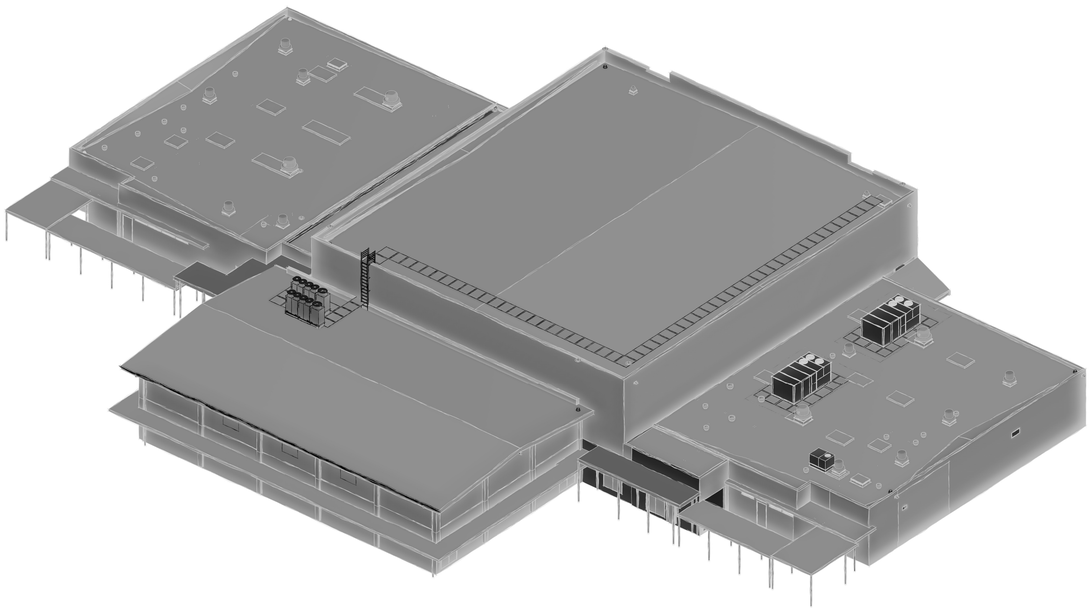
EL MONTE HS

HVAC & ROOFING REPLACEMENT PROJECT

3048 Tyler Avenue El Monte, CA 91731

DSA BACKCHECK

11/20/2023



GYM VIEW AXON

SHEET INDEX

.GENERAL.	
G0.1	COVER SHEET
G0.2	GENERAL NOTES, SYMBOLS AND ABBREVIATIONS
Grand total: 2	

.ARCHITECTURAL. SITE	
AS1.0	ARCHITECTURAL SITE PLAN
Grand total: 1	

.ARCHITECTURAL. - BLDG D	
A1.D1	ROOF PLANS - BLDG D
A3.D1	REFLECTED CEILING PLANS - BLDG D
A5.D1	BUILDING SECTIONS - BLDG D
Grand total: 3	

..ARCHITECTURAL - BLDGS K,L,M,N	
A1.KN1	FLOOR PLANS - BLDG K - MEZZANINE
A1.KN2	ROOF PLAN - BLDGS K, L, N - DEMO
A1.KN3	ROOF PLAN - BLDG K, L, N - PROPOSED
A3.KN1	REFLECTED CEILING PLANS - BLDGS K,N - EXISTING/DEMO
A3.KN2	REFLECTED CEILING PLANS - BLDGS K, N - PROPOSED
A5.KN1	BUILDING SECTIONS - BLDGS K, N
Grand total: 6	

..ARCHITECTURAL.	
CP2.0	(E) ENLARGED PARKING & SIGNAGE DETAILS
CP2.1	(E) ENLARGED RR PLANS & ACCESSIBILITY DETAILS
A10.1	ROOF DETAILS
A10.2	MISC DETAILS
A10.3	SITE GATE DETAILS
A11.1	CEILING DETAILS
Grand total: 6	

.STRUCTURAL.	
★ S0.1	GENERAL STRUCTURAL NOTES
★ S0.2	GENERAL STRUCTURAL NOTES & SPECIAL INSPECTION
★ S1.D2	LOW & HIGH ROOF FRAMING PLAN - BLDG D (SOUTH)
★ S1.K1	FOUNDATION PLAN AND MEZZANINE FRAMING - BLDG K
★ S1.K2	ROOF FRAMING PLAN - BLDG K
★ S1.L2	ROOF FRAMING PLAN - BLDG L
★ S6.0	STRUCTURAL DETAILS
Grand total: 7	

.MECHANICAL.	
★ M0.01	MECHANICAL GENERAL NOTES, ABBREVIATIONS & SYMBOLS
★ M0.02	MECHANICAL SCHEDULES
★ M0.03	MECHANICAL DETAILS
★ M1.D1	BLDG D - CAFETERIA - MECH DEMO AND MECH PLAN
★ M1.D2	BLDG D - CAFETERIA - MECH DEMO ROOF AND MECH ROOF PLAN
★ M1.KN1	BLDG K, L, M, N - MECHANICAL DEMOLITION PLAN
★ M1.KN2	BLDG K, L, M, N - MECHANICAL PLAN
★ M1.KN3	BLDG K, L, M, N - MECHANICAL DEMOLITION ROOF PLAN
★ M1.KN4	BLDG K, L, M, N - MECHANICAL ROOF PLAN
★ M4.01	TITLE 24, MECH
★ M4.02	TITLE 24, MECH
Grand total: 11	

.PLUMBING.	
★ P0.01	PLUMBING GENERAL NOTES, ABBREVIATIONS & SYMBOLS
★ P0.02	PLUMBING SCHEDULE AND DETAILS
★ P1.D1	BLDG D - CAFETERIA - PLUMB DEMO AND PLUMB PLAN
★ P1.D2	BLDG D - CAFETERIA - PLUMB DEMO ROOF AND PLUMB ROOF PLAN
★ P1.KN1	BLDG K, L, M, N - PLUMBING DEMOLITION PLAN
★ P1.KN2	BLDG K, L, M, N - PLUMBING PLAN
★ P1.KN3	BLDG K, L, M, N - PLUMBING DEMOLITION ROOF PLAN
★ P1.KN4	BLDG K, L, M, N - PLUMBING ROOF PLAN
Grand total: 8	

.ELECTRICAL.	
★ E0.01	ELECTRICAL GENERAL NOTES
★ E0.02	ELECTRICAL SYMBOLS LIST AND ABBREVIATION
★ E0.03	LIGHTING FIXTURE SCHEDULE AND NOTES
★ E0.04	SINGLE LINE DIAGRAM
★ E0.05	BRANCH CIRCUIT VOLTAGE DROP CALCS
★ E1.D1	BLDG D CAFETERIA - LIGHTING AND FIRE ALARM
★ E1.D2	BLDG D CAFETERIA ELECTRICAL ROOF PLAN
★ E1.KN1	BLDG K, L, M, N -FIRE ALARM PLAN
★ E1.KN2	BLDG K, L, M, N - ELECTRICAL ROOF PLAN
★ E3.01	FIRE ALARM SYMBOLS AND NOTES
★ E3.02	FIRE ALARM WIRING DETAILS
★ E3.03	FIRE ALARM WIRING DETAILS
★ E3.04	FIRE ALARM RISER DIAGRAM
★ E3.05	FIRE ALARM BATTERY CALCULATIONS
★ E4.01	ELECTRICAL DETAILS
★ E4.02	ELECTRICAL DETAILS
★ E5.01	PANEL SCHEDULES
★ E6.01	TITLE 24
★ ES1.1	ELECTRICAL SITE PLAN
Grand total: 19	

TOTAL SHEET COUNT:63

ARCHITECT'S STATMENT

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

(Application No. 03-123582 **File No.** 19-H10 **)**

[X] THE DRAWINGS OR SHEETS LISTED ON THE COVER OR INDEX SHEET AS DENOTED WITH AN ASTERISK *
[X] THIS DRAWING, PAGE OF SPECIFICATIONS/CALCULATIONS

have been prepared by other design professionals or consultants who are licensed and/or authorized to prepare such drawings in this state. It has been examined by me for:

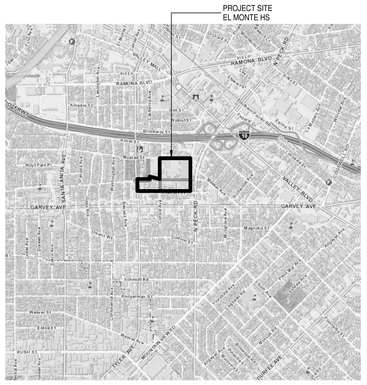
1) Design intent and appears to meet the appropriate requirements of Title 24, California Code of Regulations and the project specifications prepared by me , and
2) Coordination with my plans and specifications and is acceptable for incorporation into the construction of this project.

The Statement of General Conformance "shall not be construed as relieving me of my rights, duties, and responsibilities under Sections 17302 and 81138 of the Education Code and Sections 4-336, 4-341 and 4-344" of Title 24, Part 1. *(Title 24, Part 1, Section 4-317 (b))*

I certify that: [X] All drawings or sheets listed on the cover or index sheet as denoted with asterisk *
[X] This drawing or page

[X] is/are in general conformance and [X] have been coordinated		[X] is/are in general conformance and [X] have been coordinated	
Signature	Date	Signature	Date
Architect or Engineer designated to be in general responsible charge		Architect or Engineer delegated responsibility for this portion of the work.	
JESSE MILLER			
Print Name		Print Name	
C-32306	10/31/2025		
License Number	Expiration Date	License Number	Expiration Date

VICINITY MAP



PROJECT INFORMATION

APPLICABLE CODES AND REGULATIONS

2022 CALIFORNIA ADMINISTRATIVE CODE, PART 1, TITLE 24 C.C.R.
2022 CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24 C.C.R.
2022 CALIFORNIA ELECTRICAL CODE (CEC), PART 3, TITLE 24 C.C.R.
2022 CALIFORNIA MECHANICAL CODE (CMC) PART 4, TITLE 24 C.C.R.
2022 CALIFORNIA PLUMBING CODE (CMC), PART 5, TITLE 24 C.C.R.
2022 CALIFORNIA ENERGY CODE (CEC), PART 6, TITLE 24 C.C.R.
2022 CALIFORNIA FIRE CODE, PART 9, TITLE 24 C.C.R.
2022 CALIFORNIA GREEN BUILDING STANDARDS CODE, PART 11, TITLE 24 C.C.R.
2022 CALIFORNIA REFERENCED STANDARDS, PART 12, TITLE 24 C.C.R.
TITLE 19 C.C.R PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS

2022 NFPA 13 Automatic Sprinkler Systes (California Amended)
2019 NFPA 14 Standpipe Systems (California Amended)
2022 NFPA 17 Dry Chemical Extinguishing Systems
2021 NFPA 17A Wet Chemical Extinguishing Systems
2019 NFPA 20 Stationary Pumps
2019 NFPA 22 Water Tanks
2019 NFPA 24 Private Fire Service Mains (California Amended)
2022 NFPA 72 National Fire Alarm and Signaling Code (California Amended) (Note: See UL Standars 1971 for "Visual Devices")
2019 NFPA 80 Fire Doors and Other Openings Protectives
2019 NFPA 253 Critical Radiant Flux of Floce Covering Systems
2018 NFPA 2001 Clean Agent Fire Extinguishing Systems (California Amended)

SCOPE OF WORK

HVAC, ROOFING, & FIRE ALARM UPGRADE AT (E) LIBRARY/CAFETERIA/ KITCHEN BUILDING D AND (E) GYM BUILDINGS K AND N, (E) BOY'S SHOWER/LOCKER BLDG L, (E) GIRL'S SHOWER/LOCKER BLDG M.

1. REPLACEMENT OF HVAC UNITS TO ACCOMMODATE HIGHER AIR QUALITY STANDARDS.
2. ANY NECESSARY STRUCTURAL MODIFICATIONS REQUIRED FOR UNIT REPLACEMENTS.
3. COMPLETE REPLACEMENT ROOFING.
4. FIRE ALARM UPGRADES.

PROJECT DATA

FOR EXISTING BUILDING DATA, SEE SHEET AS1.0.

NO CHANGE IN OCCUPANCY, CONSTRUCTION TYPE, OR BUILDING AREA

PROJECT TEAM

OWNER
EL MONTE UNION HIGH SCHOOL DISTRICT
3537 JOHNSON AVE.
EL MONTE, CA 91731

CONTACT: NORMA MACIAS
TEL: 626.444.9005
E-MAIL:NORMA.MACIAS@EMUHSD.ORG

ARCHITECT
DLR GROUP
1650 SPRUCE STREET, SUITE 300
RIVERSIDE, CA 92507

CONTACT: JESSE L. MILLER, AIA, ASSOC. DBIA
TEL: 951.289.3650
E-MAIL: JMILLER@DLRGROUP.COM

SPECIFICATIONS
DLR GROUP
1650 SPRUCE STREET, SUITE 300
RIVERSIDE, CA 92507

CONTACT: JESSE L. MILLER, AIA, ASSOC. DBIA
TEL: 951.289.3650
E-MAIL: JMILLER@DLRGROUP.COM

STRUCTURAL ENGINEER
DLR GROUP
700 FLOWER ST 22ND FLOOR,
LOS ANGELES, CA 90017

CONTACT: DANNY AHKIAM, PE
TEL: 214-674-9803
E-MAIL: DAHKIAM@DLRGROUP.COM

MECH. / PLUMB. ENGINEER
DCGA ENGINEERS, INC.
4750 EAST ONTARIO MILLS PARKWAY
ONTARIO, CA 91764

CONTACT: TONY RAMIREZ
TEL: 909.987.0017
E-MAIL: TONY.RAMIREZ@DCGAENGINEERS.COM

ELECTRICAL ENGINEER
DCGA ENGINEERS, INC.
4750 EAST ONTARIO MILLS PARKWAY
ONTARIO, CA 91764

CONTACT: CHRIS VILLALOBOS
TEL: 909.987.0017
E-MAIL: CHRIS.VILLALOBOS@DCGAENGINEERS.COM

DSA REQUIREMENTS

THE INTENT OF THIS DRAWINGS AND SPECIFICATIONS IS THAT THE WORK OF THE ALTERATION, REHABILITATION OR RECONSTRUCTION IS TO BE IN ACCORDANCE WITH TITLE 24, CCR. SHOULD ANY EXISTING CONDITIONS SUCH AS DETERIORATION OR NON-COMPLYING CONSTRUCTION BE DISCOVERED WHICH IS NOT COVERED BY THE CHANGE DOCUMENT (CCD), OR A SEPARATE SET OF PLANS AND SPECIFICATIONS, DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED AND APPROVED BY DSA BEFORE PROCEEDING WITH THE WORK. (SECTION 4-317(c), PART I, TITLE 24, CCR)

CHANGES TO THE APPROVED DRAWINGS AND SPECIFICATIONS OR A CONSTRUCTION CHANGE DOCUMENT SHALL BE MADE BY ADDENDUM OR A CONSTRUCTION CHANGE DOCUMENT. (CCD) APPROVED BY THE DIVISION OF THE STATE ARCHITECT, AS REQUIRED BY SECTION 4-338, PART I, TITLE 24, CALIFORNIA CODE OF REGULATIONS. NOTWITHSTANDING OTHER PROVISIONS OF THE PROJECT SPECIFICATIONS, COMPLY WITH ALL PROVISIONS OF THE CALIFORNIA BUILDING STANDARDS ADMINISTRATIVE CODE (PART 1, TITLE 24, CCR), SECTION 4-338, FOR ALL ADDENDA AND CONSTRUCTION CHANGE DOCUMENTS.

CONSTRUCTION CHANGE DOCUMENTS MUST BE SIGNED BY ALL OF THE FOLLOWING: ARCHITECT OR ENGINEER HAVING GENERAL RESPONSIBLE CHARGE OF PROJECT; AND STRUCTURAL ENGINEER OF RECORD OR DELEGATED PROFESSIONAL ENGINEER (WHEN APPLICABLE).

SUBSTITUTIONS AFFECTING DSA REGULATED ITEMS (ACCESSIBILITY, STRUCTURAL ENGINEERING, AND FIRE/LIFE/SAFETY) SHALL BE CONSIDERED AS A CONSTRUCTION CHANGE DOCUMENT, AND SHALL BE APPROVED BY DSA PRIOR TO FABRICATION AND INSTALLATION IN ACCORDANCE WITH DSA IR A-6 AND SECTION 4-338(b), PART 1, TITLE 24, CCR.

A CLASS 3 "DSA CERTIFIED" PROJECT INSPECTOR EMPLOYED BY THE DISTRICT (OWNER) AND APPROVED BY THE DIVISION OF THE STATE ARCHITECT SHALL PROVIDE CONTINUOUS INSPECTION OF THE WORK. THE DUTIES OF THE INSPECTOR ARE DEFINED IN SECTION 4-342, PART I, TITLE 24, CALIFORNIA CODE OF REGULATIONS.

A DSA ACCEPTED TESTING LABORATORY DIRECTLY EMPLOYED BY THE DISTRICT (OWNER) SHALL CONDUCT ALL THE REQUIRED TESTS AND INSPECTIONS FOR THE PROJECT. THE DSA-CERTIFIED PROJECT INSPECTOR AND DSA-ACCEPTED TESTING LAB SHALL BE EMPLOYED AND PAID BY THE OWNER (DISTRICT) AND APPROVED BY ALL OF THE FOLLOWING: ARCHITECT OR ENGINEER HAVING GENERAL RESPONSIBLE CHARGE OF THE PROJECT; STRUCTURAL ENGINEER OF RECORD; AND DIVISION OF THE STATE ARCHITECT (DSA).

GRADING PLANS, DRAINAGE IMPROVEMENTS, ROAD AND ACCESS REQUIREMENTS AND ENVIRONMENTAL HEALTH CONSIDERATIONS SHALL COMPLY WITH ALL LOCAL ORDINANCES.

COMPLY WITH ALL PROVISIONS OF THE CALIFORNIA BUILDING STANDARDS CODE, TITLE 24, CCR, INCLUDING PARTS 1 THROUGH 6 AND PART 9. CONTRACTOR SHALL KEEP A COPY OF TITLE 24, CCR, PARTS 1 THROUGH 6 AND PART 9 ON SITE DURING CONSTRUCTION. ALL WORK SHALL CONFORM TO 2019 EDITION TITLE 24, CALIFORNIA CODE OF REGULATIONS.

CUTTING, BORING, SAWCUTTING, OR DRILLING THROUGH THE NEW OR EXISTING STRUCTURAL ELEMENTS TO BE DONE ONLY WHEN SO DETAILED IN THE DRAWINGS OR ACCEPTED BY THE ARCHITECT AND STRUCTURAL ENGINEER WITH APPROVAL OF DSA REPRESENTATIVE

ENERGY NOTES

1. THE CALIFORNIA ENERGY CODE SECTION 10-103 REQUIRES ACCEPTANCE TESTING ON ALL NEW INSTALLED LIGHTING CONTROLS, MECHANICAL SYSTEMS, ENVELOPES, AND PROCESS EQUIPMENT AFTER INSTALLATION AND BEFORE PROJECT COMPLETION. AN ACCEPTANCE TEST IS A FUNCTIONAL PERFORMANCE TEST TO HELP ENSURE THAT NEWLY INSTALLED EQUIPMENT US OPERATING AND IN COMPLIANCE WITH THE ENERGY CODE.
2. LIGHTING CONTROLS ACCEPTANCE TESTS MUST BE PERFORMED BY A CERTIFIED LIGHTING CONTROLS ACCEPTANCE TEST TECHNICIAN (ATT).
3. MECHANICAL SYSTEM ACCEPTANCE TESTS MUST BE PERFORMED BY A CERTIFIED MECHANICAL ATT FOR PROJECTS SUBMITTED ON OR AFTER OCTOBER 1, 2021.
4. ENVELOPE AND PROCESS EQUIPMENT ACCEPTANCE TESTS SHALL BE PERFORMED BY THE INSTALLING CONTRACTOR, ENGINEER/ARCHITECT OF RECORD OT THE OWNER'S AGENT.
5. A LISTING OF CERTIFIED ATT CAN BE FOUND AT: HTTPS://WWW.ENERGY.CA.GOV/PROGRAMS-AND-TOPICS/PROGRAMS/ACCEPTANCE-TEST-TECHNICIAN-CERTIFICATION-PROVIDER-PROGRAM/ACCEPTANCE.
6. THE ACCEPTANCE TESTING PROCEDURES MUST BE REPEATED, AND DEFICIENCIES MUST BE CORRECTED BY THE BUILDER OR INSTALLING CONTRACTOR UNTIL THE CONSTRUCTION/INSTALLATION OF THE SPECIFIED SYSTEMS CONFORM AND PASS THE REQUIRED ACCEPTANCE CRITERIA
7. PROJECT INSPECTORS WILL COLLECT THE FORMS TO CONFIRM THAT THE REQUIRED ACCEPTANCE TESTS HAVE BEEN COMPLETED.

DEFERRED SUBMITTALS

NO DEFERRED SUBMITTALS FOR THIS PROJECT.

DLRGROUP
© DLR Group

EL MONTE HIGH SCHOOL HVAC PROJECT
EL MONTE UNION HIGH SCHOOL DISTRICT
3048 Tyler Ave, El Monte, CA 91731

DSA BACKCHECK
11/20/2023
REVISIONS

DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-01

COVER SHEET

G0.1

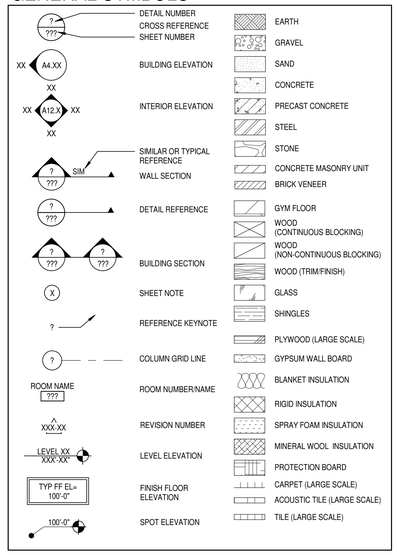
GENERAL ABBREVIATIONS

#	NUMBER
&	AND
@	AT
ADA	AMERICANS WITH DISABILITY ACT
ADDN	ADDITION OR ADDITIONAL
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
ALT	ALTERNATE
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
APPROX.	APPROXIMATE
ARCH	ARCHITECTURAL
BLDG	BUILDING
BSMT	BASEMENT
CL	CENTER LINE
CLG	CEILING
CM	CENTIMETER
CONC	CONCRETE
CONNECTN(S)	CONNECTION(S)
CONST	CONSTRUCTION
CONT	CONTINUOUS
CONTR	CONTRACT(OR)
CTR	CENTER
D	DEPTH
DEG	DEGREE
DEMO	DEMOLISH OR DEMOLITION
DIA	DIAMETER
DIM	DIMENSION
DIV	SPECIFICATION DIVISION
DN	DOWN
DTL	DETAIL
DWG(S)	DRAWING(S)
E	EAST
EA	EACH
EC	ELECTRICAL CONTRACTOR
EL	ELEVATION
ELEC	ELECTRICAL
ENG	ENGINEER
EQ	EQUAL
EQUIP	EQUIPMENT
EQUIV	EQUIVALENT
EXST	EXISTING
EXT	EXTERIOR
FIN	FINISHED
FL	FLOOR
FT	FEET
FUT	FUTURE
GC	GENERAL CONTRACTOR
GOVT	GOVERNMENT
H	HEIGHT
HORIZ	HORIZONTAL
HT	HEIGHT
i.e.	THAT IS
IBC	INTERNATIONAL BUILDING CODE
IN	INCH
INT	INTERIOR
LB(S)	POUND(S)
M	METER
MAX	MAXIMUM
MC	MECHANICAL CONTRACTOR
MECH	MECHANICAL
MEZZ	MEZZANINE
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
MM	MILLIMETER
N	NORTH
N/A	NOT APPLICABLE
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OC	ON CENTER
OPP	OPPOSITE
OVHD	OVERHEAD
PAR	PARALLEL
PENT	PENTHOUSE
PLYWD	PLYWOOD
QTY	QUANTITY
REQ(D)	REQUIRE(D)
REV	REVISION(S)
RM	ROOM
RND	ROUND
S	SOUTH
SCHED	SCHEDULE
SECT	SECTION
SHT	SHEET
SIM	SIMILAR
SPEC	SPECIFICATION(S)
STD	STANDARD
STL	STEEL
STOR	STORAGE
STRUCT	STRUCTURAL
SYM	SYMETRICAL
TEMP	TEMPORARY
TYP	TYPICAL
UNEX	UNEXCAVATED
UNFIN	UNFINISHED
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
VEST	VESTIBULE
VIF	VERIFY IN FIELD
W	WEST
W/	WITH
W/O	WITHOUT

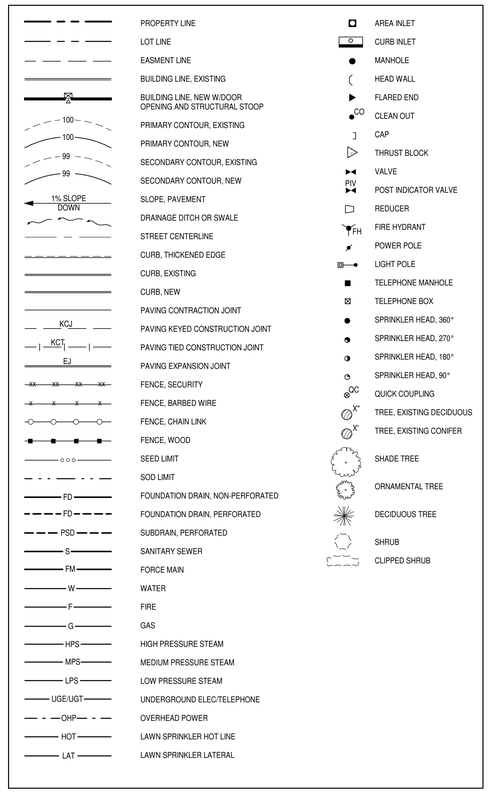
ARCHITECTURAL ABBREVIATIONS

A/E	ARCHITECT/ENGINEER
AB	AIR BARRIER
ABS	ASBESTOS
ACC	ADA ACCESSIBLE
ACR	ACRYLIC
ACT	ACOUSTIC CEILING TILE
AD	ACCESS DOOR
ADJ	ADJUSTABLE
ADJT	ADJACENT
ADMIN	ADMINISTRATION
AED	AUTOMATED EXTERNAL DEFIBRILLATORS
AL	ALUMINUM
ALUM	ALUMINUM
AP	ACCESS PANEL
APC	ACOUSTIC PANEL CEILING
ASPH	ASPHALT
AUTO	AUTOMATIC
AVG	AVERAGE
AWP	ACOUSTIC WALL PANEL
B.O.	BOTTOM OF
BCS	BABY CHANGING STATION
BD	BOARD
BLK	BLOCK
BLKG	BLOCKING
BLKHD	BULKHEAD
BM(S)	BEAM(S)
BOT	BOTTOM
BRDG	BRIDGING
BRG	BEARING
BRKT	BRACKET
BT	BATHTUB
BTWN	BETWEEN
CAB	CABINET
CBD	CHALKBOARD
CER	CERAMIC
CF	CUBIC FEET
CFCI	CONTRACTOR FURNISHED CONTRACTOR INSTALLED
CFMF	COLD-FORMED METAL FRAMING
CG	CLEAR FLOAT GLASS
CGD	CORNER GUARD
CI	CAST IRON
CIG	CLEAR INSULATING GLASS
CIP	CAST IN PLACE
CJ	CONTROL JOINT
CJA	CONTROL JOINT ABOVE
CLO	CLOSET
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
COM	COMMON
COMB	COMBINATION
COMM	COMMUNICATIONS
COMPR	COMPRESSIBLE
CONF	CONFERENCE
CONFIG	CONFIGURATION
CORR	CORRIDOR
CP	COVER PLATE
CPT	CARPET
CR	CHAIR RAIL
CS	COUNTERSINK
CSTJ	CONSTRUCTION JOINT
CSWK	CASEWORK
CT	CERAMIC TILE
CTG	CLEAR TEMPERED FLOAT GLASS
CTIG	CLEAR TEMPERED INSULATING GLASS
CU	COPPER
CU	COMBINATION UNIT
CV	CONDOM VENDOR
CY	CUBIC YARD
CYL	CYLINDER
DB	DECIBEL
DBL	DOUBLE
DC	DUST COLLECTOR
DEPR	DEPRESS(ION)(ED)
DEPT	DEPARTMENT
DET	DETENTION
DF	DRINKING FOUNTAIN
DG	DOOR GRILLE
DIAG	DIAGONAL
DPFG	DAMPROOFING
DR	DOOR
DSN	DOWNSPOUT NOZZLE
DW	DISHWASHER
DWL(S)	DOWEL(S)
DWR	DRAWER
EB	EXPANSION BOLT
EE	EACH END
EEW	EMERGENCY EYE WASH
EEWS	EMERGENCY EYE WASH SHOWER
EFF	EFFICIENCY
EJ	EXPANSION JOINT
ELAS	ELASTOMERIC
ELEV	ELEVATOR
EMER	EMERGENCY
ENCL	ENCLOSURE
ENTR	ENTRANCE
ERF	EPOXY RESIN FLOORING
EUI	ENERGY USE INTENSITY
EW	EACH WAY
EWC	ELECTRIC WATER COOLER
EXP	EXPANSION
EXP	EXPOSED
F	FABRIC
F.O.	FACE OF
FAB	FABRICATE(D)
FB	FACE BRICK
FD	FLOOR DRAIN
FDN	FOUNDATION
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FF	FINISH FLOOR
FH	FIRE HYDRANT
FHC	FIRE HOSE CABINET
FIG	FIGURE
FIX	FIXTURE
FLASH	FLASHING
FLEX	FLEXIBLE
FLG	FLOORING
FLM	FULL LENGTH MIRROR
FLUOR	FLUORESCENT
FO	FINISH OPENING
FOC	FACE OF CONCRETE
FOF	FACE OF FINISH
FOM	FACE OF MASONRY
FOS	FACE OF STUD
FOW	FACE OF WALL
FP	FIREPROOFING
FR	FIRE RESISTANT
FRP	FIBERGLASS REINFORCED PANEL
FRT	FIRE RESISTANCE TREATED
FS	FLOOR SINK
FSS	FOLDING SHOWER SEAT
FTG	FOOTING
FVC	FIRE VALVE CABINET
FWC	FABRIC WALL COVERING
G	GROUT
GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GB	GRAB BAR
GD	GARBAGE DISPOSAL
GEN	GENERAL
GFA	GROSS FLOOR AREA
GL	GLUE LAMINATED
GL	GLASS
GMP	GUARANTEED MAXIMUM PRICE
GR	GUARD RAIL
GR	GRADE
GRS	GALVANIZED RIGID STEEL
GWB	GYPSUM WALL BOARD
GYP	GYPSUM
HC	HOLLOW CORE
HD	HAND DRYER
HDF	HIGH DENSITY FIBERBOARD
HDR	HEADER
HDWD	HARDWOOD
HDWR	HARDWARE
HM	HOLLOW METAL
HR	HOUR
HR	HANDRAIL
HS	HARDWARE SET
HSS	HOLLOW STRUCTURAL SHAPE
HVAC	HEATING VENTILATING AND AIR CONDITIONING
IAW	IN ACCORDANCE WITH
ID	INSIDE DIAMETER
IF	INSIDE FACE
IIP	INSULATED INFILL PANEL GLASS
IJ	ISOLATION JOINT
IJS	IN JOIST SPACE
INC	INCLUDE(ING)
INSUL	INSULATION
JAN	JANITOR
JBE	JOIST BEARING ELEVATION
JCT	JUNCTION
JFB	JOINT FILLER BOARD
JST	JOIST
JT	JOINT
KCJ	KEYED CONSTRUCTION JOINT
KD	KNOCKDOWN
KH	KITCHEN HOOD
KIT	KITCHEN
L	ANGLE
LAB	LABORATORY
LAM	LAMINATED
LAV	LAVATORY
LBR	LUMBER
LDG	LOADING
LF	LINEAR FOOT
LG	LENGTH (LONG)
LG	LAMINATED GLASS
LIN	LINEAR
LINO	LINOLEUM
LKR	LOCKER
LOC	LOCATION
LONG	LONGITUDINAL
LSC	LIFE SAFETY CODE
LTG	LIGHTING
LV	LOUVER
LVT	LUXURY VINYL TILE
MAG	MAGNETIC
MAINT	MAINTENANCE
MAN	MANUAL
MAS	MASONRY
MATL	MATERIAL
MB	MOP BASIN
MBD	MARKER BOARD
MBH	MOP/BROOM HOLDER
MC	MEDICINE CABINET
MEMB	MEMBRANE
MH	MANHOLE
MR/S	MIRROR WITH SHELF
MTD	MOUNTED
MTG	MOUNTING
MUL	MULLION
NC	NOISE CRITERIA
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NOM	NOMINAL
O to O	OUT TO OUT
OA	OVERALL
OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
OFF	OFFICE
OFOI	OWNER FURNISHED OWNER INSTALLED
OH	OPPOSITE HAND
OPG(S)	OPENING(S)
OSHA	OPERATIONAL SAFETY AND HEALTH ADMINISTRATION
OTB	OPEN TO BELOW
OVFL	OVERFLOW
P	PAINT
PAN B	PANIC BOLT
PB	PARTICLE BOARD
PC	PRECAST CONCRETE
PCD	PAPER CUP DISPENSER
PCT	PORCELAIN CERAMIC TILE
PD	PANIC DEVICE
PERF	PERFORATED
PERP	PERPENDICULAR
PG	PATTERN GLASS
PIC	PORTABLE INSTRUMENT CONNECTION
PIG	PATTERN INSULATING GLASS
PL	PLATE
PL	PROPERTY LINE
PL	PLASTIC LAMINATE
PLAM	PLASTIC LAMINATE
PLBG	PLUMBING
PR	PAIR
PREFAB	PREFABRICATED
PROJ	PROJECT(OR) (ION)
PS	PROJECTION SCREEN
PT	POINT
PT	POINT OF TANGENCY
PTD	PAPER TOWEL DISPENSER
PTD/R	COMBINATION TOWEL DISPENSER/RECEPTACLE
PTN	PARTITION
PVC	POLYVINYL CHLORIDE
PWL	SOUND POWER LEVEL
QT	QUARRY TILE
QTR RND	QUARTER ROUND
R	RISER
RAD	RADIUS
RB	RUBBER BASE
RC	REMOTE CONTROL
RCP	REFLECTED CEILING PLAN
RD	ROOF DRAIN
REF	REFERENCE
REFL	REFLECTED
REM	REMOVABLE
RESIL	RESILIENT
RF	RESILIENT FLOORING
RF	RUBBER FLOOR
RFM	RECESSED FLOOR MAT
RH	ROBE HOOK
RI&C	ROUGH IN AND CONNECT
S	SINK
SAT	SPRAYED ACOUSTIC TREATMENT
SAW	SOUND ABSORBING WALL UNITS
SB	SPLASH BLOCK
SC	SOLID CORE
SC	SHOWER CURTAIN
SCD	SEAT COVER DISPENSER
SCH	SHOWER CURTAIN HOOK
SCR	SHOWER CURTAIN ROD
SCT	STRUCTURAL CLAY TILE
SD	SOAP DISPENSER
SECY	SECRETARY
SF	SQUARE FEET
SG	SPANDREL GLASS
SGL	SINGLE
SH	SHOWER
SHM	SECURITY HOLLOW METAL
SLNT	SEALANT
SM	SHEET METAL
SND	SANITARY NAPKIN DISPOSAL
SNV	SANITARY NAPKIN VENDOR
SPL	SOUND PRESSURE LEVEL
SQ	SQUARE
SS	SOLID SURFACE
SSA	STORM SHELTER AREA
SSM	SOLID SURFACE
SSS	STAINLESS STEEL SHELF
SST	STAINLESS STEEL
ST	STONE
ST	STAIR
STAG'D	STAGGERED
STC	SOUND TRANSMISSION CLASS
STGR	STRINGER
SUBFL	SUBFLOOR
SURF	SURFACE
SUSP	SUSPENDED
SVF	SHEET VINYL FLOORING
T	TREAD
T&G	TONGUE AND GROOVE
T.O.	TOP OF
TAN	TANGENT
TB	TOWEL BAR
TBD	TACK BOARD
TCP	TOILET COMPARTMENT PARTITION
TERR	TERRAZZO
TFG	TINTED FLOAT GLASS
TG	TEMPERED GLASS
TH	THRESHOLD
THK	THICK(NESS)
TI	TENANT IMPROVEMENT
TIG	TINTED INSULATING GLASS
TMR	TILT MIRROR UNIT
TOIL	TOILET
TOP	TOP OF PAVING
TRANS	TRANSVERSE
TT	TERRAZZO TILE
TTD	TOILET TISSUE DISPENSER
TTG	TINTED TEMPERED FLOAT GLASS
TTIG	TINTED TEMPERED INSULATING GLASS
TW	TACK WALL
UL	UNDERWRITERS LABORATORIES
UR	URINAL
US	UTILITY SHELF
UTIL	UTILITY
VB	VAPOR BARRIER
VB	VINYL BASE
VCB	VENTED COVE BASE
VF	VINYL FLOOR
VOC	VOLITILE ORGANIC COMPOUND
VOL	VOLUME
VP	VENEER PLASTER
VT	VINYL TILE
VWC	VINYL WALL COVERING
W	WIDE
WB	WALL BASE
WC	WATER CLOSET
WC	WALL COVERING
WCL	WATER CLOSET/LAVATORY COMBINATION
WD	WOOD
WDF	WOOD FLOORING
WDW	WINDOW
WG	POLISHED WIRE GLASS
WI	WROUGHT IRON
WOM	WALK OFF MAT
WR	WASTE RECEPTACLE
WRB	WEATHER RESISTANT BARRIER
WW	WARM WHITE
WWF	WELDED WIRE FABRIC
YD	YARD

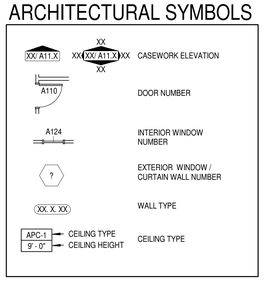
GENERAL SYMBOLS



SITE SYMBOLS



ARCHITECTURAL SYMBOLS



IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-123582 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 01/10/2024

GENERAL NOTES

A. GENERAL NOTES APPLY TO ALL SHEETS.
B. INCLUDE ALL OWNER-FURNISHED AND INSTALLED ITEMS AND OWNER-FURNISHED AND CONTRACTOR-INSTALLED ITEMS IN THE CONSTRUCTION SCHEDULE, AND SHALL COORDINATE WITH THE OWNER TO ACCOMMODATE THESE ITEMS.
C. COORDINATE ALL MECHANICAL CHASE SIZES WITH THE MECHANICAL CONTRACTOR.
D. SEE FLOOR PLANS FOR LOCATION OF WALLS OF FIRE-RESISTANCE-RATED CONSTRUCTION. ALL WALLS OF FIRE-RESISTANCE-RATED CONSTRUCTION SHALL EXTEND TO UNDERSIDE OF FLOOR OR ROOF DECK ABOVE.
E. ALL PENETRATIONS THROUGH WALLS SHALL BE SEALED WITH PENETRATION FIRE STOPPING MATERIAL AS REQUIRED TO ACHIEVE THE RESPECTIVE FIRE-RESISTANCE RATING AND SMOKE STOPPAGE. SEE SPECIFICATION SECTION 078413.
F. COORDINATE WITH MECHANICAL AND ELECTRICAL CONTRACTORS THE SIZE AND LOCATION OF EQUIPMENT PADS SHOWN ON PLANS.
G. FIRE-RESISTANCE-RATED ENCLOSURES AROUND ALL STEEL COLUMNS SHALL BE CONTINUOUS FROM FLOOR TO UNDERSIDE OF FLOOR OR ROOF DECK ABOVE FOR EACH LEVEL.
H. CONSTRUCTION DOCUMENTS ARE COMPLEMENTARY. SEE DRAWING FOR QUANTITIES AND LOCATION OF WORK. SEE SPECIFICATIONS FOR QUALITIES AND CONDITIONS OF WORK.
I. WORK: ALL ASPECTS OF THE WORK AND ITEMS NOT SPECIFICALLY MENTIONED, BUT NECESSARY TO MAKE A COMPLETE WORKING INSTALLATION, SHALL BE INCLUDED AND INDICATED IN THE CONTRACTOR'S BID.
J. GENERAL SHEET NOTES ONLY APPLY TO PARTICULAR DRAWING OR SERIES OF DRAWINGS.
K. NO ASBESTOS OR PCB CONTAINING MATERIALS SHALL BE USED ON THIS PROJECT.
L. DO NOT SCALE DRAWINGS. DIMENSIONS NOTED PREVAIL. NOTIFY ARCHITECT IN CASE OF DISCREPANCY.
M. HORIZONTAL AND VERTICAL DIMENSIONS ARE MINIMUM DIMENSIONS. CLEARANCES ARE GIVEN TO FINISH SURFACES. GC TO VERIFY ALL CLEARANCES. NOTIFY ARCHITECT IN CASE OF DISCREPANCY.

GENERAL ARCHITECTURAL NOTES

1. GYPSUM BOARD SURFACES SHALL BE ISOLATED WITH CONTROL JOINTS WHERE SHOWN ON DRAWINGS AND AS DESCRIBED IN THE SPECIFICATIONS.
2. SCRIBE GYPSUM WALL BOARD OF WALLS AND PARTITIONS TO IRREGULARITIES OF DECK ABOVE. SEAL TIGHTLY AROUND ALL PENETRATIONS.
3. PROVIDE SEISMIC BRACING FOR SUSPENDED CEILINGS OR AS SHOWN ON THE DRAWINGS.
4. ALL INTERIOR WALL LOCATIONS ARE TO BE VERIFIED IN FIELD
5. SEE ELECTRICAL AND MECHANICAL DRAWINGS FOR ALL EQUIPMENT LOCATIONS AND AREAS OF WORK.

LICENSED ARCHITECT JESSE MILLER NO. C-32306 REN. 10-31-25 STATE OF CALIFORNIA

DLRGROUP
© DLR Group

EL MONTE HIGH SCHOOL HVAC PROJECT
EL MONTE UNION HIGH SCHOOL DISTRICT
3048 Tyler Ave, El Monte, CA 91731

DSA BACKCHECK
11/20/2023
REVISIONS

DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-01

GENERAL NOTES, SYMBOLS AND ABBREVIATIONS

G0.2

EXISTING BUILDING DATA

BUILDING D
OCCUPANCY	E / B / A-2
CONSTRUCTION TYPE	V-N
EXISTING BUILDING	10,520 SF
STORIES	SINGLE
FIRE SPRINKLERS	NO
CERTIFIED	YES

BUILDING K
OCCUPANCY	A2.1
CONSTRUCTION TYPE	V-1HR
EXISTING BUILDING	7,387 SF
STORIES	SINGLE
FIRE SPRINKLERS	NO
CERTIFIED	YES

BUILDING L
OCCUPANCY	B
CONSTRUCTION TYPE	V-N
EXISTING BUILDING	6,576 SF
STORIES	SINGLE
FIRE SPRINKLERS	NO
CERTIFIED	YES

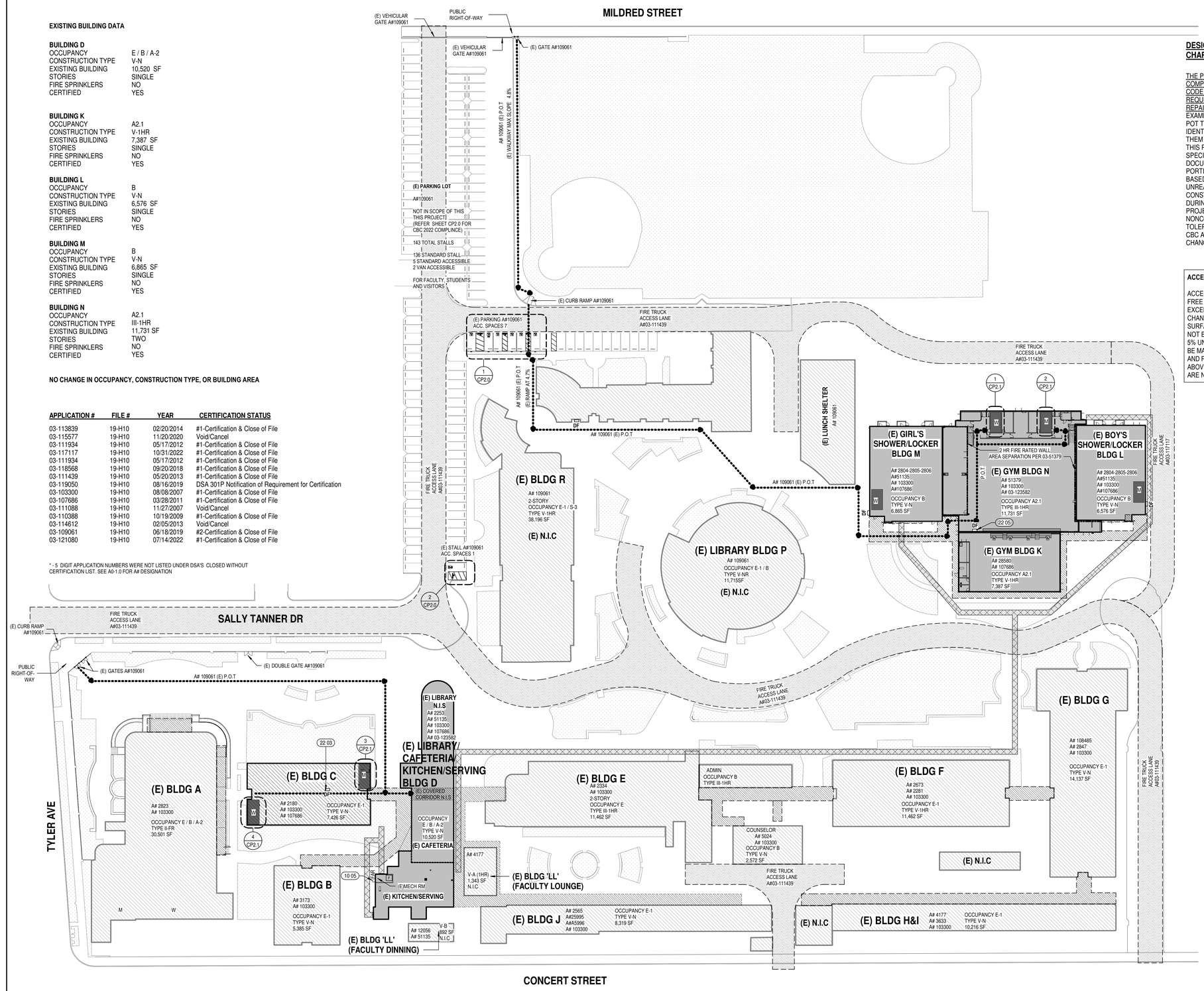
BUILDING M
OCCUPANCY	B
CONSTRUCTION TYPE	V-N
EXISTING BUILDING	6,865 SF
STORIES	SINGLE
FIRE SPRINKLERS	NO
CERTIFIED	YES

BUILDING N
OCCUPANCY	A2.1
CONSTRUCTION TYPE	III-1HR
EXISTING BUILDING	11,731 SF
STORIES	TWO
FIRE SPRINKLERS	NO
CERTIFIED	YES

NO CHANGE IN OCCUPANCY, CONSTRUCTION TYPE, OR BUILDING AREA

APPLICATION #	FILE #	YEAR	CERTIFICATION STATUS
03-113839	19-H10	02/20/2014	#1-Certification & Close of File
03-115577	19-H10	11/20/2020	Void/Cancel
03-111934	19-H10	05/17/2012	#1-Certification & Close of File
03-117117	19-H10	10/31/2022	#1-Certification & Close of File
03-111934	19-H10	05/17/2012	#1-Certification & Close of File
03-118568	19-H10	09/20/2018	#1-Certification & Close of File
03-111439	19-H10	05/20/2013	#1-Certification & Close of File
03-119050	19-H10	08/16/2019	DSA 301P Notification of Requirement for Certification
03-103300	19-H10	08/08/2007	#1-Certification & Close of File
03-107686	19-H10	03/28/2011	#1-Certification & Close of File
03-111088	19-H10	11/27/2007	Void/Cancel
03-110388	19-H10	10/19/2009	#1-Certification & Close of File
03-114612	19-H10	02/05/2013	Void/Cancel
03-109061	19-H10	06/18/2019	#2-Certification & Close of File
03-121080	19-H10	07/14/2022	#1-Certification & Close of File

* - 5 DIGIT APPLICATION NUMBERS WERE NOT LISTED UNDER DSA'S CLOSED WITHOUT CERTIFICATION LIST. SEE A0-1.0 FOR A# DESIGNATION



2 AS1.0 ARCHITECTURAL SITE PLAN
SCALE: 1" = 40'-0"

DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE STATEMENT:

THE POT IDENTIFIED IN THESE CONSTRUCTION DOCUMENTS IS COMPLIANT WITH THE CURRENT APPLICABLE CALIFORNIA BUILDING CODE ACCESSIBILITY PROVISIONS FOR THE PATH OF TRAVEL REQUIREMENTS FOR ALTERATIONS, ADDITIONS AND STRUCTURAL REPAIRS. AS PART OF THE DESIGN OF THIS PROJECT, THE POT WAS EXAMINED AND ANY ELEMENTS, COMPONENTS OR PORTIONS OF THE POT THAT WERE DETERMINED TO BE NONCOMPLIANT 1) HAVE BEEN IDENTIFIED AND 2) THE CORRECTIVE WORK NECESSARY TO BRING THEM INTO COMPLIANCE HAS BEEN INCLUDED WITHIN THE SCOPE OF THIS PROJECT'S WORK THROUGH DETAILS, DRAWINGS AND SPECIFICATIONS INCORPORATED INTO THESE CONSTRUCTION DOCUMENTS. ANY NONCOMPLIANT ELEMENTS, COMPONENTS OR PORTIONS OF THE POT WILL NOT BE CORRECTED BY THIS PROJECT BASED ON VALUATION THRESHOLD LIMITATIONS OR A FINDING OF UNREASONABLE HARDSHIP ARE SO INDICATED IN THESE CONSTRUCTION DOCUMENTS.
DURING CONSTRUCTION, IF POT ITEMS WITHIN THE SCOPE OF THE PROJECT REPRESENTED AS CODE COMPLIANT ARE FOUND TO BE NONCONFORMING BEYOND REASONABLE CONSTRUCTION TOLERANCES, THEY SHALL BE BROUGHT INTO COMPLIANCE WITH THE CBC AS A PART OF THIS PROJECT BY MEANS OF A CONSTRUCTION CHANGE DOCUMENT.

ACCESSIBLE PATH OF TRAVEL:

ACCESSIBLE PATH OF TRAVEL AS INDICATED ON PLANS IS A BARRIER-FREE ACCESS ROUTE WITHOUT ANY ABRUPT LEVEL CHANGES EXCEEDING 1/2" IF BEVELED AT 1:2 MAXIMUM SLOPE OR VERTICAL LEVEL CHANGES NOT EXCEEDING 1/4" MAXIMUM AND AT LEAST 48" IN WIDTH SURFACE IS STABLE, FIRM AND SLIP RESISTANT. CROSS SLOPE DOES NOT EXCEED 2% AND SLOPE IN THE DIRECTION OF TRAVEL IS LESS THAN 5% UNLESS OTHERWISE INDICATED. ACCESSIBLE PATH OF TRAVEL SHALL BE MAINTAINED FREE OF OVERHAGING OBSTRUCTIONS TO 80" MINIMUM AND PROTRUDING OBJECTS GREATER THAN 4" PROJECTION FROM WALL ABOVE 27" AND LESS THAN 80". ARCHITECT SHALL VERIFY THAT THERE ARE NO BARRIERS IN THE PATH OF TRAVEL.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-123582 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 01/10/2024

KEYNOTE	KENOTE TEXT
10 05	(N) "FIRE ALARM ROOM" DOOR SIGNAGE, SEE 5A/CP2.0 & 5B/CP2.0 FOR MOUNTING HEIGHTS AND ATTACHMENTS.
22 03	(E) ACCESSIBLE DRINKING FOUNTAIN PER DSA APPLICATION NO. 51151
22 05	(E) ACCESSIBLE DRINKING FOUNTAIN PER DSA APPLICATION NO. 51379

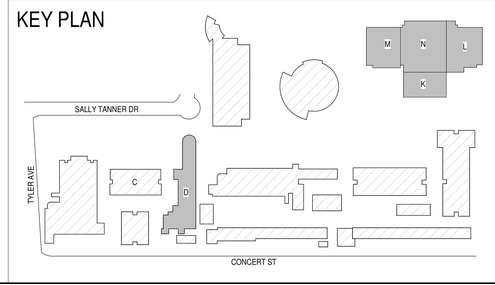
SITE LEGEND

- (E) BUILDING - PART OF SCOPE WITH THIS DSA APPLICATION (03-123582)
- (E) BUILDINGS - NOT IN SCOPE
- (E) COVERED WALKWAYS - NOT IN SCOPE
- (E) FIRE TRUCK ACCESS LANE
- NEW ELECTRICAL TRENCH (3'-0" MIN WIDTH TRENCH) REFER TO SHEET E51.1.
  + PATCH AND REPAIR EXISTING CONCRETE WITH NEW CONCRETE TO MATCH EXISTING CONCRETE. SEE DETAILS 5A, 5B, 5D, 5E SHEET A10.2, V.I.F TO ALIGN WITH EXISTING CONCRETE.
  + PATCH AN REPAIR LANDSCAPE AREA WHERE NEW ELECTRICAL TRENCH, V.I.F TO MATCH WITH EXISTING LANDSCAPE AREA
- M — (E) ACCESSIBLE RR : M = MEN, W = WOMEN, U = UNISEX
- (E) PATH OF TRAVEL (P.O.T) A# INDICATED, PER PLAN
- DF — (E) ACCESSIBLE DRINKING FOUNTAIN

SIGNAGE LEGEND

FAR (N) FIRE ALARM ROOM DOOR SIGN 5B/CP2.0

KEY PLAN



LICENSED ARCHITECT JESSE MILLER NO. C-32306 REN. 10-31-25 STATE OF CALIFORNIA

DLRGROUP © DLR Group

PROJECT
EL MONTE HIGH SCHOOL HVAC PROJECT
EL MONTE UNION HIGH SCHOOL DISTRICT
3048 Tyler Ave, El Monte, CA 91731

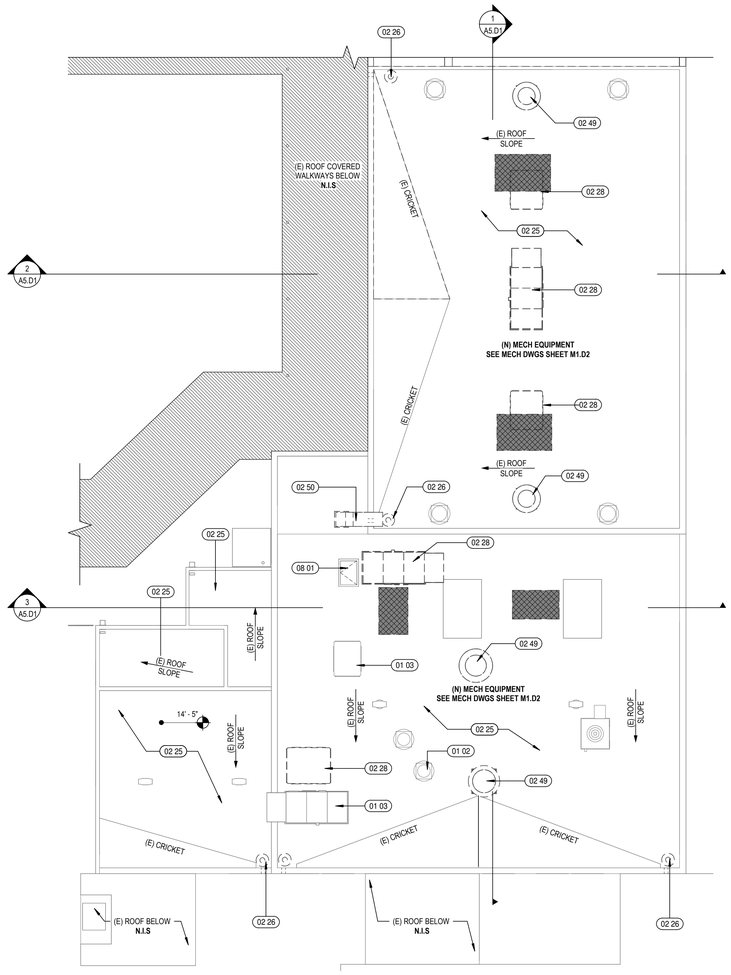
DSA BACKCHECK
11/20/2023
REVISIONS

DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-01

ARCHITECTURAL SITE PLAN

AS1.0

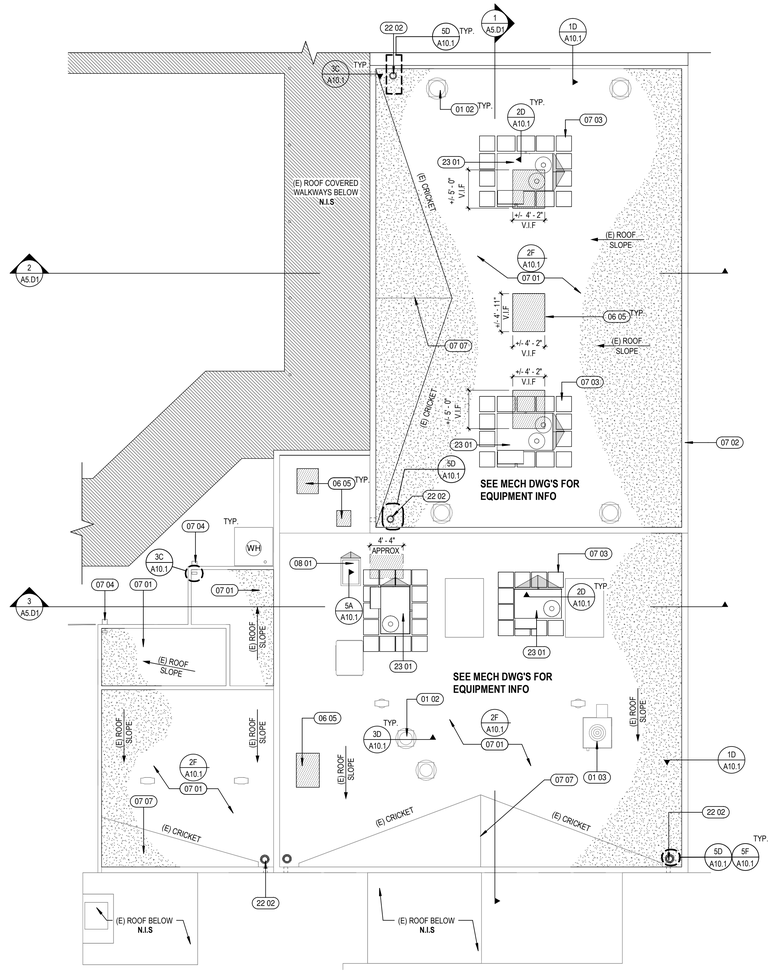
Autodesk Docs://75-22201-00 El Monte UHSD - EMHS Mod/75-22201-00_El Monte UHSD - EMHS Mod_AR_2022_BLDG K-N.rvt
12/15/2023 10:27:41 AM



NORTH

2 A5.D1 BLDG D - PARTIAL ROOF PLAN EXISTING/DEMO

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



NORTH

1 A1.D1 BLDG D - PARTIAL ROOF PLAN PROPOSED

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

ROOF PLAN GENERAL NOTES

A. ROOF PLAN GENERAL NOTES APPLY TO ALL ROOF PLAN SHEETS.
B. ROOF SLOPES ARE CREATED BY SLOPING THE ROOF STRUCTURE UNLESS NOTED OTHERWISE. SEE STRUCTURAL DRAWINGS FOR ELEVATIONS OF THE HIGH AND LOW POINTS TO DETERMINE PROPER TAPER IN INSULATION.
C. ALL ROOF CURBS TO BE A MINIMUM OF 8 INCHES ABOVE ROOFING LEVELS. PROVIDE TAPERED INSULATION ROOF SADDLES AT ROOF CURBS TO PROVIDE DRAINAGE AROUND CURB.
D. SEE STRUCTURAL DRAWINGS FOR FRAMING AROUND ROOF PENETRATIONS.
E. COORDINATE THE SIZE AND LOCATION OF ROOF PENETRATIONS FOR MECHANICAL AND ELECTRICAL EQUIPMENT. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR PENETRATIONS NOT SHOWN ON THIS DRAWING.
F. FLASH DRAINS, CURBS, VENTS AND STACKS PER MANUFACTURER'S RECOMMENDATIONS IF DETAIL NOT SHOWN ON DRAWINGS.
G. NO ROOF PENETRATIONS ALLOWED WITHIN 4'-0" EACH SIDE OF FIREWALL. SEE CODE PLAN FOR FIRE WALL LOCATIONS.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-123582 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 01/10/2024

KEYNOTES

KEYNOTE	KENOTE TEXT
01 02	(E) ROOF TOP EXHAUST FAN & CURB TO REMAIN.
01 03	(E) AC ROOF TOP UNIT TO REMAIN & PROTECT IN PLACE
02 25	REMOVE (E) BUILT-UP ROOFING, FLASHING, FASCIA DRIPS, ROOFING BALLAST, ABANDONED CURBS AND PLATFORMS, UTILITIES AND RELATED ITEMS AS OCCURS. PROTECT SHEATHING IN PLACE. REMOVE AND REPLACE DAMAGED SHEATHING WHERE OCCURS.
02 26	REMOVE AND REPLACE (E) ROOF DRAIN.
02 28	REMOVE (E) ROOF MECHANICAL EQUIPMENT, EQUIPMENT CURBS, UTILITIES AND RELATED ITEMS. VERIFY EXACT LOCATION IN FIELD
02 49	REMOVE (E) ROOF EXHAUST, CURBS AND ALL RELATED ITEMS,
02 50	REMOVE (E) FAN DISCHARGE & DUCTWORK
06 05	FRAME AND PATCH ROOF TO MATCH EXISTING. FIELD VERIFY ACTUAL LOCATIONS SEE STRUCT. 22/S6.0
07 01	(N) SINGLE PLY ROOFING. SEE 2F/A10.1
07 02	(N) COPING CAP. TYP - REFER TO DETAIL 1D/A10.1
07 03	(N) ROOF WALK PADS, 36" MIN. WIDE, PER 2B/A10.1
07 04	(N) MFG. SCUPPER
07 07	(E) WOOD FRAMED CRICKETS TO REMAIN, REPAIRED AS NEEDED FOR NEW ROOFING, COORDINATE W/ THE DISTRICT
08 01	(E) ROOF HATCH TO BE REPLACE TO MATCH (E) OPENING
22 02	(N) ROOF DRAIN W/ SCUPPER, CONNECT TO (E) DS PIPE, PER PLUMBING DWGS
23 01	(N) AIR CONDITIONER UNIT @ ROOF BLDG D, SEE MECH DWGS

ROOF PLAN LEGEND

- APPROX AREA ROOF DEMO FOR NEW MECH EQUIPMENT, SEE MECH AND STRUCT DWG'S
- (N) CLASS A SINGLE PLY ROOFING. SEE 2F/A10.1
  NOTE: WEIGHT OF NEW ROOFING NOT TO EXCEED WEIGHT OF EXISTING ROOFING
- ROOF INFILL / PATCHING. SEE 22/S6.0
- (E) ROOF NOT IN SCOPE
- (E) COVERED WALKWAYS ROOF **N.I.S** (NOT IN SCOPE)
- (N) MECH EQUIPMENT CRICKET PER 2A/A10.1

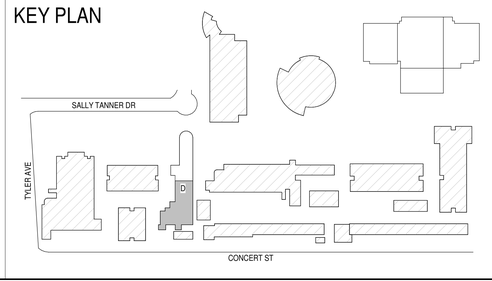
DEMOLITION GENERAL NOTES

DEMOLITION NOTES APPLY TO ALL DEMOLITION SHEETS.

