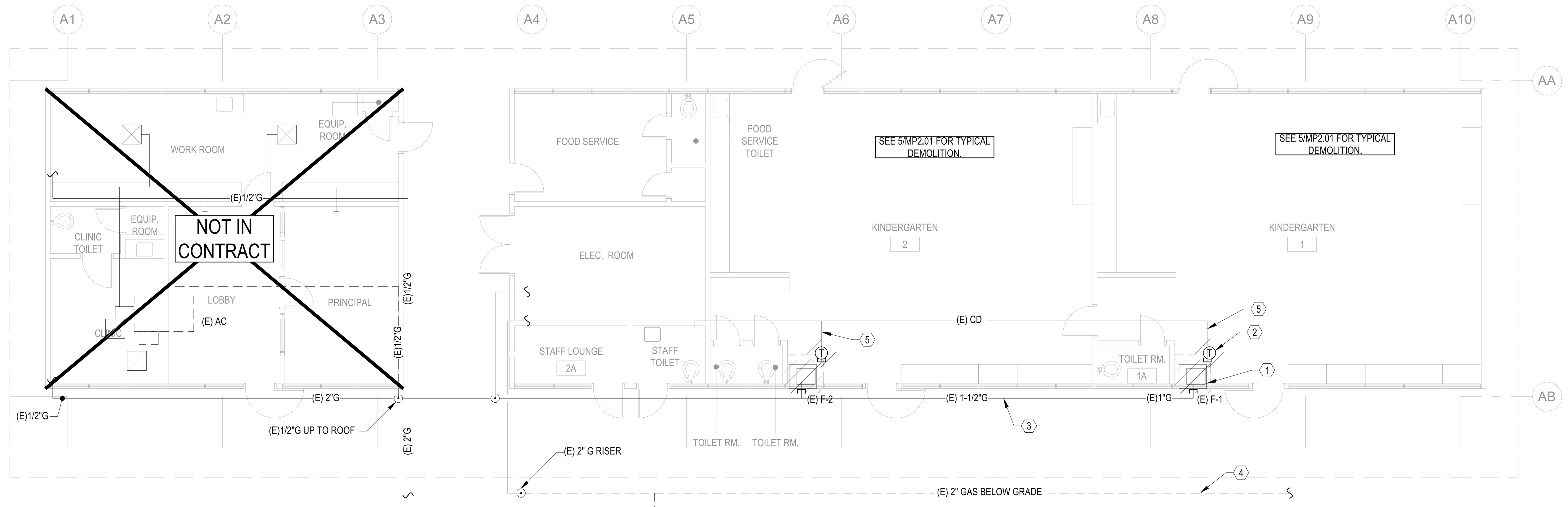
SCHEDULES-MECHANICAL & PLUMBING

DATE 10/04/2021

JOB # 2021005.02

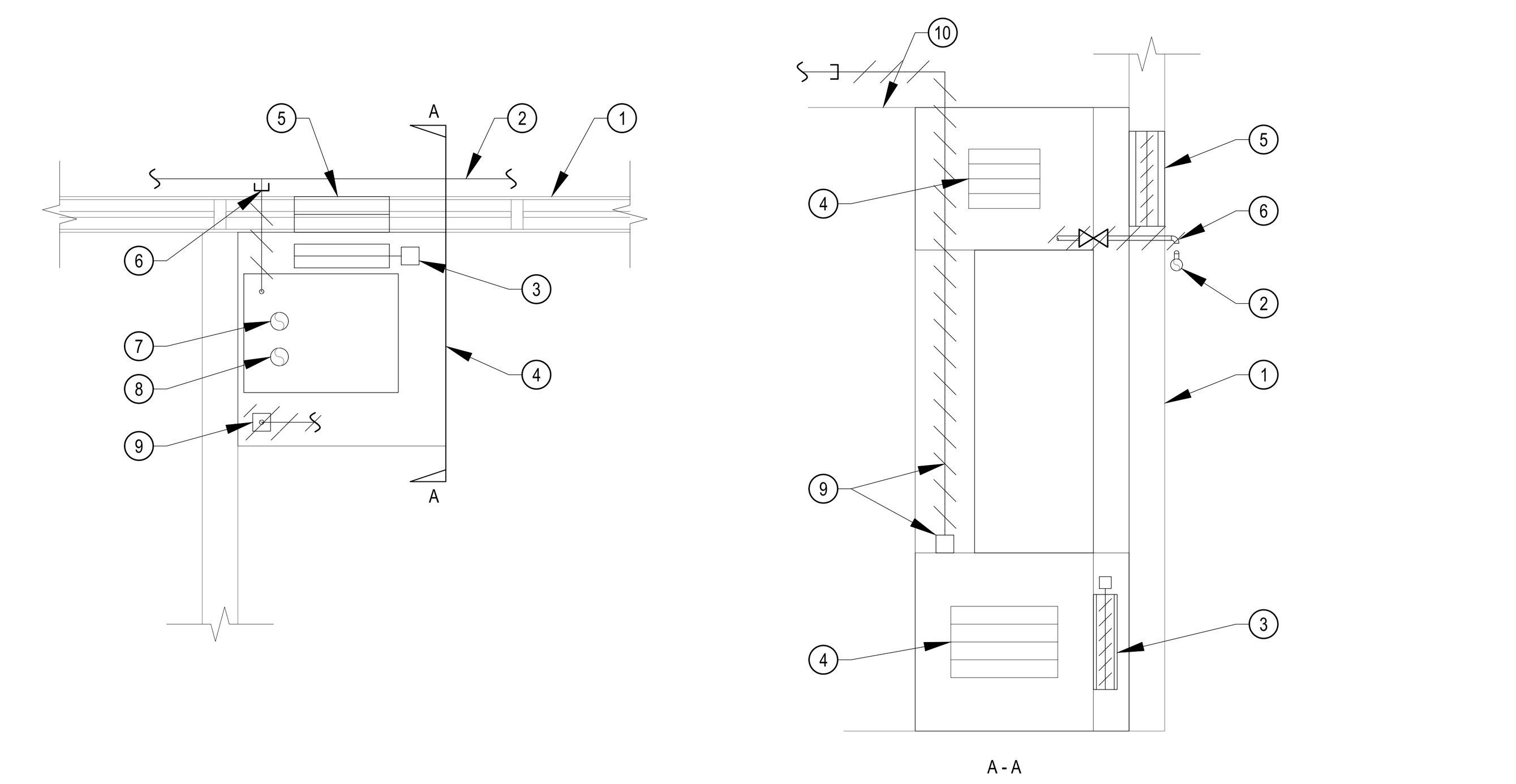
SHEET #

MP0.02



1 MP2.01 FLOOR PLAN - WING 1 - DEMO - MECHANICAL & PLUMBING
SCALE: 1/8" = 1'-0"

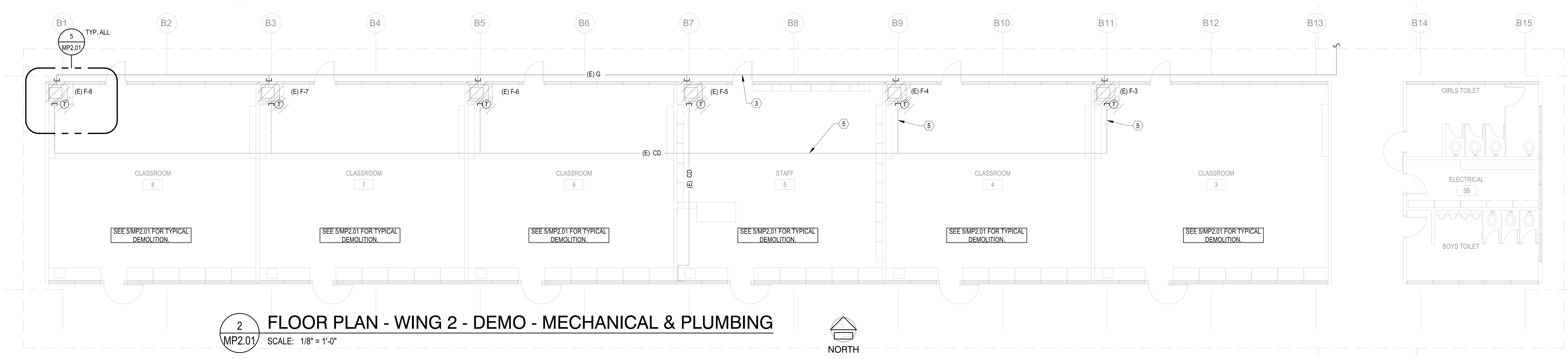
NORTH



5 MP2.01 TYPICAL FURNACE DEMOLITION
SCALE: N.T.S.

DETAIL NOTES:

1. (E) EXTERIOR WALL.
2. (E) GAS MAIN TO REMAIN.
3. REMOVE (E) OUTSIDE AIR DAMPER AND ACTUATOR. COORDINATE WITH DISTRICT TO SALVAGE 30% OF (E) ACTUATORS AND CONTROLLERS.
4. REMOVE (E) FURNACE ENCLOSURE, REGISTERS, AND ACCESS PANELS, COMPLETE.
5. (E) OUTSIDE AIR INTAKE TO REMAIN AND BE REUSED. HEIGHT VARIES. REMOVE (E) DAMPER AND DUCTWORK, COMPLETE.
6. REMOVE (E) GAS BRANCH LINE AND SHUT OFF VALVE. CAP AT (E) GAS MAIN. SEE DETAIL 8/MP6.01.
7. REMOVE (E) COMBUSTION AIR INTAKE. PATCH AND REPAIR ROOF AND CEILING PER ARCHITECT'S DRAWINGS.
8. REMOVE (E) FLUE. PATCH AND REPAIR ROOF AND CEILING PER ARCHITECT'S DRAWINGS.
9. REMOVE (E) CONDENSATE PUMP. REMOVE (E) CONDENSATE DRAIN PIPING WITHIN ENCLOSURE. CAP (E) CD PIPING ABOVE CEILING, AWAY FROM NEW ENCLOSURE, AND ABANDON.
10. (E) CEILING.



2 MP2.01 FLOOR PLAN - WING 2 - DEMO - MECHANICAL & PLUMBING
SCALE: 1/8" = 1'-0"

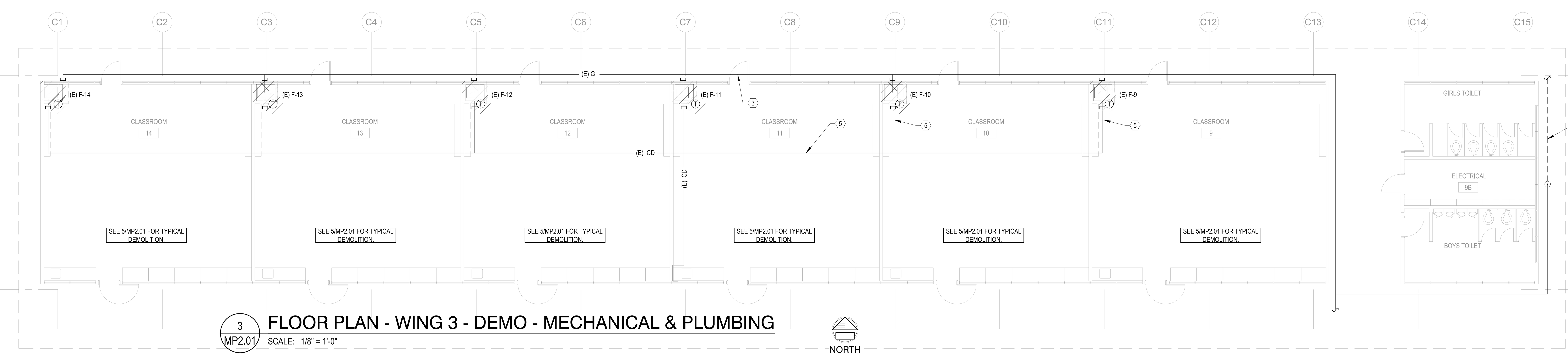
NORTH

GENERAL NOTES

1. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING AND NEW BUILDING STRUCTURES, SERVICES AND OWNER'S PROPERTY DURING THE ENTIRE PERIOD OF CONSTRUCTION.
2. COORDINATE THE LOCATIONS OF ROOF/ WALL OPENINGS, PENETRATIONS, DUCTWORK AND ALL MECHANICAL EQUIPMENT WITH RESPECT TO BUILDING STRUCTURE AND OTHER BUILDING SERVICES TO AVOID CONFLICT.

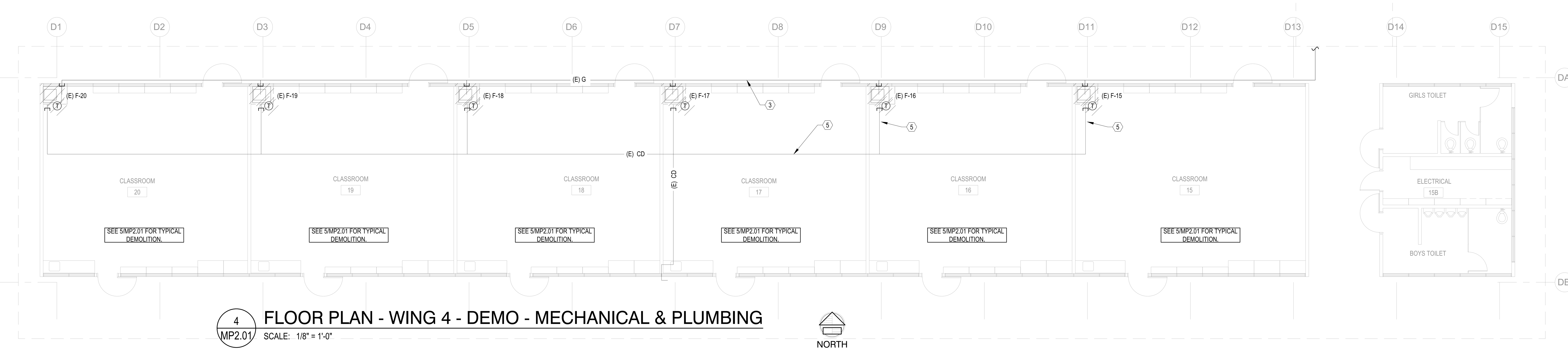
DEMOLITION SHEET NOTES

1. REMOVE (E) FURNACE ENCLOSURE AND FURNACE, COMPLETE. SEE 5/MP2.01 FOR TYPICAL FURNACE DEMO. TYP. OF (20).
2. REMOVE (E) THERMOSTAT AND WIRING BACK TO (E) FURNACE, TYP. SALVAGE (E) THERMOSTATS. RETURN 30% OF THE EQUIPMENT TO THE DISTRICT.
3. (E) GAS MAIN TO REMAIN ALONGSIDE BUILDING. SEE 5/MP2.01 FOR CAPPING BRANCH PIPES.
4. (E) UNDERGROUND GAS TO REMAIN, TYP.
5. CAP AND ABANDON (E) CD ABOVE CEILING, TYP. SEE 5/MP2.01.



3 MP2.01 FLOOR PLAN - WING 3 - DEMO - MECHANICAL & PLUMBING
SCALE: 1/8" = 1'-0"

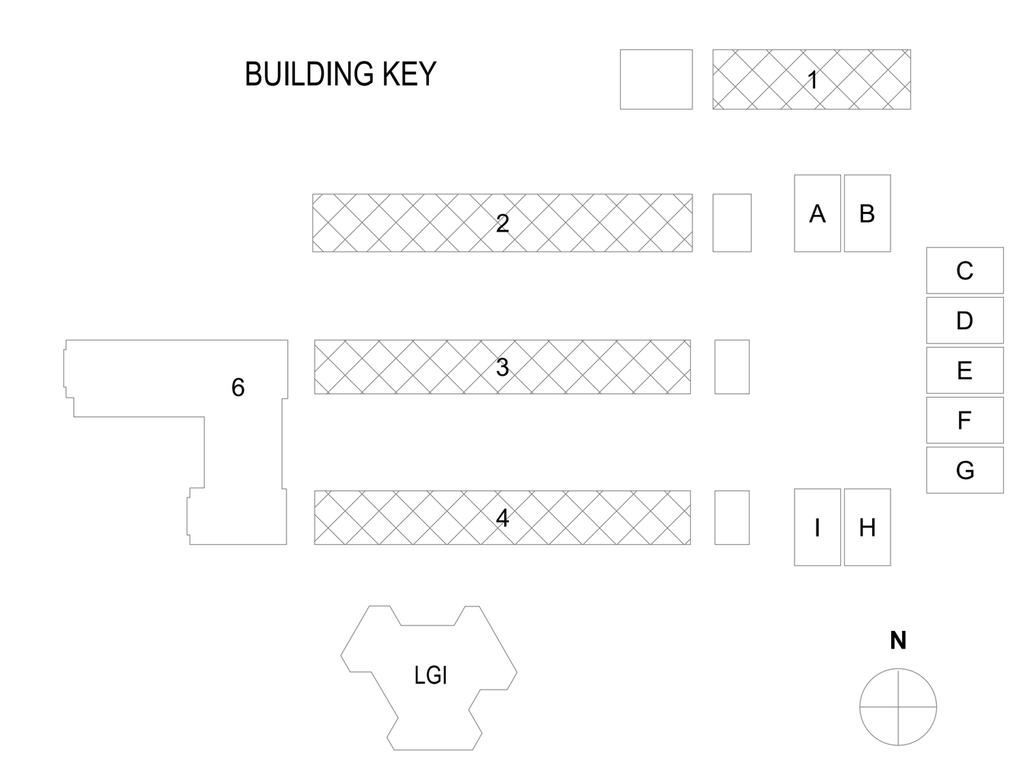
NORTH



4 MP2.01 FLOOR PLAN - WING 4 - DEMO - MECHANICAL & PLUMBING
SCALE: 1/8" = 1'-0"

NORTH

BUILDING KEY



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aedis architects

www.aedisarchitects.com
387 S. 1st Street, Suite 300
San Jose, CA 95113
tel: (408)-300-5160
fax: (408)-300-5121

PROJECT
GEORGE HALL ELEMENTARY SCHOOL - HVAC REPLACEMENT

SAN MATEO-FOSTER CITY SCHOOL DISTRICT

CONSULTANT

CEG JOB NO. 21034
CYPRESS Engineering Group
HVAC, Plumbing, Fire Protection
Building Commissioning
Industrial Refrigeration
Environmental Compliance
Training & Technical Support
831.219.1802
8 Harris Court, Suite A8
Monterey, CA 93940
cypresseg.com

STAMP
REGISTERED PROFESSIONAL ENGINEER
No. M31059
EXP. JUNE 30, 2023
MECHANICAL
STATE OF CALIFORNIA

STATE
DSA FILE NUMBER 41-26
APPL # 01-119523

REVISIONS

No.	Description	Date

MILESTONES

DD	
90% CD	
DSA SUB	05/21/2021
BACKCHECK	10/04/2021

SHEET
FLOOR PLAN - DEMO - WINGS 1, 2, 3, 4 - MECHANICAL & PLUMBING

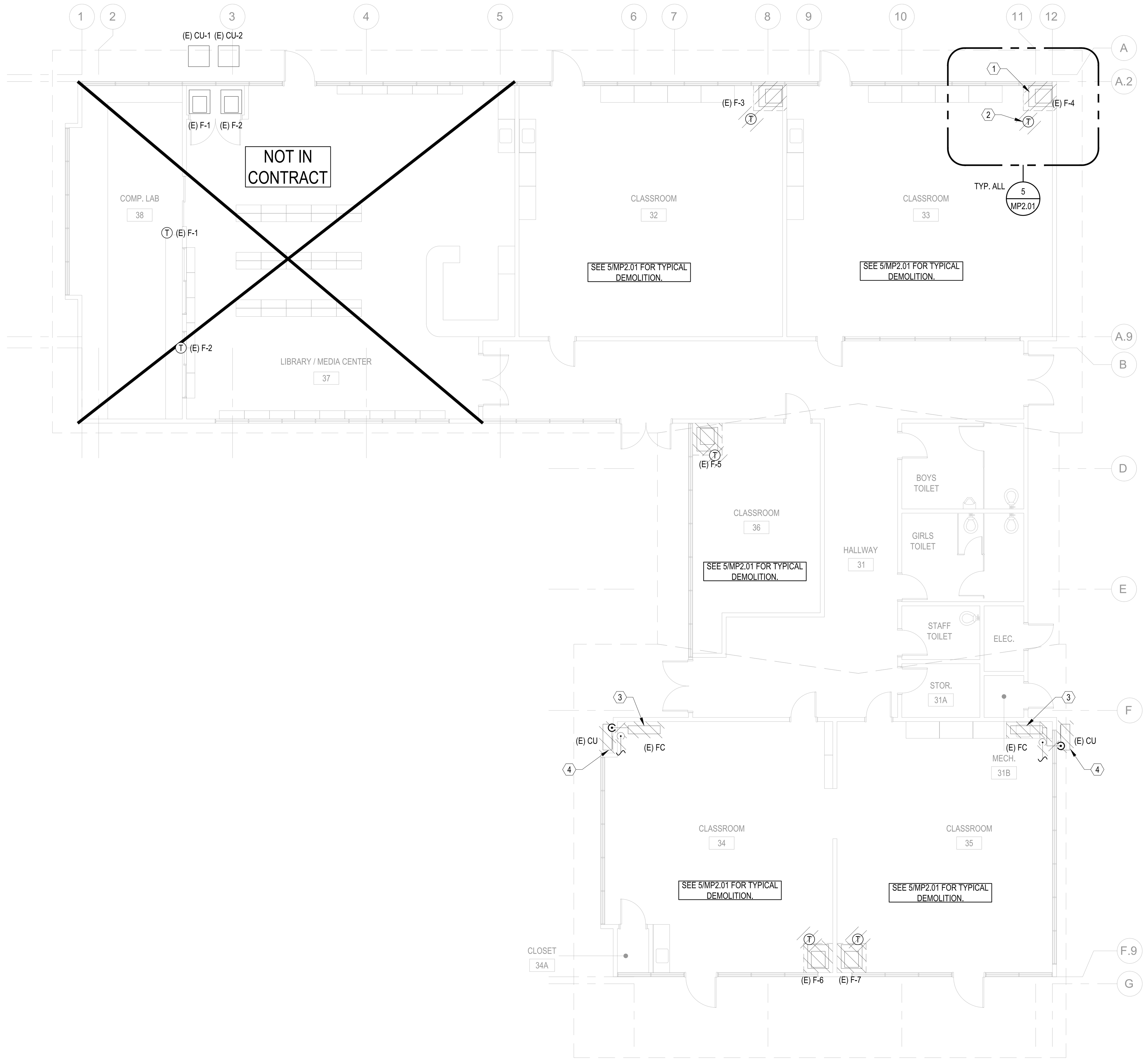
DATE 10/04/2021
JOB # 2021005.02
SHEET # MP2.01

GENERAL NOTES

1. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING AND NEW BUILDING STRUCTURES, SERVICES AND OWNER'S PROPERTY DURING THE ENTIRE PERIOD OF CONSTRUCTION.
2. COORDINATE THE LOCATIONS OF ROOF/ WALL OPENINGS, PENETRATIONS, DUCTWORK AND ALL MECHANICAL EQUIPMENT WITH RESPECT TO BUILDING STRUCTURE AND OTHER BUILDING SERVICES TO AVOID CONFLICT.

⟨#⟩ DEMOLITION SHEET NOTES

1. REMOVE (E) FURNACE ENCLOSURE AND FURNACE, COMPLETE, TYP. SEE 5/MP2.01 FOR TYPICAL FURNACE DEMO. TYP. OF (5).
2. REMOVE (E) THERMOSTAT AND WIRING BACK TO (E) FURNACE, TYP. SALVAGE (E) THERMOSTATS. RETURN 30% OF THE EQUIPMENT TO THE DISTRICT.
3. REMOVE (E) FAN COIL AND REFRIGERANT AND CONDENSATE PIPING, TYP. PATCH AND PAINT OVER PIPE PENETRATIONS ON WALL.
4. REMOVE (E) CONDENSING UNITS AND ENCLOSURES, TYP.



1 MP2.02 FLOOR PLAN - ESCALON BLDG - DEMO - MECHANICAL & PLUMBING
SCALE: 1/8" = 1'-0"

NORTH

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aedis architects
www.aedisarchitects.com
387 S. 1st Street, Suite 300
San Jose, CA 95113
tel: (408)-300-5160
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cypresseg.com

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REVISIONS

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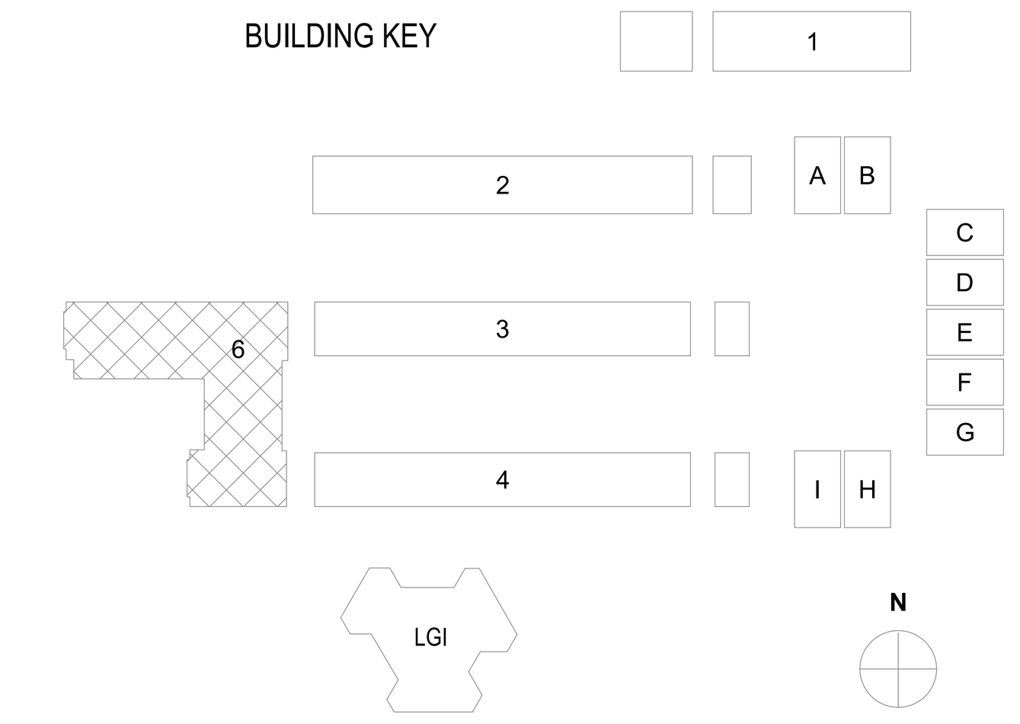
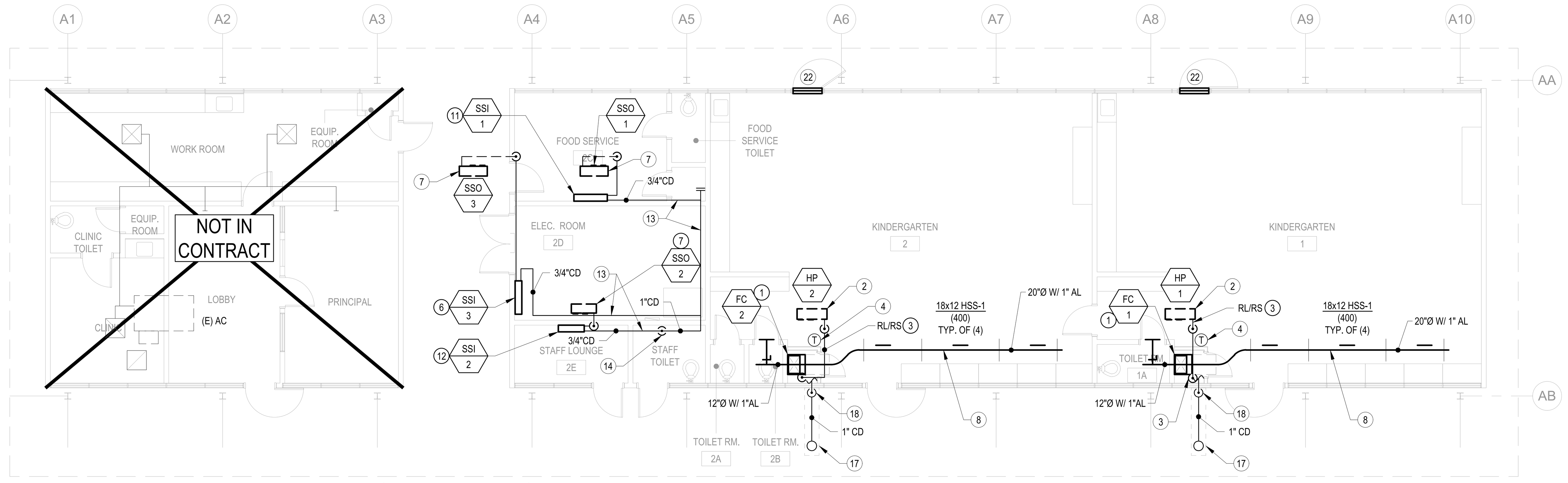
DD	
90% CD	
DSA SUB	05/21/2021
BACKCHECK	10/04/2021

SHEET
FLOOR PLAN - DEMO - ESCALON BLDG - MECHANICAL & PLUMBING

BUILDING KEY



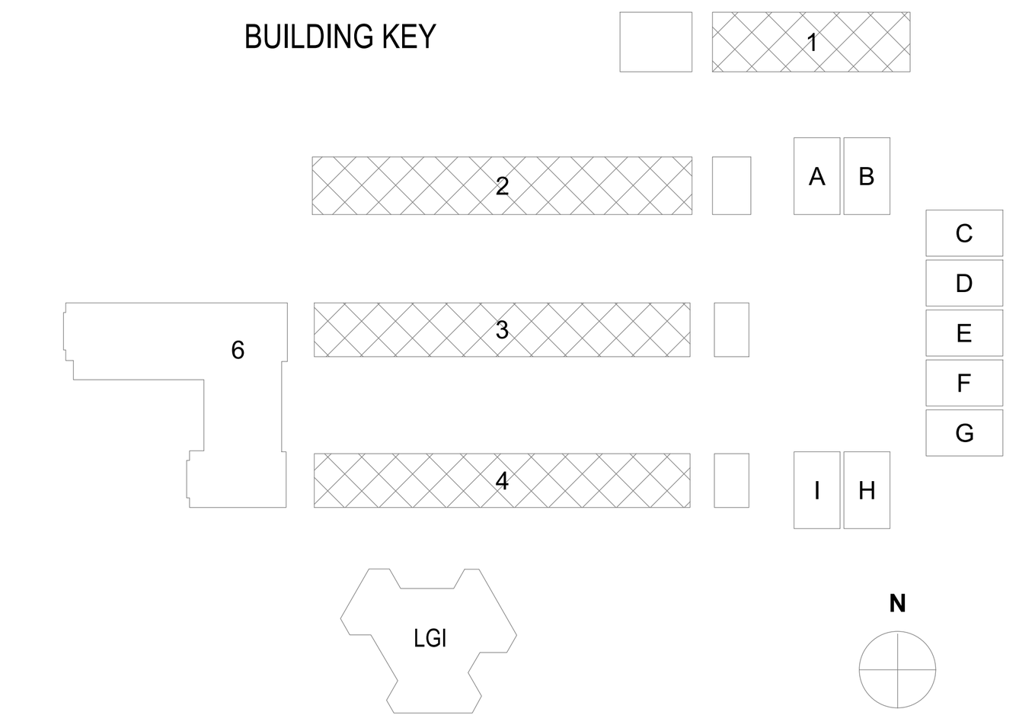
DATE 10/04/2021
JOB # 2021005.02
SHEET # MP2.02

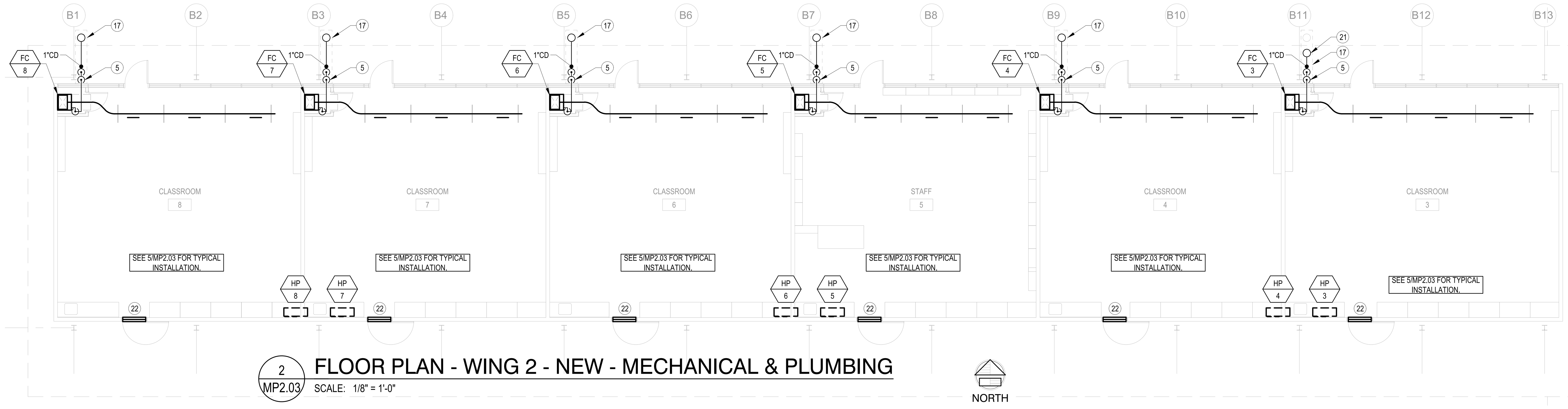


1 MP2.03 FLOOR PLAN - WING 1 - NEW - MECHANICAL & PLUMBING

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

NORTH

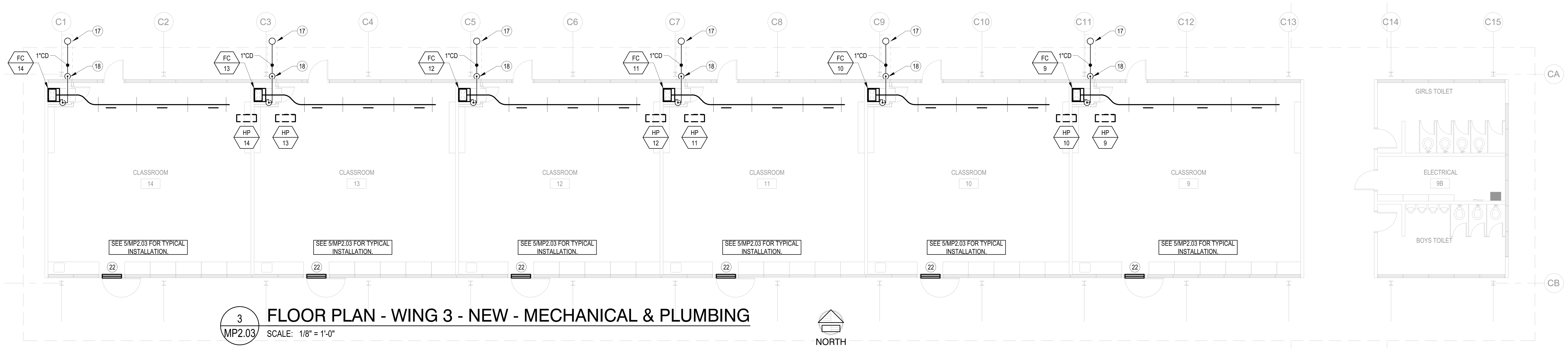




2 MP2.03 FLOOR PLAN - WING 2 - NEW - MECHANICAL & PLUMBING

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

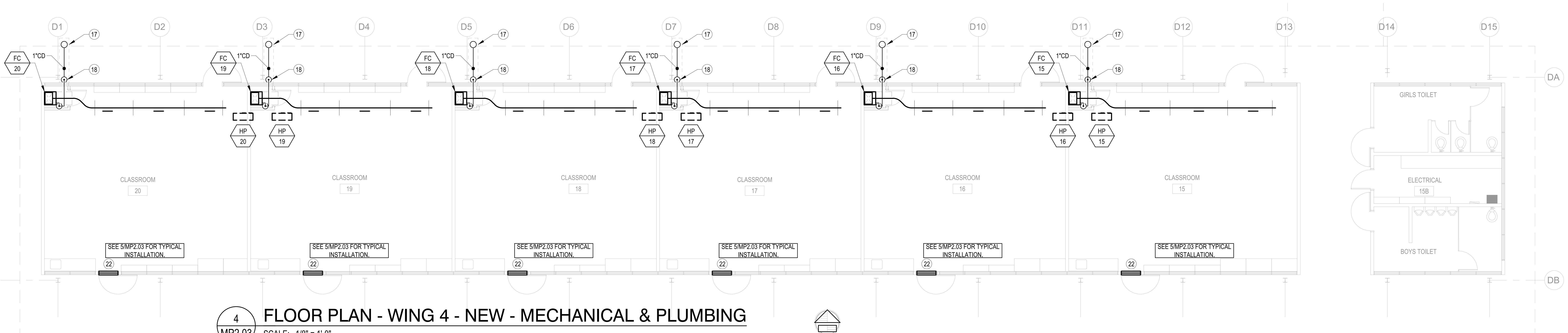
NORTH



3 MP2.03 FLOOR PLAN - WING 3 - NEW - MECHANICAL & PLUMBING

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

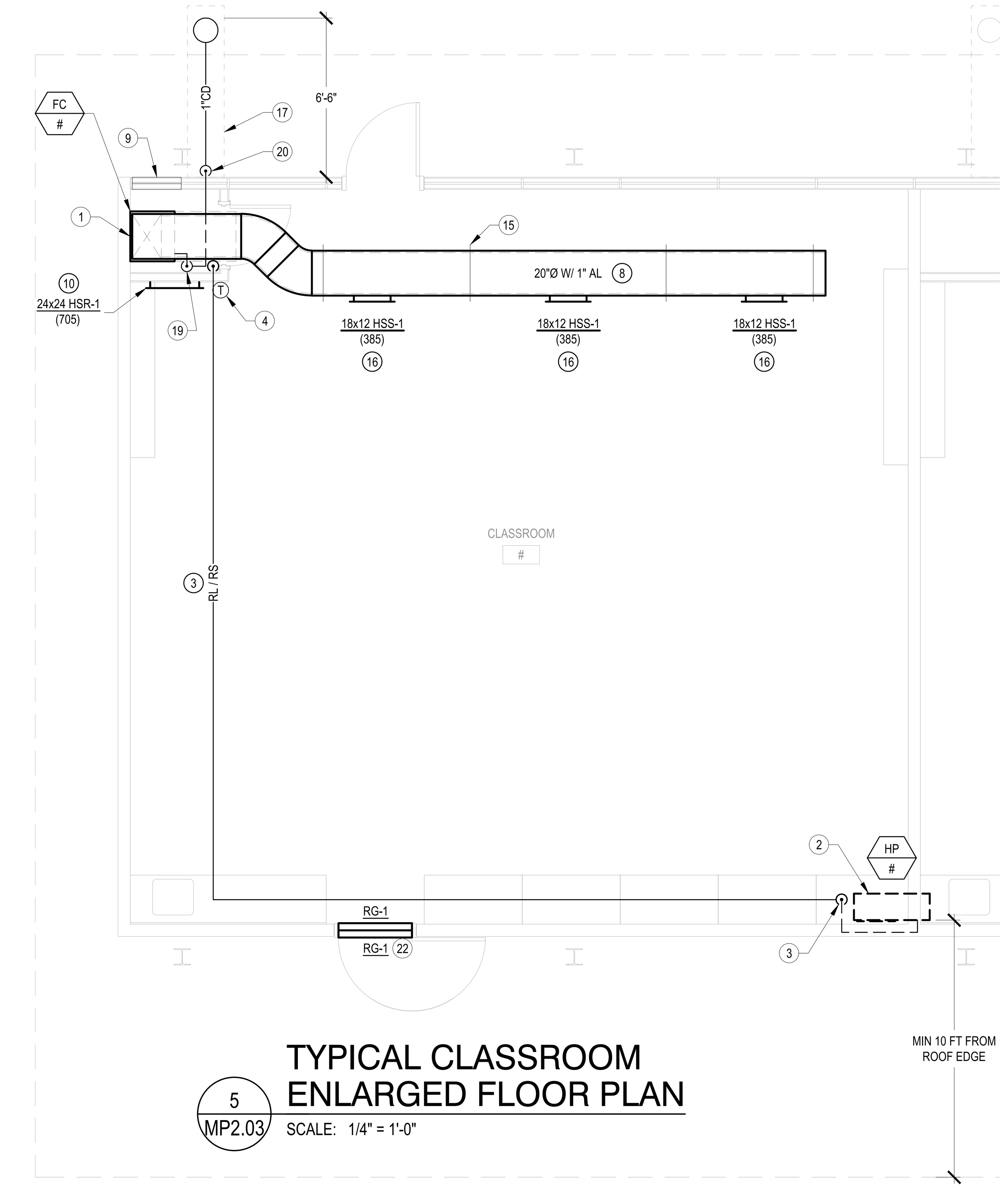
NORTH



4 MP2.03 FLOOR PLAN - WING 4 - NEW - MECHANICAL & PLUMBING

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

NORTH



5 MP2.03 TYPICAL CLASSROOM ENLARGED FLOOR PLAN

SCALE: 1/4" = 1'-0"

GENERAL NOTES

1. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING AND NEW BUILDING STRUCTURES, SERVICES AND OWNER'S PROPERTY DURING THE ENTIRE PERIOD OF CONSTRUCTION.
2. COORDINATE THE LOCATIONS OF ROOF/ WALL OPENINGS, PENETRATIONS, DUCTWORK AND ALL MECHANICAL EQUIPMENT WITH RESPECT TO BUILDING STRUCTURE AND OTHER BUILDING SERVICES TO AVOID CONFLICT.
3. FOR CLARITY, ABANDONED CD PIPING AND (E) GAS MAINS ARE NOT SHOWN ON THIS PLAN. SEE MP2.01.
4. PAINT ALL EXPOSED DUCTWORK, SUPPORTS, AND REGISTERS. SEE ARCHITECT'S DRAWINGS.
5. PAINT CONDENSATE PIPING AT EXTERIOR OF BUILDING. SEE ARCHITECT'S DRAWINGS.
6. SEE DETAIL 7/MP6.01 FOR PIPE SUPPORT ON ROOF.
7. CONTRACTOR TO PROVIDE AND INSTALL THERMOSTAT WIRING AND ASSOCIATED CONDUITS FOR ALL NEW HVAC EQUIPMENT AND CONNECTIONS.