THE CONTRACTOR SHALL:

A. COORDINATE ALL DEMOLITION AND PHASING EFFORTS WITH THE ARCHITECT AND OWNER'S REPRESENTATIVE. EVERY EFFORT SHALL BE MADE TO MINIMIZE DISRUPTION OF OWNER'S OPERATIONS. EXCESSIVE NOISE OR VIBRATION SHALL BE PRE-APPROVED AND COORDINATED WITH THE OWNER'S REPRESENTATIVE. IN ALL CASES, PROVISIONS SHALL BE MADE FOR USER'S SAFETY.
B. COORDINATE ANY DISRUPTION OF UTILITY SERVICES WITH THE OWNER AND AS SPECIFIED.
C. CONSTRUCT TEMPORARY CONSTRUCTION PARTITIONS WITHIN THE EXISTING BUILDING WHICH OFFER A ONE-HOUR ENCLOSURE TO ISOLATE ANY DEMOLITION/CONSTRUCTION WORK FROM THE GENERAL PUBLIC AND AS DEEMED NECESSARY BY THE OWNER AND CODE OFFICIAL HAVING JURISDICTION. COORDINATE LOCATIONS WITH THE OWNER AND MAINTAIN MEANS OF EGRESS THROUGHOUT THE WORK.
D. MAINTAIN A SECURE, WEATHER-TIGHT ENCLOSURE AT ALL TIMES.
E. VERIFY ALL EXISTING CONDITIONS, DIMENSIONS AND ELEVATIONS AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES.
F. REMOVE IN THEIR ENTIRETY ALL EXISTING WALLS, DOORS, MILLWORK, PLUMBING FIXTURES, CEILINGS, SOFFITS, MARKERBOARDS, AND OTHER ITEMS, AS REQUIRED TO EXECUTE THE DEMOLITION/CONSTRUCTION WORK DESCRIBED BY THE DRAWINGS.
G. THE OWNER SHALL RESERVE THE RIGHT TO SALVAGE ANY MATERIALS.
H. PROVIDE PROTECTION FOR ALL EXISTING BUILDING MATERIALS AND EQUIPMENT FROM DAMAGE DUE TO ANY DEMOLITION OR CONSTRUCTION-RELATED INCIDENT PERFORMED UNDER THIS CONTRACT.
I. REPAIR OR REPLACE ITEMS THAT ARE DAMAGED AS A RESULT OF DEMOLITION OR CONSTRUCTION TO MATCH EXISTING FINISH AND/OR CONDITION.
J. EXISTING MATERIALS SHALL NOT BE REUSED UNLESS NOTED OTHERWISE OR AS AUTHORIZED BY ARCHITECT.
K. VERIFY AND MAINTAIN THE LOCATION OF EXISTING POWER, COMMUNICATION AND DATA CABLES TO PREVENT INTERRUPTION OF THEIR SERVICE.
L. PATCH FLOOR, WALL AND CEILING PENETRATIONS RESULTING FROM REMOVAL OR RE-ROUTING OF NEW OR EXISTING PIPING, DUCTWORK, CONDUIT, AND OTHER ITEMS, AS REQUIRED TO MAINTAIN FIRE-RESISTANCE-RATED SEPARATIONS. FINISH AS REQUIRED FOR NEW OR EXISTING ADJACENT SURFACES.
M. CAP ALL DISCONNECTED MECHANICAL PIPING LINES WITHIN THE WALL OR FLOOR. PATCH AND FINISH AS REQUIRED TO MATCH NEW OR EXISTING ADJACENT SURFACES.
N. SEE MECHANICAL AND ELECTRICAL DRAWINGS AND NOTES FOR FURTHER SEQUENCING AND SCOPE OF WORK.

KEY PLAN



LICENSED ARCHITECT JESSE MILLER NO. C-32306 REN. 10-31-25 STATE OF CALIFORNIA

DLRGROUP © DLR Group

EL MONTE HIGH SCHOOL HVAC PROJECT

EL MONTE UNION HIGH SCHOOL DISTRICT

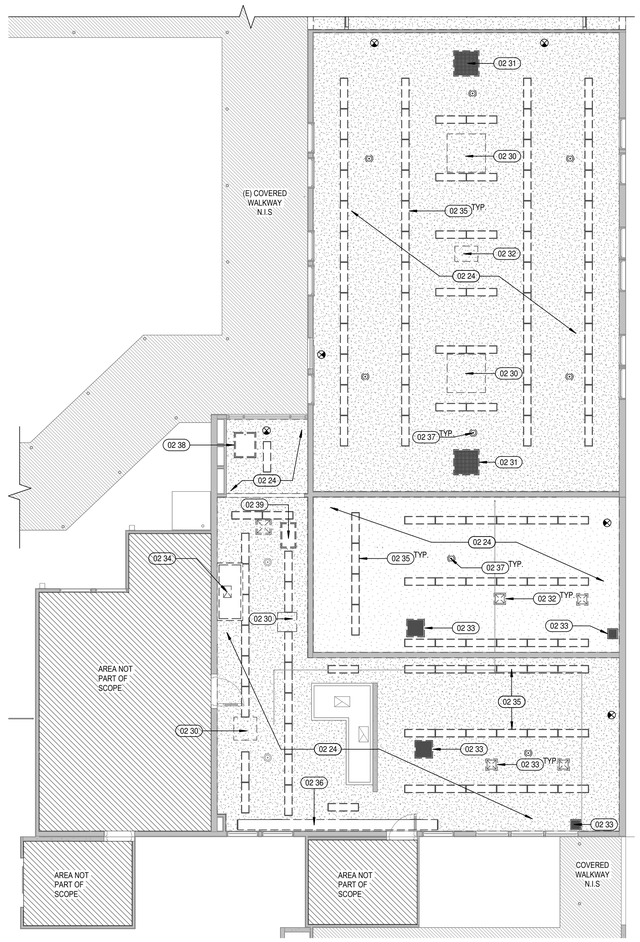
3048 Tyler Ave, El Monte, CA 91731

DSA BACKCHECK
11/20/2023
REVISIONS

DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-01

ROOF PLANS - BLDG D

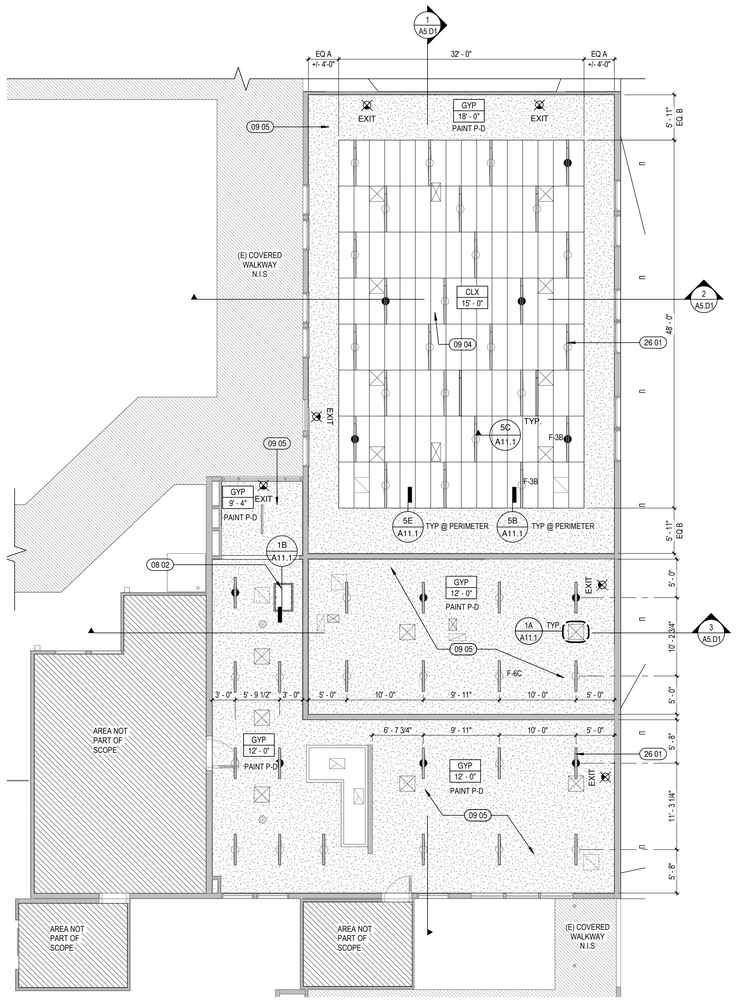
A1.D1



NORTH

2 A3.D1 BLDG D - PARTIAL REFLECTED CEILING PLAN - DEMO

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



NORTH

1 A3.D1 BLDG D - PARTIAL REFLECTED CEILING PLAN - PROPOSED

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

KEYNOTES

KEYNOTE	KENOTE TEXT
02 24	DEMOLISH (E) CEILING DOWN TO FRAMING. REMOVE ANY AND ALL DEVICES THAT ARE NECESSARY TO CARRY OUT WORK IN DRAWINGS. DEVICES SHALL BE PROTECTED AND REINSTALLED AS NECESSARY, COORDINATE WITH THE DISTRICT.
02 30	DEMO (E) SWAMP COOLER SUPPLY DIFFUSER
02 31	DEMO (E) SWAMP COOLER RETURN DIFFUSER
02 32	DEMO (E) SUPPLY DIFFUSER
02 33	DEMO (E) RETURN DIFFUSER
02 34	DEMO (E) EXHAUST KITCHEN HOOD
02 35	DEMO (E) LIGHT FIXTURE
02 36	DEMO (E) EXPOSED DUCTWORK W/ SUPPLY GRILLE, SEE MECH DWG'S
02 37	DEMO (E) CEILING SPEAKER
02 38	DEMO (E) CEILING ACCESS HATCH
02 39	DEMO (E) ROOF & CEILING ACCESS HATCH
08 02	(N) ACCESS PANEL
09 04	NEW SUSPENDED ACT CEILING, SEE SPECS & SHEET A11.1 FOR MORE INFO.
09 05	NEW GYP BD CEILING ON EXISTING FRAMING, SEE SPECS & A11.2
26 01	NEW LIGHT FIXTURE, SEE ELECTRICAL

REFLECTED CEILING PLAN GENERAL NOTES

A. REFLECTED CEILING PLAN GENERAL NOTES APPLY TO ALL REFLECTED CEILING PLAN SHEETS.
B. ALL CEILING GRIDS/PANELS SHALL BE CENTERED IN EACH ROOM UNLESS NOTED OTHERWISE.
C. CEILING HEIGHTS ARE NOTED ON THE REFLECTED CEILING PLANS ARE MEASURED FROM THE FINISH FLOOR OF THE ROOM.
D. ALL ELECTRICAL FIXTURES, SPEAKERS, SMOKE AND THERMAL DETECTORS, MECHANICAL GRILLES, SPRINKLER HEADS, AND OTHER CEILING MOUNTED DEVICES, SHALL BE CENTERED BETWEEN CEILING GRIDS UNLESS NOTED OTHERWISE. SPRINKLER HEADS SHALL BE WITHIN A 3-INCH RADIUS CENTERED BETWEEN CEILING GRIDS.
E. IN ACOUSTICAL CEILING PANELS WITH SCORE IN THE CENTER, CENTER DEVICES REFERENCE IN NOTE D IN ONE HALF OF THE TILE. DO NOT LOCATE ON THE SCORE. FOR ACP WITH MULTIPLE SCORED PATTERNS, COORDINATE LOCATION WITH THE ARCHITECT.
F. PROVIDE SUSPENSION SYSTEM AROUND ELECTRICAL FIXTURES, MECHANICAL GRILLES, DIFFUSERS, AND OTHER CEILING MOUNTED DEVICES. AT ACOUSTICAL PANEL CEILINGS.
G. ALL DIMENSIONS ON REFLECTED CEILING PLANS ARE ACTUAL AND ARE TO THE FOLLOWING UNLESS NOTED OTHERWISE:
   a. FACE OF FINISHED WALL
   b. FACE OF FINISHED BULKHEADS
   c. CENTERLINE OF COLUMNS
   d. CENTERLINE OF TEES
H. IN AREAS WITH EXPOSED STRUCTURE CEILINGS, COORDINATE EXACT LOCATIONS OF MECHANICAL GRILLES, DIFFUSERS, DUCTWORK AND ELECTRICAL FIXTURES WITH EACH REPRESENTATIVE SUBCONTRACTOR.
I. ALL WALLS EXTEND TO UNDERSIDE OF DECK EXCEPT THOSE SHOWN SHADED IN WHICH GYPSUM BOARD OR MASONRY EXTENDS MIN 4 INCHES ABOVE FINISHED CEILING. ALL METAL STUDS EXTEND TO UNDERSIDE OF FLOOR OR ROOF DECK.

REFLECTED CEILING PLAN LEGEND

- (E) WALL
- (E) 1HR RATED WALL
- (E) 2HR RATED WALL
- (N) OR INFILL STUD WALL. SEE FOR INFILL WALL
- (N) INFILL 1HR RATED WALL
- (N) INFILL 2HR RATED WALL

NOTE: REPLACE ALL GYP OR PLASTER REMOVED IN DEMO PHASE TO MATCH (E) U.N.O.

- (N) GYPSUM BOARD CEILING
- (N) 24" X 72" ACOUSTIC CEILING TILE
- (N) CEILING REGISTERS (SUPPLY, RETURN & EXHUAST; SEE MECH DWGS)
- (E) COVERED WALKWAYS ROOF **N.I.S** (NOT IN SCOPE)
- EXIT (E) EXIT SIGN, SEE ELECTRICAL SHEETS E1.D1

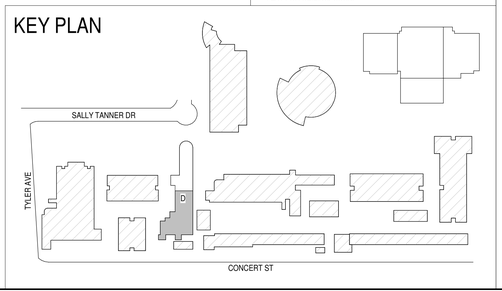
BUILDING D FINISH SCHEDULE

CLX -
MATERIAL: ACOUSTICAL CEILING PLANK;
MANUFACTURER: ARMSTRONG
MODEL: OPTIMA TEGULAR. MADE-TO-ORDER FASTSIZE PANELS AT ALL LIGHT FIXTURES AND DIFFUSERS. FACTORY TEGULAR EDGES. NO SITE CUTTING.
COLOR: WHITE
SIZE: 24"x72"x9/16", WHITE 9/16" TEGULAR
COMMENTS: EXPOSED TILE TO RECEIVE 4" WHITE AXIOM PERIMETER TRIM

P-D -
MATERIAL: PAINT
COLOR: MATCH TO EXISTING ADJACENT FINISH
COMMENTS: SEMI-GLOSS FOR WALL, DOOR AND DOOR FRAME, FLAT FOR CEILING, U.O.N.
COMMENTS: ALL REPAIR WORK REQUIRED FOR THE WORK INDICATED TO BE PAINTED TO MATCH ADJACENT FINISHES

P-1 -
MATERIAL: PAINT
MANUFACTURER: DUNN EDWARDS
COLOR: DET648 WHITE PICKET FENCE
COMMENTS: SEMI-GLOSS FOR WALL, DOOR AND DOOR FRAME, FLAT FOR CEILING, U.O.N.

KEY PLAN



IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-123582 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 01/10/2024

LICENSED ARCHITECT JESSE MILLER No. C-32306 REN. 10-31-25 STATE OF CALIFORNIA

DLRGROUP
© DLR Group

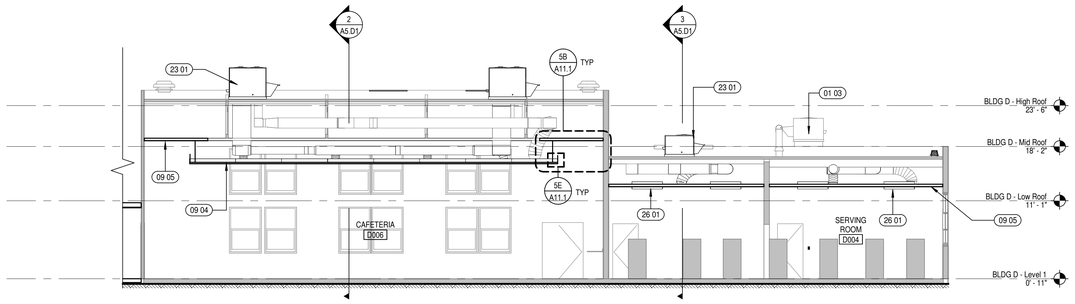
EL MONTE HIGH SCHOOL HVAC PROJECT
EL MONTE UNION HIGH SCHOOL DISTRICT
3048 Tyler Ave, El Monte, CA 91731

DSA BACKCHECK
11/20/2023
REVISIONS

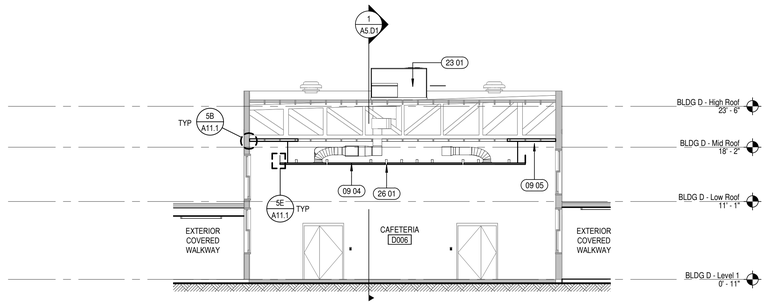
DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-01

REFLECTED CEILING PLANS - BLDG D

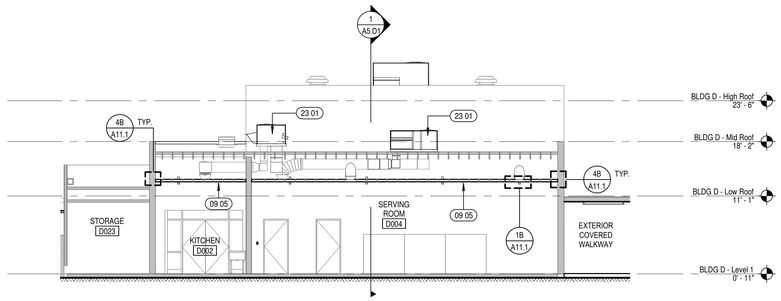
A3.D1



1 A5.D1 (E) BLDG D - N/S SECTION @ NEW CEILING AND EQUIPMENT
SCALE: 1/8" = 1'-0"



2 A5.D1 (E) BLDG D - E/W SECTION AT CAFETERIA @ NEW CEILING AND EQUIPMENT
SCALE: 1/8" = 1'-0"



3 A5.D1 BLDG D - E/W SECTION AT SERVING ROOM @ NEW CEILING AND EQUIPMENT
SCALE: 1/8" = 1'-0"

KEYNOTES

KEYNOTE	KENOTE TEXT
01 03	(E) AC ROOF TOP UNIT TO REMAIN & PROTECT IN PLACE
09 04	NEW SUSPENDED ACT CEILING, SEE SPECS & SHEET A11.1 FOR MORE INFO.
09 05	NEW GYP BD CEILING ON EXISTING FRAMING, SEE SPECS & A11.2
23 01	(N) AIR CONDITIONER UNIT @ ROOF BLDG D, SEE MECH DWGS
26 01	NEW LIGHT FIXTURE, SEE ELECTRICAL

FLOOR PLAN LEGEND

- (E) WALL
- (E) 1HR RATED WALL
- (E) 2HR RATED WALL
- (N) INFILL WALL. SEE SHEET A11.1 WALL DETAILS
- (N) INFILL 1HR RATED WALL SHEET A11.1 WALL DETAILS
- (N) INFILL 2HR RATED WALL
- APPROX AREA DEMO FOR NEW MECH EQUIPMENT, SEE MECH AND STRUCT DWG'S

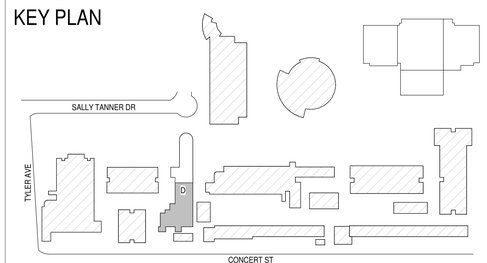
NOTE: REPLACE ALL GYP OR PLASTER REMOVED IN DEMO PHASE TO MATCH (E) U.N.O.

- SIMILAR OR TYPICAL REFERENCE
- WALL SECTION
- DETAIL REFERENCE

FLOOR PLAN GENERAL NOTES

A. CONSTRUCTION NOTES APPLY TO ALL SHEETS
B. ALL DIMENSIONS ARE ACTUAL. EXTERIOR DIMENSIONS ARE TO FACE OF SHEATHING OR GRID LINE. INTERIOR DIMENSIONS ARE TO FACE OF STUD OR CENTERLINE OF COLUMN, UNLESS NOTED OTHERWISE
C. PROVISIONS SHALL BE MADE AT FULL HEIGHT NON-BEARING WALLS FOR VERTICAL MOVEMENT OF BUILDING STRUCTURE WITHOUT TRANSFER OF COMPRESSIVE LOADS TO WALL. SEE STRUCTURAL DETAILS FOR NON-BEARING PARTITION CONNECTION AT ROOF DECK, FILL IRREGULARITIES BETWEEN TOP OF WALL AND DECK ABOVE WITH FIRE SAFING INSULATION OF FIRE STOPPING MATERIALS AS REQUIRED TO MEET FIRE RATING OF RESPECTIVE WALLS
D. GYPSUM BOARD AND PLASTER SURFACES SHALL BE ISOLATED WITH CONTROL JOINTS WERE INDICATED ON DRAWINGS AND / OR AS DESCRIBED IN THE SPECIFICATIONS
E. APPLICABLE TRADE CONTRACTOR SHALL FURNISH AND INSTALL FIRE RETARDANT TREATED 3X WOOD BLOCKING IN FRAMED PARTITIONS FPR PROPER ANCHORAGE OF WALL ATTACHED ITEMS INCLUDING BUT NOT LIMITED TO FOLLOWING: GRAB BARS, CASEWORK, MILLWORK, TOILET ACCESSORIES, TOILET PARTITIONS, WALL MOUNTED FIXTURES, MARKER BOARTS OR TACKBOARDS, DOOR STOPS, AUDIO VISUAL BRACKETS, ETC. (IF APPLICABLE)
F. F. SEE MEANS OF EGRESS PLAN FOR LOCATION OF FIRE-RESISTANCE-RATED WALLS. WALLS OF FIRE-RESISTANCE-RATED COSTRUCTION SHALL EXTEND TO UNDERSIDE OF FLOOR OR ROOF DECK ABOVE
G. SEAL PENETRATIONS THROUGH FIRE-RESISTANCE-RATED CONSTRUCTION WITH THROUGH-PENETRATION FIRESTOP MATERIAL AS REQUIRED TO ACHIEVE RESPECTIVE FIRE-RESISTIVE RATING AND SMOKE STOPPAGE
H. INCLUDE OWNER-FURNISHED AND INSTALLED ITEMS AND OWNER FURNISHED AND CONTRACTOR INSTALLED ITEMS IN THE CONSTRUCTION SCHEDULE, AND COORDINATE WITH OWNER TO ACCOMODATE THESE ITEMS

KEY PLAN



IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-123582 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 01/10/2024

LICENSED ARCHITECT
JESSE MILLER
No. C-32306
REN. 10-31-25
STATE OF CALIFORNIA

DLRGROUP
© DLR Group

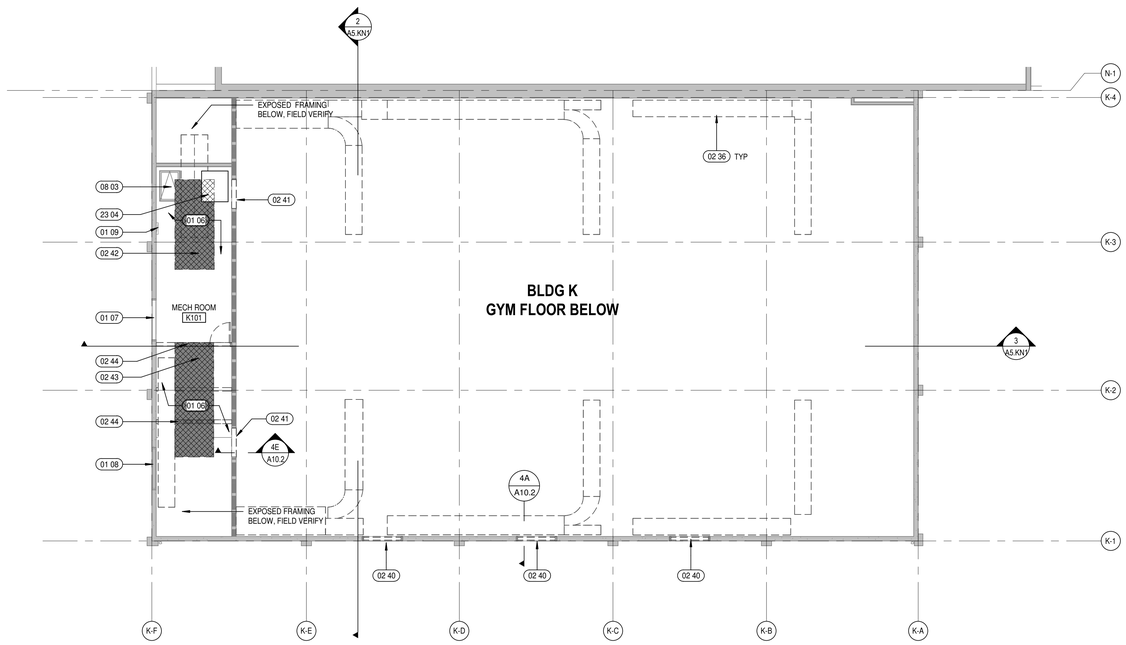
EL MONTE HIGH SCHOOL HVAC PROJECT
EL MONTE UNION HIGH SCHOOL DISTRICT
3048 Tyler Ave, El Monte, CA 91731

DSA BACKCHECK
11/20/2023
REVISIONS

DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-01

BUILDING SECTIONS - BLDG D

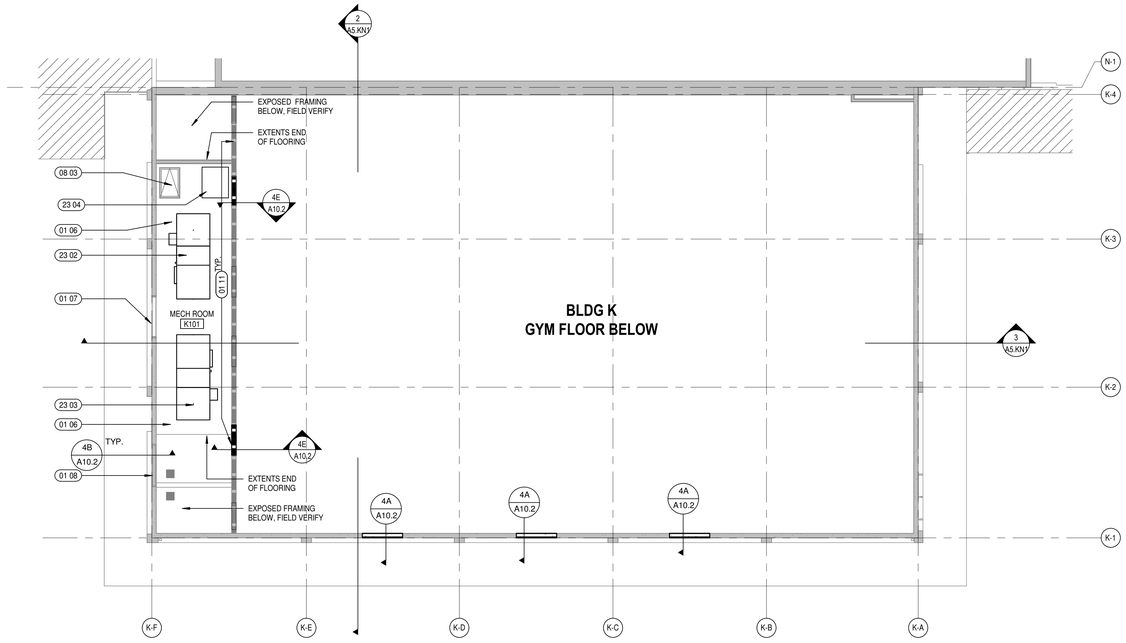
A5.D1



NORTH

1 A1.KN1 BLDG K - EXISTING/DEMO MEZZANINE PLAN

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



NORTH

2 A1.KN1 BLDG K - PROPOSED MEZZANINE PLAN

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

DEMOLITION GENERAL NOTES

DEMOLITION NOTES APPLY TO ALL DEMOLITION SHEETS.

THE CONTRACTOR SHALL:

A. COORDINATE ALL DEMOLITION AND PHASING EFFORTS WITH THE ARCHITECT AND OWNER'S REPRESENTATIVE. EVERY EFFORT SHALL BE MADE TO MINIMIZE DISRUPTION OF OWNER'S OPERATIONS. EXCESSIVE NOISE OR VIBRATION SHALL BE PRE-APPROVED AND COORDINATED WITH THE OWNER'S REPRESENTATIVE. IN ALL CASES, PROVISIONS SHALL BE MADE FOR USER'S SAFETY.
B. COORDINATE ANY DISRUPTION OF UTILITY SERVICES WITH THE OWNER AND AS SPECIFIED.
C. CONSTRUCT TEMPORARY CONSTRUCTION PARTITIONS WITHIN THE EXISTING BUILDING WHICH OFFER A ONE-HOUR ENCLOSURE TO ISOLATE ANY DEMOLITION/CONSTRUCTION WORK FROM THE GENERAL PUBLIC AND AS DEEMED NECESSARY BY THE OWNER AND CODE OFFICIAL HAVING JURISDICTION. COORDINATE LOCATIONS WITH THE OWNER AND MAINTAIN MEANS OF EGRESS THROUGHOUT THE WORK.
D. MAINTAIN A SECURE, WEATHER-TIGHT ENCLOSURE AT ALL TIMES.
E. VERIFY ALL EXISTING CONDITIONS, DIMENSIONS AND ELEVATIONS AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES.
F. REMOVE IN THEIR ENTIRETY ALL EXISTING WALLS, DOORS, MILLWORK, PLUMBING FIXTURES, CEILINGS, SOFFITS, MARKERBOARDS, AND OTHER ITEMS, AS REQUIRED TO EXECUTE THE DEMOLITION/CONSTRUCTION WORK DESCRIBED BY THE DRAWINGS.
G. THE OWNER SHALL RESERVE THE RIGHT TO SALVAGE ANY MATERIALS.
H. PROVIDE PROTECTION FOR ALL EXISTING BUILDING MATERIALS AND EQUIPMENT FROM DAMAGE DUE TO ANY DEMOLITION OR CONSTRUCTION-RELATED INCIDENT PERFORMED UNDER THIS CONTRACT.
I. REPAIR OR REPLACE ITEMS THAT ARE DAMAGED AS A RESULT OF DEMOLITION OR CONSTRUCTION TO MATCH EXISTING FINISH AND/OR CONDITION.
J. EXISTING MATERIALS SHALL NOT BE REUSED UNLESS NOTED OTHERWISE OR AS AUTHORIZED BY ARCHITECT.
K. VERIFY AND MAINTAIN THE LOCATION OF EXISTING POWER, COMMUNICATION AND DATA CABLES TO PREVENT INTERRUPTION OF THEIR SERVICE.
L. PATCH FLOOR, WALL AND CEILING PENETRATIONS RESULTING FROM REMOVAL OR RE-ROUTING OF NEW OR EXISTING PIPING, DUCTWORK, CONDUIT, AND OTHER ITEMS, AS REQUIRED TO MAINTAIN FIRE-RESISTANCE-RATED SEPARATIONS. FINISH AS REQUIRED FOR NEW OR EXISTING ADJACENT SURFACES.
M. CAP ALL DISCONNECTED MECHANICAL PIPING LINES WITHIN THE WALL OR FLOOR. PATCH AND FINISH AS REQUIRED TO MATCH NEW OR EXISTING ADJACENT SURFACES.
N. SEE MECHANICAL AND ELECTRICAL DRAWINGS AND NOTES FOR FURTHER SEQUENCING AND SCOPE OF WORK.

KEYNOTES

KEYNOTE	KENOTE TEXT
01 06	(E) FLOORING TO REMAIN, REPAIR AS NEEDED PER DEMO WORK AND TO ACCOMMODATE NEW MECH EQUIPMENT, FIELD VERIFY AND COORDINATE WITH DISTRICT.
01 07	(E) REMOVABLE COMBUSTION AIR LOUVERED TO BE REPLACED, SEE SPECS.
01 08	(E) OUTSIDE AIR LOUVERED TO BE REPLACED, SEE SPECS
01 09	(E) ELECTRICAL PANEL BOARD
01 10	(E) WATER HEATER & SHED ENCLOSURE
01 11	(E) 1HR FIRE-RATED STUD WALL TO REMAIN, TO BE REPAIRED WHERE DAMAGED AND AT NEW DUCTWORK; FILED VERIFY AND COORDINATE WITH DISTRICT
02 36	DEMO (E) EXPOSED DUCTWORK W/ SUPPLY GRILLE, SEE MECH DWG'S
02 40	REMOVE (E) WALL LOUVERED VENT
02 41	REMOVE (E) WALL RETURN GRILLE
02 42	DEMO (E) SUPPLY AIR FAN/HORIZONTAL FURNACE & ALL RELATED DUCTWORK
02 43	DEMO (E) UTILITY EXHAUST FAN & ALL RELATED DUCTWORK
02 44	DEMO (E) WALL ENCLOSURE FUSIBLE LINK FIRE DAMPER & ALL RELATED DOORS, FILTERS, AIR DAMPERS; FIELD VERIFY & COORDINATE WITH THE DISTRICT
08 03	(E) ACCESS HATCH IN FLOOR TO REMAIN,
23 02	(N) AIR HANDLER @ MECH ROOM BLDG K, SEE MECH DWGS
23 03	(N) AIR CONDITIONER UNIT @ ROOF BLDG L, SEE MECH DWGS
23 04	(E) UTILITY EXHAUST FAN & RELATED DUCTWORK TO REMAIN AND PROTECT IN PLACE

FLOOR PLAN GENERAL NOTES

A. CONSTRUCTION NOTES APPLY TO ALL SHEETS
B. ALL DIMENSIONS ARE ACTUAL. EXTERIOR DIMENSIONS ARE TO FACE OF SHEATHING OR GRID LINE. INTERIOR DIMENSIONS ARE TO FACE OF STUD OR CENTERLINE OF COLUMN, UNLESS NOTED OTHERWISE
C. PROVISIONS SHALL BE MADE AT FULL HEIGHT NON-BEARING WALLS FOR VERTICAL MOVEMENT OF BUILDING STRUCTURE WITHOUT TRANSFER OF COMPRESSIVE LOADS TO WALL. SEE STRUCTURAL DETAILS FOR NON-BEARING PARTITION CONNECTION AT ROOF DECK, FILL IRREGULARITIES BETWEEN TOP OF WALL AND DECK ABOVE WITH FIRE SAFING INSULATION OF FIRE STOPPING MATERIALS AS REQUIRED TO MEET FIRE RATING OF RESPECTIVE WALLS
D. GYPSUM BOARD AND PLASTER SURFACES SHALL BE ISOLATED WITH CONTROL JOINTS WERE INDICATED ON DRAWINGS AND / OR AS DESCRIBED IN THE SPECIFICATIONS
E. APPLICABLE TRADE CONTRACTOR SHALL FURNISH AND INSTALL FIRE RETARDANT TREATED 3X WOOD BLOCKING IN FRAMED PARTITIONS FPR PROPER ANCHORAGE OF WALL ATTACHED ITEMS INCLUDING BUT NOT LIMITED TO FOLLOWING: GRAB BARS, CASEWORK, MILLWORK, TOILET ACCESSORIES, TOILET PARTITIONS, WALL MOUNTED FIXTURES, MARKER BOARTS OR TACKBOARDS, DOOR STOPS, AUDIO VISUAL BRACKETS, ETC. (IF APPLICABLE)
F. F. SEE MEANS OF EGRESS PLAN FOR LOCATION OF FIRE-RESISTANCE-RATED WALLS. WALLS OF FIRE-RESISTANCE-RATED COSTRUCTION SHALL EXTEND TO UNDERSIDE OF FLOOR OR ROOF DECK ABOVE
G. SEAL PENETRATIONS THROUGH FIRE-RESISTANCE-RATED CONSTRUCTION WITH THROUGH-PENETRATION FIRESTOP MATERIAL AS REQUIRED TO ACHIEVE RESPECTIVE FIRE-RESISTIVE RATING AND SMOKE STOPPAGE
H. INCLUDE OWNER-FURNISHED AND INSTALLED ITEMS AND OWNER FURNISHED AND CONTRACTOR INSTALLED ITEMS IN THE CONSTRUCTION SCHEDULE, AND COORDINATE WITH OWNER TO ACCOMODATE THESE ITEMS

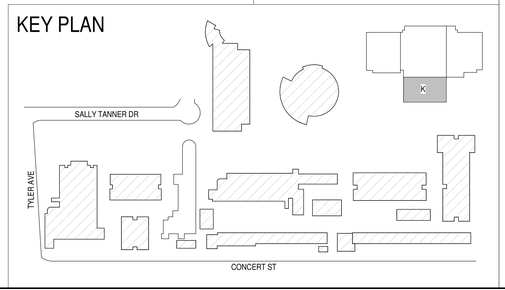
FLOOR PLAN LEGEND

(E) WALL
(E) 1HR RATED WALL
(E) 2HR RATED WALL
(N) INFILL WALL. SEE SHEET A11.1 WALL DETAILS
(N) INFILL 1HR RATED WALL SHEET A11.1 WALL DETAILS
(N) INFILL 2HR RATED WALL
APPROX AREA DEMO FOR NEW MECH EQUIPMENT, SEE MECH AND STRUCT DWG'S

NOTE: REPLACE ALL GYP OR PLASTER REMOVED IN DEMO PHASE TO MATCH (E) U.N.O.

? ??? SIM — SIMILAR OR TYPICAL REFERENCE
? ??? — WALL SECTION
? ??? — DETAIL REFERENCE

KEY PLAN



IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-123582 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 01/10/2024

LICENSED ARCHITECT JESSE MILLER NO. C-32306 REN. 10-31-25 STATE OF CALIFORNIA

DLRGROUP
© DLR Group

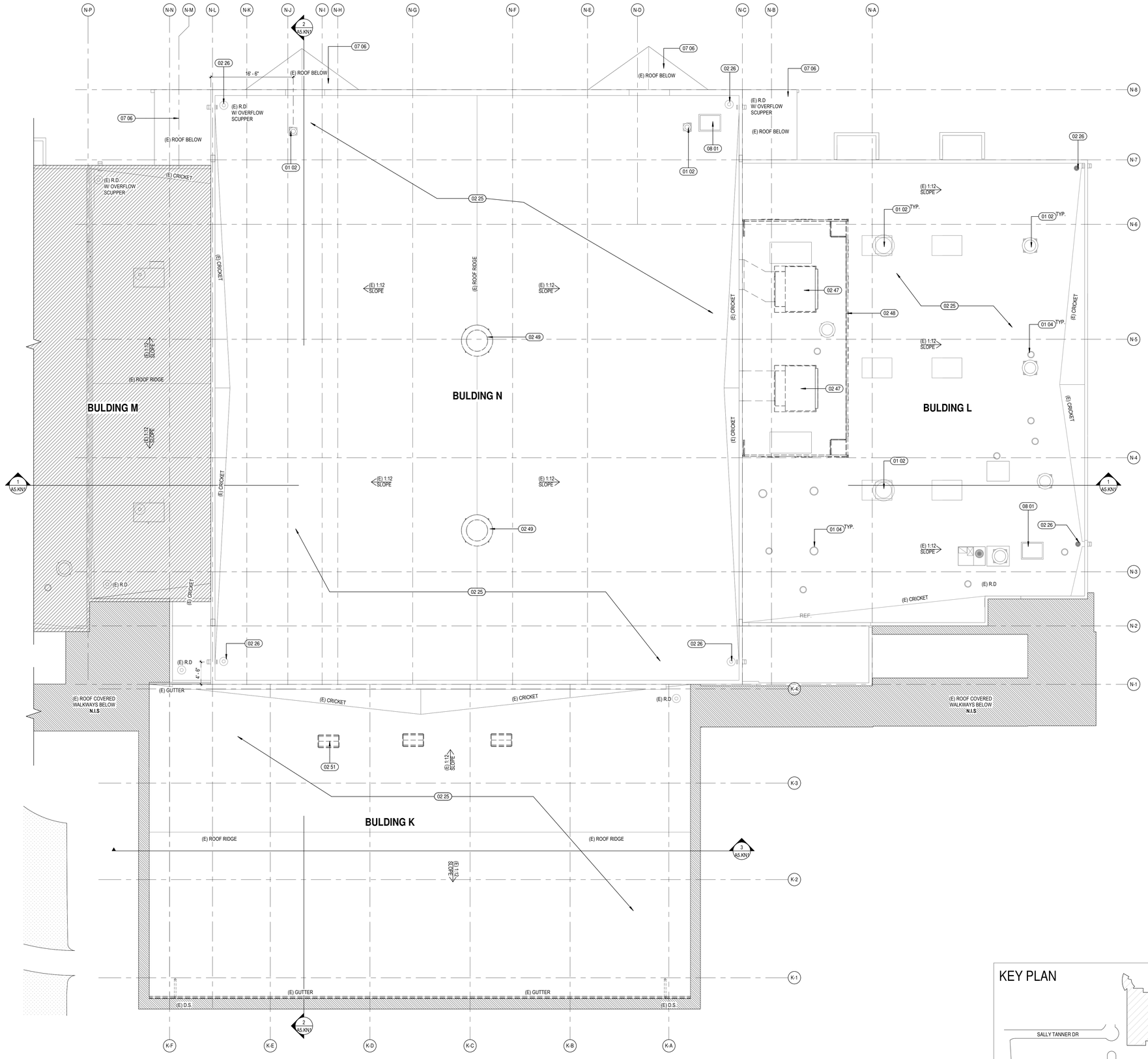
EL MONTE HIGH SCHOOL HVAC PROJECT
EL MONTE UNION HIGH SCHOOL DISTRICT
3048 Tyler Ave, El Monte, CA 91731

DSA BACKCHECK
11/20/2023
REVISIONS

DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-01

FLOOR PLANS - BLDG K - MEZZANINE

A1.KN1



1 A1.KN2 BLDGS K,L,N - ROOF PLAN DEMO

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

NORTH

KEYNOTES

KEYNOTE	KENOTE TEXT
01 02	(E) ROOF TOP EXHAUST FAN & CURB TO REMAIN.
01 04	(E) ROOF VENT TO REMAIN. REPLACE DAMAGED VENTS; FIELD VERIFY AND COORDINATE WITH THE DISTRICT
02 25	REMOVE (E) BUILT-UP ROOFING, FLASHING, FASCIA DRIPS, ROOFING BALLAST, ABANDONED CURBS AND PLATFORMS, UTILITIES AND RELATED ITEMS AS OCCURS. PROTECT SHEATHING IN PLACE. REMOVE AND REPLACE DAMAGED SHEATHING WHERE OCCURS.
02 26	REMOVE AND REPLACE (E) ROOF DRAIN.
02 47	REMOVE (E) GYM MECHANICAL PACKAGE UNIT, EQUIPMENT CURBS, UTILITIES AND RELATED ITEMS. VERIFY EXACT LOCATION IN FIELD.
02 48	REMOVE (E) MECHANICAL ROOF SCREENING & BASE ATTACHMENTS.
02 49	REMOVE (E) ROOF EXHAUST, CURBS AND ALL RELATED ITEMS.
02 51	REMOVE (E) RELIEF VENT GRILLE & RELATED COMPONENTS
07 06	(E) STANDING SEAM METAL ROOF. REPAIR & APPLY NEW COATING, SEE SPECS SECTION 07 01 50.61
08 01	(E) ROOF HATCH TO BE REPLACE TO MATCH (E) OPENING

ROOF PLAN LEGEND

(E) ROOF NOT IN SCOPE

(E) COVERED WALKWAYS ROOF **N.I.S** (NOT IN SCOPE)

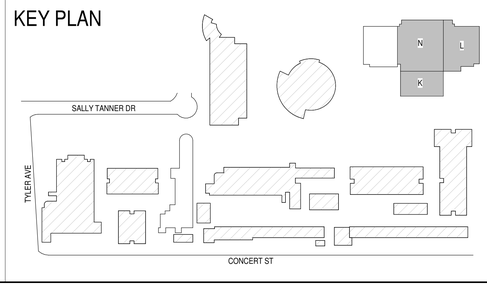
DEMOLITION GENERAL NOTES

DEMOLITION NOTES APPLY TO ALL DEMOLITION SHEETS.

THE CONTRACTOR SHALL:

A. COORDINATE ALL DEMOLITION AND PHASING EFFORTS WITH THE ARCHITECT AND OWNER'S REPRESENTATIVE. EVERY EFFORT SHALL BE MADE TO MINIMIZE DISRUPTION OF OWNER'S OPERATIONS. EXCESSIVE NOISE OR VIBRATION SHALL BE PRE-APPROVED AND COORDINATED WITH THE OWNER'S REPRESENTATIVE. IN ALL CASES, PROVISIONS SHALL BE MADE FOR USER'S SAFETY.
B. COORDINATE ANY DISRUPTION OF UTILITY SERVICES WITH THE OWNER AND AS SPECIFIED.
C. CONSTRUCT TEMPORARY CONSTRUCTION PARTITIONS WITHIN THE EXISTING BUILDING WHICH OFFER A ONE-HOUR ENCLOSURE TO ISOLATE ANY DEMOLITION/CONSTRUCTION WORK FROM THE GENERAL PUBLIC AND AS DEEMED NECESSARY BY THE OWNER AND CODE OFFICIAL HAVING JURISDICTION. COORDINATE LOCATIONS WITH THE OWNER AND MAINTAIN MEANS OF EGRESS THROUGHOUT THE WORK.
D. MAINTAIN A SECURE, WEATHER-TIGHT ENCLOSURE AT ALL TIMES.
E. VERIFY ALL EXISTING CONDITIONS, DIMENSIONS AND ELEVATIONS AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES.
F. REMOVE IN THEIR ENTIRETY ALL EXISTING WALLS, DOORS, MILLWORK, PLUMBING FIXTURES, CEILINGS, SOFFITS, MARKERBOARDS, AND OTHER ITEMS, AS REQUIRED TO EXECUTE THE DEMOLITION/CONSTRUCTION WORK DESCRIBED BY THE DRAWINGS.
G. THE OWNER SHALL RESERVE THE RIGHT TO SALVAGE ANY MATERIALS.
H. PROVIDE PROTECTION FOR ALL EXISTING BUILDING MATERIALS AND EQUIPMENT FROM DAMAGE DUE TO ANY DEMOLITION OR CONSTRUCTION-RELATED INCIDENT PERFORMED UNDER THIS CONTRACT.
I. REPAIR OR REPLACE ITEMS THAT ARE DAMAGED AS A RESULT OF DEMOLITION OR CONSTRUCTION TO MATCH EXISTING FINISH AND/OR CONDITION.
J. EXISTING MATERIALS SHALL NOT BE REUSED UNLESS NOTED OTHERWISE OR AS AUTHORIZED BY ARCHITECT.
K. VERIFY AND MAINTAIN THE LOCATION OF EXISTING POWER, COMMUNICATION AND DATA CABLES TO PREVENT INTERRUPTION OF THEIR SERVICE.
L. PATCH FLOOR, WALL AND CEILING PENETRATIONS RESULTING FROM REMOVAL OR RE-ROUTING OF NEW OR EXISTING PIPING, DUCTWORK, CONDUIT, AND OTHER ITEMS, AS REQUIRED TO MAINTAIN FIRE-RESISTANCE-RATED SEPARATIONS. FINISH AS REQUIRED FOR NEW OR EXISTING ADJACENT SURFACES.
M. CAP ALL DISCONNECTED MECHANICAL PIPING LINES WITHIN THE WALL OR FLOOR. PATCH AND FINISH AS REQUIRED TO MATCH NEW OR EXISTING ADJACENT SURFACES.
N. SEE MECHANICAL AND ELECTRICAL DRAWINGS AND NOTES FOR FURTHER SEQUENCING AND SCOPE OF WORK.

KEY PLAN



IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-123582 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 01/10/2024

LICENSED ARCHITECT JESSE MILLER No. C-32506 REN. 10-31-25 STATE OF CALIFORNIA

DLR GROUP
© DLR Group

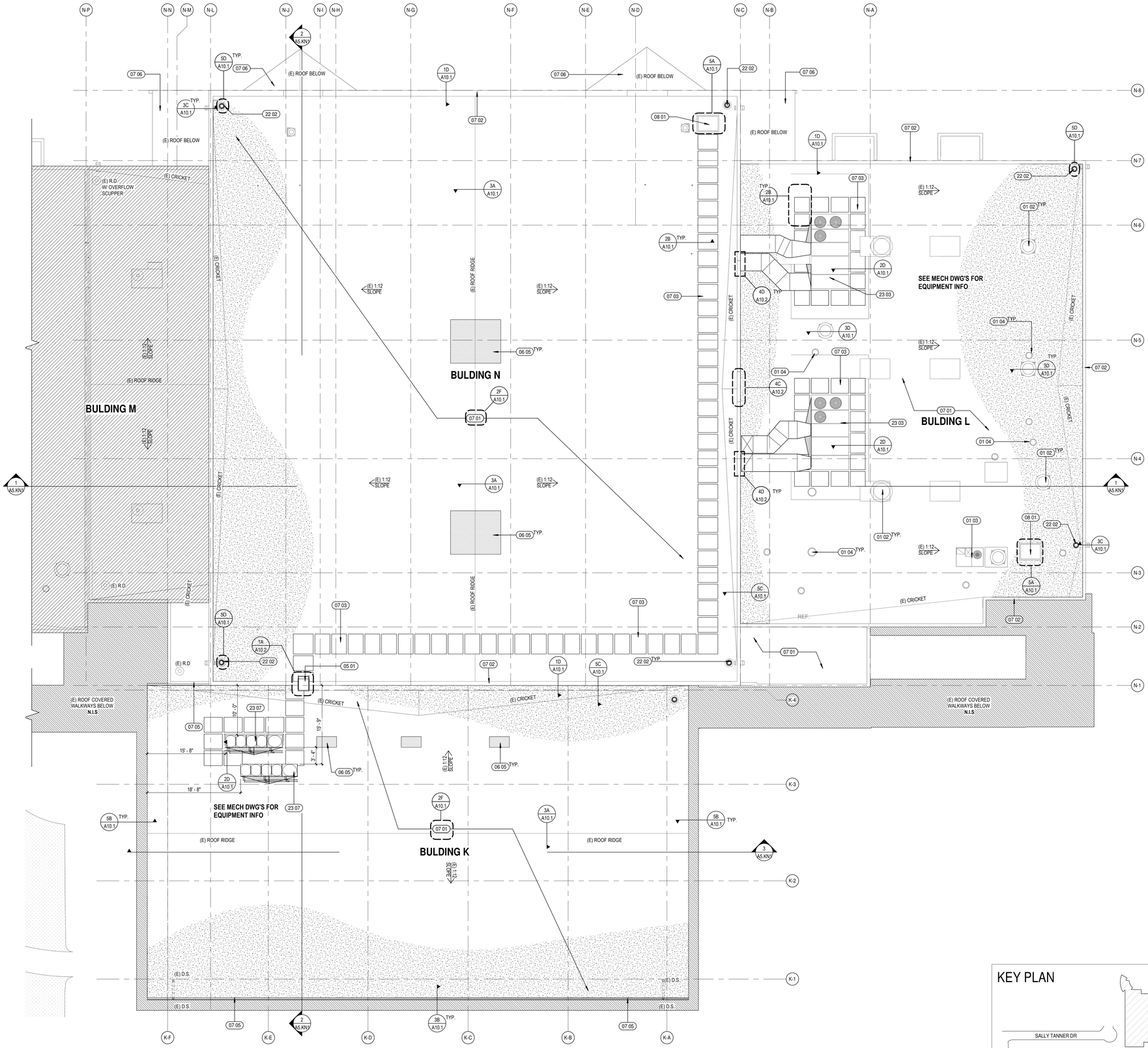
EL MONTE HIGH SCHOOL HVAC PROJECT
EL MONTE UNION HIGH SCHOOL DISTRICT
3048 Tyler Ave, El Monte, CA 91731

DSA BACKCHECK
11/20/2023
REVISIONS

DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-01

ROOF PLAN - BLDGS K, L, N - DEMO

A1.KN2



1 A1.KN3 BLDGS K, L, N - ROOF PLAN PROPOSED
SCALE: 1/8" = 1'-0"

NORTH

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-123582 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 01/10/2024

KEYNOTES

KEYNOTE	KENOTE TEXT
01 02	(E) ROOF TOP EXHAUST FAN & CURB TO REMAIN.
01 03	(E) AC ROOF TOP UNIT TO REMAIN & PROTECT IN PLACE
01 04	(E) ROOF VENT TO REMAIN. REPLACE DAMAGED VENTS; FIELD VERIFY AND COORDINATE WITH THE DISTRICT
05 01	(N) PARAPET ACCESS MFR. LADDER, SEE SPECS.
06 05	FRAME AND PATCH ROOF TO MATCH EXISTING, FIELD VERIFY ACTUAL LOCATIONS SEE STRUCT. 22/S6.0
07 01	(N) SINGLE PLY ROOFING. SEE 2F/A10.1
07 02	(N) COPING CAP. TYP - REFER TO DETAIL 1D/A10.1
07 03	(N) ROOF WALK PADS, 36" MIN. WIDE. PER 2B/A10.1
07 05	(N) MFG. GUTTER TO BE ATTACHED TO (E) DOWNSPOUT SYSTEM, SEE SPECS AND FIELD VERIFY
07 06	(E) STANDING SEAM METAL ROOF. REPAIR & APPLY NEW COATING, SEE SPECS SECTION 07 01 50.61
08 01	(E) ROOF HATCH TO BE REPLACE TO MATCH (E) OPENING
22 02	(N) ROOF DRAIN W/ SCUPPER, CONNECT TO (E) DS PIPE, PER PLUMBING DWGS
23 03	(N) AIR CONDITIONER UNIT @ ROOF BLDG L. SEE MECH DWGS
23 07	(N) HEAT PUMP, SEE MECH DWG'S &MO.03

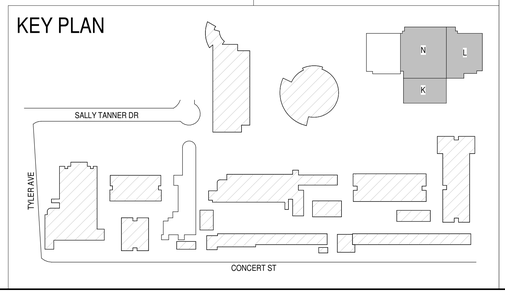
ROOF PLAN LEGEND

- APPROX AREA ROOF DEMO FOR NEW MECH EQUIPMENT, SEE MECH AND STRUCT DWG'S
- (N) CLASS A SINGLE PLY ROOFING. SEE 2F/A10.1
  NOTE: WEIGHT OF NEW ROOFING NOT TO EXCEED WEIGHT OF EXISTING ROOFING
- ROOF INFILL / PATCHING. SEE 22/S6.0
- (E) ROOF NOT IN SCOPE
- (E) COVERED WALKWAYS ROOF **N.I.S** (NOT IN SCOPE)
- (N) MECH EQUIPMENT CRICKET PER 2A/A10.1

ROOF PLAN GENERAL NOTES

A. ROOF PLAN GENERAL NOTES APPLY TO ALL ROOF PLAN SHEETS.
B. ROOF SLOPES ARE CREATED BY SLOPING THE ROOF STRUCTURE UNLESS NOTED OTHERWISE. SEE STRUCTURAL DRAWINGS FOR ELEVATIONS OF THE HIGH AND LOW POINTS TO DETERMINE PROPER TAPER IN INSULATION.
C. ALL ROOF CURBS TO BE A MINIMUM OF 8 INCHES ABOVE ROOFING LEVELS. PROVIDE TAPERED INSULATION ROOF SADDLES AT ROOF CURBS TO PROVIDE DRAINAGE AROUND CURB.
D. SEE STRUCTURAL DRAWINGS FOR FRAMING AROUND ROOF PENETRATIONS.
E. COORDINATE THE SIZE AND LOCATION OF ROOF PENETRATIONS FOR MECHANICAL AND ELECTRICAL EQUIPMENT. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR PENETRATIONS NOT SHOWN ON THIS DRAWING.
F. FLASH DRAINS, CURBS, VENTS AND STACKS PER MANUFACTURER'S RECOMMENDATIONS IF DETAIL NOT SHOWN ON DRAWINGS.
G. NO ROOF PENETRATIONS ALLOWED WITHIN 4'-0" EACH SIDE OF FIREWALL. SEE CODE PLAN FOR FIRE WALL LOCATIONS.

KEY PLAN



LICENSED ARCHITECT JESSE MILLER No. C-32306 REN. 10-31-25 STATE OF CALIFORNIA

DLRGROUP
© DLR Group

EL MONTE HIGH SCHOOL HVAC PROJECT

EL MONTE UNION HIGH SCHOOL DISTRICT

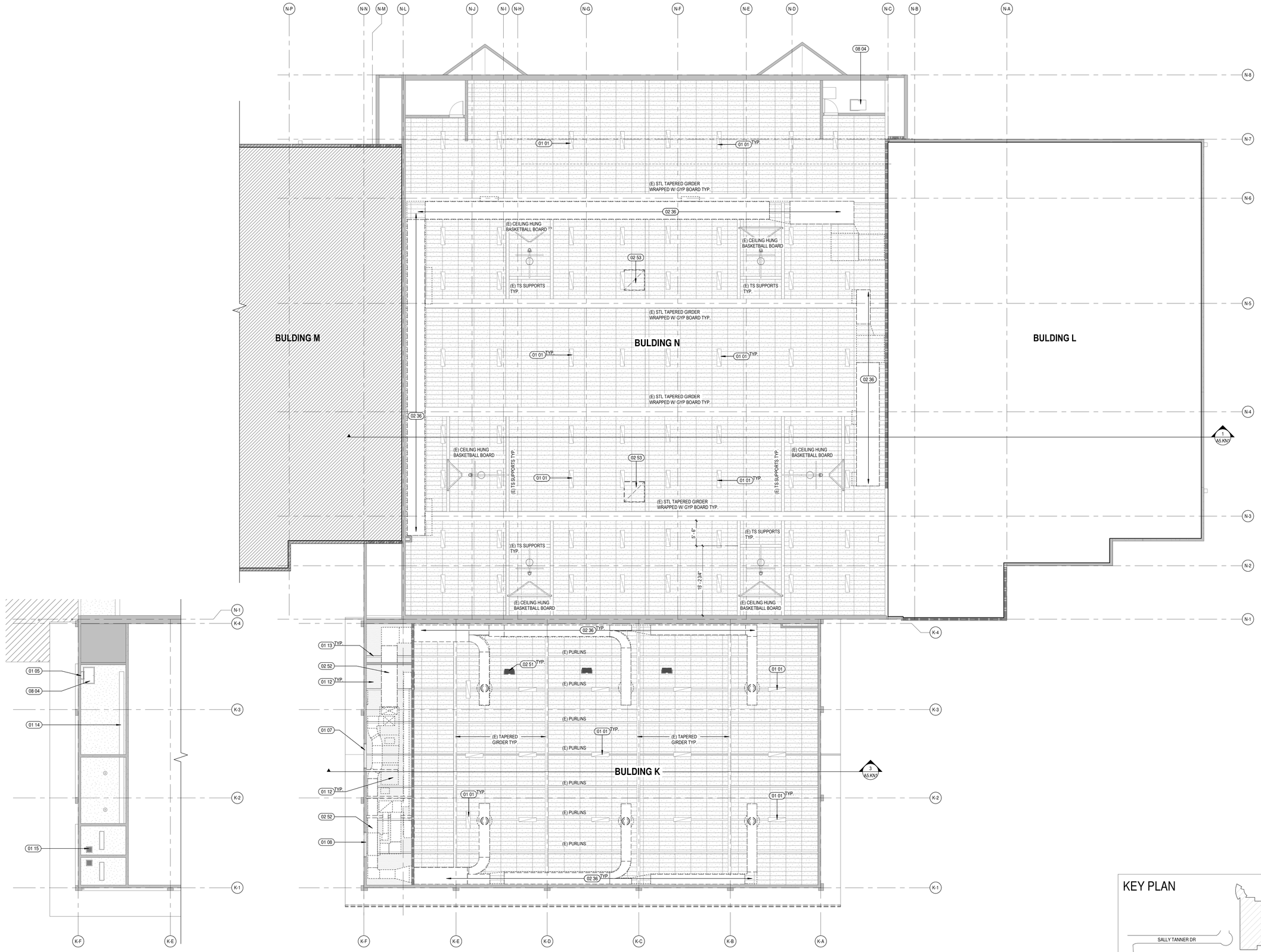
3048 Tyler Ave, El Monte, CA 91731

DSA BACKCHECK
11/20/2023
REVISIONS

DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-01

ROOF PLAN - BLDG K, L, N - PROPOSED

A1.KN3



KEYNOTES

KEYNOTE	KENOTE TEXT
01 01	(E) LIGHT FIXTURE TO REMAIN & PROTECT IN PLACE
01 05	(E) FIXED LADDER, ACCESS MECH ROOM TO REMAIN
01 07	(E) REMOVABLE COMBUSTION AIR LOUVERED TO BE REPLACED, SEE SPECS.
01 08	(E) OUTSIDE AIR LOUVERED TO BE REPLACED, SEE SPECS
01 12	(E) 1HR RATED CEILING TO REMAIN, REPAIRED AS NEEDED, FIELD VERIFY & COORDINATE WITH DISTRICT
01 13	(E) SPRAYED ON FIREPROOF STL PURLINS @ MECH RM, REPAIRED AS NEEDED, FIELD VERIFY AND COORDINATE WITH DISTRICT
01 14	(E) EXPOSED DUCTWORK WITH EXHAUST AIR REGISTERS TO REMAIN, SEE MECH DWG'S
01 15	(E) EXHAUST AIR REGISTER TO REMAIN, SEE MECH DWG'S
02 36	DEMO (E) EXPOSED DUCTWORK W/ SUPPLY GRILLE, SEE MECH DWG'S
02 51	REMOVE (E) RELIEF VENT GRILLE & RELATED COMPONENTS
02 52	REMOVE (E) FURNACE'S & SUPPLY AIR FAN'S DUCTWORK AND ALL RELATED MECH EQUIPMENT, SEE MECH DWG'S
02 53	REMOVE (E) EXHAUST FAN GRILLE & RELATED ITEMS.
08 04	(E) ACCESS HATCH

REFLECTED CEILING PLAN LEGEND

- (E) WALL
- (E) 1HR RATED WALL
- (E) 2HR RATED WALL
- (N) OR INFILL STUD WALL. SEE FOR INFILL WALL
- (N) INFILL 1HR RATED WALL
- (N) INFILL 2HR RATED WALL

NOTE: REPLACE ALL GYP OR PLASTER REMOVED IN DEMO PHASE TO MATCH (E) U.N.O.

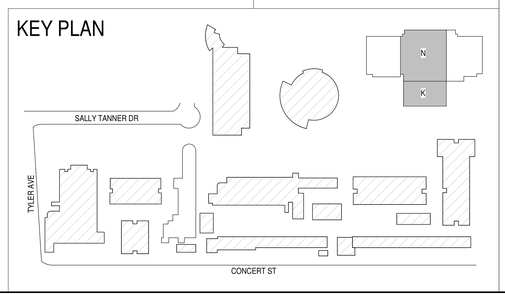
- (N) GYPSUM BOARD CEILING
- (E) GYM ACOUSTIC CEILING TILE (4'X8' AND/OR 2'X2') REPLACE AS NEEDED FOR WORK INDICATED
- (N) CEILING REGISTERS (SUPPLY, RETURN & EXHUAST; SEE MECH DWGS)

DEMOLITION GENERAL NOTES

DEMOLITION NOTES APPLY TO ALL DEMOLITION SHEETS.

THE CONTRACTOR SHALL:

A. COORDINATE ALL DEMOLITION AND PHASING EFFORTS WITH THE ARCHITECT AND OWNER'S REPRESENTATIVE. EVERY EFFORT SHALL BE MADE TO MINIMIZE DISRUPTION OF OWNER'S OPERATIONS. EXCESSIVE NOISE OR VIBRATION SHALL BE PRE-APPROVED AND COORDINATED WITH THE OWNER'S REPRESENTATIVE. IN ALL CASES, PROVISIONS SHALL BE MADE FOR USER'S SAFETY.
B. COORDINATE ANY DISRUPTION OF UTILITY SERVICES WITH THE OWNER AND AS SPECIFIED.
C. CONSTRUCT TEMPORARY CONSTRUCTION PARTITIONS WITHIN THE EXISTING BUILDING WHICH OFFER A ONE-HOUR ENCLOSURE TO ISOLATE ANY DEMOLITION/CONSTRUCTION WORK FROM THE GENERAL PUBLIC AND AS DEEMED NECESSARY BY THE OWNER AND CODE OFFICIAL HAVING JURISDICTION. COORDINATE LOCATIONS WITH THE OWNER AND MAINTAIN MEANS OF EGRESS THROUGHOUT THE WORK.
D. MAINTAIN A SECURE, WEATHER-TIGHT ENCLOSURE AT ALL TIMES.
E. VERIFY ALL EXISTING CONDITIONS, DIMENSIONS AND ELEVATIONS AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES.
F. REMOVE IN THEIR ENTIRETY ALL EXISTING WALLS, DOORS, MILLWORK, PLUMBING FIXTURES, CEILINGS, SOFFITS, MARKERBOARDS, AND OTHER ITEMS, AS REQUIRED TO EXECUTE THE DEMOLITION/CONSTRUCTION WORK DESCRIBED BY THE DRAWINGS.
G. THE OWNER SHALL RESERVE THE RIGHT TO SALVAGE ANY MATERIALS.
H. PROVIDE PROTECTION FOR ALL EXISTING BUILDING MATERIALS AND EQUIPMENT FROM DAMAGE DUE TO ANY DEMOLITION OR CONSTRUCTION-RELATED INCIDENT PERFORMED UNDER THIS CONTRACT.
I. REPAIR OR REPLACE ITEMS THAT ARE DAMAGED AS A RESULT OF DEMOLITION OR CONSTRUCTION TO MATCH EXISTING FINISH AND/OR CONDITION.
J. EXISTING MATERIALS SHALL NOT BE REUSED UNLESS NOTED OTHERWISE OR AS AUTHORIZED BY ARCHITECT.
K. VERIFY AND MAINTAIN THE LOCATION OF EXISTING POWER, COMMUNICATION AND DATA CABLES TO PREVENT INTERRUPTION OF THEIR SERVICE.
L. PATCH FLOOR, WALL AND CEILING PENETRATIONS RESULTING FROM REMOVAL OR RE-ROUTING OF NEW OR EXISTING PIPING, DUCTWORK, CONDUIT, AND OTHER ITEMS, AS REQUIRED TO MAINTAIN FIRE-RESISTANCE-RATED SEPARATIONS. FINISH AS REQUIRED FOR NEW OR EXISTING ADJACENT SURFACES.
M. CAP ALL DISCONNECTED MECHANICAL PIPING LINES WITHIN THE WALL OR FLOOR. PATCH AND FINISH AS REQUIRED TO MATCH NEW OR EXISTING ADJACENT SURFACES.
N. SEE MECHANICAL AND ELECTRICAL DRAWINGS AND NOTES FOR FURTHER SEQUENCING AND SCOPE OF WORK.



NORTH
2 A3.KN1 BLDG K - REFLECTED CEILING PLAN EXISTING
SCALE: 1/8" = 1'-0"

NORTH
1 A3.KN1 BLDGS K,N - REFLECTED CEILING PLAN DEMO
SCALE: 1/8" = 1'-0"

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-123582 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 01/10/2024

LICENSED ARCHITECT JESSE MILLER No. C-27306 REN. 10-31-25 STATE OF CALIFORNIA

DLRGROUP © DLR Group

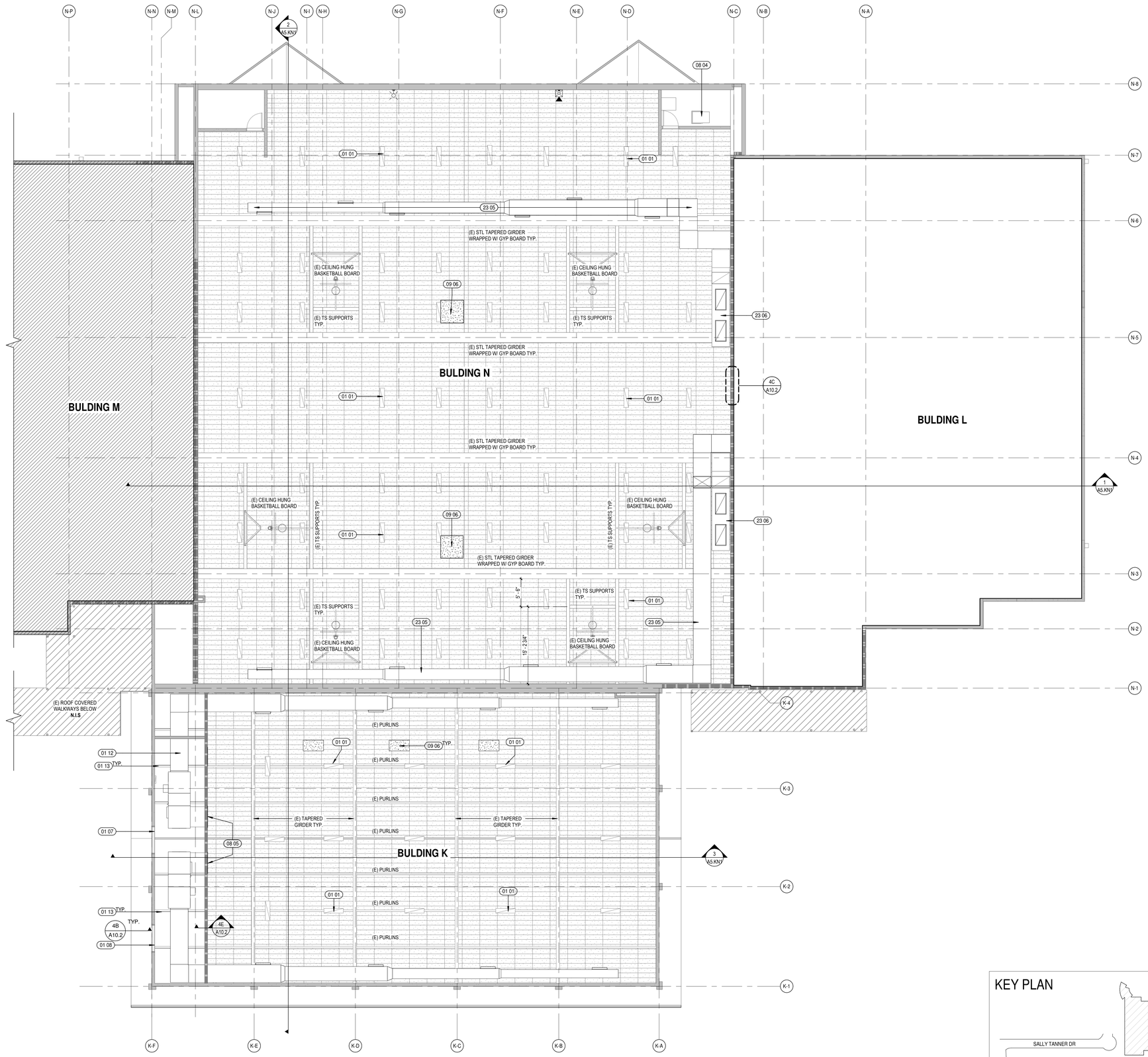
EL MONTE HIGH SCHOOL HVAC PROJECT
EL MONTE UNION HIGH SCHOOL DISTRICT
3048 Tyler Ave, El Monte, CA 91731

DSA BACKCHECK
11/20/2023
REVISIONS

DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-01

REFLECTED CEILING PLANS - BLDGS K,N - EXISTING/DEMO

A3.KN1



1 A3.KN2 REFLECTING CEILING PLAN - BLDGS K, N - RENOVATION

NORTH

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

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-123582 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 01/10/2024

KEYNOTES

KEYNOTE	KENOTE TEXT
01 01	(E) LIGHT FIXTURE TO REMAIN & PROTECT IN PLACE
01 07	(E) REMOVABLE COMBUSTION AIR LOUVERED TO BE REPLACED, SEE SPECS.
01 08	(E) OUTSIDE AIR LOUVERED TO BE REPLACED, SEE SPECS
01 12	(E) 1HR RATED CEILING TO REMAIN, REPAIRED AS NEEDED, FIELD VERIFY & COORDINATE WITH DISTRICT
01 13	(E) SPRAYED ON FIREPROOF STL PURLINS @ MECH RM, REPAIRED AS NEEDED, FIELD VERIFY AND COORDINATE WITH DISTRICT
08 04	(E) ACCESS HATCH
08 05	(N) WALL GRILLE RETURN LOUVER, TO BE PAINTED AND COORDINATE WITH DISTRICT, SEE MECH DWG'S
09 06	(N) INFILL CEILING TO MATCH (E) ACOUSTICAL TILE. FIELD VERIFY AND COORDINATE W/ DISTRICT
23 05	(N) EXPOSED DUCTWORK W/SUPPLY LOUVERS TO BE PAINTED; COORDINATE WITH DISTRICT. SEE MECH DWG'S SHEET M0.03 & STRUCT DWG'S
23 06	(N) EXPOSED DUCTWORK W/RETURN LOUVERS TO BE PAINTED; COORDINATE WITH DISTRICT. SEE MECH DWG'S M0.03 STRUCT DWG'S

REFLECTED CEILING PLAN GENERAL NOTES

A. REFLECTED CEILING PLAN GENERAL NOTES APPLY TO ALL REFLECTED CEILING PLAN SHEETS.
B. ALL CEILING GRIDS/PANELS SHALL BE CENTERED IN EACH ROOM UNLESS NOTED OTHERWISE.
C. CEILING HEIGHTS ARE NOTED ON THE REFLECTED CEILING PLANS ARE MEASURED FROM THE FINISH FLOOR OF THE ROOM.
D. ALL ELECTRICAL FIXTURES, SPEAKERS, SMOKE AND THERMAL DETECTORS, MECHANICAL GRILLES, SPRINKLER HEADS, AND OTHER CEILING MOUNTED DEVICES, SHALL BE CENTERED BETWEEN CEILING GRIDS UNLESS NOTED OTHERWISE. SPRINKLER HEADS SHALL BE WITHIN A 3-INCH RADIUS CENTERED BETWEEN CEILING GRIDS.
E. IN ACOUSTICAL CEILING PANELS WITH SCORE IN THE CENTER, CENTER DEVICES REFERENCE IN NOTE D IN ONE HALF OF THE TILE. DO NOT LOCATE ON THE SCORE. FOR ACP WITH MULTIPLE SCORED PATTERNS, COORDINATE LOCATION WITH THE ARCHITECT.
F. PROVIDE SUSPENSION SYSTEM AROUND ELECTRICAL FIXTURES, MECHANICAL GRILLES, DIFFUSERS, AND OTHER CEILING MOUNTED DEVICES. AT ACOUSTICAL PANEL CEILINGS.
G. ALL DIMENSIONS ON REFLECTED CEILING PLANS ARE ACTUAL AND ARE TO THE FOLLOWING UNLESS NOTED OTHERWISE:
   a. FACE OF FINISHED WALL
   b. FACE OF FINISHED BULKHEADS
   c. CENTERLINE OF COLUMNS
   d. CENTERLINE OF TEES
H. IN AREAS WITH EXPOSED STRUCTURE CEILINGS, COORDINATE EXACT LOCATIONS OF MECHANICAL GRILLES, DIFFUSERS, DUCTWORK AND ELECTRICAL FIXTURES WITH EACH REPRESENTATIVE SUBCONTRACTOR.
I. ALL WALLS EXTEND TO UNDERSIDE OF DECK EXCEPT THOSE SHOWN SHADED IN WHICH GYPSUM BOARD OR MASONRY EXTENDS MIN 4 INCHES ABOVE FINISHED CEILING. ALL METAL STUDS EXTEND TO UNDERSIDE OF FLOOR OR ROOF DECK.

REFLECTED CEILING PLAN LEGEND

- (E) WALL
- (E) 1HR RATED WALL
- (E) 2HR RATED WALL
- (N) OR INFILL STUD WALL. SEE FOR INFILL WALL
- (N) INFILL 1HR RATED WALL
- (N) INFILL 2HR RATED WALL

NOTE: REPLACE ALL GYP OR PLASTER REMOVED IN DEMO PHASE TO MATCH (E) U.N.O.

- (N) GYPSUM BOARD CEILING
- (E) GYM ACOUSTIC CEILING TILE (4'X8' AND/OR 2'X2') REPLACE AS NEEDED FOR WORK INDICATED
- (N) CEILING REGISTERS (SUPPLY, RETURN & EXHUAST; SEE MECH DWGS)

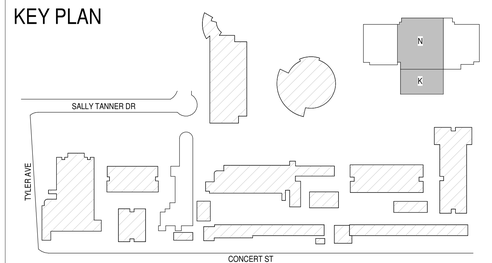
BLDG KLMN FINISH SCHEDULE

ACT- K/N
MATERIAL: ACOUSTICAL CEILING PLANK;
MANUFACTURER: BEST MATCH TO EXISTING
MODEL: BEST MATCH TO EXISTING
COLOR: MATCH EXISTING
SIZE: MATCH EXISTING
COMMENTS: ALL REPAIR WORK REQUIRED FOR THE WORK INDICATED TO BE FINISHED WITH ACP TO MATCH EXISTING

P-K -
MATERIAL: PAINT
COLOR: MATCH TO EXISTING ADJACENT FINISH
COMMENTS: SEMI-GLOSS FOR WALL, DOOR AND DOOR FRAME, FLAT FOR CEILING, U.O.N.
COMMENTS: ALL REPAIR WORK REQUIRED FOR THE WORK INDICATED TO BE PAINTED TO MATCH ADJACENT FINISHES

P-N -
MATERIAL: PAINT
COLOR: MATCH TO EXISTING ADJACENT FINISH
COMMENTS: SEMI-GLOSS FOR WALL, DOOR AND DOOR FRAME, FLAT FOR CEILING, U.O.N.
COMMENTS: ALL REPAIR WORK REQUIRED FOR THE WORK INDICATED TO BE PAINTED TO MATCH ADJACENT FINISHES

KEY PLAN



LICENSED ARCHITECT JESSE MILLER NO. C-32306 REN. 10-31-25 STATE OF CALIFORNIA

DLRGROUP
© DLR Group

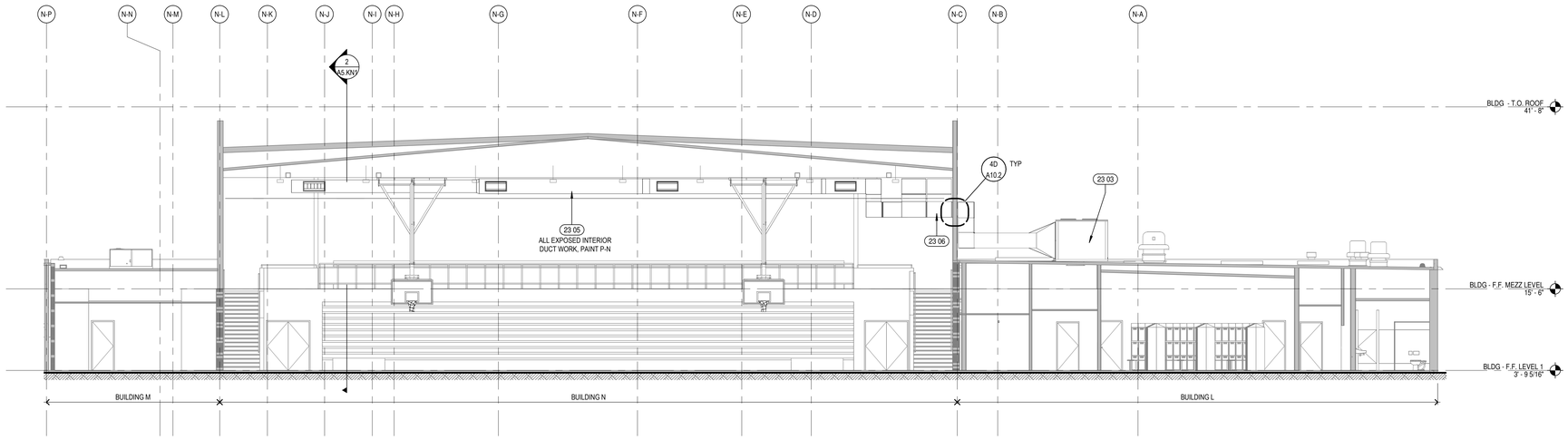
EL MONTE HIGH SCHOOL HVAC PROJECT
EL MONTE UNION HIGH SCHOOL DISTRICT
3048 Tyler Ave, El Monte, CA 91731

DSA BACKCHECK
11/20/2023
REVISIONS

DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-01

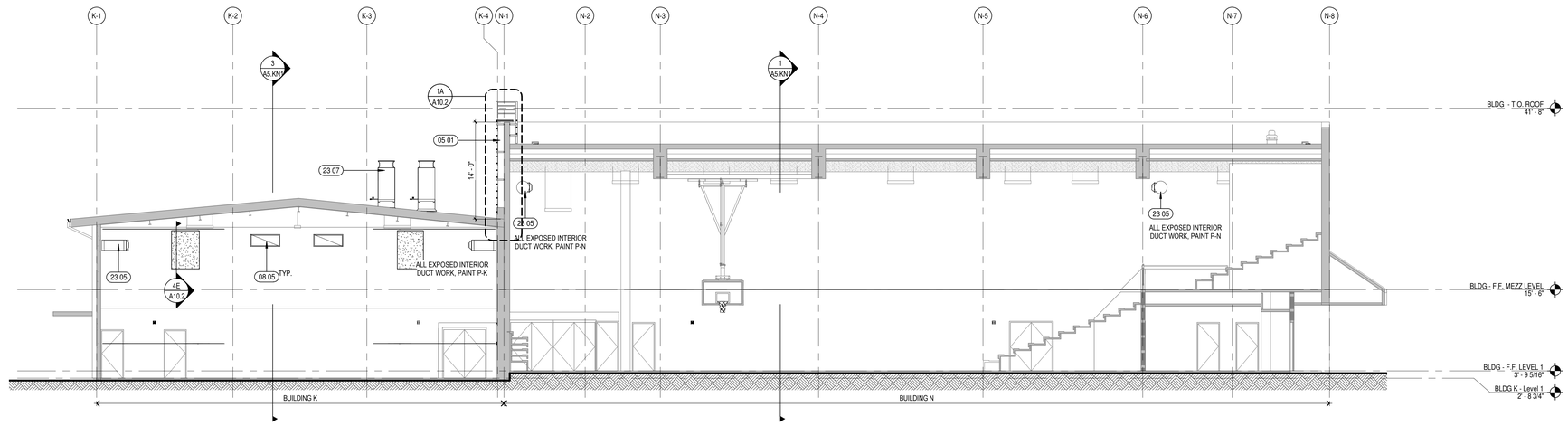
REFLECTED CEILING PLANS - BLDGS K, N - PROPOSED

A3.KN2



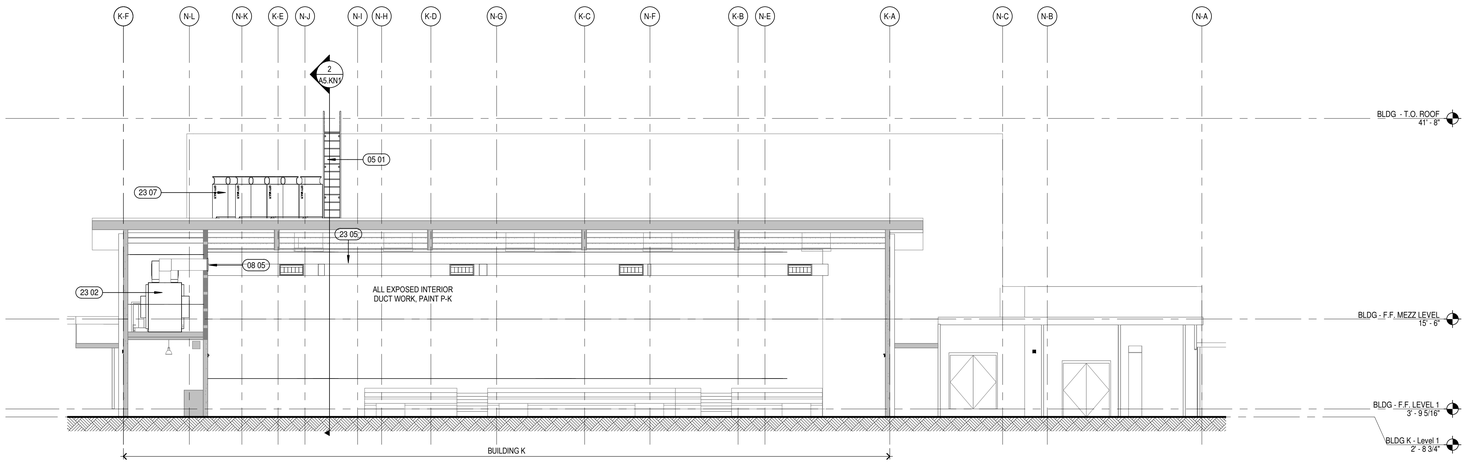
1 A5.KN1 (E) BLDG L, M, N - E/W SECTION AT MAIN GYM WITH NEW MECHANICAL EQUIPMENT

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



2 A5.KN1 (E) BLDG K, N - N/S SECTION AT MAIN GYM & PRACTICE GYM WITH NEW MECHANICAL EQUIPMENT

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



3 A5.KN1 (E) BLDG K - S/N SECTION AT SMALL GYM WITH NEW MECHANICAL EQUIPMENT

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

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-123582 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 01/10/2024

KEYNOTES

KEYNOTE	KENOTE TEXT
05 01	(N) PARAPET ACCESS MFR. LADDER, SEE SPECS.
08 05	(N) WALL GRILLE RETURN LOUVER, TO BE PAINTED AND COORDINATE WITH DISTRICT, SEE MECH DWG'S
23 02	(N) AIR HANDLER @ MECH ROOM BLDG K, SEE MECH DWGS
23 03	(N) AIR CONDITIONER UNIT @ ROOF BLDG L, SEE MECH DWGS
23 05	(N) EXPOSED DUCTWORK W/SUPPLY LOUVERS TO BE PAINTED; COORDINATE WITH DISTRICT, SEE MECH DWG'S SHEET M0.03 & STRUCT DWG'S
23 06	(N) EXPOSED DUCTWORK W/RETURN LOUVERS TO BE PAINTED; COORDINATE WITH DISTRICT, SEE MECH DWG'S M0.03 STRUCT DWG'S
23 07	(N) HEAT PUMP, SEE MECH DWG'S 8 M0.03

WALL ELEVATION FINISH LEGEND

(N) INFILL WALL OPENING PER PLAN, TO MATCH EXISTING SEE SHEET A10.2 FOR WALL DETAILS, PAINT P-0

WALL LEGEND

- (E) WALL
- (E) 1HR RATED WALL
- (E) 2HR RATED WALL
- (N) INFILL WALL, SEE SHEET A10.2 WALL DETAILS
- (N) INFILL 1HR RATED WALL SHEET A10.2 WALL DETAILS
- (N) INFILL 2HR RATED WALL

BLDG KLMN FINISH SCHEDULE

ACT- K/N
MATERIAL: ACOUSTICAL CEILING PLANK;
MANUFACTURER: BEST MATCH TO EXISTING
MODEL: BEST MATCH TO EXISTING
COLOR: MATCH EXISTING
SIZE: MATCH EXISTING
COMMENTS: ALL REPAIR WORK REQUIRED FOR THE WORK INDICATED TO BE FINISHED WITH ACP TO MATCH EXISTING

P-K -
MATERIAL: PAINT
COLOR: MATCH TO EXISTING ADJACENT FINISH
COMMENTS: SEMI-GLOSS FOR WALL, DOOR AND DOOR FRAME, FLAT FOR CEILING, U.O.N.
COMMENTS: ALL REPAIR WORK REQUIRED FOR THE WORK INDICATED TO BE PAINTED TO MATCH ADJACENT FINISHES

P-N -
MATERIAL: PAINT
COLOR: MATCH TO EXISTING ADJACENT FINISH
COMMENTS: SEMI-GLOSS FOR WALL, DOOR AND DOOR FRAME, FLAT FOR CEILING, U.O.N.
COMMENTS: ALL REPAIR WORK REQUIRED FOR THE WORK INDICATED TO BE PAINTED TO MATCH ADJACENT FINISHES

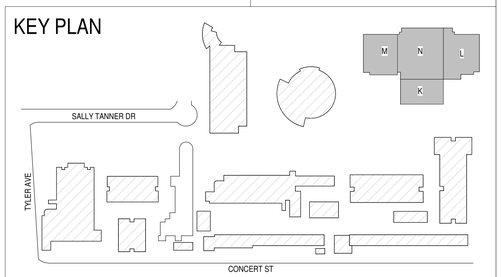
LICENSED ARCHITECT
JESSE MILLER
No. C-32306
REN. 10-31-25
STATE OF CALIFORNIA

DLRGROUP
© DLR Group

EL MONTE HIGH SCHOOL HVAC PROJECT
EL MONTE UNION HIGH SCHOOL DISTRICT
3048 Tyler Ave, El Monte, CA 91731

DSA BACKCHECK
11/20/2023
REVISIONS

KEY PLAN



DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-01

BUILDING SECTIONS - BLDGS K, N

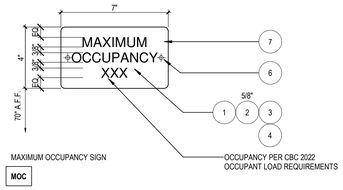
A5.KN1

Autodesk Docs://75-22201-00 El Monte UHSD - EMHS Mod/75-22201-00_El Monte UHSD - EMHS Mod_AR_2022_BLDG K-N.rvt
12/13/2023 10:27:28 AM

CAPACITY POSTING PER 2022 CBC 1004.3 TITLE 19 C.C.R. SECTION 3.30

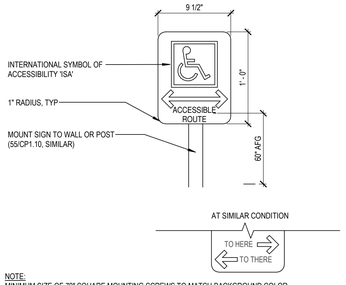
Any room having an occupant load of 50 or more persons where fixed seats are not installed, and which is used for assembly, classroom, dining, drinking, or similar purposes, shall have the capacity of the room posted in a conspicuous place near the main exit from the room. Posting shall be by means of a durable sign having a contrasting color from the background to which it is attached. Signs shall be of an approved type and shall be maintained in a legible manner by the owner or his authorized agent and shall indicate the number of occupants permitted for each room use. No person shall deface or remove such signs except as authorized by the enforcing agency."

NOTE: SIGN REQUIRED AT ANY SPACE OVER 49 OCCUPANTS



MOC

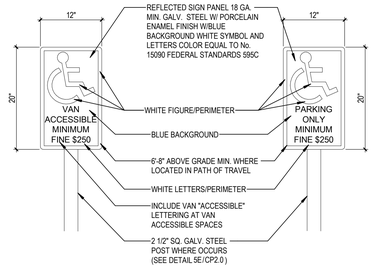
1E / CP2.0 MAX OCCUPANCY SIGN
SCALE: 3" = 1'-0"



NOTE:
MINIMUM SIZE OF 70" SQUARE MOUNTING SCREWS TO MATCH BACKGROUND COLOR

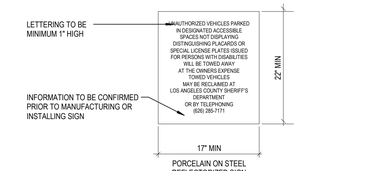
ASD

1F / CP2.0 ACCESSIBLE SITE DIRECTIONAL SIGNAGE
SCALE: 1 1/2" = 1'-0"



AVP NOTE: SIGN SIZE: 70 SQ. INCHES (MIN.) APS

2F / CP2.0 (E) ACCESSIBLE PARKING SIGNS
SCALE: 1" = 1'-0"



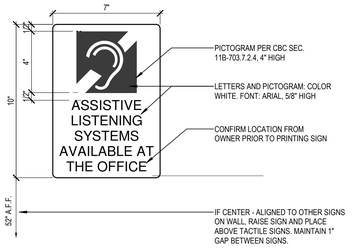
NOTE:
1. TO BE PLACED AT EACH ENTRANCE TO OFF-STREET PARKING OR IMMEDIATELY ADJACENT TO AND VISIBLE FROM EACH STALL.
2. SEE PLAN FOR LOCATION.

APES

4F / CP2.0 ACCESSIBLE PARKING ENTRANCE SIGN
SCALE: 1" = 1'-0"

NPK

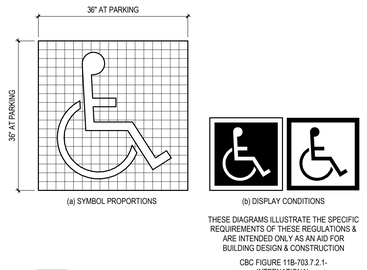
2E / CP2.0 NO PARKING ANY TIME
SCALE: 3" = 1'-0"



NOTE:
1. THIS SIGN IS ASSISTING THE DEAF NOT THE BLIND - BRAILLE NOT REQUIRED

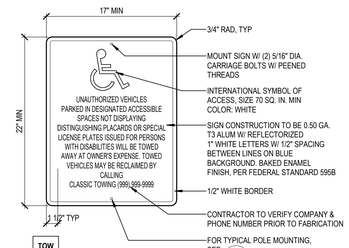
ALS

3E / CP2.0 ASSISTIVE LISTENING SYSTEM
SCALE: 3" = 1'-0"



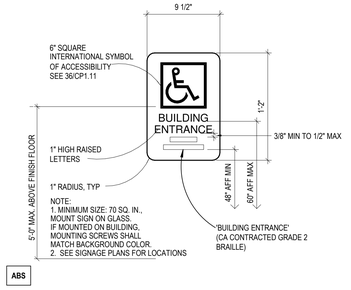
ASYM

3F / CP2.0 (E) INTERNATIONAL SYMBOL OF ACCESSIBILITY
SCALE: 3" = 1'-0"



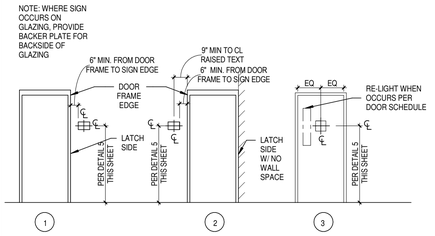
TOW

5C / CP2.0 (E) TOW AWAY SIGN
SCALE: 1 1/2" = 1'-0"

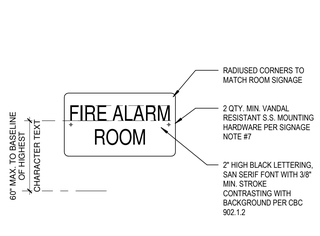


ABS

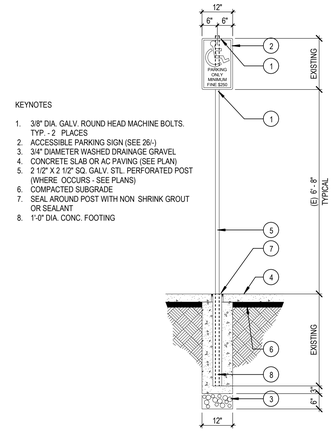
5F / CP2.0 (E)ACCESSIBLE BUILDING ENTRANCE
SCALE: 1 1/2" = 1'-0"



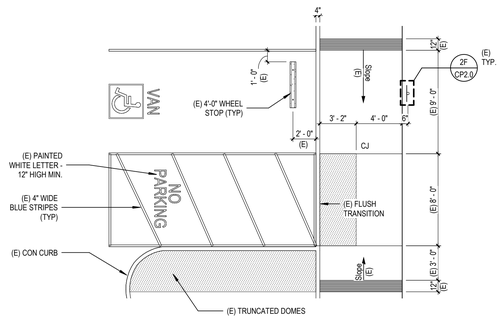
5A / CP2.0 SIGN - MOUNTING LOCATIONS
SCALE: 1/4" = 1'-0"



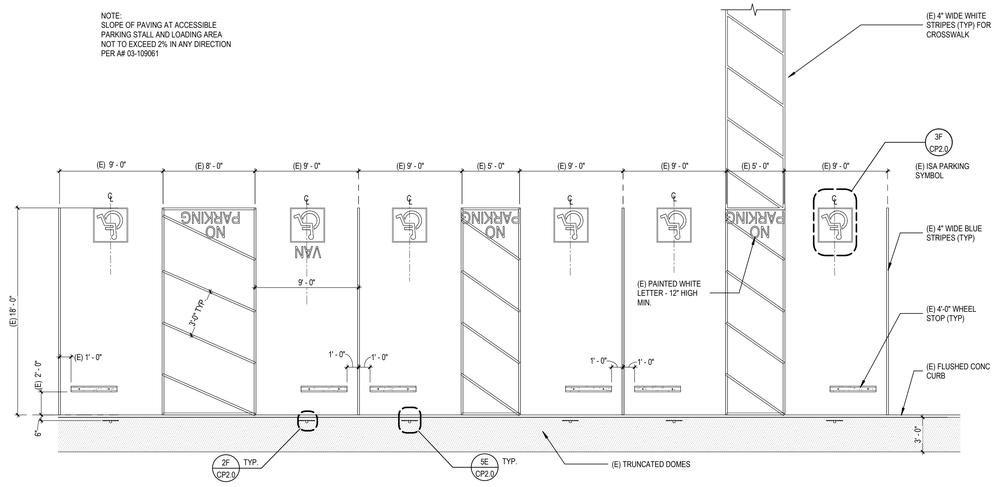
5B / CP2.0 FAR- FIRE ALARM ROOM DOOR SIGNAGE
SCALE: 1 1/2" = 1'-0"



5E / CP2.0 (E) ACCESSIBLE PARKING SIGN POST
SCALE: 1/2" = 1'-0"



2 / CP2.0 ENLARGED EXISTING ACCESSIBLE PARKING STALL
SCALE: 3/16" = 1'-0"



1 / CP2.0 ENLARGED EXISTING ACCESSIBLE PARKING STALLS
SCALE: 3/16" = 1'-0"

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-123582 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 01/10/2024

LICENSED ARCHITECT JESSE MILLER No. C-32306 REN. 10-31-25 STATE OF CALIFORNIA

DLR GROUP © DLR Group

COMMITTED TO COLLEGE AND CAREER READINESS

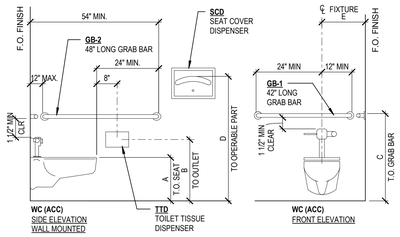
EL MONTE HIGH SCHOOL HVAC PROJECT
EL MONTE UNION HIGH SCHOOL DISTRICT
3048 Tyler Ave, El Monte, CA 91731

DSA BACKCHECK
11/20/2023
REVISIONS

DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-01

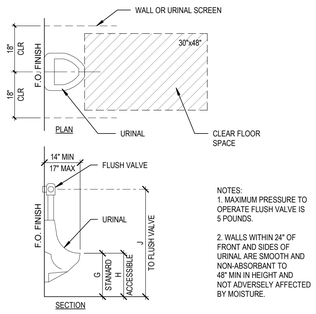
(E) ENLARGED PARKING & SIGNAGE DETAILS

CP2.0



NOTES:
1. REFER TO FLOOR PLANS FOR ADDITIONAL DIMENSIONS AND INFORMATION.
2. FLUSH VALVE MUST BE MOUNTED ON THE WIDE SIDE OF THE TOILET COMPARTMENT.
3. MAXIMUM PRESSURE TO OPERATE TOILET VALVE TO BE FIVE LBS.
4. GRAB BARS TO HAVE 250 POUNDS CAPACITY.
5. MAINTAIN 1 1/2" CLEAR BELOW GRAB BAR.

3E CP2.1 TOILET CLEARANCES (WC)
SCALE: 1/2" = 1'-0"



NOTES:
1. MAXIMUM PRESSURE TO OPERATE FLUSH VALVE IS 5 POUNDS.

2. WALLS WITHIN 24" OF FRONT AND SIDES OF URINAL ARE SMOOTH AND NON-ABSORBANT TO 48" MIN IN HEIGHT AND NOT ADVERSELY AFFECTED BY MOISTURE.

4E CP2.1 URINAL CLEARANCES (UR & UR-ACC)
SCALE: 1/2" = 1'-0"

NOTES:
1. INSULATE HOT WATER AND DRAIN PIPES.

2. FAUCET CONTROLS TO BE LEVER TYPE WITH MAXIMUM OPERATING FORCE OF 5 LBS.

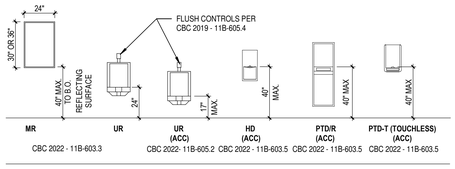
3. SELF-CLOSING VALVES TO REMAIN OPEN A MINIMUM OF 10 SECONDS.

4. THERE SHALL BE NO SHARP OR ABRASIVE SURFACES UNDER LAVATORIES AND SINKS.

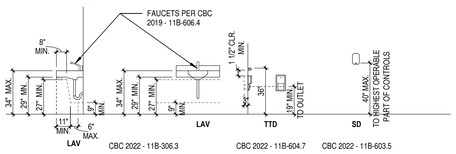
4F CP2.1 LAVATORY CLEARANCES (LAV)
SCALE: 1/2" = 1'-0"

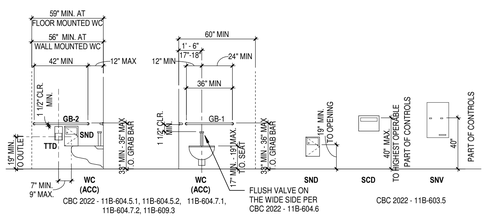
2C CP2.1 ACCESSIBLE COMPARTMENT IN MULTIPLE TOILET
SCALE: 1/4" = 1'-0"

ADULT MOUNTING HEIGHTS - CBC 2022



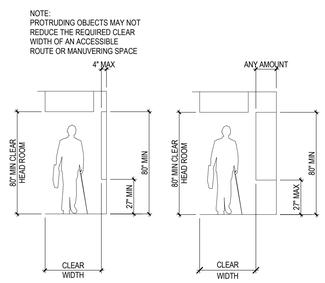
NOTE: WATER SUPPLY AND DRAIN PIPES UNDER LAVATORIES AND SINKS SHALL BE INSULATED. THERE SHALL BE NO SHARP OR ABRASIVE SURFACES UNDER LAVATORIES AND SINKS.



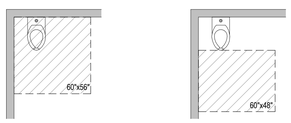


2E CP2.1 ADULT MOUNTING HEIGHTS
SCALE: 1/4" = 1'-0"

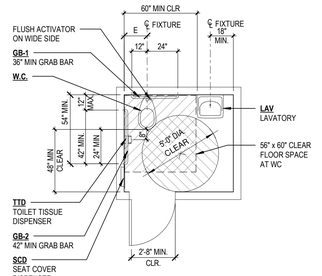
NOTE:
PROTRUDING OBJECTS MAY NOT REDUCE THE REQUIRED CLEAR WIDTH OF AN ACCESSIBLE ROUTE OR MANUVERING SPACE



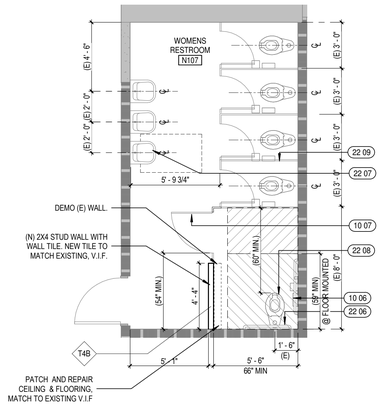
1C CP2.1 ACCESSIBLE ROUTE CLEARANCES
SCALE: 1/4" = 1'-0"



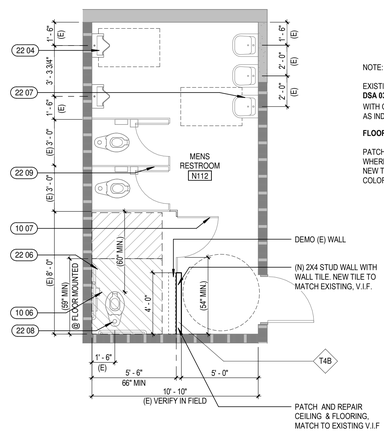
5F CP2.1 FLOOR CLEARANCE SYMBOLS
SCALE: 1/4" = 1'-0"



5E CP2.1 SINGLE OCCUPANCY TOILET
SCALE: 1/4" = 1'-0"



1 CP2.1 (E) BLDG N - ENLARGED WOMEN RR PLAN
SCALE: 1/4" = 1'-0"



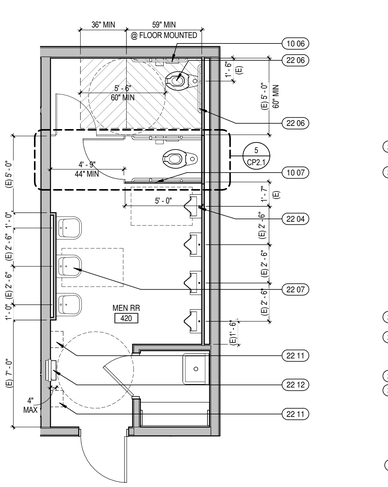
NOTE:

EXISTING RESTROOMS AT BUILDING N UNDER **DSA 03-51379**, ARE SHOWN TO BE IN COMPLIANCE WITH CBC 2022 CHAPTER 11B, WITH THE UPDATES AS INDICATED ON THE ENLARGED PLANS.

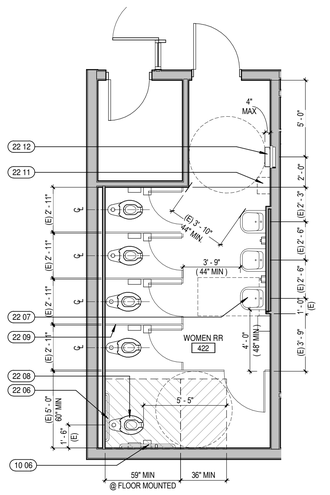
FLOORING AND CEILING NOTE:

PATCH AND REPARE CEILING AND FLOORING WHERE WALL DEMOLITION OCCURED, PROVIDE NEW TILE TO MATCH EXISTING TILE. MATCH PAINT COLOR TO EXISTING TYP.

2 CP2.1 (E) BLDG N - ENLARGE MEN RR PLAN
SCALE: 1/4" = 1'-0"



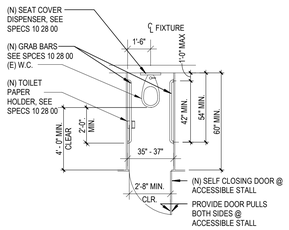
3 CP2.1 BLDG C - ENLARGE RR PLAN - MEN
SCALE: 1/4" = 1'-0"



NOTE:

EXISTING RESTROOMS AT BUILDING C UNDER **DSA 03-107686**, ARE SHOWN TO BE IN COMPLIANCE WITH CBC 2022 CHAPTER 11B, WITH THE UPDATES AS INDICATED ON THE ENLARGED PLANS.

4 CP2.1 BLDG C - ENLARGE RR PLAN - WOMEN
SCALE: 1/4" = 1'-0"



5 CP2.1 AMBULATORY TOILET STALL
SCALE: 1/4" = 1'-0"

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-123582 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 01/10/2024

KEYNOTE	KENOTE TEXT
10 06	(E) TOILET ACCESSORIES, TOILET TISSUE DISPENSER, SEAT COVER DISPENSER
10 07	(N) TOILET COMPARTMENT, SEE SPECS SECTION 10 21 13.19
22 04	(E) ACCESSIBLE URINAL
22 06	(E) GRAB BAR
22 07	(E) ACCESSIBLE LAVATORY
22 08	(E) WATER CLOSET
22 09	(E) TOILET PARTITIONS
22 11	(E) PAPER TOWEL DISPENSER TO BE REPLACED
22 12	(N) SURFACE-MOUNTED PAPER TOWEL DISPENSER BY BOBRICK B-262

? WALL TYPE SEE 1B/A10.2

LICENSED ARCHITECT JESSE MILLER No. C-32306 REN. 10-31-25 STATE OF CALIFORNIA

DLR GROUP
© DLR Group

EL MONTE HIGH SCHOOL HVAC PROJECT
EL MONTE UNION HIGH SCHOOL DISTRICT
3048 Tyler Ave, El Monte, CA 91731

DSA BACKCHECK
11/20/2023
REVISIONS

KEY PLAN

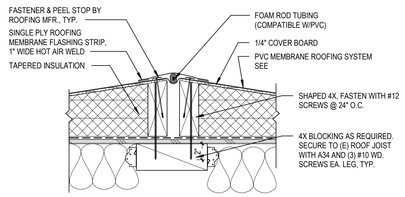
DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-01

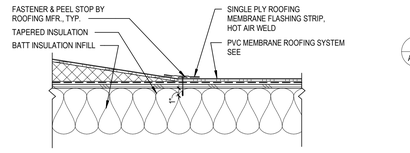
(E) ENLARGED RR PLANS & ACCESSIBILITY DETAILS

CP2.1

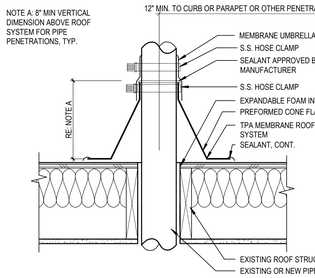
NOTES:

1. DETAIL IS REQUIRED ON ALL RIDGE/PEAKS WHEN THERE IS A JOINT IN THE STRUCTURAL DECK BELOW, REGARDLESS OF SLOPE.
2. BACKER ROD TO BE 1-1/2" TIMES THE SIZE OF THE OPENING
3.WOOD NAILER TO MATCH HEIGHT OF INSULATION REQUIRED AT PEAK IF INSULATION THICKNESS EXCEEDS 2 INCHES.