(#) NEW SHEET NOTES

1. INSTALL FAN COIL, TYP. SEE 2/MP2.04 AND 3/MP2.04 FOR TYPICAL FAN COIL INSTALLATION. SEE 1/MP6.01 FOR TYPICAL FAN COIL MOUNTING.
2. INSTALL HEAT PUMP ON ROOF, MIN 10 FT AWAY FROM EDGE OF ROOF, TYP.
3. INSTALL REFRIGERANT PIPING FROM HEAT PUMP TO FAN COIL, TYP. MINIMIZE EXPOSED PIPING ON ROOF. PENETRATE ROOF WITHIN 36" OF HEAT PUMP. RUN PIPE CONCEALED ABOVE T-BAR CEILING TO FAN COIL ENCLOSURE. PENETRATE FAN COIL ENCLOSURE WALL ABOVE CEILING. DROP DOWN TO FAN COIL AT LEFT SIDE OF UNIT. ENSURE REFRIGERANT PIPING DOES NOT BLOCK FILTER ACCESS.
4. INSTALL THERMOSTAT ON WALL, 48" MAX A.F.F., AND WIRE TO NEW FAN COIL, TYP.
5. CD FROM FAN COIL. DROP CD TIGHT TO EXTERIOR WALL TO ABOVE CONCRETE FOOTING. DROP CD TIGHT TO EXTERIOR CONCRETE FOOTING TO BELOW GRADE, AND ROUTE TO CD DRYWELL. PROVIDE CLEANOUT FOR EACH AGGREGATE HORIZONTAL CHANGE IN DIRECTION EXCEEDING 135°. SEE DETAILS 9/MP6.01 FOR CD CONNECTION TO EQUIPMENT AND 6/MP6.01 FOR CD DRYWELL.
6. INSTALL FAN COIL SSI-3 ABOVE (E) CONDUIT. COORDINATE EXACT HEIGHT WITH DISTRICT.
7. INSTALL CONDENSING UNIT ON ROOF, MIN 10 FT AWAY FROM EDGE OF ROOF, TYP. INSTALL REFRIGERANT PIPING FROM CONDENSING UNIT TO FAN COIL. REFRIGERANT PIPING TO PENETRATE ROOF WITHIN 36" OF CONDENSING UNIT. RUN REMAINDER OF REFRIGERANT PIPING EXPOSED BELOW HARDLID CEILING.
8. INSTALL EXPOSED SUPPLY DUCT. PAINT ALL EXPOSED DUCTWORK AND REGISTERS.
9. EXISTING OUTSIDE AIR LOUVER.
10. RETURN REGISTER WITH GRILLE SILENCER.
11. INSTALL FAN COIL SSI-1. BOTTOM OF UNIT TO BE 9 FT AFF.
12. INSTALL FAN COIL SSI-2. BOTTOM OF UNIT TO BE 7 FT AFF.
13. PUMP CD UP AND RUN BELOW HARDLID CEILING. TYP.
14. RUN CD PIPE INSIDE WIREMOLD ON WALL, DOWN TO SINK TAILPIECE, TYP.
15. INSTALL DUCT SUPPORTS, TYP. SEE DETAIL 5/MP6.01.
16. INSTALL FACE OPERABLE KEY EXTRACTOR, TYP. FOR ALL SUPPLY REGISTERS.
17. SAWCUT, REPAIR, AND PATCH TO MATCH EXISTING. SEE SHEET A8.10 ON ARCHITECT'S DRAWINGS FOR PATCHING AT GRADE.
18. CD FROM FAN COIL. DROP CD TIGHT TO EXTERIOR WALL TO BELOW GRADE, AND ROUTE TO CD DRYWELL. PROVIDE CLEANOUT FOR EACH AGGREGATE HORIZONTAL CHANGE IN DIRECTION EXCEEDING 135°. SEE DETAILS 9/MP6.01 FOR CD CONNECTION TO EQUIPMENT AND 14/MP6.01 FOR CD DRYWELL.
19. CD FROM FAN COIL. DROP PIPE DOWN TO ENCLOSURE FLOOR AT LEFT SIDE OF UNIT, ENSURING PIPE DOES NOT BLOCK FILTER ACCESS. THEN RUN ALONG FLOOR TO EXTERIOR WALL. PROVIDE CLEANOUT FOR EACH AGGREGATE HORIZONTAL CHANGE IN DIRECTION EXCEEDING 135°. SEE DETAIL 9/MP6.01 FOR CD CONNECTION TO EQUIPMENT.
20. DROP CD TIGHT TO EXTERIOR WALL. ROUTE ABOVE AND OVER CONCRETE FOOTING IF THERE IS ONE. DO NOT PENETRATE FOOTING. SEE NOTE REGARDING CONDENSATE DRAIN AT EACH INDIVIDUAL FAN COIL. ROUTE TO CONDENSATE DRYWELL.
21. DRYWELL LOCATION TO BE ON OPPOSITE SIDE OF CURB, LESS THAN THE TYPICAL 6'-6" FROM BUILDING ENVELOPE.
22. MOTORIZED RELIEF DAMPER AND RETURN GRILLE (RG-1) MOUNTED TO BOTH SIDES OF RELIEF OPENING. DAMPER AND GRILLE SIZE TO MATCH (E) FRAME APPROXIMATELY 46"x35". RETURN GRILLE TO FILL ENTIRE (E) WINDOW PANEL VERIFY EXACT DIMENSIONS IN FIELD.

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aedis architects
www.aedisarchitects.com
387 S. 1st Street, Suite 300
San Jose, CA 95113
tel: (408)-300-5160
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PROJECT

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SAN MATEO-FOSTER CITY SCHOOL DISTRICT

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DSA FILE NUMBER 41-26

APPL # 01-119523

REVISIONS

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MILESTONES

DD	
90% CD	
DSA SUB	05/21/2021
BACKCHECK	10/07/2021

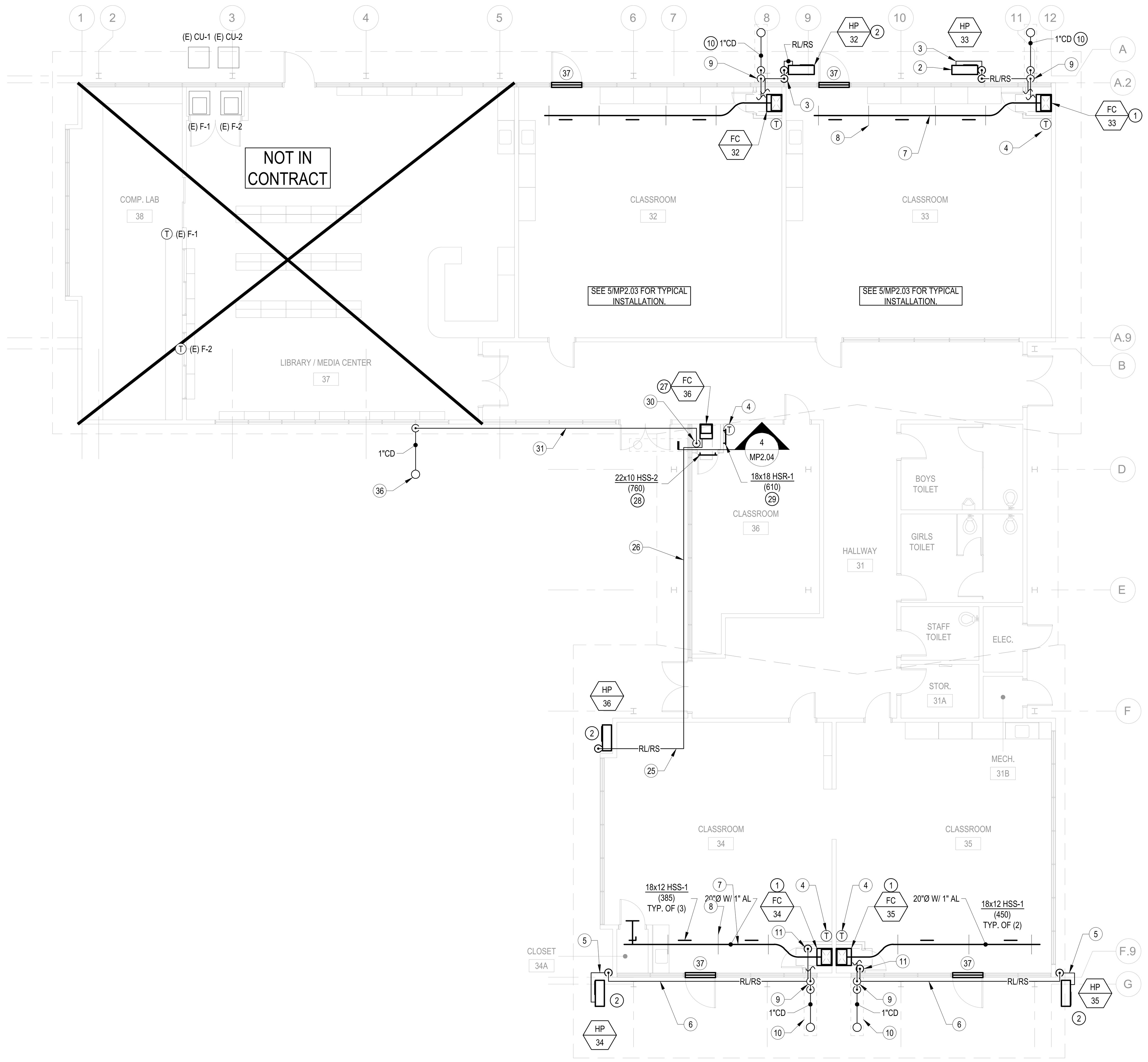
SHEET

FLOOR PLAN - NEW - WINGS 1, 2, 3, 4 - MECHANICAL & PLUMBING

DATE 10/04/2021

JOB # 2021005.02

SHEET # MP2.03



1 MP2.04 FLOOR PLAN - ESCALON BLDG - NEW - MECHANICAL & PLUMBING

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

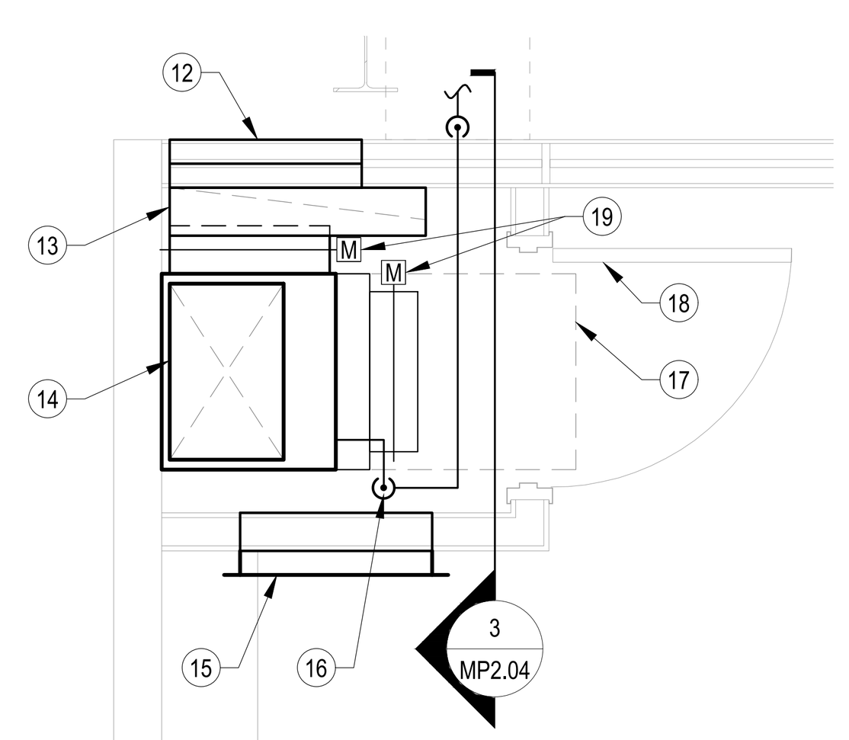
NORTH

GENERAL NOTES

1. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING AND NEW BUILDING STRUCTURES, SERVICES AND OWNER'S PROPERTY DURING THE ENTIRE PERIOD OF CONSTRUCTION.
2. COORDINATE THE LOCATIONS OF ROOF/ WALL OPENINGS, PENETRATIONS, DUCTWORK AND ALL MECHANICAL EQUIPMENT WITH RESPECT TO BUILDING STRUCTURE AND OTHER BUILDING SERVICES TO AVOID CONFLICT.
3. FOR CLARITY, ABANDONED CD PIPING AND (E) GAS MAINS ARE NOT SHOWN ON THIS PLAN. SEE MP2.01.
4. PAINT ALL EXPOSED DUCTWORK, SUPPORTS, AND REGISTERS. SEE ARCHITECT'S DRAWINGS.
5. PAINT CONDENSATE PIPING AT EXTERIOR OF BUILDING. SEE ARCHITECT'S DRAWINGS.
6. SEE DETAIL 7/MP6.01 FOR PIPE SUPPORT ON ROOF.
7. CONTRACTOR TO PROVIDE AND INSTALL THERMOSTAT WIRING AND ASSOCIATED CONDUITS FOR ALL NEW HVAC EQUIPMENT AND CONNECTIONS.

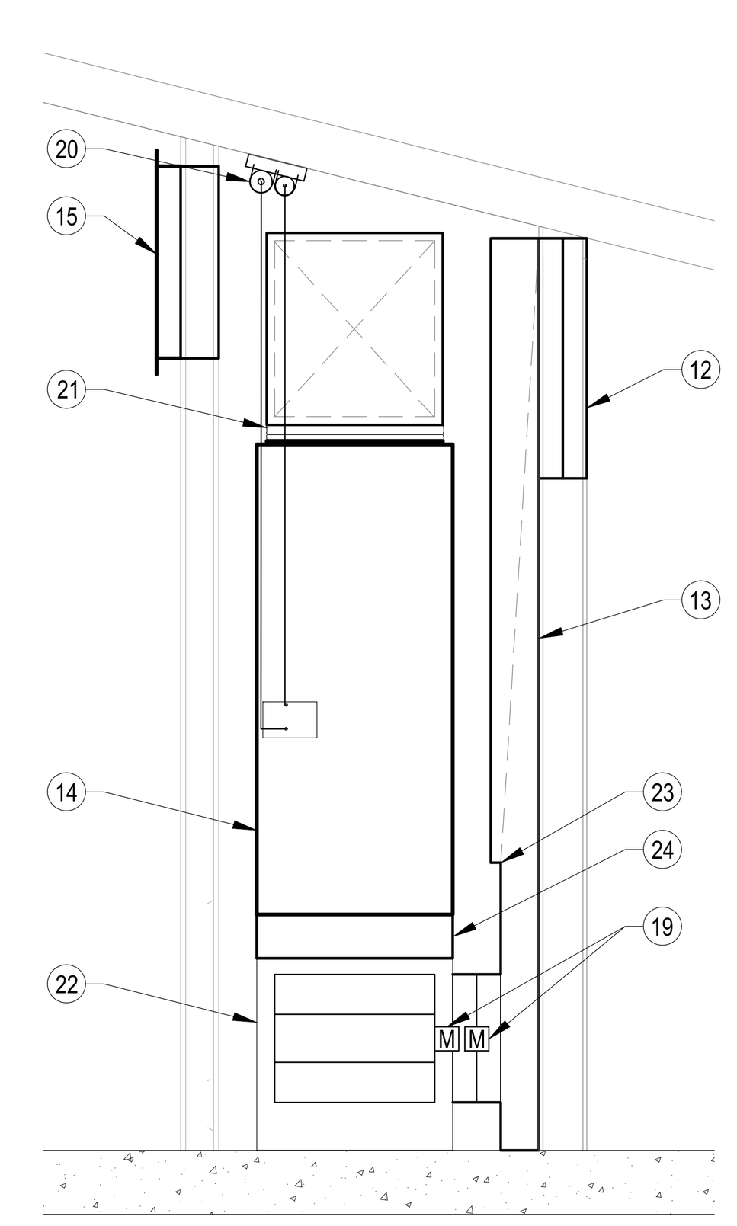
(#) NEW SHEET NOTES

1. INSTALL FAN COIL, TYP. SEE 2/MP2.04 AND 3/MP2.04 FOR TYPICAL FAN COIL INSTALLATION. SEE 1/MP6.01 FOR TYPICAL FAN COIL MOUNTING.
2. INSTALL HEAT PUMP ON HOUSEKEEPING PAD, TYP.
3. INSTALL REFRIGERANT PIPING FROM HEAT PUMP TO FAN COIL, TYP. ROUTE PIPE UP AND OVER BUILDING FOOTING. PENETRATE FAN COIL ENCLOSURE IN SAME AREA AS CONDENSATE DRAIN PIPE FROM FAN COIL. ROUTE PIPE ON FLOOR TO LEFT SIDE OF FAN COIL.
4. INSTALL THERMOSTAT ON WALL AND WIRE TO FAN COIL, TYP.
5. INSTALL REFRIGERANT PIPING FROM HEAT PUMP TO FAN COIL, TYP. ROUTE PIPE ALONG GROUND, THEN UP AND OVER BUILDING FOOTING.
6. RUN REFRIGERANT PIPING UNDER ROOF OVERHANG.
7. INSTALL SUPPLY DUCT EXPOSED .
8. INSTALL DUCT SUPPORT. SEE DETAIL 5/MP6.01.
9. CD FROM FAN COIL. DROP CD TIGHT TO EXTERIOR WALL TO ABOVE CONCRETE FOOTING. DROP CD TIGHT TO EXTERIOR CONCRETE FOOTING TO BELOW GRADE, AND ROUTE TO CD DRYWELL. PROVIDE CLEANOUT FOR EACH AGGREGATE HORIZONTAL CHANGE IN DIRECTION EXCEEDING 135°. SEE DETAILS 9/MP6.01 FOR CD CONNECTION TO EQUIPMENT AND 6/MP6.01 FOR CONDENSATE DRYWELL AROUND BUILDING FOOTING.
10. SAWCUT, REPAIR, AND PATCH TO MATCH EXISTING. SEE SHEET A8.10 ON ARCHITECT'S DRAWINGS FOR PATCHING AT GRADE.
11. PENETRATE EXTERIOR WALL NEAR TOP OF FAN COIL ENCLOSURE. RUN ALONG ENCLOSURE CEILING. DROP DOWN AT LEFT SIDE OF FAN COIL, AND CONNECT TO FAN COIL.
12. EXISTING OUTSIDE AIR LOUVER.
13. 6"x32" OUTSIDE AIR DUCT DOWN TO MIXING PLENUM.
14. FAN COIL. SEE PLANS FOR LOCATION.
15. 24"x24" RETURN REGISTER HSR-1 WITH GRILLE SILENCER.
16. CD FROM FAN COIL. DROP PIPE DOWN TO ENCLOSURE FLOOR AT LEFT SIDE OF UNIT, ENSURING PIPE DOES NOT BLOCK FILTER ACCESS. THEN RUN ALONG FLOOR TO EXTERIOR WALL TO DRYWELL. PROVIDE CLEANOUT FOR EACH AGGREGATE HORIZONTAL CHANGE IN DIRECTION EXCEEDING 135°. SEE 9/MP6.01 FOR CONNECTION TO UNIT.
17. CLEARANCE REQUIRED FOR FILTER REPLACEMENT.
18. 30" FULL HEIGHT DOOR. SEE ARCHITECTS DRAWINGS.
19. 20"X16" MOTORIZED DAMPER (LOW VOLTAGE).
20. REFRIGERANT PIPING FROM HEAT PUMP TO FAN COIL. SEE 15/MP6.01 FOR PIPE SUPPORT.
21. FLEX DUCT AT CONNECTION TO UNIT.
22. MIXING PLENUM BELOW FAN COIL.
23. DUCT TRANSITION TO ALLOW DAMPER CONNECTION.
24. FILTER BOX THAT CAN FIT 4" OR 2" FILTER.
25. RUN REFRIGERANT PIPING ABOVE CEILING.
26. RUN REFRIGERANT PIPING UNDER OVERHANG.
27. INSTALL FAN COIL. SEE 4/MP2.04 FOR INSTALLATION AND 1/MP6.01 FOR MOUNTING.
28. INSTALL SUPPLY REGISTER ABOVE FAN COIL ENCLOSURE DOOR.
29. INSTALL RETURN REGISTER HIGH ON WALL.
30. CD FROM FAN COIL. PUMP CD UP TO CEILING OF FAN COIL ENCLOSURE. SEE 9/MP6.01 FOR CONNECTION TO UNIT.
31. RUN CD ALONG EXTERIOR WALL, ABOVE WINDOWS, TO LANDSCAPE AREA. DROP CD TIGHT TO EXTERIOR WALL TO BELOW GRADE, AND ROUTE TO CD DRYWELL. PROVIDE CLEANOUT FOR EACH AGGREGATE HORIZONTAL CHANGE IN DIRECTION EXCEEDING 135°. SEE DETAIL 14/MP6.01 FOR CD DRYWELL.
32. 22"x10" SUPPLY DUCT TO 22"x10" SUPPLY REGISTER ABOVE ENCLOSURE DOOR.
33. 18"x18" RETURN REGISTER HSR-1 WITH GRILLE SILENCER.
34. 18" TALL MIXING PLENUM BELOW FAN COIL.
35. 12"X14" MOTORIZED DAMPER (LOW VOLTAGE).
36. CONDENSATE DRYWELL IN LANDSCAPE AREA.
37. MOTORIZED RELIEF DAMPER AND RETURN GRILL (RG-1) MOUNTED ON BOTH SIDES OF RELIEF OPENING. DAMPER AND GRILLE SIZE TO MATCH (E) FRAME , APPROXIMATELY 46"x35" RETURN GRILLE TO FILL ENTIRE (E) WINDOW PANEL VERIFY EXACT DIMENSIONS IN FIELD.



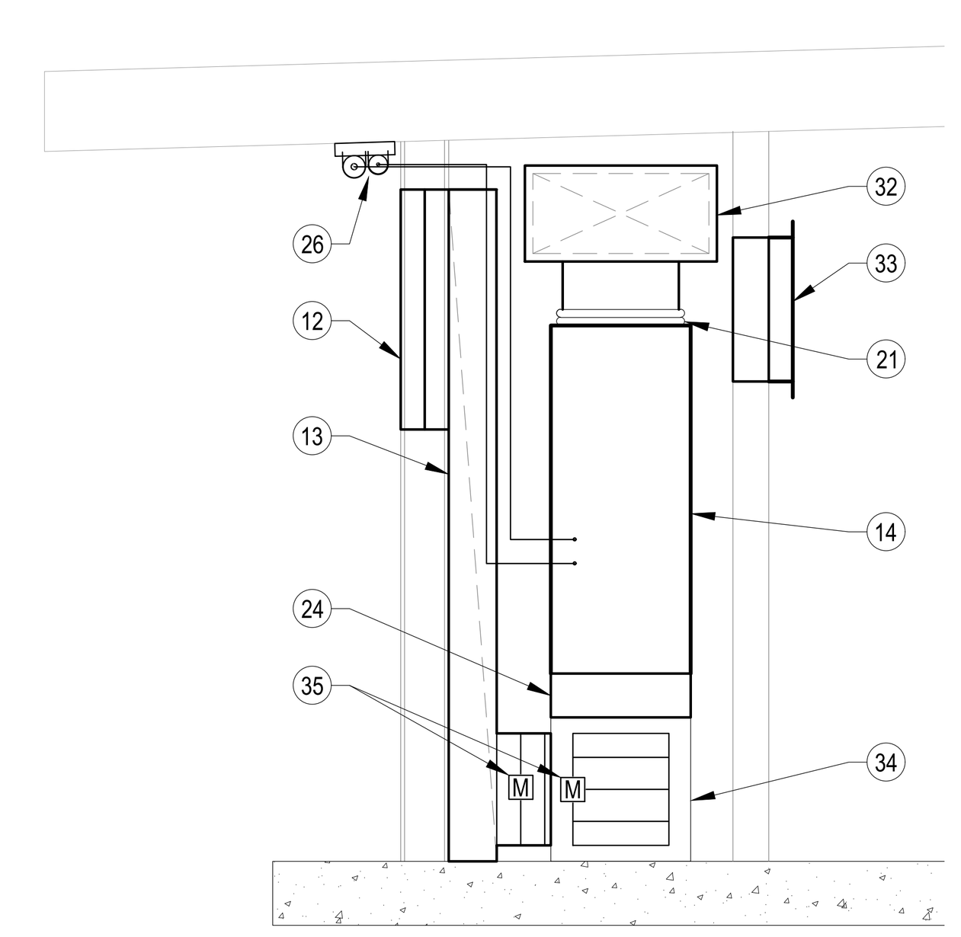
2 MP2.04 FLOOR PLAN - ENCLOSURE

SCALE: NONE



3 MP2.04 SECTION - ENCLOSURE

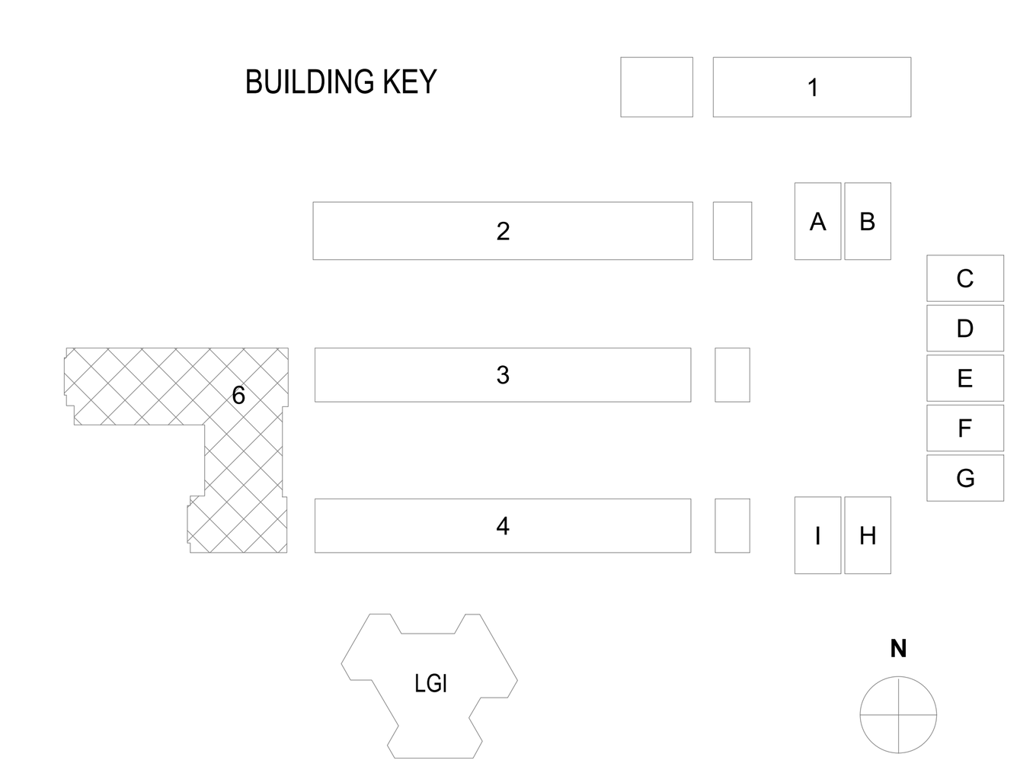
SCALE: NONE



4 MP2.04 SECTION - ENCLOSURE AT FC-36

SCALE: NONE

BUILDING KEY



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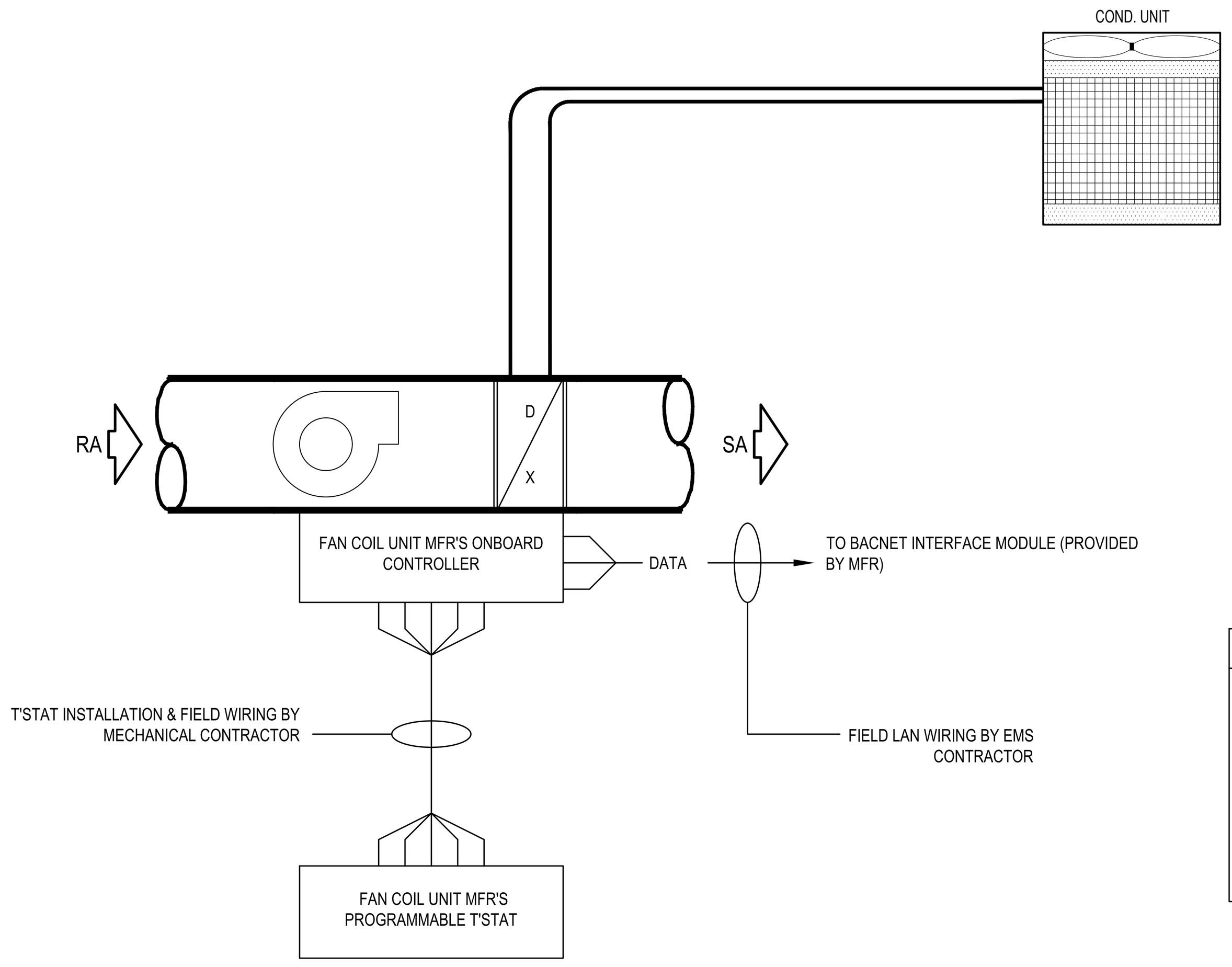
FLOOR PLAN - NEW - ESCALON BLDG - MECHANICAL & PLUMBING

DATE 10/04/2021

JOB # 2021005.02

SHEET #

MP2.04

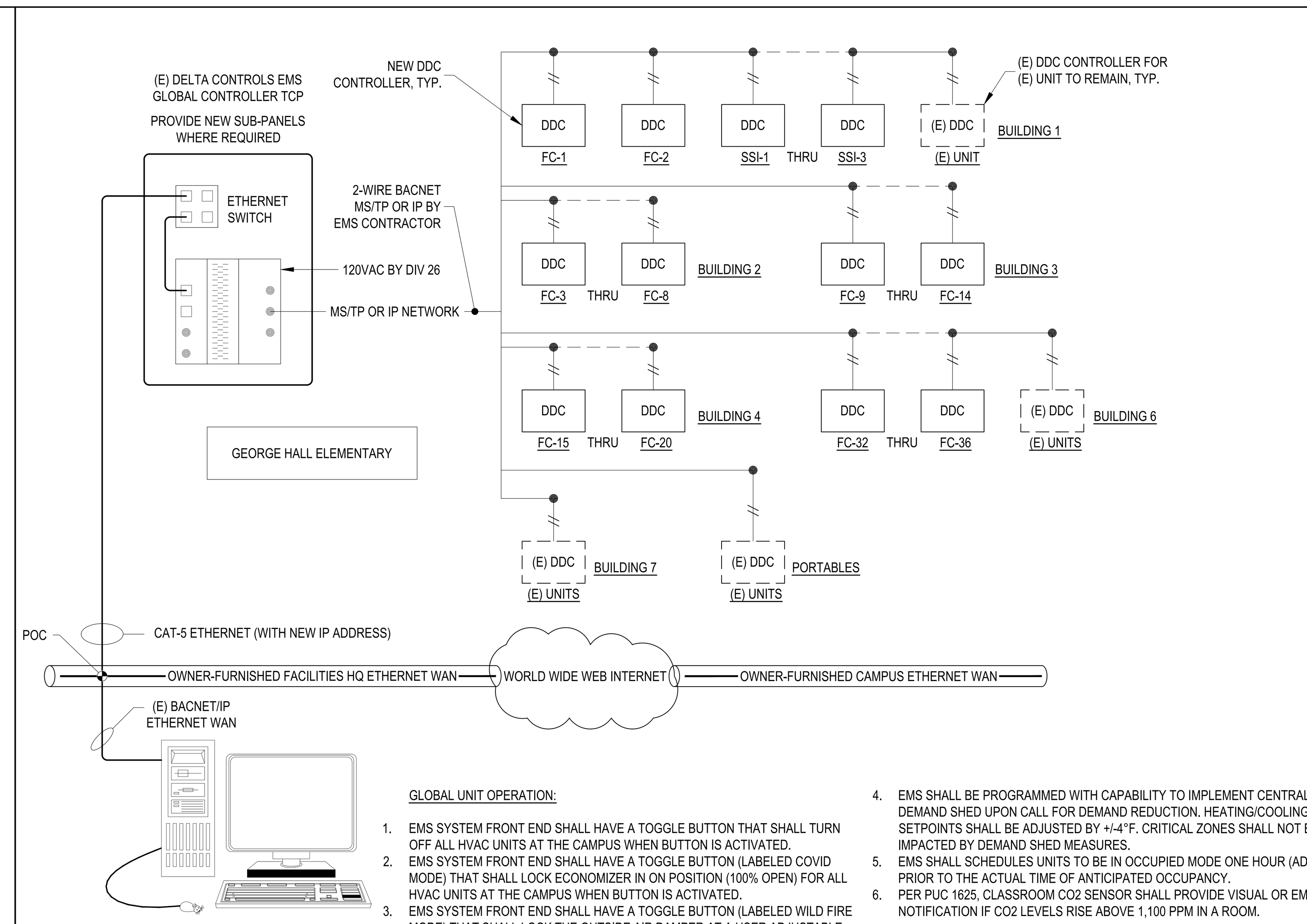


SEQUENCE OF OPERATION:

1. EACH INDOOR FAN COIL SHALL BE CONTROLLED BY SAMSUNG WALL MOUNTED THERMOSTAT AND OPERATE UNDER OWN INTERNAL CONTROL TO MAINTAIN ROOM SETPOINT.
2. EACH FAN COIL SHALL BE CONNECTED TO DELTA CONTROLS EMS THROUGH BACNET INTEGRATION CARD.
3. FAN COIL OCCUPANCY SCHEDULES, OCCUPIED SETPOINTS, AND UNOCCUPIED SETPOINTS SHALL BE SET BY THE EMS. COORDINATE SCHEDULES AND SETPOINTS WITH DISTRICT REPRESENTATIVE.
4. EMS SYSTEM SHALL DISPLAY FAN COIL GRAPHIC AND AS A MINIMUM SHALL DISPLAY STATUS OF POINTS LISTED IN INTEGRATION TABLE BELOW.
5. THERMOSTATS SHALL ALLOW MANUAL LOCAL OVERRIDE AFTER-HOURS.
6. THERMOSTATS SHALL BE PROGRAMMED TO RESTRICT RANGE OF HEATING AND COOLING SETPOINT ADJUSTABLE AT THE THERMOSTAT. COORDINATE ALLOWABLE RANGE WITH DISTRICT REPRESENTATIVE.

BACNET POINT INTEGRATION POINTS PER ZONE			
OPERATION	ON/OFF MODE FAN SPEED AIR DIRECTION SET TEMP. FORCED OFF	STATE MONITORING	ON/OFF MODE FAN SPEED AIR DIRECTION SET TEMP. INDOOR TEMPERATURE ALARM SIGNAL ERROR CODE COMMUNICATION STATE

3 WALL MOUNT SPLIT SYSTEM CONTROL SCHEMATIC



GLOBAL UNIT OPERATION:

1. EMS SYSTEM FRONT END SHALL HAVE A TOGGLE BUTTON THAT SHALL TURN OFF ALL HVAC UNITS AT THE CAMPUS WHEN BUTTON IS ACTIVATED.
2. EMS SYSTEM FRONT END SHALL HAVE A TOGGLE BUTTON (LABELED COVID MODE) THAT SHALL LOCK ECONOMIZER IN ON POSITION (100% OPEN) FOR ALL HVAC UNITS AT THE CAMPUS WHEN BUTTON IS ACTIVATED.
3. EMS SYSTEM FRONT END SHALL HAVE A TOGGLE BUTTON (LABELED WILD FIRE MODE) THAT SHALL LOCK THE OUTSIDE AIR DAMPER AT A USER ADJUSTABLE SETPOINT FOR ALL HVAC UNITS AT THE CAMPUS WHEN BUTTON IS ACTIVATED.
4. EMS SHALL BE PROGRAMMED WITH CAPABILITY TO IMPLEMENT CENTRALIZED DEMAND SHED UPON CALL FOR DEMAND REDUCTION. HEATING/COOLING SETPOINTS SHALL BE ADJUSTED BY +/-4°F. CRITICAL ZONES SHALL NOT BE IMPACTED BY DEMAND SHED MEASURES.
5. EMS SHALL SCHEDULES UNITS TO BE IN OCCUPIED MODE ONE HOUR (ADJ.) PRIOR TO THE ACTUAL TIME OF ANTICIPATED OCCUPANCY.
6. PER PUC 1625, CLASSROOM CO2 SENSOR SHALL PROVIDE VISUAL OR EMAIL NOTIFICATION IF CO2 LEVELS RISE ABOVE 1,100 PPM IN A ROOM.

SCOPE OF WORK:

NEW GRAPHICS, FLOOR PLAN, SEQUENCE OF OPERATION AND SYSTEM INFORMATION TO BE DEVELOPED ON DELTA CONTROLS SERVER. NEW GRAPHICS SHALL INCLUDE INTERACTIVE BUILDING FLOOR PLANS. ROOMS SHALL BE COLOR CODED BASED ON ROOM TEMPERATURES, AND WHETHER UNITS ARE IN NORMALLY OCCUPIED VS OVERRIDE MODE.

CONTROLS FOR (E) UNITS SHALL REMAIN ACTIVE AND OPERATIONAL. IF (E) CONTROLS NEED TO BE DISCONNECTED FOR NEW WORK, THEY SHALL BE RECONNECTED AND VERIFIED FOR PROPER OPERATION.

CONTRACTOR SHALL PROVIDE NEW CONTROLLERS, THERMOSTATS, AND WIRING FOR CONTROLS WORK. REMOVE (E) CONTROLLERS AND THERMOSTATS. SALVAGE AND TURNOVER (+/- 30%) (E) CONTROLLERS AND THERMOSTATS TO DISTRICT. DISTRICT TO SELECT FIXTURES TO BE TURNED OVER.
PROVIDE AS-BUILT WIRING DIAGRAM AND LABEL ALL INSTALLED WIRING AT EACH END OF CABLE.