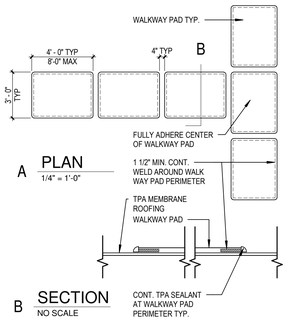




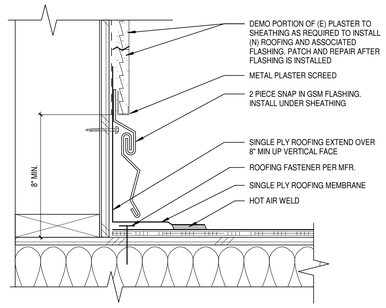
2A A10.1 TAPERED INSULATION
SCALE: 1 1/2" = 1'-0"



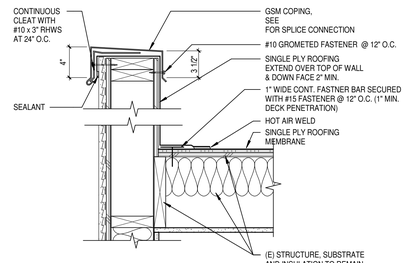
1B A10.1 PIPE PENETRATIONS @ ROOF, TYP
SCALE: 1 1/2" = 1'-0"



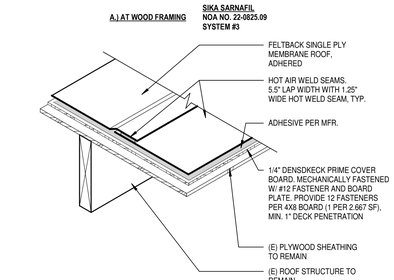
2B A10.1 ROOF DETAIL - WALK PADS, TYP
SCALE: 1/4" = 1'-0"

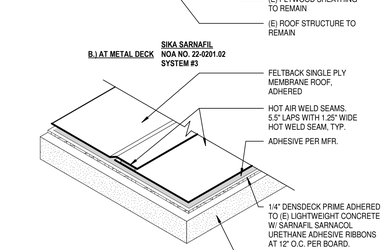


1C A10.1 BASE OF STUCCO TO ROOF
SCALE: 3" = 1'-0"



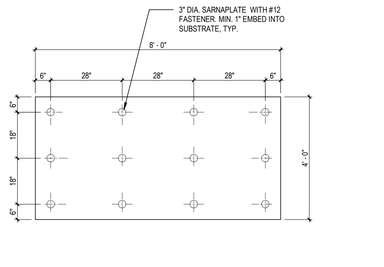
1D A10.1 PARAPET @ ROOF (STUCCO)
SCALE: 1 1/2" = 1'-0"



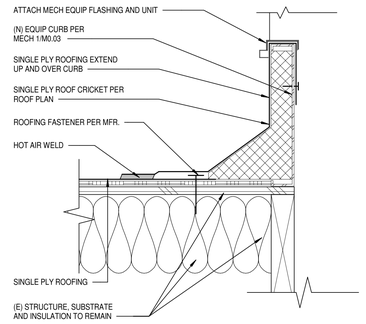


NOTE: ASSY PER ICC ESR #1157

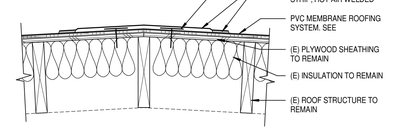
2F A10.1 TYPICAL ROOF ASSEMBLY - SINGLE PLY
SCALE: 1 1/2" = 1'-0"



2C A10.1 COVER BOARD FASTENING PATTERN
SCALE: 1/2" = 1'-0"



2D A10.1 FLASHING @ MECH. CURB
SCALE: 3" = 1'-0"

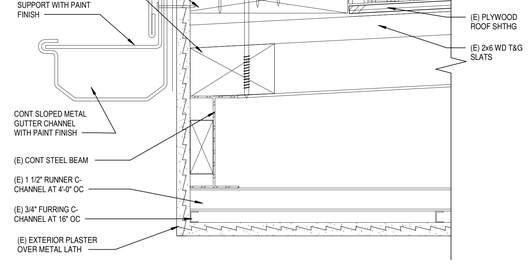


SIKA SARNAFIL
NOA NO. 22-0825.09
SYSTEM #3

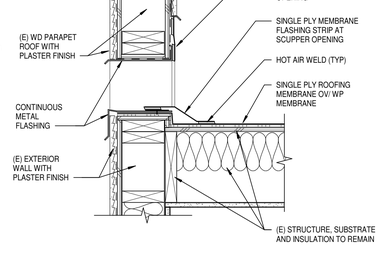
A.) AT RIDGE (WOOD FRAMING)

NOTE: ASSY PER ICC ESR #1157

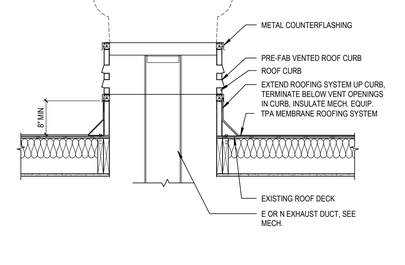
3A A10.1 SINGLE PLY @ (E) ROOF RIDGE
SCALE: 1 1/2" = 1'-0"



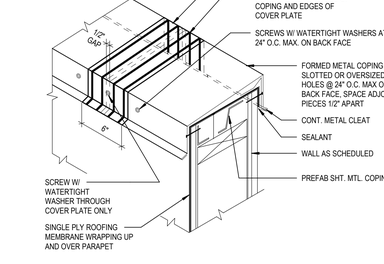
3B A10.1 ROOF DRAIN GUTTER EDGE
SCALE: 3" = 1'-0"



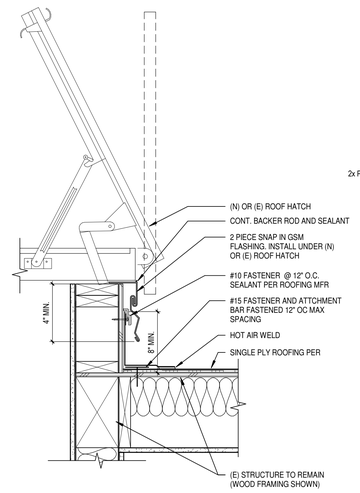
3C A10.1 ROOF THRU WALL OVERFLOW SCUPPER
SCALE: 1 1/2" = 1'-0"



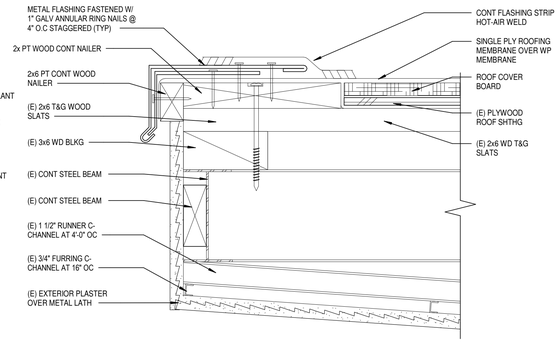
3D A10.1 ROOF DETAIL - EXHAUST FAN
SCALE: 3/4" = 1'-0"



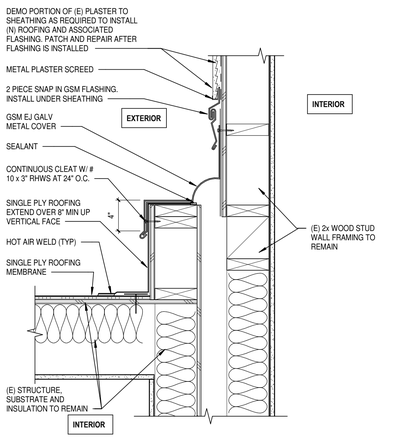
3F A10.1 COPING SPLICE
SCALE: 1 1/2" = 1'-0"



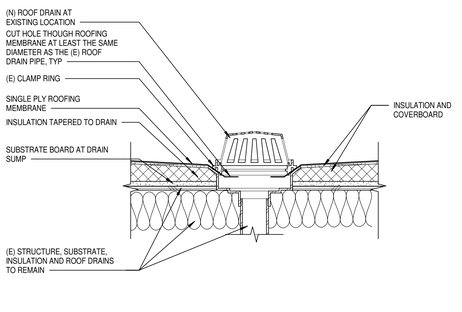
5A A10.1 FLASHING @ ROOF HATCH
SCALE: 1 1/2" = 1'-0"



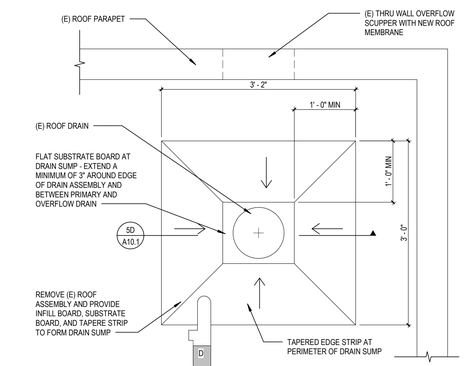
5B A10.1 ROOF FLASHING EDGE
SCALE: 3" = 1'-0"



5C A10.1 ROOF EXPANSION JOINT B
SCALE: 1 1/2" = 1'-0"



5D A10.1 ROOF DRAIN
SCALE: 1 1/2" = 1'-0"



5F A10.1 ROOF DRAIN - PLAN VIEW
SCALE: 1" = 1'-0"

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-123582 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 01/10/2024

LICENSED ARCHITECT
JESSE MILLER
No. C-32306
REN. 10-31-25
STATE OF CALIFORNIA

DLRGROUP
© DLR Group

EL MONTE HIGH SCHOOL HVAC PROJECT
EL MONTE UNION HIGH SCHOOL DISTRICT
3048 Tyler Ave, El Monte, CA 91731

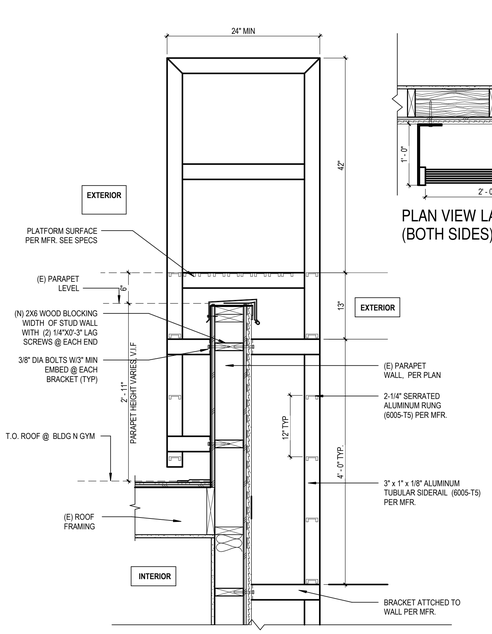
DSA BACKCHECK
11/20/2023
REVISIONS

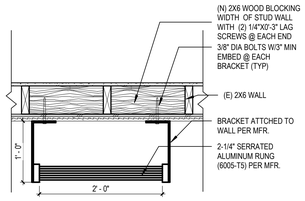
DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-01

ROOF DETAILS

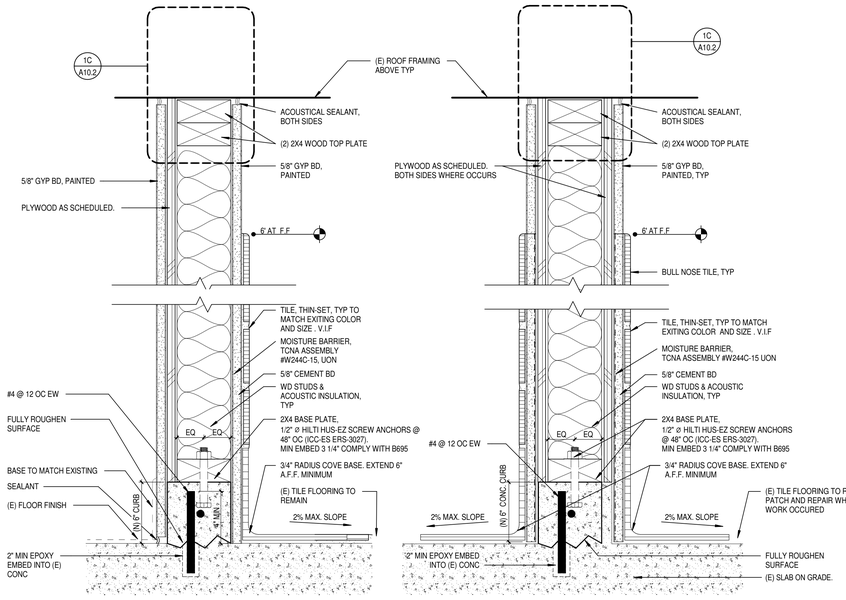
A10.1

LICENSED ARCHITECT
JESSE MILLER
NO. C-32306
REN. 10-31-25
STATE OF CALIFORNIA



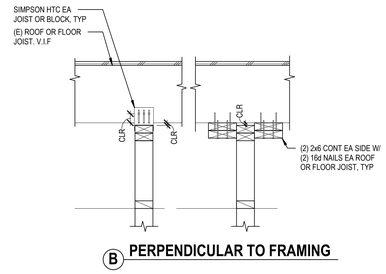


PLAN VIEW LADDER WALL ATTACHMENT (BOTH SIDES)

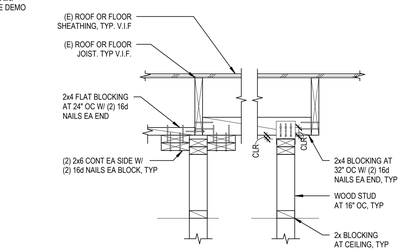


- T4A 2X4 WD STUD FRAMING, CERAMIC TILE WITH CEMENT BOARD SUBSTRATE ON ONE SIDE. (1) LAYER GWB ON OPP. SIDE.
- T4B 2X4 WD STUD FRAMING, CERAMIC TILE WITH CEMENT BOARD SUBSTRATE ON EACH SIDE.
- T4C 2X4 WD STUD FRAMING, CERAMIC TILE WITH CEMENT BOARD SUBSTRATE ON ONE SIDE. (1) LAYER GWB OVER (1) LAYER OF PLYWOOD ON OPP. SIDE.
- T4D 2X4 WD STUD FRAMING, CERAMIC TILE WITH CEMENT BOARD SUBSTRATE ON EACH SIDE. (1) LAYER OF PLYWOOD ON ONE SIDE.
- T4E 2X4 WD STUD FRAMING, CERAMIC TILE WITH CEMENT BOARD SUBSTRATE ON ONE SIDE. (1) LAYER GWB OVER (1) LAYER OF PLYWOOD ON OPP. SIDE.
- T6A 2X6 WD STUD FRAMING, CERAMIC TILE WITH CEMENT BOARD SUBSTRATE ON ONE SIDE. (1) LAYER GWB ON OPP. SIDE.
- T6B 2X6 WD STUD FRAMING, CERAMIC TILE WITH CEMENT BOARD SUBSTRATE ON EACH SIDE.
- T6C 2X6 WD STUD FRAMING, CERAMIC TILE WITH CEMENT BOARD SUBSTRATE ON ONE SIDE. (1) LAYER GWB OVER (1) LAYER OF PLYWOOD ON OPP. SIDE.
- T6D 2X6 WD STUD FRAMING, CERAMIC TILE WITH CEMENT BOARD SUBSTRATE ON EACH SIDE. (1) LAYER OF PLYWOOD ON ONE SIDE.
- T6E 2X6 WD STUD FRAMING, CERAMIC TILE WITH CEMENT BOARD SUBSTRATE ON ONE SIDE. (1) LAYER GWB OVER (1) LAYER OF PLYWOOD ON OPP. SIDE.

1B A10.2 T-TILE WALL (NON-RATED)
SCALE: 3" = 1'-0"

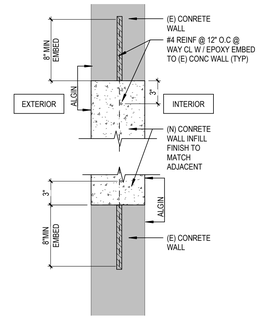


B PERPENDICULAR TO FRAMING

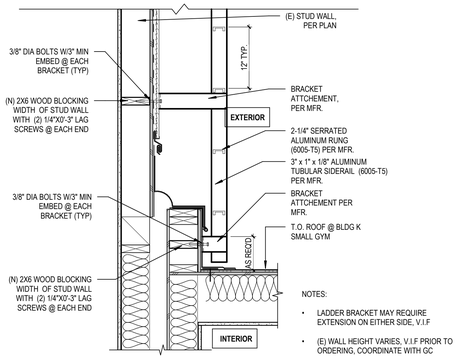


A PARALLEL TO FRAMING

1C A10.2 TYP PARTITION CONN TO ROOF FRAMING
SCALE: 1" = 1'-0"

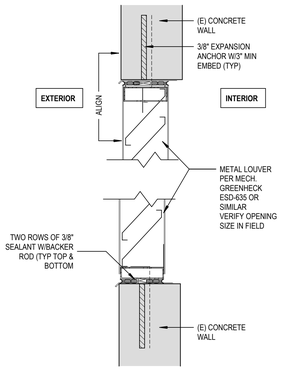


4A A10.2 CONCRETE WALL INFILL
SCALE: 1 1/2" = 1'-0"

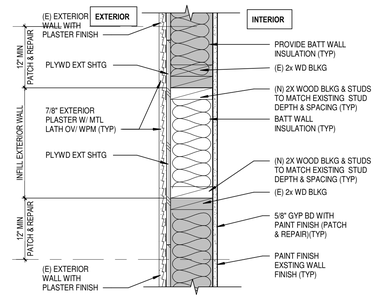


NOTES:
- LADDER BRACKET MAY REQUIRE EXTENSION ON EITHER SIDE, V.I.F
- (E) WALL HEIGHT VARIES, V.I.F PRIOR TO ORDERING, COORDINATE WITH GC

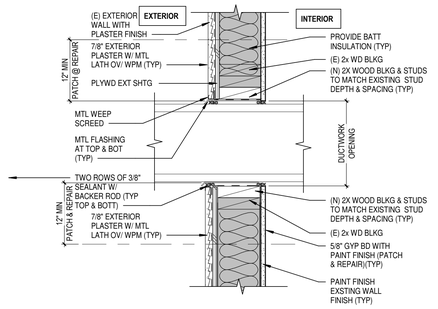
1A A10.2 MECH ACCESS LADDER @ PARAPET ATTACHMENTS
SCALE: 1" = 1'-0"



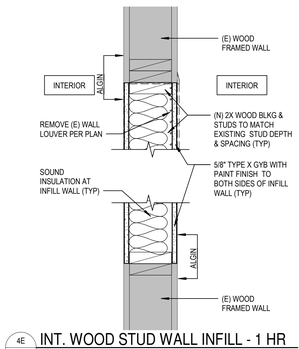
4B A10.2 CONCRETE WALL W/EXT LOUVER
SCALE: 1 1/2" = 1'-0"



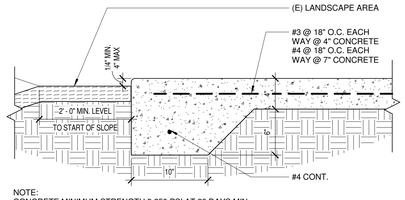
4C A10.2 EXT. WOOD STUD WALL INFILL
SCALE: 1 1/2" = 1'-0"



4D A10.2 EXT. WOOD STUD WALL W/ DUCT PENETRATION
SCALE: 1 1/2" = 1'-0"

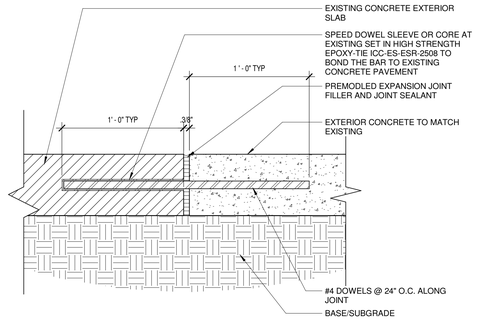


4E A10.2 INT. WOOD STUD WALL INFILL - 1 HR
SCALE: 1 1/2" = 1'-0"

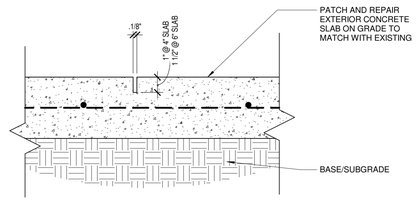


NOTE:
CONCRETE MINIMUM STRENGTH 3,250 PSI AT 28 DAYS MIN

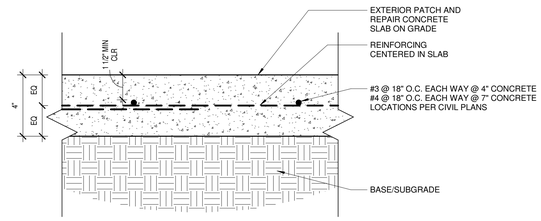
5A A10.2 SITE - CONC. EDGE @ LANDSCAPE
SCALE: 1 1/2" = 1'-0"



5B A10.2 SITE - PATCH AND REPAIR CONCRETE
SCALE: 3" = 1'-0"



5D A10.2 SITE - PAVING - ALT. SAWCUT JOINT @ ETCHED SURFACES
SCALE: 3" = 1'-0"



5E A10.2 SITE - PATCH AND REPAIR CONCRETE PAVING
SCALE: 3" = 1'-0"

DLR GROUP
© DLR Group

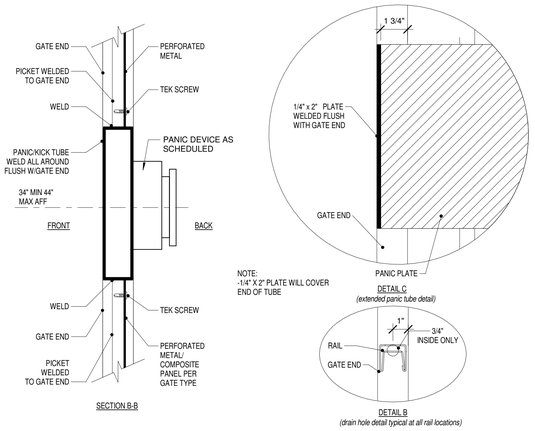
EL MONTE HIGH SCHOOL HVAC PROJECT
EL MONTE UNION HIGH SCHOOL DISTRICT
3048 Tyler Ave, El Monte, CA 91731

DSA BACKCHECK
11/20/2023
REVISIONS

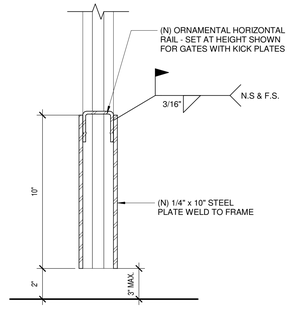
DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-01

MISC DETAILS

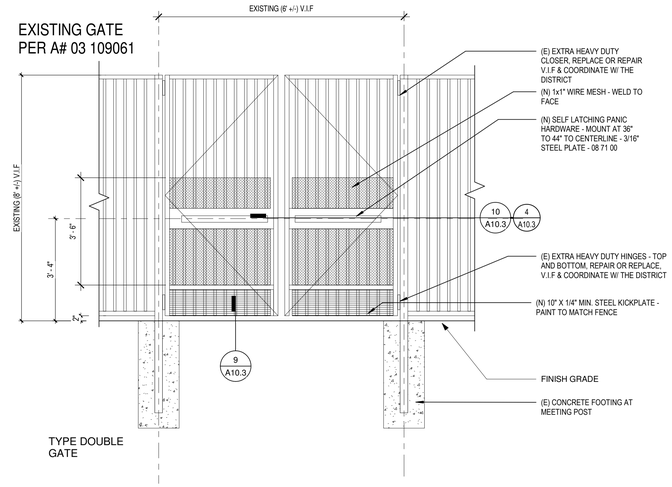
A10.2



4 A10.3 SITE - GATE - METAL FENCE PANIC HARDWARE MOUNTING1
SCALE: 3" = 1'-0"

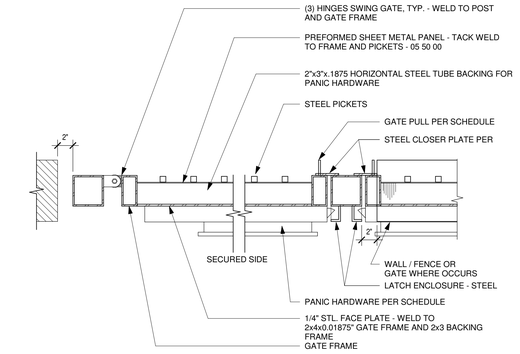


9 A10.3 SITE - GATE - METAL FENCING KICK PLATE1
SCALE: 3" = 1'-0"

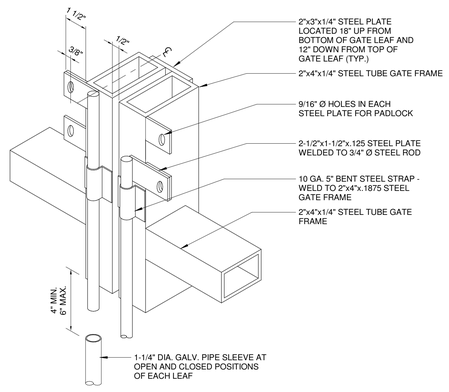


EXISTING GATE
PER A# 03 109061

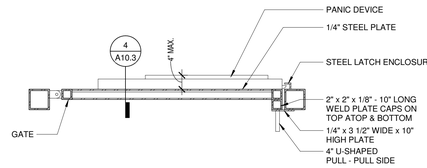
TYPE DOUBLE GATE



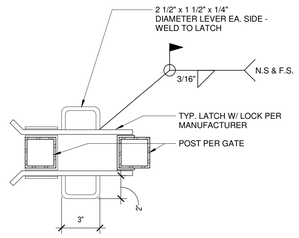
10 A10.3 SITE - GATE - METAL GATE SECTION1
SCALE: 1 1/2" = 1'-0"



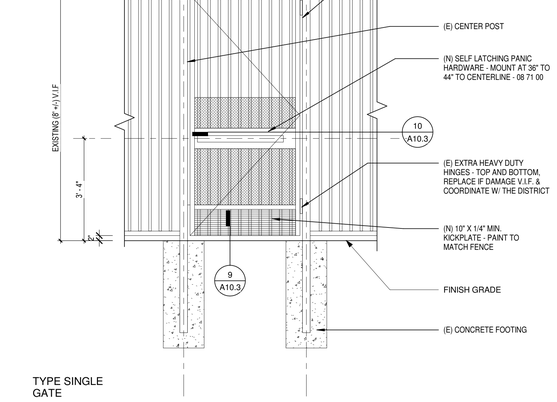
3 A10.3 SITE - GATE - METAL FENCE CANE BOLT1
SCALE: 3" = 1'-0"



6 A10.3 SITE - GATE - METAL FENCE PANIC HARDWARE1
SCALE: 1" = 1'-0"



1 A10.3 SITE - GATE - METAL FENCE ACCESSIBLE LATCH1
SCALE: 3" = 1'-0"



EXISTING GATE
PER A# 03 109061

TYPE SINGLE GATE

12 A10.3 (E) SITE - GATE - STEEL GATES - TYPES SINGLE & DOUBLE
SCALE: 1/2" = 1'-0"

HW SET: 971
DOOR NUMBER:
G03

EACH TO HAVE:

1	EA	EXIT DEVICE	ALK-AX-98-L-996L-06-PA	626 VON
1	EA	IC RIM CYLINDER	20-057-ICX	626 SCH
1	EA	IC MORT CYL	20-001 FOR ALARM	626 SCH

NOTE BALANCE OF HARDWARE BY GATE MANUFACTURER B/O

HW SET: 972
DOOR NUMBER:
G01 G02

EACH TO HAVE:

2	EA	EXIT DEVICE	ALK-AX-98-L-996L-06-PA	626 VON
2	EA	IC RIM CYLINDER	20-057-ICX	626 SCH
2	EA	IC MORT CYL	20-001 FOR ALARM	626 SCH

NOTE CENTER MULLION BY GATE MANUFACTURER B/O
NOTE BALANCE OF HARDWARE BY GATE MANUFACTURER B/O

GATE MUST HAVE CENTER POST FOR PANICS TO LATCH TO

5 A10.3 PANIC HARDWARE SET
SCALE: 3" = 1'-0"

LICENSED ARCHITECT JESSE MILLER No. C-32306 REN. 10-31-25 STATE OF CALIFORNIA

DLRGROUP
© DLR Group

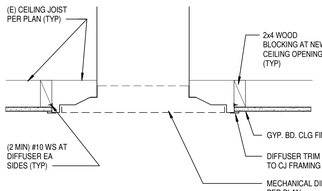
EL MONTE HIGH SCHOOL HVAC PROJECT
EL MONTE UNION HIGH SCHOOL DISTRICT
3048 Tyler Ave, El Monte, CA 91731

DSA BACKCHECK
11/20/2023
REVISIONS

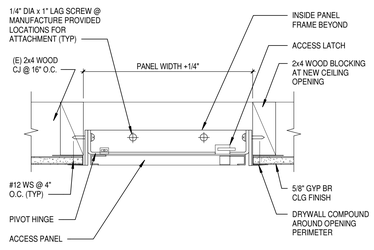
DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-01

SITE GATE DETAILS

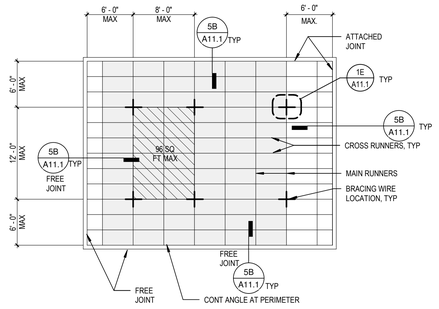
A10.3



1A A11.1 WD FRM GYP BD. CLG. W / DIFFUSER
SCALE: 1 1/2" = 1'-0"



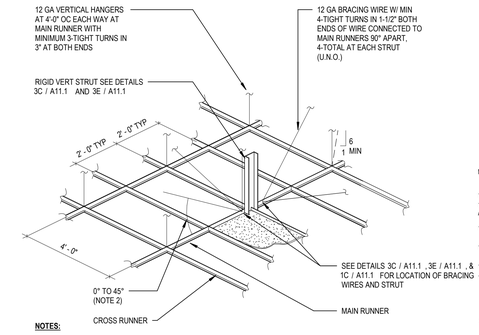
1B A11.1 WD FRM GYP BD. CLG W/ ACCESS PANEL
SCALE: 3" = 1'-0"



NOTES:

1. BRACING WIRES AND COMP STRUT SHALL OCCUR AT EVERY 144 SQ FT MAX IN ROOMS OVER 144 SQ FT.
2. ALL FREE FLOATING CEILINGS ARE NOT EXEMPT & REQUIRE BRACING PER DSA IR A-5 & SECTION 3.6.

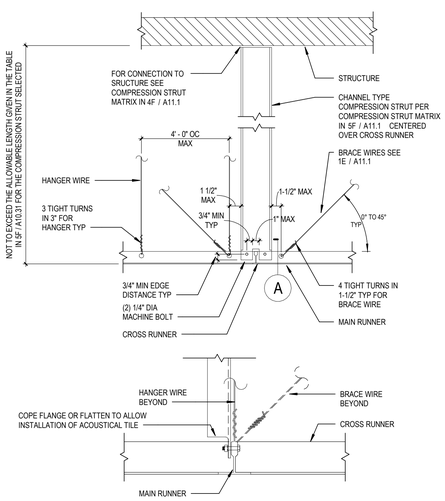
1C A11.1 TYPICAL CEILING PLAN FOR BRACE ASSEMBLY SPACING
SCALE: 1/8" = 1'-0"



NOTES:

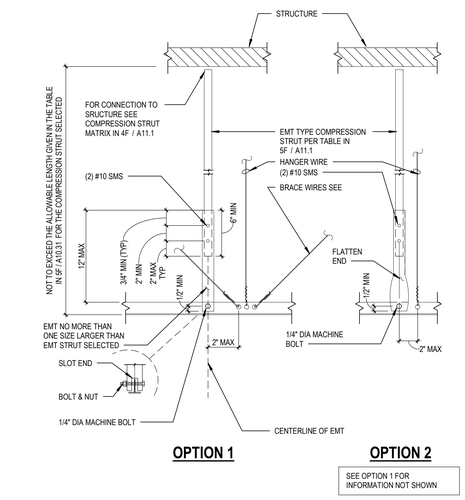
1. STRUTS SHALL NOT REPLACE HANGER WIRES.
2. THE MINIMUM ACCEPTABLE ANGLE IS DETERMINED SUCH TAHT THE WIRES DO NOT INTERFERE WITH THE RUNNERS, LIGHT FIXTURES, ETC AND REMAIN STRAIGHT AND UNOBSTRUCTED.
3. FOR TOP ATTACHMENTS REFER TO DETAILS 11 & 12 SHEET S6.0 (TYP)

1E A11.1 SUSPENSION AND BRACING ASSEMBLY
SCALE: 3" = 1'-0"



A SECTION

3C A11.1 COMPRESSION STRUT - CHANNEL TYPE
SCALE: 1 1/2" = 1'-0"



OPTION 1 **OPTION 2**

SEE OPTION 1 FOR INFORMATION NOT SHOWN

3E A11.1 EMT TYPE STRUT
SCALE: 1 1/2" = 1'-0"

SUSPENDED CEILING NOTES - CA

METAL SUSPENSION SYSTEMS FOR LAY-IN PANEL CEILINGS - DSA IR 25-2 2019CBC (rev. 03/18/22)

SECTION 1 - CEILING SYSTEM GENERAL NOTES:

1.1.1 CEILING SYSTEM COMPONENTS SHALL COMPLY WITH ASTM C635 AND ASTM E580 SECTION 5.1.
1.1.2 THE CEILING GRID SYSTEM MUST BE RATED HEAVY DUTY PER ASTM E580 SECTION 5.1.1 AS DEFINED BY ASTM C635. CROSS TEES SHA

1.03 CEILING SYSTEMS. THE FOLLOWING CEILING SYSTEM(S) IS/ARE PART OF THE SCOPE OF THIS PROJECT: SEE SPECS 09 5113

1.04 SEISMIC WALL CLIP: ARMSTRONG
MANUFACTURER'S MODEL: BERC2, ICC-ESR-1308

1.05 CEILING PANELS SHALL NOT SUPPORT ANY LIGHT FIXTURES, AIR TERMINALS OR DEVICES.

1.06 FOR CEILING INSTALLATIONS UTILIZING ACOUSTICAL TILE PANELS OF MINERAL OR GLASS FIBER, IT IS NOT MANDATORY TO PROVIDE 3/4" CLEARANCE BETWEEN THE ACOUSTICAL TILE PANELS AND THE WALL ON THE SIDES OF THE CEILING WHICH ARE FREE TO SLIP. FOR ALL OTHER CEILING PANEL TYPES, PROVIDE 3/4" CLEARANCE BETWEEN THE CEILING PANEL AND THE WALL ON THE SIDES OF THE CEILING FREE TO SLIP.

SECTION 2 - MATERIALS:

2.01 CEILING WIRE SHALL BE CLASS 1 ZINC COATED (GALVANIZED) CARBON STEEL CONFORMING TO ASTM A641-09a. WIRE SHALL BE #12 GAGE (0.106 INCHES IN DIAMETER) WITH SOFT TEMPER AND MINIMUM TENSILE STRENGTH = 70 KSI

2.02 GALVANIZED SHEET STEEL (INCLUDING THAT USED FOR METAL STUD AND TRACK COMPRESSION STRUTS/POST) SHALL CONFORM TO ASTM A653-11, OR OTHER EQUIVALENT SHEET STEEL LISTED IN SECTION A2.1 OF THE NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS 2012, (AISI S100-07). MATERIAL 43 MIL (18 GAGE) AND LIGHTER SHALL HAVE A MINIMUM YIELD STRENGTH OF 33 KSI. MATERIAL 54 MIL (16 GAGE) AND HEAVIER SHALL HAVE A MINIMUM YIELD STRENGTH OF 50 KSI

2.03 ELECTRICAL METALLIC TUBE (EMT) SHALL BE ANSI C80.3/UL 797 CARBON STEEL WITH G90 GALVANIZING. EMT SHALL HAVE MINIMUM YIELD STRENGTH (Fy) OF 30 KSI AND MINIMUM ULTIMATE STRENGTH (Fu) OF 48 KSI.

SECTION 3 - ATTACHMENT OF HANGER AND BRACING WIRES:

3.01 SEPARATE ALL CEILING HANGER AND BRACING WIRES AT LEAST SIX (6) INCHES FROM ALL UNBRACED DUCTS, PIPES, CONDUIT, ETC.

3.02 HANGER AND BRACING WIRES SHALL NOT ATTACH TO OR BEND AROUND OBSTRUCTIONS INCLUDING BUT NOT LIMITED TO: PIPING, DUCTWORK, CONDUIT AND EQUIPMENT.

3.03 HANGER WIRES THAT ARE MORE THAN ONE (HORIZONTAL) IN SIX (VERTICAL) OUT OF PLUMB SHALL HAVE COUNTER-SLOPING WIRES.

3.04 SLACK SAFETY WIRES SHALL BE CONSIDERED HANGER WIRES FOR INSTALLATION AND TESTING REQUIREMENTS.

3.05 HANGER AND BRACING WIRE ANCHORAGE TO THE STRUCTURE SHALL BE INSTALLED IN SUCH A MANNER THAT THE DIRECTION OF THE ANCHORAGE ALIGNS CLOSELY WITH THE DIRECTION OF THE WIRE. (E.G. BRACING WIRE CEILING CLIPS MUST BE BENT AS SHOWN IN THE DETAILS AND ROTATED AS REQUIRED TO ALIGN CLOSELY WITH THE DIRECTION OF THE WIRE, SCREW EYES IN WOOD MUST BE INSTALLED SO THEY ALIGN CLOSELY WITH THE DIRECTION OF THE WIRE, ETC.).

SECTION 4 - FASTENERS AND WELDING:

4.01 SHEET METAL SCREWS SHALL COMPLY WITH ASTM C1513-10, ASME B18.6.4-89 (R2005). PENETRATION OF SCREWS THROUGH JOINED MATERIAL SHALL NOT BE LESS THAN THREE EXPOSED THREADS.

4.02 NOT USED

4.03 POWER-ACTUATED FASTENERS SHALL BE: HILTI X-U FASTENERS, ICC-ES ESR-2269

4.04 IF NOT OTHERWISE SPECIFIED IN THE EVALUATION REPORT, POWER-ACTUATED FASTENERS INSTALLED IN STEEL SHALL BE INSTALLED SO THE ENTIRE POINTED END OF THE FASTENER IS DRIVEN THROUGH THE STEEL MEMBER.

4.05 POWER-ACTUATED FASTENERS IN CONCRETE ARE NOT PERMITTED FOR BRACING WIRES.

4.06 CONCRETE REINFORCEMENT AND PRESTRESSING TENDONS SHALL BE LOCATED BY NON-DESTRUCTIVE MEANS PRIOR TO INSTALLING POST-INSTALLED ANCHOR.

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

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

5.01 POST-INSTALLED ANCHORS IN CONCRETE USED TO SUPPORT HANGER WIRES SHALL BE TESTED AT A FREQUENCY OF 10 PERCENT. POWER ACTUATED FASTENERS IN CONCRETE SHALL BE FIELD TESTED FOR 200 LBS. IN TENSION. ALL OTHER POST-INSTALLED ANCHORS IN CONCRETE SHALL BE TESTED IN ACCORDANCE WITH CBC SECTION 1910A.5.

5.02 POST-INSTALLED ANCHORS IN CONCRETE USED TO ATTACH BRACING WIRES SHALL BE TESTED AT A FREQUENCY OF 50 PERCENT IN ACCORDANCE WITH CBC SECTION 1910A6.

SECTION 6 - LIGHT FIXTURES:

6.01 ALL LIGHT FIXTURES SHALL BE POSITIVELY ATTACHED TO THE CEILING SUSPENSION SYSTEMS BY MECHANICAL MEANS TO RESIST A HORIZONTAL FORCE EQUAL TO THE WEIGHT OF THE FIXTURE. A MINIMUM OF TWO SCREWS OR APPROVED FASTENERS ARE REQUIRED AT EACH LIGHT FIXTURE, PER ASTM E580, SECTION 5.3.1.

6.02 SURFACE MOUNTED LIGHT FIXTURES SHALL BE ATTACHED TO THE MAIN RUNNER WITH AT LEAST TWO POSITIVE CLAMPING DEVICES. THE CLAMPING DEVICE SHALL COMPLETELY SURROUND THE SUPPORTING CEILING RUNNER AND BE MADE OF STEEL WITH A MINIMUM THICKNESS OF #14 GAGE. ROTATIONAL SPRING CATCHES DO NOT COMPLY. A #12 GAGE SLACK SAFETY WIRE SHALL BE CONNECTED FROM EACH CLAMPING DEVICE TO THE STRUCTURE ABOVE. PROVIDE ADDITIONAL SUPPORTS WHEN LIGHT FIXTURES ARE EIGHT (8) FT. OR LONGER OR EXCEED 56 LB. MAXIMUM SPACING BETWEEN SUPPORTS SHALL NOT EXCEED EIGHT (8) FEET.

6.03 LUMINAIRES WEIGHING LESS THAN OR EQUAL TO 10 POUNDS MAY BESUPPORTED DIRECTLY ON THE CEILING RUNNERS. SHALL HAVE A MINIMUM OF ONE #12 GUAGE SLACK SAFETY WIRE CONNECTION FROM THE FIXTURE HOUSING TO THE STRUCTURE ABOVE.

6.04 LUMINAIRES WEIGHING GREATER THAN 10 LB BUT LESS THAN OR EQUAL TO 56 LBS MAY BE SUPPORTED DIRECTLY ON THE CEILING RUNNERS, BUT THEY SHALL HAVE A MINIMUM OF TWO (2) #12 GAGE SLACK SAFETY WIRES CONNECTED FROM THE FIXTURE HOUSING AT DIAGONAL CORNERS TO THE STRUCTURE ABOVE.
EXCEPTION: ALL LIGHT FIXTURES GREATER THAN TWO BY FOUR FEET WEIGHING LESS THAN 56 LBS. SHALL HAVE A #12 GAGE SLACK SAFETY WIRE AT EACH CORNER.

6.05 ALL LUMINAIRES WEIGHING GREATER THAN 56 LB SHALL BE INDEPENDENTLY SUPPORTED BY NOT LESS THAN FOUR (4) TAUT #12 GAGE WIRES (ONE AT EACH CORNER) ATTACHED FROM THE FIXTURE HOUSING TO THE STRUCTURE ABOVE OR OTHER APPROVED HANGERS. THE FOUR (4) TAUT # 12 GAGE WIRES OR OTHER APPROVED HANGERS, INCLUDING THEIR ATTACHMENT TO THE STRUCTURE ABOVE, SHALL BE CAPABLE OF SUPPORTING FOUR (4) TIMES THE WEIGHT OF THE FIXTURE.

SECTION 7 - SERVICES WITHIN THE CEILING:

7.01 ALL FLEXIBLE SPRINKLER HOSE FITTING MOUNTING BRACKETS, CEILING-MOUNTED AIR TERMINALS OR OTHER SERVICES SHALL BE POSITIVELY ATTACHED TO THE CEILING SUSPENSION SYSTEMS BY MECHANICAL MEANS. SCREWS OR APPROVED FASTENERS ARE REQUIRED. A MINIMUM OF TWO ATTACHMENTS ARE REQUIRED AT EACH COMPONENT.

7.02 CEILING-MOUNTED AIR TERMINALS OR OTHER SERVICES WEIGHING LESS THAN OR EQUAL TO 20 LB SHALL HAVE ONE (1) #12 GAGE SLACK SAFETY WIRE ATTACHED FROM THE TERMINAL OR SERVICE TO THE STRUCTURE ABOVE.

7.03 FLEXIBLE SPRINKLER HOSE FITTINGS, CEILING-MOUNTED AIR TERMINALS OR OTHER SERVICES WEIGHING MORE THAN 20 LB BUT LESS THAN OR EQUAL TO 56 LB SHALL HAVE TWO (2) #12 GAGE SLACK SAFETY WIRES (AT DIAGONAL CORNERS) CONNECTED FROM THE TERMINAL OR SERVICE TO THE STRUCTURE ABOVE.

7.04 FLEXIBLE SPRINKLER HOSE FITTINGS, CEILING-MOUNTED AIR TERMINALS OR OTHER SERVICES WEIGHING MORE THAN 56 LB SHALL BE SUPPORTED DIRECTLY FROM THE STRUCTURE ABOVE BY NOT LESS THAN FOUR (4) TAUT #12 GAGE WIRES ATTACHED FROM THE TERMINAL OR SERVICE TO THE STRUCTURE ABOVE OR OTHER APPROVED HANGERS.

SECTION 8 - OTHER DEVICES WITHIN THE CEILING:

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

STRUCTURAL CONDITION OF FLOOR / ROOF ABOVE SUSPENDED CEILING	APPLICABLE HANGER WIRE DETAIL	APPLICABLE BRACING WIRE DETAIL
2x WOOD JOISTS	12 / 6.0	12 / 6.0

3F A11.1 HANGER AND BRACING WIRE CONNECTION MATRIX
SCALE: 3" = 1'-0"

STRUCTURAL CONDITION OF FLOOR / ROOF ABOVE COMPRESSION STRUT	APPLICABLE DETAIL
2x WOOD JOISTS	52 / S6.0

4F A11.1 COMPRESSION STRUT CONNECTION TO STRUCTURE MATRIX
SCALE: 3" = 1'-0"

COMPRESSION STRUT SPACING

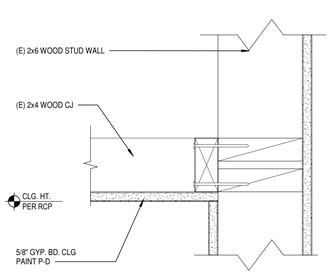
DESIGN SPECTRAL ACCELERATION PARAMETER, Sds	BRACE ASSEMBLY SPACING (FT)
Sds = 0.9, SEE S0.1	8 X 12

COMPRESSION STRUT TABLE

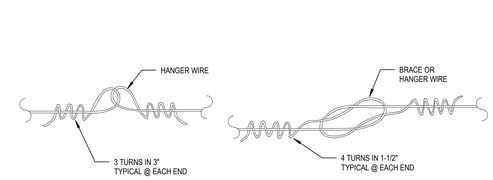
EMT COMPRESSION STRUT	MAXIMUM LENGTH
1/2" DIAMETER EMT (0.042" WALL THICKNESS)	3' - 11"
3/4" DIAMETER EMT (0.049" WALL THICKNESS)	6' - 4"
1" DIAMETER EMT (0.057" WALL THICKNESS)	9' - 9"
1 1/4" DIAMETER EMT (0.065" WALL THICKNESS)	12' - 9"
1 1/2" DIAMETER EMT (0.065" WALL THICKNESS)	14' - 9"
2" DIAMETER EMT (0.065" WALL THICKNESS)	18' - 10"

CHANNEL COMPRESSION STRUT	MAXIMUM LENGTH
250S125-33	5' - 0"
250S137-33	6' - 10"
362S137-33	8' - 0"
250S137-43	8' - 10"
400S137-43	10' - 10"

5F A11.1 COMPRESSION STRUT TABLE
SCALE: 3" = 1'-0"



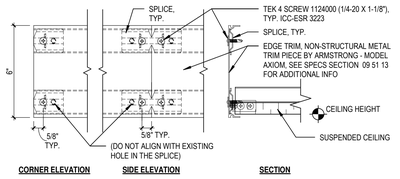
4B A11.1 GYP. BD. CLG @ WD STUD FRAMING
SCALE: 3" = 1'-0"



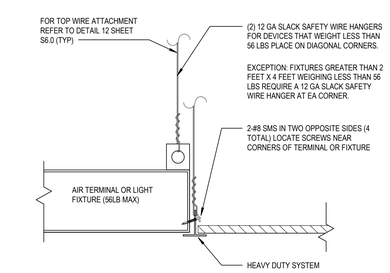
NOTES:

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

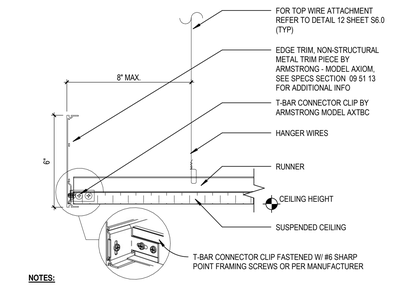
4C A11.1 CEILING WIRE SPLICES
SCALE: 3" = 1'-0"



4E A11.1 AXIOM TRIM SPLICING DETAIL
SCALE: 3" = 1'-0"



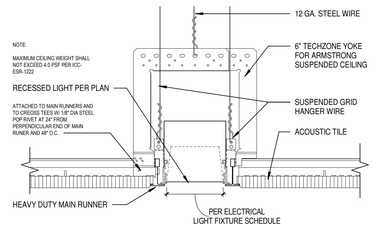
5C A11.1 LIGHT FIXTURES / AIR TERMINAL SUPPORT DETAIL
SCALE: 3" = 1'-0"



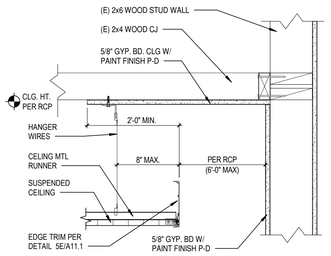
NOTES:

1. SUSPENDED CEILING, SEE 1C / A11.1
2. REFERENCE ESR 1308 FOR ARMSTRONG SUPRAFINE GRID COMPONENTS

5E A11.1 FLOATING GRID
SCALE: 3" = 1'-0"



5A A11.1 LIGHT FIXTURES / AIR TERMINAL SUPPORT DETAIL1
SCALE: 3" = 1'-0"



5B A11.1 GYP. BD. CLG / ACT CLG PERMETER
SCALE: 1 1/2" = 1'-0"

LICENSED ARCHITECT
JESSE MILLER
No. C-32306
REN. 10-31-25
STATE OF CALIFORNIA

DLRGROUP
© DLR Group

EL MONTE HIGH SCHOOL HVAC PROJECT
EL MONTE UNION HIGH SCHOOL DISTRICT
3048 Tyler Ave, El Monte, CA 91731

DSA BACKCHECK
11/20/2023
REVISIONS

DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-01

CEILING DETAILS

A11.1

GENERAL

1. THE DRAWINGS REPRESENT THE FINISHED STRUCTURE, NOT THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY GUYING AND BRACING REQUIRED TO ERECT AND HOLD THE STRUCTURE IN PROPER ALIGNMENT UNTIL ALL STRUCTURAL WORK AND CONNECTIONS HAVE BEEN COMPLETED. THE RESEARCH, DESIGN, SAFETY, ADEQUACY, AND INSPECTION OF ERECTION BRACING, SHORING, GUYING, TEMPORARY SUPPORTS, ETC, IS THE RESPONSIBILITY OF THE CONTRACTOR.
2. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR THE CONTRACTOR'S MEANS AND METHODS, SEQUENCES OF CONSTRUCTION, OR CONSTRUCTION TECHNIQUES USED TO PERFORM THE WORK. OBSERVATION VISITS TO THE SITE WILL NOT INVOLVE REVIEW OF THESE ITEMS.
3. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR THE CONTRACTOR'S SAFETY PROGRAM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL SAFETY PRECAUTIONS AND REGULATIONS DURING THE WORK. THE ENGINEER WILL NOT ADVISE ON, NOR ISSUE DIRECTION, AS TO SAFETY PRECAUTIONS AND PROGRAMS. OBSERVATION VISITS TO THE SITE WILL NOT INVOLVE REVIEW OF THESE ITEMS.
4. CONTRACTOR IS TO ESTABLISH AND VERIFY OPENINGS AND INSERTS FOR ITEMS TO BE INSTALLED BY OTHER TRADES PRIOR TO SUBMITTAL OF SHOP DRAWINGS AND CONSTRUCTION.
5. CONSTRUCTION MATERIAL AND EQUIPMENT LOADS PLACED ON THE STRUCTURE DURING THE CONSTRUCTION PROCESS SHALL NOT EXCEED THE DESIGN LIVE LOAD OF THE STRUCTURE NOTED IN THESE DRAWINGS. THE ENGINEER SHALL NOT BE RESPONSIBLE TO INVESTIGATE, NOR APPROVE, THE STRUCTURE FOR CONSTRUCTION MATERIAL OR EQUIPMENT LOADING. ERECTION OR CONSTRUCTION LOADS ARE NOT TO BE APPLIED UNTIL PROPER STRUCTURAL FRAMING CONNECTIONS ARE MADE, AND ALL TEMPORARY BRACING IS IN PLACE. THE CONTRACTOR SHALL DESIGN AND PROVIDE TEMPORARY BRACING OF THE STRUCTURE WHERE NECESSARY FOR CONSTRUCTION LOADS.
6. DETAILS THAT ARE NOTED AS "TYPICAL OR TYP" ON DETAIL TITLES ARE TO BE APPLIED TO THE PROJECT CONSTRUCTION AS GENERAL CONSTRUCTION METHODS UNLESS NOTED OTHERWISE. THESE DETAILS ARE NOT CUT AT ALL LOCATIONS WHERE THEY OCCUR, AND THEY MAY NOT BE CUT AT ALL. WHERE NO SPECIFIC DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR CONDITIONS ELSEWHERE ON THE PROJECT, SUBJECT TO APPROVAL OF THE ENGINEER.
7. DO NOT SCALE DRAWINGS. CONTRACTOR IS TO VERIFY ALL DIMENSIONS RELATIVE TO ARCHITECTURAL OR OTHER DISCIPLINE DRAWINGS PRIOR TO CONSTRUCTION. ANY DISCREPANCIES MUST BE REPORTED TO THE ENGINEER PRIOR TO CONSTRUCTION.
8. WHERE DISCREPANCIES OCCUR BETWEEN GENERAL NOTES, PLANS, DETAILS, AND SPECIFICATIONS, THE MOST STRINGENT REQUIREMENTS SHALL GOVERN, UNLESS APPROVED OTHERWISE BY THE ENGINEER IN WRITING PRIOR TO CONSTRUCTION.
9. THE STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE DRAWINGS OF ALL OTHER DISCIPLINES AND SPECIFICATIONS. THE CONTRACTOR SHALL ESTABLISH AND VERIFY THE REQUIREMENTS OF OTHER TRADES AS TO SLEEVES, CHASES, HANGERS, INSERT ANCHORS, HOLES, AND OTHER ITEMS TO BE PLACED OR SET IN THE STRUCTURAL WORK. DO NOT PENETRATE ANY STRUCTURAL ELEMENTS (BEAMS, COLUMNS, WALLS, SLABS, STEEL DECKS, ETC) WITHOUT PRIOR WRITTEN APPROVAL OF THE ENGINEER.
10. IF THE ENGINEER'S SEAL AND SIGNATURE IS NOT AFFIXED TO THESE DRAWINGS, THESE DRAWINGS ARE INTENDED FOR PRELIMINARY PURPOSES ONLY AND SHALL NOT BE USED FOR CONSTRUCTION.
11. STRUCTURAL JOINT DIMENSIONS SHOWN ON PLANS AND DETAILS (EXPANSION, SEISMIC, SEPARATION, ETC) INDICATE THE MINIMUM CLEAR DISTANCE REQUIRED. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL REQUIREMENTS AND INFORMATION.
12. CUTTING, BORING, SAWCUTTING OR DRILLING THROUGH THE NEW OR EXISTING STRUCTURAL ELEMENTS TO BE DONE ONLY WHEN SO DETAILED IN THE DRAWINGS OR ACCEPTED BY THE ARCHITECT AND STRUCTURAL ENGINEER WITH THE APPROVAL OF DSA REPRESENTATIVE.

DESIGN CRITERIA

1. ALL CONSTRUCTION, MATERIALS, AND WORKMANSHIP SHALL CONFORM TO THE REQUIREMENTS OF THESE DRAWINGS, SPECIFICATIONS, AND THE CODES, RULES AND REGULATIONS OF THE 2022 CALIFORNIA BUILDING CODE (CBC), HEREAFTER REFFERED TO AS THE BUILDING CODE.
2. MATERIAL SPECIFIC DESIGN STANDARDS LISTED IN THESE GENERAL NOTES ARE THE VERSION REFERENCED BY THE BUILDING CODE. IF NOT REFERENCED BY THE BUILDING CODE, USE THE LATEST EDITION APPROVED BY THE AUTHORITY HAVING JURISDICTION ON THE DATE OF THE PERMIT ISSUANCE.

3. RISK CATEGORY	III
4. EXISTING DEAD LOADS	
ROOF - TOTAL	15 PSF (INCLUDES STRUCTURE SELF WEIGHT)
5. EXISTING LIVE LOADS	
ROOF LIVE LOAD	20 PSF
7. WIND LOADS	
BASIC WIND SPEED (3 SECOND GUST), V	101 MPH
NOMINAL WIND SPEED, Vasd	78 MPH
EXPOSURE CATEGORY	C
TOPOGRAPHIC FACTOR, Kzt	1.0
AIR DENSITY FACTOR, Ke	1.0
INTERNAL PRESSURE COEFFICIENT, GC_{pi}	+/- 0.18
8. SEISMIC LOADS	
SITE LATITUDE	34.0642
SITE LONGITUDE	-118.034
SITE CLASS	D (DEFAULT)
IMPORTANCE FACTOR, I_e	1.25
MAPPED SPECTRAL REPONSE ACCELERATIONS	S_S = 1.848 S_1 = 0.668
DESIGN SPECTRAL RESPONSE ACCELERATIONS	S_{DS} = 1.478 S_{D1} = 1.136
SEISMIC DESIGN CATEGORY	D
EXISTING SEISMIC FORCE RESISTING SYSTEM:	
BLDG D & L	LIGHT FRAME WOOD WALLS WITH DIAGONAL SHEATHING
BLDG K	PRECAST CONCRETE SHEAR WALLS

POST-INSTALLED ANCHORS

1. UNO, THE FOLLOWING APPLIES TO ALL POST-INSTALLED ANCHORAGE INTO HARDENED CONCRETE OR MASONRY WHICH INCLUDES TYPES SUCH AS EXPANSION, WEDGE, SLEEVE, ADHESIVE / EPOXY, SHOT-PIN, SCREW AND UNDERCUT.
2. POST-INSTALLED ANCHORS SHALL ONLY BE USED WHERE SPECIFIED.
3. CONTRACTOR SHALL OBTAIN APPROVAL FROM ENGINEER OF RECORD PRIOR TO USING POST-INSTALLED ANCHORS FOR MISSING, DAMAGED OR MISPLACED CAST-IN-PLACE ANCHORS.
4. CARE SHALL BE GIVEN TO AVOID CONFLICTS WITH EXISTING REBAR WHEN DRILLING HOLES. HOLES SHALL BE DRILLED AND CLEANED PER THE MANUFACTURER'S INSTRUCTIONS.
5. MAINTAIN A MINIMUM OF 2 INCHES FROM EXISTING REINFORCEMENT, CONDUIT, POST-TENSIONING (WHERE OCCURS), ETC. USE NON-DESTRUCTIVE TESTING TO LOCATE PRIOR TO DRILLING, CORING OR SHOOTING PINS INTO THE EXISTING CONCRETE OR MASONRY. FOR INSTALLATION DEEPER THAN 3 INCHES USE GROUND PENETRATING RADAR OR X-RAY METHODS.
6. ALL ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH THE BUILDING CODE REQUIREMENTS, MANUFACTURER'S RECOMMENDATIONS AND ALL APPLICABLE ICC-ES REPORTS, INCLUDING, BUT NOT LIMITED TO, ALL ANCHOR SPACINGS, EMBEDMENTS AND EDGE DISTANCES.
7. SUBSTITUTION REQUESTS FOR ALTERNATE PRODUCTS MUST BE APPROVED IN WRITING BY THE ENGINEER PRIOR TO USE. CONTRACTOR SHALL PROVIDE CALCULATIONS DEMONSTRATING THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE PERFORMANCE VALUES OF THE SPECIFIED PRODUCT. SUBSTITUTIONS WILL BE EVALUATED BY HAVING AN ICC ESR SHOWING COMPLIANCE WITH THE BUILDING CODE FOR SEISMIC USES, LOAD RESISTANCE, INSTALLATION CATEGORY, AND AVAILABILITY OF COMPREHENSIVE INSTALLATION INSTRUCTIONS. ADHESIVE ANCHOR EVALUATION WILL ALSO CONSIDER CREEP, IN-SERVICE AND INSTALLATION TEMPERATURES.
8. EMBEDMENT REFERS TO THE FINAL INSTALLED EFFECTIVE DEPTH "Hef". ALL ANCHORS SHALL HAVE EMBEDMENT NOTED OR EMBEDMENT AS RECOMMENDED BY MANUFACTURER WHERE NO EMBEDMENT IS SHOWN. REQUIRED ANCHOR HOLE DEPTH FOR INSTALLATION MAY BE DEEPER.
9. IF THE FULL ANCHOR EMBEDMENT DEPTH, SPACING OR EDGE DISTANCE CANNOT BE ACHIEVED, NOTIFY THE ENGINEER.
10. ALL PERSONNEL INSTALLING POST-INSTALLED ANCHORS SHALL BE TRAINED BY THE MANUFACTURER ON PROPER INSTALLATION TECHNIQUE. TRAINING DOCUMENTATION FROM THE MANUFACTURER SHALL BE AVAILABLE UPON REQUEST.
11. INSTALLATION OF ADHESIVE ANCHORS IN HORIZONTAL TO VERTICALLY OVERHEAD ORIENTATION SHALL BE DONE BY A CERTIFIED ADHESIVE ANCHOR INSTALLER (AAI) AS CERTIFIED THROUGH ACI AND IN ACCORDANCE WITH ACI 318. PROOF OF CURRENT CERTIFICATION SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO COMMENCEMENT OF INSTALLATION.
12. EXPANSION BOLTS IN CONCRETE SHALL BE ONE OF THE FOLLOWING:
    a. HILTI KWIK BOLT TZ2 CONCRETE ANCHORS (ICC ESR-4266)
    b. SIMPSON STRONG-TIE STRONG-BOLT 2 WEDGE ANCHORS (ICC ESR-3037)
13. SCREW ANCHORS IN CONCRETE SHALL BE ONE OF THE FOLLOWING:
    a. HILTI HUS-EZ SCREW ANCHOR (ICC ESR-3027)
    b. SIMPSON STRONG-TIE TITEN HD SCREW ANCHORS (ICC ESR-2713)
14. ADHESIVE ANCHORS IN CONCRETE SHALL BE ONE OF THE FOLLOWING:
    a. HILTI HY-200 SAFE SET SYSTEM ADHESIVE ANCHORS (ESR-4868) (FAST CURE APPLICATIONS)
    b. HILTI RE-500 V3 ADHESIVE ANCHORS (ESR-3814)
    c. HILTI RE-100 ADHESIVE ANCHORS (ICC ESR-3829) (STANDARD CURE APPLICATIONS)
    d. SIMPSON STRONG-TIE SET-3G ADHESIVE ANCHORING SYSTEM (ESR-4057)
    e. SIMPSON STRONG-TIE AT-XP ADHESIVE ANCHORING SYSTEM (IAPMO UES ER-263)
    f. SIMPSON STRONG-TIE SET-XP ADHESIVE ANCHORING SYSTEM (ESR-2508) (STANDARD CURE APPLICATIONS)
15. ANCHORS ARE NOT TO BE INSTALLED UNTIL CONCRETE OR GROUT HAS REACHED IT'S DESIGN STRENGTH. ADHESIVE ANCHORS SHALL BE INSTALLED IN CONCRETE WITH A MIN. AGE OF 21 DAYS.
16. MASONRY CELLS SHALL BE FULLY GROUTED AND CURED FOR INSTALLATION OF POST-INSTALLED ANCHORS.
17. USE INSTALLATION PROCEDURES FOR CRACKED CONCRETE CONDITIONS. DO NOT CORE DRILL FOR ANCHOR HOLES WITHOUT ENGINEER APPROVAL.
18. PROVIDE GALVANIZED CARBON STEEL ANCHORS AT DRY INTERIOR LOCATIONS AND STAINLESS-STEEL TYPE 304 OR 316 AT EXTERIOR / DAMP INTERIOR LOCATIONS. ANCHORS SHALL BE CLEAN AND FREE OF DEBONDING SUBSTANCES.
19. PATCH ABANDONED HOLES AND SPALLS USING NON-SHRINK GROUT AND REPAIR FINISHES AS REQUIRED. ANCHORS PENETRATING THROUGH WATERPROOFING OR VAPOR MEMBRANES SHALL BE SEALED OR FLASHED.
20. ADHESIVE / EPOXY ANCHORS ON THIS PROJECT ARE NOT DESIGNED TO SUPPORT OR INTENDED TO RESIST SUSTAINED TENSION LOADS.

ROUGH CARPENTRY

1. WOOD SHALL BE DOUGLAS FIR LARCH NO. 2 OR BETTER UNLESS OTHERWISE NOTED.
2. NAILING SHALL BE PER BUILDING CODE TABLE 2304.10.1 FASTENING SCHEDULE AND NAILING SCHEDULE ON THIS SHEET, UNLESS OTHERWISE NOTED.
3. PROVIDE 2X6 STUDS AT 16" OC AT EXTERIOR WALLS AND 2X4 STUDS AT 16" OC AT INTERIOR WALLS UNO. STUDS SHALL HAVE FULL BEARING ON A 2" NOMINAL OR LARGER PLATE OR SILL WITH A WIDTH TO EQUAL OR EXCEEDING THE STUD WIDTH. TWO STUDS MINIMUM SHALL BE PROVIDED AT THE END OF ALL WALLS. PROVIDE ONE KING STUD AND ONE JACK STUD EACH SIDE OF EA. OPENING, MIN. SEE TYPICAL DETAILS FOR ADDITIONAL OPENING REQUIREMENTS.
4. BEARING WALL STUDS SHALL LINE UP WITH JOIST/TRUSS FRAMING SYSTEM ABOVE. WHERE WALL STUDS ARE LONGER THAN 10 FEET FROM TOP OF BOTTOM PLATE TO UNDERSIDE OF TOP PLATES, PROVIDE WOOD BLOCKING TO ACT AS FIRE BLOCKING AT MID-HEIGHT OF WALLS. PER IBC 718.2.2, BLOCKING SHALL BE 2'' THICK NOMINAL AND MATCH THE WIDTH OF THE WALLS.
5. SIMPSON HARDWARE OR EQUAL SHALL BE USED AT ALL WOOD-TO-WOOD CONNECTIONS UNLESS OTHERWISE NOTED. ALL NAIL HOLES IN JOIST HANGERS AND MISCELLANEOUS FRAMING ANCHORS SHALL BE FILLED WITH NAILS PER MANUFACTURER'S PUBLISHED NAIL SIZES. ALL CONNECTORS USED WITH TREATED LUMBER SHALL BE PROTECTED WITH ZMAX/HDG GALVANIZING OR EQUAL AND FASTENERS SHALL BE GALVANIZED PER ASTM A153.
6. LAY ALL SHEATHING WITH GRAIN PERPENDICULAR TO SUPPORTS UNO.
7. WOOD STRUCTURAL PANEL ROOF SHEATHING SHALL BE C-D EXPOSURE 1-APA W/ EXTERIOR GLUE, 19/32 INCH THICK (UNO) WITH A SPAN RATING OF 48/24. ROOF SHEATHING TO BE NAILED WITH COMMON NAILS DRIVEN FLUSH WITH FACE OF SHEATHING PER SCHEDULE.
8. WOOD STRUCTURAL PANEL FLOOR SHEATHING SHALL BE APA RATED STURD-I-FLOOR, EXPOSURE 1, 23/32" THICK (UNO) WITH SPAN RATING OF 48/24 AND TONGUE AND GROOVE EDGES.
9. WOOD STRUCTURAL PANEL WALL SHEATHING AND NAILING SHALL BE AS SHOWN ON THE SHEAR WALL SCHEDULE.
10. DO NOT NOTCH OR DRILL JOISTS, BEAMS, OR LOAD BEARING STUDS WITHOUT PRIOR WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER.
11. WOOD SILL PLATE SHALL BE BOLTED TO FOUNDATION WITH 5/8" DIAMETER A307 ANCHOR BOLTS AT 4'-0" O.C. UNLESS NOTED OTHERWISE. ANCHOR BOLTS SHALL BE PLACED AT ALL JAMBS, CORNERS, INTERSECTIONS, AND WALL ENDS. PROVIDE MINIMUM OF TWO BOLTS PER LENGTH OF SILL PLATE. PROVIDE AN OVERSIZED GALVANIZED WASHER FOR EACH ANCHOR BOLT.
12. ALL FOUNDATION PLATES OR SILLS AND SLEEPERS IN CONTACT WITH CONCRETE OR MASONRY SHALL BE TREATED OR DECAY RESISTANT WOOD AND MARKED OR BRANDED BY AN APPROVED AGENCY. WOOD TREATMENT SHALL BE OF TYPE NOT DETRIMENTAL TO GALVANIZED FASTENERS.
13. PROVIDE 1X3 OR METAL CROSS BRIDGING AT MIDSPAN OF ALL JOISTS SPANNING 16 FEET OR LESS. AT LONGER SPANS, PROVIDE CROSS BRIDGING AT 8 FEET ON CENTER.
14. ALL BOLTS IN WOOD FRAMING SHALL CONFORM TO ASTM A307. BOLTS SHALL BE INSTALLED WITH STEEL WASHERS. ALL BOLTS SHALL HAVE EITHER LOCK WASHERS OR SELF LOCKING NUTS. BOLT HOLES SHALL BE STANDARD SIZE UNO.
15. ALL FASTENERS (ANCHOR BOLTS, NAILS, SCREWS, AND PLATES) IN CONTACT WITH PRESSURE TREATED LUMBER SHALL BE HOT DIPPED GALVANIZED, INCLUDING SHEAR WALL EDGE NAILING.
16. FRAMING SHALL HAVE LESS THAN 19% MOISTURE CONTENT AT THE TIME OF INSTALLATION. SILL PLATES, TOP PLATES, AND MEMBERS NOTED "MC 15" SHALL HAVE LESS THAN 15% MOISTURE CONTENT AT TIME OF INSTALLATION (MC 15, KD 15).
17. ALL LUMBER USED IN AN EXTERIOR APPLICATION, SUCH AS TRELLIS LUMBER, SHALL BE PRESERVATIVE TREATED.
18. NON-BEARING WALLS NOT INDICATED AS SHEARWALLS AT THE SECOND FLOOR SHALL HAVE 5/8" DIAMETER HILTI HUS-EZ SCREW ANCHORS @ 72" OC ALONG SILL PLATE WITH 5" EMBEDMENT.
19. SAWN LUMBER TO BE SHOWN IN DETAILS AS NOTED IN THE FOLLOWING LEGEND:

STRUCTURAL STEEL

1. FABRICATOR QUALIFICATIONS: FABRICATOR SHALL BE AISC CERTIFIED OR AN "APPROVED FABRICATOR" IN ACCORDANCE WITH THE BUILDING CODE AND APPROVED BY THE AHJ. IN LIEU OF THE PREVIOUS, FABRICATOR SHALL INCLUDE IN THEIR BID THE SERVICES OF A SPECIAL INSPECTOR TO PROVIDE INSPECTION/TESTING SERVICES FOR WORK COMPLETED ON THE FABRICATOR'S PREMISES TO MEET BUILDING CODE REQUIREMENTS. AT THE COMPLETION OF WORK, FABRICATOR SHALL SUBMIT A "CERTIFICATE OF COMPLIANCE" TO THE ARCHITECT AND AHJ STATING THAT THE WORK WAS PERFORMED IN ACCORDANCE WITH APPROVED CONSTRUCTION DOCUMENTS.
2. STRUCTURAL STEEL SHAPES AND CONNECTING COMPONENTS SHALL CONFORM TO THE FOLLOWING MATERIAL SPECIFICATIONS UNO:
   FOLLOWING MATERIAL SPECIFICATIONS:

WIDE FLANGE SHAPES	ASTM A992, Fy = 50 KSI
HOLLOW STRUCTURAL SECTIONS (HSS)	
RECTANGULAR & SQUARE	ASTM A500, GRADE C, Fy = 50 KSI
ROUND	ASTM A500, GRADE C, Fy = 46 KSI
STEEL PIPE	ASTM A53, GRADE B, Fy = 35 KSI
OTHER STEEL SHAPES AND PLATES	ASTM A36, Fy = 36 KSI
HIGH STRENGTH STRUCTURAL BOLTS	ASTM F3125, GRADE A325N
COLUMN ANCHOR RODS	ASTM F1554, GRADE 55 WELDABLE (S1)
MACHINE BOLTS	ASTM A307
THREADED RODS	ASTM A36
WELDING ELECTRODES	E70XX
DEFORMED BAR ANCHORS (DBA)	ASTM A496, Fy = 70 KSI
WELDED HEADED STUDS (WHS)	ASTM A108, Fu = 65 KSI
WELDED THREADED STUDS (WTS)	ASTM A108, Fu = 65 KSI

3. CONTRACTOR IS RESPONSIBLE FOR THE STABILITY OF THE BUILDING SYSTEM AT ALL TIMES DURING THE ERECTION PROCESS. ELEMENTS HAVE BEEN DESIGNED FOR THE FINAL COMPLETED CONDITION AND HAVE NOT BEEN INVESTIGATED FOR TEMPORARY LOADING DURING CONSTRUCTION. INVESTIGATION OF THE STRUCTURAL ELEMENTS FOR ADEQUACY DURING THE STEEL ERECTION AND CONSTRUCTION PROCESS IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR TO PROVIDE TEMPORARY SUPPORTS AS REQUIRED TO MAINTAIN STABILITY.
4. COLUMNS AND BEAMS WITH BASE, CAP OR END PLATES SHALL HAVE SQUARE CUT OR MILLED ENDS.
5. NON-METALLIC, NON-SHRINK, CHLORIDE FREE GROUT UNDER ALL COLUMN BASE PLATES AND BEAM BEARING PLATES SHALL CONSIST OF A PRE-MIXED PRODUCT COMPLYING WITH ALL REQUIREMENTS OF ASTM C1107. THE 28-DAY COMPRESSIVE STRENGTH OF THE GROUT SHALL BE TWICE THE FOUNDATION REQUIRED CONCRETE COMPRESSIVE STRENGTH, 5,000 PSI MINIMUM.
6. UNO, ALL STRUCTURAL STEEL PERMANENTLY EXPOSED TO THE WEATHER, SHALL BE HOT DIP GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123. ALL DAMAGED GALVANIZING SHALL BE REPAIRED IN ACCORDANCE WITH ASTM A780. STAINLESS AND WEATHERING STEELS, WHERE SPECIFIED, ARE EXEMPT FROM THIS REQUIREMENT.
7. COAT STEEL BELOW GRADE WITH COLD-APPLIED ASPHALT EMULSION PER ASTM D1187.
8. ALL ARCHITECTURALLY EXPOSED STRUCTURAL STEEL (AESS) SHALL COMPLY WITH AISC CODE OF STANDARD PRACTICE, SECTION 10. REFER TO DRAWINGS FOR LOCATIONS OF AESS.
9. WHERE CONNECTIONS ARE NOTED TO BE SLIP CRITICAL (EXAMPLE: A325-SC), BOLTS SHALL BE TIGHTENED TO THE MINIMUM PRETENSION FOR FULLY TIGHTENED BOLTS BY ONE OF THE AISC APPROVED METHODS. SLIP-CRITICAL BOLTS SHALL HAVE CLASS "A" FAYING SURFACES.
10. ALL BOLTS (HIGH STRENGTH, ANCHOR BOLTS, EXPANSION BOLTS, ADHESIVE ANCHORS, ETC.) SHALL BE INSTALLED WITH STEEL NUTS AND WASHERS. NUTS AND WASHERS FOR HIGH STRENGTH BOLTS SHALL CONFORM TO ASTM A563 AND TO ASTM F436, RESPECTIVELY.
11. WELDING PROCEDURES, ELECTRODES, AND WELDER QUALIFICATIONS SHALL CONFORM TO THE AMERICAN WELDING SOCIETY CODE D1.1, AISC STANDARDS, AND LOCAL CODE REQUIREMENTS.
12. ALL WELDS SHOWN ON THE DRAWINGS SHALL BE SHOP WELDS, UNO. WHERE SHOWN, FIELD WELDING SHALL BE USED. CONTRACTOR MAY SUBSTITUTE FIELD WELDS FOR SHOP WELDS AT THEIR DISCRETION. SHOP DRAWINGS SHALL CLEARLY NOTE ALL WELDING USING AWS A2.4 SYMBOLS.
13. WHERE CONTINUOUS ANGLES OR BENT PLATES ARE INDICATED, PROVIDE A CONTINUOUS BUTT WELD OR FULL PENETRATION WELD AT THE SPLICE POINTS, UNO. THE STEEL FABRICATOR MAY SUBMIT AN ALTERNATE BOLTED CONNECTION DETAIL FOR APPROVAL.
14. COORDINATE WITH ALL OTHER TRADES WHICH STEEL INTERACTS. THIS INCLUDES BUT IS NOT LIMITED TO COORDINATING WITH MASONRY, PRECAST CONCRETE, CAST-IN-PLACE CONCRETE, JOIST, AND METAL DECK SUPPLIERS.
15. ALL WELDING SHALL HAVE CONTINUOUS INSPECTION BY AN AWS-CWI QUALIFIED INSPECTOR APPROVED BY DSA

SUBMITTALS

1. THE FOLLOWING ITEMS SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW AND APPROVAL PRIOR TO FABRICATION/ERECTIONS/INSTALLATION. THESE ITEMS ARE IN ADDITION TO ANY SUBMITTAL REQUIREMENTS SPECIFIED ON THESE PLANS OR IN THE PROJECT SPECIFICATIONS.

STRUCTURAL SUBMITTALS					
ITEM	PROD DATA	SHOP DWGS	TEST RESULTS	CALCS	DEFERRED SUBMITTAL
STRUCTURAL STEEL	-	YES	-	-	-
COLD FORMED STEEL	YES	YES	-	-	-
EPOXY AND EXP ANCHORS	YES	-	-	-	-
WELD FILLER MATERIAL	YES	-	YES	-	-
ANCHORAGE FOR MECH/ELEC EQUIPMENT	-	YES	-	-	-

2. "PROD DATA" - SUBMIT ADEQUATE DOCUMENTATION THAT THE PRODUCT PROPOSED TO BE USED MEETS THE REQUIREMENTS ON THESE PLANS AND THE PROJECT SPECIFICATIONS.
3. "SHOP DWGS" - SUBMIT COMPLETE SHOP DRAWINGS SUFFICIENT TO SHOW QUANTITIES AND KINDS OF MATERIALS, METHODS OF ASSEMBLY, AND ALL DATA REQUIRED FOR FABRICATION, ERECTION, AND INSTALLATION. THE PURPOSE OF THESE DRAWINGS IS TO DEMONSTRATE THAT THE CONTRACTOR UNDERSTANDS THE DESIGN CONCEPT DOCUMENTED HEREIN. SUBMITTALS CONSISTING OF DRAWINGS TAKEN DIRECTLY FROM THESE PLANS WILL NOT BE APPROVED.
4. "TEST RESULTS" - SUBMIT RESULTS FOR ANY TESTING REQUIRED BY BUILDING CODE OR THESE PLANS.
5. "CALCS" - SUBMIT CALCULATIONS AND THE CORRESPONDING SHOP OR ERECTION DRAWINGS SIGNED AND SEALED BY A DESIGN PROFESSIONAL AUTHORIZED TO PERFORM WORK IN THE PROJECT JURISDICTION.
6. "DEFERRED SUBMITTAL" - SUBMITTAL ITEMS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW. ONCE REVIEWED, CONTRACTOR SHALL FORWARD TO THE PLAN CHECK AUTHORITY (DIVISION OF STATE ARCHITECTS) FOR REVIEW AND APPROVAL. FABRICATION AND/OR INSTALLATION OF DEFERRED SUBMITTAL ITEMS SHALL NOT OCCUR UNTIL APPROVAL OF THE PLAN CHECK AUTHORTIY IS RECEIVED.

EXISTING CONDITIONS

1. CONTRACTOR IS TO FIELD VERIFY EXISTING CONDITIONS PRIOR TO BIDDING. ALL WORK AND MATERIALS NECESSARY TO INSTALL NEW WORK IN EXISTING BUILDING(S) SHALL BE INCLUDED.
2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS AND SHALL CONTACT THE ENGINEER IF ANY DISCREPANCIES ARE FOUND BEFORE PROCEEDING. NOTIFY ENGINEER IMMEDIATELY IF EXISTING CONDITIONS DO NOT MATCH, OR SEEM IN CONFLICT WITH, INFORMATION SHOWN ON DRAWINGS.
3. DIMENSIONS INDICATED ON PLAN AS FIELD VERIFY, OR "FV", ARE DIMENSIONS THAT MAY BE REQUIRED FOR FABRICATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF DIMENSIONS IN THE FIELD NECESSARY FOR FABRICATION OF MEMBERS AND PRIOR TO SUBMISSION OF SHOP DRAWINGS.
4. CONTRACTOR TO PROVIDE PROTECTION FOR ALL EXISTING BUILDING MATERIALS AND EQUIPMENT TO REMAIN FROM DAMAGE DUE TO DEMOLITION OR CONSTRUCTION OPERATIONS PERFORMED UNDER THIS CONTRACT.
5. THE SEQUENCE OF CONSTRUCTION SHALL BE THE RESPONSIBILITY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL TEMPORARY GUYS, BRACING, AND OTHER SUPPORTS AS NEEDED TO SAFELY RESIST ALL GRAVITY AND LATERAL LOADS TO WHICH THE EXISTING OR PROPOSED STRUCTURE MAY BE SUBJECTED, INCLUDING LOADS FROM ERECTION EQUIPMENT AND ERECTION OPERATIONS, AND WIND OR SEISMIC FORCES COMPARABLE IN INTENSITY FOR WHICH THE STRUCTURE IS DESIGNED. LOAD VERIFICATION OF EXISTING MEMBERS TO RECEIVE TEMPORARY SHORING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR'S ENGINEER.
6. ALL ERECTION AND CONSTRUCTION PROCEDURES SHALL MEET THE REQUIREMENTS OF ALL APPLICABLE CODES AND ORDINANCES.
7. ALL FRAMING CONNECTIONS TO EXISTING STRUCTURE SHALL BE FIELD VERIFIED PRIOR TO SHOP DRAWING PRODUCTION AND FABRICATION. FIELD VERIFIED DIMENSIONS SHALL BE INCLUDED ON FIRST SHOP DRAWING SUBMITTAL AND NOTED AS SUCH.
8. EXISTING UTILITY LINES SHALL BE PROBED PRIOR TO CONSTRUCTION OF FOUNDATIONS. NOTIFY ENGINEER IF THE TOP OF ANY UTILITY PIPE COMES WITHIN 3'-0" OF THE BOTTOM OF ANY FOUNDATION. DETERMINE THE LOCATION OF ALL NEW AND EXISTING UNDERGROUND UTILITIES IN AND ADJACENT TO THE AREA OF WORK PRIOR TO EXCAVATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES WHICH MAY RESULT FROM FAILURE TO EXACTLY LOCATE, PROTECT, AND PRESERVE ALL EXISTING UNDERGROUND UTILITIES.
9. EXCAVATION UNDER OR NEAR IN-PLACE FOOTINGS WHICH DISTURBS THE COMPACTED SOIL BENEATH THE FOOTINGS IS NOT PERMITTED.
10. CONTRACTOR SHALL LOCATE REBAR IN EXIST. CONSTRUCTION PRIOR TO DRILLING OF HOLES AND SHALL TAKE CARE NOT TO DAMAGE EXIST. BARS. IF DAMAGE TO EXIST. REBAR OCCURS DURING CONSTRUCTION, THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING THE DAMAGE. REPAIR PROCEDURES NOT DETAILED IN THE CONTRACT DOCUMENTS WILL REQUIRE PREPARATION BY A QUALIFIED PROFESSIONAL ENGINEER REGISTERED IN THE STATE IN WHICH THE PROJECT IS LOCATED AND MUST BE APPROVED BY THE ENGINEER.

EXISTING DOCUMENTATION

1. THE FOLLOWING DOCUMENTS WERE USED TO REPRESENT EXISTING STRUCTURE IN THE CONSTRUCTION DOCUMENTS. NOT ALL ELEMENTS AND INFORMATION HAS BEEN PROVIDED. COPIES OF THE EXISTING DRAWINGS MAY BE AVAILABLE AT THE CONTRACTOR'S REQUEST.
   - BLDG D: DRAWINGS DATED DECEMBER, 1937 BY MARSH, SMITH & POWELL, ARCHITECTS.
   - BLDG K: DRAWINGS DATED MARCH, 1967 BY KISTNER, WRIGHT & WRIGHT ARCHITECTS AND ENGINEERS.
   - BLDG L: DRAWINGS DATED JANUARY, 1939 BY MARSH, SMITH & POWELL, ARCHITECTS.
   - BLDG N: DRAWINGS JUNE 30, 1989 BY M.J. WYATT ASSOCIATES, ARCHITECTS.

DEMOLITION

1. DEMOLITION OF EXISTING STRUCTURE TO BE REMOVED SHALL BE PERFORMED BY THE CONTRACTOR USING MEANS NECESSARY TO PREVENT DAMAGE TO THE EXISTING STRUCTURE TO REMAIN. DAMAGE TO THE EXISTING STRUCTURE TO REMAIN SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE USING METHODS REVIEWED BY THE STRUCTURAL ENGINEER. IF EXISTING CONDITIONS DIFFER FROM THOSE SHOWN IN THE CONTRACT DOCUMENTS CONTACT THE ARCHITECT PRIOR TO PROCEEDING WITH WORK.
2. SHORING OF THE EXISTING STRUCTURE SHALL BE PROVIDED BY THE CONTRACTOR AND DESIGNED BY A QUALIFIED PROFESSIONAL ENGINEER REGISTERED IN THE STATE IN WHICH THE PROJECT IS LOCATED.

ABBREVIATIONS

ABBREVIATIONS ARE AS SHOWN IN THE CONTRACT DOCUMENTS WITH THE FOLLOWING EXCEPTIONS:

#	REINFORCING BAR SIZE, SHEET METAL SCREW SIZE
@	AT (SPACING)
Ø	DIAMETER
AB	ANCHOR BOLT
ABC	AGGREGATE BASE COURSE
ADDL	ADDITIONAL
AFF	ABOVE FINISHED FLOOR
AHJ	AUTHORITY HAVING JURISDICTION
ALT	ALTERNATE
ANCH	ANCHOR
APPROX	APPROXIMATE
AR	ANCHOR ROD
ARCH	ARCHITECTURAL
B/	BOTTOM OF
BOD	BOTTOM OF DECK
BLDG	BUILDING
BLKG	BLOCKING
BM(S)	BEAM(S)
BOF	BOTTOM OF FOOTING
BOL	BOTTOM OF LINTEL
BOS	BOTTOM OF STEEL
BOT	BOTTOM
BRBF	BUCKLING RESTRAINED BRACED FRAME
BRG	BEARING
BTWN	BETWEEN
C	CHANNEL
CANT	CANTILEVER
CFMF	COLD-FORMED METAL FRAMING
CIP	CAST-IN-PLACE
CJ	CONTROL JOINT
CJP	COMPLETE JOINT PENETRATION
CL	CENTERLINE
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
COMP	COMPOSITE
CONC	CONCRETE
CONN(S)	CONNECTION(S)
CONST	CONSTRUCTION
CONT	CONTINUOUS
CONTR	CONTRACT(OR)
CSTJ	CONSTRUCTION JOINT
CTR	CENTER
(D)	DEMOLISH
DBA	DEFORMED BAR ANCHOR
DCW	DEMAND CRITICAL WELD
DEG	DEGREE
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DL	DEAD LOAD
DO	DITTO
DT	PRESTRESSED PRECAST DOUBLE TEE
DTL	DETAIL
DWG(S)	DRAWING(S)
DWL(S)	DOWEL(S)
(E)	EXISTING
EA	EACH
EBF	ECCENTRICALLY BRACED FRAME
EE	EACH END
EF	EACH FACE
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRICAL
ELEV	ELEVATOR
EMBED	EMBEDMENT, EMBEDDED
EN	EDGE NAILING
EWP	ENGINEERED WOOD PRODUCT
ENG	ENGINEER
EOD	EDGE OF DECK
EOR	ENGINEER OF RECORD
EOS	EDGE OF SLAB
EQ	EQUAL
EQUIP	EQUIPMENT
EQUIV	EQIUVALENT
EW	EACH WAY
EXP	EXPANSION
EXT	EXTERIOR
f'c	SPECIFIED COMPRESSIVE STRENGTH OF CONCRETE
f'm	SPECIFIED COMPRESSIVE STRENGTH OF MASONRY
FD	FLOOR DRAIN
FDN	FOUNDATION
FRT	FIRE RESISTANCE TREATED
FS	FAR SIDE
FT	FEET (FOOT)
FTG	FOOTING
FV	FIELD VERIFY
Fy	YIELD STRENGTH
GA	GAGE, GAUGE
GALV	GALVANIZED
GB	GRADE BEAM
GC	GENERAL CONTRACTOR
GLB	GLUE LAMINATED BEAM
GR	GRADE
H	HEIGHT
HC	PRESTRESSED PRECAST HOLLOW CORE
HDR	HEADER
HORIZ	HORIZONTAL
HS	HEADED STUD
ID	INSIDE DIAMETER
IF	INSIDE FACE
IMF	INTERMEDIATE MOMENT FRAME
IN	INCH
INC	INCLUDE(ING)
INT	INTERIOR
JBE	JOIST BEARING ELEVATION
JST	JOIST
JT	JOINT
K	KIP (1,000 LBS)
KSF	KIPS PER SQUARE FOOT

LB(S)	POUND(S)
Ld	REINFORCING BAR DEVELOPMENT LENGTH
Ldh	HOOKED REINFORCING BAR DEVELOPMENT LENGTH
LF	LINEAR FOOT (FEET)
LFRS	LATERAL FORCE RESISTING SYSTEM
LIN	LINEAR
LL	LIVE LOAD
LLBB	LONG LEG BACK TO BACK
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LONG	LONGITUDINAL
Ls	REINFORCING BAR LAP SPLICE LENGTH
LSH	LONG SLOTTED HOLE
LVL	LAMINATED VENEER LUMBER
LW	LONG WAY
LWC	LIGHTWEIGHT CONCRETE
MAX	MAXIMUM
MECH	MECHANICAL
MEP	MECHANICAL, ELECTRICAL & PLUMBING
MF	MOMENT FRAME
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
MTL	METAL
MWFRS	MAIN WIND FORCE RESISTING SYSTEM
(N)	NEW
NA	NOT APPLICABLE
NIC	NOT IN CONTRACT
NO	NUMBER
NS	NEAR SIDE
NTS	NOT TO SCALE
NWC	NORMAL WEIGHT CONRETE
OC	ON CENTER
OCBF	ORDINARY CONCENTRICALLY BRACED FRAME
OCCS	ORDINARY CANTILEVER COLUMN SYSTEM
OD	OUTSIDE DIAMETER
OF	OUTSIDE FACE
OH	OPPOSITE HAND
OMF	ORDINARY MOMENT FRAME
OPG(S)	OPENING(S)
OPP	OPPOSITE
OWJ	OPEN WEB JOIST
PAF	POWDER ACTUATED FASTENER
PC	PRECAST CONCRETE, PILE CAP
PCBE	PRECAST CONCRETE BEARING ELEVATION
PCF	POUNDS PER CUBIC FOOT
PERP	PERPENDICULAR
PJP	PARTIAL JOINT PENETRATION
PL	PLATE
PLF	POUNDS PER LINEAL FOOT
PLWD	PLYWOOD
PREFAB	PREFABRICATED
PROJ	PROJECTION
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PTW	PRESERVATIVE TREATED WOOD
RAD	RADIUS
RC	REINFORCED CONCRETE
REF	REFERENCE
REINF	REINFORCE, REINFORCED, REINFORCEMENT, REINFORCING
REQ(D)	REQUIRE(D)
REV(S)	REVISION(S)
RTU	ROOFTOP UNIT
SCBF	SPECIAL CONCENTRICALLY BRACED FRAME
SCCS	SPECIAL CANTILEVER COLUMN SYSTEM
SCHED	SCHEDULE
SDL	SUPERIMPOSED DEAD LOAD
SDS	SELF-DRILLING SCREWS
SSH	SHORT SLOTTED HOLE
SECT	SECTION
SEOR	STRUCTURAL ENGINEER OF RECORD
SF	SQUARE FOOT
SFRS	SEISMIC FORCE RESISTING SYSTEM
SHT	SHEET
SIM	SIMILAR
SL	SNOW LOAD
SMF	SPECIAL MOMENT FRAME
SOG	SLAB ON GRADE
SPA	SPACE, SPACING
SPEC(S)	SPECIFICATION(S)
SST	STAINLESS STEEL
STAG'D	STAGGERED
STD	STANDARD
STIFF	STIFFENER
STL	STEEL
STRUCT	STRUCTURE, STRUCTURAL
SYM	SYMMETRICAL
t	THICKNESS
T&B	TOP & BOTTOM
T&G	TONGUE & GROOVE
TC	TENSION CONTROL
TCW	TOP OF CONCRETE WALL
TEMP	TEMPORARY
THRD	THREADED
T/	TOP OF
TOB	TOP OF BEAM
TOC	TOP OF CONCRETE
TOF	TOP OF FOOTING
TOS	TOP OF STEEL
TOW	TOP OF WALL
TPE	TOP OF PIER ELEVATION
TRANS	TRANSVERSE
TSE	TOP OF SLAB ELEVATION
TWE	TOP OF WALL ELEVATION
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
VIF	VERIFY IN FIELD
VFY	VERIFY
W/	WITH
W/O	WITHOUT
WD	WOOD
WFRS	WIND FORCE RESISTING SYSTEM
WGT	WEIGHT
WP	WORK POINT
WPS	WELDING PROCEDURE SPECIFICATION
WT	STEEL TEE SECTION
WWR	WELDED WIRE FABRIC/REINFORCEMENT
X-STR	EXTRA STRONG
XX-STR	DOUBLE EXTRA STRONG
ZRC	ZINC RICH COATING

GENERAL SYMBOLS

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-123582 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 01/10/2024

DANIEL LEE AHKIAM
6351

DLRGROUP
© DLR Group

EL MONTE HIGH SCHOOL HVAC PROJECT
EL MONTE UNION HIGH SCHOOL DISTRICT
3048 Tyler Ave, El Monte, CA 91731

DSA BACKCHECK
11/28/2023
REVISIONS

DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-01

GENERAL STRUCTURAL NOTES

S0.1

Autodesk Docs://75-22201-00 El Monte UHSD - EMHS Mod/75-22201-00_El Monte UHSD - EMHS Mod_ST_2022.rvt
12/12/2023 2:59:18 PM

REQUIRED STRUCTURAL OBSERVATIONS

1. IN ACCORDANCE WITH IBC, SECTION 1704.6, THE OWNER'S REPRESENTATIVE SHALL EMPLOY A REGISTERED DESIGN PROFESSIONAL TO PERFORM STRUCTURAL OBSERVATIONS AS LISTED IN THE BELOW STATEMENT OF REQUIRED STRUCTURAL OBSERVATIONS.
2. STRUCTURAL OBSERVATION DOES NOT INCLUDE, OR WAIVE, THE RESPONSIBILITY FOR COMPLETING THE LISTED SPECIAL INSPECTIONS OR INSPECTIONS REQUIRED BY IBC SECTION 110.
3. AT THE CONCLUSION OF THE WORK, THE STRUCTURAL OBSERVER SHALL SUBMIT TO THE AHJ A WRITTEN STATEMENT THAT THE SITE VISITS HAVE BEEN MADE AND IDENTIFY ANY REPORTED DEFICIENCIES WHICH, TO THE BEST OF THE STRUCTURAL OBSERVER'S KNOWLEDGE, HAVE NOT BEEN RESOLVED.
4. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR OR CONSTRUCTION MANAGER TO NOTIFY THE ENGINEER AS TO WHEN EACH MAJOR PHASE OF CONSTRUCTION IS READY FOR OBSERVATION A MINIMUM OF TEN (10) WORKING DAYS IN ADVANCE.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT NAILING, REINFORCEMENT, WELDS, CONNECTIONS, ETC. ARE VISIBLE FOR DESIGNATED STRUCTURAL OBSERVER AT THE TIME OF SITE VISIT.
6. PRIOR TO THE FIRST STRUCTURAL OBSERVATION, THE OWNER'S REPRESENTATIVE SHALL COORDINATE A PRE-CONSTRUCTION MEETING BETWEEN THE OBSERVING ENGINEER, ARCHITECT, CONTRACTOR, SUBCONTRACTORS AND OTHER INSPECTORS. THE PURPOSE OF THE MEETING SHALL BE TO IDENTIFY THE STRUCTURAL ELEMENTS AND CONNECTIONS THAT ARE PART OF THE VERTICAL AND LATERAL LOAD RESISTING SYSTEMS AND REVIEW SCHEDULING OF SCHEDULED STRUCTURAL OBSERVATIONS.
7. THE STRUCTURAL OBSERVER SHALL PERFORM OBSERVATIONS AT THE FOLLOWING SIGNIFICANT CONSTRUCTION STAGES:

   CONSTRUCTION STAGES ELEMENTS/CONNECTIONS TO BE OBSERVED
   a. AT SUBSTANTIAL COMPLETION OF THE PRIMARY STRUCTURE

STATEMENT OF SPECIAL INSPECTIONS

1. IN ACCORDANCE WITH IBC, SECTION 1704, THE OWNER'S REPRESENTATIVE SHALL EMPLOY ONE OR MORE QUALIFIED SPECIAL INSPECTORS AND/OR TESTING AGENCIES TO PERFORM STRUCTURAL TESTS AND SPECIAL INSPECTIONS ON THE TYPES OF WORK LISTED IN THE STATEMENT OF SPECIAL INSPECTIONS.
2. THE DESIGNATED ENGINEER OF RECORD FOR SPECIAL INSPECTIONS SHALL BE RESPONSIBLE FOR DEFINING THE ACTIVITIES OF THE INSPECTORS, FOR CERTIFYING THE QUALIFICATIONS OF THE INSPECTORS WITH THE AHJ, AND TO ATTEND THE PRE-CONSTRUCTION MEETING TO DEFINE THEIR SCOPE OF SERVICES AND THE TESTING OR TEST PROCEDURES THAT ARE REQUIRED AS OUTLINED IN THE BUILDING CODE.
3. THE INSPECTOR SHALL OBSERVE THE WORK ASSIGNED TO VERIFY CONFORMANCE WITH THE APPROVED CONTRACT DOCUMENTS.
4. THE INSPECTOR SHALL FURNISH DAILY INSPECTION REPORTS ON THE WORK TO THE OWNER'S REPRESENTATIVE, AHJ AND ENGINEER. ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION, AND, IF UNCORRECTED, TO THE ENGINEER AND THE AHJ.
5. THE DESIGNATED ENGINEER OF RECORD FOR SPECIAL INSPECTIONS SHALL COMPLETE, SIGN AND SEAL A FINAL REPORT CERTIFYING THAT TO THE BEST OF THEIR KNOWLEDGE, THE WORK IS IN CONFORMANCE WITH THE APPROVED CONTRACT DOCUMENTS.
6. SPECIAL INSPECTION IS TO BE PROVIDED IN ADDITION TO THE INSPECTIONS CONDUCTED BY THE AHJ AND SHALL NOT BE CONSTRUED TO RELIEVE THE OWNER OR AUTHORIZED AGENT FROM REQUESTING THE INSPECTIONS REQUIRED BY IBC SECTION 110.
7. CONTRACTOR RESPONSIBILITY: EACH CONTRACTOR RESPONSIBLE FOR THE CONSTRUCTION OF A MAIN WIND- OR SEISMIC FORCE-RESISTING COMPONENT LISTED IN THE STATEMENT OF SPECIAL INSPECTIONS SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE AHJ AND THE OWNER'S REPRESENTATIVE ACKNOWLEDGING AWARENESS OF REQUIRED SPECIAL INSPECTIONS PRIOR TO COMMENCEMENT OF WORK ON THE SYSTEM OR COMPONENT.
8. STEEL CONSTRUCTION: SPECIAL INSPECTIONS FOR STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH THE QUALITY ASSURANCE INSPECTION REQUIREMENTS OF AISC 360-16. PROVIDE INSPECTION PER IBC SECTION 1704.2.5 FOR STRUCTURAL LOADING-BEARING MEMBERS AND ASSEMBLIES FABRICATED ON THE PREMISES OF A FABRICATOR'S SHOP. THESE INSPECTIONS SHALL BE AT CONTRACTOR'S EXPENSE IF THE FABRICATOR IS NOT AN APPROVED FABRICATOR PER SECTION 1704.2.5.1.
9. WELDING: WELDING INSPECTION SHALL BE IN COMPLIANCE WITH AWS D1.1. THE BASIS FOR WELDING INSPECTOR QUALIFICATIONS SHALL BE AWS D1.1. PROVIDE SPECIAL INSPECTION IN ACCORDANCE WITH AISC 360-16 TABLE N5.4-1 THROUGH TABLE N5.4-3.
10. STEEL DETAILING: AN INSPECTION OF THE STEEL FRAME SHALL BE PERFORMED TO VERIFY COMPLIANCE WITH THE DETAILS SHOWN ON THE APPROVED CONSTRUCTION DOCUMENTS, SUCH AS BRACING, STIFFENING, MEMBER LOCATIONS AND PROPER APPLICATION OF JOINT DETAILS AT EACH CONNECTION.
11. HIGH STRENGTH BOLTING: INSTALLATION OF HIGH STRENGTH BOLTS SHALL BE PERIODICALLY INSPECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. HIGH STRENGTH BOLTING. PROVIDE SPECIAL INSPECTION IN ACCORDANCE WITH AISC 360-16 TABLE N5.6-1 THROUGH TABLE N5.6-3.
12. SPRAY-APPLIED FIREPROOFING: PER SECTION 1705.14.
13. MASTIC AND INTUMESCENT FIRE RESISTING COATINGS: PER SECTION 1705.15.
14. EXTERIOR INSULATION AND FINISH SYSTEM (EIFS): PER SECTION 1705.16.
15. FIRE-RESISTANT PENETRATIONS AND JOINTS: PER SECTION 1705.17.
16. SMOKE CONTROL: PER SECTION 1705.18.
17. EXPANSION BOLT, SCREW ANCHOR AND ADHESIVE ANCHORS: INSTALLATION TO VERIFY INSTALLATION IN ACCORDANCE WITH ICC-ES REPORTS NOTED PREVIOUSLY OR APPROVED EQUAL.
18. HEADED CONCRETE SHEAR CONNECTORS: INSPECTED AND TESTED PER AMERICAN WELDING SOCIETY CODE AWS D1.1.

TMS 402 / 602 — TABLE 3

MINIMUM VERIFICATION REQUIREMENTS

MINIMUM VERIFICATION	REQUIRED FOR QUALITY ASSURANCE (a)			REFERENCE FOR CRITERIA
	LEVEL 1	LEVEL 2	LEVEL 3	TMS 602
Prior to construction, verification of compliance of submittals.	R	R	R	Art. 1.5
Prior to construction, verification of f'm and f'AAC, except where specifically exempted by the Code.	NR	R	R	Art. 1.4B
During construction, verification of Slump flow and Visual Stability Index (VSI) when self-consolidating grout is delivered to the project site.	NR	R	R	Art. 1.5 & 1.6.3
During construction, verification of f'm and f'AAC for every 5,000 square feet (465 square meters).	NR	NR	R	Art. 1.4B
During construction, verification of proportions of materials as delivered to the project site for premixed or preblended mortar, prestressing grout, and grout other than self-consolidating grout.	NR	NR	R	Art. 1.4B

a. R = Required, NR = Not Required

AISC 360 — TABLE N5.6-1

INSPECTION TASKS PRIOR TO BOLTING

INSPECTION TASKS PRIOR TO BOLTING	QC	QA
Manufacturer's certifications available for fastener materials	O	P
Fasteners marked in accordance with ASTM requirements	O	O
Proper fasteners selected for the joint detail (grade, type, bolt length if threads are to be excluded from shear plane)	O	O
Proper bolting procedure selected for joint detail	O	O
Connecting elements, including the appropriate faying surface condition and hole preparation, if specified, meet applicable requirements	O	O
Pre-installation verification testing by installation personnel observed and documented for fastener assemblies and methods used	P	O
Proper storage provided for bolts, nuts, washers, and other fastener components	O	O

O - Observe these items on a random basis. Operations need not be delayed pending these inspections.

P - Perform these tasks for each bolted connection.

AISC 360 — TABLE N5.6-2

INSPECTION TASKS DURING BOLTING

INSPECTION TASKS DURING BOLTING	QC	QA
Fastener assemblies placed in all holes and washers and nuts are positioned as required	O	O
Joint brought to the snug-tight condition prior to the pretensioning operation	O	O
Fastener component not turned by the wrench prevented from rotating	O	O
Fasteners are pretensioned in accordance with the RCSC Specification, progressing systematically from the most rigid point toward the free edges	O	O

O - Observe these items on a random basis. Operations need not be delayed pending these inspections.

P - Perform these tasks for each bolted connection.

AISC 360 — TABLE N5.6-3

INSPECTION TASKS AFTER BOLTING

INSPECTION TASKS AFTER BOLTING	QC	QA
Document acceptance or rejection of bolted connections	P	P

O - Observe these items on a random basis. Operations need not be delayed pending these inspections.

P - Perform these tasks for each bolted connection.

AISC 360 — TABLE N5.4-1

INSPECTION TASKS PRIOR TO WELDING

INSPECTION TASKS PRIOR TO WELDING	QC	QA
Welder qualification records and continuity records	P	O
Welding procedure specifications (WPS) available	P	P
Manufacturer certifications for welding consumables available	P	P
Material identification (type / grade)	O	O
Welder identification system [a]	O	O
Fit-up of groove welds (including joint geometry) • Joint preparations • Dimensions (alignment, root opening, root face, bevel) • Cleanliness (condition of steel surfaces) • Tacking (tack weld quality and location) • Backing type and fit (if applicable)	O	O
Fit-up of CJP groove welds of HSS T-, Y- and K-joints without backing (including joint geometry) • Joint preparations • Dimensions (alignment, root opening, root face, bevel) • Cleanliness (condition of steel surfaces) • Tacking (tack weld quality and location)	P	O
Configuration and finish of access holes	O	O
Fit-up of fillet welds • Dimensions (alignment, gaps at root) • Cleanliness (condition of steel surfaces) • Tacking (tack weld quality and location)	O	O
Check welding equipment	O	—

[a] The fabricator or erector, as applicable, shall maintain a system by which a welder who has welded a joint or member can be identified. Stamps, if used, shall be the low-stress type.

O - Observe these items on a random basis. Operations need not be delayed pending these inspections.

P - Perform these tasks for each welded joint or member.

AISC 360 — TABLE N5.4-2

INSPECTION TASKS DURING WELDING

INSPECTION TASKS DURING WELDING	QC	QA
Control and handling of welding consumables • Packaging • Exposure Control	O	O
No welding over cracked tack welds	O	O
Environmental conditions • Wind speed within limits • Precipitation and temperature	O	O
WPS Followed • Settings on welding equipment • Travel Speed • Selected welding materials • Shielding gas type / flow rate • Preheat applied • Interpass temperature maintained (min. / max.) • Proper position (F, V, H, OH)	O	O
Welding techniques • Interpass and final cleaning • Each pass within profile limitations • Each pass meets quality requirements	O	O
Placement and installation of steel headed stud anchors	P	P

O - Observe these items on a random basis. Operations need not be delayed pending these inspections.

P - Perform these tasks for each welded joint or member.

AISC 360 — TABLE N5.4-3

INSPECTION TASKS AFTER WELDING

INSPECTION TASKS AFTER WELDING	QC	QA
Welds cleaned	O	O
Size, length and location of welds	P	P
Welds meet visual acceptance criteria • Crack prohibition • Weld / base-metal fusion • Crater cross section • Weld profiles • Weld size • Undercut • Porosity	P	P
Arc strikes	P	P
k-area [a]	P	P
Weld access holes in rolled heavy shapes and build-up heavy shapes [b]	P	P
Backing removed and weld tabs removed (if required)	P	P
Repair activities	P	P
Document acceptance or rejection of welded joint or member	P	P
No prohibited welds have been added without the approval of the EOR	O	O

[a] When welding of doubler plates, continuity plates or stiffeners has been performed in the k-area, visually inspect the web k-area for cracks within 3 inches (75 mm) of the weld.

[b] After rolled heavy shapes (see Section A3.1c) and built-up heavy shapes (see Section A3.1d) are welded, visually inspect the weld access hole for cracks.

O - Observe these items on a random basis. Operations need not be delayed pending these inspections.

P - Perform these tasks for each welded joint or member.

ANSI / SDI QA/QC— TABLE 1.3

INSPECTION OR EXECUTION TASKS PRIOR TO WELDING

TASK	QC	QA
A. Welding procedure specifications (WPS) available	O	O
B. Manufacturer certifications for welding consumables available	O	O
C. Meterial identification (type / grade)	O	O
D. Check welding equipment	O	O

O - Observe these items on an intermittent basis. Operations need not be delayed pending these inspections.

P - Perform these tasks prior to final acceptance for each item or element.

ANSI / SDI QA/QC— TABLE 1.4

INSPECTION OR EXECUTION TASKS DURING WELDING

TASK	QC	QA
A. Use of qualified welders.	O	O
B. Control and handling of welding consumables	O	O
C. Environmental conditions (wind speed, moisture, temperature)	O	O
D. WPS followed	O	O

O - Observe these items on an intermittent basis. Operations need not be delayed pending these inspections.

P - Perform these tasks prior to final acceptance for each item or element.

ANSI / SDI QA/QC— TABLE 1.5

INSPECTION OR EXECUTION TASKS AFTER WELDING

TASK	QC	QA
A. Verify size and location of welds, including support, sidelap, and perimeter welds	P	P
B. Welds meet visual acceptance criteria	P	P
C. Verify repair activities	P	P
D. Document acceptance or rejection of welds	P	P

O - Observe these items on an intermittent basis. Operations need not be delayed pending these inspections.

P - Perform these tasks prior to final acceptance for each item or element.

ANSI / SDI QA/QC— TABLE 1.6

INSPECTION OR EXECUTION TASKS PRIOR TO MECHANICAL FASTENING

TASK	QC	QA
A. Manufacturer installation instructions available for mechanical fasteners	O	O
B. Proper tools available for fastener installation	O	O
C. Proper storage for mechanical fasteners	O	O

O - Observe these items on an intermittent basis. Operations need not be delayed pending these inspections.

P - Perform these tasks prior to final acceptance for each item or element.

ANSI / SDI QA/QC— TABLE 1.7

INSPECTION OR EXECUTION TASKS DURING MECHANICAL FASTENING

TASK	QC	QA
A. Fasteners are positioned as required	O	O
B. Fasteners are installed in accordance with manufacturer's instructions	O	O

O - Observe these items on an intermittent basis. Operations need not be delayed pending these inspections.

P - Perform these tasks prior to final acceptance for each item or element.

ANSI / SDI QA/QC— TABLE 1.8

INSPECTION OR EXECUTION TASKS AFTER MECHANICAL FASTENING

TASK	QC	QA
A. Check spacing, type, and installation of support fasteners	P	P
B. Check spacing, type, and installation of sidelap fasteners	P	P
C. Check spacing, type, and installation of perimeter fasteners	P	P
D. Verify repair activities	P	P
E. Document acceptance or rejection on mechanical fasteners	P	P

O - Observe these items on an intermittent basis. Operations need not be delayed pending these inspections.