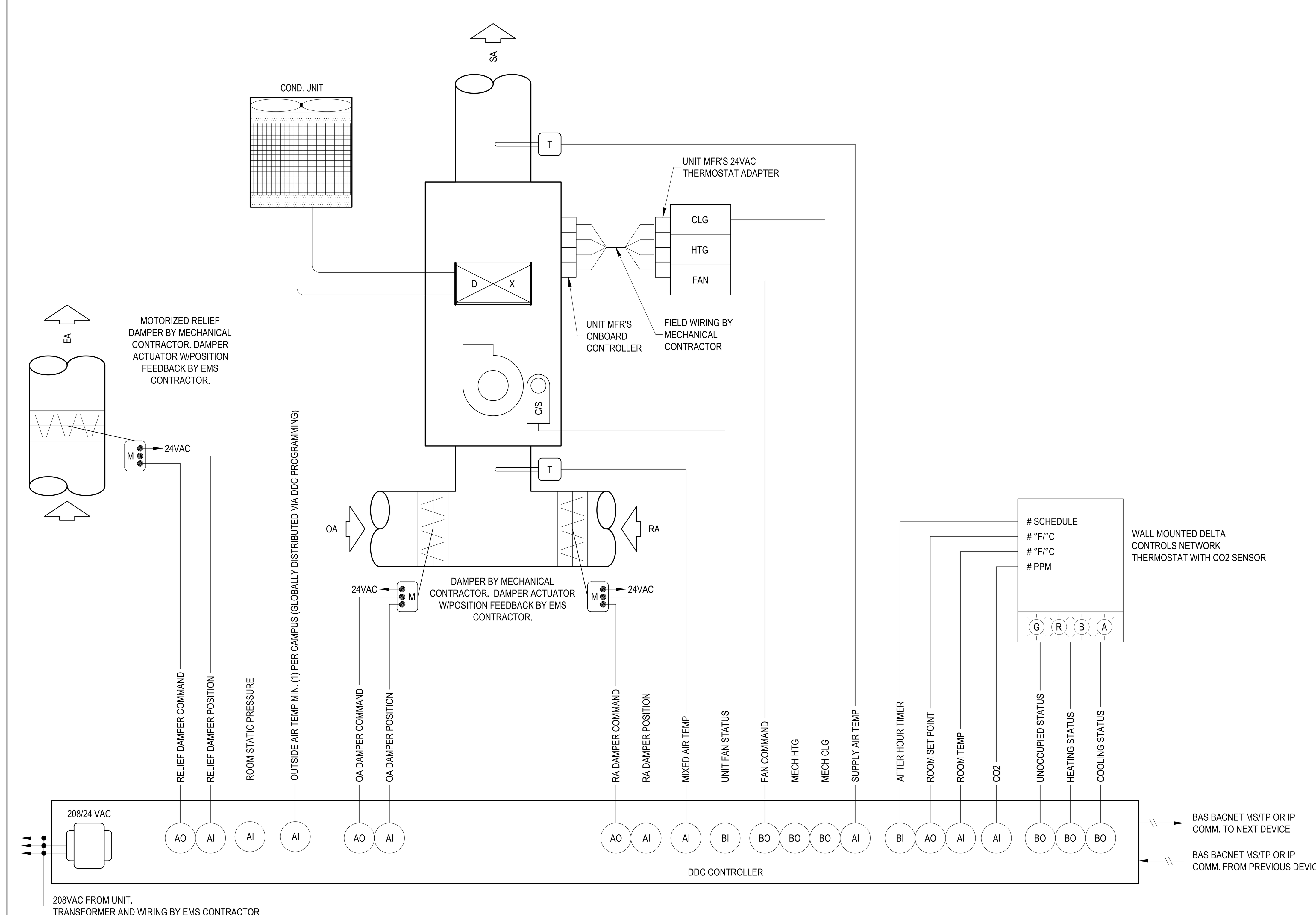
GENERAL NOTES

1. THE CONTROLS CONTRACTOR SHALL HAVE THE RESPONSIBILITY AS THE EXPERT IN THE PROPER APPLICATION OF CONTROL COMPONENTS AND DDC SYSTEMS. THE FINAL DESIGN, INSTALLATION, AND OPERATION OF THE CONTROL SYSTEM IS THE RESPONSIBILITY OF THE CONTROLS CONTRACTOR. CONTROLS CONTRACTOR SHALL VISIT THE SITE BEFORE BIDDING AND DETERMINE THE REQUIRED NUMBER OF CONTROL PANELS AND OPTIMAL LOCATION FOR EACH.
2. THE CONTROLS CONTRACTOR SHALL MAKE ADDITIONS AND/OR MODIFICATIONS TO THE DESIGN AS REQUIRED AT NO ADDITIONAL COST. CONTROLS CONTRACTOR SHALL WORK WITH THE MECHANICAL ENGINEER AND OBTAIN APPROVAL FOR ANY NECESSARY REVISIONS.
3. CONTROLS CONTRACTOR SHALL COORDINATE EXACT REQUIREMENT FOR CONTROL HARDWARE WITH ALL ASSOCIATED TRADES AND OWNER. REFER TO DRAWINGS FOR PRELIMINARY OPERATING SEQUENCES.
4. CONTROLS CONTRACTOR SHALL SUBMIT DETAILED SEQUENCES FOR ENGINEER'S REVIEW AND APPROVAL.
5. CONTROLS CONTRACTOR SHALL PROVIDE ALL CONTROLS, WIRING DIAGRAMS, "AS-BUILT" DRAWINGS, SYSTEM START-UP, AND PROGRAMMING.
6. CONTROLS CONTRACTOR TO WIRE COMMUNICATION BUS FROM NETWORK ROUTER TO ALL LOCAL BACNET CONTROLLERS.
7. CONTROLS CONTRACTOR TO PROVIDE THE NETWORK ROUTER, TEMPERATURE CONTROL PANELS, AND ALL LOCAL CONTROL PANELS FOR ALL EQUIPMENT AS REQUIRED.
8. CONTROLS CONTRACTOR TO PROVIDE ALL TEMPERATURE WIRING FOR ALL TEMPERATURE CONTROL WORK.
9. PROVIDE EMT CONDUIT AND JUNCTION BOXES FOR ALL TEMPERATURE CONTROL WORK RUNNING IN WALL SPACES.
10. PROVIDE RIGID CONDUIT FOR ALL EXTERIOR TEMPERATURE CONTROL WORK.
11. USE PLENUM RATED CABLE AND "J" HOOKS FOR ALL ABOVE CEILING AND FURRED SPACE TEMPERATURE CONTROL WORK.
12. ELECTRICAL CONTRACTOR TO PROVIDE ALL POWER WIRING FOR TEMPERATURE CONTROL PANELS AND LINE VOLTAGE THERMOSTATS. CONTROLS CONTRACTOR SHALL COORDINATE REQUIREMENTS WITH ELECTRICAL CONTRACTOR.
13. MECHANICAL/CONTROLS CONTRACTOR TO COORDINATE WITH ELECTRICAL AND VERIFY CIRCUITS ARE CORRECT BEFORE WIRING CONTROLS.
14. MECHANICAL/CONTROLS CONTRACTOR TO PROVIDE ALL CONTROL COMPONENTS NECESSARY TO FULFILL THE DESIGN INTENT OF THE DRAWINGS.

1 EMS SYSTEM ARCHITECTURE

SEQUENCE OF OPERATION

1. SYSTEM OVERVIEW
   A. EACH FAN COIL /HEAT PUMP 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 THERMOSTAT.
   C. ELECTRONIC THERMOSTAT SHALL HAVE AN INTERFACE WHICH INCLUDES: 1) PUSHBUTTONS FOR WARMER/COOLER SETPOINT CONTROL; 2) VISUAL DISPLAY OF ROOM TEMPERATURE & CO2, AND 3) AFTER-HOURS OVERRIDE TIMER CONTROL, WITH USER ADJUSTABLE DURATION (2 HOURS MAX). THE AFTER-HOURS OVERRIDE DURATION SHALL HAVE THE ABILITY TO BE LIMITED FROM THE FRONT-END.
   D. EMS UNITARY CONTROLLER SHALL BE WIRED TO MANUFACTURER'S THERMOSTAT ADAPTER.
3. UNIT FAN OPERATION
   A. WHEN THE ZONE IS IN OCCUPIED MODE OR IN OVERRIDE MODE, THE FAN SHALL RUN CONTINUOUSLY
   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 OUTSIDE AIR DAMPER SHALL BE COMMANDED BY THE EMS UNITARY CONTROLLER TO MAINTAIN A POSITION WHICH SATISFIES THE MINIMUM (DESIGN) OUTDOOR AIR VENTILATION REQUIREMENTS FOR THE ZONE. DESIGN OA CFM IS LISTED ON EQUIPMENT SCHEDULE. DAMPER POSITION(S) DETERMINED BY AIR BALANCING CONTRACTOR. RETURN AIR DAMPER SHALL BE ADJUSTED TO BE INVERSE OF OUTSIDE AIR DAMPER.
5. DEMAND CONTROL VENTILATION
   A. IF ROOM CO2 LEVELS RISE ABOVE 1000 PPM (ADJ.), THE OUTSIDE AIR DAMPER SHALL BE MODULATED OPEN TO MAXIMUM POSITION UNTIL CO2 LEVELS DROP BELOW 800 PPM (ADJ.).
6. HEATING OPERATION
   A. THE CONTROLLER COMPARES THE HEATING SETPOINT WITH THE SPACE TEMPERATURE AND DETERMINES A NEED-HEATING CONTROL SIGNAL TO MAINTAIN SETPOINT.
   B. MECHANICAL COOLING TO BE LOCKED OUT DURING HEATING MODE.
7. 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 MINIMUM 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. WHEN THE OUTDOOR AIR DAMPER IS OPEN 100% FOR MORE THAN 5 MINUTES (ADJUSTABLE) AND THE NEED-COOLING SIGNAL CONTINUES TO INCREASE OR REACHES A MAXIMUM OF 100%, MECHANICAL COOLING WILL BE ACTIVATED.
   G. THE ECONOMIZER WILL REMAIN IN USE DURING MECHANICAL COOLING AS LONG AS DISCHARGE AIR TEMPERATURE REMAINS ABOVE 55°F (ADJUSTABLE) AND CURRENT OSA TEMP IS LESS THAN ECON LOCK OUT TEMP AND RETURN AIR TEMP.
   H. WHEN OSA TEMP IS ABOVE ECON LOCK OUT TEMP OR RETURN AIR TEMP, ECONOMIZER WILL BE DEACTIVATED AND ECONOMIZER SHALL BE COMMANDED TO MINIMUM CFM SETPOINT.
   I. ECONOMIZER WILL BE COMMANDED TO MINIMUM CFM SETPOINT WHEN UNIT IS IN HEATING MODE.
   J. WHEN UNIT FAN IS NOT OPERATING, OUTSIDE AIR DAMPER SHALL BE COMMANDED CLOSED
8. COOLING OPERATION
   A. THE CONTROLLER COMPARES THE COOLING SETPOINT WITH THE SPACE TEMPERATURE AND DETERMINES A NEED-COOLING SIGNAL.
   B. FREE COOLING (ECONOMIZER) WILL BE USED FIRST WHEN POSSIBLE. MECHANICAL COOLING SHALL BE ENGAGED IF SETPOINT IS UNABLE TO BE MET WITH ECONOMIZING.
   C. THE CONTROLLER WILL ENABLE THE COMPRESSOR(S) TO MAINTAIN THE ROOM SET POINT.
   D. MECHANICAL HEATING TO BE LOCKED OUT DURING COOLING MODE.
9. ROOM PRESSURE CONTROL
   A. EMS UNITARY CONTROLLER SHALL BE CONNECTED TO STATIC PRESSURE PROBE LOCATED IN EACH ROOM. CONTROLS CONTRACTOR SHALL INSTALL AND CONNECT PRESSURE SENSOR.
   B. EMS UNITARY CONTROLLER SHALL MODULATE RELIEF LOUVER OPEN TO MAINTAIN ROOM STATIC PRESSURE SETPOINT OF +0.03" WC MAXIMUM.
10. SETPOINTS
   A. OCCUPIED HOURS SETPOINTS SHALL BE 68°F TO 74°F. (USER ADJUSTABLE AT THERMOSTAT WITHIN THIS RANGE).
   B. UNOCCUPIED HOURS SETPOINTS SHALL BE 60°F HEATING AND 90°F COOLING.
   C. DEADBAND SHALL BE 2°F.
11. FAULT DETECTION DIAGNOSTICS
   A. THE EMS DDC CONTROLLER SHALL MONITOR FAULT STATUS OF THE FOLLOWING FAULT DETECTION DIAGNOSTIC CONDITIONS AND BROADCAST RESULTS VIA EMS NETWORK.
   B. UNIT NOT ECONOMIZING WHEN ENABLED - IF ECONOMIZER DAMPER ACTUATOR FEEDBACK STATUS DOES NOT MATCH THE COMMANDED ECONOMIZER SETPOINT WHEN THE ECONOMIZER IS ENABLED FOR MORE THAN 3 MINUTES (ADJUSTABLE), AN ALARM SHALL BE GENERATED AND BROADCAST.
   C. UNIT ECONOMIZING WHEN DISABLED - IF ECONOMIZER DAMPER ACTUATOR FEEDBACK STATUS INDICATES THAT THE ECONOMIZER DAMPER IS OPEN BEYOND THE MIN CFM SETPOINT WHEN THE ECONOMIZER IS NOT ENABLED FOR MORE THAN 3 MINUTES (ADJUSTABLE), AN ALARM SHALL BE GENERATED AND BROADCAST.
   D. DAMPER MODULATION FAULT - IF ECONOMIZER DAMPER ACTUATOR FEEDBACK PERCENT DOES NOT MATCH THE COMMANDED ECONOMIZER DAMPER PERCENT FOR MORE THAN 3 MINUTES (ADJUSTABLE), AN ALARM SHALL BE GENERATED AND BROADCAST.
   E. EXCESS OUTDOOR AIR - IF ECONOMIZER DAMPER ACTUATOR FEEDBACK STATUS INDICATES THAT THE ECONOMIZER DAMPER IS OPEN BEYOND MIN CFM SETPOINT IN HEATING MODE, AN ALARM SHALL BE GENERATED AND BROADCAST.
12. MONITORING - THE FOLLOWING CONDITIONS SHALL BE MONITORED AND DISPLAYED AT EMS OPERATOR WORKSTATION/GRAPHICAL USER INTERFACE:
   A. SUPPLY AIR TEMPERATURE.
   B. MIXED AIR TEMPERATURE.
   C. OUTSIDE AIR TEMPERATURE.
   D. ROOM TEMPERATURE.
   E. ROOM CO2 LEVEL.
   F. CURRENT MODE (HEATING/COOLING/FAN).
   G. FAN STATUS THRU CURRENT SWITCH.
   H. RETURN AIR DAMPER POSITION.
   I. OUTSIDE AIR DAMPER POSITION.
13. ALARMS - AT A MINIMUM THE FOLLOWING ALARMS SHALL BE DISPLAYED ON THE GRAPHICAL USER INTERFACE:
   A. ROOM TEMPERATURE OUT OF BOUNDS.
   B. ROOM CO2 TOO HIGH.
   C. FAN NOT RUNNING.
   D. DAMPER POSITION DOES NOT MATCH COMMAND.



2 CLASSROOM SPLIT SYSTEM HEAT PUMP / FAN COIL UNIT CONTROL SCHEMATIC

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119523 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 10/26/2021

aedis architects
www.aedisarchitects.com
387 S. 1st Street, Suite 300
San Jose, CA 95113
tel: (408)-300-5160
fax: (408)-300-5121

PROJECT
GEORGE HALL ELEMENTARY SCHOOL - HVAC REPLACEMENT

SAN MATEO-FOSTER CITY SCHOOL DISTRICT

CONSULTANT

CEG JOB NO. 21034
CYPRESS Engineering Group
HVAC, Plumbing, Fire Protection
Building Commissioning
Industrial Refrigeration
Environmental Compliance
Training & Technical Support
831 216 1800
8 Harris Court, Suite A8
Monterey, CA 93940
cypresseg.com

STAMP
REGISTERED PROFESSIONAL ENGINEER
KEITH SERTUNG
No. M31059
EXP. JUNE 30, 2023
MECHANICAL
STATE OF CALIFORNIA

STATE
DSA FILE NUMBER 41-26
APPL # 01-119523

REVISIONS

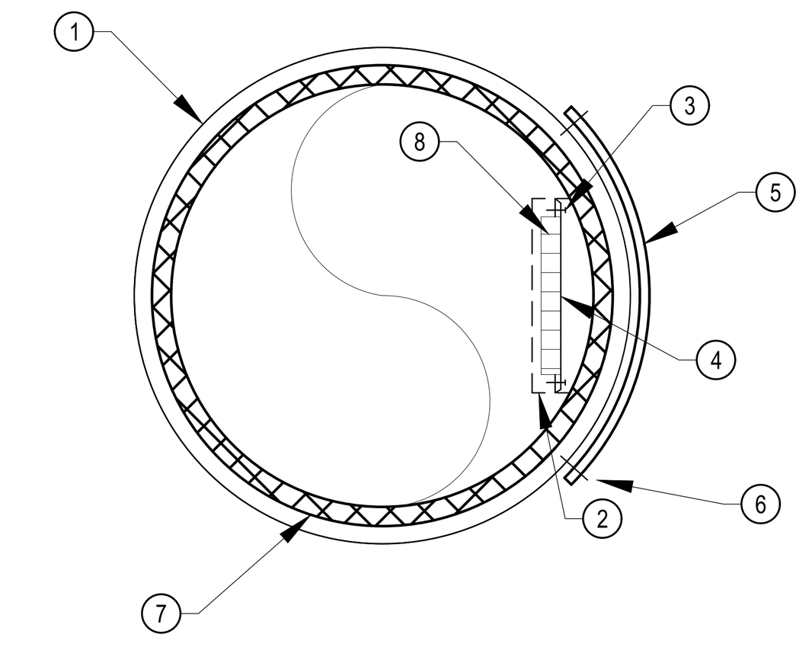
No.	Description	Date

MILESTONES

DD	
90% CD	
DSA SUB	05/21/2021
BACKCHECK	10/04/2021

SHEET
CONTROLS - MECHANICAL

DATE 10/04/2021
JOB # 2021005.02
SHEET # MP5.01



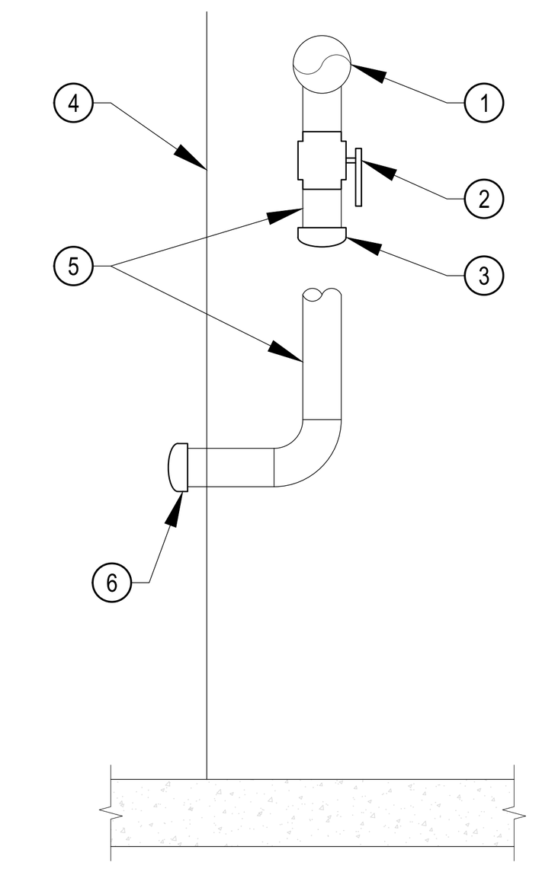
DETAIL NOTES:

1. EXPOSED METAL DUCT.
2. REGISTER BOX.
3. SELF TAPPING SHEET METAL SCREWS. 12" ON CENTER MAX. (TYP.).
4. REGISTER.
5. REGISTER BOX SHALL BE 1/4" WIDER THAN OUTSIDE EDGE OF REGISTER MOUNTING FRAME.
6. POP RIVET AT 6" ON CENTER ALL AROUND. CAULK AND SEAL FOR FINISH (TYP.).
7. INSULATION.
8. FACE OPERABLE, KEYED AIR EXTRACTOR.

NOTES:

1. PRIME AND PAINT EXPOSED DUCTS, SUPPORTS, AND REGISTERS.

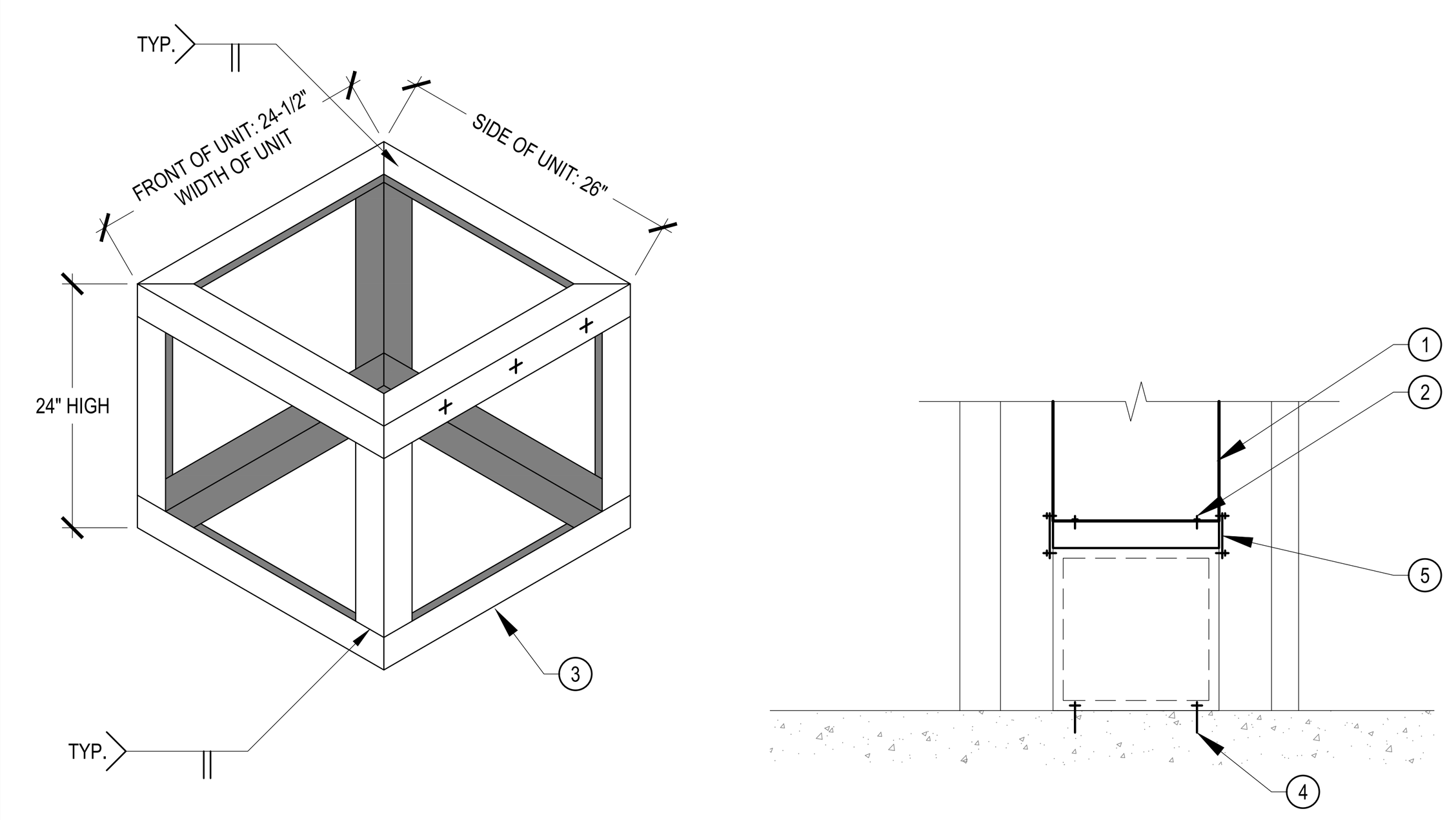
12 REGISTER DETAIL - DUCT MOUNTED N.T.S.



DETAIL NOTES:

1. (E) GAS MAIN. SEE PLANS FOR LOCATIONS.
2. FOR CONDITIONS WHERE (E) ISOLATION / SHUT-OFF VALVE IS ON (E) BRANCH LINE, CAP TIGHT TO VALVE.
3. CAP (E) GAS BRANCH LINE TIGHT TO GAS MAIN.
4. (E) WALL.
5. (E) GAS BRANCH LINE.
6. CAP BRANCH LINE TIGHT TO WALL. PATCH EXTERIOR FINISH IN KIND. IF (E) BRANCH PIPE IS TOO CLOSE TO THE BUILDING TO CAP OUTSIDE THE BUILDING, CAP THE BRANCH INSIDE THE BUILDING, TIGHT TO THE WALL.

8 CAPPING EXISTING GAS BRANCH N.T.S.



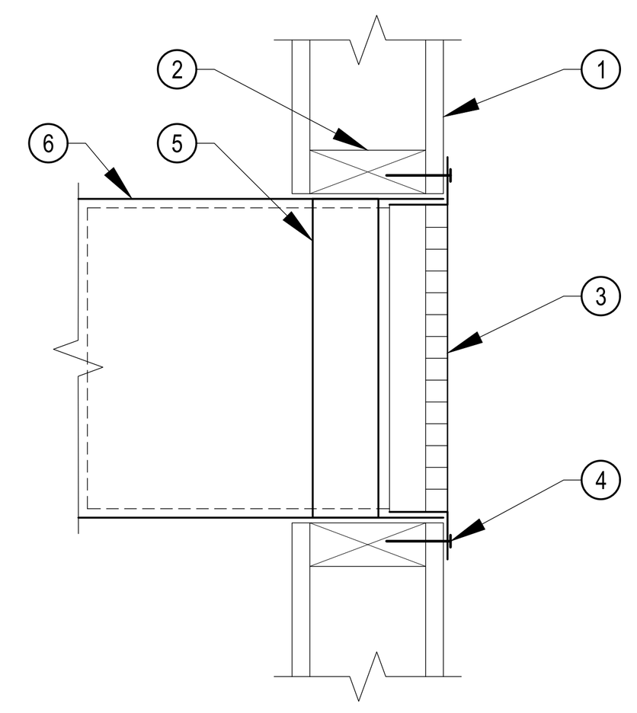
DETAIL NOTES:

1. FAN COIL. SEE PLANS FOR LOCATIONS.
2. SECURE FAN COIL TO FILTER BOX WITH #14 x 3/4" SM SCREWS AT 4" O.C. ALL AROUND.
3. FAN COIL STAND / RETURN / OUTSIDE AIR MIXING PLENUM W/ 2"x2"x1/4" ANGLE IRON FRAME (ASTM A36), ALL WELDED WITH ELECTRODE E70XX, MITERED CORNERS. COVER W/ 20 GA SHEET METAL. LINE W/ 1" ACOUSTIC MATERIAL.
4. SECURE STAND / MIXING PLENUM TO CONCRETE FLOOR WITH (4) HILTI KB-TZ2 3/8Ø"x2-1/2", 2" MIN EMBEDMENT ESR-4266 .
5. SECURE FAN COIL TO STAND W/ 1/4" x 1" BOLT, 7"x24" 16 GA PLATE, NUT, AND LOCK WASHER AT 8" O.C. (3) SIDES. FILTER BOX ACCESS TO REMAIN CLEAR. ENSURE REFRIGERANT AND CONDENSATE PIPES DO NOT BLOCK FILTER BOX ACCESS.

NOTES:

1. SIMILAR FOR FC-36, EXCEPT STAND TO BE 18" INSTEAD OF 24" TALL.

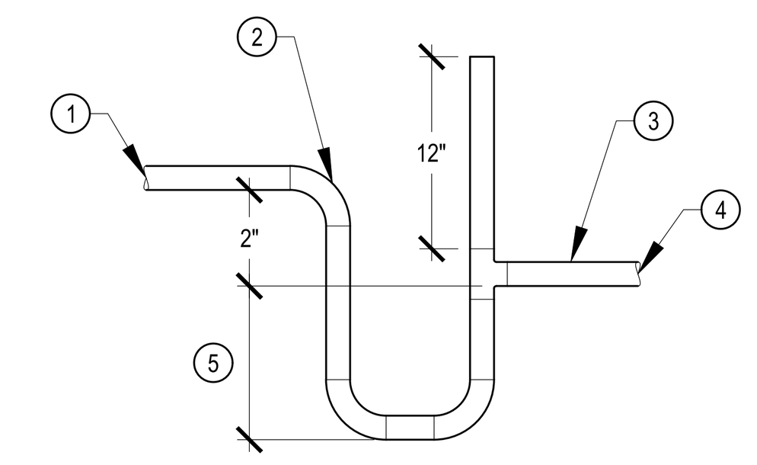
1 FAN COIL AND STAND MOUNTING N.T.S.



DETAIL NOTES:

1. WALL.
2. 2x BLOCKING ALL AROUND.
3. REGISTER.
4. #8 WOOD SCREWS, TYP. OF 4.
5. AIRSAN COMPACT SILENCER BEHIND REGISTER.
6. SHEET METAL DUCT WITH 1/2" ACOUSTIC LINING.

13 REGISTER DETAIL - SIDEWALL MOUNTED N.T.S.



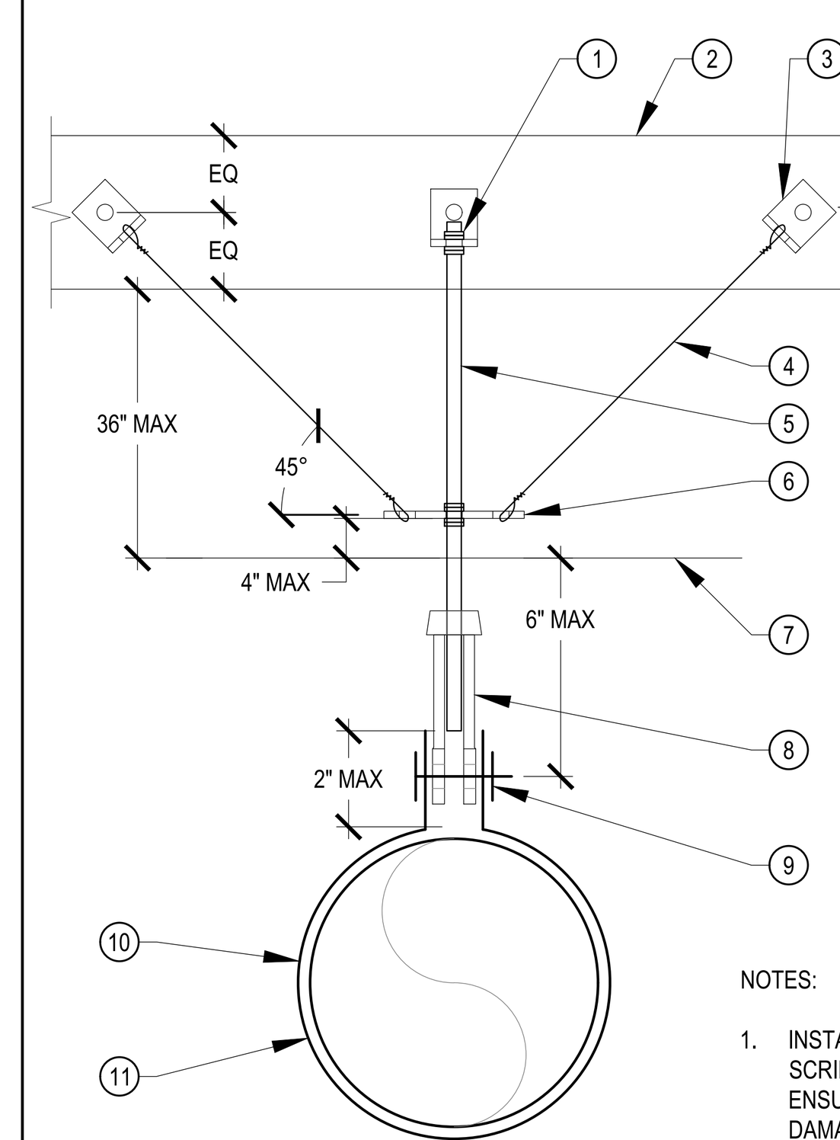
DETAIL NOTES:

1. CONNECT CD TO UNIT PER MANUFACTURER'S INSTALLATION REQUIREMENTS.
2. LONG RADIUS ELBOW, TYP.
3. PITCH MINIMUM 1/8" PER FOOT TO DRAIN.
4. ROUTE TO ROOF DRAIN.
5. UNIT TOTAL INCHES STATIC PRESSURE ±2".

NOTES:

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

9 CONDENSATE DRAIN CONNECTION TO EQUIPMENT N.T.S.



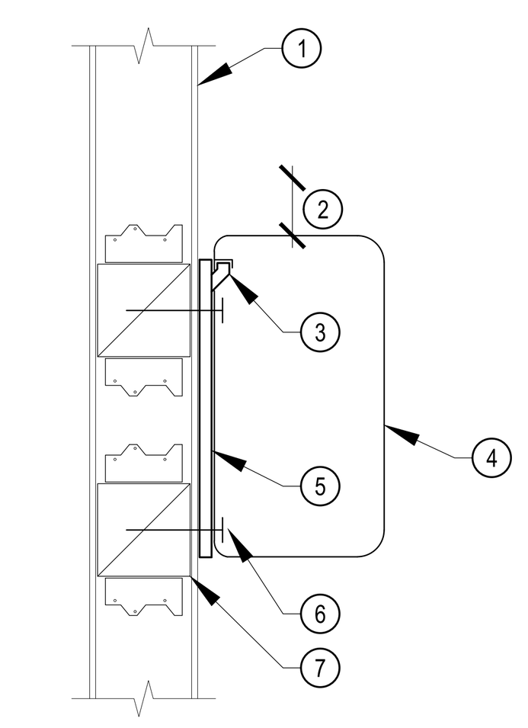
DETAIL NOTES:

1. PROVIDE DOUBLE NUT AT FITTINGS, TYP AT ROD.
2. (E) FRAMING.
3. UNISTRUT P1026 W/ 3/8" THRU BOLT, TYP.
4. 12 GA WIRE W/ (3) TIGHT TURNS WITHIN 3", TYP., 4 WAYS
5. 3/8"Ø HANGER ROD.
6. UNISTRUT P1925.
7. (E) T-BAR CEILING.
8. GRINNELL FORGED STEEL CLEVIS END.
9. 3/8"Ø THRU BOLT W/ LOCKWASHER AND NUT.
10. DUCT. MAX WEIGHT OF DUCT = 10 LB/FT. SEE PLANS FOR SIZES AND LOCATIONS.
11. 1" x 16 GAUGE CONTINUOUS COLLAR DRAWN TIGHT AROUND DUCT.

NOTES:

1. INSTALL HANGER ROD AT EDGE OF T-BAR CEILING TILE. SCRIBE HOLE TIGHT TO ROD. DO NOT OVERCUT. ENSURE T-BAR CEILING CAN BE REPLACED WITHOUT DAMAGING THE CEILING TILE.
2. HANGER ROD & WIRE BRACING ASSEMBLY SPACING 10 FT OC MAX.

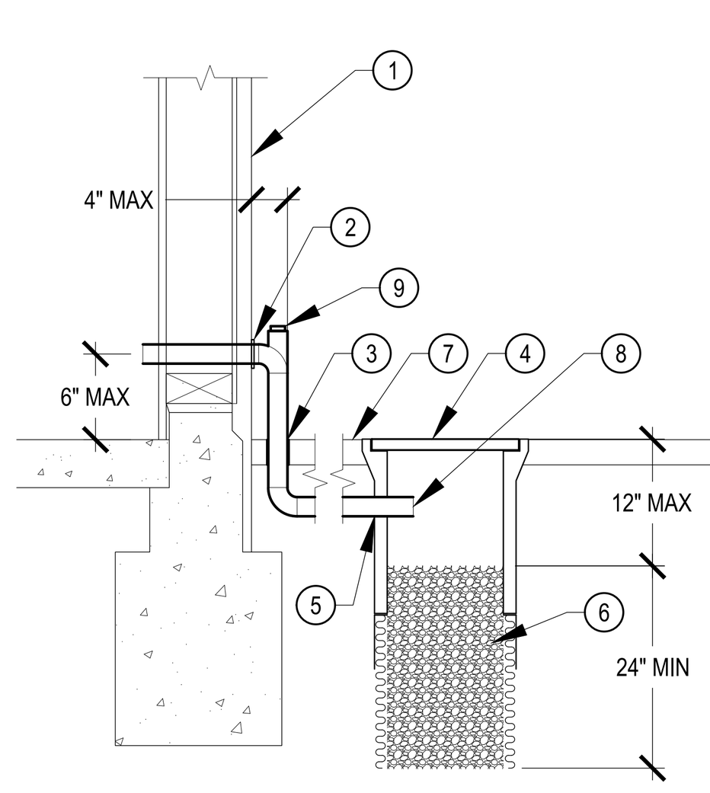
5 ROUND DUCT HANGER N.T.S.



DETAIL NOTES:

1. EXISTING WALL.
2. MAINTAIN FACTORY REQUIRED CLEARANCES ALL AROUND UNIT.
3. INSTALL THE UNIT TO MOUNTING PLATE PER MANUFACTURER INSTALLATION AND OPERATION MANUAL.
4. INDOOR UNIT, SEE PLANS FOR LOCATIONS AND MOUNTING HEIGHTS.
5. MANUFACTURER'S MOUNTING PLATE.
6. 1/4" Ø LAG SCREW INTO BLOCKING, 3" MIN EMBEDMENT. TYP. OF 4 LOCATIONS.
7. BLOCKING, SEE 7/A9.10.

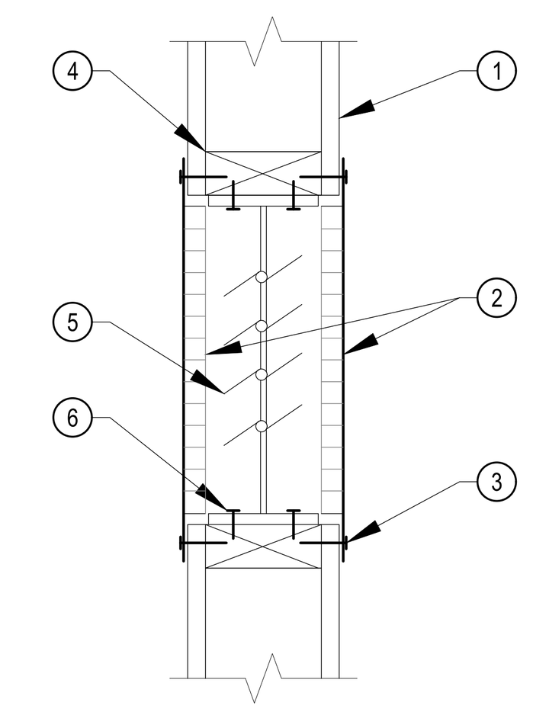
2 FAN COIL MOUNTING N.T.S.



DETAIL NOTES:

1. (E) EXTERIOR WALL.
2. SEAL PENETRATION WATERTIGHT. PROVIDE ESCUTCHEON AT EXTERIOR.
3. DROP PIPE BELOW GRADE.
4. CHRISTY F22 CURB VALVE BOX WITH ADS SNAP ADAPTER AND 18" ADS EXTENSION. WITH F08R REINFORCED CONCRETE LID. FLUSH WITH GRADE.
5. CORE DRILL BOX FOR PIPE TO PASS THROUGH.
6. FILL WITH WASHED PEA GRAVEL.
7. SEE A8.10 FOR PATCHING.
8. SPILL WITH 1" AIR GAP.
9. CLEANOUT.

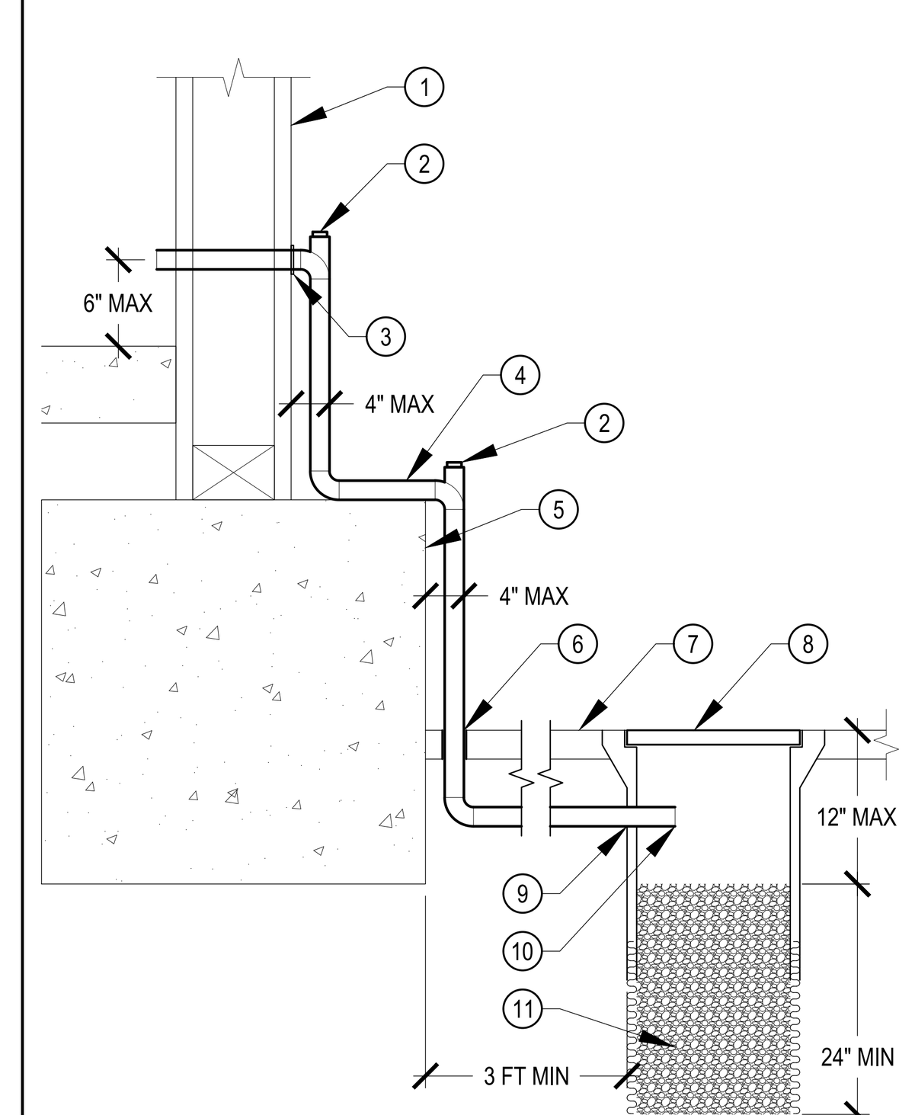
14 CONDENSATE DRYWELL N.T.S.



DETAIL NOTES:

1. WALL.
2. SIDEWALL GRILLE
3. #8 WOOD SCREWS, TYP. OF 4.
4. (E) FRAMED OPENING ALL AROUND.
5. MOTORIZED DAMPER.
6. (4) #8 WOOD SCREW EA. CORNER, TOP AND BOTTOM, BOTH SIDES TO (E) 2X FRAMING.