P - Perform these tasks prior to final acceptance for each item or element.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-123582 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 01/10/2024

REGISTERED PROFESSIONAL ENGINEER
DANIEL LEE AHLM
6351
STRUCTURAL
STATE OF CALIFORNIA
EXP: 03/31/2025

DLR GROUP
© DLR Group

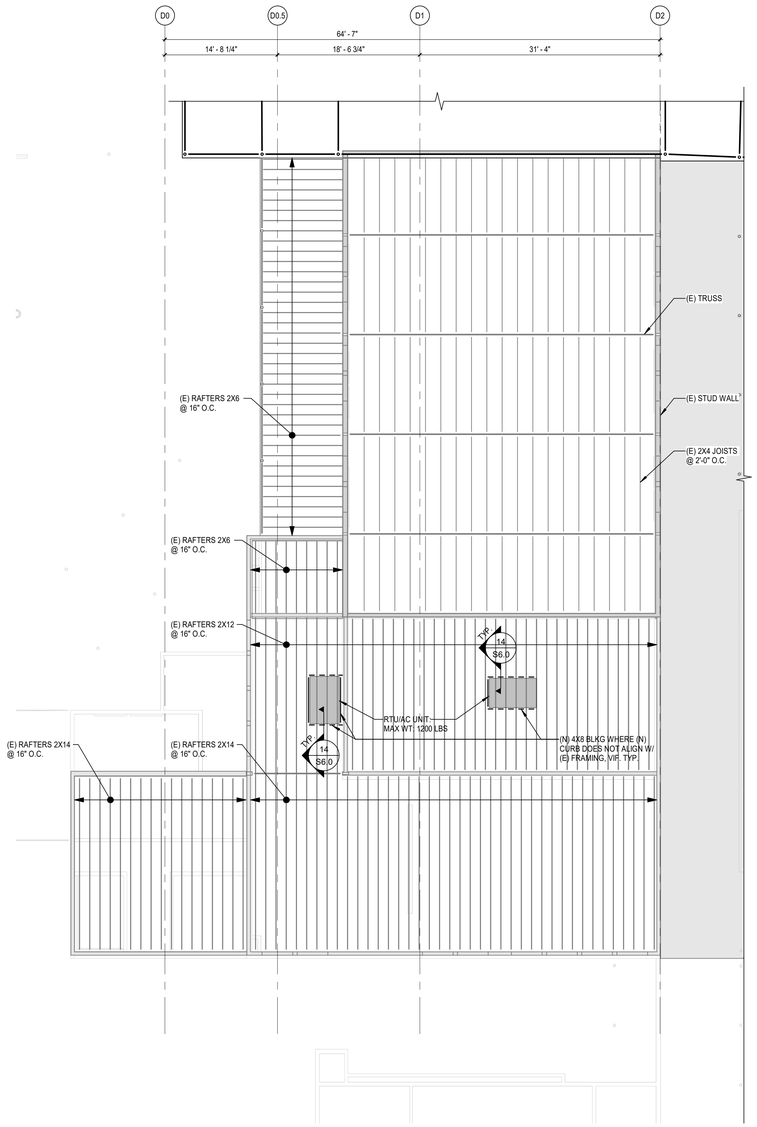
EL MONTE HIGH SCHOOL HVAC PROJECT
EL MONTE UNION HIGH SCHOOL DISTRICT
3048 Tyler Ave, El Monte, CA 91731

DSA BACKCHECK
11/28/2023
REVISIONS

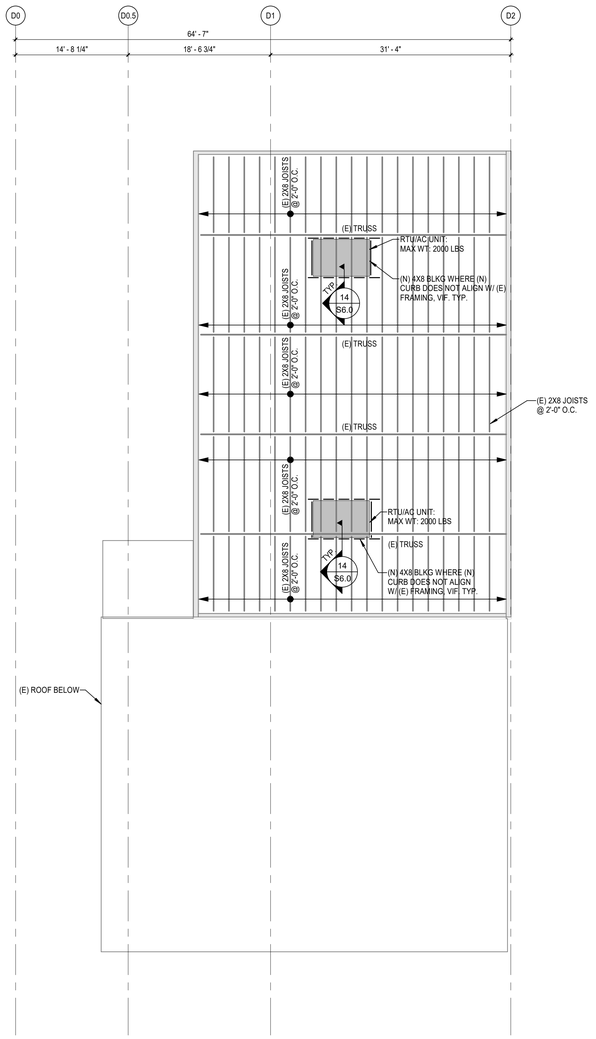
DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-01

GENERAL STRUCTURAL NOTES & SPECIAL INSPECTIONS

S0.2



LOW ROOF PARTIAL FRAMING PLAN - BLDG D (SOUTH)
SCALE: 1/8" = 1'-0"



HIGH ROOF PARTIAL FRAMING PLAN - BLDG D (SOUTH)
SCALE: 1/8" = 1'-0"

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-123582 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 01/10/2024

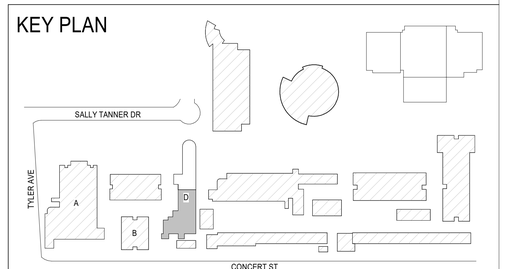
REGISTERED PROFESSIONAL ENGINEER
DANIEL LEE AHRAM
6351
STRUCTURAL
STATE OF CALIFORNIA
EXP: 03/31/2025

DLRGROUP
© DLR Group

EL MONTE HIGH SCHOOL HVAC PROJECT
EL MONTE UNION HIGH SCHOOL DISTRICT
3048 Tyler Ave, El Monte, CA 91731

DSA BACKCHECK
11/28/2023
REVISIONS

KEY PLAN

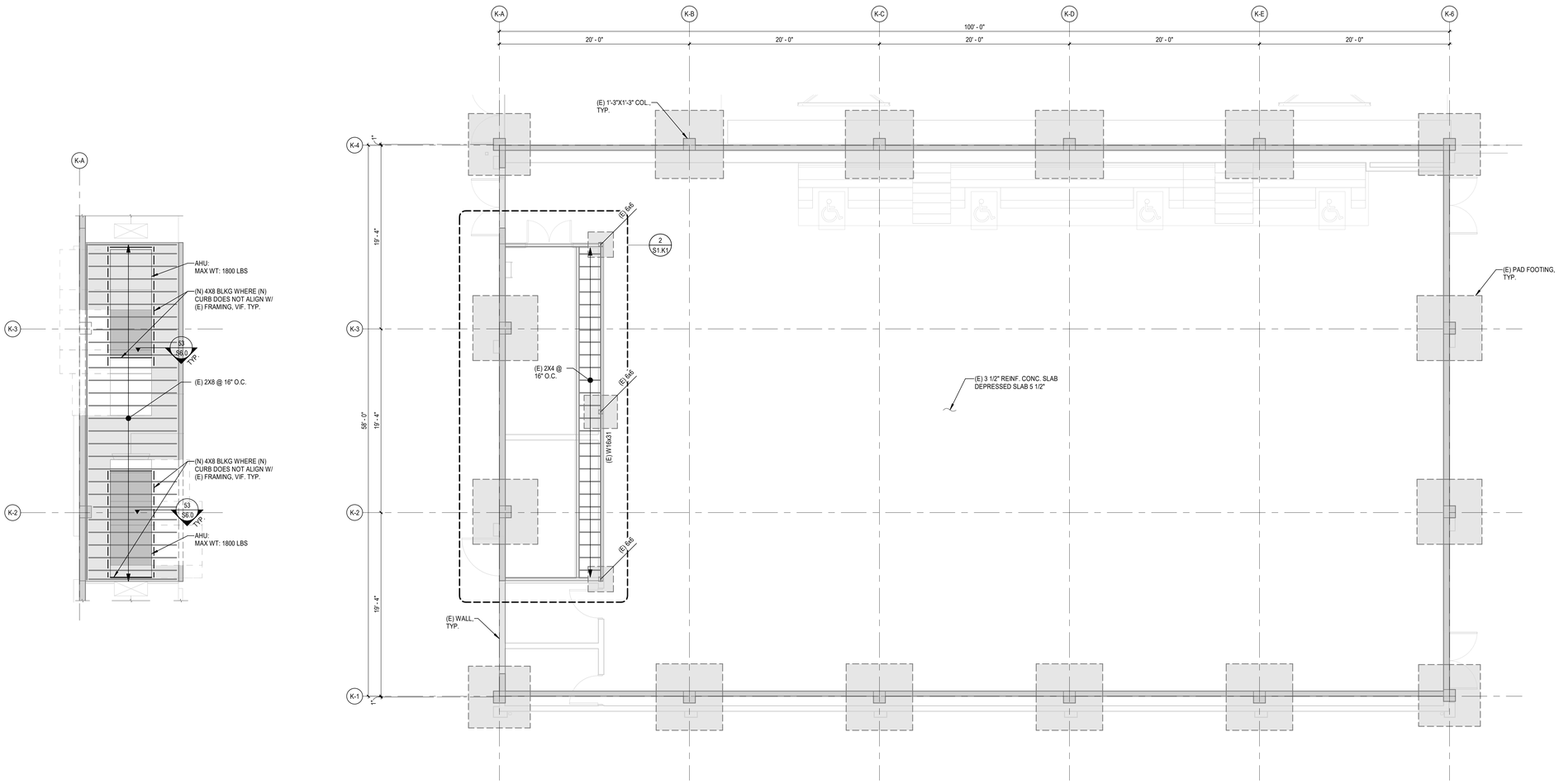


DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-01

LOW & HIGH ROOF FRAMING PLAN - BLDG D (SOUTH)

S1.D2

Autodesk Docs://75-22201-00 El Monte UHSD - EMHS Mod/75-22201-00_El Monte UHSD - EMHS Mod_ST_2022.rvt
11/13/2023 4:35:43 PM



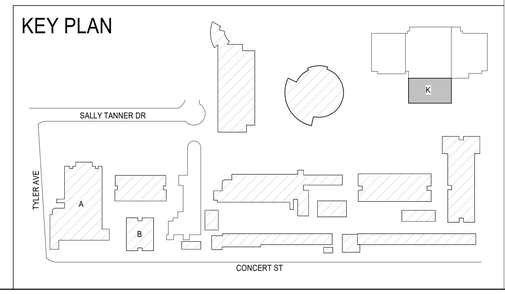
MEZZANINE LEVEL - BLDG K

SCALE: 3/16" = 1'-0"

FOUNDATION PLAN - BLDG K

SCALE: 3/16" = 1'-0"

KEY PLAN



REGISTERED PROFESSIONAL ENGINEER
DANIEL LEE AHRAM
6351
STRUCTURAL
STATE OF CALIFORNIA
EXP: 03/31/2025

DLRGROUP
© DLR Group

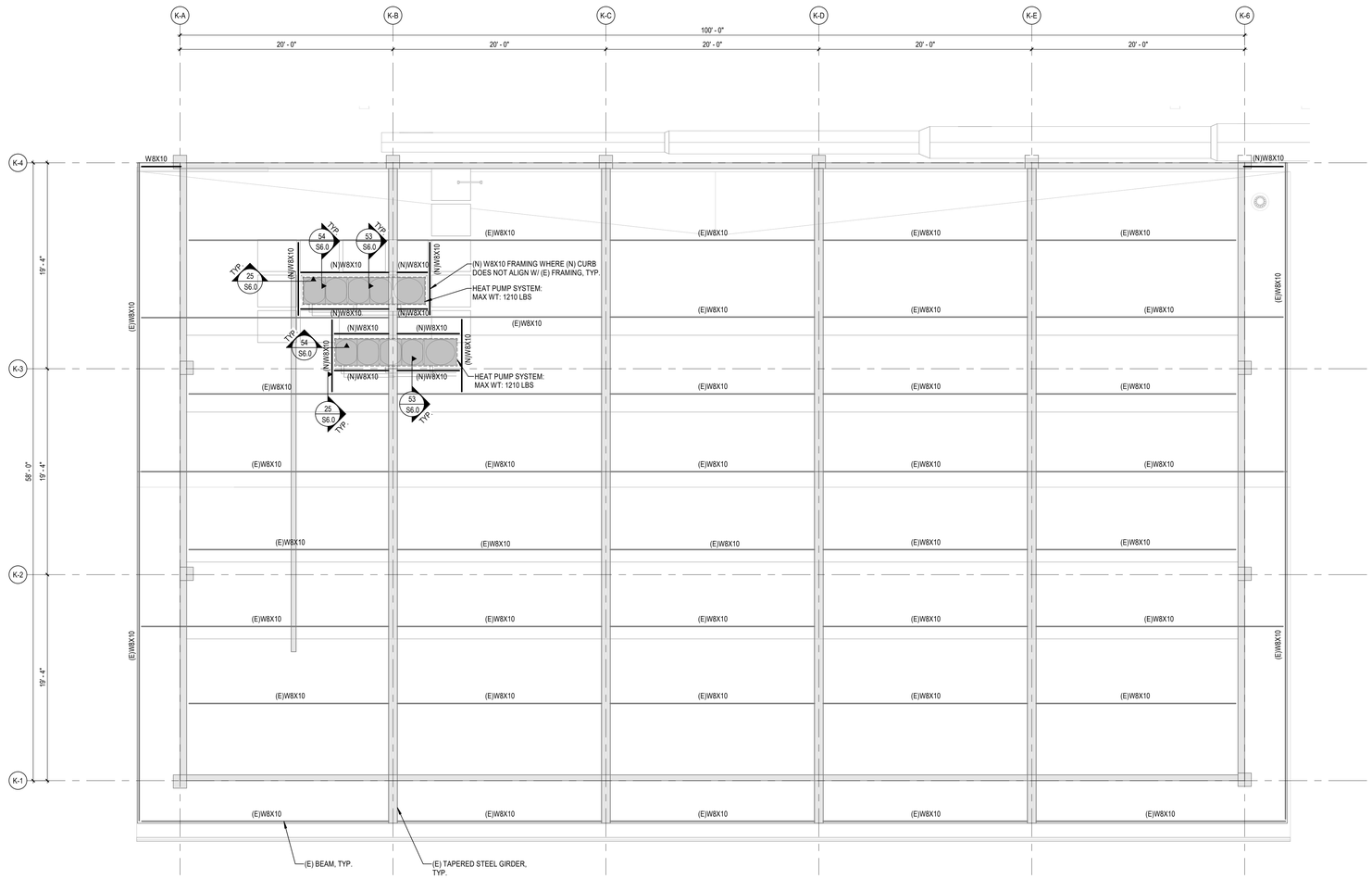
EL MONTE HIGH SCHOOL HVAC PROJECT
EL MONTE UNION HIGH SCHOOL DISTRICT
3048 Tyler Ave, El Monte, CA 91731

DSA BACKCHECK
11/28/2023
REVISIONS

DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-00

FOUNDATION PLAN AND MEZZANINE FRAMING - BLDG K

S1.K1



N

ROOF FRAMING PLAN - BLDG K

SCALE: 3/16" = 1'-0"

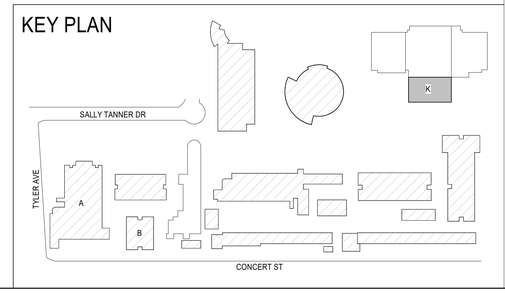
REGISTERED PROFESSIONAL ENGINEER
DANIEL LEE AHRAM
6351
STRUCTURAL
STATE OF CALIFORNIA
EXP: 03/31/2025

DLRGROUP
© DLR Group

EL MONTE HIGH SCHOOL HVAC PROJECT
EL MONTE UNION HIGH SCHOOL DISTRICT
3048 Tyler Ave, El Monte, CA 91731

DSA BACKCHECK
11/28/2023
REVISIONS

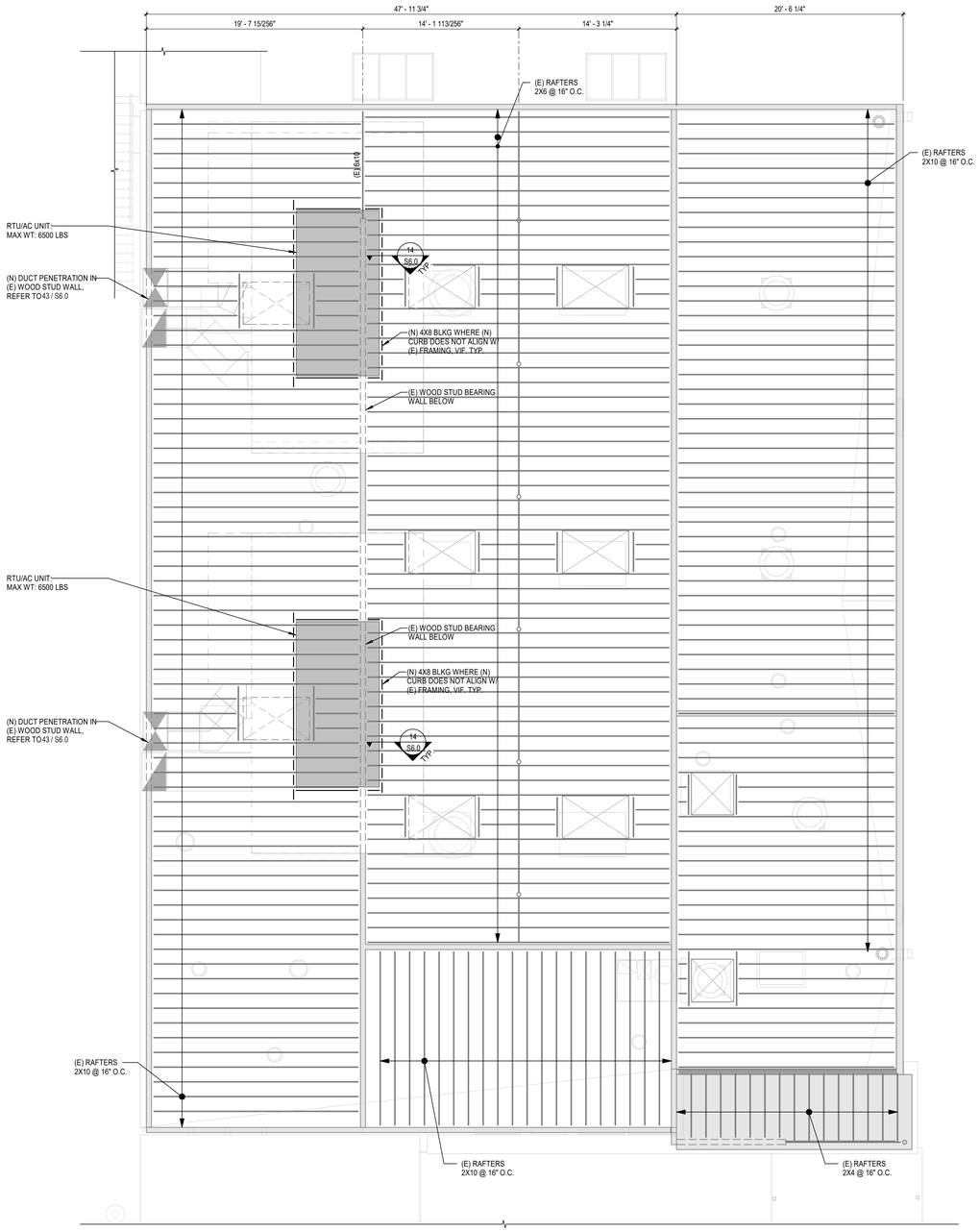
KEY PLAN



DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-00

ROOF FRAMING PLAN - BLDG K

S1.K2



N

ROOF FRAMING PLAN - BLDG L

SCALE: 3/16" = 1'-0"

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-123582 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 01/10/2024

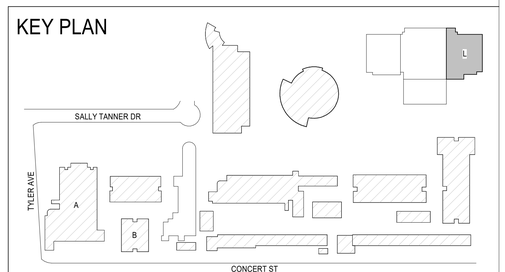
REGISTERED PROFESSIONAL ENGINEER
DANIEL LEE AHRAM
6351
STRUCTURAL
STATE OF CALIFORNIA
EXP: 03/31/2025

DLRGROUP

EL MONTE HIGH SCHOOL HVAC PROJECT
EL MONTE UNION HIGH SCHOOL DISTRICT
3048 Tyler Ave, El Monte, CA 91731

DSA BACKCHECK
11/28/2023
REVISIONS

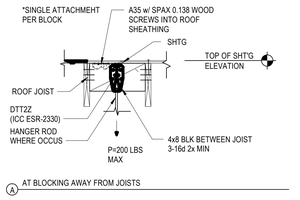
KEY PLAN



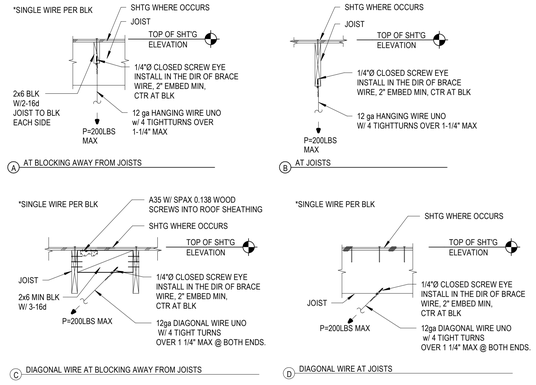
DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-00

ROOF
FRAMING
PLAN - BLDG L

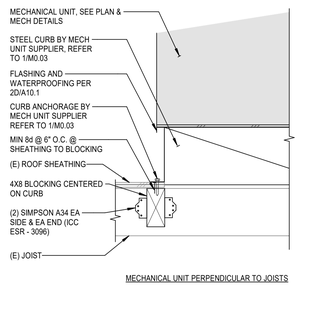
S1.L2



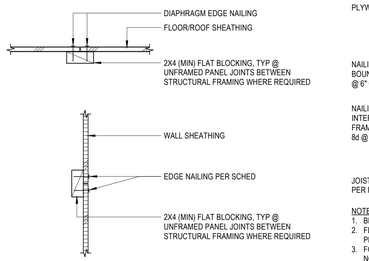
11 S6.0 HANGER ROD AT ROOF DETAIL
SCALE: 3/4" = 1'-0"



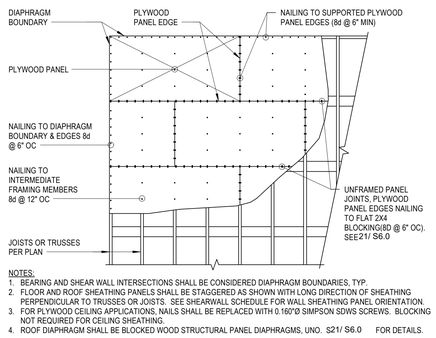
12 S6.0 HANGING WIRE CONNECTION
SCALE: 3/4" = 1'-0"



14 S6.0 TYP MECH UNIT BLOCKING FRAMING
SCALE: 1" = 1'-0"

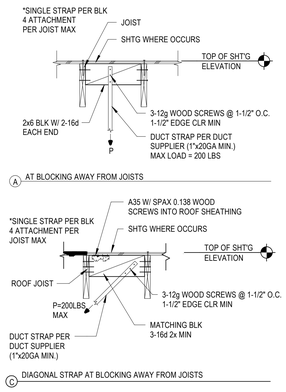


21 S6.0 TYPICAL FLAT BLOCKING DETAIL
SCALE: 1 1/2" = 1'-0"

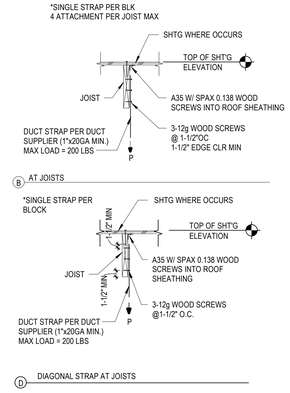


NOTES:
1. BEARING AND SHEAR WALL INTERSECTIONS SHALL BE CONSIDERED DIAPHRAGM BOUNDARIES, TYP.
2. FLOOR AND ROOF SHEATHING PANELS SHALL BE STAGGERED AS SHOWN WITH LONG DIRECTION OF SHEATHING PERPENDICULAR TO TRUSSES OR JOISTS. SEE SHEARWALL SCHEDULE FOR WALL SHEATHING PANEL ORIENTATION.
3. FOR PLYWOOD CEILING APPLICATIONS, NAILS SHALL BE REPLACED WITH 0.160"Ø SIMPSON SDWS SCREWS. BLOCKING NOT REQUIRED FOR CEILING SHEATHING.
4. ROOF DIAPHRAGM SHALL BE BLOCKED WOOD STRUCTURAL PANEL DIAPHRAGMS, UNO. S21/ S6.0 FOR DETAILS.

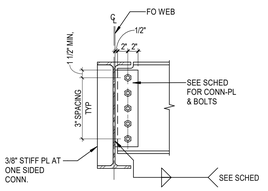
22 S6.0 TYPICAL ROOF / FLOOR SHEATHING LAYOUT
SCALE: 3/4" = 1'-0"



23 S6.0 DUCT STRAP ANCHORAGE TO FRAMING
SCALE: 3/4" = 1'-0"



25 S6.0 BOLTED SHEAR PLATE CONNECTION SCHEDULE
SCALE: 1" = 1'-0"



SINGLE ROW BOLTED CONNECTION SCHEDULE
PER AISC, LRFD-LOAD AND RESISTANCE FACTOR DESIGN, 14TH EDITION

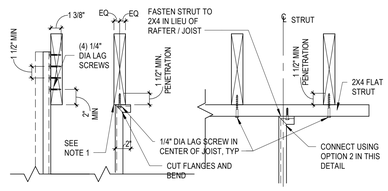
BEAM SIZE	SINGLE COPE VERTICAL CAPACITY (KIPS)	NO. OF BOLTS	CONN-PL THK (INCHES)	WELD SIZE (INCHES)	H-PL THK (INCHES)	MIN SUPPORT THK (INCHES)
W8	13.3	(2) 7/8 Ø	3/8	1/4	1/2	0.190

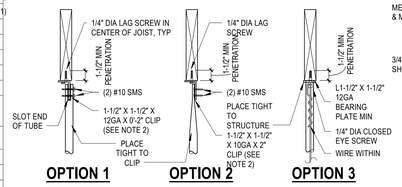
CONNECTION NOTES:
1. ALTERNATE CONNECTIONS MAY BE SUBSTITUTED FOR SINGLE TAB CONNECTION PLATES, PROVIDED THEY MEET OR EXCEED THE REQUIREMENTS OF THE AISC. ALTERNATE CONNECTIONS MUST BE SUBMITTED FOR REVIEW PRIOR TO SHOP DRAWING REVIEW. INCLUDED SIGNED AND SEALED CALCULATIONS WITH ALL PROPOSED ALTERNATIVE CONNECTION DESIGNS.
2. USE THE MINIMUM NUMBER OF BOLTS REQUIRED FOR THE BEAM SIZE PER SCHEDULE. WHERE A LARGER BEAM FRAMES INTO A SMALLER BEAM, USE THE MINIMUM NUMBER OF BOLTS REQUIRED FOR THE SMALLER BEAM SIZE PROVIDED THAT THE BEAM REACTION IS MET.
3. BEAMS SHALL HAVE STANDARD ROUND HOLES AND CONNECTION PLATES MAY HAVE HORIZONTAL SHORT SLOTTED HOLES, UON.
4. BOLTS ARE 7/8" Ø, A325-N. BOLTS MAY BE SNUG TIGHT UNLESS SPECIFICALLY CALLED OUT AS SLIP-CRITICAL.
5. CONNECTIONS MARKED SLIP-CRITICAL OR DOUBLE ROW ON THE PLAN HAVE BEEN DESIGNED FOR HORIZONTAL REACTIONS. USE CONNECTIONS FOR THE BEAM SIZE. PROVIDE STANDARD ROUND HOLES IN BOTH THE BEAM WEB AND CONNECTION PLATE. PROVIDE CLASS 'A' FAYING SURFACES AT ALL CONNECTION PLYS, UON. BOLTS SHALL BE FULLY PRETENSIONED USING LOAD INDICATING WASHERS OR TENSION CONTROL BOLTS
6. BEAMS MARKED "SFRS" ON THE PLAN HAVE BEEN DESIGNED FOR HORIZONTAL REACTIONS. USE CONNECTIONS FOR THE BEAM SIZE. PROVIDE STANDARD ROUND HOLES IN BOTH THE BEAM WEB AND CONNECTION PLATE. USE SLIP CRITICAL BOLTS
7. THE CONNECTION PLATE BOLTS HAVE A MINIMUM EDGE DISTANCE OF 1 1/2" VERTICAL AND 2" HORIZONTAL (EXAMPLE SINGLE ROW CONNECTION WITH (4) BOLTS, PLATE LENGTH = 12" MIN). THE BEAM WEB BOLT HOLES HAVE A MINIMUM VERTICAL EDGE DISTANCE OF 1 1/2" TO TOP OF CONNECTION PLATE, AND A MINIMUM HORIZONTAL EDGE DISTANCE OF 2" TO EDGE OF BEAM WEB. A BEAM COPE THAT DECREASES THE BEAM WEB BEYOND THIS MINIMUM MUST BE SUBMITTED FOR REVIEW PRIOR TO SHOP DRAWING REVIEW.
8. THE SUPPORTING BEAM OR COLUMN WEB/FLANGE THICKNESS THAT THE CONNECTION PLATE IS WELDED TO SHALL MEET THE MINIMUM SUPPORT THICKNESS LISTED IN THE SCHEDULE.
9. ALL CONNECTIONS FOR MEMBERS MARKED 'SFRS' SHALL UTILIZE SLIP CRITICAL BOLTS.

CONNECTION	NAIL	LOCATION
JOIST TO SILL OR GIRDER	(3) - 8d COMMON	TOE NAIL
BRIDGING TO JOIST	(2) - 8d COMMON	TOE NAIL EACH END
1" X 6" SUBFLOOR OR LESS TO EACH JOIST	(2) - 8d COMMON	FACE NAIL
WIDER THAN 1" X 6" SUBFLOOR TO EACH JOIST	(3) - 8d COMMON	FACE NAIL
2" SUBFLOOR TO JOIST OR GIRDER	(2) - 16d COMMON	BLIND & FACE NAIL
SOLE PLATE TO JOIST OR BLOCKING	16d COMMON @ 16" OC	TYPICAL FACE NAIL
SOLE PLATE TO JOIST OR BLOCKING @ BRACED WALL PANEL	(3) - 16d COMMON @ 16" OC	BRACED WALL PANELS
TOP PLATE TO STUD	(2) - 16d COMMON	END NAIL
STUD TO SOLE PLATE	(4) - 8d COMMON	TOE NAIL
STUD TO SOLE PLATE	(2) - 16d COMMON	END NAIL
DOUBLED STUDS	16d (3 1/2" x 0.135") @ 24" OC	FACE NAIL
DOUBLED TOP PLATE	16d (3 1/2" x 0.135") @ 16" OC	TYPICAL FACE NAIL
DOUBLED TOP PLATE	(8) - 16d COMMON	LAP SPLICE
BLOCKING BETWEEN JOISTS OR RAFTERS TO TOP PLATE	(3) - 8d COMMON	TOE NAIL
RIM JOIST TO TOP PLATE	8d (2 1/2" x 0.131") @ 6" OC	TOE NAIL
TOP PLATES, LAPS AND INTERSECTIONS	(2) - 16d COMMON	FACE NAIL
BUILT UP HEADER, TWO PIECES	16d COMMON @ 16" OC	ALONG EDGE, FACE NAIL
CEILING JOISTS TO PLATE	(3) - 8d COMMON	TOE NAIL
CONTINUOUS HEADER TO STUD	(4) - 8d COMMON	TOE NAIL
CEILING JOISTS, LAPS OVER PARTITIONS	(3) - 16d COMMON	FACE NAIL (SEE TABLE 2308.10.4.1)
CEILING JOISTS TO PARALLEL RAFTERS	(3) - 16d COMMON	FACE NAIL (SEE TABLE 2308.10.4.1)
RAFTER TO PLATE	(3) - 10d COMMON	TOE NAIL
1" DIAGONAL BRACE TO EACH STUD AND PLATE	(2) - 8d COMMON	FACE NAIL
1" X 8" SHEATHING TO EACH BEARING	(3) - 8d COMMON	FACE NAIL
WIDER THAN 1" X 8" SHEATHING TO EACH BEARING	(3) - 8d COMMON	FACE NAIL
BUILT-UP CORNER STUDS	16d COMMON @ 24" OC	FACE NAIL
BUILT-UP GIRDER AND BEAMS	20d COMMON @ 32" OC	FACE NAIL AT TOP AND BOT STAGGERED ON OPPOSITE SIDES
	(2) - 20d COMMON	FACE NAIL AT ENDS AND AT EACH SPLICE
2" PLANKS	16d COMMON	AT EACH BEARING
COLLAR TIE TO RAFTER	(3) - 10d COMMON	FACE NAIL
JACK RAFTER TO HIP	(3) - 10d COMMON	TOE NAIL
	(2) - 16d COMMON	FACE NAIL
ROOF RAFTER TO 2-BY RIDGE BEAM	(2) - 16d COMMON	FACE OR TOE NAIL
JOIST TO BAND JOIST	(3) - 16d COMMON	EACH JOIST, FACE NAIL

NOTES:
1. USE NAILING SHOWN UNLESS NOTED OTHERWISE ELSEWHERE IN THESE DRAWINGS.
2. WHERE NAILING SHOWN DIFFERS FROM OTHER NAILING REQUIREMENTS IN THESE DRAWINGS OR NAILING REQUIREMENTS IN THE BUILDING CODE, USE MORE STRINGENT REQUIREMENT.

51 S6.0 TYPICAL NAILING SCHEDULE
SCALE: 3/4" = 1'-0"



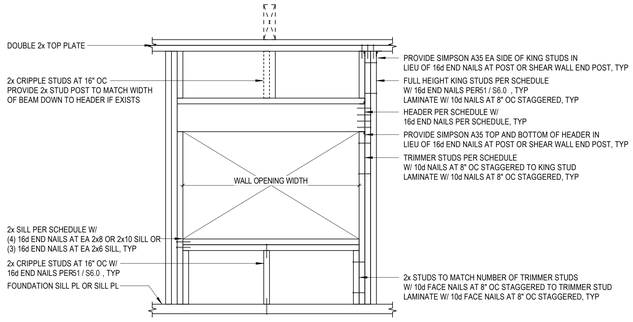


NOTES:
1. WEB OF CHANNEL TO BEAR WITHIN WIDTH OF THE WOOD MEMBER.
2. VERTICAL LEG OF MEMBER TO FALL WITHIN THE WIDTH OF THE WOOD MEMBER.

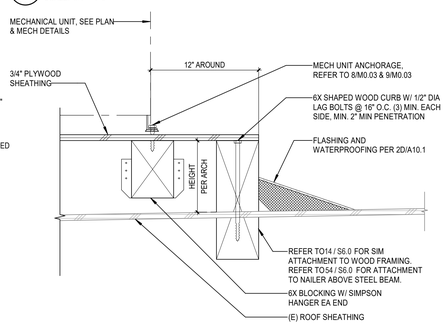
52 S6.0 STRUT CONNECTION TO SAWN TIMBER W/OUT GYP. BRD.
SCALE: 1 1/2" = 1'-0"

WALL OPENING SCHEDULE						
HEADER DEPTH (1)	WALL OPENING WIDTH	TRIMMER STUDS	KING STUDS	HEADER FACE NAILS	SILL PLATES	PARTITION KING STUDS
x6	W ≤ 4'-3"	1	2	4	2	2
x8	4'-3" < W ≤ 5'-9"	1	2	6	2	2
x10	5'-9" < W ≤ 7'-0"	1	3	6	2	3
x12	7'-0" < W ≤ 8'-3"	1	3	8	2	3
x14	8'-3" ≤ W ≤ 9'-6"	2	3	8	3	3

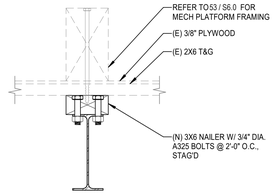
NOTES:
1. PROVIDED HEADERS AS SCHEDULED ABOVE WITH HEADER WIDTH TO MATCH WALL WIDTH.



43 S6.0 TYP WALL FRAMING AND OPENING SCHEDULE
SCALE: 3/4" = 1'-0"



53 S6.0 EQUIPMENT PLATFORM DETAIL
SCALE: 1 1/2" = 1'-0"



54 S6.0 WOOD NAILER DETAIL
SCALE: 1 1/2" = 1'-0"

DLRGROUP

EL MONTE HIGH SCHOOL HVAC PROJECT

EL MONTE UNION HIGH SCHOOL DISTRICT
3048 Tyler Ave, El Monte, CA 91731

DSA BACKCHECK
11/28/2023
REVISIONS

DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-00

STRUCTURAL DETAILS

S6.0

MECHANICAL SYMBOLS

SYMBOL	DESCRIPTION
CD	CEILING DIFFUSER - SUPPLY
SAD	SUPPLY AIR DUCT - RISER
SAD	SUPPLY AIR DUCT - DROP
RAG	RETURN AIR GRILLE
RAD	RETURN AIR DUCT - RISER
RAD	RETURN AIR DUCT - DROP
EAG	EXHAUST AIR GRILLE
EAD	EXHAUST AIR DUCT - RISER
EAD	EXHAUST AIR DUCT - DROP
SWS	SIDE WALL SUPPLY GRILLE
SWR	SIDE WALL RETURN/EXHAUST GRILLE
UP	DUCT OFFSET UP
	DOUBLE WALL DUCT
	DUCT OR EQUIPMENT TO BE REMOVED
	EXISTING DUCT TO REMAIN
	DUCT
	DUCT TRANSITION
MVD	MANUAL VOLUME DAMPER
BDD	BACKDRAFT DAMPER
AFD	AUTOMATIC FIRE DAMPER
CSFD	COMBINATION SMOKE/FIRE DAMPER
CHWS	CHILLED WATER SUPPLY PIPE
CHWR	CHILLED WATER RETURN PIPE
(E)SWS	EXISTING SERVICE WATER SUPPLY PIPE
(E)SWR	EXISTING SERVICE WATER RETURN PIPE
SWS	SERVICE WATER SUPPLY PIPE
SWR	SERVICE WATER RETURN PIPE

SYMBOL	DESCRIPTION
	PRESSURE REDUCING VALVE
	ISOLATION VALVE (BALL)
	ISOLATION VALVE (BUTTERFLY)
	MOTORIZED CONTROL VALVE
	CHECK VALVE
	THERMOMETER
P	PRESSURE GAUGE
2"	SMACNA DUCT STATIC PRESSURE CLASS
POD	POINT OF DEMOLITION
POC	POINT OF CONNECTION
M	MOTORIZED DAMPER
T / TS	THERMOSTAT / SENSOR. MOUNT @ +48" AFF (IF MOUNTED OVER CASEWORK OR OTHER OBSTRUCTION 46" TO TOP OF DEVICE).
TC	TIME CLOCK
DD	DUCT SMOKE DETECTOR (MOUNT BELOW ROOF)
CO_2	CARBON DIOXIDE SENSOR FOR OUTSIDE AIR MODULATION
DL (D/L 1.0)	DOOR LOUVER W/ MINIMUM FREE AREA (SQ. FT.)
UC (U/C)	UNDER CUT DOOR
X / M-X	DETAIL DESIGNATION (DETAIL NUMBER / DRAWING NUMBER)
	EQUIPMENT DESIGNATION (EQUIPMENT DESCRIPTION / EQUIPMENT NUMBER)

MECHANICAL ABBREVIATIONS

ABBREVIATION	MEANING
- A -	
ABV	ABOVE
A/C	AIR CONDITIONER
AFF	ABOVE FINISH FLOOR
AFUE	ANNUAL FUEL UTILIZATION EFFICIENCY
AFD	AUTOMATIC FIRE DAMPER
AO	ANALOG OUTPUT
AP	ACCESS PANEL
- B -	
BDD	BACKDRAFT DAMPER
BEL	BELOW
BLDG	BUILDING
BTUH	BRITISH THERMAL UNITS PER HOUR
- C -	
CD	CEILING DIFFUSER
CFM	CUBIC FEET PER MINUTE
CO	CARBON MONOXIDE
COMP	COMPRESSOR
CONT	CONTINUATION
- D -	
DDC	DIRECT DIGITAL CONTROL
DEG	DEGREE
DI	DIGITAL INPUT
DIA	DIAMETER
DN	DOWN
DO	DIGITAL OUTPUT
DTR	DOWN THRU ROOF
DWD	DOUBLE WALL DUCT
DWG	DRAWING
DX	DIRECT EXPANSION
- E -	
(E)	EXISTING
EA	EXHAUST AIR
EAD	EXHAUST AIR DUCT
EAT	ENTERING AIR TEMPERATURE
EER	ENERGY EFFICIENCY RATIO
EFF	EFFICIENCY
EG	EXHAUST GRILLE
EMS	ENERGY MANAGEMENT SYSTEM
EQUIP	EQUIPMENT
ESP	EXTERNAL STATIC PRESSURE
(E)AFD	EXISTING AUTOMATIC FIRE DAMPER
- F -	
FAI	FRESH AIR INTAKE
FLR	FLOOR
FPI	FINS PER INCH
FT	FOOT, FEET
- G -	
GA	GAUGE
GI	GALVANIZED IRON
GPM	GALLONS PER MINUTE
- H -	
HP	HORSEPOWER
HR	HOUR
HVAC	HEATING VENTILATING AND AIR CONDITIONING
HW	HOT WATER
HZ	HERTZ
- I -	
IN.	INCHES
- K -	
KW	KILOWATT
- L -	
(L)	LINED DUCT
LAT	LEAVING AIR TEMPERATURE
LB	POUND
LWT	LEAVING WATER TEMPERATURE

ABBREVIATION	MEANING
- M -	
MA	MIXED AIR
MAX	MAXIMUM
MB	MACHINE BOLT
MBH	1000 BRITISH THERMAL UNITS PER HOUR
MCA	MINIMUM CIRCUIT AMPACITY
MECH	MECHANICAL
MFR	MANUFACTURER
MIN	MINIMUM
MOCP	MAXIMUM OVERCURRENT PROTECTION
MS	MOTOR STARTER
MTD	MOUNTED
- N -	
NC	NOISE CRITERIA
NC	NORMALLY CLOSED
NG	NATURAL GAS
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NPS	NOMINAL PIPE SIZE
NTS	NOT TO SCALE
- O -	
OA	OUTSIDE AIR
OC	ON CENTER
ODP	OUTDOOR DRIP PROOF
OPER	OPERATING
OSA	OUTSIDE AIR
- P -	
P.D.	PRESSURE DROP
PH	PHASE
PSI	POUNDS PER SQUARE INCH
- Q -	
QTY	QUANTITY
- R -	
RA	RETURN AIR
RAD	RETURN AIR DUCT
RG	RETURN GRILLE
RL	REFRIGERATION LIQUID
RPM	REVOLUTIONS PER MINUTE
RS	REFRIGERATION SUCTION
- S -	
SA	SUPPLY AIR
SAD	SUPPLY AIR DUCT
SENS	SENSIBLE
SF	SUPPLY FAN
SMS	SHEET METAL SCREW
SOV	SHUT OFF VALVE
S.P.	STATIC PRESSURE
SQ	SQUARE
S/S	STAINLESS STEEL
SWR	SIDEWALL RETURN GRILLE
SWS	SIDEWALL SUPPLY GRILLE
SYM	SYMBOL
- T -	
TDH	TOTAL DYNAMIC HEAD
TG	TRANSFER GRILLE
TSTAT	THERMOSTAT
TYP	TYPICAL
- U -	
UNO	UNLESS NOTED OTHERWISE
UTR	UP THRU ROOF
- V -	
VAC	VOLTS ALTERNATING CURRENT
VFD	VARIABLE FREQUENCY DRIVE
- W -	
WT	WEIGHT
W/	WITH

EQUIPMENT ANCHORAGE NOTE

MEP COMPONENT ANCHORAGE NOTE

ALL MECHANICAL, PLUMBING, AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2022 CBC, SECTIONS 1617A.1.18 THROUGH 1617A.1.26 AND ASCE 7-16 CHAPTERS 13, 26 AND 30.

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

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

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

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

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

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-16 SECTION 13.3 AS DEFINED IN ASCE 7-16 SECTIONS 13.6.5, 13.6.6, 13.6.7, 13.6.8; AND 2022 CBC, SECTIONS 1617A.1.24, 1617A.1.25 AND 1617A.1.26.

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

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

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 HCAi (OSHPD) PRE-APPROVAL (OPM#) #0043-13, AS INCLUDED IN THESE DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS.

MECHANICAL MANDATORY MEASURES

EQUIPMENT AND SYSTEMS EFFICIENCY

ANY APPLIANCE FOR WHICH THERE IS A CALIFORNIA STANDARD ESTABLISHED IN THE APPLIANCE EFFICIENCY STANDARDS SHALL COMPLY WITH THAT STANDARD.

PIPING, EXCEPT THOSE CONVEYING FLUIDS WITH A DESIGN OPERATING TEMPERATURE BETWEEN 60° F AND 105°F, OR WITHIN SPACE-CONDITIONING EQUIPMENT CERTIFIED UNDER, §110.1 OR §110.2, SHALL BE INSULATED IN ACCORDANCE WITH §120.3

ALL AIR DISTRIBUTION SYSTEM DUCTS AND PLENUMS ARE REQUIRED TO BE INSTALLED, SEALED, AND INSULATED IN ACCORDANCE WITH THE CALIFORNIA MECHANICAL CODE (CMC) SECTIONS 601, 602, 603, 604, 605 AND ANSI/SMACNA-006-2006 HVAC DUCT CONSTRUCTION STANDARDS METAL AND FLEXIBLE 3RD EDITION.

VENTILATION

CONTROLS SHALL BE PROVIDED TO ALLOW OUTSIDE AIR DAMPERS OR DEVICES TO BE OPERATED AT THE VENTILATION RATES AS SPECIFIED IN THESE PLANS.

ALL GRAVITY VENTILATING SYSTEMS SHALL BE PROVIDED WITH AUTOMATIC OR READILY ACCESSIBLE MANUALLY OPERATED DAMPERS IN ALL OPENINGS TO THE OUTSIDE.

AIR BALANCING: ALL SPACE CONDITIONING AND VENTILATION SYSTEMS SHALL BE BALANCED TO THE QUANTITIES SPECIFIED IN THESE PLANS, IN ACCORDANCE WITH THE ASSOCIATED AIR BALANCE COUNCIL (AABC) NATIONAL STANDARDS.

GRAVITY OR AUTOMATIC DAMPERS INTERLOCKED AND CLOSED ON FAN SHUTDOWN SHALL BE PROVIDED ON THE OUTSIDE AIR INTAKES AND DISCHARGES OF ALL SPACE CONDITIONING AND EXHAUST SYSTEMS.

FANS USED FOR VENTILATION SHALL OPERATE CONTINUOUSLY DURING OCCUPIED HOURS.

THE MINIMUM OUTDOOR AIR LISTED OR THREE COMPLETE AIR CHANGES SHALL BE SUPPLIED TO THE ENTIRE BLDG. DURING THE ONE HOUR PERIOD IMMEDIATELY BEFORE THE BLDG. IS NORMALLY OCCUPIED.

CONTROLS

EACH SPACE CONDITIONING ZONE SHALL BE CONTROLLED BY AN INDIVIDUAL THERMOSTATIC CONTROL THAT RESPONDS TO THE SUPPLY OF HEATING AND COOLING ENERGY WITHIN THAT ZONE §120.2(a). WHEN USED TO CONTROL HEATING, THE THERMOSTATIC CONTROL MUST BE ADJUSTABLE DOWN TO 55°F OR LOWER. FOR COOLING, THE THERMOSTATIC CONTROL MUST BE ADJUSTABLE UP TO 85°F OR HIGHER. WHEN USED TO CONTROL BOTH HEATING AND COOLING, THE THERMOSTATIC THE CONTROL MUST BE ADJUSTABLE FROM 55°F TO 85°F AND ALSO PROVIDE A DEAD BAND OF AT LEAST 5° F WITHIN WHICH THE SUPPLY OF HEATING AND COOLING IS SHUT OFF OR REDUCED TO A MINIMUM.

EACH SPACE CONDITIONING SYSTEM SERVING BUILDING TYPES SUCH AS OFFICES AND MANUFACTURING FACILITIES (AND ALL OTHERS NOT EXPLICITLY EXEMPT FROM THE REQUIREMENTS OF SECTION 112 (D)) SHALL BE INSTALLED WITH AN AUTOMATIC TIME SWITCH WITH AN ACCESSIBLE MANUAL OVERRIDE THAT ALLOWS OPERATION OF THE SYSTEM DURING OFF-HOURS FOR UP TO 4 HOURS. THE TIME SWITCH SHALL BE CAPABLE OF PROGRAMMING DIFFERENT SCHEDULES FOR WEEKDAYS OR WEEKENDS; INCORPORATE AN AUTOMATIC HOLIDAY "SHUTOFF" FEATURE THAT TURNS OFF ALL LOADS FOR AT LEAST 24 HOURS, THEN RESUMES THE NORMALLY SCHEDULED OPERATION; AND HAS PROGRAM BACKUP CAPABILITIES THAT PREVENT THE LOSS OF THE DEVICES PROGRAM AND TIME SETTING FOR AT LEAST 10 HOURS IF POWER IS INTERRUPTED.

SYSTEM WITH DDC TO THE S110.2(c) ARE ALSO REQUIRED TO HAVE AUTOMATIC DEMAND SHED CONTROLS.

EACH SPACE CONDITIONING SYSTEM MUST BE PROVIDED WITH CONTROLS THAT CAN AUTOMATICALLY SHUT OFF THE EQUIPMENT DURING UNOCCUPIED HOURS. WHEN SHUT DOWN, THE CONTROLS SHALL AUTOMATICALLY RESTART THE SYSTEM TO MAINTAIN A SETBACK HEATING THERMOSTAT SETPOINT, IF THE SYSTEM PROVIDES MECHANICAL HEATING AND SETUP COOLING THERMOSTAT SETPOINT, IF THE SYSTEM PROVIDES MECHANICAL COOLING.

THERMOSTATS SHALL HAVE NUMERIC SETPOINTS IN DEGREES FAHRENHEIT (F) AND ADJUSTABLE STOPS ACCESSIBLE ONLY BY AUTHORIZED PERSONNEL. MOUNT AT 48" MAX. TO CONTROL WITH 30X40 CLEAR FLOOR SPACE FOR PERPENDICULAR APPROACH AT EACH.

MECHANICAL GENERAL NOTES

1. ALL DUCT INSULATION TO HAVE MINIMUM 8.0 INSTALLED R-VALUE. DUCT INSULATION SHALL HAVE FLAME SPREAD RATING NOT EXCEEDING 25, AND A SMOKE DEVELOPED RATING NOT EXCEEDING 50 WHEN TESTED IN ACCORDANCE WITH ASTM E84, NFPA 255 AND U.L. 723.
2. DUCT CONSTRUCTION SHALL BE GALVANIZED STEEL IN ACCORDANCE W/ CHAPTER 6 OF THE C.M.C., SEAL ALL SEAMS AND JOINTS AIR AND WATERTIGHT. FLEXIBLE ALUMINUM DUCT WORK IS NOT ALLOWED, DUCT TAPE IS NOT ALLOWED.
3. FLEXIBLE DUCTWORK AND DUCTLINER SHALL HAVE FLAME SPREAD RATING NOT EXCEEDING 25, AND A SMOKE DEVELOPED RATING NOT EXCEEDING 50 WHEN TESTED IN ACCORDANCE WITH ASTM E84, NFPA 255 AND U.L. 723.
4. FLEXIBLE DUCTS SHALL CONSIST OF AN EXTERIOR REINFORCED LAMINATED VAPOR BARRIER, 3" FIBERGLASS INSULATION (R-8.0), ENCAPSULATED SPRING STEEL WIRE HELIX AND IMPERVIOUS, SMOOTH, NON-PERFORATED INTERIOR VINYL LINER. INDIVIDUAL LENGTHS OF FLEXIBLE DUCTS SHALL CONTAIN FACTORY FABRICATED STEEL CONNECTION COLLARS.
5. FLEXIBLE DUCTS SHALL BE SUPPORTED AT OR NEAR MID-LENGTH WITH 2" WIDE 28 GA. STEEL HANGER COLLAR ATTACHED TO THE STRUCTURE WITH AN APPROVED DUCT HANGER. INSTALLATION SHALL MINIMIZE SHARP RADIUS TURNS OR OFFSETS. 5' MAXIMUM LENGTH CONNECTING TO TERMINAL OUTLETS.
6. PROVIDE BACKDRAFT DAMPERS AT ALL EXHAUST AND FRESH AIR INTAKES.
7. THERMOSTATS SHALL BE AUTOMATIC CHANGEOVER TYPE TO SEQUENCE HEATING AND COOLING. SET POINT RANGE SHALL BE 10 DEG. F BETWEEN FULL HEATING AND FULL COOLING. ADJUSTABLE TEMPERATURE DIFFERENTIAL SHALL BE 1-1/2 DEG. F. THERMOSTAT CONTROL RANGE SHALL BE 55 DEG. F TO 85 DEG. F. CONTROLS SHALL HAVE CAPABILITY OF TERMINATING HEATING AT NO HIGHER THAN 78 DEG. F. AND COOLING AT NO LOWER THAN 70 DEG. F. FANS SHALL RUN CONTINUOUSLY DURING OCCUPIED HOURS.
8. LINE VOLTAGE WIRING, LINE VOLTAGE CONDUIT, UNDERGROUND LOW VOLTAGE CONDUIT, DISCONNECT SWITCHES AND FINAL CONNECTION BY ELECTRICAL CONTRACTOR. LOW VOLTAGE WIRING, ABOVE GROUND LOW VOLTAGE CONDUIT AND FINAL CONNECTION BY CONTROLS CONTRACTOR.
9. PROVIDE PERMANENT LABEL ON EACH A/C UNIT IDENTIFYING AREA/SPACE SERVED PER CMC 303.6. COORDINATE ROOM NUMBERS WITH OWNER. SEE 230553 FOR ADDITIONAL REQUIREMENTS.
10. SYSTEM AIR BALANCE SHALL BE PERFORMED BY AN INDEPENDENT AGENCY CERTIFIED BY THE AABC. THIS WORK SHALL CONFORM TO CURRENT AABC SPECIFICATIONS AND STANDARDS.
11. PROVIDE WRITTEN WARRANTY TO REPLACE ALL FAULTY MATERIALS AND/OR LABOR, AT NO COST TO OWNER, FOR A PERIOD OF ONE YEAR FROM DATE OF OWNER ACCEPTANCE. PROVIDE 5 YEAR COMPRESSOR WARRANTY AND 10 YEAR HEAT EXCHANGER WARRANTY FOR ALL A/C EQUIPMENT.
12. FOR THE PURPOSE OF CLEARNESS AND LEGIBILITY, THE DRAWINGS ARE ESSENTIALLY DIAGRAMMATIC AND ALTHOUGH SIZES AND LOCATION OF EQUIPMENT IS DRAWN TO SCALE WHEREVER POSSIBLE, THE CONTRACTOR SHALL MAKE USE OF ALL DATA IN ALL OF THE CONTRACTOR DOCUMENTS AND VERIFY THIS INFORMATION BEFORE ORDERING, FABRICATING OR INSTALLING OF ANY MATERIALS.
13. CUTTING, BORING, SAWCUTTING OR DRILLING THROUGH THE NEW OR EXISTING STRUCTURAL ELEMENTS TO BE DONE ONLY WHEN SO DETAILED IN THE DRAWINGS OR ACCEPTED BY THE ARCHITECT AND STRUCTURAL ENGINEER WITH THE APPROVAL OF DSA REPRESENTATIVE.
14. ALL DUCT SIZES SHOWN ARE NET INSIDE DIMENSIONS AND DO NOT ACCOUNT FOR DUCT LINER THICKNESS WHERE APPLICABLE. ALL PIPE DIMENSIONS SHOWN ARE NOMINAL SIZES.
15. ALL BRANCH DUCTS SHALL BE PROVIDED WITH ACCESSIBLE MANUAL VOLUME DAMPERS.
16. PROVIDE FLEXIBLE CONNECTIONS TO ALL HVAC EQUIPMENT (A/C UNIT, FANS, ETC.)
17. ALL WORK SHALL BE IN ACCORDANCE WITH TITLE 24, 2022 CALIFORNIA CODE OF REGULATIONS (CCR), 2022 CALIFORNIA BUILDING CODE, PART 2, TITLE 24 CCR, 2022 CALIFORNIA MECHANICAL CODE, PART 4, TITLE 24 CCR.
18. CONTRACTOR SHALL PROVIDE AS-BUILTS, CAD GENERATED AND DRAWN TO 1/8" = 1'-0" SCALE. SUBMIT 6 SETS OF HARD COPIES AND 1 ELECTRONIC COPY ON CD-ROM. CAD DRAWINGS SHALL BE AUTOCAD, LATEST VERSION. COORDINATE REQUIREMENTS WITH OWNER.
19. VERIFY EXACT LOCATION OF THERMOSTATS AND SENSORS WITH FURNITURE PLANS AND OWNERS REPRESENTATIVE PRIOR TO INSTALLATION.

ACCEPTANCE TESTING

MANDATORY ACCEPTANCE TESTING PER TITLE 24, PART 6 SHALL BE AS FOLLOWS:

AN AABC AGENCY SHALL ACT AS THE ACCEPTANCE AGENT AND PERFORM WORK REQUIRED IN THE FOLLOWING ACCEPTANCE TESTS AS DESCRIBED IN CHAPTER 13 OF THE 2019 NONRESIDENTIAL COMPLIANCE MANUAL. THIS SHALL INCLUDE FILLING OUT, SIGNING, AND SUBMITTING APPLICABLE FORMS LISTED HEREIN.

- NRCA-MCH-02-A - OUTDOOR AIR ACCEPTANCE
- NRCA-MCH-03-A - CONSTANT VOLUME, SINGLE ZONE, UNITARY AIR CONDITIONER AND HEAT PUMP SYSTEMS.
- NRCA-MCH-04-A - AIR DISTRIBUTION SYSTEMS ACCEPTANCE
- NRCA-MCH-05-A - AIR ECONOMIZER CONTROLS ACCEPTANCE
- NRCA-MCH-06-A - DEMAND CONTROL VENTILATION SYSTEMS ACCEPTANCE
- NRCA-MCH-07-A - SUPPLY FAN VFD ACCEPTANCE
- NRCA-MCH-08-A - VALVE LEAKAGE TEST
- NRCA-MCH-09-A - SUPPLY WATER TEMPERATURE RESET CONTROLS ACCEPTANCE
- NRCA-MCH-10-A - HYDRONIC SYSTEM VARIABLE FLOW CONTROL ACCEPTANCE
- NRCA-MCH-11-A - AUTOMATIC DEMAND SHED CONTROL ACCEPTANCE
- NRCA-MCH-12-A - FAULT DETECTION & DIAGNOSTICS (FDD) FOR PACKAGED DIRECT EXPANSION UNITS
- NRCA-MCH-13-A - AUTOMATIC FAULT DETECTION & DIAGNOSTICS (FDD) FOR AIR HANDLING UNITS & ZONE TERMINAL UNITS ACCEPTANCE
- NRCA-MCH-14-A - DISTRIBUTED ENERGY STORAGE DX AC SYSTEMS ACCEPTANCE
- NRCA-MCH-15-A - THERMAL ENERGY STORAGE (TES) SYSTEM ACCEPTANCE
- NRCA-MCH-16-A - SUPPLY AIR TEMPERATURE RESET CONTROLS ACCEPTANCE
- NRCA-MCH-17-A - CONDENSER WATER SUPPLY TEMPERATURE RESET CONTROLS ACCEPTANCE
- NRCA-MCH-18-A - ENERGY MANAGEMENT CONTROL SYSTEM ACCEPTANCE

SPECIFIC REQUIREMENTS AND ACCEPTANCE TESTING FORMS ARE AVAILABLE IN THE 2022 NONRESIDENTIAL COMPLIANCE MANUAL WHICH CAN BE DOWNLOADED FROM www.energy.ca.gov/title24/2022standards/.

MECHANICAL SHEET INDEX

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-123582 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 01/10/2024

REGISTERED PROFESSIONAL ENGINEER
WEBSTHER GAMA
No. M38752
MECHANICAL
STATE OF CALIFORNIA

DLRGROUP

EL MONTE UNION HIGH SCHOOL DISTRICT
COMMUNITY COMMITTED TO COLLEGE AND CAREER
1901

DCGA ENGINEERS
Consulting Mechanical and Electrical Engineers
4750 E. Ontario Mills Pkwy
Ontario, Ca. 91764
Ph 909.987.7017
Fax 909.980.7023

EL MONTE HIGH SCHOOL HVAC PROJECT
EL MONTE UNION HIGH SCHOOL DISTRICT
3048 Tyler Ave, El Monte, CA 91731

DSA SUBMITTAL
09/11/2023
REVISIONS

DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-01

MECHANICAL GENERAL NOTES, ABBREVIATIONS & SYMBOLS

M0.01

AIR CONDITIONING UNIT SCHEDULE

SYM.	MFR./MODEL	AREA SERVED	COOLING (MBH) SENSIBLE	COOLING (MBH) TOTAL	SEER / EER	HEATING(MBH) INPUT	HEATING(MBH) OUTPUT	AFUE %	CFM (NOTE 1)	EVAPORATOR FAN BHP	ESP (INCHES) W.G.	OSA CFM MIN.	ELECTRICAL MCA	ELECTRICAL MOCP	ELECTRICAL VOLTAGE/PHASE	POWER EXHAUST ELECTRICAL SYM.	HP	FLA	MCA	VOLTAGE/PHASE	OPER. WT. (LBS.)	REMARKS	BLDG. LOCATION	ANCHOR DETAIL REF
AC N1	TRANE YCH 360	N101	285	359	- / 10.4	350 / 262.5	283.5 / 212.6	81	12000	8.59	.75"	540 / 12000	167	200	208 / 3	PE N1	-	-	-	208 / 3	6500	COMPLETE WITH ISOLATION ROOF CURB, MODULATING POWER EXHAUST, ECONOMIZER, DCV, ULTRA LOW NOX. CONNECT TO EMS. PROVIDE WITH MERV 13 FILTER.	L ROOF	1 / M0.03
AC N2	TRANE YCH 360	N101	285	359	- / 10.4	350 / 262.5	283.5 / 212.6	81	12000	8.59	.75"	540 / 12000	167	200	208 / 3	PE N2	-	-	-	208 / 3	6500	COMPLETE WITH ISOLATION ROOF CURB, MODULATING POWER EXHAUST, ECONOMIZER, DCV, ULTRA LOW NOX. CONNECT TO EMS. PROVIDE WITH MERV 13 FILTER.	L ROOF	1 / M0.03
AC D1	TRANE YHJ 072	CAFETERIA	58.5	76.5	- / 12.1	80	64.8	81	2400	0.52	0.50"	200 / 2400	18	20	460 / 3	PE D1	.75	1.5	3.4	460 / 3	2000	COMPLETE WITH ISOLATION ROOF CURB, MODULATING POWER EXHAUST, ECONOMIZER, DCV, ULTRA LOW NOX. CONNECT TO EMS. PROVIDE WITH MERV 13 FILTER.	D ROOF	1 / M0.03
AC D2	TRANE YHJ 072	CAFETERIA	58.5	76.5	- / 12.1	80	64.8	81	2400	0.52	0.50"	200 / 2400	18	20	460 / 3	PE D2	.75	1.5	3.4	460 / 3	2000	COMPLETE WITH ISOLATION ROOF CURB, MODULATING POWER EXHAUST, ECONOMIZER, DCV, ULTRA LOW NOX. CONNECT TO EMS. PROVIDE WITH MERV 13 FILTER.	D ROOF	1 / M0.03
AC D3	TRANE YHC 067	SERVING	45.29	60	17.4 / -	60	49	81	2000	0.62	0.50"	350 / 2000	15	20	460 / 3	PE D3	.75	1.5	3.4	460 / 3	1200	COMPLETE WITH ISOLATION ROOF CURB, MODULATING POWER EXHAUST, ECONOMIZER, DCV, ULTRA LOW NOX. CONNECT TO EMS. PROVIDE WITH MERV 13 FILTER.	D ROOF	1 / M0.03
AC D4	TRANE YHC 067	KITCHEN	45.29	60	17.4 / -	60	49	81	2000	0.62	0.50"	350 / 2000	15	20	460 / 3	PE D4	.75	1.5	3.4	460 / 3	1200	COMPLETE WITH ISOLATION ROOF CURB, MODULATING POWER EXHAUST, ECONOMIZER, DCV, ULTRA LOW NOX. CONNECT TO EMS. PROVIDE WITH MERV 13 FILTER.	D ROOF	1 / M0.03

1. FULLY AUTOMATIC FIRE ALARM SYSTEM SHALL SHUT DOWN ALL HVAC UNITS UPON ACTIVATION OF ANY FIRE ALARM DEVICE WITHIN THE BUILDINGS. REFER TO FIRE ALARM SEQUENCE OF OPERATION ON SHEET E3.01. CONTROL MODULE BY FIRE ALARM CONTRACTOR FINAL CONNECTION BY MECHANICAL CONTRACTOR. SEE HVAC UNIT SHUT DOWN DIAGRAM ON SHEET E3.02.

HEAT PUMP SCHEDULE (VRV)

SYM.	MFR./MODEL	COOLING MBH	COOLING EER	HEATING MBH	HEATING COP	ELECTRICAL MCA	ELECTRICAL VOLTAGE/PHASE	OPER WT. (LBS)	REMARKS	DETAIL
HP 1K	TRANE TUHY2403	240.0	11.4	270.0	3.45	63	460 / 3Ø	1210	21.0 MCA PER HEAT PUMP MODULE	8 / M0.03
HP 2K	TRANE TUHY2403	249.0	11.4	270.0	3.45	63	460 / 3Ø	1210	21.0 MCA PER HEAT PUMP MODULE	8 / M0.03

AIR HANDLER SCHEDULE

SYMBOL	MFR./MODEL	UNIT TYPE ARRANGEMENT	SUPPLY FAN TYPE	CLASS	SIZE	DRIVE TYPE	CFM	TSP (INCHES)	RPM		FILTERS TYPE	MAX AIR. P.D.	SUPPLY FAN MOTOR TYPE	HP			ELECTRICAL VOLT	PH	HZ	FLA	MCA	MOCP	OPER. WT. (LBS.)	REMARKS	DETAIL
AHU 1K	TRANE CSAA017	- - -	CENTRIF.- PLENUM	2	22	VFD	8000	3.17	1790		- / MERV 13	- / -	CENTRIF.- PLENUM	7.5			460	3	60	21.22	26.47	45	1800	COMPLETE WITH MANUFACTURERS CURB. VFD SHALL BE MOUNTED REMOTELY.	9 / M0.03
AHU 2K	TRANE CSAA017	- - -	CENTRIF.- PLENUM	2	22	VFD	8000	3.12	1790		- / MERV 13	- / -	CENTRIF.- PLENUM	7.5			460	3	60	21.22	26.47	45	1800	COMPLETE WITH MANUFACTURERS CURB. VFD SHALL BE MOUNTED REMOTELY.	9 / M0.03

DESIGN CONDITIONS

LOCATION	ELEVATION	INDOOR HEATING DB °F	INDOOR COOLING DB °F	OUTDOOR HEATING DB °F	OUTDOOR COOLING DB °F	OUTDOOR COOLING WB °F
EL MONTE, CA	271	70	74	31	97	70

AIR DISTRIBUTION SCHEDULE

SYM.	CFM	MAX. P.D. INCHES	MAX. NC	NECK SIZE	MFR./MODEL	REMARKS
CD-1	50-200	0.10	30	8"	PRICE #SMCD*	MODULAR CORE, STEEL CONSTRUCTION, WHITE POWDER COAT FINISH. BORDER TYPE 1 FOR SURFACE MOUNT, TYPE 36 FOR T-BAR.
	201-350	0.10	30	10"		
	351-500	0.10	30	12"		
	501-700	0.10	30	14"		
	701-900	0.10	30	16"		
	901-1,000	0.10	30	18"		
RD-1	151-275	0.10	30	8"	PRICE # RCD	FOUR-CONE ROUND CEILING DIFFUSER STEEL CONSTRUCTION, WHITE POWDER COAT FINISH.
	276-400	0.10	30	10"		
	401-600	0.10	30	12"		
	601-800	0.10	30	14"		
	801-1000	0.10	30	16"		
RG-1/ EG-1/ TG-1	50-250	0.10	30	8"x8"	PRICE #80	LOUVERED FACE, 3/4" BLADE SPACING, STEEL CONSTRUCTION, WHITE POWDER COAT FINISH. 35° DEFLECTION UNLESS NOTED ON PLANS.
	251-375	0.10	30	10"x10"		
	376-550	0.10	30	12"x12"		
	551-700	0.10	30	16"x16"		
	701-950	0.10	30	18"x18"		
	951-1400	0.10	30	24"x24"		
	1401-1750	0.10	30	20"x20"		
	1751-2000	0.10	30	36"x12"		
	3000	0.10	30	40"x24"		
SWS-1	SEE PLANS	0.10	30	SEE PLANS	PRICE # 520	LOUVERED FACE, 3/4" BLADE SPACING, STEEL CONSTRUCTION, WHITE POWDER COAT FINISH. DOUBLE DEFLECTION UNLESS NOTED ON PLANS.
SWR-1/ SWE-1	SEE PLANS	0.10	30	SEE PLANS	PRICE # 530	LOUVERED FACE, 3/4" BLADE SPACING, STEEL CONSTRUCTION, WHITE POWDER COAT FINISH. 45° DEFLECTION UNLESS NOTED ON PLANS.
DL-1	2000	0.10	30	54"X12"	PRICE # HCD	HIGH CAPACITY DRUM LOUVER, FINISH BY ARCHITECT .
LD-1	125-200	0.10	30	8"	PRICE # SDS	2'-0" LINEAR DIFFUSER COMPLETE WITH PLENUM, ALUMINUM CONSTRUCTION, WHITE POWDER COAT FINISH.

NOTE:
- CEILING DIFFUSER THROWS SHALL BE 4-WAY UNLESS OTHERWISE NOTED.
- PROVIDE REMOTE MOTOR OPERATED DAMPER AT HARD CEILINGS AND LOCATIONS WHERE DAMPER IS LOCATED ABOVE ARCHITECTURAL CLOUDS.
- ALL AIR DISTRIBUTION DEVICES TO HAVE CONCEALED MOUNTING OPTION.
- FOR 1, 2, OR 3-WAY PATTERN, INSTALL QUADRANT BLANKS.
- PROVIDE FILLER PANEL FOR AIR DISTRIBUTION INSTALLED IN LAY-IN CEILINGS.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-123582 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 01/10/2024

REGISTERED PROFESSIONAL ENGINEER
W. ESTHER GAMA
No. M38752
MECHANICAL
STATE OF CALIFORNIA

DLRGROUP
© DLR Group
DCGA ENGINEERS
Consulting Mechanical and Electrical Engineers

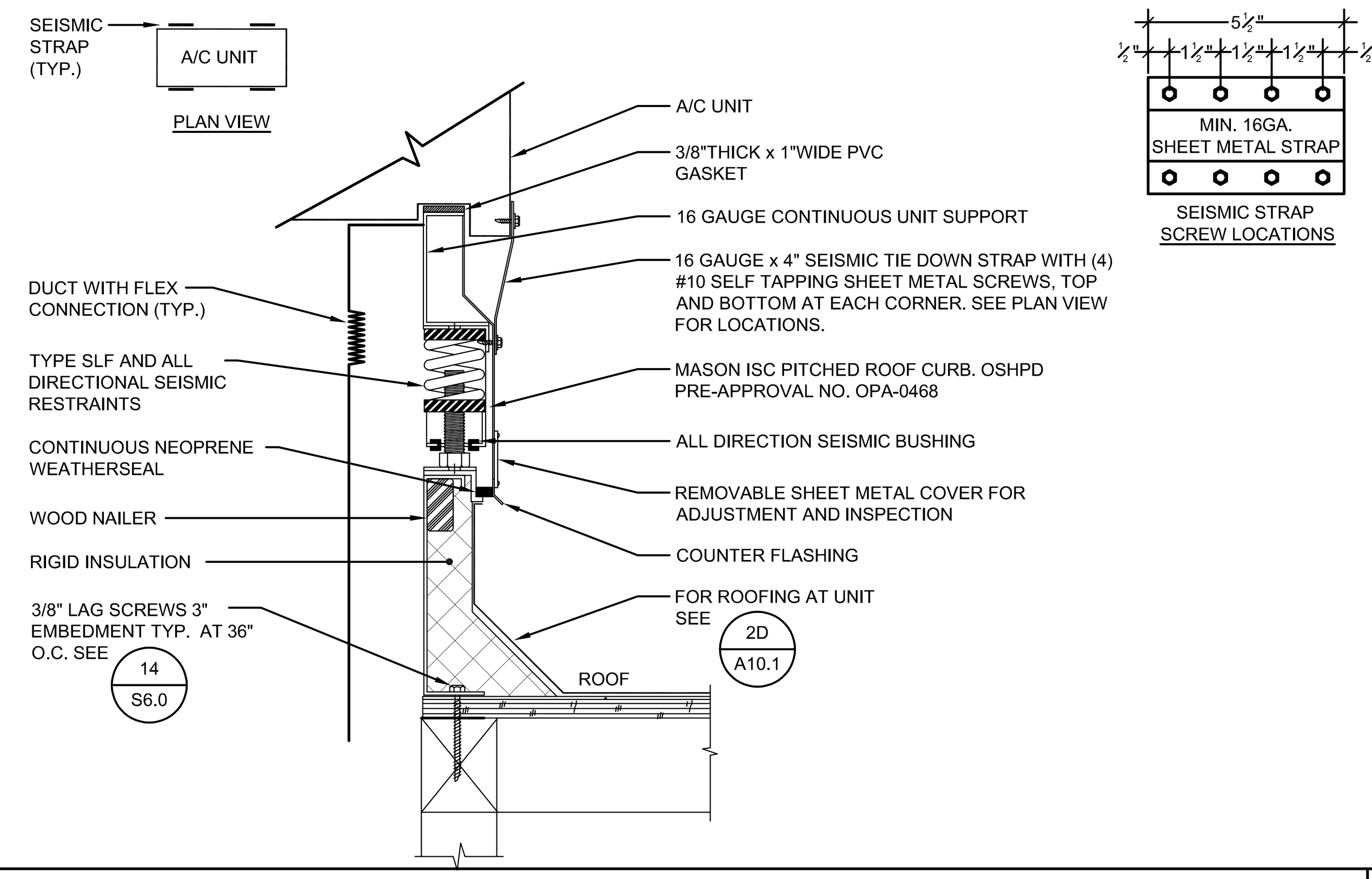
EL MONTE HIGH SCHOOL HVAC PROJECT
EL MONTE UNION HIGH SCHOOL DISTRICT
3048 Tyler Ave, El Monte, CA 91731

DSA SUBMITTAL
09/11/2023
REVISIONS

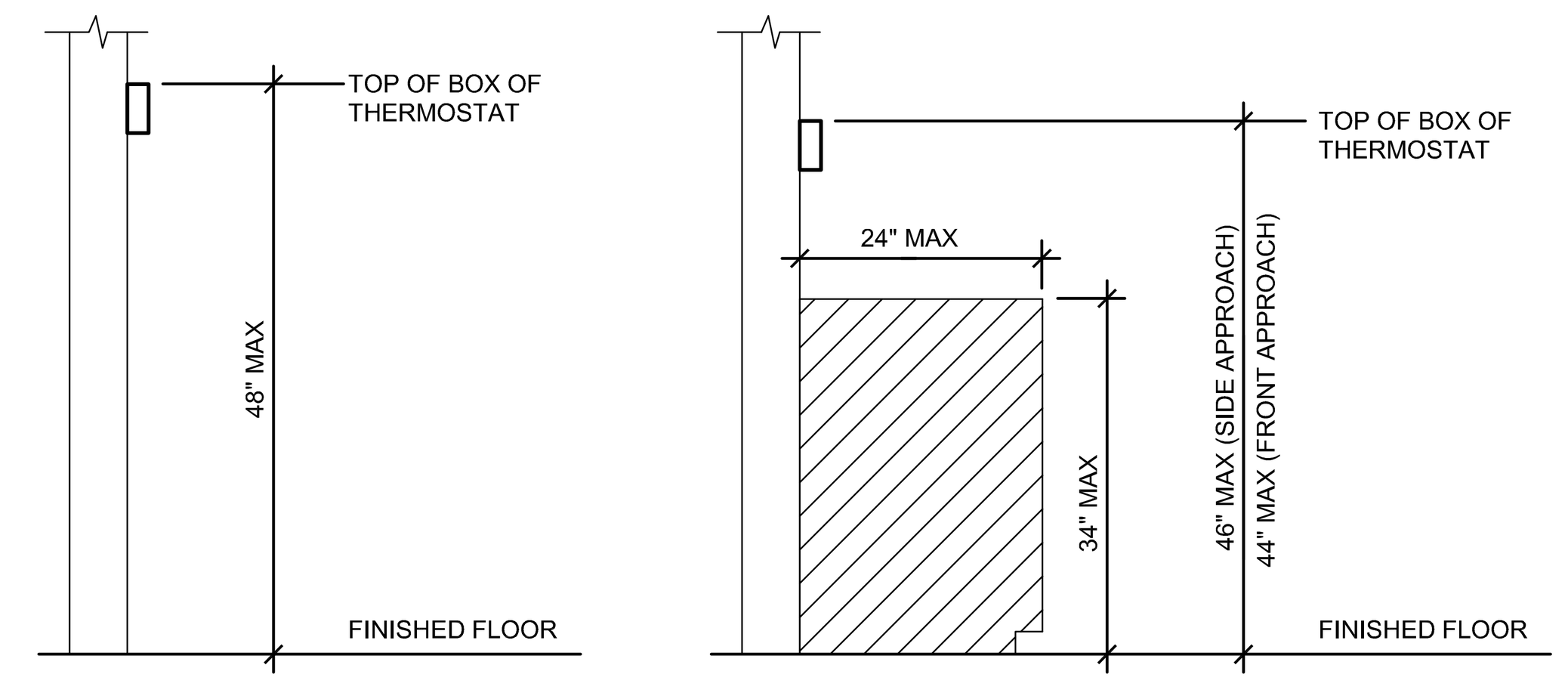
DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-01

MECHANICAL SCHEDULES

M0.02

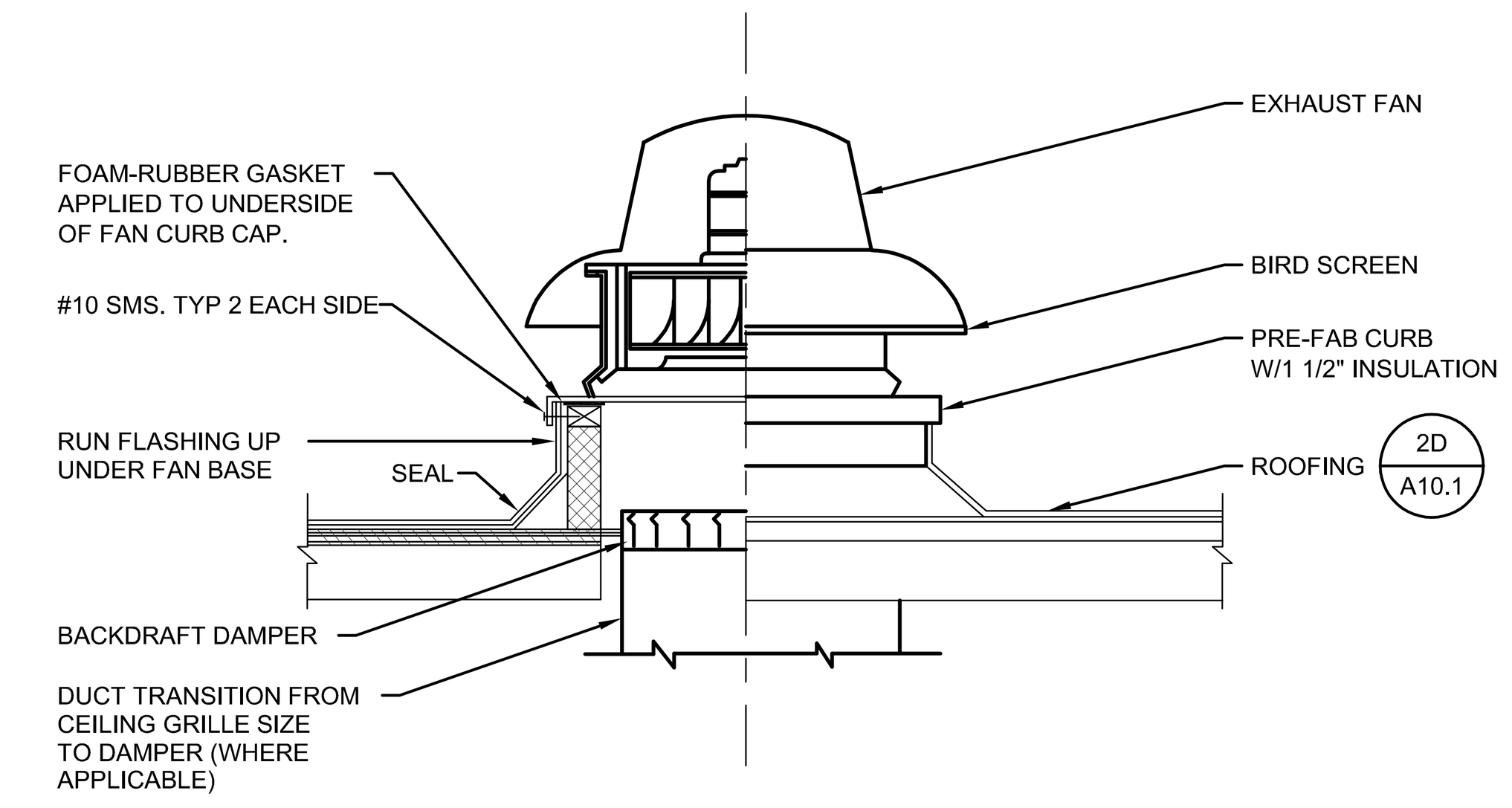


AC MOUNTING ON ROOF DETAIL | SCALE NONE | 1

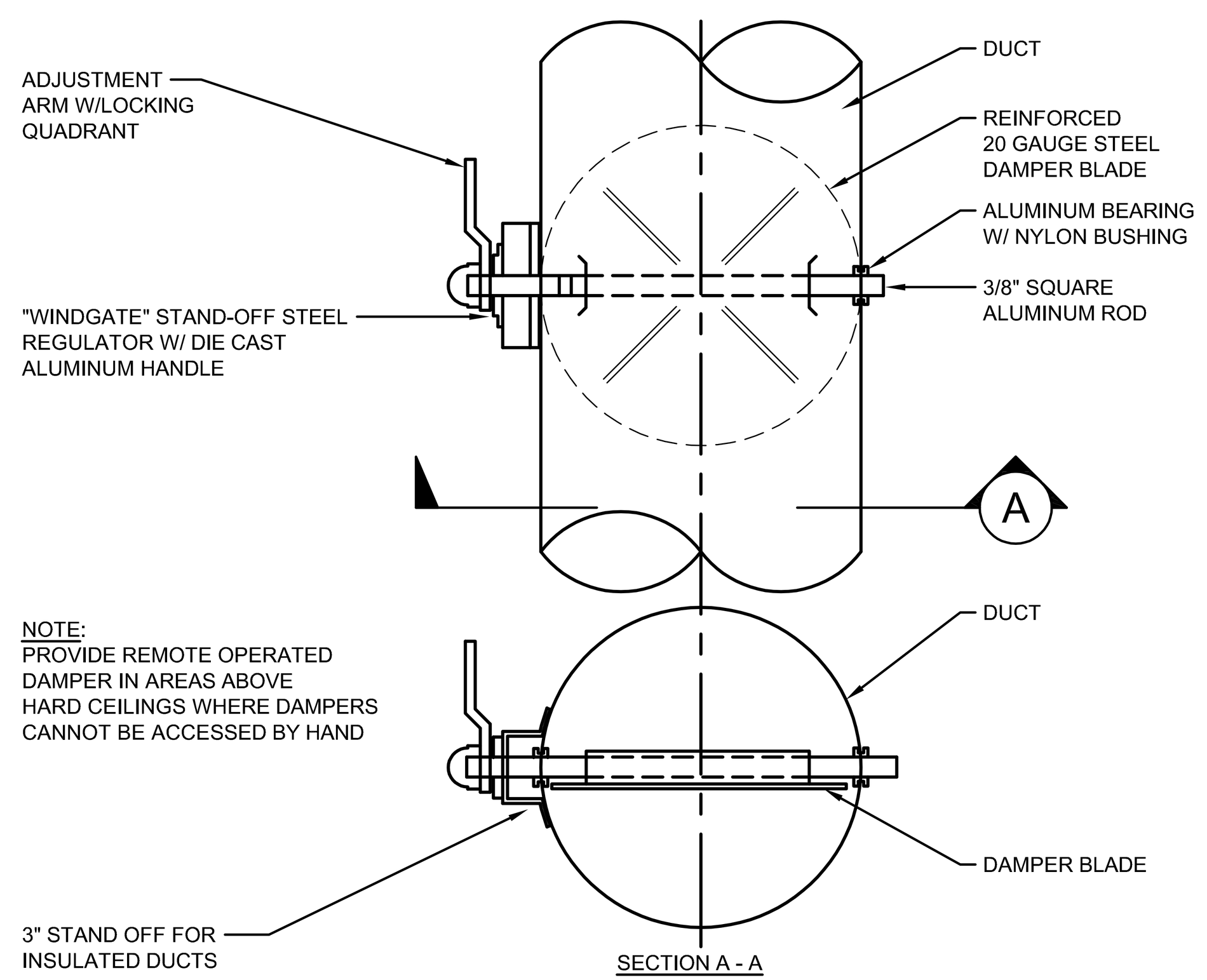


NOTE:
FORWARD OR FRONT APPROACH FOR DEVICES MOUNTED ABOVE COUNTERS ASSUMES THAT DIRECTLY BELOW THE DEVICE, THE COUNTER HAS A 30" MIN. WIDTH x 27" MIN. HIGH x 19" MIN. DEEP CLEAR OPENING.

THERMOSTAT MOUNTING HEIGHTS DETAIL | SCALE NONE | 2

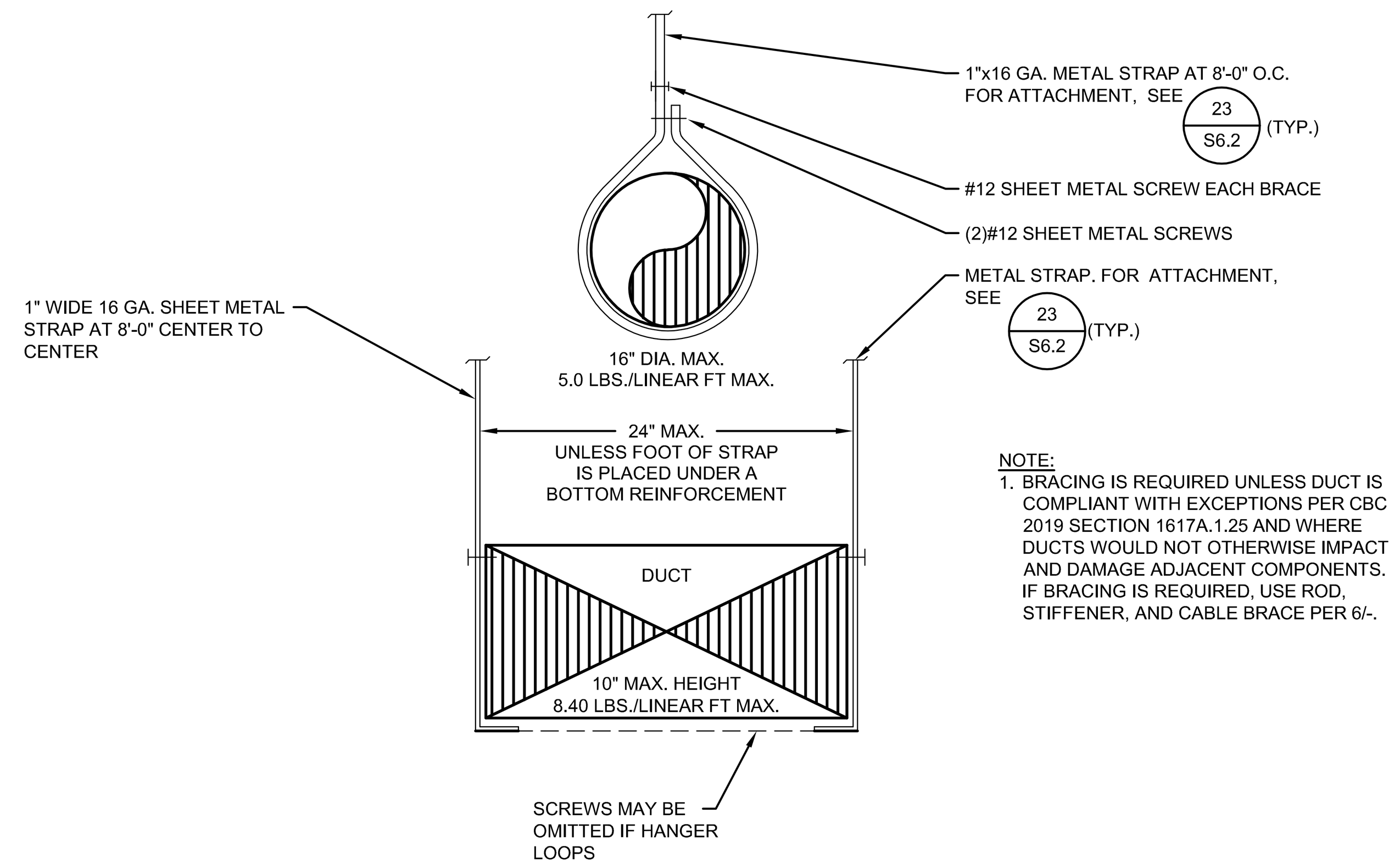


ROOF MOUNTED EXHAUST DETAIL | SCALE NONE | 3



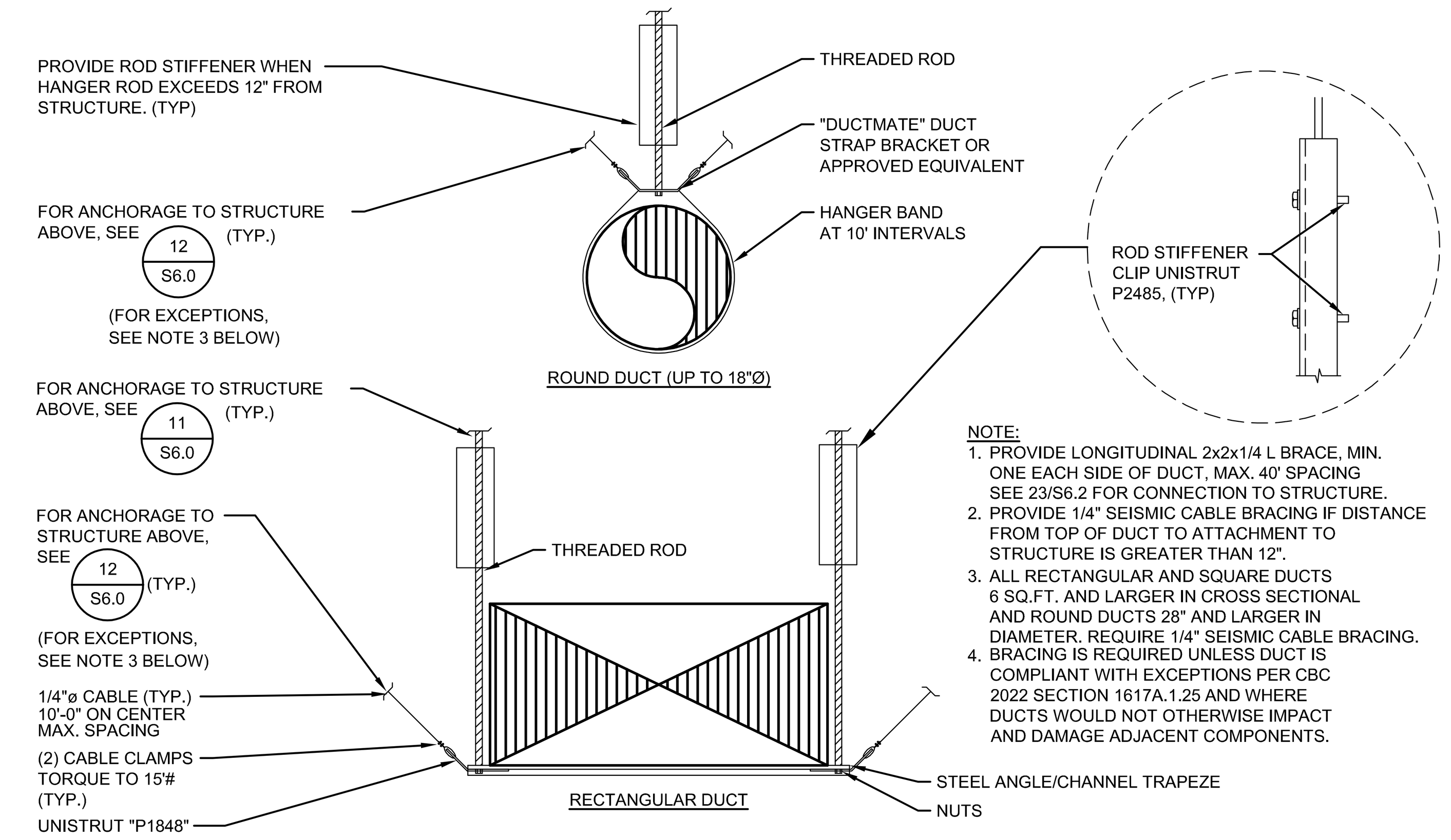
NOTE:
PROVIDE REMOTE OPERATED DAMPER IN AREAS ABOVE HARD CEILINGS WHERE DAMPERS CANNOT BE ACCESSED BY HAND

ROUND DUCT VOLUME DAMPER DETAIL | SCALE NONE | 4



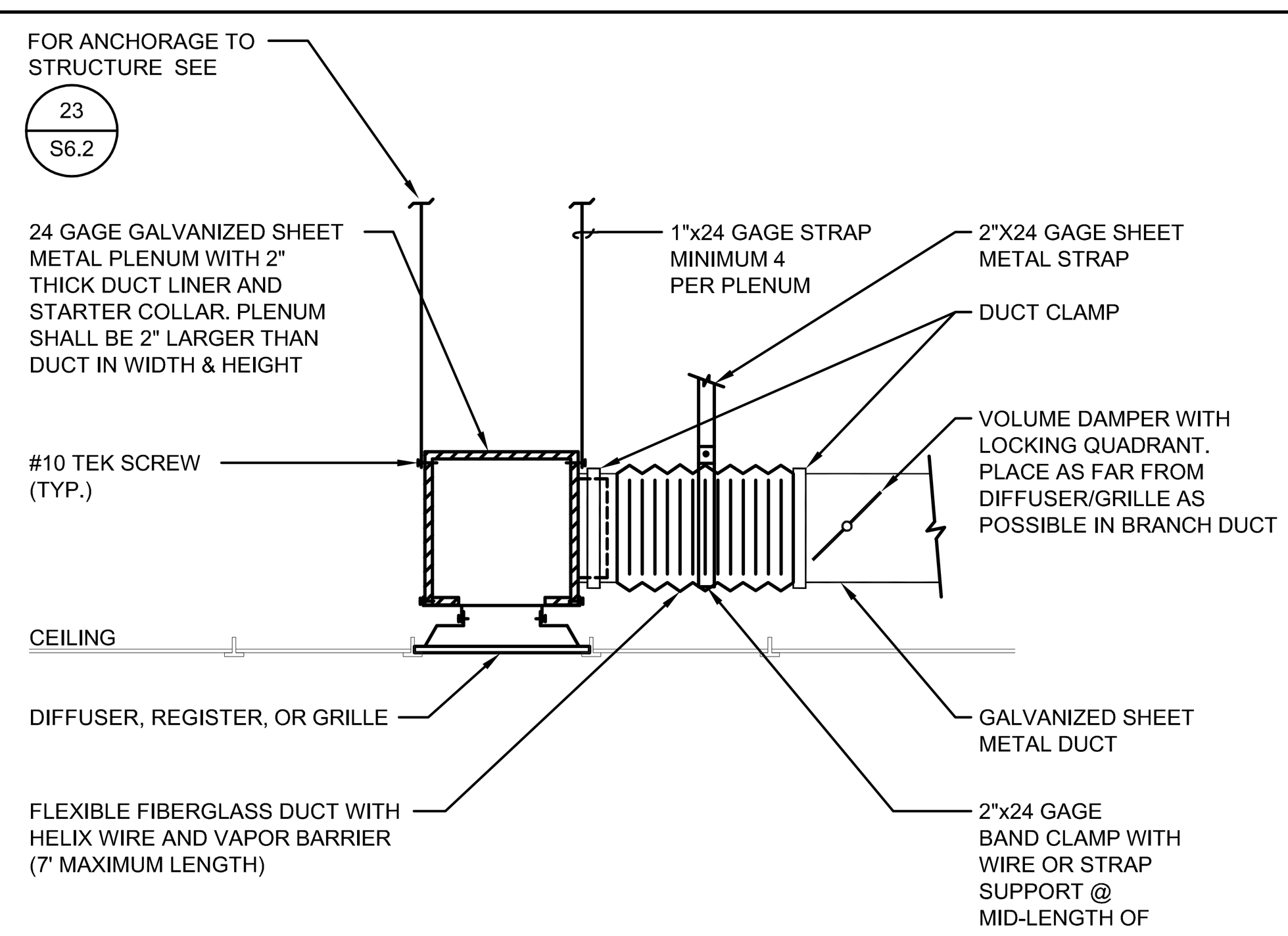
NOTE:
1. BRACING IS REQUIRED UNLESS DUCT IS COMPLIANT WITH EXCEPTIONS PER CBC 2019 SECTION 1617A.1.25 AND WHERE DUCTS WOULD NOT OTHERWISE IMPACT AND DAMAGE ADJACENT COMPONENTS. IF BRACING IS REQUIRED, USE ROD, STIFFENER, AND CABLE BRACE PER 6/-.

CONCEALED DUCT SUPPORT DETAIL | SCALE NONE | 5

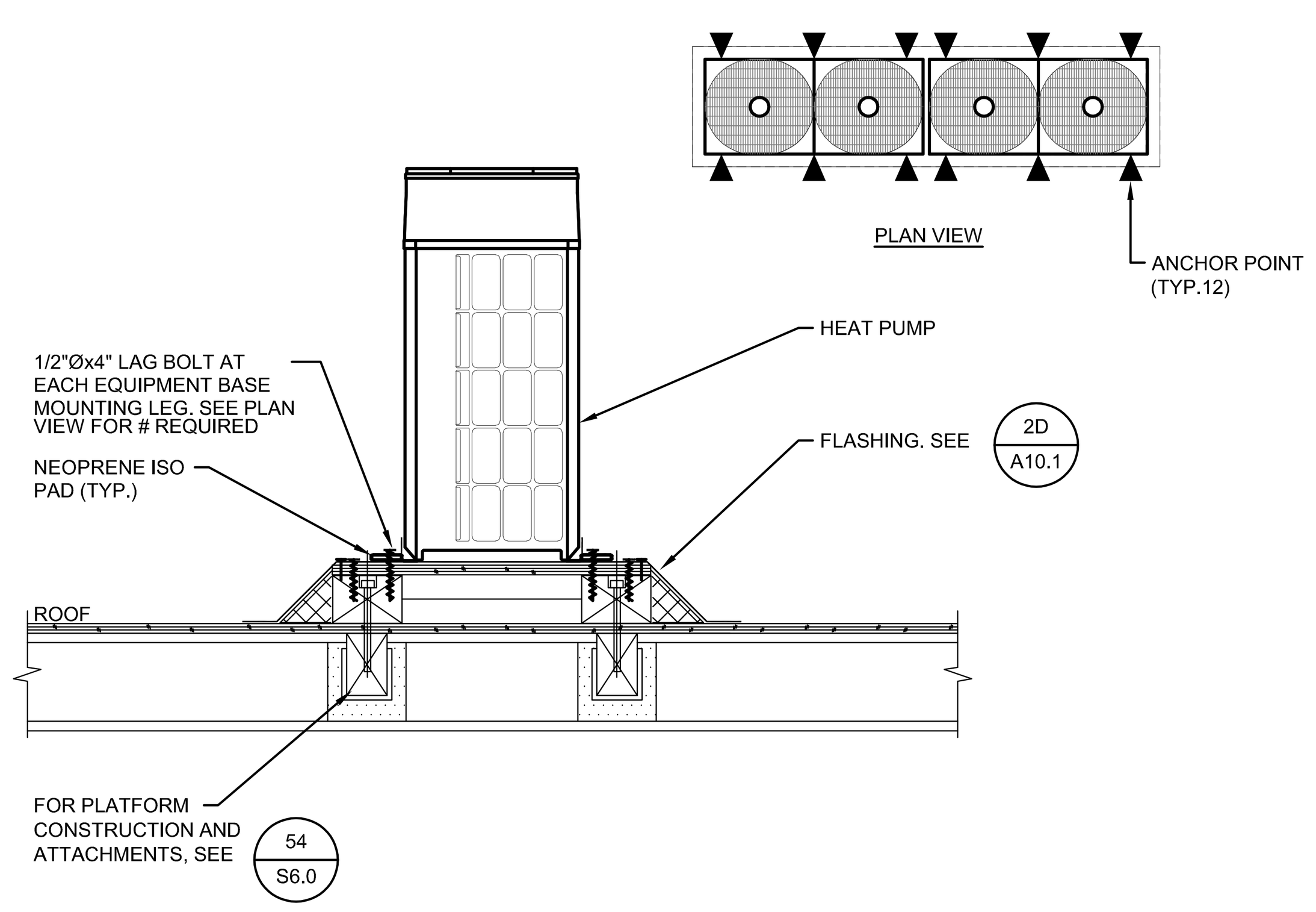


NOTE:
1. PROVIDE LONGITUDINAL 2x2x1/4 L BRACE, MIN. ONE EACH SIDE OF DUCT, MAX. 40' SPACING SEE 23/S6.2 FOR CONNECTION TO STRUCTURE.
2. PROVIDE 1/4" SEISMIC CABLE BRACING IF DISTANCE FROM TOP OF DUCT TO ATTACHMENT TO STRUCTURE IS GREATER THAN 12".
3. ALL RECTANGULAR AND SQUARE DUCTS 6 SQ.FT. AND LARGER IN CROSS SECTIONAL AND ROUND DUCTS 28" AND LARGER IN DIAMETER, REQUIRE 1/4" SEISMIC CABLE BRACING.
4. BRACING IS REQUIRED UNLESS DUCT IS COMPLIANT WITH EXCEPTIONS PER CBC 2022 SECTION 1617A.1.25 AND WHERE DUCTS WOULD NOT OTHERWISE IMPACT AND DAMAGE ADJACENT COMPONENTS.

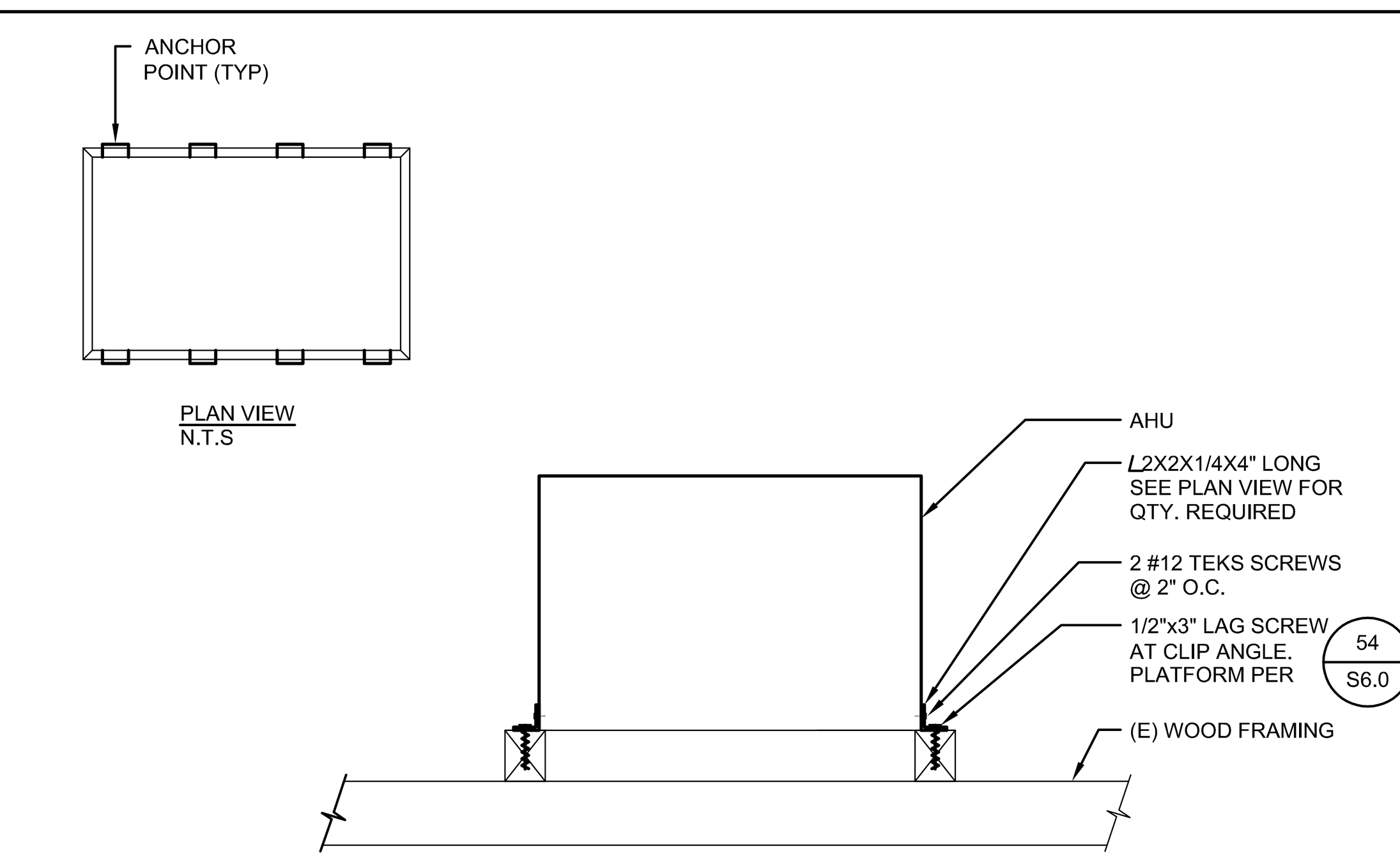
EXPOSED TO VIEW DUCT SUPPORT DETAIL | SCALE NONE | 6



AIR DISTRIBUTION MOUNTING DETAIL | SCALE NONE | 7



HEAT PUMP UNIT MOUNTING DETAIL | SCALE NONE | 8



AHU ON PLATFORM MOUNTING DETAIL | SCALE NONE | 9

- | SCALE NONE | 10

- | SCALE NONE | 11

- | SCALE NONE | 12

IDENTIFICATION STAMP DIV. OF THE STATE ARCHITECT
APP: 03-123582 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 01/10/2024

REGISTERED PROFESSIONAL ENGINEER No. M38752 MECHANICAL STATE OF CALIFORNIA

DLRGROUP
© DLR Group

EL MONTE HIGH SCHOOL HVAC PROJECT
EL MONTE UNION HIGH SCHOOL DISTRICT
3048 Tyler Ave, El Monte, CA 91731

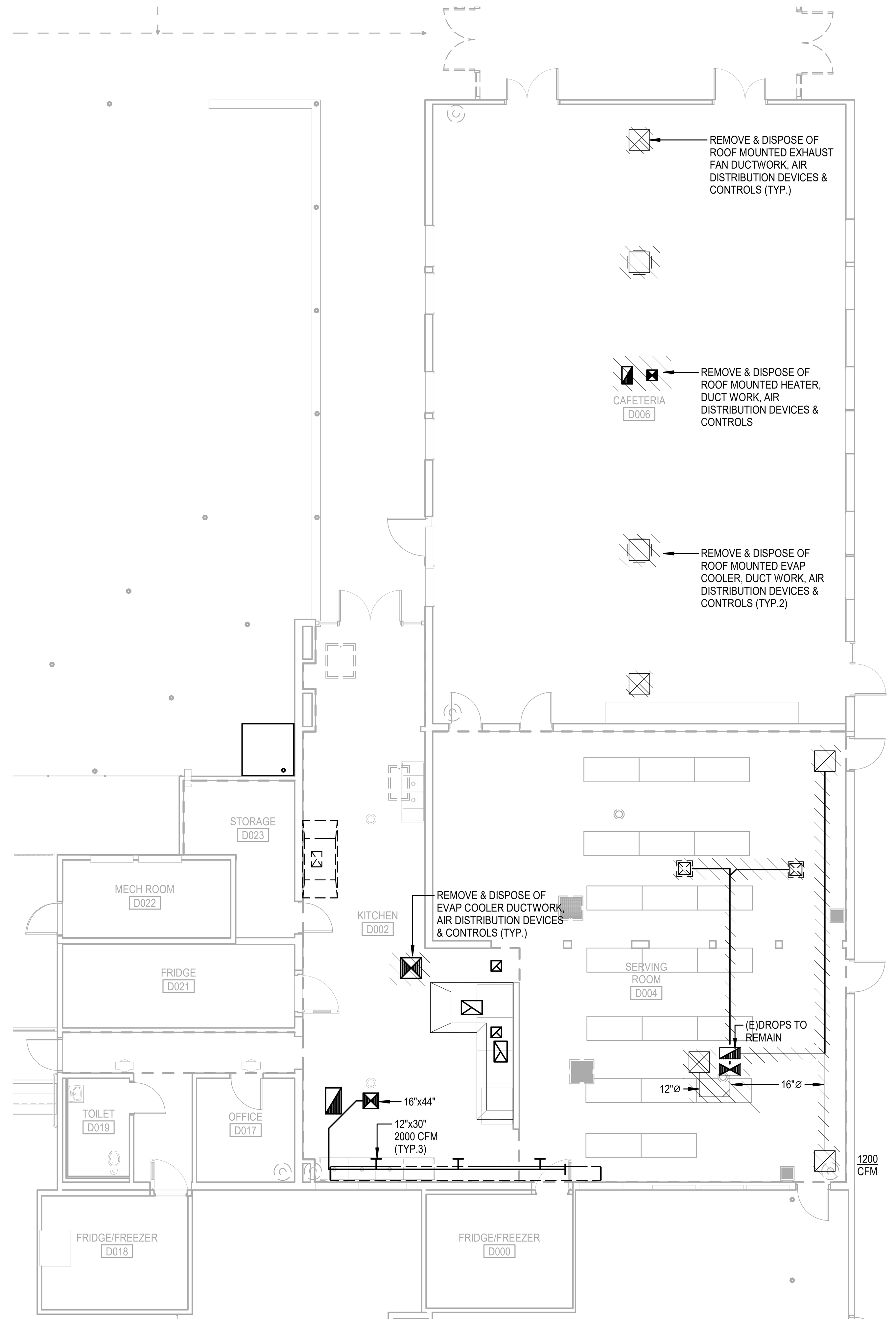
DCGA ENGINEERS
Consulting Mechanical and Electrical Engineers

DSA SUBMITTAL
09/11/2023
REVISIONS

DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-01

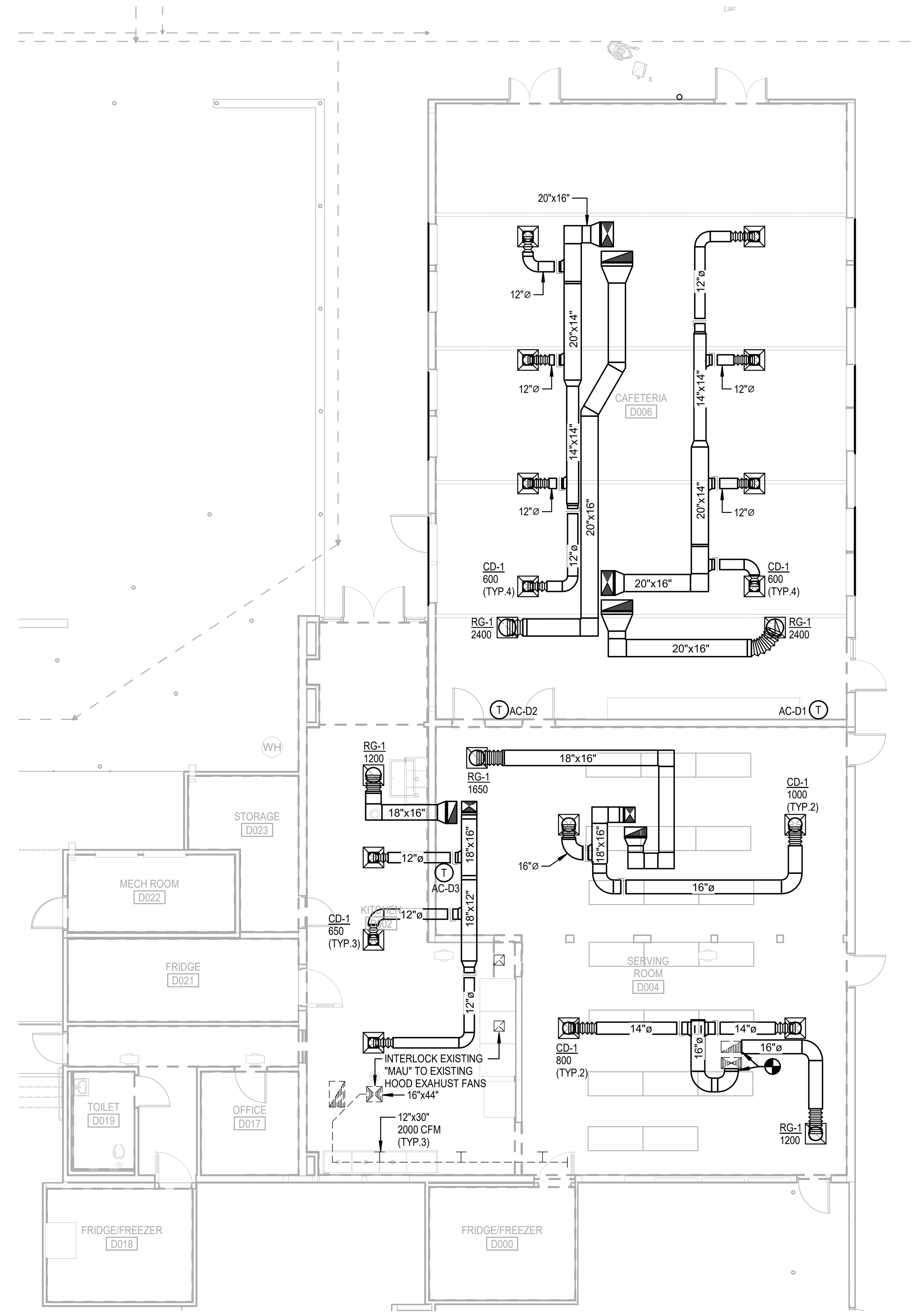
MECHANICAL DETAILS

M0.03



BLDG D - CAFETERIA - PARTIAL MECHANICAL DEMOLITION PLAN

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



BLDG D - CAFETERIA - PARTIAL MECHANICAL PLAN

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

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-123582 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 01/10/2024

REGISTERED PROFESSIONAL ENGINEER
No. M38752
Exp. 3-31-24
MECHANICAL
STATE OF CALIFORNIA

DLRGROUP
© DLR Group

DCGA ENGINEERS
Consulting Mechanical and Electrical Engineers

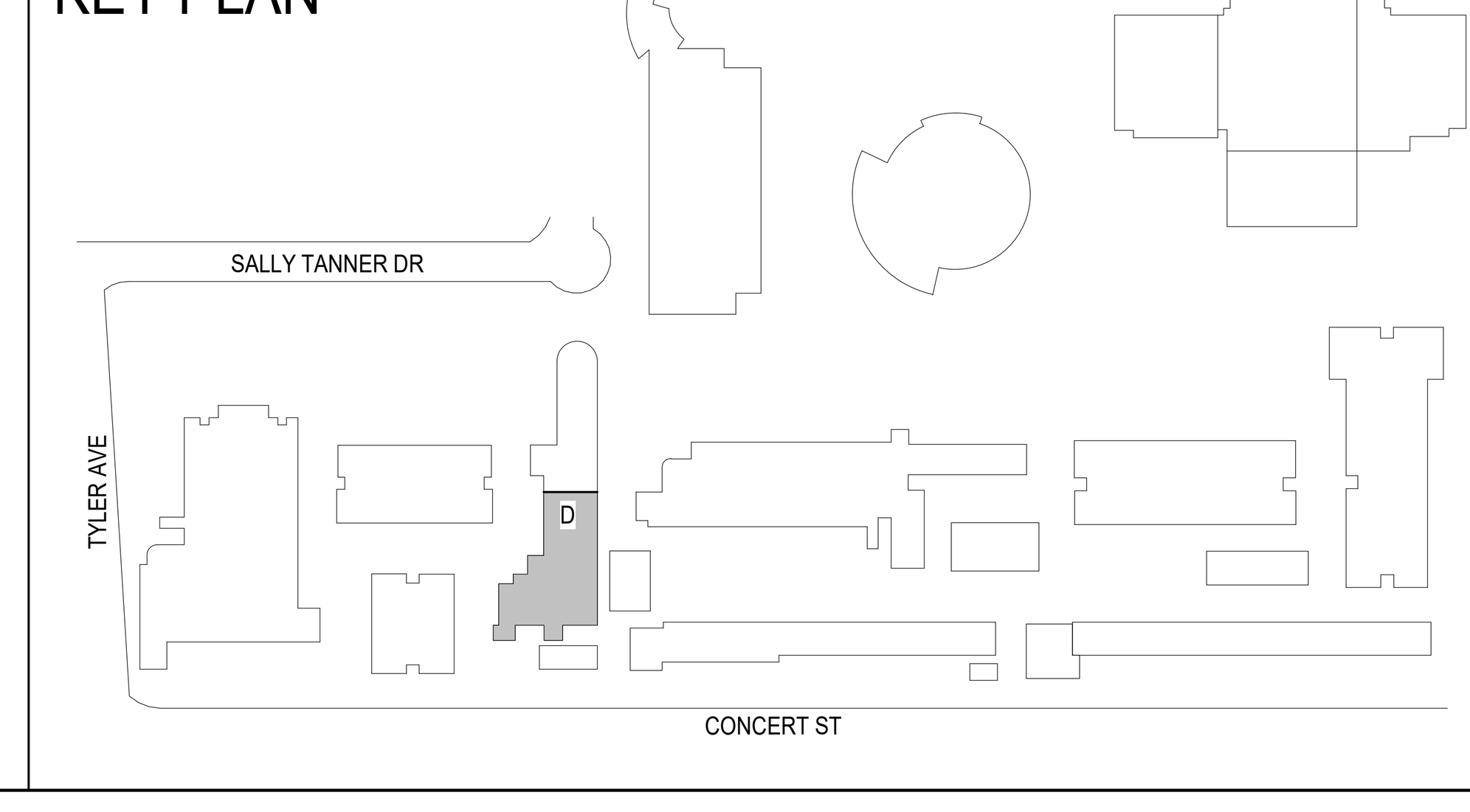
EL MONTE HIGH SCHOOL HVAC PROJECT

EL MONTE UNION HIGH SCHOOL DISTRICT

3048 Tyler Ave, El Monte, CA 91731

DSA SUBMITTAL
09/11/2023
REVISIONS

KEY PLAN

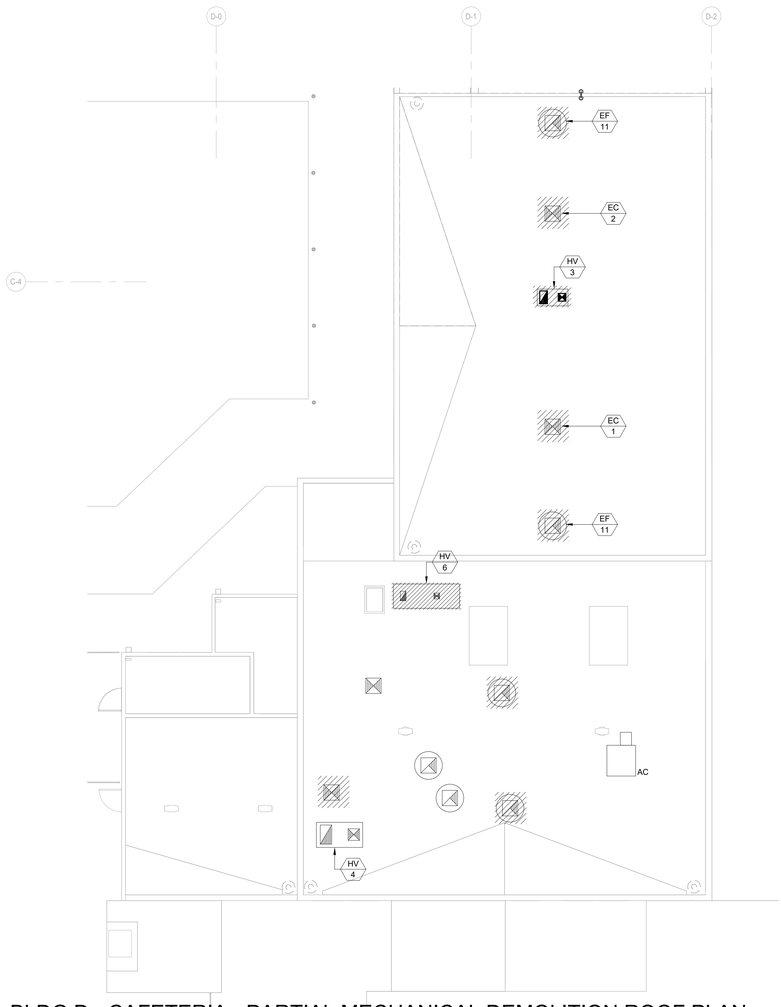


DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-01

BLDG D - CAFETERIA - MECH DEMO AND MECH PLAN

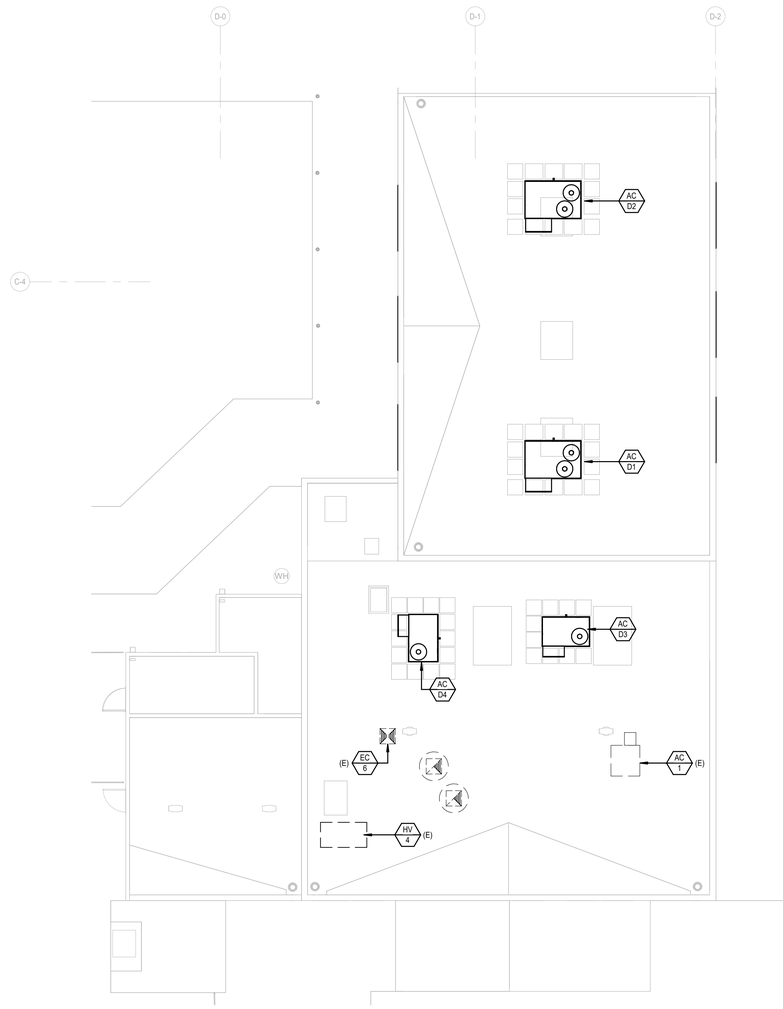
M1.D1

Autodesk Docs://75-22201-00 El Monte UHSD - EMHS Mod/75-22201-00_El Monte UHSD - EMHS Mod_MPE_2022_BLDG K-N.rvt
11/16/2023 5:39:22 PM