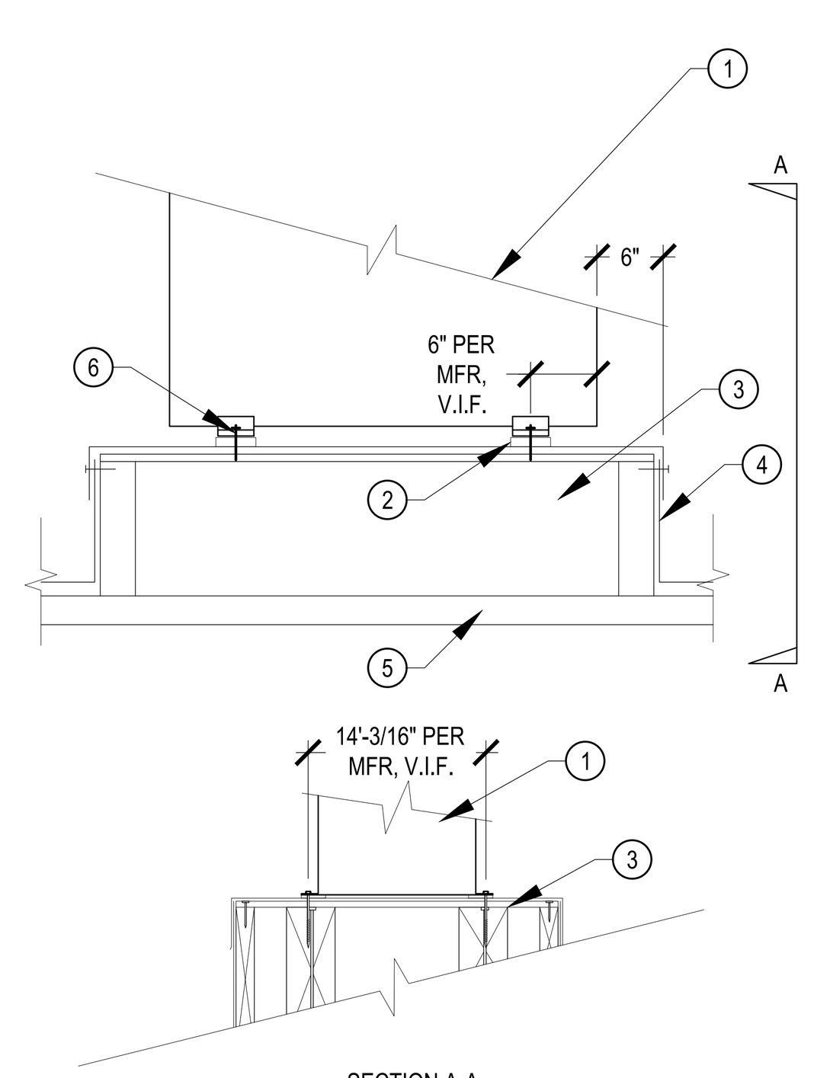
10 RELIEF DAMPER MOUNT N.T.S.



DETAIL NOTES:

1. (E) EXTERIOR WALL.
2. PROVIDE CLEANOUT FOR EACH AGGREGATE HORIZONTAL CHANGE IN DIRECTION EXCEEDING 135.
3. SEAL PENETRATION WATERTIGHT. PROVIDE ESCUTCHEON AT EXTERIOR.
4. RUN PIPE ON TOP OF (E) BUILDING FOOTING. DO NOT PENETRATE THROUGH FOOTINGS. OFFSET PIPE IF NECESSARY TO CLEAR (E) BRACE FOOTING.
5. (E)BUILDING FOOTING.
6. DROP PIPE BELOW GRADE.
7. GRADE.
8. CHRISTY F22 CURB VALVE BOX WITH ADS SNAP ADAPTER AND 18" ADS EXTENSION. WITH F08R REINFORCED CONCRETE LID. FLUSH WITH GRADE.
9. CORE DRILL BOX FOR PIPE TO PASS THROUGH.
10. SPILL WITH 1" AIR GAP.
11. FILL WITH WASHED PEA GRAVEL.

6 CONDENSATE DRYWELL AROUND BUILDING FOOTING N.T.S.

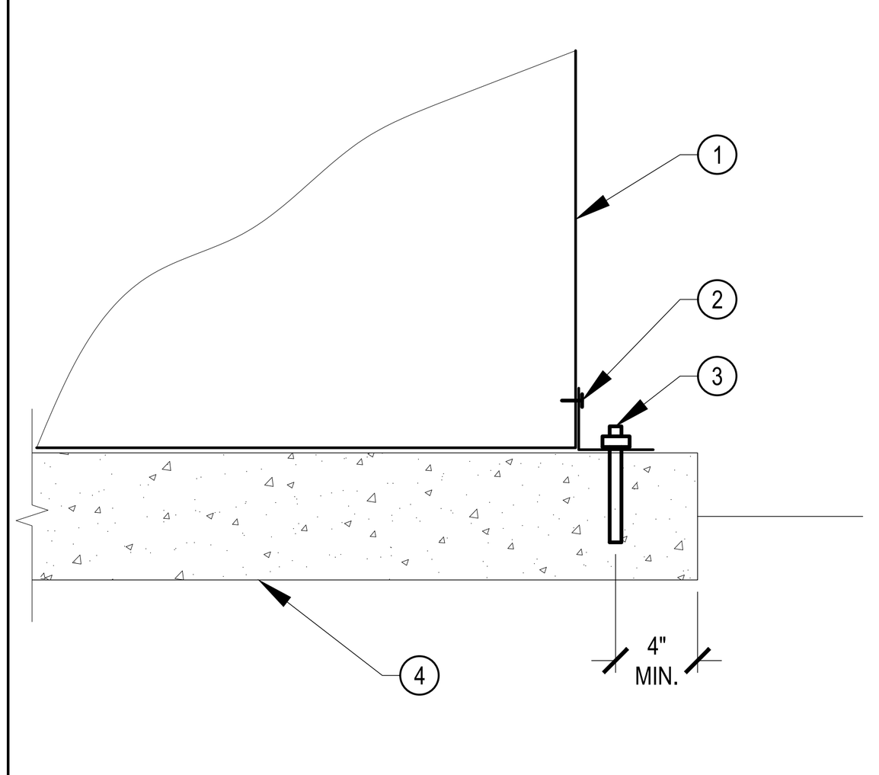


SECTION A-A

DETAIL NOTES:

1. HEAT PUMP. FOR LOCATION, SEE PLANS.
2. 4"x4"x1/4" NEOPRENE ISOLATOR PADS. TYP. OF 4.
3. LEVEL BUILT UP PLATFORM WITH SHEET METAL CAP. SEE 11/S8.01 FOR PLATFORM DETAIL AND ATTACHMENT TO ROOF STRUCTURE. SEE ARCHITECTS DRAWINGS FOR PLATFORM CAP.
4. FOR FLASHING, SEE ARCHITECT'S DRAWINGS.
5. (E) ROOF.
6. 3/8"Ø LAG SCREW THRU MOUNTING HOLE AND ISOLATOR PAD TO PLATFORM. MINIMUM 2" EMBEDMENT. TYP. OF 4.

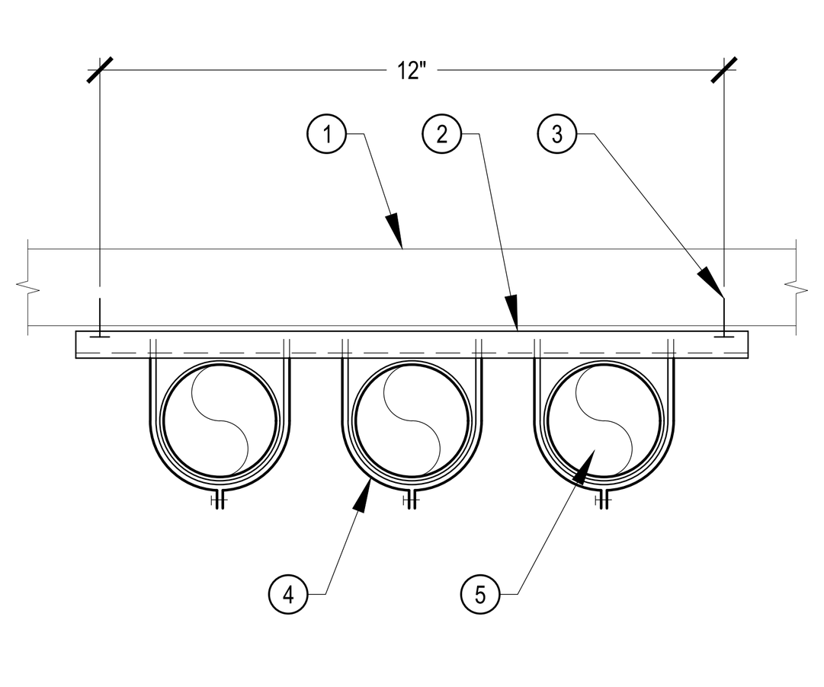
3 SPLIT SYSTEM HEAT PUMP UNIT ON PLATFORM N.T.S.



DETAIL NOTES:

1. CONDENSING UNIT. FOR LOCATION, SEE PLANS.
2. 2"X2"X1/8" THICK METAL BRACKET, 2" LONG. ATTACH TO UNIT WITH (2) #10 SHEET METAL SCREWS AT EACH BRACKET. TOTAL OF 4 BRACKETS.
3. POST-INSTALLED 3/8"Ø HILTI KWIK BOLT TZ WEDGE ANCHOR. MINIMUM 3" EMBEDMENT. TYP OF 4.
4. 6" CONCRETE HOUSEKEEPING PAD, SEE 8/ S8.01.

15 CONDENSING UNIT ANCHORAGE N.T.S.



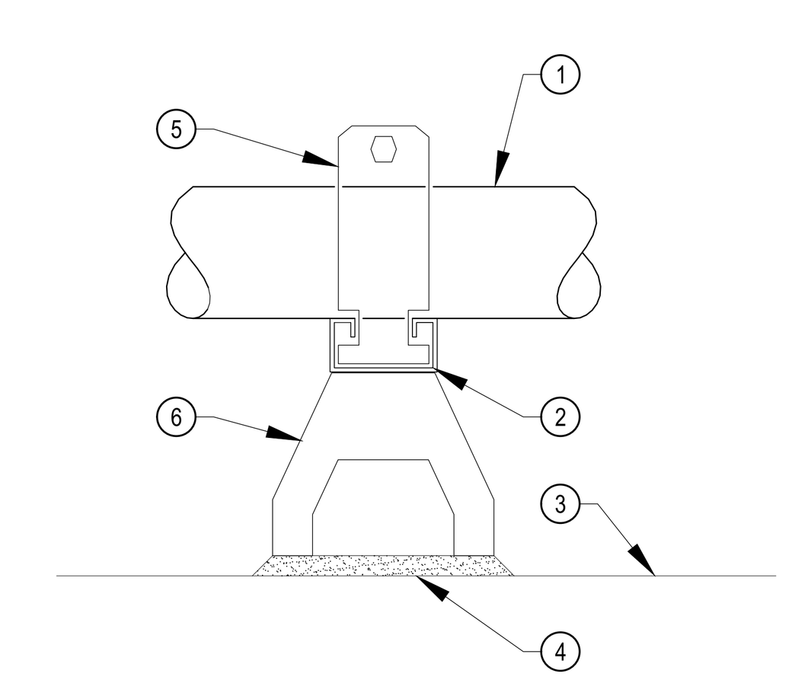
DETAIL NOTES:

1. (E) JOIST.
2. COPPER B-LINE B22 CHANNEL.
3. SCREW CHANNEL INTO (E) JOIST W/ 2-3/8"x2" LAG SCREWS.
4. B-LINE VIBRA-CLAMP PIPE CLAMP.
5. PIPE(S). SEE PLANS FOR TYPES AND SIZES.

NOTES:

1. 6 FT MAX SPACING BETWEEN SUPPORT

11 PIPE SUPPORT N.T.S.



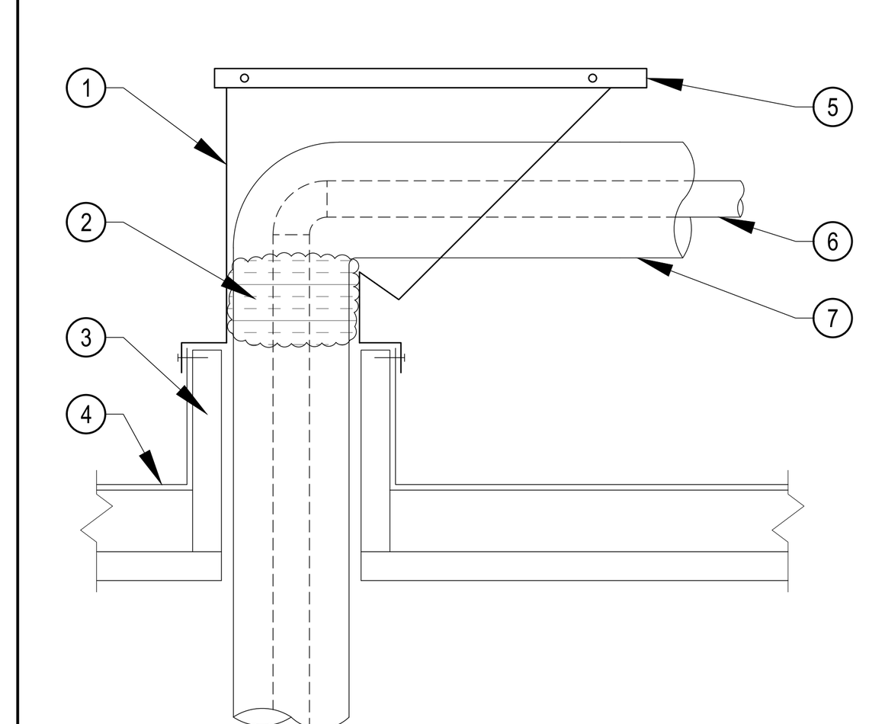
DETAIL NOTES:

1. FOR PIPE SIZES AND TYPES, SEE PLANS.
2. PROVIDE GAP BETWEEN INTEGRAL STRUT CHANNEL AND HARDWARE USED TO SECURE PIPE TO ALLOW FOR MOVEMENT OF SYSTEM.
3. (E) ROOF.
4. SET SUPPORT IN MASTIC COMPATIBLE WITH ROOF SURFACE.
5. PROVIDE STANDARD STRUT CLAMPS.
6. B-LINE DURA-BLOCK WITH INTEGRAL CHANNEL AND PIPE BRACKETS, WIDTH AS REQUIRED FOR NUMBER OF PIPES.

NOTES:

1. REFER TO 22 05 00 PLUMBING SPECIFICATIONS FOR SPACING BETWEEN SUPPORT BLOCKS. ADDITIONALLY PROVIDE BLOCK WITHIN 2'-0" OF ANY CHANGE OF DIRECTION.

7 PIPE SUPPORT ON ROOF N.T.S.



DETAIL NOTES:

1. GALVANIZED SHEET METAL ROOF JACK WITH CAP.
2. FILL OPENING WITH FOAM.
3. ROOF OPENING. SEE STRUCTURAL DRAWING FOR CURB, SEE ARCHITECT'S DRAWINGS FOR FLASHING.
4. ROOFING.
5. REMOVABLE SHEET METAL COVER ATTACHED WITH TWO (2) #8 SELF TAPPING SCREWS EACH SIDE, PAINTED.
6. PIPE.
7. PIPE INSULATION.

NOTES:

1. EXPOSED PIPING SHALL HAVE ALUMINUM JACKET.

4 PIPING ROOF JACK N.T.S.

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DIV. OF THE STATE ARCHITECT
APP: 01-119523 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 10/26/2021

aedis architects

www.aedisarchitects.com
387 S. 1st Street, Suite 300
San Jose, CA 95113
tel: (408)-300-5160
fax: (408)-300-5121

PROJECT

GEORGE HALL ELEMENTARY SCHOOL - HVAC REPLACEMENT

SAN MATEO-FOSTER CITY SCHOOL DISTRICT

CONSULTANT

CEG JOB NO: 21034

CYPRESS Engineering Group

HVAC, Plumbing, Fire Protection
Building Commissioning
Industrial Refrigeration
Environmental Compliance
Training & Technical Support

831.218.1802
8 Harris Court, Suite A8
Monterey, CA 93940
cypresseg.com

STAMP

REGISTERED PROFESSIONAL ENGINEER
METIN SERTTUNC
No. M31059
EXP. JUNE 30, 2023
MECHANICAL
STATE OF CALIFORNIA

STATE

DSA FILE NUMBER 41-26

APPL # 01-119523

REVISIONS

No.	Description	Date

MILESTONES

DD	
90% CD	
DSA SUB	05/21/2021
BACKCHECK	10/04/2021

SHEET

DETAILS - MECHANICAL & PLUMBING

DATE 10/04/2021

JOB # 2021005.02

SHEET #

MP6.01

O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

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

YES	NO	Form/Title	Systems To Be Field Verified	Field Inspector Pass	Field Inspector Fail
◉	○	NRCA-MCH-02-A Outdoor Air must be submitted for all newly installed HVAC units. *Note: MCH02-A can be performed in conjunction with MCH-07-A Supply Fan VFD Acceptance (if applicable) since testing activities overlap.*		☐	☐
◉	○	NRCA-MCH-03-A Constant Volume Single Zone HVAC *NOTE: This form does not automatically move to "Yes". If Constant Volume Single Zone HVAC Systems are included in the scope, permit applicant should move this form to "Yes".*		☐	☐
○	◉	NRCA-MCH-04-A Air Distribution Duct Leakage		☐	☐
○	◉	NRCA-MCH-05-A Air Economizer Controls		☐	☐
◉	○	NRCA-MCH-06-A Demand Control Ventilation Systems Acceptance must be submitted for all systems required to employ demand controlled ventilation (refer to §120.1(c)3) can vary outside ventilation flow rates based on maintaining interior carbon dioxide (CO2) concentration setpoints.		☐	☐
○	◉	NRCA-MCH-07-A Supply Fan Variable Flow Controls		☐	☐
○	◉	NRCA-MCH-08-A Valve Leakage Test		☐	☐
○	◉	NRCA-MCH-09-A Supply Water Temperature Reset Controls		☐	☐
○	◉	NRCA-MCH-10-A Hydronic System Variable Flow Controls		☐	☐
○	◉	NRCA-MCH-11-A Automatic Demand Shed Controls		☐	☐

○	◉	NRCA-MCH-12-A FDD for Packaged Direct Expansion Units		☐	☐
○	◉	NRCA-MCH-13-A Automatic FDD for Air Handling Units and Zone Terminal Units Acceptance		☐	☐
○	◉	NRCA-MCH-14-A Distributed Energy Storage DX AC Systems Acceptance *NOTE: This form does not automatically move to "Yes". If Distributed Energy Storage DX AC Systems are included in the scope, permit applicant should move this form to "Yes".*		☐	☐
○	◉	NRCA-MCH-15-A Thermal Energy Storage (TES) System Acceptance *NOTE: This form does not automatically move to "Yes". If Chilled Water Storage, Ice-on-Coil Internal Melt, Ice-on-Coil External Melt, Ice Harvester, Brine, Ice-Slurry, Eutectic Salt, Clathrate Hydrate Slurry (CHS), Cryogenic or Encapulated (Ice Ball) Systems are included in the scope, permit applicant should move this form to "Yes".*		☐	☐
○	◉	NRCA-MCH-16-A Supply Air Temperature Reset Controls		☐	☐
○	◉	NRCA-MCH-17-A Condenser Water Temperature Reset Controls		☐	☐
◉	○	NRCA-MCH-18 Energy Management Control Systems		☐	☐
○	◉	NRCA-MCH-19 Occupancy Sensor Controls		☐	☐
○	◉	NRCA-MCH-20 Multi-Family Ventilation		☐	☐
○	◉	NRCA-MCH-21 Multi-Family Envelope Leakage		☐	☐

P. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

Table Instructions: Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E. Additional Remarks. These documents must be completed by a HERS Rater and provided to the building inspector during construction. The final documents must be created by a HERS Providers registry, but drafts can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCV/

YES	NO	Form/Title	Field Inspector Pass	Field Inspector Fail
○	◉	NRCV-MCH-04-H Duct Leakage Test *NOTE: Must be completed by a HERS Rater*	☐	☐
○	◉	NRCV-MCH-24 Enclosure Air Leakage Worksheet *NOTE: Must be completed by a HERS Rater*	☐	☐
○	◉	NRCV-MCH-27 High-rise Residential *NOTE: Must be completed by a HERS Rater*	☐	☐
○	◉	NRCV-MCH-32 Local Mechanical Exhaust *NOTE: Must be completed by a HERS Rater*	☐	☐

J. VENTILATION AND INDOOR AIR QUALITY

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

01	☐	Check box if the project is showing ventilation calculations on the plans, or attaching the calculations instead of completing this table.
02	☐	Check this box if the project includes Nonresidential or Hotel/Motel spaces
	☐	Check this box if the project includes new or altered high-rise residential dwelling units
03	☐	Check the box if the project is using natural ventilation in any spaces to meet required ventilation rates per §120.1(c)2.

Nonresidential and Hotel/ Motel Ventilation Systems

04		05		06	07
System Name:	HP/FC	System Design OA CFM Air Flow[1]:	450	System Design Transfer Air CFM: 0	Air Filtration per §120.1(c) and §141.0(b)2[2]
					Provided per §120.1(c) (NR & Hotel/Motel)

08	09	10	11	12	13	14	15	16	
	Mechanical Ventilation Required per §120.1(c)3[3]					Exh. Vent. per §120.1(c)4		DCV or Occupant Sensor Controls per §120.1(d)3, §120.1(d)5 & §120.2(e)3[4]	
Space Name or Item Tag	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of showerheads / toilets	# of people[5]	Required Min OA CFM	Required Minimum CFM	Provided per Design CFM	DCV	Provided per §120.1(d)4
HP/FC	Classroom (age 5-18)	1,000			150		0	Occ Sensor	NA: Not required space type

17	Total System Required Min OA CFM	150	18	Ventilation for this System Complies?	Yes

[1] *FOOTNOTES: System CFM should include both mechanical and natural ventilation for the zone/system.*
[2] *Air filtration requirements apply to the following three system types per §120.1(c)1A: space conditioning systems utilizing ducts to supply air to occupiable space; supply-only ventilation systems providing outside air to occupiable space; supply side of balanced ventilation systems including heat recovery and energy recovery ventilation systems providing outside air to occupiable space.*
[3] *Uniform Mechanical Code may have more stringent ventilation requirements; the most stringent code requirement takes precedence.*
[4] *See Standards Tables 120.1-A and 120.1-B.*
[5] *For lecture halls with fixed seating, the expected number of occupants shall be determined in accordance with the California Building Code.*
[6] *§120.2(e)3 requires systems serving rooms that are required by §130.1(c) to have lighting occupancy sensing controls to also have occupancy sensing zone controls for ventilation. Examples of spaces which require lighting occupancy sensors include offices 250ft² or smaller, multipurpose rooms less than 1,000ft², classrooms, conference rooms, restrooms, aisles and open areas in warehouses, library book stack aisles, corridors, stairwells, parking garages, and loading and unloading zones, unless excepted by §130.1(c).*

K. TERMINAL BOX CONTROLS

This Section Does Not Apply

L. DISTRIBUTION (DUCTWORK AND PIPING)

Table Instructions: Complete the following tables to show compliance with mandatory pipe insulation requirements found in §120.3 and prescriptive requirements found in §140.4(l) for duct leakage testing.

Duct Leakage Sealing

		The answers to the questions below apply to the following duct system(s):	FC	Duct leakage testing triggered for these systems?	No
11	No	The scope of the project includes only duct systems serving healthcare facilities.			
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.			
13	No	The space conditioning system serves less than 5,000 ft² of conditioned floor area.			
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:			
		☐	Outdoors		
		☐	In a space directly under a roof that has a U-factor greater than the U-factor of the ceiling, or if the roof does not meet the requirements of §140.3(a)1B or if the roof has fixed vents or openings to the outside/ unconditioned spaces		
		☐	In an unconditioned crawlspace		
		☐	In other unconditioned spaces		
15	No	The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.			
16	No	The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.			

Table Continued

Table Continued

17		Duct system shall be sealed in accordance with the California Mechanical Code.

M. COOLING TOWERS

This Section Does Not Apply

N. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

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

YES	NO	Form/Title	Systems To Be Field Verified	Field Inspector Pass	Field Inspector Fail
◉		NRCI-MCH-01-E - Must be submitted for all buildings.		☐	☐

This document is used to demonstrate compliance for mechanical systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in §140.4, or §141.0(b)2 for alterations.

A. GENERAL INFORMATION

01	Project Location (city)	San Mateo	04	Total Conditioned Floor Area	
02	Climate Zone	3	05	Total Unconditioned Floor Area	
03	Occupancy Types Within Project:		06	# of Stories (Habitable Above Grade)	1

☐ Office (B) ☐ Retail (M) ☐ Non-refrigerated Warehouse (S)
☐ Hotel/ Motel Guest Rooms (R-1) ☑ School (E) ☐ Healthcare Facility (I)
☐ High-Rise Residential (R-2/R-3) ☐ Relocatable Class Bldg (E) ☐ Other (Write In):

[1] *FOOTNOTES: Climate zone can be determined on the California Energy Commission's website at http://www.energy.ca.gov/maps/renewable/building_climate_zones.html*

B. PROJECT SCOPE

Table Instructions: Include any mechanical systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in §140.4, or §141.0(b)2 for alterations.

My project consists of (check all that apply)

01	02	03
Air System(s)	Wet System Components	Dry System Components
☑ Heating Air System	☐ Water Economizer	☐ Air Economizer
☑ Cooling Air System	☐ Pumps	☐ Electric Resistance Heat
Mechanical Controls	☐ Hydronic System Piping	☐ Fan Systems
☑ Mechanical Controls (existing to remain, altered or new)	☐ Cooling Towers	☑ Ductwork (existing to remain, altered or new)
	☐ Chillers	☑ Ventilation
	☐ Boilers	☐ Zonal Systems/ Terminal Boxes

C. COMPLIANCE RESULTS

Table Instructions: If any cell on this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D. for guidance.

01		02		03		04		05		06		07		08	09
System Summary §110.1, §110.2, §140.4	AND	Pumps §140.4(k)	AND	Fans/ Economizers §140.4(c), §140.4(e)	AND	System Controls §110.2, §120.2, §140.4(f)	AND	Ventilation §120.1	AND	Terminal Box Controls §140.4(d)	AND	Distribution §120.3, §140.4(l)	AND	Cooling Towers §110.2(e)2	**Compliance Results**
(See Table F)		(See Table G)		(See Table H)		(See Table I)		(See Table J)		(See Table K)		(See Table L)		(See Table M)	
Yes	AND		AND		AND	Yes	AND	Yes	AND		AND	Yes	AND		**COMPLIES**
														Mandatory Measures Compliance (See Table Q for Details)	**COMPLIES**

D. EXCEPTIONAL CONDITIONS

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

Selections made in Table O have been changed by the permit applicant. See Table E. Additional Remarks for permit applicant's explanation.

E. ADDITIONAL REMARKS

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)

Table Instructions: Complete the following equipment schedules to show compliance with mandatory requirements found in §110.1 and §110.2(a) and prescriptive requirements found in §140.4(a), §140.4(b) and §140.4(k) or §141.0(b)2 for alterations.

Dry System Equipment Sizing (includes air conditioners, condensers, heat pumps, VRF, furnaces and unit heaters)

01	02	03	04	05	06	07	08	09	10	11
				Equipment Sizing per Mechanical Schedule (kBtu/h) §140.4 (a&b)						
				Heating Output[1,2]			Cooling Output[1,3]		Load Calculations[3,4]	
Name or Item Tag	Equipment Category per Tables 110.2	Equipment Type per Tables 110.2 & Title 20	Smallest Size Available[1] §140.4(a)	Per Design (kBtu/h)	Rated (kBtu/h)	Supp. Heating Output (kBtu/h)	Sensible Per Design[1] (kBtu/h)	Rated (kBtu/h)	Total Heating Load (kBtu/h)	Total Sensible Cooling Load (kBtu/h)
HP/FC	Unitary heat pumps (no elec. resistance)	Air cooled, split (1 phase)	Yes	60	60	0	54	54		

[1] *FOOTNOTES: Equipment shall be the smallest size, within the available options of the desired equipment line, necessary to meet the design heating and cooling loads of the building per §140.4(a). Healthcare facilities are excepted.*
[2] *It is common practice to show rated output capacity on the equipment schedule. Sensible cooling output comes from specification sheet tables.*
[3] *If equipment is heating only, leave cooling output and load blank. If equipment is cooling only, leave heating output and load blank.*
[4] *Authority Having Jurisdiction may ask for load calculations used for compliance per §140.4(b).*

Table Continued

Dry System Equipment Efficiency (other than Package Terminal Air Conditioners (PTAC) and Package Terminal Heat Pumps (PTHP))

01	02	03	04	05	06	07	08	09
		Heating Mode				Cooling Mode		
Name or Item Tag	Size Category (Btu/h)	Rating Condition (°F)	Efficiency Unit	Min Efficiency Required per Tables 110.2/ Title 20	Design Efficiency	Efficiency Unit	Min Efficiency Required per Tables 110.2/ Title 20	Design Efficiency
HP/FC	<65,000		HSPF	8.2	9	SEER	14	17.1

G. PUMPS

This Section Does Not Apply

H. FAN SYSTEMS & AIR ECONOMIZERS

This Section Does Not Apply

I. SYSTEM CONTROLS

Table Instructions: Complete the following Table to demonstrate compliance with mandatory controls in §110.2 and §120.2 and prescriptive controls in §140.4(f) and (n) or requirements in §141.0(b)2E for altered space conditioning systems.

01	02	03	04	05	06	07	08	09
System Name	System Zoning	Conditioned Floor Area Being Served (ft²)	Thermostats §110.2(b) & (c)[1], §120.2(a) or §141.0(b)2E	Shut-Off Controls §120.2(e)	Isolation Zone Controls §120.2(a)	Demand Response §110.12 and §120.2(b)	Supply Air Temp. Reset §140.4(f)	Window Interlocks per §140.4(n)
HP/FC	single zone	≤ 25,000 ft²	EMCS	EMCS	NA: Single Zone	EMCS	NA: Single Zone	NA: Alteration project

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

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aedis architects
www.aedisarchitects.com
387 S. 1st Street, Suite 300
San Jose, CA 95113
tel: (408)-300-5160
fax: (408)-300-5121

PROJECT

GEORGE HALL ELEMENTARY SCHOOL - HVAC REPLACEMENT

SAN MATEO-FOSTER CITY SCHOOL DISTRICT

CONSULTANT

CEG JOB NO. 2104
CYPRESS Engineering Group
HVAC, Plumbing, Fire Protection
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REVISIONS

No.	Description	Date
1		

MILESTONES

DD	
90% CD	
DSA SUB	05/21/2021
BACKCHECK	10/04/2021

SHEET

TITLE 24 DOCUMENTS

DATE 10/04/2021
JOB # 2021005.02
SHEET # MP8.01

Q. MANDATORY MEASURES DOCUMENTATION LOCATION

Table Instructions: Indicate where mandatory measures are documented in the plan set or construction documentation. For any mandatory measures that do not apply, mark the plan sheet or construction document location as "N/A", any active cells that are left blank will result in non-compliance in Table C.

01		02
		Plan sheet or construction document location
Compliance with Mandatory Measures documented through MCH Mandatory Measures Note Block:	No	

03	04
Mandatory Measure	Plan sheet or construction document location
Heating Equipment Efficiency per §110.1	MP0.02
Cooling Equipment Efficiency per §110.1	MP0.02
Furnace Standby Loss Control per §110.2(d)	NA
Duct Insulation per §120.4	23 05 00
Heating Hot Water Equipment Efficiency per §110.1	NA
Cooling Chilled and Condenser Water Equipment Efficiency per §110.1	NA
Open and Closed Circuit Cooling Towers conductivity of flow-based controls per §110.2(e)1	NA
Open and Closed Circuit Cooling Towers Flow Meter with analog output per §110.2(e)3	NA
Open and Closed Circuit Cooling Towers Overflow Alarm per §110.2(e)4	NA
Open and Closed Circuit Cooling Towers Efficient Drift Eliminators per §110.2(e)5	NA
Pipe Insulation per §120.3(b)	NA
Combustion air shutoff, combustion air fan controls and stack design and controls for boilers per §120.9	NA
Heat Pump with Supplementary Electric Resistance Heater Controls per §110.2(b)	NA
The air duct and plenum system is designed per §120.4(a)-(f)	Yes
Kitchen range hoods shall be rated for sound in accordance with Section 7.2 of ASHRAE 62.2	NA

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:	Cypress Engineering Group	Signature Date:	5/8/21
Address:	8 Harris Court, Suite A8	CEA/ HERS Certification Identification (if applicable):	
City/State/Zip:	Monterey, CA 93940	Phone:	8312181802

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 :	Cypress Engineering Group	Date Signed:	5/8/21
Address:	8 Harris Court, Suite A8	License:	M31059
City/State/Zip:	Monterey, CA 93940	Phone:	8312181802

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STAMP

REGISTERED PROFESSIONAL ENGINEER
METIN SERTTUNC
No. M31059
EXP. JUNE 30, 2023
MECHANICAL
STATE OF CALIFORNIA

STATE
DSA FILE NUMBER 41-26
APPL # 01-119523

REVISIONS

No.	Description	Date

MILESTONES

DD	
90% CD	
DSA SUB	05/21/2021
BACKCHECK	10/04/2021

SHEET

TITLE 24 DOCUMENTS

DATE 10/04/2021
JOB # 2021005.02
SHEET # MP8.02

SYMBOL LIST:

Symbol	Description
1 / E1.1	PLAN, DETAIL OR SECTION DESIGNATION.
201	ROOM NUMBER.
1	SHEET REFERENCE SYMBOL - SEE ASSOCIATED NOTE ON SAME SHEET.
3	FEEDER SCHEDULE SYMBOL.
CH / 1	MECHANICAL EQUIPMENT TAG.
A	INDICATES FIXTURE TYPE

LUMINAIRE SYMBOLS

- LUMINAIRE - SEE SCHEDULE.
- LUMINAIRE - SEE SCHEDULE.
- LUMINAIRE - SEE SCHEDULE.
- LUMINAIRE - SEE SCHEDULE.
- POLE MOUNTED LUMINAIRE - SEE SCHEDULE.
- POLE MOUNTED LUMINAIRE - SEE SCHEDULE.
- LUMINAIRE - SEE SCHEDULE.
- LUMINAIRE - SEE SCHEDULE.
- LUMINAIRE WALL MOUNTED-SEE SCHEDULE.
- EMERGENCY LUMINAIRE - PROVIDE EMERGENCY BATTERY BALLAST
- EM — EMERGENCY LUMINAIRE - PROVIDE EMERGENCY BATTERY BALLAST
- EMERGENCY LUMINAIRE - PROVIDE EMERGENCY BATTERY BALLAST
- EMERGENCY LUMINAIRE - PROVIDE EMERGENCY BATTERY BALLAST
- EMERGENCY LUMINAIRE WALL MOUNTED- PROVIDE EM. BATTERY BALLAST
- EXIT LIGHT SINGLE FACE - SEE SCHEDULE.
- EXIT LIGHT SINGLE FACE (WITH ARROW)- SEE SCHEDULE.
- EXIT LIGHT (DOUBLE FACED WITH ARROW)- SEE SCHEDULE.
- EMERGENCY BATTERY PACK EXIT LIGHT INSTALL AS DIRECTED.

TYPICAL LUMINAIRE NOMENCLATURE

3a — INDICATES SWITCHING DESIGNATION

INDICATES CIRCUIT NUMBER

SWITCH SYMBOLS

Symbol	Description
\$	SINGLE POLE SWITCH, + 48" AFF TO THE TOP OF THE OUTLET BOX UON.
\$a	SINGLE POLE SWITCH, + 48" AFF TO THE TOP OF THE OUTLET BOX, a = CIRCUIT CONTROLLED.
\$3	THREE WAY SWITCH + 48" AFF TO THE TOP OF THE OUTLET BOX UON.
\$4	FOUR WAY SWITCH + 48" AFF TO THE TOP OF THE OUTLET BOX UON.
\$	MOTOR RATED SWITCH
LVS a	WALL MOUNTED LOW VOLTAGE "DATALINE SWITCH =48" FROM TOP OF BOX, UON, a = CIRCUIT CONTROLLED
OS	LIGHTING OCCUPANCY SENSOR
P	MOTION DETECTOR POWER PACK
OS	ONE CIRCUIT WALL SWITCH WITH BUILT IN OCCUPANCY SENSOR. CONNECT SWITCHING TO LIGHTING FIXTURES AS REQUIRED. MOUNT AT +48"AFF TO THE TOP OF THE SWITCH BOX, UON.

RECEPTACLE SYMBOLS

- CONVENIENCE RECEPTACLE - DUPLEX AT + 18" AFF AND NOT LESS THAN 15" FROM BOTTOM OF BOX U.O.N.
- GFCI CONVENIENCE RECEPTACLE - DUPLEX AT +18" AFF AND NOT LESS THAN 15" FROM BOTTOM OF BOX U.O.N.
- RECEPTACLE - DOUBLE DUPLEX AT + 18" AFF AND NOT LESS THAN 15" FROM BOTTOM OF BOX U.O.N.
- SINGLE RECEPTACLE - NEMA 5-20R UON, AT + 18" AFF AND NOT LESS THAN 15" FROM BOTTOM OF BOX U.O.N.
- SINGLE RECEPTACLE - NEMA L21 - 208 VOLT, THREE PHASE, 5 WIRE, AT + 18" AFF UON AND NOT LESS THAN 15" FROM BOTTOM OF BOX U.O.N.
- C — DOUBLE DUPLEX RECEPTACLE WITH (1) CONTROLLED DUPLEX AND (1) UNCONTROLLED DUPLEX, AT +18" AFF AND NOT LESS THAN 15" FROM BOTTOM OF BOX U.O.N.
- 3-CHANNEL SURFACE RACEWAY, INSTALL AT +36" AFF UON. RACEWAY SHALL BE WIREMOLD #5500.
- FLOOR BOX WITH (2) DUPLEX RECEPTACLES AND DATA OUTLETS. QUANTITY OF DATA OUTLETS AS INDICATED ON THE FLOOR PLANS.

POWER DISTRIBUTION SYMBOLS

Symbol	Description
	PANELBOARD - SURFACE OR FLUSH MOUNTED.
LCP	LIGHTING CONTROL CABINET.
EM	EMERGENCY POWER INVERTER.
J	JUNCTION BOX - CEILING OR WALL MOUNTED, SIZE PER CEC, TAPE AND TAG WIRES.
	MAIN SWITCHBOARD OR DISTRIBUTION PANEL.
M	MOTOR
30	RATING AS INDICATED.
60	UNFUSED DISCONNECT SWITCH - RATING AS INDICATED.
100	FUSED DISCONNECT SWITCH - SIZE FUSES PER MOTOR MANUFACTURER'S RECOMMENDATIONS. RATING AS INDICATED.
II	MAGNETIC STARTER - NEMA SIZE INDICATED.
T	TRANSFORMER - SEE SINGLE LINE FOR REQUIREMENTS.
	GROUND ROD.
P	IN-GRADE ELECTRICAL PULL BOX WITH TRAFFIC RATED LID.
L	IN-GRADE LIGHTING PULL BOX WITH TRAFFIC RATED LID.
C	IN-GRADE COMMUNICATION PULL BOX WITH TRAFFIC RATED LID.
EV1	SINGLE EV CHARGER FOR BUS
EV2	DOUBLE EV CHARGER FOR CAR

POWER DISTRIBUTION SINGLE LINE SYMBOLS

- DRAW-OUT CIRCUIT BREAKER.
- CIRCUIT BREAKER.
- FUSED SWITCH.
- "PG&E" METER W/ CURRENT TRANSFORMER.
- TRANSFORMER.
- NORMALLY OPENED, AUXILIARY CONTACT.
- NORMALLY CLOSED, AUXILIARY CONTACT.
- AUTOMATIC TRANSFER SWITCH.
- EMERGENCY GENERATOR.

WIRING & CONDUIT RUN SYMBOLS

- CONDUIT - CONCEALED IN WALLS OR CEILING.
- CONDUIT - EXPOSED.
- CONDUIT - IN OR BELOW FLOOR: |q3|w/|a4|s"MIN.
- EXISTING CONDUIT, CABLES OR DEVICE
- #10 — CONDUIT - HOME RUN TO PANEL, TERMINAL CABINET, ETC. RUNS MARKED WITH CROSSHATCHES INDICATE NUMBER OF #12 AWG WIRES. CROSSHATCH WITH SUBSCRIPT "G" INDICATES GREEN GROUND WIRE. SIZE CONDUIT ACCORDING TO SPECIFICATIONS AND APPLICABLE CODE. CROSSHATCHES WITH "#10" INDICATES WIRE SIZE OTHER THAN #12'S.
- FLEX CONDUIT WITH CONNECTION.
- CONDUIT - STUB UP.
- CONDUIT - STUB DOWN.
- —E—E— CONDUIT EMERGENCY SYSTEM.
- CAPPED CONDUIT.
- CONDUIT CONTINUATION.

WATTSTOPPER DIGITAL LIGHTING MANAGEMENT CONTROLS

Symbol	Description
LCP	WATTSTOPPER LMCP24
LMRC 101	WATTSTOPPER LMRC-101
LMRC 211	WATTSTOPPER LMRC-211
LMRC 212	WATTSTOPPER LMRC-212
LMRC 213	WATTSTOPPER LMRC-213
PC	WATTSTOPPER LMDC-100, CEILING MOUNT
D 101	WATTSTOPPER LMDW-101, + 48" AFF TO TOP OF THE BOX, UON.
DL	WATTSTOPPER LMLS-500, CEILING/WALL MOUNT
\$101	WATTSTOPPER LMSW-101, + 48" AFF TO TOP OF THE BOX, UON.
\$102	WATTSTOPPER LMSW-102, + 48" AFF TO TOP OF THE BOX, UON.

COMMUNICATIONS SYMBOLS

Symbol	Description
	19" FLOOR MOUNTED DATA RACK.
▽	DATA/TEL STATION AT +18" AFF UON WITH (1) DATA OUTLET. CONNECT DATA/TEL OUTLETS OUTLETS PER THE DATA/TEL RISER DIAGRAM. STUB CONDUIT INTO AVAILABLE CEILING SPACE.
▽(2)	DATA/TEL STATION AT +18" AFF UON WITH (2) DATA OUTLETS. CONNECT DATA/TEL OUTLETS OUTLETS PER THE DATA/TEL RISER DIAGRAM. STUB CONDUIT INTO AVAILABLE CEILING SPACE.
WAP	(2) DATA OUTLETS FOR WIRELESS ACCESS POINT EQUIPMENT TO BE MOUNTED IN CEILING CHASE.
S	INTERIOR SPEAKER WALL MOUNTED AT + 8'-0" AFF UON. CONNECT SPEAKER PER THE PA/CLOCK RISER DIAGRAM
S	CEILING MOUNTED SPEAKER. CONNECT SPEAKER PER THE PA/CLOCK RISER DIAGRAM
S	FLUSH MOUNTED EXTERIOR SPEAKER AT +8'-0" AFF UON. CONNECT EXTERIOR SPEAKER PER THE PA/CLOCK RISER DIAGRAM.
C S	COMBINATION FLUSH MOUNTED CLOCK/SPEAKER DEVICE AT +8'-0" AFF UON. CONNECT CLOCK/SPEAKER PER THE PA/CLOCK RISER DIAGRAM. PROVIDE ¾"C TO ACCESSIBLE CEILING.
	HDMI DEVICE. CONNECT PER A 4$\frac{11}{16}$" EXTRA DEEP BOX WITH A 2 GANG RING THROUGH 1¼"C TO CEILING.

FIRE ALARM SYMBOLS

Symbol	Description
FACP	FIRE ALARM CONTROL PANEL.
RPS	REMOTE POWER SUPPLY.
AMP	EVAC SPEAKER AMPLIFIER.
FATC	FIRE ALARM TERMINAL CABINET.
ANN	REMOTE FIRE ALARM ANNUNCIATOR.
	SMOKE DETECTOR
F	PULL STATION
	HORN STROBE

MEP COMPONENT ANCHORAGE NOTE

ALL MECHANICAL, PLUMBING, AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. THE FOLLOWING COMPONENTS SHALL BEANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2019 CBC, SECTIONS 1617A.1.18 THROUGH 1617A.1.26 AND ASCE 7-16 CHAPTER 13, 26 AND 30.

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

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

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

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

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

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE

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

THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW. WHEN BRACING AND ATTACHMENTS ARE BASED ON A PREAPPROVED INSTALLATION GUIDE (E.G., SMACNA OR OSHPD OPM FOR 2013 CBC OR LATER), COPIES OF THE BRACING SYSTEM INSTALLATION GUIDE OR MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE START OF AND DURING THE HANGING AND BRACING OF THE DISTRIBUTION SYSTEM. THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.

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

MP☐ MD☐ PP☐ E☒ - OPTION 1: DETAILED ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS.

MP☐ MD☐ PP☐ E☐ - OPTION 2: SHALL COMPLY WITH THE APPLICABLE OSHPD PRE-APPROVED (OPM #) #

GENERAL NOTES:

1. THE CONTRACTOR SHALL BE LICENSED BY THE STATE OF CALIFORNIA C-10 AND SHALL COMPLY WITH ALL APPLICABLE CODES AND REGULATIONS. MATERIALS AND EQUIPMENT SHALL BE U.L. LISTED AND LABELED FOR THE APPLICATION.
2. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, LICENSES AND INSPECTION FEES REQUIRED BY THIS CONTRACT WORK.
3. PRIOR TO SUBMITTING A BID THE CONTRACTOR SHALL VISIT THE SITE, REVIEW THE EXISTING CONDITIONS AND ALLOW FOR LABOR, MATERIAL AND COORDINATION THAT IS NECESSARY TO PROVIDE A COMPLETE INSTALLATION OF EACH SYSTEM. THE CONTRACTOR SHALL OBTAIN AND BE FAMILIAR WITH ALL OTHER TRADES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ELECTRICAL WORK NOTED AND CALLED OUT ON ALL CONTRACT DOCUMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION BETWEEN OTHER TRADES ON PROJECT.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF PERSONS AND PROPERTY AND SHALL PROVIDE INSURANCE COVERAGE AS NECESSARY FOR LIABILITY, PERSONAL, PROPERTY DAMAGE, TO FULLY PROTECT THE OWNER, ARCHITECT AND ENGINEER FROM ANY AND ALL CLAIMS RESULTING FROM THIS WORK.
5. THE CONTRACTOR SHALL MAINTAIN RECORD DRAWINGS AT THE PROJECT SITE INDICATING ALL MODIFICATIONS TO ELECTRICAL SYSTEMS. THE CONTRACTOR SHALL AT THE CONCLUSION OF THE PROJECT PROVIDE ACCURATE "AS-BUILT" DRAWINGS. "AS-BUILT" DRAWINGS SHALL SHOW ACTUAL CHANGES TO ORIGINAL ELECTRICAL DRAWING, SHOW LOCATIONS OF PULL BOXES, CONDUIT RUNS AND WIRING CHANGES. THE CONTRACTOR SHALL PROVIDE ONE (1) HARDCOPY SET OF DOCUMENT DRAWINGS AND ONE (1) SET OF DOCUMENT DRAWINGS IN ELECTRONIC CAD FILE THAT REPRESENTS THE ACTUAL "AS-BUILTS". CAD FILES SHALL BE AUTOCAD 2010 FORMAT.
6. ALL MATERIALS PROVIDED TO THE PROJECT SHALL BE NEW. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE AND INSTALL ALL INCIDENTAL MATERIALS REQUIRED FOR A COMPLETE INSTALLATION.
7. THE CONTRACTOR SHALL PROVIDE TO THE ARCHITECT A CONSTRUCTION SCHEDULE OF ELECTRICAL WORK. THE CONSTRUCTION SCHEDULE SHALL IDENTIFY ALL SIGNIFICANT MILESTONES WITH COMPLETION DATES.
8. THE CONTRACTOR SHALL PROVIDE ALL REQUIRED "CUTTING, PATCHING, EXCAVATION, BACKFILL AND REPAIRS" NECESSARY TO RESTORE DAMAGED SURFACES TO EQUAL OR BETTER THAN ORIGINAL CONDITIONS EXISTING AT START OF WORK. THE CONTRACTOR SHALL CONTACT "UNDERGROUND SERVICES ALERT" FOR LOCATION OF EXISTING UTILITIES PRIOR TO COMMENCEMENT OF UNDERGROUND WORK.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PAINTING ALL EXPOSED CONDUITS AND ELECTRICAL EQUIPMENT. REFER TO ARCHITECTS PAINTING SECTION FOR REQUIREMENTS.
10. ALL ELECTRICAL EQUIPMENT INSTALLED OUTDOORS SHALL BE WEATHERPROOF. EXTERIOR CONDUITS RUN INTO BUILDINGS SHALL BE INSTALLED WITH FLASHING, CAULKED AND SEALED. CONDUITS FOR EXTERIOR ELECTRICAL DEVICES SHALL BE RUN INSIDE BUILDING UNLESS OTHERWISE NOTED ON DRAWINGS. ALL EXTERIOR CONDUITS SHALL BE "RSG" UNLESS OTHERWISE NOTED ON DRAWINGS.
11. ALL CONDUITS UNLESS OTHERWISE NOTED ON DRAWINGS SHALL HAVE AS A MINIMUM: TWO (2) #12'S WITH ONE (1) #12 GROUND. "TICK" MARKS SHOWN ON CIRCUITRY ARE FOR "ROUGH" ESTIMATING ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WIRES AND WIRE SIZES REQUIRED BY LATEST CODE.
12. COORDINATE ALL CONDUIT RUNS, ELECTRICAL EQUIPMENT AND PANELS WITH ALL OTHER WORK TO AVOID CONFLICTS.
13. SEE ARCHITECTURAL DOCUMENTS FOR EXACT PLACEMENT OF LIGHTING FIXTURES AND DEVICES. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF CEILING TYPES FROM ARCHITECTURAL DOCUMENTS AND PROVIDE AND INSTALL ALL REQUIRED FIXTURE MOUNTING HARDWARE. PROVIDE AND INSTALL U.L. LISTED FIRE STOP ENCLOSURES FOR ALL RECESSED FIXTURES IN FIRE RATED CEILINGS.
14. THE CONTRACTOR SHALL PROVIDE IN EVERY CONDUIT A DRAW STRING FOR USE IN FUTURE CONSTRUCTION.
15. POWER FEEDERS MAY NOT BE SHOWN ON THE DRAWINGS, REFER TO THE SINGLE LINE DIAGRAM FOR CONDUIT AND FEEDER INFORMATION. ALL DRAWINGS ARE DIAGRAMMATIC INDICATING LOCATION OR POSITION OF EQUIPMENT. FIELD VERIFY CONDITIONS PRIOR TO INSTALLATION OF ANY WORK.
16. MANUFACTURER'S RECOMMENDATIONS FOR CONDUCTOR SIZING, CIRCUIT BREAKER OR FUSE PROTECTION OF ELECTRICALLY OPERATED EQUIPMENT MAY DIFFER FROM THOSE INDICATED ON DRAWINGS. CONTRACTOR SHALL CONFIRM RATINGS PRIOR TO ORDERING EQUIPMENT. PROVIDE ELECTRICAL PROTECTION TO EQUIPMENT IN ACCORDANCE TO MANUFACTURER'S SPECIFICATIONS AND PER NATIONAL ELECTRICAL CODE REQUIREMENTS.
17. CONTRACTOR SHALL REVIEW EQUIPMENT REQUIREMENTS OF OTHER TRADES AND PROVIDE POWER CIRCUITS AND CONNECTIONS TO ELECTRICALLY OPERATED EQUIPMENT.
18. EFFECTIVELY BOND ELECTRICAL CABINETS, ENCLOSURES AND CONDUIT RACEWAYS TO CODE APPROVED GROUND AS PART OF THE CONTINUOUS GROUNDING SYSTEM.
19. MEASEURE THE 3-PHASE AND PHASE TO NEUTRAL SERVICE VOLTAGE FOR 208/120V PANELS PRIOR TO ENERGIZING ANY PANELS OR EQUIPMENT. AVOID ENERGIZING 208/120V PANELS PHASE TO NEUTRAL VOLTAGE ABOVE 130 VOLTS. TRANSFORMER TAP SETTING MAY REQUIRE CHANGING.
20. MEASURE THE 1-PHASE AND PHASE TO NEUTRAL SERVICE VOLTAGE FOR 240/120V PANELS PRIOR TO ENERGIZING ANY PANELS OR EQUIPMENT. AVOID ENERGIZING 240/120V PANELS PHASE TO NEUTRAL VOLTAGE ABOVE 130 VOLTS.
21. DO NOT SUBSTITUTE SPECIFIED MATERIAL OR EQUIPMENT WITHOUT FIRST OBTAINING APPROVAL FROM THE OWNER OR HIS REPRESENTATIVE.
22. IDENTIFY ALL ABOVE CEILING JUNCTION BOXES COVERS WITH PANEL AND CIRCUITS IN LEGIBLE PRINT USING BLACK INDELIBLE INK. ABOVE CEILING JUNCTION BOXES SHALL ALSO BE LABELED AT THE REAR INTERIOR BOX WITH AN INDELIBLE BLACK MARKER.
23. LABEL ALL WALL AND/OR WIREMOLD MOUNTED OUTLET DEVICES WITH PANEL CIRCUIT IDENTIFICATION WITH BOLD TYPE-PRINTED LABELING. BLACK LETTERING ON WHITE BACKGROUND PREFERRED.
24. DERATE CONDUCTORS IN RACEWAYS IN ACCORDANCE WITH NEC CODE REQUIREMENTS. PANEL FEEDERS TO WIREMOLDS CAN ENTER AT VARIOUS LOCATIONS TO LIMIT CONDUCTOR CIRCUITS PER WIREMOLD CAPACITIES.

DRAWING INDEX

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E2.1	ELECTRICAL DEMOLITION FLOOR PLANS - WINGS #1, #2, #3, #4 AND TYP. RELOCATABLE
E2.2	ELECTRICAL DEMOLITION FLOOR PLANS - ESCALON BLDG. & LGI
E3.1	ELECTRICAL NEW FLOOR PLANS - WINGS #1, #2, #3, #4 AND TYP. RELOCATABLE
E3.2	ELECTRICAL NEW FLOOR PLANS - ESCALON BLDG. & LGI
E4.1	DEMO SINGLE LINE DIAGRAM
E4.2	NEW SINGLE LINE DIAGRAM
E4.3	ELECTRICAL PANEL SCHEDULES
E5.1	ELECTRICAL DETAILS
E5.2	ELECTRICAL DETAILS
E5.3	ELECTRICAL DETAILS
E5.4	ELECTRICAL DETAILS

ABBREVIATIONS

A	AMPERE
ABV	ABOVE
AF	AMP FRAME OR AMP FUSE
AFF	ABOVE FINISHED FLOOR
ARCH	ARCHITECTURAL
AS	AMP SWITCH
AT	AMP TRIP
ATS	AUTOMATIC TRANSFER SWITCH
BKR	BREAKER
BLDG	BUILDING
C	CONDUIT
CATV	CABLE TELEVISION
CB	CIRCUIT BREAKER
CD	CANDELAS
CKT	CIRCUIT
CL	CENTER LINE
CLG	CEILING
CO	CONDUIT ONLY
CTR	CENTER
(D)	DEMOLISH
DET	DETAIL
DIM	DIMENSION
DISTR	DISTRIBUTION
DWG	DRAWING
(E)	EXISTING
EM	EMERGENCY
EQPT	EQUIPMENT
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
(F)	FUTURE
FIN	FINISH
FL	FLOOR
G , GND	GROUND
HGT	HEIGHT
HP	HORSEPOWER
IC	INTERCOM
IDF	INTERMEDIATE DISTRIBUTION FRAME
JB	JUNCTION BOX
KAIC	KILOAMPERE INTERRUPTING CAPACITY
KV	KILOVOLT
KVA	KILOVOLT AMPERES
KW	KILOWATT
LTG	LIGHTING
MCM	THOUSAND CIRCULAR MILS
MDF	MAIN DISTRIBUTION FRAME
MECH	MECHANICAL
MH	MANHOLE
MTD	MOUNTED
MTG	MOUNTING
(N)	NEW
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NIEC	NOT IN ELECTRICAL CONTRACT
NO	NUMBER/ NORMALLY OPEN
NTS	NOT TO SCALE
O.C.	ON CENTER
P	POLE CIRCUIT BREAKER
PA	PUBLIC ADDRESS
PB	PULL BOX
PF	POWER FACTOR
PH	PHASE
PNL	PANEL
(R)	EXISTING TO BE RELOCATED
REQD	REQUIRED
REQT	REQUIREMENT(S)
RM	ROOM
RSC	RIGID STEEL CONDUIT
SHT	SHEET
SW	SWITCH
SWBD	SWITCHBOARD
TC	TERMINAL CABINET
TEL	TELEPHONE
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
V	VOLT
W	WATT
WP	WEATHERPROOF
XFMR	TRANSFORMER

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119523 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 10/26/2021

aedis architects
www.aedisarchitects.com
387 S. 1st Street, Suite 300
San Jose, CA 95113
tel: (408)-300-5160
fax: (408)-300-5121

PROJECT

GEORGE HALL ELEMENTARY SCHOOL - HVAC REPLACEMENT

SAN MATEO-FOSTER CITY SCHOOL DISTRICT

CONSULTANT

REGISTERED PROFESSIONAL ENGINEER E16890 Exp. 06/30/22 ELECTRICAL STATE OF CALIFORNIA

American Consulting Engineers Electrical, Inc.

STAMP

STATE
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No.	Description	Date
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MILESTONES

DD	
90% CD	
DSA SUB	05/21/2021
BACKCHECK	10/04/2021

SHEET

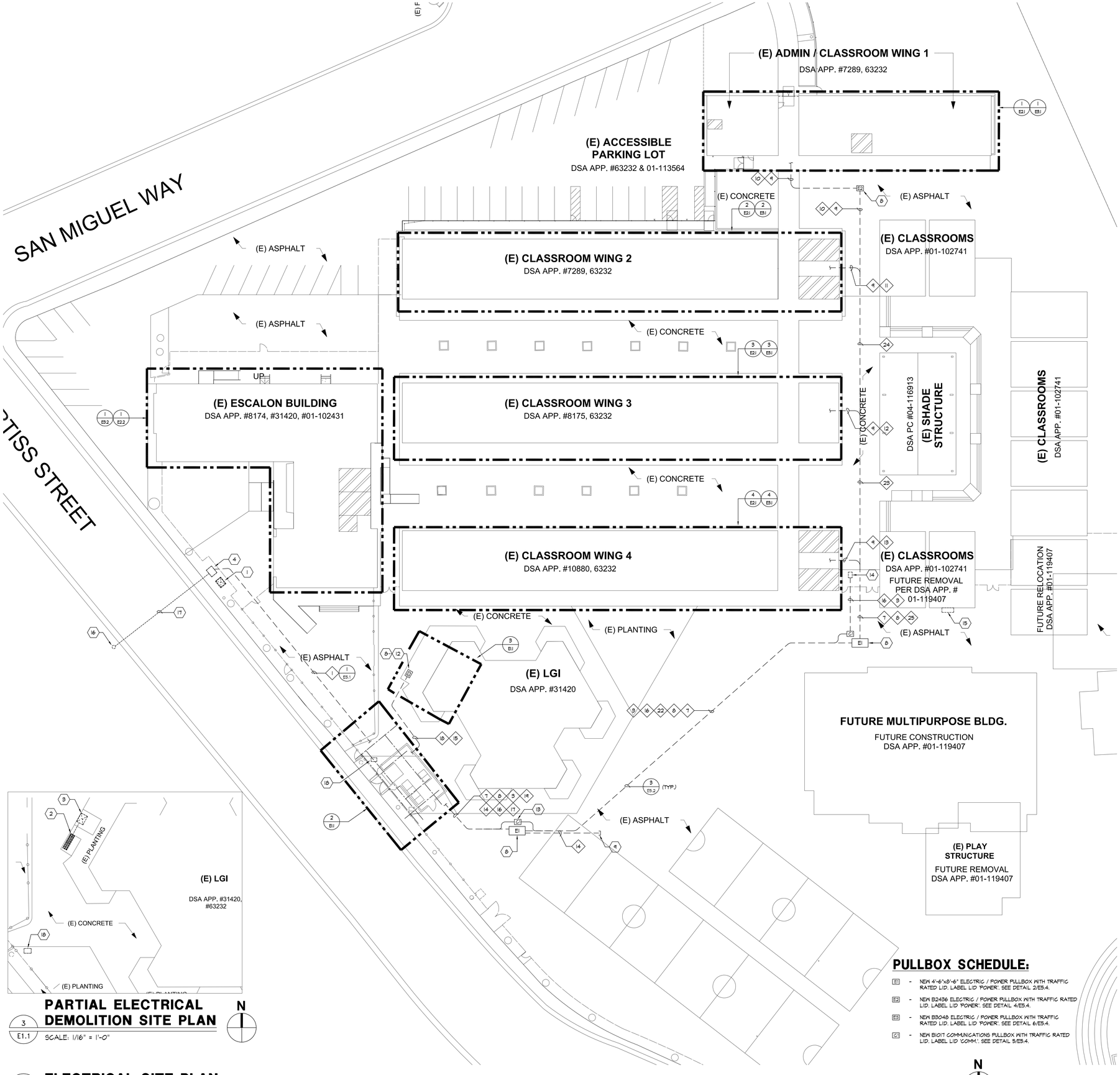
ELECTRICAL COVER SHEET

DATE 10/04/2021

JOB # 2021005.02

SHEET #

E0.1



PARTIAL ELECTRICAL DEMOLITION SITE PLAN

3 / E1.1

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

N

ELECTRICAL SITE PLAN

1 / E1.1

SCALE: 1" = 20'-0"

N

PULLBOX SCHEDULE:

- E1 - NEW 4'-6"x8'-6" ELECTRIC / POWER PULLBOX WITH TRAFFIC RATED LID. LABEL LID 'POWER'. SEE DETAIL 2/E5.4.
- E2 - NEW B2436 ELECTRIC / POWER PULLBOX WITH TRAFFIC RATED LID. LABEL LID 'POWER'. SEE DETAIL 4/E5.4.
- E3 - NEW B3048 ELECTRIC / POWER PULLBOX WITH TRAFFIC RATED LID. LABEL LID 'POWER'. SEE DETAIL 6/E5.4.
- C1 - NEW B101T COMMUNICATIONS PULLBOX WITH TRAFFIC RATED LID. LABEL LID 'COMM.'. SEE DETAIL 5/E5.4.

GENERAL NOTES:

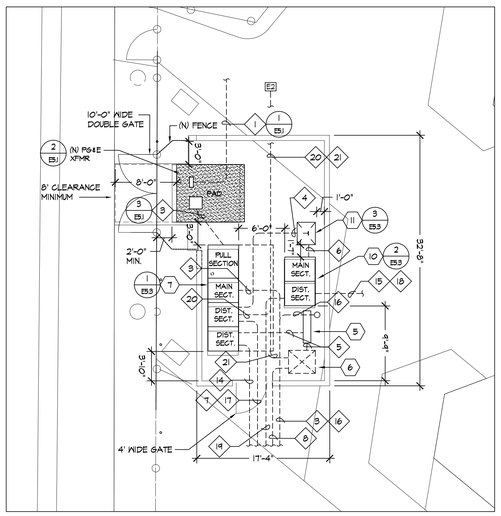
1. CONTRACTOR SHALL COORDINATE UNDERGROUND REQUIREMENTS WITH ALL OTHER TRADES TO AVOID CONFLICTS.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY SAW CUTTING AND REMOVAL OF EXISTING SURFACES TO FACILITATE UNDERGROUND SYSTEMS. THE CONTRACTOR SHALL PATCH AND REPAIR ALL DAMAGED AND CUT SURFACES TO MATCH ADJACENT.
3. CONTRACTOR TO SITE SURVEY EXISTING CONDITIONS AND LOCATIONS OF EXISTING UNDERGROUND SYSTEMS, WHERE NEW TRENCH WORK OCCURS PRIOR TO BIDDING. CONTRACTOR SHALL TAKE PROPER PRECAUTIONS TO ENSURE EXISTING UNDERGROUND SYSTEMS/CONDUIT/PIPES ARE NOT DAMAGED DURING INSTALLATION. CONTRACTOR IS RESPONSIBLE FOR ANY REPAIRS REQUIRED IN THE EVENT THE EXISTING UNDERGROUND SYSTEMS ARE DAMAGED AS A RESULT OF THE NEW ELECTRICAL TRENCH WORK.
4. INSTALL PG&E PRIMARY TRENCH PER 1/ E5.1.
5. INSTALL PG&E SECONDARY TRENCH PER 3/ E5.1.
6. PG&E TRANSFORMER PAD SHALL BE PER 2/ E5.1.
7. ALL ON SITE TRENCH SHALL BE INSTALLED PER 3/ E5.4.
8. SEE THE DEMO SINGLE LINE DIAGRAM FOR ADDITIONAL REQUIREMENTS.
9. SEE NEW SINGLE LINE DIAGRAM FOR FEEDER CABLE AND CONDUIT REQUIREMENTS.
10. THE CONTRACTOR SHALL MANDREL THROUGH THE ENTIRE PG&E CONDUIT SYSTEM. COORDINATE WITH PG&E FOR ADDITIONAL REQUIREMENTS AND PROCEDURES.

SHEET NOTES:

1. EXISTING PG&E TRANSFORMER TO REMAIN.
2. EXISTING 1200A MAIN SWITCHBOARD AND PAD TO BE DEMOLISHED AND REPLACED WITH AN IN-GRADE PULL BOX. INTERCEPT LG1 CONDUIT AT THIS LOCATION.
3. EXISTING PG&E TRANSFORMER TO BE REMOVED BY PG&E. DEMOLISH EXISTING TRANSFORMER PAD AND PATCH SURFACE TO MATCH EXISTING.
4. EXISTING PG&E ABOVE GRADE SWITCH LOCATION TO REMAIN.
5. FUTURE PV DISCONNECT SWITCH.
6. FUTURE PV DISTRIBUTION PANEL.
7. NEW 2500A MAIN SWITCHBOARD.
8. NEW IN-GRADE ELECTRICAL PULL BOX. LABEL LID "ELECTRICAL".
9. STUB CONDUIT FOR FUTURE MU TO THIS LOCATION AND CAP FOR FUTURE USE.
10. (N) 1000A DISTRIBUTION PANEL "DP1".
11. (N) 300KVA TRANSFORMER "T-DP1".
12. PROVIDE NEW PULL BOX IN PLACE OF THE EXISTING MAIN SWITCHBOARD. INTERCEPT THE EXISTING FEEDER AND CONDUIT FOR EXISTING PANEL 'LG1', 'E' AND 'DP2' AT THIS LOCATION.
13. NEW SIGNAL PULL BOX LABEL LID "SIGNAL".
14. EXISTING SIGNAL PULL BOX STUB NEW CONDUIT INTO EXISTING BOX AS REQUIRED.
15. EXISTING PANEL 'DP2' TO REMAIN.
16. EXISTING PG&E POLE TO REMAIN.
17. EXISTING PG&E UNDERGROUND PRIMARY STREET CROSSING TO REMAIN.
18. EXISTING UNUSED UNDERGROUND IN-GRADE PULL BOX TO BE DEMOLISHED AND REMOVED. CAP EXISTING CONDUIT

CONDUIT SCHEDULE:

1. (N) (1) 4"C - PG&E PRIMARY.
2. (N) (7) 5"C - PG&E SECONDARY.
3. (N) (1) 1"C - PG&E COMMUNICATIONS.
4. (N) (2) 2.5"C - XFMR "TDP1".
5. (N) (2) 3"C - FUTURE PV DISTRIBUTION PANEL.
6. (N) (3) 3"C - PANEL "DP1".
7. (N) (1) 2.5"C - XFMR "AM".
   (N) (1) 2.5"C - XFMR "BM".
   (N) (1) 2.5"C - XFMR "CM".
   (N) (1) 2.5"C - XFMR "DM".
8. (N) (5) 2.5"C - FUTURE PV.
9. (N) (1) 2.5"C - FUTURE PV.
10. (N) (1) 2.5"C - XFMR "AM".
11. (N) (1) 2.5"C - XFMR "BM".
12. (N) (1) 2.5"C - XFMR "CM".
13. (N) (1) 2.5"C - XFMR "DM".
14. (N) (4) 4"C - (FUTURE MU BLDG).
15. (N) (1) 4"C - PANEL 'E'.
16. (N) (1) 2"C - FUTURE PV COMMUNICATIONS.
17. (N) (4) 4"C - SPARE POWER.
18. (N) (1) 4"C - PANEL 'LG1'
    (N) (2) 4"C - (E) PANEL 'DP2'
19. (N) (2) 2.5"C - SPARE
20. (1) (2) 2.5"C - FUTURE EV
21. (N) (2) 2.5"C - FUTURE PV
22. (N) (2) 4"C - SPARE
23. (N) (1) 2.5"C - XFMR 'AM'
    (N) (1) 2.5"C - XFMR 'BM'
    (N) (1) 2.5"C - XFMR 'CM'
    (N) (3) 2.5"C - FUTURE PV
24. (N) (1) 2.5"C - XFMR 'AM'
    (N) (1) 2.5"C - XFMR 'BM'
    (N) (2) 2.5"C - FUTURE PV
25. (N) (4) 2.5"C - FUTURE PV



ELECTRICAL SWITCHGEAR DIMENSIONS

2 / E1.1

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

N

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aedis architects
www.aedisarchitects.com
387 S. 1st Street, Suite 300
San Jose, CA 95113
tel: (408)-300-5160
fax: (408)-300-5121

PROJECT

GEORGE HALL ELEMENTARY SCHOOL - HVAC REPLACEMENT

SAN MATEO-FOSTER CITY SCHOOL DISTRICT

CONSULTANT

REGISTERED PROFESSIONAL ENGINEER
SCOTT S. FERNANDEZ
E16890
Exp. 06/30/22
ELECTRICAL
STATE OF CALIFORNIA

American Consulting Engineers Electrical, Inc.
1580 The Alameda, Suite 200 408/236-2312
San Jose, CA 95126 Fax: 408/236-2316
JOB # EX21030.00

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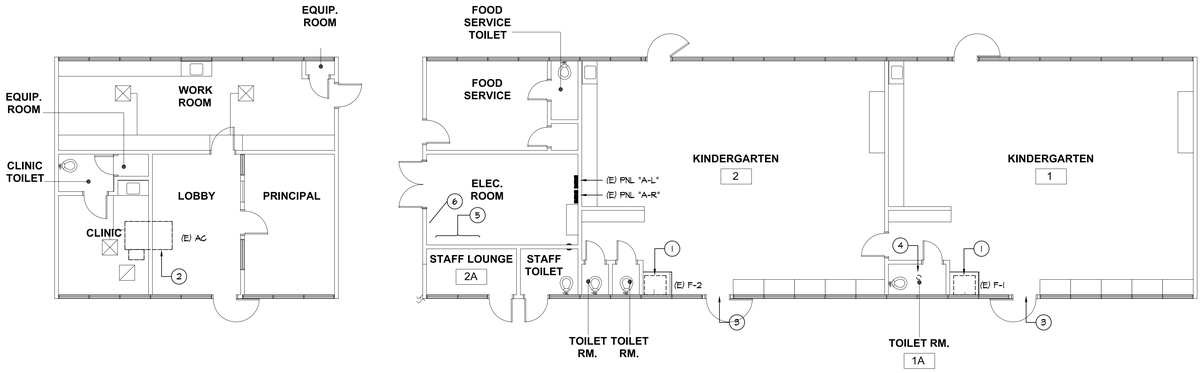
SHEET

ELECTRICAL SITE PLAN

DATE 10/04/2021

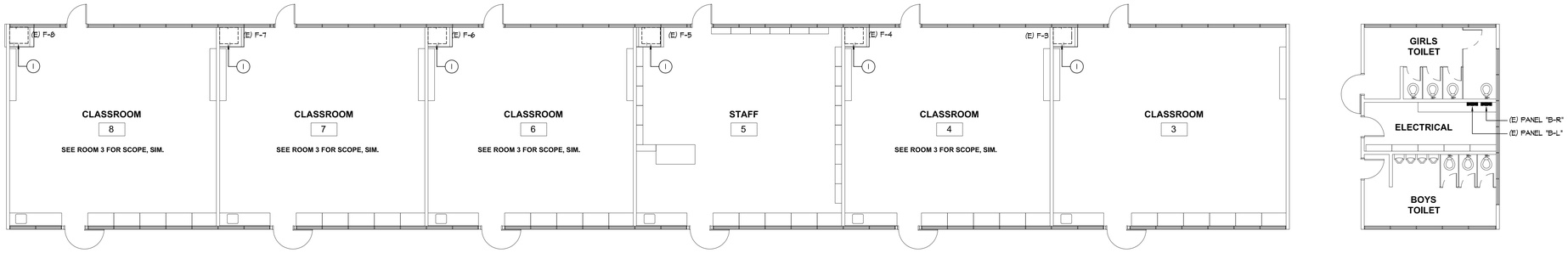
JOB # 2021005.02

SHEET # E1.1



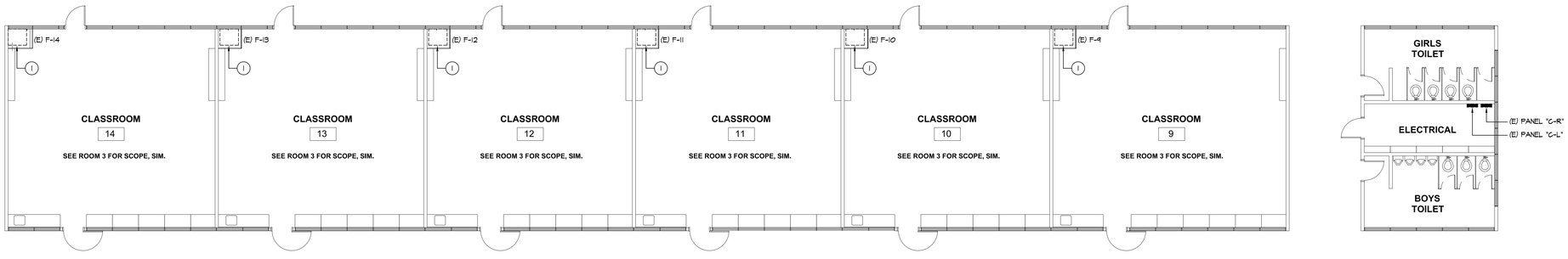
1 / E2.1 **ELECTRICAL DEMO FLOOR PLAN - WING #1**

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



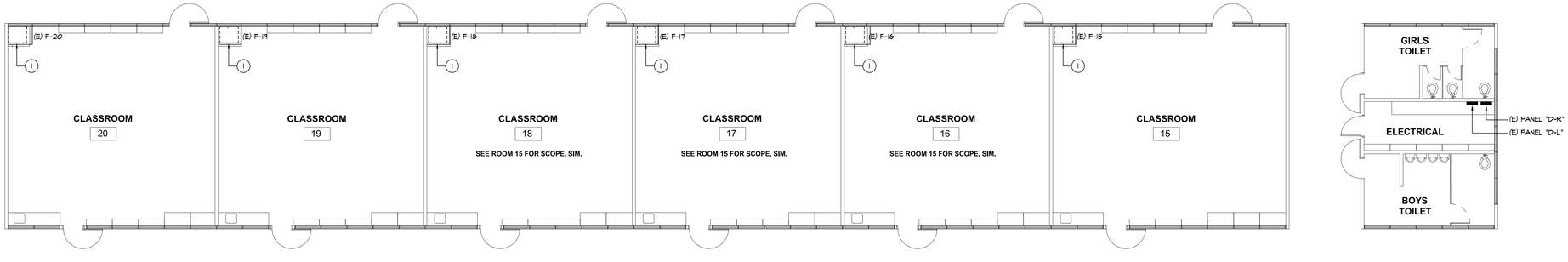
2 / E2.1 **ELECTRICAL DEMO FLOOR PLAN - WING #2**

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



3 / E2.1 **ELECTRICAL DEMO FLOOR PLAN - WING #3**

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



4 / E2.1 **ELECTRICAL DEMO FLOOR PLAN - WING #4**

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

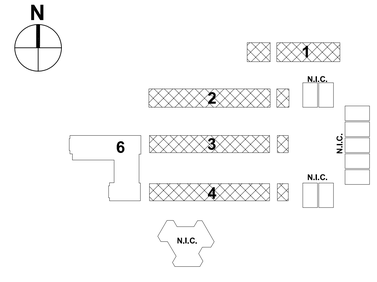
GENERAL NOTES:

1. CONTRACTOR SHALL REFER TO MECHANICAL DRAWINGS FOR ADDITIONAL DEMO REQUIREMENTS.
2. EXISTING ELECTRICAL PANELS ARE TO REMAIN.
3. SEE NEW ELECTRICAL FLOOR PLANS FOR ADDTIONAL REQUIREMENTS.
4. SEE DEMO AND NEW SINGLE LINE DIAGRAMS FOR ADDTIONAL REQUIREMENTS.

DEMOLITION SHEET NOTES:

1. EXISTING MECHANICAL UNIT TO BE DEMOLISHED. FULL EXISTING ELECTRICAL CIRCUITRY BACK TO SOURCE AND REMOVE. REMOVE ALL CONDUITS, J-BOXES AND DISCONNECT SWITCH ASSOCIATED WITH THE DEMOLISHED UNIT.
2. EXISTING MECHANICAL UNIT AND CONNECTIONS TO REMAIN.
3. EXISTING EXIT SIGN TO BE DISCONNECTED AND RELOCATED TO FACILITATE NEW WORK. EXISTING CIRCUITRY TO BE REUSED AND EXTENDED.
4. EXISTING LIGHT SOCKET AND FIXTURE TO BE RELOCATED TO FACILITATE NEW WORK. EXISTING CIRCUITRY TO BE REUSED AND EXTENDED.
5. THE EXISTING FIRE ALARM EQUIPMENT LOCATED ON THE WALL IS TO BE RELOCATED TO FACILITATE NEW WORK. RELOCATE EXISTING FIRE ALARM EQUIPMENT IN THE SAME ROOM, OUTSIDE THE AREA OF THE NEW WORK. VERIFY EXISTING CIRCUITY AND EXTEND AS REQUIRED.
6. REMOVE ABANDONED AND UNUSED ELECTRICAL EQUIPMENT FROM THE WALL AT THIS LOCATION. COORDINATE WITH ARCHITECT.

BUILDING KEY



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aedis architects
www.aedisarchitects.com
387 S. 1st Street, Suite 300
San Jose, CA 95113
tel: (408)-300-5160
fax: (408)-300-5121

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SAN MATEO-FOSTER CITY SCHOOL DISTRICT

CONSULTANT

American Consulting Engineers Electrical, Inc.
1580 The Alameda, Suite 300 408/236-2312
San Jose, CA 95126 Fax: 408/236-2316
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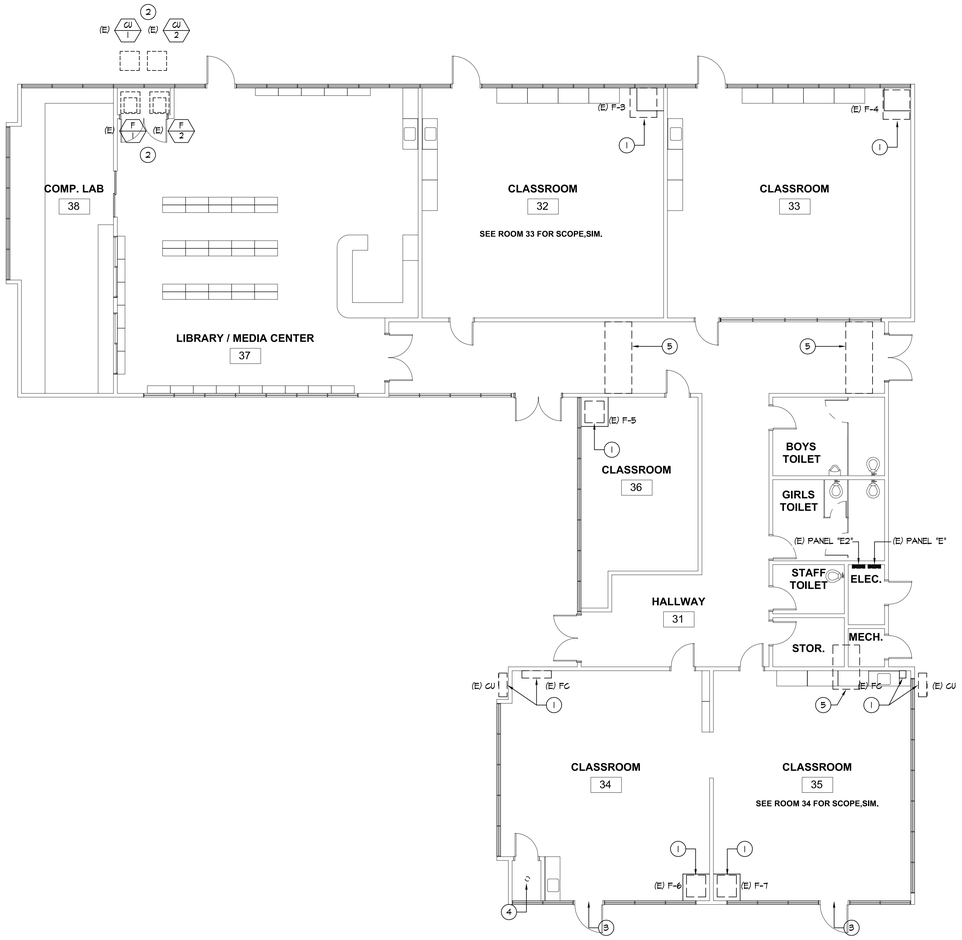
SHEET

ELECTRICAL DEMO FLOOR PLANS - WINGS #1, #2, #3, #4 AND TYP. RELOCATABLE

DATE 10/04/2021
JOB # 2021005.02
SHEET # E2.1



1 E2.2 ELECTRICAL DEMO FLOOR PLAN - ESCALON BLDG.

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

N

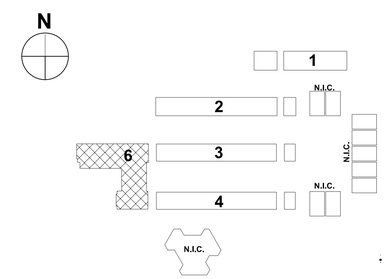
GENERAL NOTES:

1. CONTRACTOR SHALL REFER TO MECHANICAL DRAWINGS FOR ADDITIONAL DEMO REQUIREMENTS.
2. EXISTING ELECTRICAL PANELS ARE TO REMAIN.
3. SEE NEW ELECTRICAL FLOOR PLANS FOR ADDTIONAL REQUIREMENTS.
4. SEE DEMO AND NEW SINGLE LINE DIAGRAMS FOR ADDTIONAL REQUIREMENTS.

DEMOLITION SHEET NOTES:

1. EXISTING MECHANICAL UNIT TO BE DEMOLISHED. FULL EXISTING ELECTRICAL CIRCUITRY BACK TO SOURCE AND REMOVE. REMOVE ALL CONDUITS, J-BOXES AND DISCONNECT SWITCH ASSOCIATED WITH THE DEMOLISHED UNIT.
2. EXISTING MECHANICAL UNIT AND CONNECTIONS TO REMAIN.
3. EXISTING EXIT SIGN TO BE DISCONNECTED AND RELOCATED TO FACILITATE NEW WORK. EXISTING CIRCUITRY TO BE REUSED AND EXTENDED.
4. EXISTING LIGHT SOCKET AND FIXTURE TO BE RELOCATED TO FACILITATE NEW WORK. EXISTING CIRCUITRY TO BE REUSED AND EXTENDED.
5. REMOVE CEILING FINISH AND ROUTE NEW CONDUITS CONCEALED IN CHASE. PATCH AND REPAIR.

BUILDING KEY



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aedis architects
www.aedisarchitects.com
387 S. 1st Street, Suite 300
San Jose, CA 95113
tel: (408)-300-5160
fax: (408)-300-5121

PROJECT

GEORGE HALL ELEMENTARY SCHOOL - HVAC REPLACEMENT

SAN MATEO-FOSTER CITY SCHOOL DISTRICT

CONSULTANT

REGISTERED PROFESSIONAL ENGINEER
CURTIS FERNANDEZ
E16890
Exp. 06/30/23
ELECTRICAL
STATE OF CALIFORNIA

American Consulting Engineers Electrical, Inc.
1580 The Alameda, Suite 200 408/238-2312
San Jose, CA 95126 Fax: 408/238-2314
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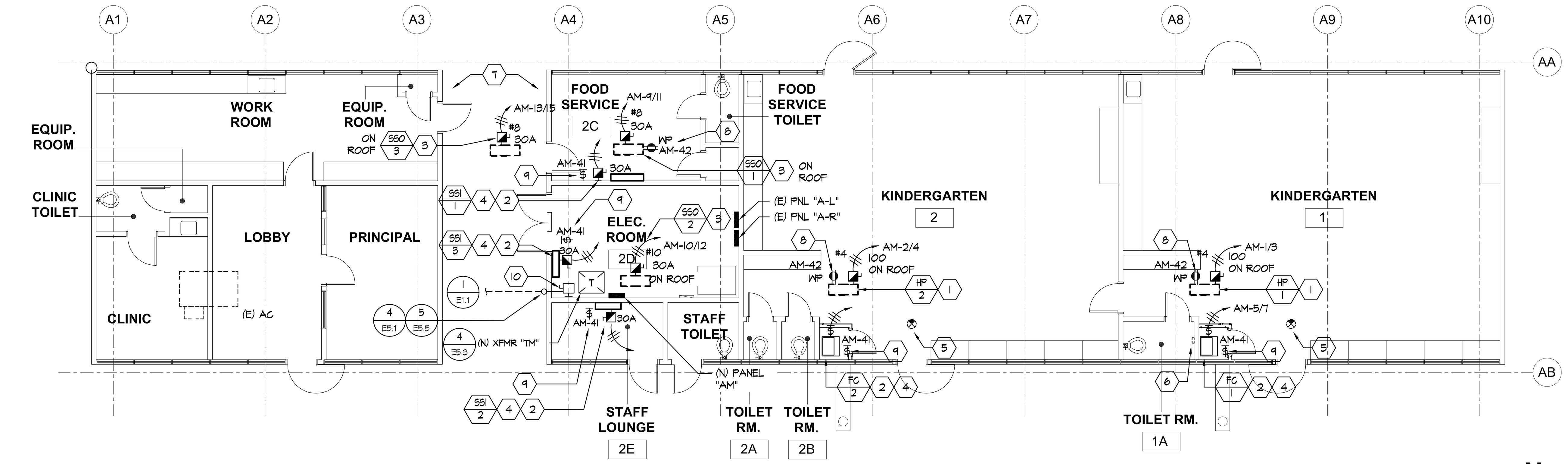
ELECTRICAL DEMO FLOOR PLANS - ESCALON BLDG & LGI

DATE 10/04/2021
JOB # 2021005.02
SHEET # E2.2



1 E3.1 **ELECTRICAL NEW FLOOR PLAN - WING #1**

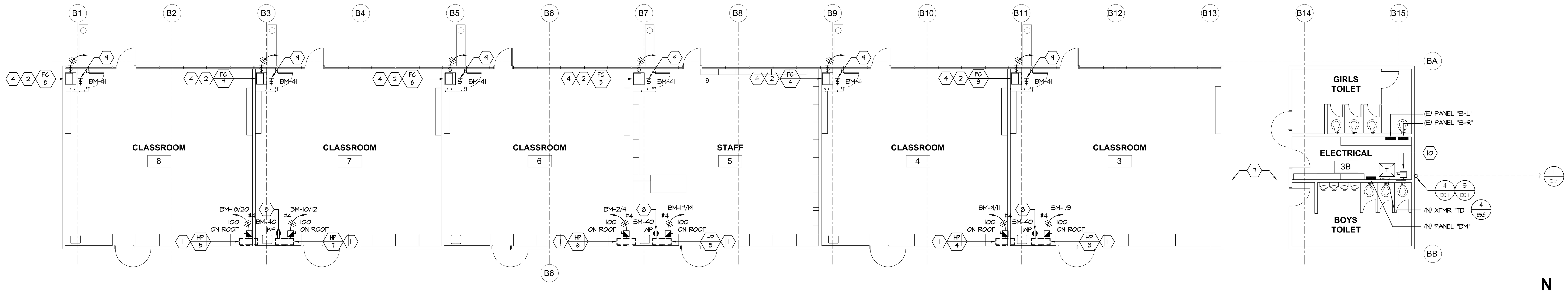
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. ALL CONDUITS SHALL BE ROUTED CONCEALED IN CEILING BELOW WHERE POSSIBLE. ALL EXPOSED CONDUITS SHALL BE PAINTED.
2. CONTRACTOR SHALL COORDINATE EXACT LOCATIONS AND POINTS OF CONNECTION FOR MECHANICAL UNIT WITH MECHANICAL CONTRACTOR. ADJUST LOCATION AND CONNECTION POINTS AS NEEDED.
3. SEE PANEL SCHEDULES AND SINGLE LINE DIAGRAM FOR POWER CONNECTION REQUIREMENTS.
4. COORDINATE WITH ARCHITECTURAL AND MECHANICAL DRAWINGS FOR ADDITIONAL REQUREMENTS.
5. FUSED AND UNFUSED DISCONNECT SWITCHES SHALL BE 600V RATED, HEAVY DUTY CYCLE. FUSES FOR MECHANICAL UNITS SHALL BE SIZED PER THE MANUFACTURER'S RECOMMENDATION.

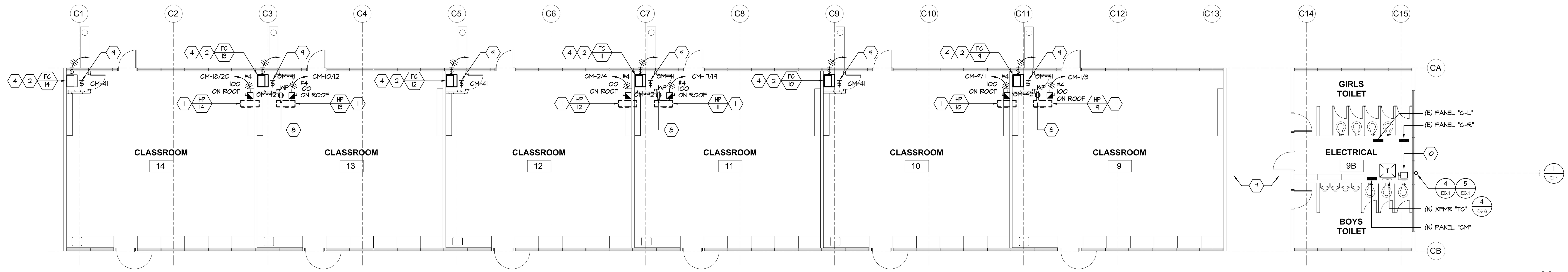
SHEET NOTES:

1. NEW 100A-2P, NEMA-3R, FUSED DISCONNECT SWITCH FOR MECHANICAL UNIT.
2. NEW 30A-2P, NEMA-1, FUSED DISCONNECT SWITCH FOR MECHANICAL UNIT.
3. NEW 30A-2P, NEMA-3R, FUSED DISCONNECT SWITCH FOR MECHANICAL UNIT.
4. INDOOR UNIT IS POWER BY THE OUTDOOR UNIT. ROUTE HOMERUN CIRCUIT TO ASSOCIATED OUTDOOR UNIT. REFER TO MECHANICAL SCHEDULE MP0.02 FOR ADDITIONAL REQUIREMENTS.
5. EXISTING EXIT SIGN TO BE RELOCATED TO FACILITATE THE NEW MECHANICAL WORK. EXTEND EXISTING CIRCUITRY TO NEW LOCATION. RECONNECT AS REQUIRED.
6. EXISTING LIGHT SOCKET AND FIXTURE TO BE RELOCATED TO WALL. EXTEND EXISTING CIRCUITRY TO NEW LOCATION. RECONNECT AS REQUIRED.
7. MOUNT CONDUIT ADJACENT TO CHASE AND ROUTE ACROSS THE HALLWAY.
8. PROVIDE NEW WEATHERPROOF GFCI RECEPTACLE. RECEPTACLE SHALL BE MOUNTED ON A WEATHERPROOF BOX WITH WHILE-IN-USE COVER. COVER SHALL BE INTERMATIC WP101MXD "BOSS".
9. PROVIDE MOTOR RATED SWITCH AND 120V POWER FOR CONDENSATION PUMP.
10. NEW 400A-3P, NEMA 1, UNFUSED DISCONNECT SWITCH.



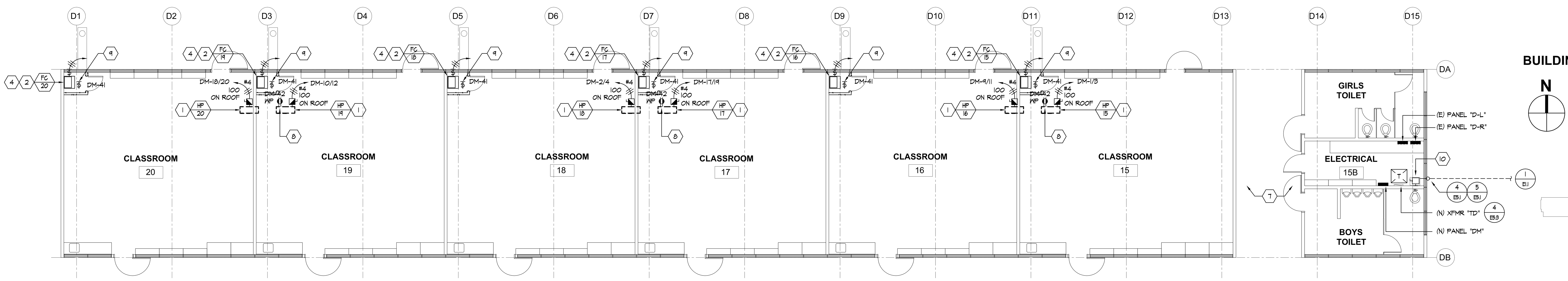
2 E3.1 **ELECTRICAL NEW FLOOR PLAN - WING #2**

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



3 E3.1 **ELECTRICAL NEW FLOOR PLAN - WING #3**

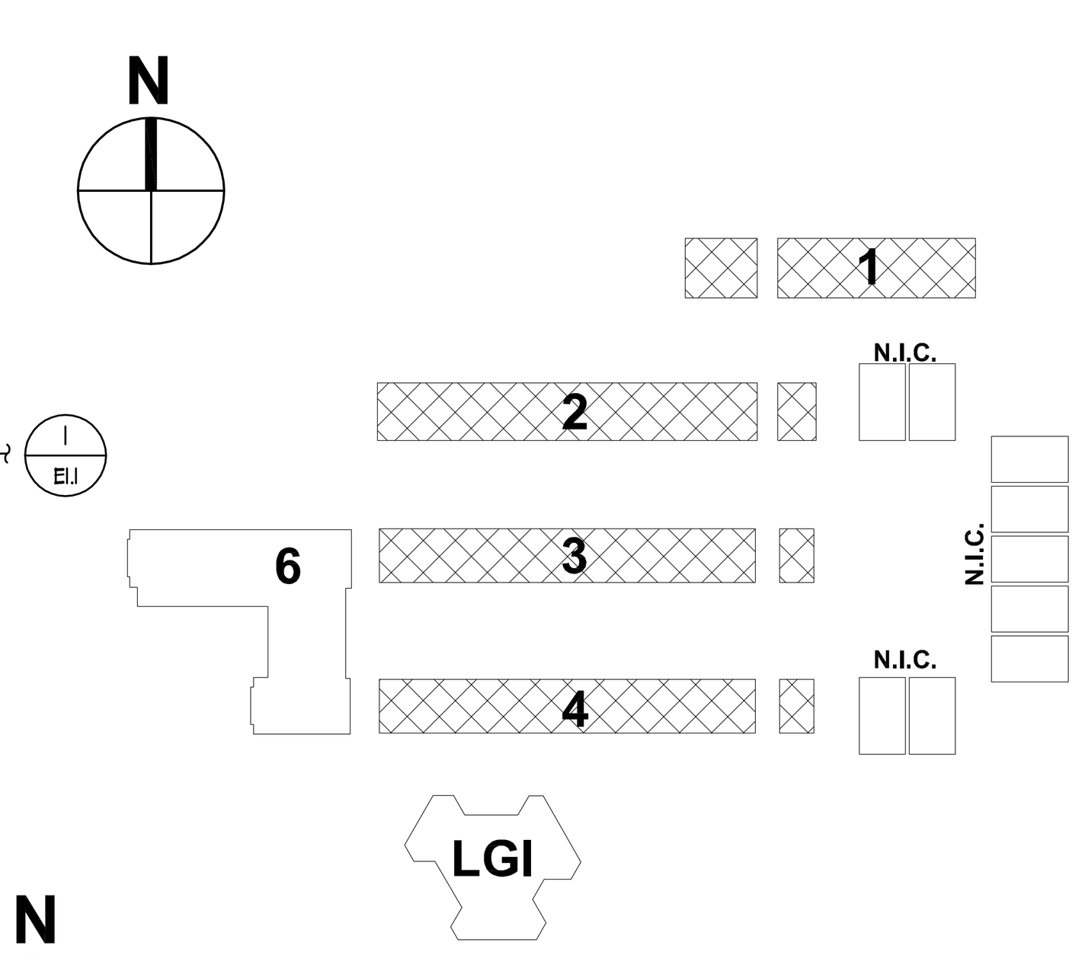
SCALE: 1/8" = 1'-0"



4 E3.1 **ELECTRICAL NEW FLOOR PLAN - WING #4**

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

BUILDING KEY



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aedis architects
www.aedisarchitects.com
387 S. 1st Street, Suite 300
San Jose, CA 95113
tel: (408)-300-5160
fax: (408)-300-5121

PROJECT

GEORGE HALL ELEMENTARY SCHOOL - HVAC REPLACEMENT

SAN MATEO-FOSTER CITY SCHOOL DISTRICT

CONSULTANT

REGISTERED PROFESSIONAL ENGINEER
SAMMY S. FERNANDEZ
E16890
Exp. 06/30/23
ELECTRICAL
STATE OF CALIFORNIA

American Consulting Engineers Electrical, Inc.
1590 The Alameda, Suite 200
San Jose, CA 95126
JOB # EK21030.00
408/236-2312
Fax: 408/236-2316

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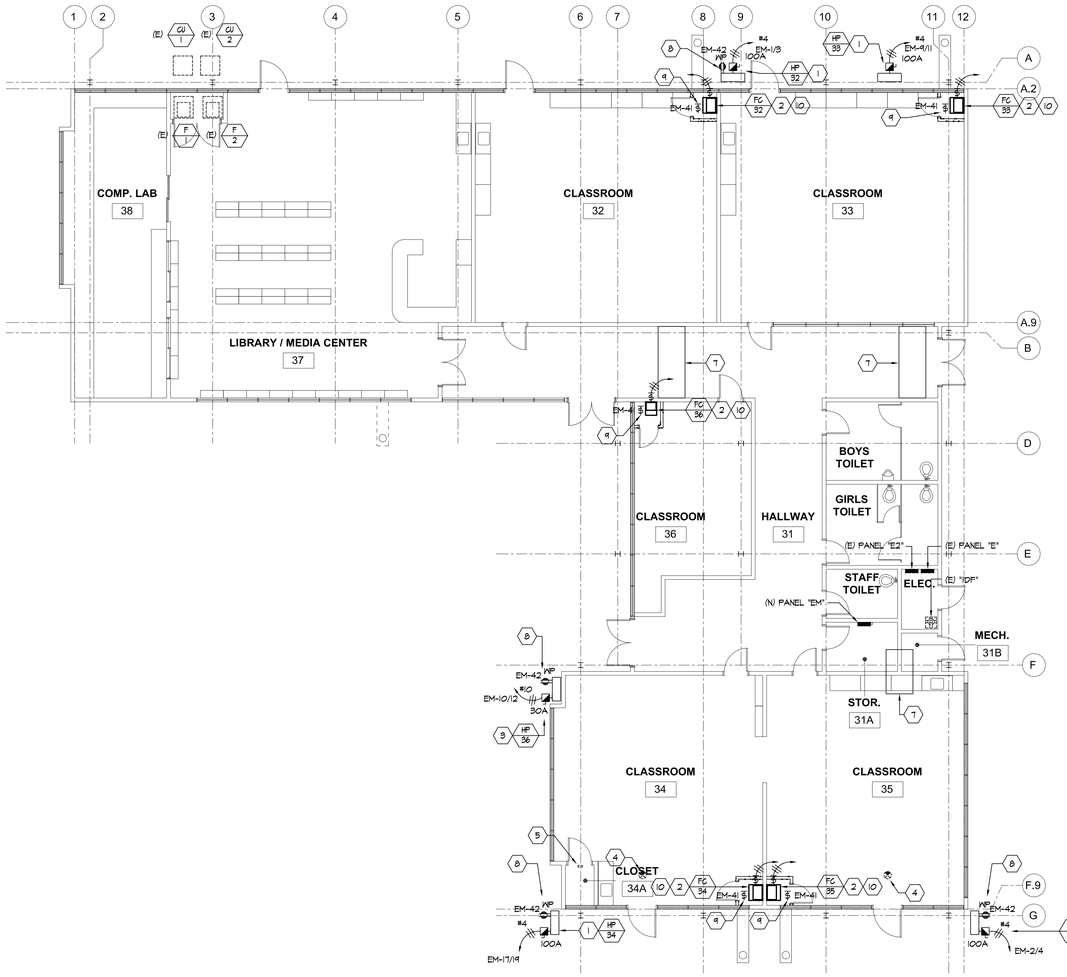
ELECTRICAL NEW FLOOR PLANS - WINGS #1, #2, #3, #4 AND TYP. RELOCATABLE

DATE 10/04/2021
JOB # 2021005.02
SHEET # E3.1



1 E3.2 **ELECTRICAL NEW FLOOR PLAN - ESCALON BLDG.**

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

N

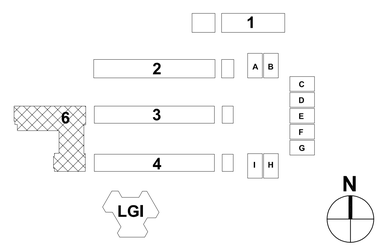
GENERAL NOTES:

1. ALL CONDUITS SHALL BE ROUTED CONCEALED IN CEILING BELOW WHERE POSSIBLE.
2. CONTRACTOR SHALL COORDINATE EXACT LOCATIONS AND POINTS OF CONNECTION FOR MECHANICAL UNIT WITH MECHANICAL CONTRACTOR. ADJUST LOCATION AND CONNECTION POINTS AS NEEDED.
3. SEE PANEL SCHEDULES AND SINGLE LINE DIAGRAM FOR POWER CONNECTION REQUIREMENTS.
4. COORDINATE WITH ARCHITECTURAL AND MECHANICAL DRAWINGS FOR ADDITIONAL REQUIREMENTS.
5. FUSED DISCONNECT SWITCHES SHALL BE 600V RATED, HEAVY DUTY CYCLE. FUSES FOR MECHANICAL UNITS SHALL BE SIZED PER THE MANUFACTURER'S RECOMMENDATION.

SHEET NOTES:

1. NEW 100A-2P, NEMA-3R, FUSED DISCONNECT SWITCH FOR MECHANICAL UNIT.
2. NEW 30A-2P, NEMA-1, FUSED DISCONNECT SWITCH FOR MECHANICAL UNIT.
3. NEW 30A-2P, NEMA-3R, FUSED DISCONNECT SWITCH FOR MECHANICAL UNIT.
4. EXISTING EXIT SIGN TO BE RELOCATED TO FACILITATE THE NEW MECHANICAL WORK. EXTEND EXISTING CIRCUITRY TO NEW LOCATION. RECONNECT AS REQUIRED.
5. EXISTING LIGHT SOCKET AND FIXTURE TO BE RELOCATED TO WALL. EXTEND EXISTING CIRCUITRY TO NEW LOCATION. RECONNECT AS REQUIRED.
6. ROUTE CONDUIT EXPOSED ON CEILING TO NEW PANEL.
7. PATCH AND REPAIR CEILING CHASE WHERE DEMO WORK OCCURRED.
8. PROVIDE NEW WEATHERPROOF GFCI RECEPTACLE. RECEPTACLE SHALL BE MOUNTED ON A WEATHERPROOF BOX WITH WHILE-IN-USE COVER. COVER SHALL BE INTERMATIC WP1011MD "BOSS".
9. PROVIDE MOTOR RATED SWITCH AND 120V POWER FOR CONDENSATION PUMP.
10. INDOOR UNIT IS POWER BY THE OUTDOOR UNIT. ROUTE HOMERUN CIRCUIT TO ASSOCIATED OUTDOOR UNIT. REFER TO MECHANICAL SCHEDULE MP0.02 FOR ADDITIONAL REQUIREMENTS.

BUILDING KEY



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1580 The Alameda, Suite 200 408/238-2312
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ELECTRICAL NEW FLOOR PLANS - ESCALON BLDG & LGI

DATE 10/04/2021

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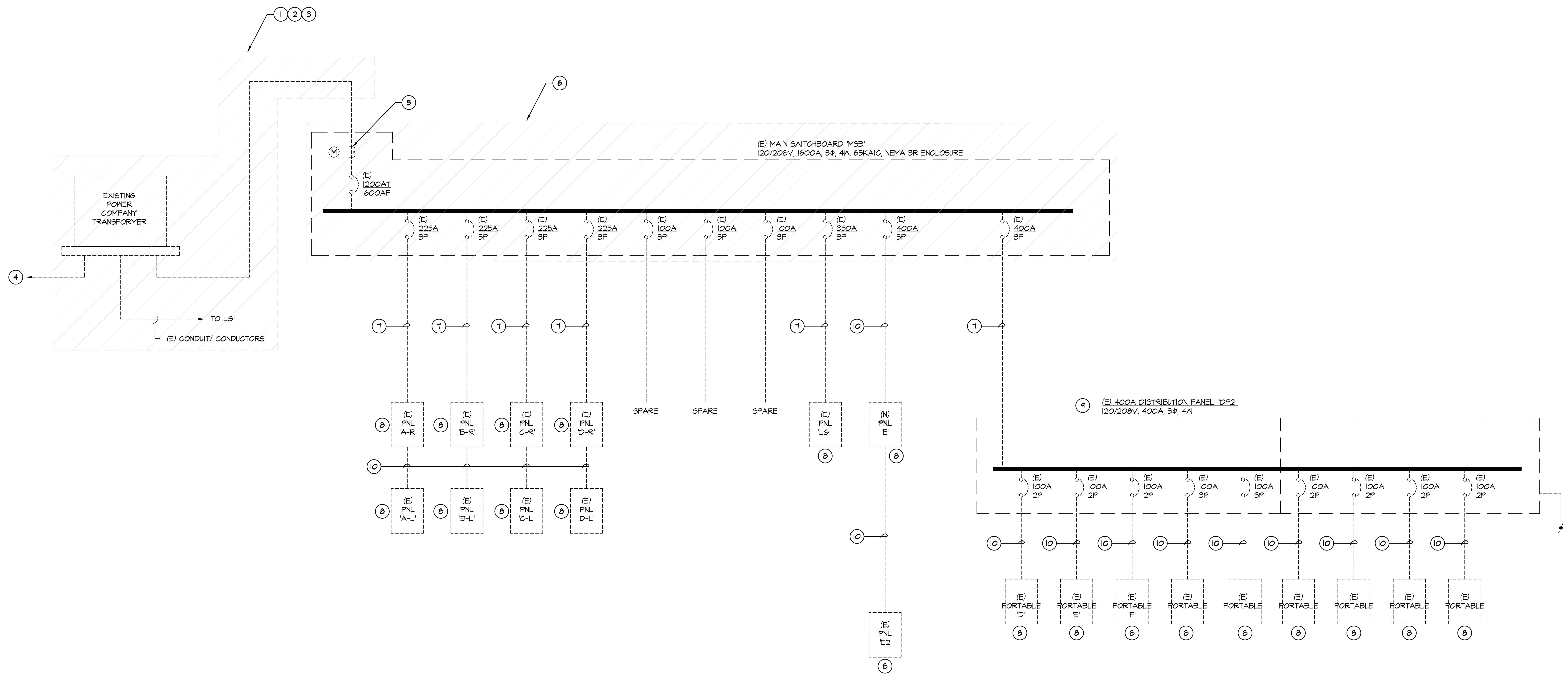

1 E4.1 **DEMO SINGLE LINE DIAGRAM**

NOT TO SCALE

GENERAL NOTES:

1. SEE ELECTRICAL SITE PLAN AND ENLARGED SWITCHGEAR PLAN FOR ADDITIONAL REQUIREMENTS.
2. SEE NEW SINGLE LINE DIAGRAM FOR ADDITIONAL REQUIREMENTS.
3. COORDINATE WITH THE PG&E UTILITY COMPANY FOR THE DISCONNECTING AND REMOVAL OF ALL ASSOCIATED EQUIPMENT AND CABLES.

DEMOLITION SHEET NOTES:

(1) EXISTING PG&E TRANSFORMER TO BE DISCONNECTED AND REMOVED BY PG&E. COORDINATE REMOVAL WITH PG&E.

(2) EXISTING PG&E PRIMARY CONDUCTORS TO BE REMOVED BY PG&E. COORDINATE REMOVAL WITH PG&E.

(3) EXISTING PG&E SECONDARY CONDUCTORS AND GROUNDING CONDUCTORS TO BE REMOVED BY PG&E. COORDINATE REMOVAL WITH PG&E.

(4) EXISTING PG&E UTILITY POLE TO REMAIN.

(5) EXISTING PG&E METER, CT'S AND PT'S TO BE DISCONNECTED AND REMOVED BY PG&E. COORDINATE REMOVAL WITH PG&E.

(6) MAIN SWITCHBOARD TO BE DEMOLISHED. COORDINATE DISCONNECTION AND REMOVAL WITH PG&E. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL AND DISPOSAL OF THE EXISTING MAIN SWITCHBOARD.

(7) EXISTING FEEDERS TO BE MODIFIED TO FACILITATE THE NEW WORK. REFER TO NEW SINGLE LINE DIAGRAM FOR ADDITIONAL REQUIREMENTS.

(8) EXISTING ELECTRICAL PANELS TO REMAIN.

(9) EXISTING DISTRIBUTION PANEL TO REMAIN.

(10) EXISTING FEEDER CABLES TO REMAIN.

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aedis architects
www.aedisarchitects.com
387 S. 1st Street, Suite 300
San Jose, CA 95113
tel: (408)-300-5160
fax: (408)-300-5121

PROJECT

GEORGE HALL ELEMENTARY SCHOOL - HVAC REPLACEMENT

SAN MATEO-FOSTER CITY SCHOOL DISTRICT

CONSULTANT

REGISTERED PROFESSIONAL ENGINEER SAMMY S. FERNANDEZ E16890 Exp. 06/30/23 ELECTRICAL STATE OF CALIFORNIA

American Consulting Engineers Electrical, Inc.
1590 The Alameda, Suite 200
San Jose, CA 95126
408/236-2312
Fax: 408/236-2316
JOB # EK21030.00

STAMP

STATE

DSA FILE NUMBER 41-26

APPL # 01-119523

REVISIONS

No.	Description	Date
△		

MILESTONES

DD	
90% CD	
DSA SUB	05/21/2021
BACKCHECK	10/04/2021

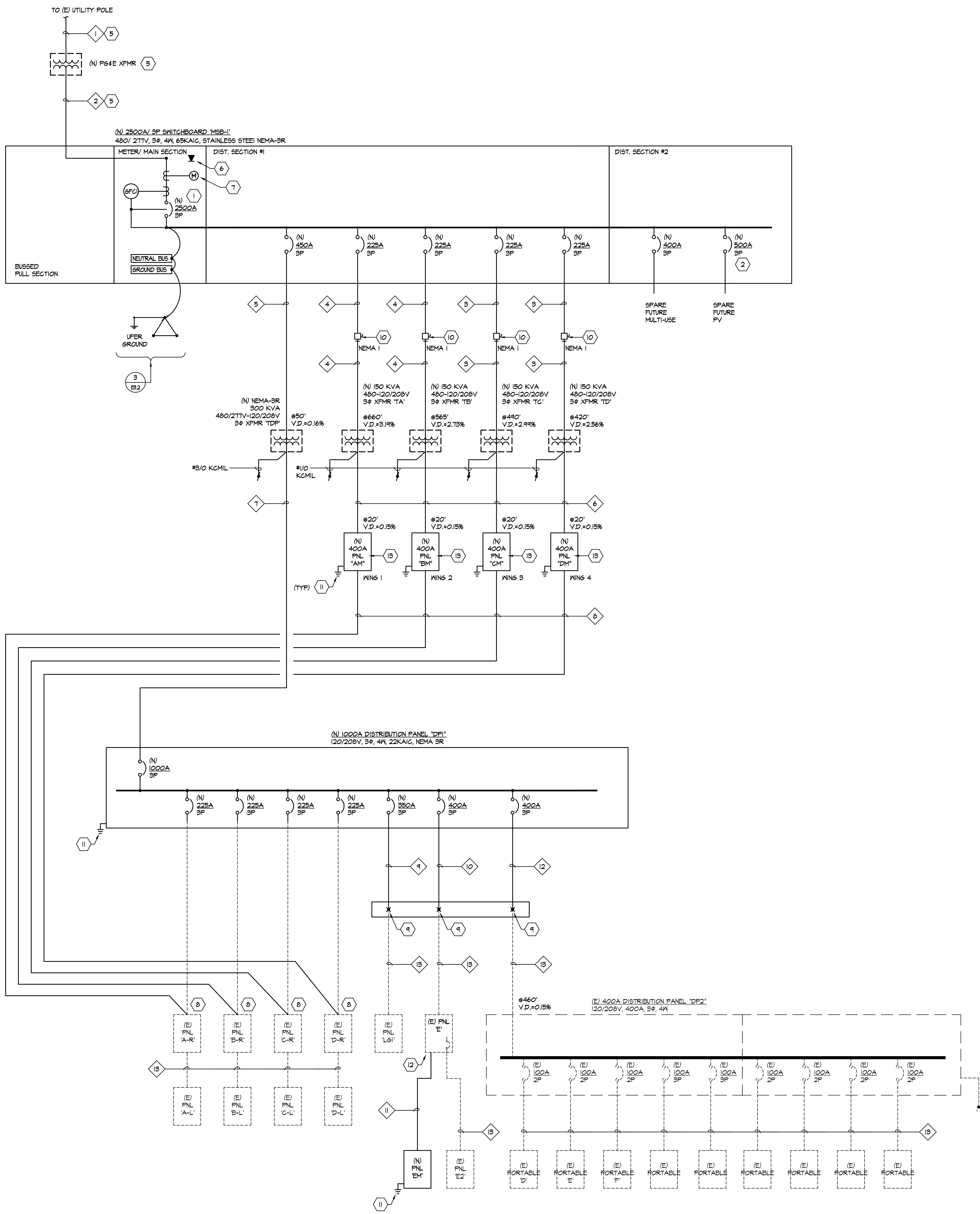
SHEET

DEMO SINGLE LINE DIAGRAM

DATE 10/04/2021

JOB # 2021005.02

SHEET # E4.1



1 NEW SINGLE LINE DIAGRAM

E4.2 NOT TO SCALE

GENERAL NOTES:

1. SEE DETAIL 2/E3.2 FOR GROUNDING AT SWITCHBOARD ENCLOSURE REQUIREMENTS.
2. SEE DETAIL 3/E3.2 FOR MAIN SWITCHBOARD GROUNDING REQUIREMENTS.
3. SEE DETAIL 5/E3.2 FOR TRANSFORMER GROUNDING REQUIREMENTS.
4. ALL TRANSFORMERS SHALL BE CLASS 155 INSULATION - COMPLETELY ENCLOSED EXCEPT FOR VENTILATION.
5. SEE ENLARGED SWITCHGEAR PLAN FOR ADDITIONAL REQUIREMENTS.
6. THE CONTRACTOR SHALL OBTAIN THE PG&E SUBSTRUCTURE PACKAGE PRIOR TO ANY RELATED WORK. THE CONTRACTOR SHALL COORDINATE ALL PG&E INSTALLATION REQUIREMENTS WITH PG&E GREENBOOK AND PG&E SUBSTRUCTURE PACKAGE.
7. SEE THE ENLARGED SITE DEMO SITE PLAN AND DEMO SINGLE LINE DIAGRAM FOR ADDITIONAL INFORMATION.
8. PROVIDE THE REQUIRED ARC FLASH HAZARD WARNING LABEL TO MEET THE REQUIREMENTS OF CEC 110.16. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
9. PROVIDE MAINTENANCE SWITCH FOR ARC ENERGY REDUCTION TO MEET THE REQUIREMENTS OF CEC 240.87.

SHEET NOTES:

1. MAIN BREAKER SHALL BE GFCI PER NEC.
2. PV BREAKER TO BE INSTALLED AT THE FURTHEST POINT ON THE BUS BAR.
3. INTERCEPT EXISTING FEEDER CONDUIT WITH NEW CONDUIT. CONTRACTOR TO VERIFY EXACT (E) CONDUIT SIZES AND MATCH AS REQUIRED TO INTERCEPT. EXTEND (N) CONDUITS AND FEEDERS TO (N) XFRM "TA". SEE SITE PLAN FOR APPROXIMATE LOCATION. SITE VERIFY EXACT LOCATIONS.
4. CONNECT NEW FEEDERS TO (E) 800A DISTRIBUTION PANEL. CONTRACTOR SHALL PROVIDE EQUIPMENT REQUIRED TO TERMINATE NEW FEEDERS. SEE SITE PLAN FOR APPROXIMATE LOCATION. SITE VERIFY EXACT LOCATION.
5. INSTALL PER PG&E AND PG&E GREENBOOK REQUIREMENTS.
6. PROVIDE TWO DEDICATED TELEPHONE LINES FROM THE MAIN SWITCHBOARD TO THE TELEPHONE MPOE PER PG&E REQUIREMENTS. MOUNT TELEPHONE OUTLETS INSIDE METER SECTION FOR THE MAIN SWITCHBOARD BEHIND THE SWITCHBOARDS DOORS. MOUNT IN NEMA-3R JUNCTION BOX.
7. PROVIDE PG&E METER PER PG&E REQUIREMENTS.
8. COORDINATE THE DISCONNECT AND REMOVAL OF THE EXISTING FEEDERS WITH THE PROJECT SCHEDULE AFTER REMOVAL OF EXISTING FEEDER AND CONDUITS, CONTRACTOR SHALL RECONNECT PANEL WITH NEW FEEDERS AND CONDUIT AS SHOWN.
9. PROVIDE INGRADE PULL BOX TO INTERCEPT EXISTING FEEDER CIRCUIT. PROVIDE POLARIS SUBMERSIBLE SPLICE. SEE SITE PLAN FOR ADDITIONAL REQUIREMENTS.
10. PROVIDE 400A-3P, 600V, HEAVY DUTY, DISCONNECT SWITCH FOR TRANSFORMER.
11. GROUND PER CEC.
12. PROVIDE 200A-3P CIRCUIT BREAKER IN EXISTING PANEL'S SUBFEED POSITION.
13. PROVIDE 225A-3P CIRCUIT BREAKER IN NEW PANEL'S SUBFEED POSITION.

CABLE SCHEDULE:

1. (N)(1) 4"C - PG&E PRIMARY.
2. (N)(7) 5"C - PG&E SECONDARY
3. (N)(1) 2-1/2"C WITH (N) (3)#4/0 + (1)#4 GND.
4. (N)(1) 2-1/2"C WITH (N) (3)#4/0 + (1)#4 GND.
5. (N)(2) 2-1/2"C EACH CONDUIT WITH (N) (4)#4/0 + (1)#2 GND.
6. (N)(1) 4"C WITH (N) (4)#600 + (1)#1/0 GND.
7. (N)(3) 3"C EACH CONDUIT WITH (N) (4)#400 + (1)#3/0 GND.
8. (N)(1) 2-1/2"C WITH (N) (4)#4/0 + (1)#4 GND.
9. (N)(1) 4"C WITH (N) (4)#500 + (1)#3 GND.
10. (N)(1) 4"C WITH (N) (4)#600 + (1)#3 GND.
11. (N)(1) 2"C WITH (N) (4)#3/0 + (1)#6 GND.
12. (N)(1) 4"C WITH (N) (4)#600 + (1)#3 GND.
13. EXISTING CONDUITS AND CABLES TO REMAIN.

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No.	Description	Date

MILESTONES

DD	
90% CD	
DSA SUB	05/21/2021
BACKCHECK	10/04/2021

SHEET
NEW SINGLE LINE DIAGRAM

DATE 10/04/2021
JOB # 2021005.02
SHEET # E4.2

PANEL NAME:	(N) "AM"
VOLTAGE:	208/120V
PHASE:	3
WIRE:	4
TYPE:	NEMA 1
MOUNTING:	SURFACE

FED FROM: (N) MSB-1
MAIN C/B: 400A-3P
BUSSING: 400 AMP
MIN. AIC: 10,000
SUB-FEED C/B: 225A-3P
FEED THRU LUGS: YES

LOAD TYPE (KVA) LTG	REC	MTR	NCL	CB AMP/P	CKT #	PH	CKT #	CB AMP/P	LOAD TYPE (KVA) LTG	REC	MTR	NCL	CIRCUIT DESCRIPTION
				70A	1	A	2	70A					(N) HEAT PUMP 2 - KINDERGARTEN 2
					3	B	4	2P					" " " " "
				20A/1P	5	C	6	20A/1P					SPARE
				20A/1P	7	A	8	20A/1P					SPARE
				30A	9	B	10	20A					(N) SPLIT SYSTEM AC UNIT 2 - ROOF
					11	C	12	2P					" " " " "
				30A	13	A	14	20A/1P					SPARE
					15	B	16	20A/1P					SPARE
				20A/1P	17	C	18	20A/1P					SPARE
				20A/1P	19	A	20	20A/1P					SPARE
				20A/1P	21	B	22	20A/1P					SPARE
				20A/1P	23	C	24	20A/1P					SPARE
				20A/1P	25	A	26	20A/1P					SPARE
				20A/1P	27	B	28	20A/1P					SPARE
				20A/1P	29	C	30	20A/1P					SPARE
				20A/1P	31	A	32	20A/1P					SPARE
				20A/1P	33	B	34	20A/1P					SPARE
				20A/1P	35	C	36	20A/1P					SPARE
				20A/1P	37	A	38	20A/1P					SPARE
				20A/1P	39	B	40	20A/1P					SPARE
				20A/1P	41	C	42	20A/1P					(N) WEATHER PROOF GFCI RECEPTACLE - WING #4
													(N) MOTOR RATED SWITCH FOR COND. PUMP - WING 4
0	0	0.72	26.21						26.21	0.54	0	0	

LOAD SUMMARY	CONNECTED KVA	DEMAND FACTOR	DEMAND KVA
(LTG) LIGHTING X 125%	26.2	1.25	32.8
(REC) RECEPTS PER 220.44;	0.5	1.00	0.5
10KVA x 100% + REMAINDER x 50%	0	0.50	0.0
(MTR) LARGEST MOTOR X 125% +	0.7	1.25	0.9
REMAINING MOTORS x 100%	0	1.00	0.0
(NCL) NON CONTINOUS LOAD x 100%	26.2	1.00	26.2

	Yes/No
FULL RATED AIC	Y
SERIES RATED AIC	N
SURGE PROTECTIVE DEVICE	N
COPPER BUSSING	Y
ALUMINUM BUSSING	N

KVA PHASE A (CONNECTED)	17.5
KVA PHASE B (CONNECTED)	17.5
KVA PHASE C (CONNECTED)	18.7
TOTAL DEMAND KVA	60.4
TOTAL LOAD AMPERES	72.7

PANEL NAME:	(N) "BM"
VOLTAGE:	208/120V
PHASE:	3
WIRE:	4
TYPE:	NEMA 1
MOUNTING:	SURFACE

FED FROM: (N) MSB-1
MAIN C/B: 400A-3P
BUSSING: 400 AMP
MIN. AIC: 10,000
SUB-FEED C/B: 225A-3P
FEED THRU LUGS: YES

LOAD TYPE (KVA) LTG	REC	MTR	NCL	CB AMP/P	CKT #	PH	CKT #	CB AMP/P	LOAD TYPE (KVA) LTG	REC	MTR	NCL	CIRCUIT DESCRIPTION
				70A	1	A	2	70A					(N) HEAT PUMP 6 - CLASSROOM 6
					3	B	4	2P					" " " " "
				20A/1P	5	C	6	20A/1P					SPARE
				20A/1P	7	A	8	20A/1P					SPARE
				70A	9	B	10	70A					(N) HEAT PUMP 7 - CLASSROOM 7
					11	C	12	2P					" " " " "
				20A/1P	13	A	14	20A/1P					SPARE
				20A/1P	15	B	16	20A/1P					SPARE
				70A	17	C	18	70A					(N) HEAT PUMP 8 - CLASSROOM 8
					19	A	20	2P					" " " " "
				20A/1P	21	B	22	20A/1P					SPARE
				20A/1P	23	C	24	20A/1P					SPARE
				20A/1P	25	A	26	20A/1P					SPARE
				20A/1P	27	B	28	20A/1P					SPARE
				20A/1P	29	C	30	20A/1P					SPARE
				20A/1P	31	A	32	20A/1P					SPARE
				20A/1P	33	B	34	20A/1P					SPARE
				20A/1P	35	C	36	20A/1P					SPARE
				20A/1P	37	A	38	20A/1P					SPARE
				20A/1P	39	B	40	20A/1P					SPARE
				20A/1P	41	C	42	20A/1P					SPARE
													(N) HEAT PUMP 3 - CLASSROOM 3
													" " " " "
													(N) HEAT PUMP 4 - CLASSROOM 4
													" " " " "
													(N) HEAT PUMP 5 - STAFF 5
													" " " " "
													(N) MOTOR RATED SWITCH FOR COND. PUMP - WING 2
0	0	0.72	26.21						26.21	0.54	0	0	

LOAD SUMMARY	CONNECTED KVA	DEMAND FACTOR	DEMAND KVA
(LTG) LIGHTING X 125%	26.2	1.25	32.8
(REC) RECEPTS PER 220.44;	0.5	1.00	0.5
10KVA x 100% + REMAINDER x 50%	0	0.50	0.0
(MTR) LARGEST MOTOR X 125% +	0.7	1.25	0.9
REMAINING MOTORS x 100%	0	1.00	0.0
(NCL) NON CONTINOUS LOAD x 100%	26.2	1.00	26.2

	Yes/No
FULL RATED AIC	Y
SERIES RATED AIC	N
SURGE PROTECTIVE DEVICE	N
COPPER BUSSING	Y
ALUMINUM BUSSING	N

KVA PHASE A (CONNECTED)	17.5
KVA PHASE B (CONNECTED)	18.0
KVA PHASE C (CONNECTED)	18.2
TOTAL DEMAND KVA	60.4
TOTAL LOAD AMPERES	72.7

PANEL NAME:	(N) "CM"
VOLTAGE:	208/120V
PHASE:	3
WIRE:	4
TYPE:	NEMA 1
MOUNTING:	SURFACE

FED FROM: MSG
MAIN C/B: 400A-3P
BUSSING: 400 AMP
MIN. AIC: 10,000
SUB-FEED C/B: 225A-3P
FEED THRU LUGS: YES

LOAD TYPE (KVA) LTG	REC	MTR	NCL	CB AMP/P	CKT #	PH	CKT #	CB AMP/P	LOAD TYPE (KVA) LTG	REC	MTR	NCL	CIRCUIT DESCRIPTION
				70A	1	A	2	70A					(N) HEAT PUMP 12 - CLASSROOM 12
					3	B	4	2P					" " " " "
				20A/1P	5	C	6	20A					SPARE
				20A/1P	7	A	8	2P					SPARE
				70A	9	B	10	70A					(N) HEAT PUMP 13 - CLASSROOM 13
					11	C	12	2P					" " " " "
				20A/1P	13	A	14	20A/1P					SPARE
				20A/1P	15	B	16	20A/1P					SPARE
				70A	17	C	18	70A					(N) HEAT PUMP 14 - CLASSROOM 14
					19	A	20	2P					" " " " "
				20A/1P	21	B	22	20A/1P					SPARE
				20A/1P	23	C	24	20A/1P					SPARE
				20A/1P	25	A	26	20A/1P					SPARE
				20A/1P	27	B	28	20A/1P					SPARE
				20A/1P	29	C	30	20A/1P					SPARE
				20A/1P	31	A	32	20A/1P					SPARE
				20A/1P	33	B	34	20A/1P					SPARE
				20A/1P	35	C	36	20A/1P					SPARE
				20A/1P	37	A	38	20A/1P					SPARE
				20A/1P	39	B	40	20A/1P					SPARE
				20A/1P	41	C	42	20A/1P					(N) WEATHER PROOF GFCI RECEPTACLE - WING #3
				70A									(N) HEAT PUMP 9 - CLASSROOM 9
													" " " " "
													(N) HEAT PUMP 10 - CLASSROOM 10
													" " " " "
													(N) HEAT PUMP 11 - CLASSROOM 11
													" " " " "
													(N) MOTOR RATED SWITCH FOR COND. PUMP - WING 3
0	0	0.72	26.21						26.21	0.54	0	0	

LOAD SUMMARY	CONNECTED KVA	DEMAND FACTOR	DEMAND KVA
(LTG) LIGHTING X 125%	26.2	1.25	32.8
(REC) RECEPTS PER 220.44;	0.5	1.00	0.5
10KVA x 100% + REMAINDER x 50%	0	0.50	0.0
(MTR) LARGEST MOTOR X 125% +	0.7	1.25	0.9
REMAINING MOTORS x 100%	0	1.00	0.0
(NCL) NON CONTINOUS LOAD x 100%	26.2	1.00	26.2

	Yes/No
FULL RATED AIC	Y
SERIES RATED AIC	N
SURGE PROTECTIVE DEVICE	N
COPPER BUSSING	Y
ALUMINUM BUSSING	N

KVA PHASE A (CONNECTED)	17.5
KVA PHASE B (CONNECTED)	17.5
KVA PHASE C (CONNECTED)	18.7
TOTAL DEMAND KVA	60.4
TOTAL LOAD AMPERES	72.7

PANEL NAME:	(N) "DM"
VOLTAGE:	208/120V
PHASE:	3
WIRE:	4
TYPE:	NEMA 1
MOUNTING:	SURFACE

FED FROM: (N) MSB-1
MAIN C/B: 400A-3P
BUSSING: 400 AMP
MIN. AIC: 10,000
SUB-FEED C/B: 225A-3P
FEED THRU LUGS: YES

LOAD TYPE (KVA) LTG	REC	MTR	NCL	CB AMP/P	CKT #	PH	CKT #	CB AMP/P	LOAD TYPE (KVA) LTG	REC	MTR	NCL	CIRCUIT DESCRIPTION
				70A	1	A	2	70A	4.37				(N) HEAT PUMP 18 - CLASSROOM 18
					3	B	4	2P	4.37				" " " " "
				20A/1P	5	C	6	20A/1P					SPARE
				20A/1P	7	A	8	20A/1P					SPARE
			4.37	70A	9	B	10	70A	4.37				(N) HEAT PUMP 19 - CLASSROOM 19
			4.37		11	C	12	2P	4.37				" " " " "
				20A/1P	13	A	14	20A/1P					SPARE
				20A/1P	15	B	16	20A/1P					SPARE
			4.37	70A	17	C	18	70A	4.37				(N) HEAT PUMP 20 - CLASSROOM 20
			4.37		19	A	20	2P	4.37				" " " " "
				20A/1P	21	B	22	20A/1P					SPARE
				20A/1P	23	C	24	20A/1P					SPARE
				20A/1P	25	A	26	20A/1P					SPARE
				20A/1P	27	B	28	20A/1P					SPARE
				20A/1P	29	C	30	20A/1P					SPARE
				20A/1P	31	A	32	20A/1P					SPARE
				20A/1P	33	B	34	20A/1P					SPARE
				20A/1P	35	C	36	20A/1P					SPARE
				20A/1P	37	A	38	20A/1P					SPARE
				20A/1P	39	B	40	20A/1P					SPARE
			0.72	20A/1P	41	C	42	20A/1P		0.54			(N) WEATHER PROOF GFCI RECEPTACLE - WING #4
													(N) MOTOR RATED SWITCH FOR COND. PUMP - WING 4
0	0	0.72	26.21						26.21	0.54	0	0	

LOAD SUMMARY	CONNECTED KVA	DEMAND FACTOR	DEMAND KVA
(LTG) LIGHTING X 125%	26.2	1.25	32.8
(REC) RECEPTS PER 220.44;	0.5	1.00	0.5
10KVA x 100% + REMAINDER x 50%	0	0.50	0.0
(MTR) LARGEST MOTOR X 125% +	0.7	1.25	0.9
REMAINING MOTORS x 100%	0	1.00	0.0
(NCL) NON CONTINOUS LOAD x 100%	26.2	1.00	26.2

	Yes/No
FULL RATED AIC	Y
SERIES RATED AIC	N
SURGE PROTECTIVE DEVICE	N
COPPER BUSSING	Y
ALUMINUM BUSSING	N

KVA PHASE A (CONNECTED)	17.5
KVA PHASE B (CONNECTED)	17.5
KVA PHASE C (CONNECTED)	18.7
TOTAL DEMAND KVA	60.4
TOTAL LOAD AMPERES	72.7

PANEL NAME:	(N) "EM"
VOLTAGE:	208/120V
PHASE:	3
WIRE:	4
TYPE:	NEMA 1
MOUNTING:	SURFACE

FED FROM: (N) MSB-1
MAIN C/B: 200A-3P
BUSSING: 200 AMP
MIN. AIC: 42,000
SUB-FEED C/B:
FEED THRU LUGS: YES

LOAD TYPE (KVA) LTG	REC	MTR	NCL	CB AMP/P	CKT #	PH	CKT #	CB AMP/P	LOAD TYPE (KVA) LTG	REC	MTR	NCL	CIRCUIT DESCRIPTION
				70A	1	A	2	70A	4.37				(N) HEAT PUMP 35 - CLASSROOM 35
					3	B	4	2P	4.37				" " " " "
				20A/1P	5	C	6	20A/1P					SPARE
				20A/1P	7	A	8	20A/1P					SPARE
			4.37	70A	9	B	10	70A	4.37				(N) HEAT PUMP 36 - HALLWAY
			4.37		11	C	12	2P	4.37				" " " " "
				20A/1P	13	A	14	20A/1P					SPARE
				20A/1P	15	B	16	20A/1P					SPARE
			4.37	70A	17	C	18	70A					SPARE
			4.37		19	A	20	2P					SPARE
				20A/1P	21	B	22	20A/1P					SPARE
				20A/1P	23	C	24	20A/1P					SPARE
				20A/1P	25	A	26	20A/1P					SPARE
				20A/1P	27	B	28	20A/1P					SPARE
				20A/1P	29	C	30	20A/1P					SPARE
				20A/1P	31	A	32	20A/1P					SPARE
				20A/1P	33	B	34	20A/1P					SPARE
				20A/1P	35	C	36	20A/1P					SPARE
				20A/1P	37	A	38	20A/1P					SPARE
				20A/1P	39	B	40	20A/1P					SPARE
			0.60	20A/1P	41	C	42	20A/1P		0.72			(N) WEATHER PROOF GFCI RECEPTACLE - ESC. LGI
													(N) MOTOR RATED SWITCH FOR COND. PUMP-ESC. LGI
0	0	0.60	26.21						17.47	0.72	0	0	

LOAD SUMMARY	CONNECTED KVA	DEMAND FACTOR	DEMAND KVA
(LTG) LIGHTING X 125%	17.5	1.25	21.8
(REC) RECEPTS PER 220.44;	0.7	1.00	0.7
10KVA x 100% + REMAINDER x 50%	0	0.50	0.0
(MTR) LARGEST MOTOR X 125% +	0.6	1.25	0.8
REMAINING MOTORS x 100%	0	1.00	0.0
(NCL) NON CONTINOUS LOAD x 100%	26.2	1.00	26.2

	Yes/No
FULL RATED AIC	Y
SERIES RATED AIC	N
SURGE PROTECTIVE DEVICE	N
COPPER BUSSING	Y
ALUMINUM BUSSING	N

KVA PHASE A (CONNECTED)	13.1
KVA PHASE B (CONNECTED)	17.5
KVA PHASE C (CONNECTED)	14.4
TOTAL DEMAND KVA	49.5
TOTAL LOAD AMPERES	59.6

PANEL NAME:	(E)"DP-1"
VOLTAGE:	208/120V
PHASE:	3
WIRE:	4
TYPE:	NEMA 1
MOUNTING:	SURFACE

FED FROM: (N) DIST DP1
MAIN C/B: 1000A-3P
BUSSING: 225 AMP
MIN. AIC: 10,000
SUB-FEED C/B:
FEED THRU LUGS:

LOAD TYPE (KVA) LTG	REC	MTR	NCL	CB AMP/P	CKT #	PH	CKT #	CB AMP/P	LOAD TYPE (KVA) LTG	REC	MTR	NCL	CIRCUIT DESCRIPTION
				100A	1	A	2	100A					(E)PORTABLE 'F'
					3	B	4	2P					" " "
				100A	5	C	6	100A					(E)PORTABLE 'G'
				2P	7	A	8	2P					" " "
				100A	9	B	10	100A					(E)PORTABLE 'H'
				2P	11	C	12	2P					" " "
				100A	13	A	14	100A					(E)PORTABLE 'I'
				2P	15	B	16	2P					" " "
				100A	17	C	18	100A					
				2P	19	A	20	2P					
				20A/1P	21	B	22	20A/1P					
				20A/1P	23	C	24	20A/1P					
				20A/1P	25	A	26	20A/1P					
				20A/1P	27	B	28	20A/1P					
				20A/1P	29	C	30	20A/1P					
				20A/1P	31	A	32	20A/1P					
				20A/1P	33	B	34	20A/1P					
				20A/1P	35	C	36	20A/1P					
				20A/1P	37	A	38	20A					
				20A	39	B	40						
				2P	41	C	42	3P					
0	0	0	0						0	0	0	0	

LOAD SUMMARY	CONNECTED KVA	DEMAND FACTOR	DEMAND KVA
(LTG) LIGHTING X 125%	0	1.25	0.0
(REC) RECEPTS PER 220.44;	0	1.00	0.0
10KVA x 100% + REMAINDER x 50%	0	0.50	0.0
(MTR) LARGEST MOTOR X 125% +	0	1.25	0.0
REMAINING MOTORS x 100%	0	1.00	0.0
(NCL) NON CONTINOUS LOAD x 100%	0	1.00	0.0

	Yes/No
FULL RATED AIC	Y
SERIES RATED AIC	N
SURGE PROTECTIVE DEVICE	N
COPPER BUSSING	Y
ALUMINUM BUSSING	N

KVA PHASE A (CONNECTED)	0
KVA PHASE B (CONNECTED)	0
KVA PHASE C (CONNECTED)	0
TOTAL DEMAND KVA	
TOTAL LOAD AMPERES	

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aedis architects
www.aedisarchitects.com
387 S. 1st Street, Suite 300
San Jose, CA 95113
tel: (408)-300-5160
fax: (408)-300-5121

PROJECT

GEORGE HALL ELEMENTARY SCHOOL - HVAC REPLACEMENT

SAN MATEO-FOSTER CITY SCHOOL DISTRICT

CONSULTANT

REGISTERED PROFESSIONAL ENGINEER
ROBERT STERNBERG
E16890
Exp. 06/30/22
ELECTRICAL
STATE OF CALIFORNIA

American Consulting Engineers Electrical, Inc.
1590 The Alameda, Suite 200
San Jose, CA 95126
408/236-2316
Fax: 408/236-2316
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ELECTRICAL PANEL SCHEDULES

DATE 10/04/2021
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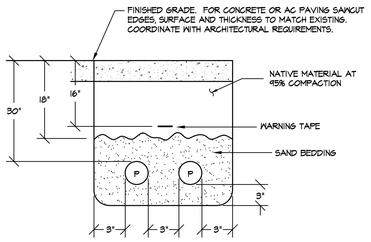
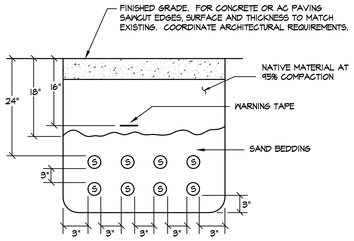


1. TRENCH PER PG&E STANDARDS

P - PRIMARY

1 PG&E TRENCH DETAIL PRIMARY SIDE

E5.1 NOT TO SCALE

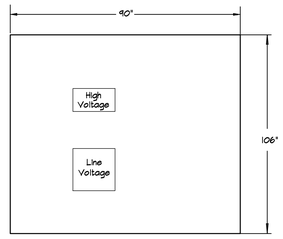


1. TRENCH PER PG&E STANDARDS

S - SECONDARY

3 PG&E TRENCH DETAIL SECONDARY SIDE

E5.1 NOT TO SCALE



PAD SHALL BE PG&E TYPE IIE PER PG&E REQUIREMENTS.
PAD SHALL BE JENSEN PG&E 040292 OR EQUAL.

THIS PAD TO BE INSTALLED PER PG&E REQUIREMENTS AND PG&E GREEN BOOK. THIS PAD IS UNDER PG&E JURISDICTION AND PROPERTY EASEMENT.

PAD SHALL CONFORM TO ALL REQUIREMENTS OF UTILITY "PG&E." REFER TO PG&E. CONTRACTOR DOCUMENTS FOR FINAL REQUIREMENTS AND APPROVED VENDORS FOR "PRE-CAST" PADS.

Concrete Pad Details for Style IID, IIE, and IIG Transformers

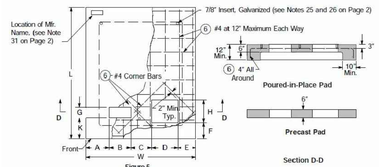


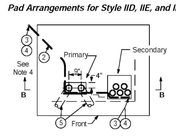
Figure 5
Construction Details of Style IID, IIE, IIG Pad
(see Figure 2 on Page 6 for pad arrangement)

Table 3 Dimensions and Codes for Style IID, IIE, and IIG Transformer Pads [1]

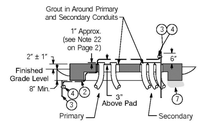
Transformer			Pad Dimensions (inches)											Code
Style	kVA Size	Approximate Maximum Weight (lbs)	A	B	C	D	E	F	G	H	K	L	W	
IID and IIE	75	4,600	17	16	15	19	13	10	6	17	14	61	80	040291
	(112.5) [2]	4,800												
	150	5,000												
	(225) [2]	5,500												
IIE	300	5,800	22	16	15	20	17	20	6	19	25	106	90	040292
	(500) [2]	6,100												
	750	9,000												
	1,000	11,000												
	1,500	13,000												
IIE	2,500	16,000												
IIG	2955/3325	22,000	22	16	15	20	17	20	6	19	25	106	90	040292

1 See Document 066211 for approved suppliers.
2 ( ) = Indicates a kVA size that is no longer purchased.

Pad Arrangements for Style IID, IIE, and IIG Transformers



Plan View

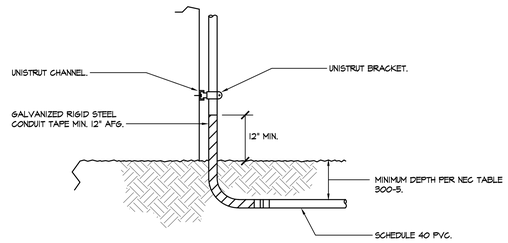


Section B-B

Figure 2
Loop Installation of Style IID, IIE, and IIGPad Arrangement, Poured-in-Place Pad Shown

2 PG&E TRANSFORMER PAD DETAIL

E5.1 NOT TO SCALE



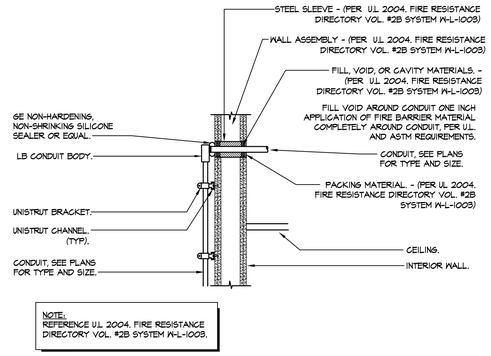
NOTE:

1. FOR WOOD STUD WALL: USE ⅜" LAG BOLT WITH MIN. ¾" EMBEDMENT INTO STUDS. (ONE AT EACH END OF BRACKET)

2. FOR CONCRETE WALL: USE ⅜" WEDGE ANCHOR WITH MIN. 2 ½" EMBEDMENT INTO CONCRETE WALL. (ONE AT EACH END OF BRACKET).

4 UNDERGROUND CONDUIT RISER DETAIL

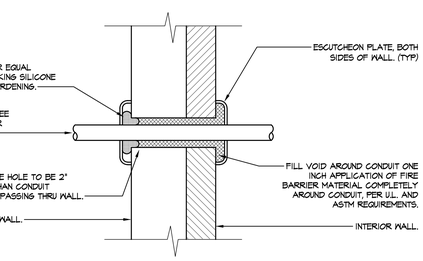
E5.1 NOT TO SCALE



NOTE:
REFERENCE U.L 2004, FIRE RESISTANCE DIRECTORY VOL. #2B SYSTEM W-L-1003.

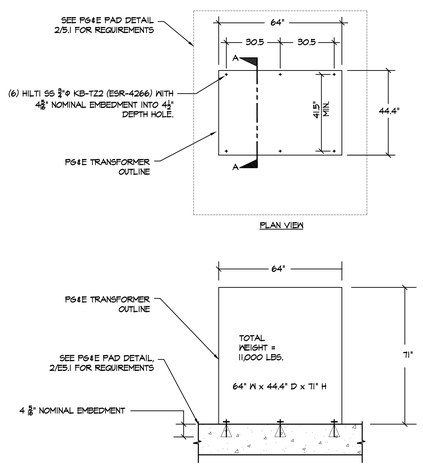
5 CONDUIT RISER AND WALL PENETRATION - POWER

E5.1 NOT TO SCALE



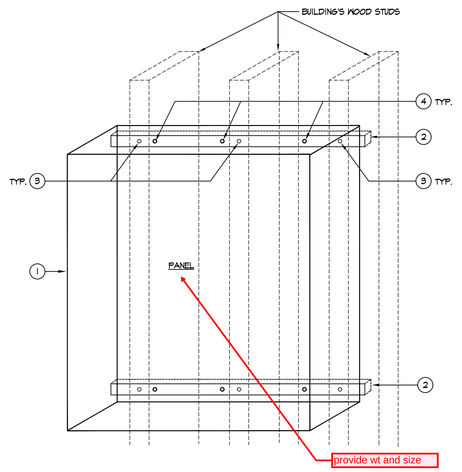
6 CONDUIT WALL PENETRATION DETAIL

E5.1 NOT TO SCALE



7 PG&E TRANSFORMER ANCHORAGE DETAIL

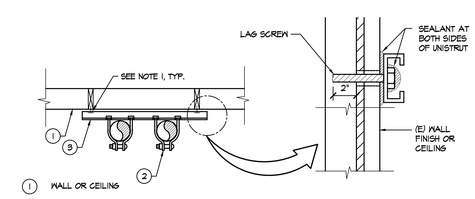
E5.1 NOT TO SCALE



1. NEMA-1 ELECTRICAL PANEL (200 LBS).
2. UNISTRUT P1000 MIN. 50" SPANNING OVER 3 STUDS.
3. ⅝" LAG SCREW. SCREW SHALL PENETRATE MINIMUM 3". CENTER ON STUDS.
4. PROVIDE 3/8" HEX HEAD CAP SCREW (MIN. OF 3) WITH 3/8" CHANNEL NUT.

8 WALL MOUNTED PANEL INSTALLATION (100A-600A)

E5.1 NOT TO SCALE



1. WALL OR CEILING
2. PROVIDE PIPE CLAMP MAXIMUM EVERY 10', TYP. UNISTRUT # P-3411 SERIES OR EQUAL FOR CEILING MOUNTED. UNISTRUT # P1101 SERIES OR EQUAL FOR WALL MOUNTED.
3. UNISTRUT # P-1000 OR EQUAL. TO SPAN BETWEEN MIN. OF 2 JOIST / STUD BAYS.

* MAXIMUM CONDUIT TO BE INSTALL SHALL NOT BE GREATER THAN 4" IN SIZE AND MORE THAN 100 LBS IN WEIGHT PER 10'.

NOTE:

1. FOR WOOD STUD WALL OR WOOD ROOF JOIST: USE 3/8" DIA. X MIN. 3" LONG LAG SCREW WITH MIN. 2" EMBEDMENT INTO STUDS. (ONE AT EACH END OF BRACKET)

9 TYPICAL CONDUIT SUPPORT DETAIL

E5.1 SCALE: NOT TO SCALE

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aedis architects
www.aedisarchitects.com
387 S. 1st Street, Suite 300
San Jose, CA 95113
tel: (408)-300-5160
fax: (408)-300-5121

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American Consulting Engineers Electrical, Inc.
1590 The Alameda, Suite 200 408/236-2314
San Jose, CA 95126 Fax: 408/236-2316
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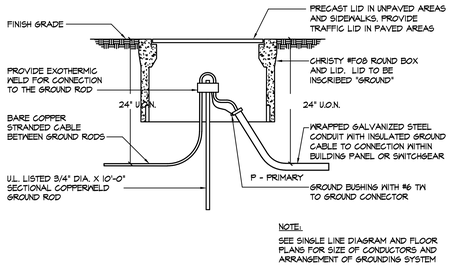
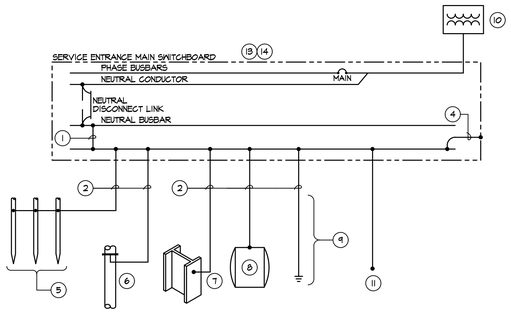


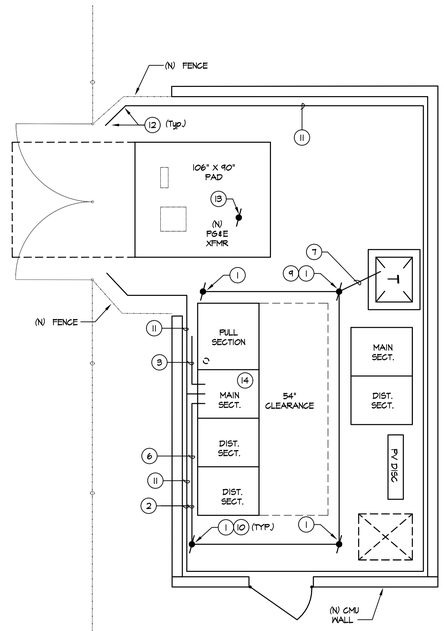
NOTE:

SEE SINGLE LINE DIAGRAM AND FLOOR PLANS FOR SIZE OF CONDUCTORS AND ARRANGEMENT OF GROUNDING SYSTEM

1 GROUND ROD INSPECTION WELL FOR MULTIPLE GROUND RODS

E5.2 — NOT TO SCALE





GROUNDING DETAIL NOTES:

1. GROUND ROD. SEE DETAIL 1/E3.2 FOR REQUIREMENTS.
2. CADWELD GROUNDING ELECTRODE CONDUCTOR TO THE REBAR.
3. UFER CADWELD TO REBAR +20' OF BARE COPPER ENCASED.
4. NOT USED.
5. NOT USED.
6. #3/0 BARE COPPER MAIN SWITCHBOARD GROUNDING ELECTRODE CONDUCTOR. CONDUCTOR SHALL BE INSTALLED ENCASED IN THE CONCRETE SLAB.
7. #3/0 BARE COPPER TRANSFORMER GROUNDING ELECTRODE CONDUCTOR. CONDUCTOR SHALL BE INSTALLED ENGASED IN THE CONCRETE SLAB TO THE GROUND ROD AND CADWELD TO THE GROUND ROD.
8. NOT USED.
9. ALL INTERSECTIONS OF GROUNDING CONDUCTORS SHALL BE CADWELD TOGETHER.
10. GROUND RODS SHALL BE INSTALLED A MINIMUM 10' APART.
11. #3/0 BARE COPPER FENCE GROUNDING CONDUCTOR. CONDUCTOR SHALL BE INSTALLED ENCASED IN THE CONCRETE SLAB.
12. PROVIDE T INTERSECTION AND EXTEND #3/0 CONDUCTORS ABOVE THE SLAB ADJACENT TO THE FENCE POST. COORDINATE INSTALLATION WITH FENCE SLEEVES AND FENCE POST INSTALLER. T INTERSECTION SHALL BE CADWELD. SEE 3/E3.2 AND 4/E3.2 FOR ADDITIONAL INFORMATION. SEE ARCHITECTURAL DRAWINGS FOR FENCE POST QUANTITY. TYPICAL FOR ALL FENCE POSTS.
13. PROVIDE GROUND ROD PER PG&E GREENBOOK REQUIREMENTS.
14. SEE DETAIL 3/E3.2 FOR ADDITIONAL GROUNDING REQUIREMENTS.

2 GROUNDING AT SWITCHBOARD ENCLOSURE

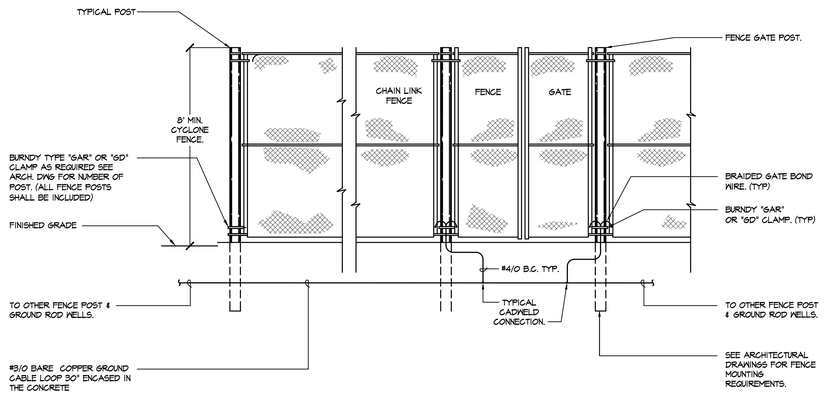
E5.2 — SCALE: 1/4" = 1'-0"

NOTES:

1. THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE USED FOR GROUNDING OR BONDING OF EQUIPMENT, STRUCTURES OR FRAMES REQUIRED TO BE GROUNDED OR BONDED(250.32(B)). PROVIDE ALL OF THE CONNECTIONS BELOW AND BOND TO THE EQUIPMENT GROUNDING CONDUCTOR.
2. GROUNDING ELECTRODE CONDUCTOR. GROUNDING ELECTRODE CONDUCTOR SHALL BE BARE OR INSULATED COPPER AND SHALL BE SIZED PER TABLE 250.66.
3. NOT USED.
4. EQUIPMENT BONDING JUMPER. EQUIPMENT BONDING JUMPER SHALL BE INSULATED COPPER AND SHALL BE SIZED PER TABLE 250.122.
5. PROVIDE A MINIMUM OF (3) GROUND ROD. GROUND ROD SHALL BE 10' LONG BY ¾" DIAMETER COPPERCLAD. GROUNDING ELECTRODE CONDUCTOR SHALL BE BONDED TO THE GROUND ROD VIA EXOTHERMIC WELD. GROUND RODS SHALL BE INSTALLED IN A ROUND BOX. SEE DETAIL FOR BOX/INSTALLATION REQUIREMENTS.
6. PROVIDE GROUNDING ELECTRODE CONDUCTOR CONNECTION TO THE NEAREST UNDERGROUND WATER PIPE IN DIRECT CONTACT WITH EARTH FOR A MINIMUM OF 10 FEET. WATER PIPE SHALL BE ELECTRICALLY CONTINUOUS TO POINTS OF CONNECTION OF THE GROUNDING ELECTRODE CONDUCTOR. CONNECTION POINT SHALL NOT BE GREATER THAN 5' FROM THE POINT OF ENTRANCE OF THE UNDERGROUND WATER PIPE.
7. PROVIDE GROUNDING ELECTRODE CONDUCTOR CONNECTION TO THE NEAREST METAL FRAME OR STRUCTURAL STEEL.
8. PROVIDE GROUNDING ELECTRODE CONDUCTOR CONNECTION TO ALL OTHER LOCAL METAL UNDERGROUND SYSTEMS OR STRUCTURES, AS REQUIRED WHEN AVAILABLE.
9. PROVIDE A CONCRETE ENCASED ELECTRODE (UFER) IN AND NEAR THE BOTTOM OF THE STRUCTURAL FOOTING OR SLAB ON GRADE THAT IS IN DIRECT CONTACT WITH EARTH. THE ELECTRODE SHALL BE A MINIMUM OF 20 FEET LONG INSIDE THE PAD, FOOTING OR SLAB. THE ELECTRODE CONDUCTOR SHALL BE BARE COPPER AND SIZED PER TABLE 250.66 BUT SHALL NOT BE LESS THAN #4AWG.
10. MAIN UTILITY TRANSFORMER SHALL BE GROUNDED PER THE REQUIREMENTS OF THE UTILITY COMPANY.
11. PROVIDE GROUNDING TO FENCE. SEE DETAIL 4/E3.2.
12. PROVIDE GROUNDING ELECTRODE CONDUCTOR CONNECTION TO THE SECONDARY SIDE OF ALL WYE CONNECTED BUILDING TRANSFORMERS. GROUNDING ELECTRODE CONDUCTOR MAY BE CONNECTED TO THE NEAREST STRUCTURAL STEEL, OR THE MAIN SERVICE GROUNDING ELECTRODE ONLY. SEE TRANSFORMER GROUNDING DETAIL FOR ADDITIONAL REQUIREMENTS.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL GROUNDING AND BONDING AS REQUIRED PER THE CEC.
14. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

3 MAIN SERVICE GROUNDING DETAIL

E5.2 — NOT TO SCALE

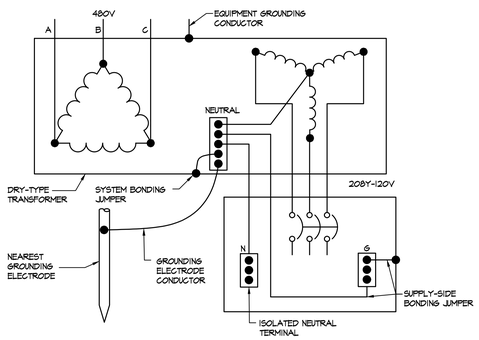


NOTE: REFER TO ARCHITECTURAL DRAWINGS FOR FENCE REQUIREMENTS.

NOTE: THIS DETAIL IS SHOWN FOR GROUNDING REQUIREMENTS NOT HOW THE FENCE IS INSTALLED.

4 CHAIN LINK FENCE GROUNDING DETAIL

E5.2 — NOT TO SCALE



5 TRANSFORMER GROUNDING DETAIL

E5.2 — NOT TO SCALE

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www.aedisarchitects.com
387 S. 1st Street, Suite 300
San Jose, CA 95113
tel: (408)-300-5160
fax: (408)-300-5121

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American Consulting Engineers Electrical, Inc.
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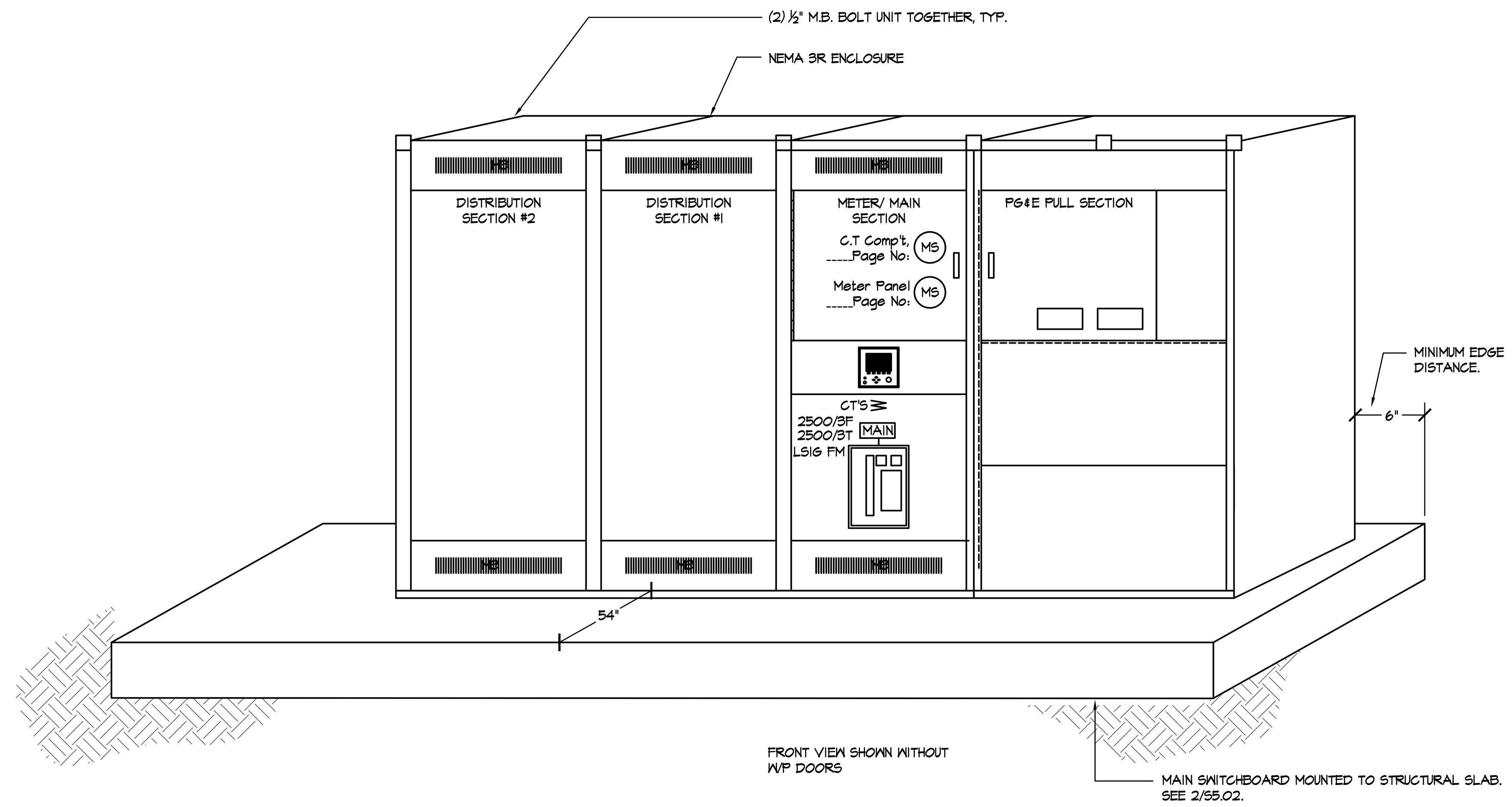
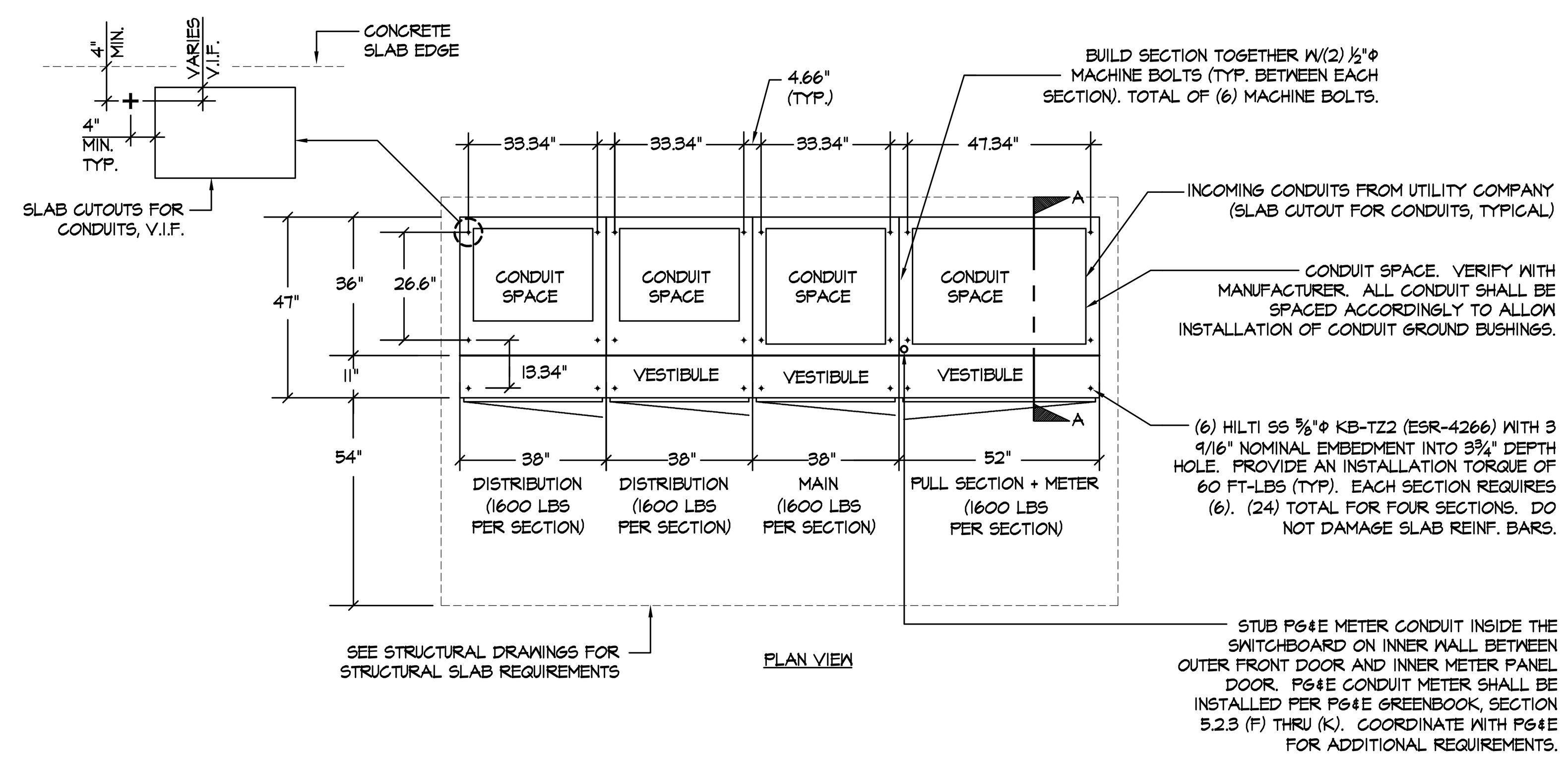
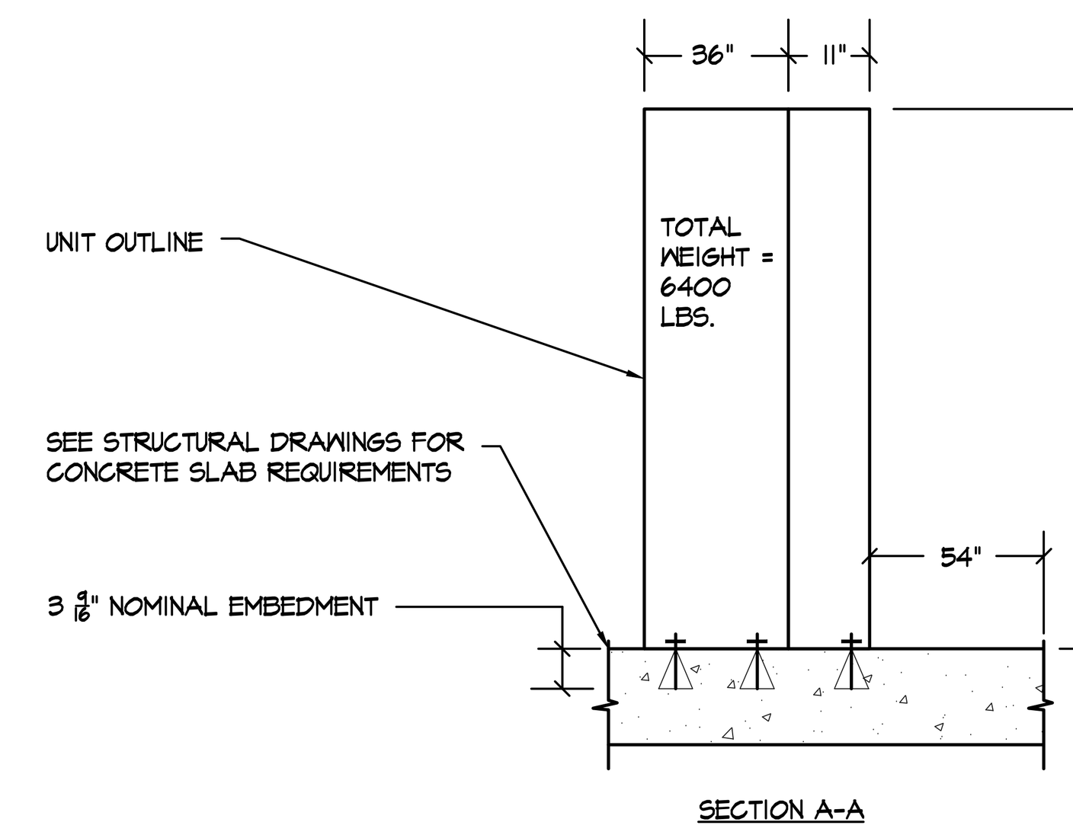


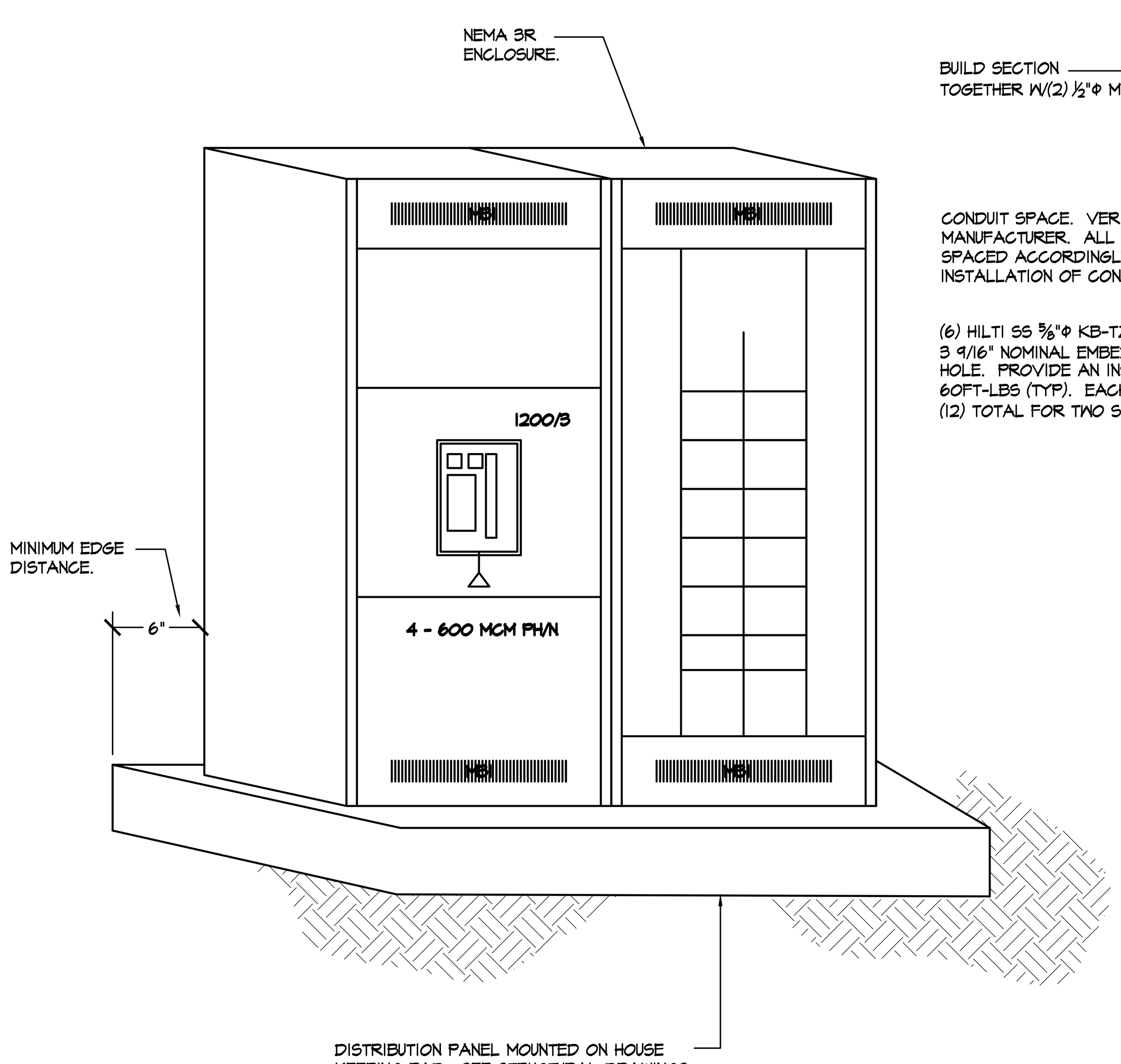


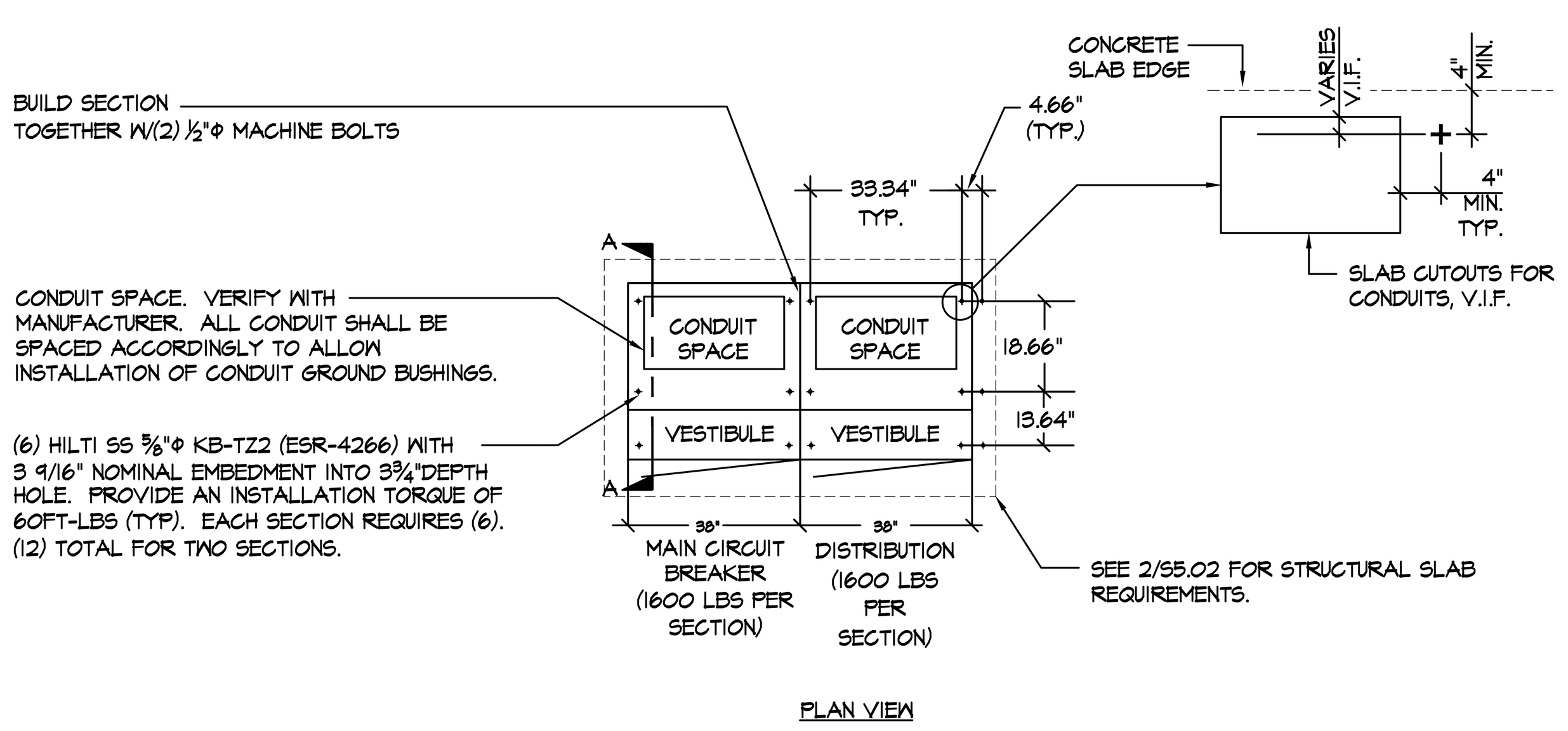


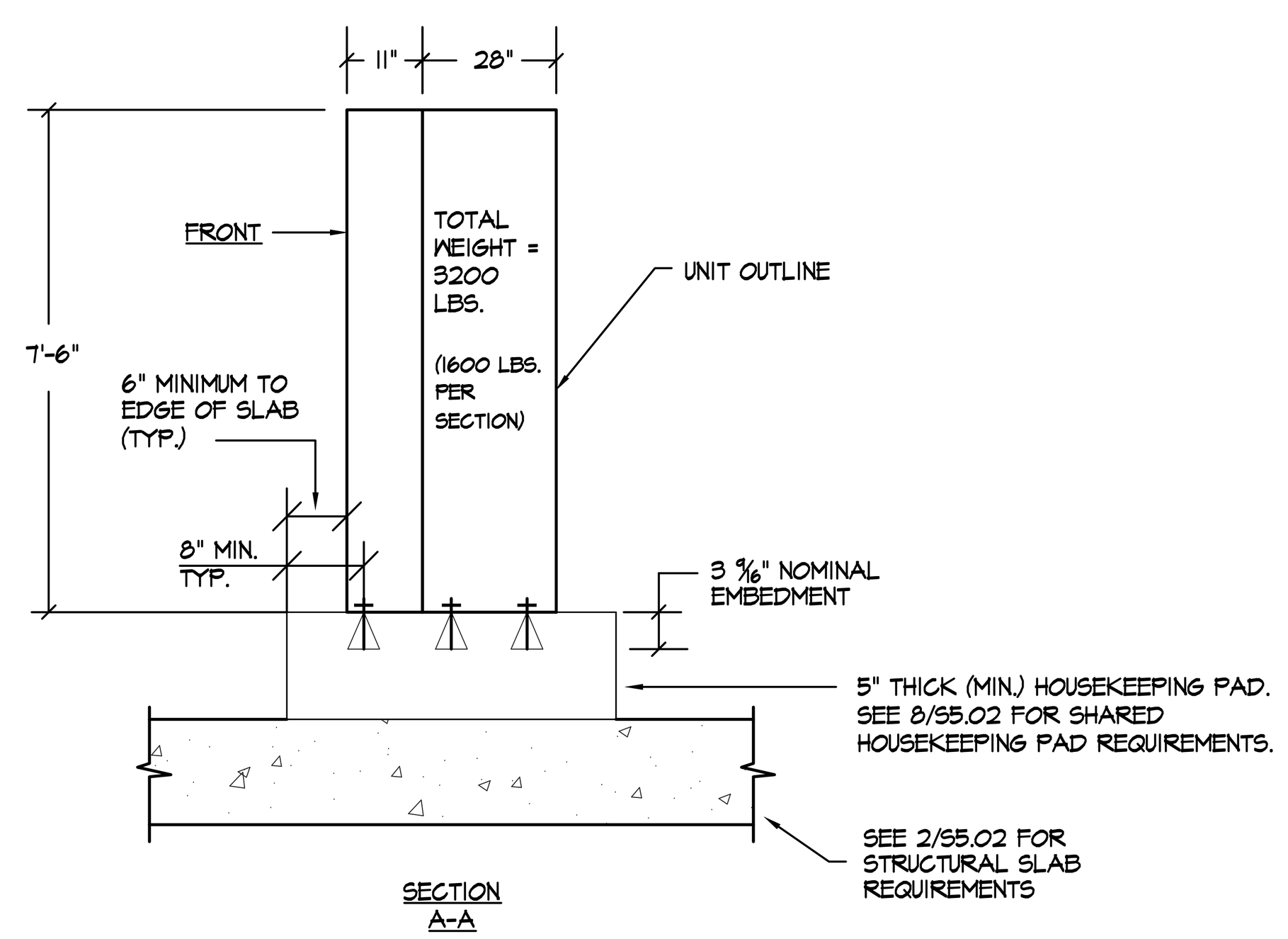
1 E5.3

NEMA 3R MAIN SWITCHBOARD ELEVATION AND ANCHORAGE DETAIL

NOT TO SCALE



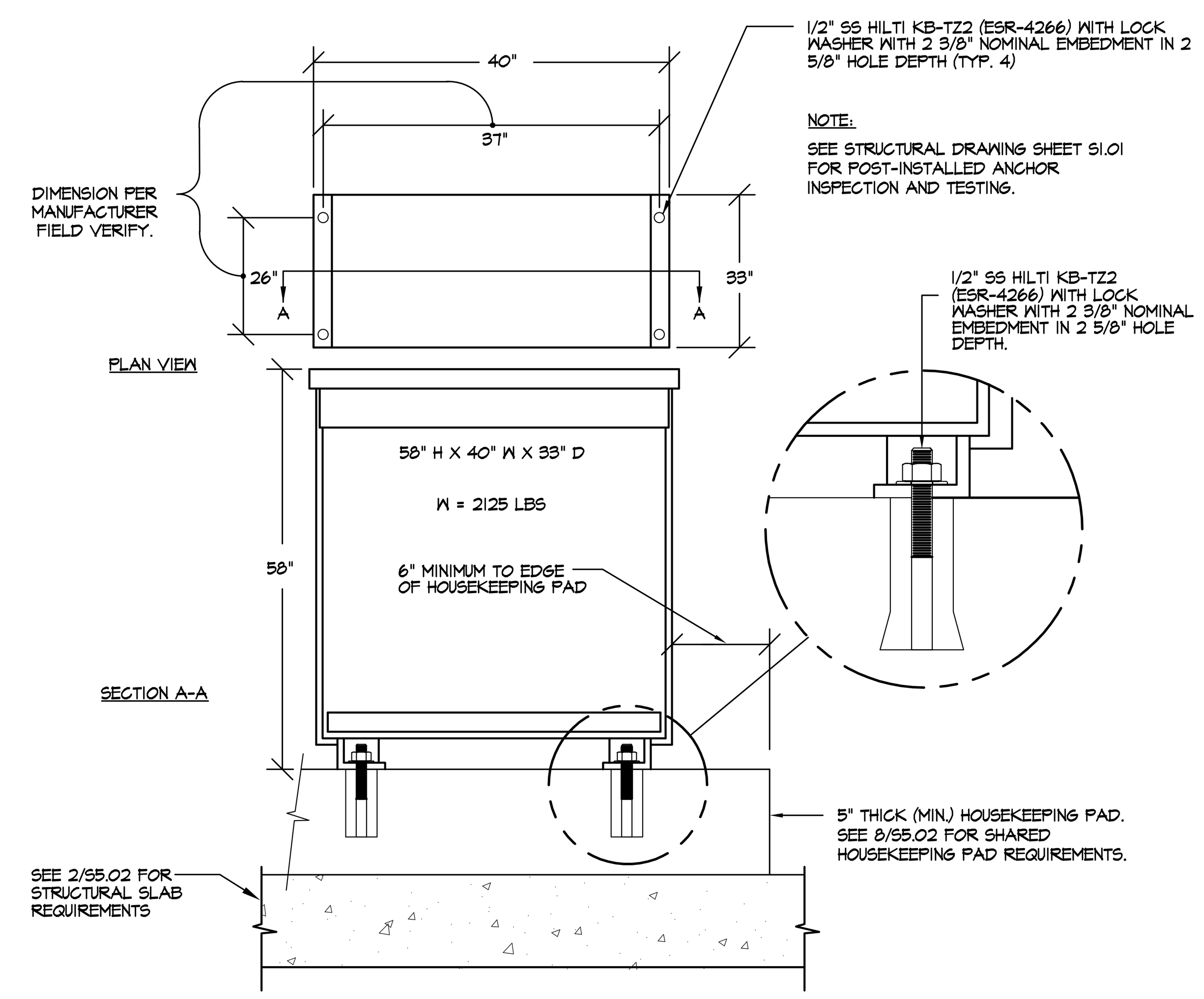




2 E5.3

NEMA 3R DISTRIBUTION PANEL ELEVATION AND DISTRIBUTION PANEL ANCHORAGE DETAIL

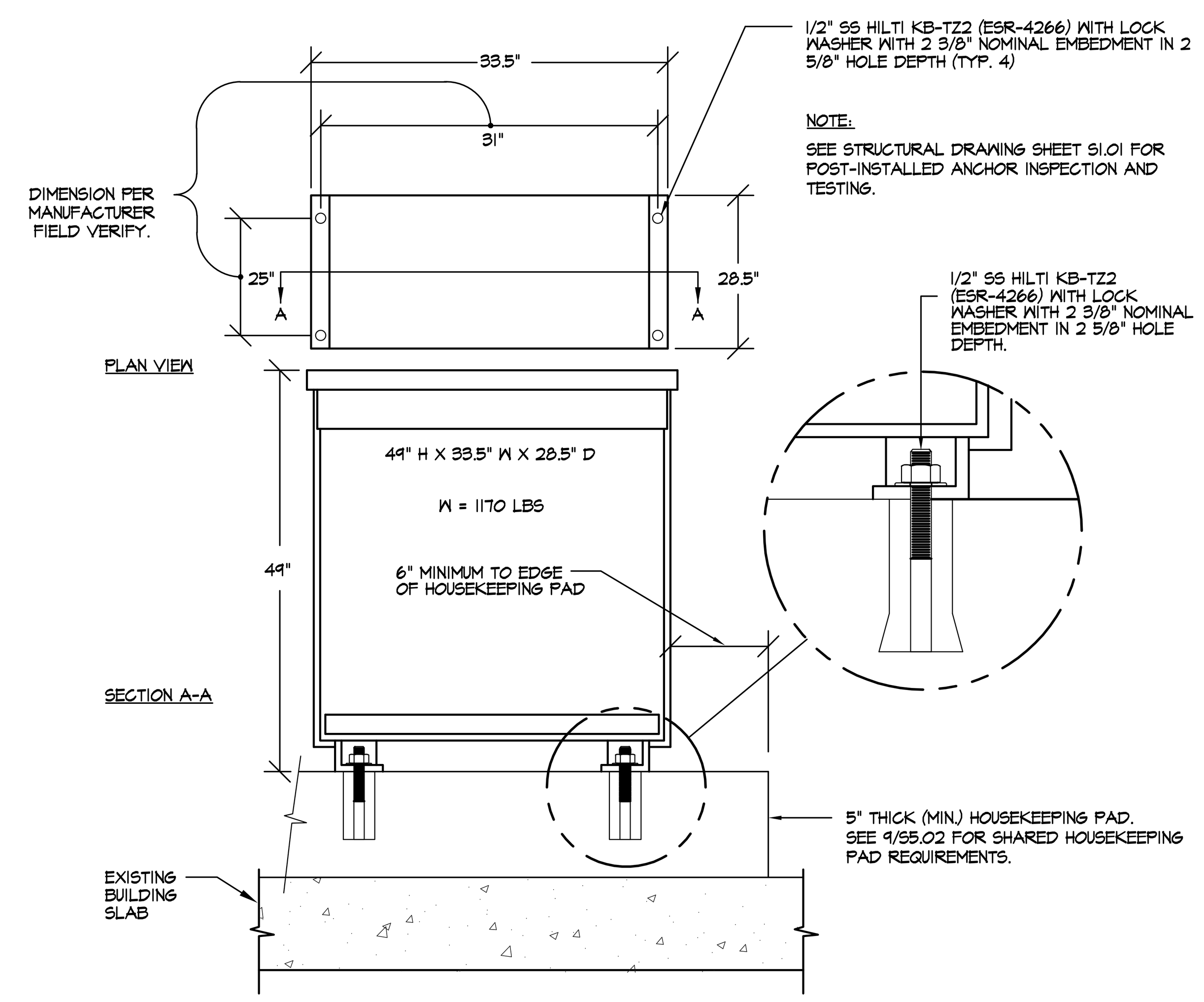
NOT TO SCALE



3 E5.3

DISTRIBUTION TRANSFORMER INSTALLATION DETAIL (300 KVA)

NOT TO SCALE



4 E5.3

DISTRIBUTION TRANSFORMER INSTALLATION DETAIL (150 KVA)

NOT TO SCALE

aedis architects
www.aedisarchitects.com
387 S. 1st Street, Suite 300
San Jose, CA 95113
tel: (408)-300-5160
fax: (408)-300-5121

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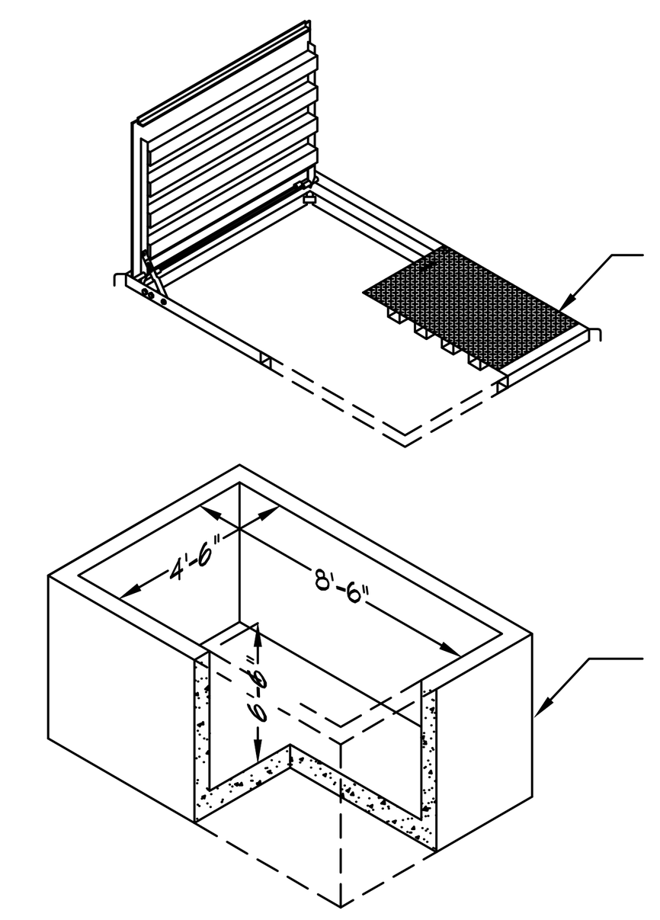
E5.3

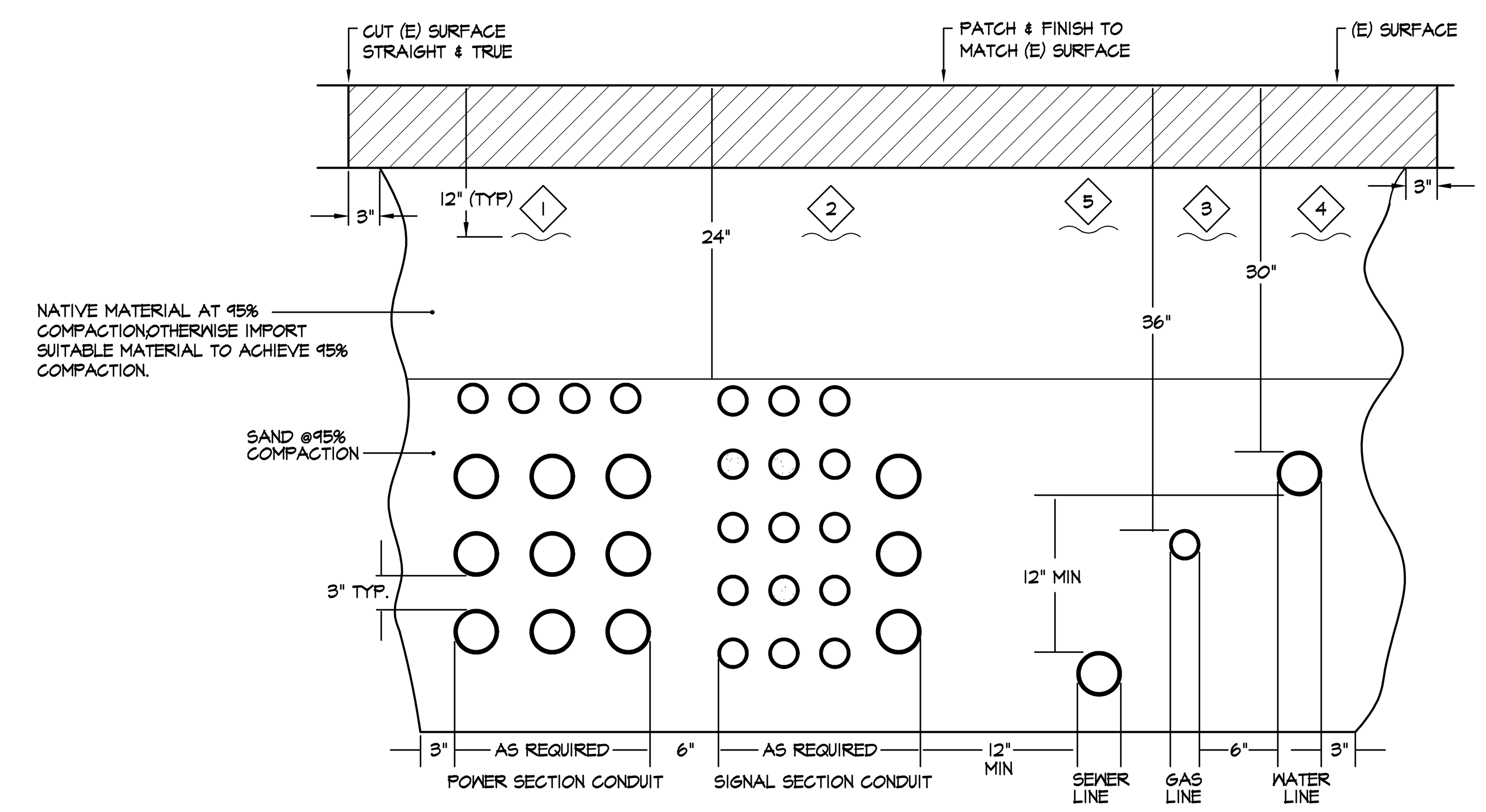


NOTES:

1. HIGH DENSITY REINFORCED CONCRETE BOX WITH NON-SETTING SHOULDERS POSITIONED TO MAINTAIN GRADE AND FACILITATE BACK FILLING. APPROXIMATE DIMENSIONS SHOWN.
2. ALL CONDUITS SHALL ENTER FROM SIDES OF PULL BOX. NO CONDUITS SHALL BE ALLOWED FROM THE BOTTOM OF THE PULL BOX.
3. CONTRACTOR SHALL STACK CONDUITS AS REQUIRED TO MEET THE NEC CODE REQUIREMENTS.
4. PROVIDE BELL ENDS ON ALL CONDUIT.
5. ALL PENETRATIONS INTO BOXES SHALL BE SEALED WITH GROUT.
6. PROVIDE BASE WITH DRAIN. PROVIDE DRAIN ROCK.

2 E5.4 4'6" x 8'6" ELECTRICAL VAULT

NOT TO SCALE



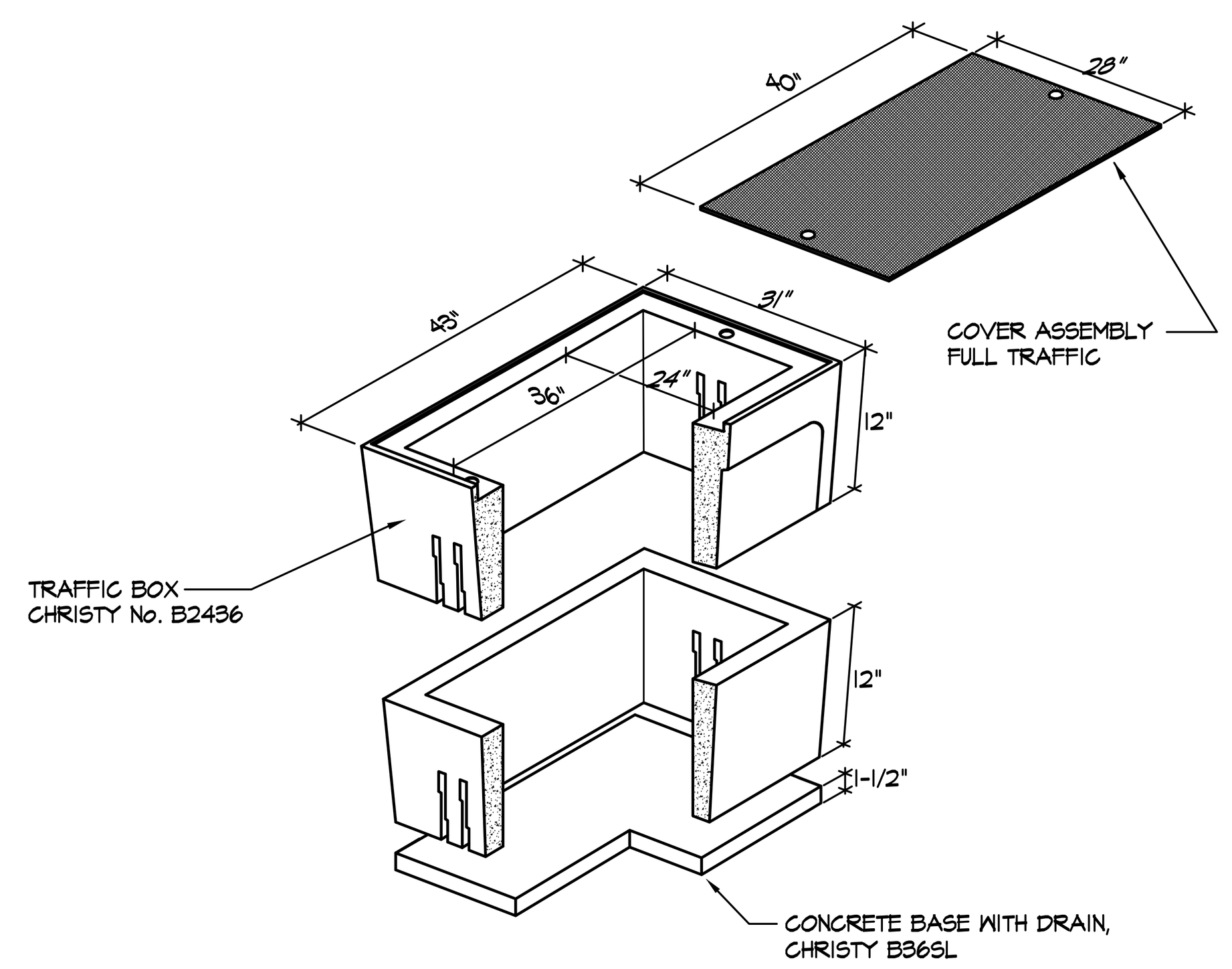
1 WARNING TAPE MARKED "POWER"
2 WARNING TAPE MARKED "SIGNAL"
3 WARNING TAPE MARKED "GAS"
4 WARNING TAPE MARKED "WATER"
5 WARNING TAPE MARKED "SEWER"

NOTES:

1. ALL ELECTRICAL TRENCH WORK SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
2. MINIMUM SPACING BETWEEN CONDUITS IS 3".
3. SEE SITE/FLOOR PLANS AND SPECIFICATIONS FOR CONDUIT REQUIREMENTS.
4. ALL UNDERGROUND CONDUITS TO BE IN CONFORMANCE WITH DETAIL 1/S3.1

3 E5.4 TYPICAL JOINT TRENCH & DUCT BANK DETAIL

NOT TO SCALE

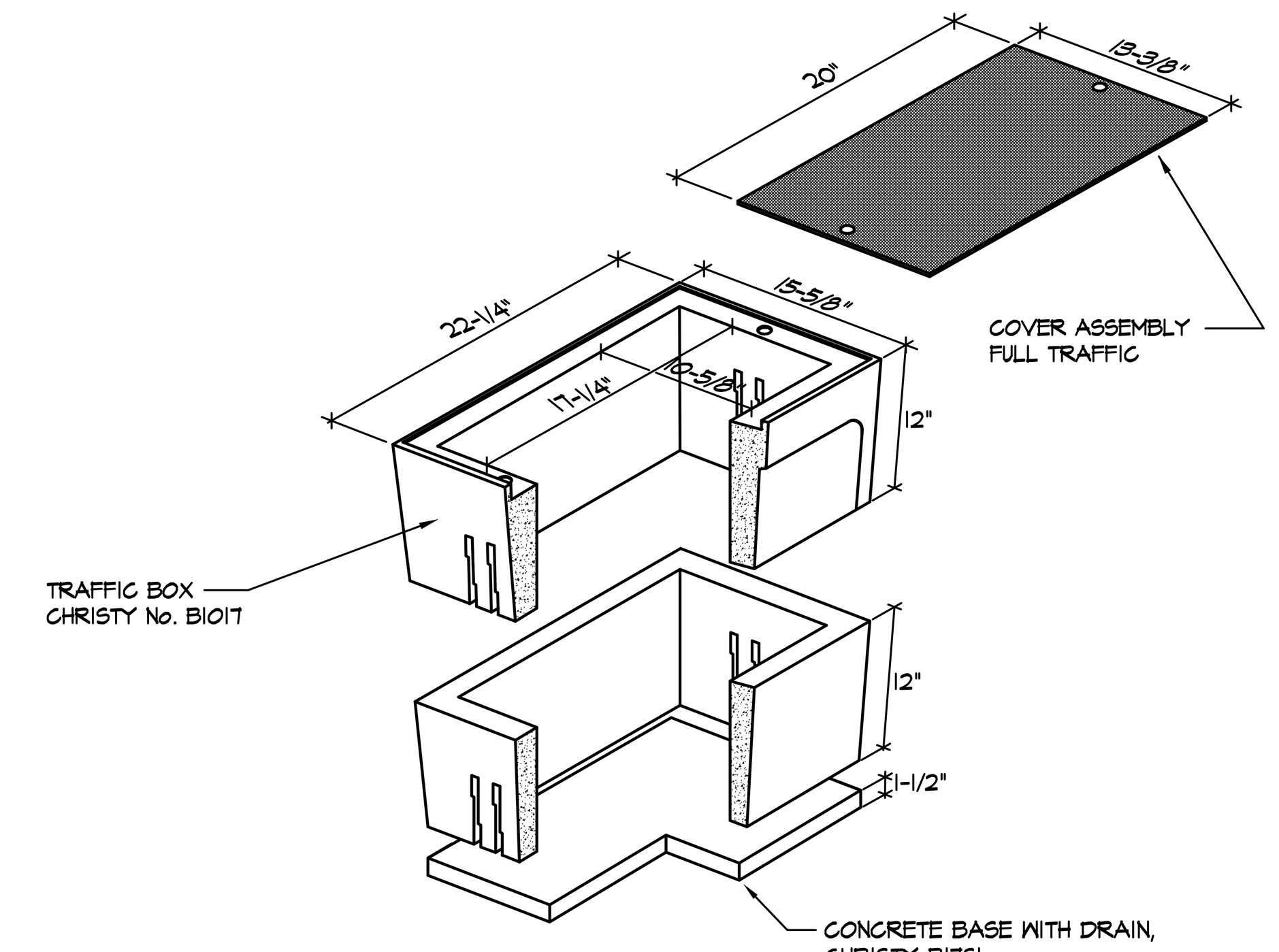


NOTES:

1. HIGH DENSITY REINFORCED CONCRETE BOX WITH NON-SETTING SHOULDERS POSITIONED TO MAINTAIN GRADE AND FACILITATE BACK FILLING. APPROXIMATE DIMENSIONS SHOWN.
2. ALL CONDUITS SHALL ENTER FROM SIDES OF PULL BOX. CONTRACTOR SHALL PROVIDE PULL BOX EXTENSION AS REQUIRED. NO CONDUITS SHALL BE ALLOWED FROM THE BOTTOM OF THE PULL BOX.
3. CONTRACTOR SHALL STACK CONDUITS AS REQUIRED TO MEET THE NEC CODE REQUIREMENTS.
4. PROVIDE BELL ENDS ON ALL CONDUIT.
5. ALL PENETRATIONS INTO BOXES SHALL BE SEALED WITH GROUT.
6. PROVIDE BASE WITH DRAIN. PROVIDE DRAIN ROCK.

4 E5.4 B2436 ELECTRICAL VAULT

NOT TO SCALE (FULL TRAFFIC COVER)



NOTES:

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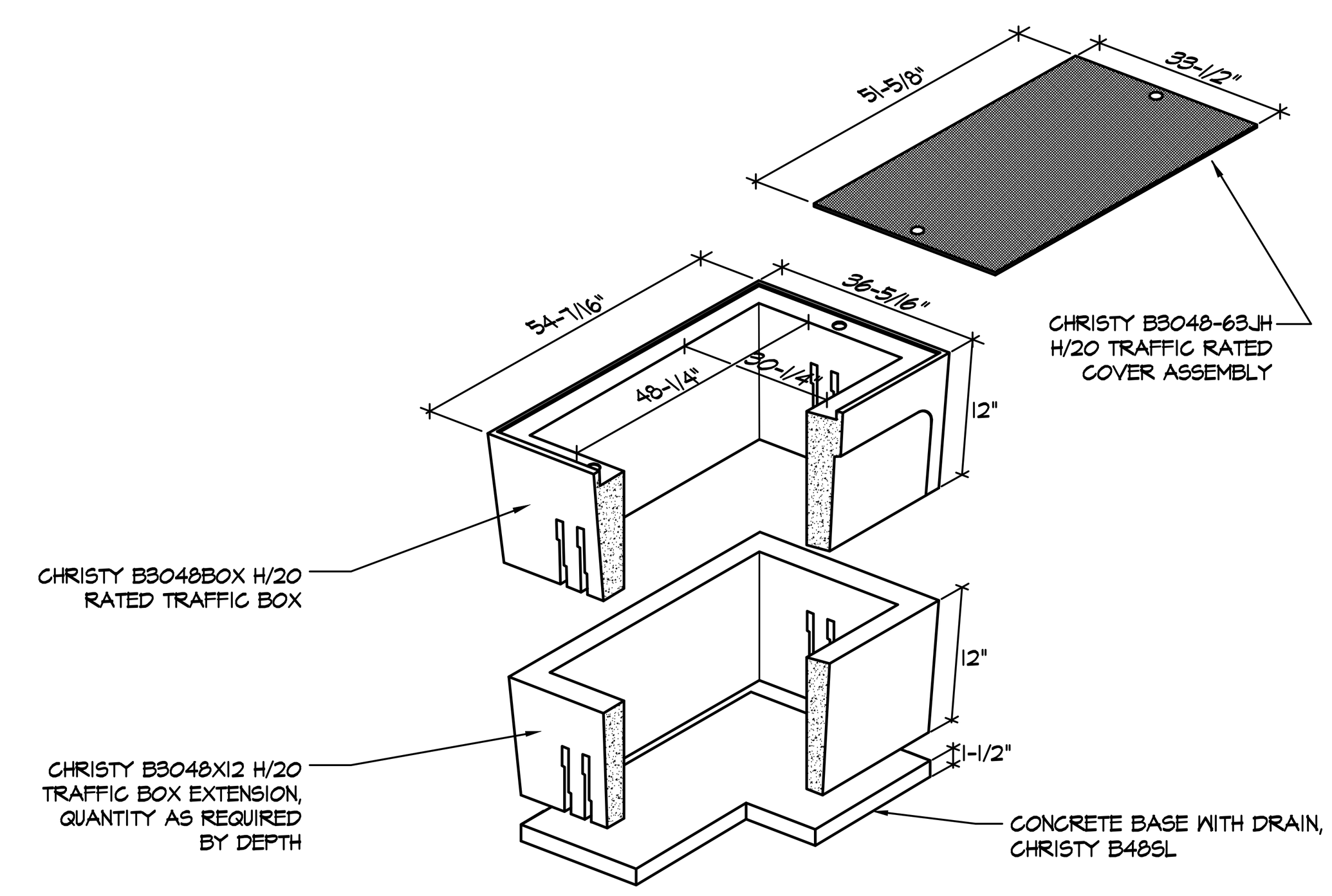
3. CONTRACTOR SHALL STACK CONDUITS AS REQUIRED TO MEET THE NEC CODE REQUIREMENTS.
4. PROVIDE BELL ENDS ON ALL CONDUIT.
5. ALL PENETRATIONS INTO BOXES SHALL BE SEALED WITH GROUT.
6. PROVIDE BASE WITH DRAIN. PROVIDE DRAIN ROCK.

5 E5.4 B1017 ELECTRICAL VAULT

NOT TO SCALE (FULL TRAFFIC COVER)



NOTES:

1. HIGH DENSITY REINFORCED CONCRETE BOX WITH NON-SETTING SHOULDERS POSITIONED TO MAINTAIN GRADE AND FACILITATE BACK FILLING. APPROXIMATE DIMENSIONS SHOWN.
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3. CONTRACTOR SHALL STACK CONDUITS AS REQUIRED TO MEET THE NEC CODE REQUIREMENTS.
4. PROVIDE BELL ENDS ON ALL CONDUIT.
5. ALL PENETRATIONS INTO BOXES SHALL BE SEALED WITH GROUT.
6. PROVIDE BASE WITH DRAIN. PROVIDE DRAIN ROCK.

6 E5.4 30" X 48" TRAFFIC BOX DETAIL

NOT TO SCALE (FULL TRAFFIC COVER)

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-119523 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 10/26/2021

aedis architects

www.aedisarchitects.com
387 S. 1st Street, Suite 300
San Jose, CA 95113
tel: (408)-300-5160
fax: (408)-300-5121

PROJECT

GEORGE HALL ELEMENTARY SCHOOL - HVAC REPLACEMENT

SAN MATEO-FOSTER CITY SCHOOL DISTRICT

CONSULTANT

American Consulting Engineers Electrical, Inc.

STAMP

STATE
DSA FILE NUMBER 41-26
APPL # 01-119523

REVISIONS

No.	Description	Date
△		

MILESTONES

DD	
90% CD	
DSA SUB	05/21/2021
BACKCHECK	10/04/2021

SHEET

ELECTRICAL DETAILS

DATE 10/04/2021
JOB # 2021005.02
SHEET # E5.4