BLDG D - CAFETERIA - PARTIAL MECHANICAL DEMOLITION ROOF PLAN

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



BLDG D - CAFETERIA - PARTIAL MECHANICAL ROOF PLAN

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

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-123582 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 01/10/2024

REGISTERED PROFESSIONAL ENGINEER
WILLIAM HEATH GAMA
No. M38752
Exp. 3-31-24
MECHANICAL
STATE OF CALIFORNIA

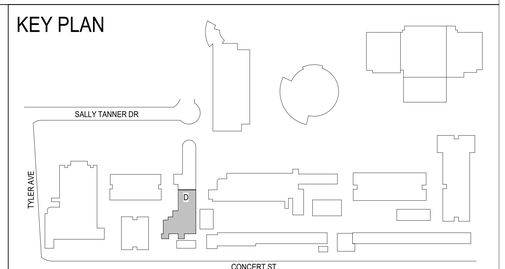
DLRGROUP
© DLR Group

EL MONTE HIGH SCHOOL HVAC PROJECT
EL MONTE UNION HIGH SCHOOL DISTRICT
3048 Tyler Ave, El Monte, CA 91731

DCSA ENGINEERS
Consulting Mechanical and Electrical Engineers
4745 E. Ontario Mills Pkwy
Ontario, CA 91764
Ph: 909.980.5533

DSA SUBMITTAL
09/11/2023
REVISIONS

KEY PLAN

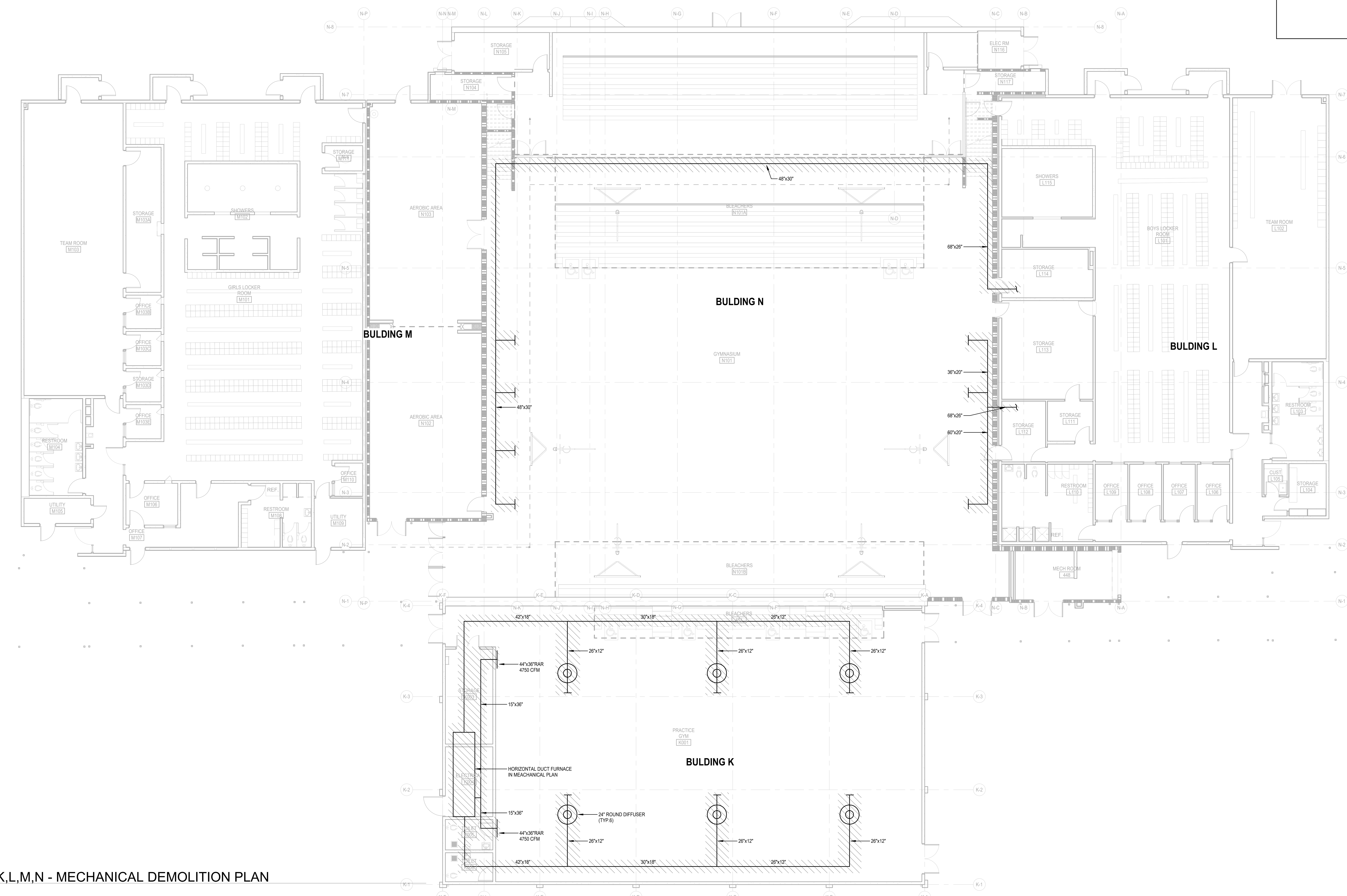


DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-01

BLDG D - CAFETERIA - MECH DEMO ROOF AND MECH ROOF PLAN

M1.D2

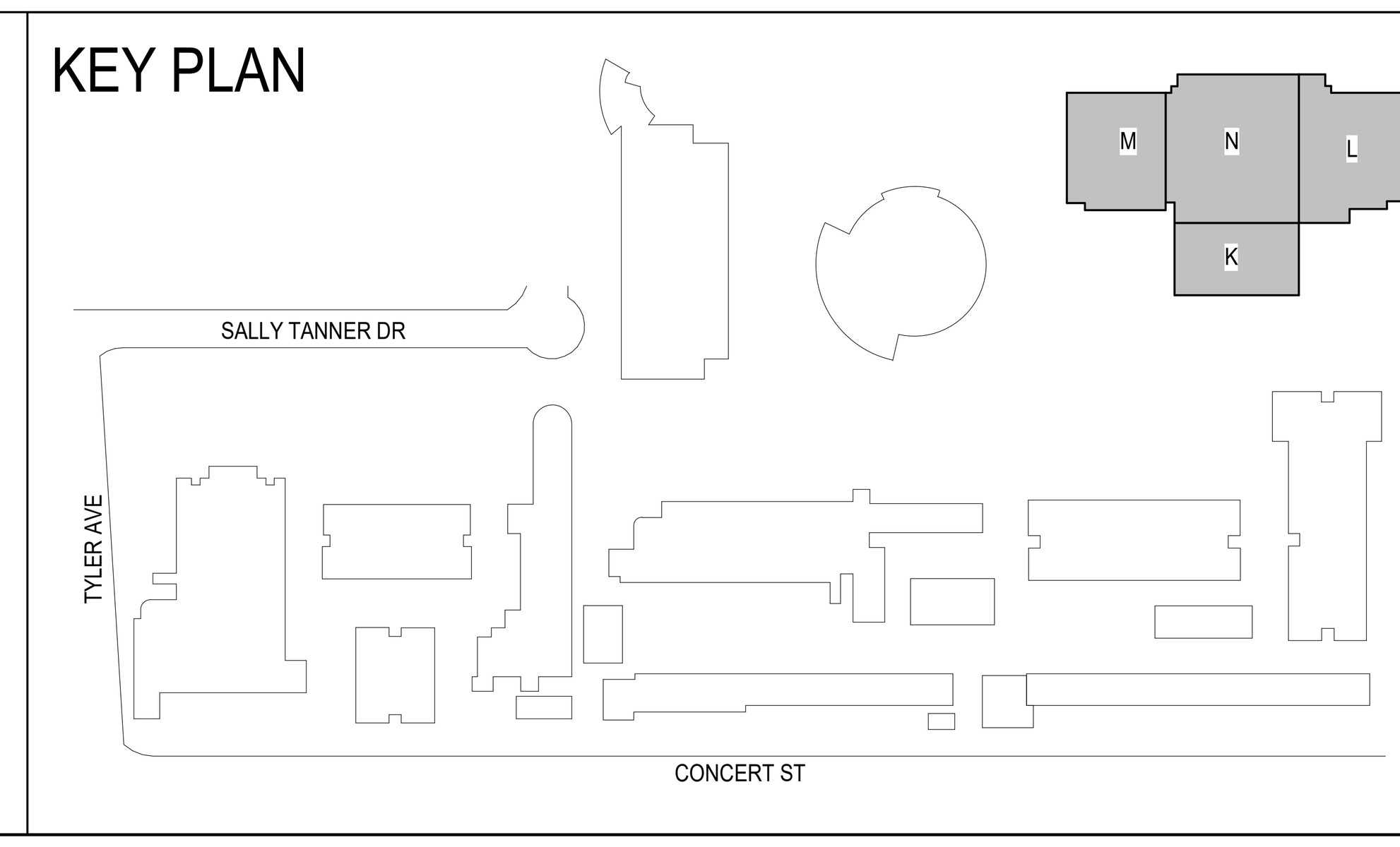
Autodesk Docs://75-22201-00 El Monte UHSD - EMHS Mod/75-22201-00_El Monte UHSD - EMHS Mod_MPE_2022_BLDG K-N.rvt
11/16/2023 5:39:26 PM



BLDG K,L,M,N - MECHANICAL DEMOLITION PLAN

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

KEY PLAN



IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-123582 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 01/10/2024

REGISTERED PROFESSIONAL ENGINEER
No. M38752
Exp. 3-31-24
MECHANICAL
STATE OF CALIFORNIA

DLRGROUP
© DLR Group

EL MONTE HIGH SCHOOL HVAC PROJECT
EL MONTE UNION HIGH SCHOOL DISTRICT
3048 Tyler Ave, El Monte, CA 91731

DCCA ENGINEERS
Consulting Mechanical and Electrical Engineers

DSA SUBMITTAL
09/11/2023
REVISIONS

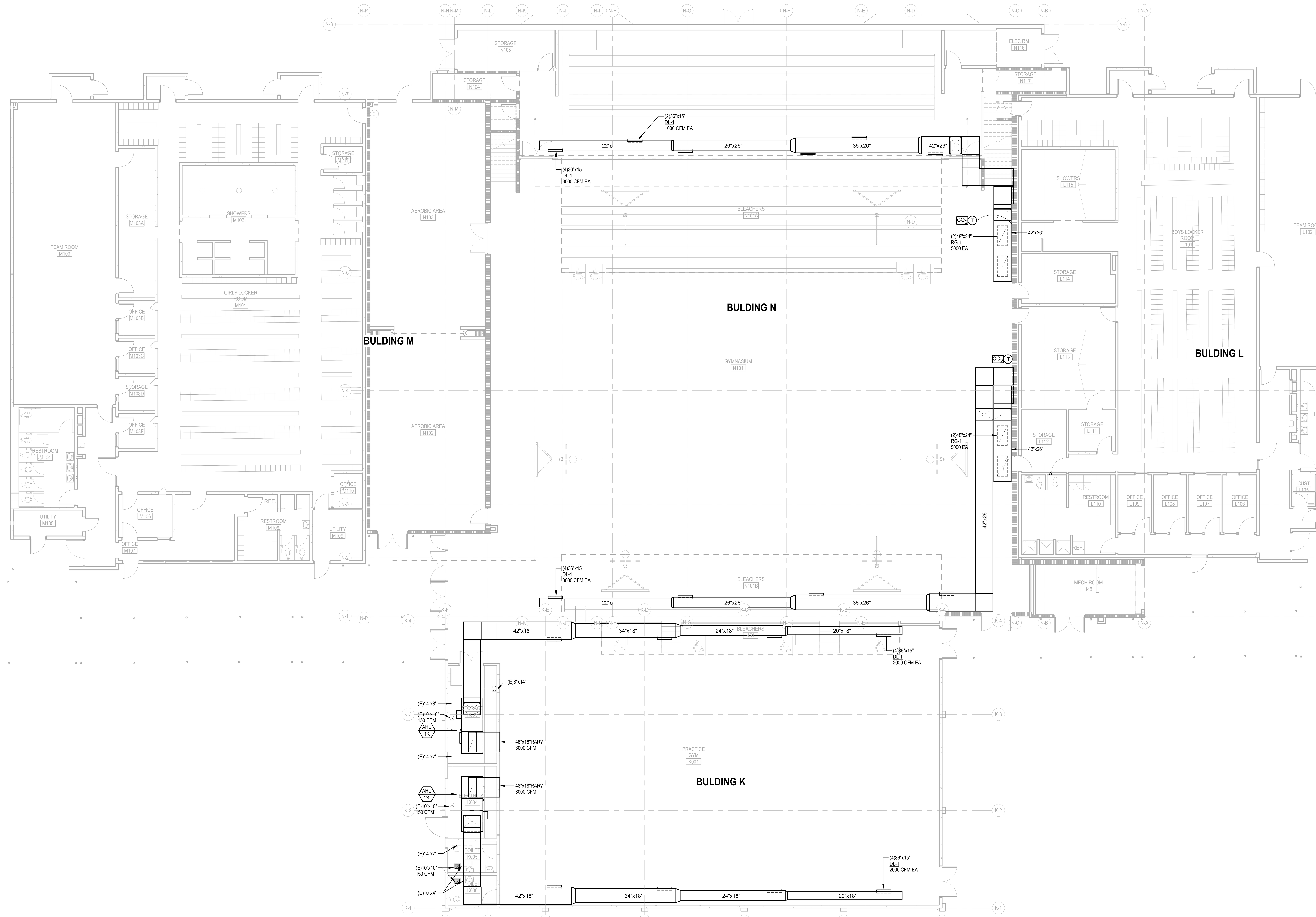
DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-01

BLDG K, L, M, N - MECHANICAL DEMOLITION PLAN

M1.KN1

Autodesk Docs://75-22201-00 El Monte UHSD - EMHS Mod/75-22201-00_El Monte UHSD - EMHS Mod_MPE_2022_BLDG K-N.rvt
11/16/2023 5:39:32 PM

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-123582 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 01/10/2024



BLDG K,L,M,N - MECHANICAL PLAN

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

REGISTERED PROFESSIONAL ENGINEER
No. M38752
Exp. 3-31-24
MECHANICAL
STATE OF CALIFORNIA

DLRGROUP
© DLR Group

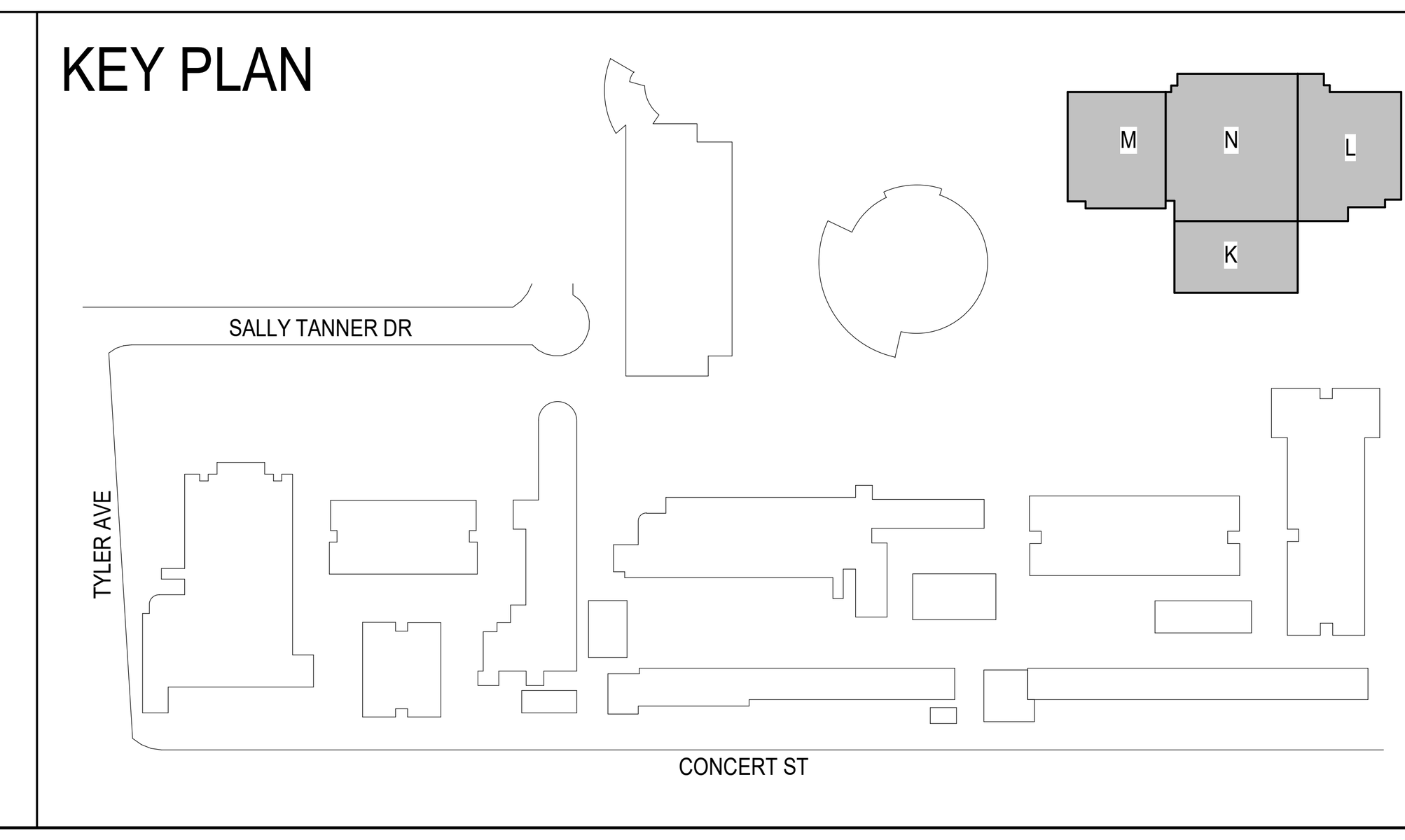
EL MONTE HIGH SCHOOL HVAC PROJECT

EL MONTE UNION HIGH SCHOOL DISTRICT
3048 Tyler Ave, El Monte, CA 91731

DCGR ENGINEERS
Consulting Mechanical and Electrical Engineers

DSA SUBMITTAL
09/11/2023
REVISIONS

KEY PLAN

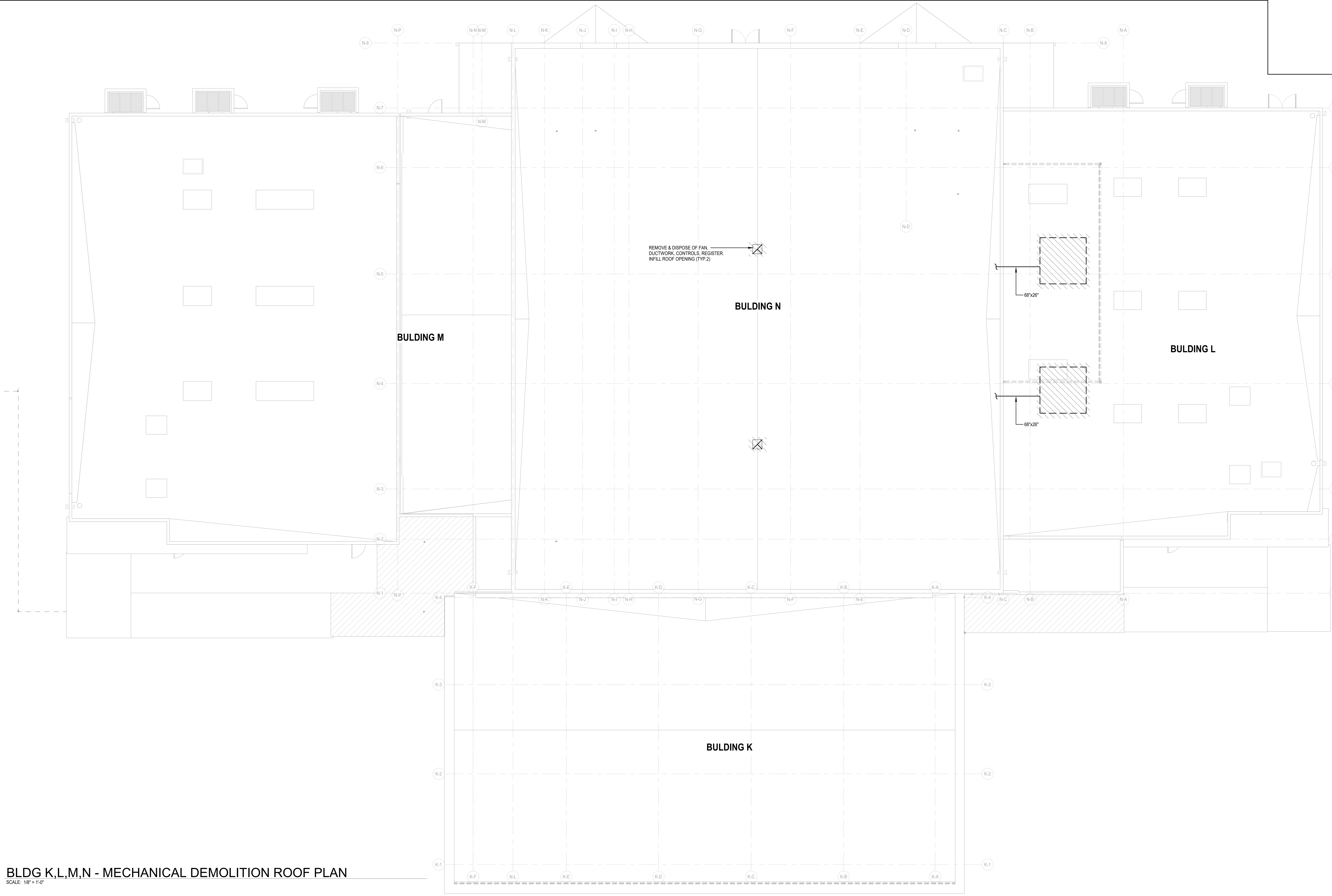


DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-01

BLDG K, L, M, N - MECHANICAL PLAN

M1.KN2

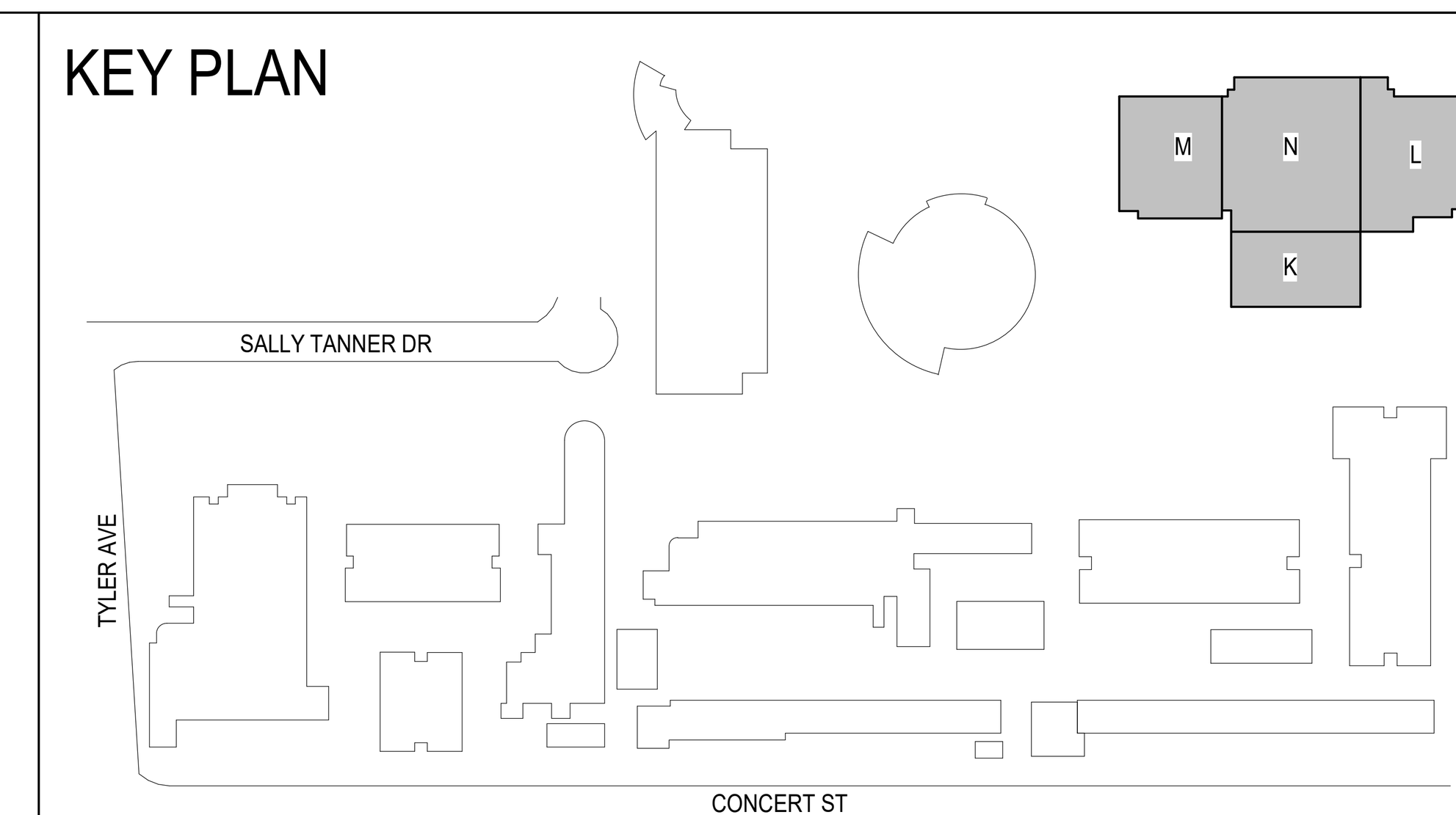
Autodesk Docs://75-22201-00 El Monte UHSD - EMHS Mod/75-22201-00_El Monte UHSD - EMHS Mod_MPE_2022_BLDG K-N.rvt
11/16/2023 5:39:37 PM



BLDG K,L,M,N - MECHANICAL DEMOLITION ROOF PLAN

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

KEY PLAN



DLRGROUP

© DLR Group

DCGR ENGINEERS
Consulting Mechanical and Electrical Engineers

EL MONTE HIGH SCHOOL HVAC PROJECT

EL MONTE UNION HIGH SCHOOL DISTRICT

3048 Tyler Ave, El Monte, CA 91731

DSA SUBMITTAL

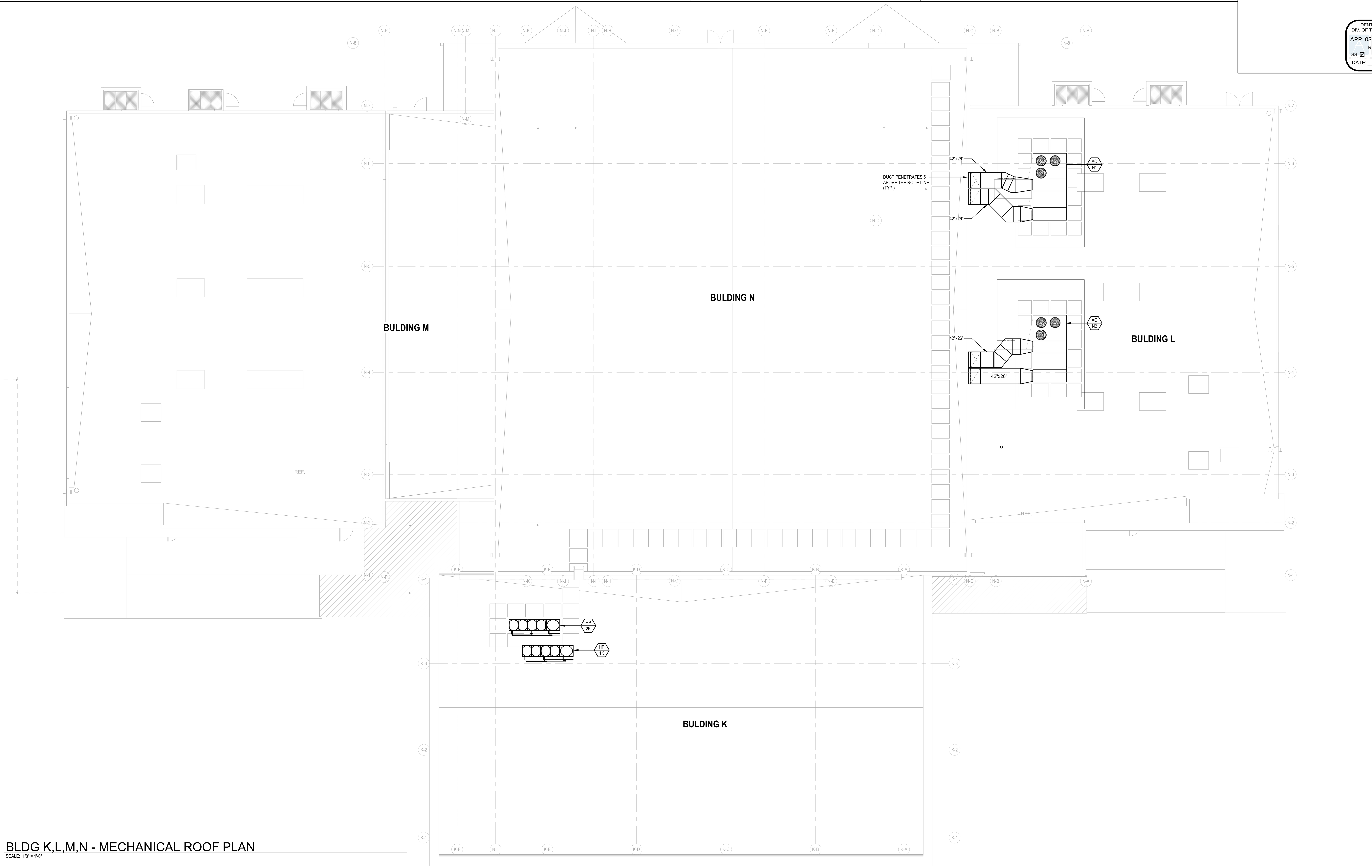
09/11/2023

REVISIONS

DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-01

BLDG K, L, M, N - MECHANICAL DEMOLITION ROOF PLAN

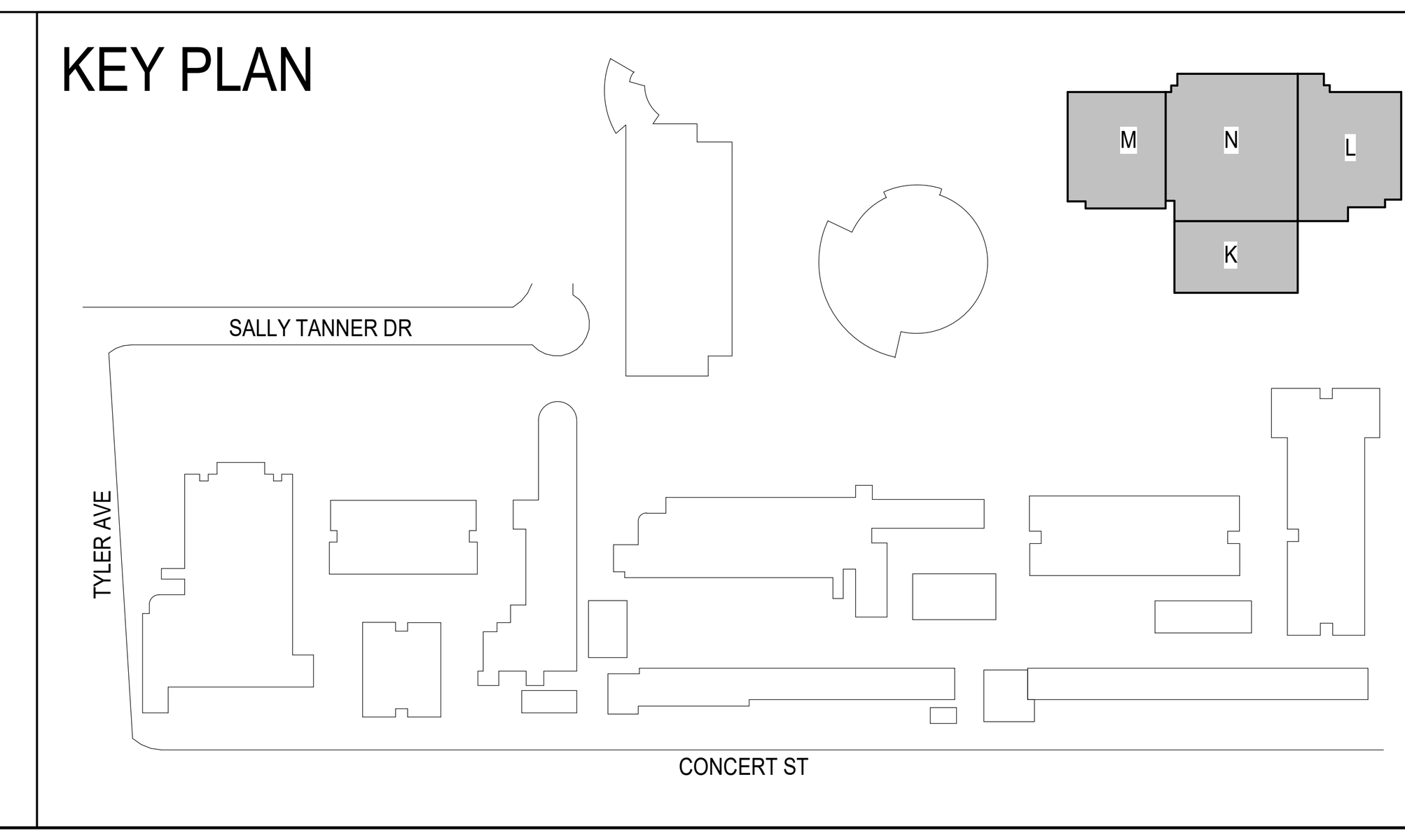
M1.KN3



BLDG K,L,M,N - MECHANICAL ROOF PLAN

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

KEY PLAN



IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-123582 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 01/10/2024

REGISTERED PROFESSIONAL ENGINEER
WEBSTHER GAMA
No. M38752
Exp. 3-31-24
MECHANICAL
STATE OF CALIFORNIA

DLRGROUP

© DLR Group

EL MONTE HIGH SCHOOL HVAC PROJECT

EL MONTE UNION HIGH SCHOOL DISTRICT

3048 Tyler Ave, El Monte, CA 91731

DCSR ENGINEERS
Consulting Mechanical and Electrical Engineers

DSA SUBMITTAL
09/11/2023
REVISIONS

DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-01

BLDG K, L, M, N - MECHANICAL ROOF PLAN

M1.KN4

STATE OF CALIFORNIA
Mechanical Systems
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
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.			
Project Name: El Monte High School Gym and Kitchen		**Report Page:**	(Page 1 of 32)
Project Address:	3048 Tyler Ave	**Date Prepared:**	8/31/2023

A. GENERAL INFORMATION

01	Project Location (city)	El Monte	04	Total Conditioned Floor Area	19473
02	Climate Zone	9	05	Total Unconditioned Floor Area	0
03	Occupancy Types Within Project:		06	# of Stories (Habitable Above Grade)	1

- Gymnasium
- All Other Occupancies

B. PROJECT SCOPE

This table Includes mechanical systems or components that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in 140.4, 170.2(b) or 141.0(b)2 and 180.2(b)2 for alterations.

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

01		02		03		04		05		06		07		08	09
System Summary 110.1, 110.2, 140.4, 170.2(c)	AND	Pumps 140.4(k), 170.2(c)4I	AND	Fans/ Economizers 140.4(c), 140.4(e), 170.2(c)	AND	System Controls 110.2, 120.2, 140.4(f), 170.2(c)	AND	Ventilation 120.1, 160.2	AND	Terminal Box Controls 140.4(d), 170.2(c)4B	AND	Distribution 120.3, 140.4(l), 160.2, 160.3	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	Yes	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.

E. ADDITIONAL REMARKS

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

F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)

Space Conditioning System Information

01	02	03	04	05	06
System Name	Quantity	System Serving	System Status	Space Type	Utilizing Recovered Heat
AC-N1	1	Single zone	New/ Addition		☐
AC-N2	1	Single zone	New/ Addition		☐
AC-D1	1	Single zone	New/ Addition		☐
AC-D2	1	Single zone	New/ Addition		☐

F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)

Space Conditioning System Information

01	02	03	04	05	06
System Name	Quantity	System Serving	System Status	Space Type	Utilizing Recovered Heat
AC-D3	1	Single zone	New/ Addition		☐
AC-D4	1	Single zone	New/ Addition		☐
HP-1K	1	Single zone	New/ Addition		☐
HP-2K	1	Single zone	New/ Addition		☐

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

01	02	03	04	05	06	07	08	09	10	11
				Equipment Sizing per Mechanical Schedule (kBtu/h) 140.4(a&b), 170.2(c)1 & 170.2(c)2						
				Heating Output[2,3]			Cooling Output[2,3]		Load Calculations[3,4]	
Name or Item Tag	Equipment Category per Tables 110.2, 140.4(a)2 and 170.2(c)3aii	Equipment Type per Tables 110.2 and Title 20	Smallest Size Available[1] 140.4(a) and 170.2(c)1	Per Design (kBtu/h)	Rated (kBtu/h)	Supp. Heating Output (kBtu/h)	Sensible Per Design (kBtu/h)	Rated (kBtu/h)	Total Heating Load (kBtu/h)	Total Sensible Cooling Load (kBtu/h)
AC-N1	Furnace + AC	AC, air cooled, single pkg + warm-air central furnace, gas-fired	NA: Load Controls	283.5	283.5	0	369.76	285	984.53	756.98
AC-N2	Furnace + AC	AC, air cooled, single pkg + warm-air central furnace, gas-fired	NA: Load Controls	283.5	283.5	0	369.76	285	981.44	750.84
AC-D1	Furnace + AC	AC, air cooled, single pkg + warm-air central furnace, gas-fired	NA: Load Controls	64.8	64.8	0	67.23	58.5	44.02	93.36
AC-D2	Furnace + AC	AC, air cooled, single pkg + warm-air central furnace, gas-fired	NA: Load Controls	64.8	64.8	0	67.22	58.5	43.84	92.89
AC-D3	Furnace + AC	AC, air cooled, single pkg + warm-air central furnace, gas-fired	NA: Load Controls	49	49	0	53.23	45.29	39.23	95.27
AC-D4	Furnace + AC	AC, air cooled, single pkg + warm-air central furnace, gas-fired	NA: Load Controls	49	49	0	59.15	45.29	72.08	76.21

F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)

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

01	02	03	04	05	06	07	08	09	10	11
HP-1K	Unitary Heat Pumps	Air-cooled, split (3 phase)	NA: Load Controls	192.13	270	0	247.19	376.2	503.66	478.68
HP-2K	Unitary Heat Pumps	Air-cooled, split (3 phase)	NA: Load Controls	192.13	270	0	247.19	376.2	511.43	483.16

[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) and 170.2(c)1. 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) and 170.2(c).*

Dry System Equipment Efficiency (other than Package Terminal Air Conditioners (PTAC) and Package Terminal Heat Pumps (PTHP), DX-DOAS and Dual Fuel Heat Pumps)

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	Minimum Efficiency Required per Tables 110.2 / Title 20	Design Efficiency	Efficiency Unit	Minimum Efficiency Required per Tables 110.2 / Title 20	Design Efficiency
AC-N1	>=240,000		Combustion Efficiency	0.8	0.81	EER IEER	9.8 13	10.4 14.6
AC-N2	>=240,000		Combustion Efficiency	0.8	0.81	EER IEER	9.8 13	10.4 14.6
AC-D1	>=65,000 and <135,000		AFUE	0.8	0.81	EER IEER	11.0 14.6	12.1 15.9
AC-D2	>=65,000 and <135,000		AFUE	0.8	0.81	EER IEER	11.0 14.6	12.1 15.9
AC-D3	<65,000		AFUE	0.8	0.81	SEER2	13.4	17.4
AC-D4	<65,000		AFUE	0.8	0.81	SEER2	13.4	17.4

F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)

Dry System Equipment Efficiency (other than Package Terminal Air Conditioners (PTAC) and Package Terminal Heat Pumps (PTHP), DX-DOAS and Dual Fuel Heat Pumps)

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	Minimum Efficiency Required per Tables 110.2 / Title 20	Design Efficiency	Efficiency Unit	Minimum Efficiency Required per Tables 110.2 / Title 20	Design Efficiency
HP-1K	>=240,000		COP	3.3	3.4	EER IEER	9.5 12.5	11.4 22.6
HP-2K	>=240,000		COP	3.3	3.4	EER IEER	9.5 12.5	11.4 22.6

G. PUMPS

This section does not apply to this project.

H. FAN SYSTEMS & AIR ECONOMIZERS

This table is used to demonstrate compliance with prescriptive requirements found in 140.4(c), 140.4(e), 140.4(m), 170.2(c)3, and 170.2(c)4A for fan systems. Fan systems serving only process loads are exempt from these requirements and do not need to be included in Table H.

System Name	AC-N1	Quantity	1	Fan System Status	New	System Zoning	all other systems	Serving Dwelling Units	Not Serving Dwelling Units	Fan System Airflow (cfm)	12,000	Site Elevation	271	Economizer	Fixed Temperature
01	02	03	04			05		06	07	08	09			10	11

						Allowance		Design		
Fan Name or Item Tag	Fan Type	Qty	Component	Airflow through Component (%)	Water Gauge (w.g)	Component Allowance	Fan Allowance (watt/cfm)[3]	Design Electrical Input Power Method	Motor Nameplate Horsepower	Design Electrical Input Power (kW)
SF	Supply	1	Base Allowance for system serving spaces <=6 floors away	12,000		2832		Manufacturer provided		6.99
			MERV 13-16 Filter downstream of thermal conditioning equipment	12,000		2124				
			Gas heat	12,000		864				
			Hydronic/DX cooling coil or heat pump coil	12,000		1284				
			Economizer Return Damper	12,000		432				
Supply Fan Base Allowance (kW)			Exhuast/Return/Relief/Transfer Fan Base Allowance(kW)			Fan System Allowance (kW)[3]		7.54	Fan System Electrical Output (kW)	6.99

H. FAN SYSTEMS & AIR ECONOMIZERS

System Name	AC-N2	Quantity	1	Fan System Status	New	System Zoning	all other systems	Serving Dwelling Units	Not Serving Dwelling Units	Fan System Airflow (cfm)	12,000	Site Elevation	271	Economizer	Fixed Temperature
01	02	03	04			05		06	07	08	09			10	11

						Allowance		Design		
Fan Name or Item Tag	Fan Type	Qty	Component	Airflow through Component (%)	Water Gauge (w.g)	Component Allowance	Fan Allowance (watt/cfm)[3]	Design Electrical Input Power Method	Motor Nameplate Horsepower	Design Electrical Input Power (kW)
SF	Supply	1	Base Allowance for system serving spaces <=6 floors away	12,000		2832		Manufacturer provided		6.99
			MERV 13-16 Filter downstream of thermal conditioning equipment	12,000		2124				
			Gas heat	12,000		864				
			Hydronic/DX cooling coil or heat pump coil	12,000		1284				
			Economizer Return Damper	12,000		432				
Supply Fan Base Allowance (kW)			Exhuast/Return/Relief/Transfer Fan Base Allowance(kW)			Fan System Allowance (kW)[3]		7.54	Fan System Electrical Output (kW)	6.99

H. FAN SYSTEMS & AIR ECONOMIZERS

System Name	AC-D1	Quantity	1	Fan System Status	New	System Zoning	all other systems	Serving Dwelling Units	Not Serving Dwelling Units	Fan System Airflow (cfm)	2,400	Site Elevation	271	Economizer	Fixed Temperature
01	02	03	04			05		06	07	08	09			10	11

						Allowance		Design		
Fan Name or Item Tag	Fan Type	Qty	Component	Airflow through Component (%)	Water Gauge (w.g)	Component Allowance	Fan Allowance (watt/cfm)[3]	Design Electrical Input Power Method	Motor Nameplate Horsepower	Design Electrical Input Power (kW)
SF	Supply	1	Base Allowance for system serving spaces <=6 floors away	2,400		557		Manufacturer provided		0.45
			MERV 13-16 Filter upstream of thermal conditioning equipment	2,400		334				
			Gas heat	2,400		139				
			Hydronic/DX cooling coil or heat pump coil	2,400		334				
			Economizer Return Damper	2,400		110				
Supply Fan Base Allowance (kW)			Exhuast/Return/Relief/Transfer Fan Base Allowance(kW)			Fan System Allowance (kW)[3]		1.47	Fan System Electrical Output (kW)	0.45

H. FAN SYSTEMS & AIR ECONOMIZERS

System Name	AC-D2	Quantity	1	Fan System Status	New	System Zoning	all other systems	Serving Dwelling Units	Not Serving Dwelling Units	Fan System Airflow (cfm)	2,400	Site Elevation	271	Economizer	Fixed Temperature
01	02	03	04			05		06	07	08	09			10	11

						Allowance		Design		
Fan Name or Item Tag	Fan Type	Qty	Component	Airflow through Component (%)	Water Gauge (w.g)	Component Allowance	Fan Allowance (watt/cfm)[3]	Design Electrical Input Power Method	Motor Nameplate Horsepower	Design Electrical Input Power (kW)
SF	Supply	1	Base Allowance for system serving spaces <=6 floors away	2,400		557		Manufacturer provided		0.45
			MERV 13-16 Filter downstream of thermal conditioning equipment	2,400		554				
			Gas heat	2,400		139				
			Hydronic/DX cooling coil or heat pump coil	2,400		334				
			Economizer Return Damper	2,400		110				
Supply Fan Base Allowance (kW)			Exhuast/Return/Relief/Transfer Fan Base Allowance(kW)			Fan System Allowance (kW)[3]		1.69	Fan System Electrical Output (kW)	0.45

H. FAN SYSTEMS & AIR ECONOMIZERS

System Name	AC-D3	Quantity	1	Fan System Status	New	System Zoning	all other systems	Serving Dwelling Units	Not Serving Dwelling Units	Fan System Airflow (cfm)	2,000	Site Elevation	271	Economizer	Fixed Temperature
01	02	03	04			05		06	07	08	09			10	11

						Allowance		Design		
Fan Name or Item Tag	Fan Type	Qty	Component	Airflow through Component (%)	Water Gauge (w.g)	Component Allowance	Fan Allowance (watt/cfm)[3]	Design Electrical Input Power Method	Motor Nameplate Horsepower	Design Electrical Input Power (kW)
SF	Supply	1	Base Allowance for system serving spaces <=6 floors away	2,000		464		Manufacturer provided		0.54
			MERV 13-16 Filter downstream of thermal conditioning equipment	2,000		462				
			Gas heat	2,000		116				
			Hydronic/DX cooling coil or heat pump coil	2,000		278				
			Economizer Return Damper	2,000		92				
Supply Fan Base Allowance (kW)			Exhuast/Return/Relief/Transfer Fan Base Allowance(kW)			Fan System Allowance (kW)[3]		1.41	Fan System Electrical Output (kW)	0.54

H. FAN SYSTEMS & AIR ECONOMIZERS

System Name	AC-D4	Quantity	1	Fan System Status	New	System Zoning	all other systems	Serving Dwelling Units	Not Serving Dwelling Units	Fan System Airflow (cfm)	2,000	Site Elevation	271	Economizer	Fixed Temperature
01	02	03	04			05		06	07	08	09			10	11

						Allowance		Design		
Fan Name or Item Tag	Fan Type	Qty	Component	Airflow through Component (%)	Water Gauge (w.g)	Component Allowance	Fan Allowance (watt/cfm)[3]	Design Electrical Input Power Method	Motor Nameplate Horsepower	Design Electrical Input Power (kW)
SF	Supply	1	Base Allowance for system serving spaces <=6 floors away	2,000		464		Manufacturer provided		0.54
			MERV 13-16 Filter downstream of thermal conditioning equipment	2,000		462				
			Gas heat	2,000		116				
			Hydronic/DX cooling coil or heat pump coil	2,000		278				
			Economizer Return Damper	2,000		92				
Supply Fan Base Allowance (kW)			Exhuast/Return/Relief/Transfer Fan Base Allowance(kW)			Fan System Allowance (kW)[3]		1.41	Fan System Electrical Output (kW)	0.54

H. FAN SYSTEMS & AIR ECONOMIZERS

System Name	HP-1K	Quantity	1	Fan System Status	New	System Zoning	all other systems	Serving Dwelling Units	Not Serving Dwelling Units	Fan System Airflow (cfm)	8,000	Site Elevation	271	Economizer	NA: Special OA filtration
01	02	03	04			05		06	07	08	09			10	11

						Allowance		Design		
Fan Name or Item Tag	Fan Type	Qty	Component	Airflow through Component (%)	Water Gauge (w.g)	Component Allowance	Fan Allowance (watt/cfm)[3]	Design Electrical Input Power Method	Motor Nameplate Horsepower	Design Electrical Input Power (kW)
SF	Supply	1	Base Allowance for system serving spaces <=6 floors away	8,000		2048		Manufacturer provided		4.42
			MERV 13-16 Filter downstream of thermal conditioning equipment	8,000		1576				
			Hydronic/DX cooling coil or heat pump coil	8,000		960				
Supply Fan Base Allowance (kW)			Exhuast/Return/Relief/Transfer Fan Base Allowance(kW)			Fan System Allowance (kW)[3]		4.58	Fan System Electrical Output (kW)	4.42

H. FAN SYSTEMS & AIR ECONOMIZERS

System Name	HP-2K	Quantity	1	Fan System Status	New	System Zoning	all other systems	Serving Dwelling Units	Not Serving Dwelling Units	Fan System Airflow (cfm)	8,000	Site Elevation	271	Economizer	NA: Special OA filtration
01	02	03	04			05		06	07	08	09			10	11

						Allowance		Design		
Fan Name or Item Tag	Fan Type	Qty	Component	Airflow through Component (%)	Water Gauge (w.g)	Component Allowance	Fan Allowance (watt/cfm)[3]	Design Electrical Input Power Method	Motor Nameplate Horsepower	Design Electrical Input Power (kW)
SF	Supply	1	Base Allowance for system serving spaces <=6 floors away	8,000		2048		Manufacturer provided		4.42
			MERV 13-16 Filter downstream of thermal conditioning equipment	8,000		1576				
			Hydronic/DX cooling coil or heat pump coil	8,000		960				
Supply Fan Base Allowance (kW)			Exhuast/Return/Relief/Transfer Fan Base Allowance(kW)			Fan System Allowance (kW)[3]		4.58	Fan System Electrical Output (kW)	4.42

[1] *FOOTNOTES: Fans serving spaces with design background noise goals below NC35*

[2] *Low-turndown single-zone VAV fan system must be capable of and configured to reduce airflow to 50 percent of design airflow and use no more than 30 percent of the design wattage at that airflow. No more than 10 percent of the design load served by the equipment shall have fixed loads.*

[3] *Fan system allowance includes fan system base allowance.*

[4] *Filter pressure loss can only be counted once per fan system.*

[5] *Complex Fan System means a fan system that combines a single cabinet fan system with other supply fans, exhaust fans, or both.*

[6] *Computer room economizers must meet requirements of 140.9(a) and will be documented on the NRCC-PRC-E document..*

H. EXHAUST AIR HEAT RECOVERY 140.4(q), 170.2(c)4O

01	02	03	04	05	06	07	08	09	10	11

H. EXHAUST AIR HEAT RECOVERY 140.4(q), 170.2(c)4O

Fan System Name	Qty	Hours of Operation per Year	Design Supply Airflow Rate	Outdoor Airflow	% Outdoor Air at Full Design Airflow	Exemptions to Exhaust Air Heat Recovery Requirement per 140.4(q) & 170.2(c)4O	Exhaust Air Heat Recovery 140.4(q) & 170.2(c)4O	Type Of Heat Recovery Rating	Required Recovery Ratio	Energy Recovery Bypass

Fan Energy Index (FEI)

01	02	03
Name or Item Tag	FEI Exception	FEI

I. SYSTEM CONTROLS

This table is used to demonstrate compliance with mandatory controls in 110.2 and 120.2 and prescriptive controls in 140.4(j) and (n), 170.2(c)4D 170.2(c)4L or requirements in 141.0(b)2E 180.2(b)2 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) 160.3(a)2A or 141.0(b)2E & 180.2(b)2	Shut-Off Controls 120.2(e) & 160.3(a)2D	Isolation Zone Controls 120.2(g) & 160.3(a)2F	Demand Response 110.12 120.2(b) & 160.3(a)2B	Supply Air Temp. Reset 140.4(f) & 170.2(c)4D	Window Interlocks per 140.4(n) & 170.2(c)4D
AC-N1	Single zone	<= 25,000 ft²	Setback	Auto Timer Switch	4 Hour Timer	EMCS	NA: Would increase energy use	Provided
AC-N2	Single zone	<= 25,000 ft²	Setback	Auto Timer Switch	4 Hour Timer	EMCS	NA: Would increase energy use	Provided
AC-D1	Single zone	<= 25,000 ft²	Setback	Auto Timer Switch	4 Hour Timer	EMCS	NA: Would increase energy use	Provided
AC-D2	Single zone	<= 25,000 ft²	Setback	Auto Timer Switch	4 Hour Timer	EMCS	NA: Would increase energy use	Provided

---

I. SYSTEM CONTROLS

AC-D3	Single zone	<= 25,000 ft²	Setback	Auto Timer Switch	4 Hour Timer	EMCS	NA: Would increase energy use	Provided
AC-D4	Single zone	<= 25,000 ft²	Setback	Auto Timer Switch	4 Hour Timer	EMCS	NA: Would increase energy use	Provided
HP-1K	Single zone	<= 25,000 ft²	Setback	Auto Timer Switch	4 Hour Timer	EMCS	NA: Would increase energy use	Provided
HP-2K	Single zone	<= 25,000 ft²	Setback	Auto Timer Switch	4 Hour Timer	EMCS	NA: Would increase energy use	Provided

[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.*

J. VENTILATION AND INDOOR AIR QUALITY

This table is used to demonstrate compliance with mandatory ventilation requirements in 120.1 120.2(e)3B 140.4(p) and 140.4(q) for all nonresidential and hotel/motel and d:t24refnolink/]160.2, 160.3(a)3D, 170.2(a)4N, 170.2(a)4O for high-rise residential 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 the 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 included Nonresidential, Hotel/Motel Spaces or Multifamily Common Use Spaces
	☐	
03	☐	Check the box if the project is using natural ventilation in any nonresidential or hotel/motel spaces to meet required ventilation rates per 120.1(c)2.

Nonresidential and Hotel/ Motel Multifamily Common Use Ventilation Systems

04		05			06			07
System Name	AC-N1	System Design OA CFM Airflow[1]		17154	System Design Transfer Air CFM		0	Air Filtration per 120.1(c) 141.0(b)2 and 160.2(c)21[2]
								Provided
08	09	10	11	12	13	14	15	16

J. VENTILATION AND INDOOR AIR QUALITY

Space Name or Item Tag	Mechanical Ventilation Required per 120.1(c)3[3] & 160.2(c)3					Exh. Vent per 120.1(c)4 & 160.2(c)4		DCV or Sensor Controls per 120.1(d)3, 120.1(d)5, and 120.1(e)3[6] 160.2(c)5D 160.2(c)5E 160.2(c)5D	
	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
Gym N101A-N101-4	Assembly- multiuse	4803			2401.5	0	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				2402	18	Ventilation for this System Complies?		Yes
04		05			06			07	
System Name	AC-N2	System Design OA CFM Airflow[1]		17154	System Design Transfer Air CFM		0	Air Filtration per 120.1(c) 141.0(b)2 and 160.2(c)21[2]	
								Provided	
08	09	10	11	12	13	14	15	16	
Space Name or Item Tag	Mechanical Ventilation Required per 120.1(c)3[3] & 160.2(c)3					Exh. Vent per 120.1(c)4 & 160.2(c)4		DCV or Sensor Controls per 120.1(d)3, 120.1(d)5, and 120.1(e)3[6] 160.2(c)5D 160.2(c)5E 160.2(c)5D	
	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
Gym N101B-N1014	Assembly- multiuse	4803			2401.5	0	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				2402	18	Ventilation for this System Complies?		Yes
04		05			06			07	
System Name	AC-D1	System Design OA CFM Airflow[1]		597	System Design Transfer Air CFM		0	Air Filtration per 120.1(c) 141.0(b)2 and 160.2(c)21[2]	
								Provided	
08	09	10	11	12	13	14	15	16	

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-123582 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 01/10/2024

No. M38752

DLRGROUP
© DLR Group

DCGA ENGINEERS
Consulting Mechanical and Electrical Engineers

EL MONTE HIGH SCHOOL HVAC PROJECT
EL MONTE UNION HIGH SCHOOL DISTRICT
3048 Tyler Ave, El Monte, CA 91731

DSA SUBMITTAL
09/11/2023
REVISIONS

DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-01

TITLE 24

M4.01

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	El Monte High School Gym and Kitchen	Report Page:	(Page 17 of 32)
		Date Prepared:	8/31/2023

J. VENTILATION AND INDOOR AIR QUALITY

Space Name or Item Tag	Mechanical Ventilation Required per 120.1(c)3^3 & 160.2(c)3					Exh. Vent per 120.1(c)4 & 160.2(c)4		DCV or Sensor Controls per 120.1(d)3, 120.1(d)5, and 120.1(e)3^6 160.2(c)5D 160.2(c)5E 160.2(c)5D	
	Occupancy Type^4	Conditioned Floor Area (ft^2)	# of Shower heads/ toilets	# of people^5	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
Cafeteria	Cafeteria/ fastfood dining	1194			597	0	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				597	18	Ventilation for this System Complies?		Yes
04		05			06			07	
System Name	AC-D2	System Design OA CFM Airflow^1		597	System Design Transfer Air CFM		0	Air Filtration per 120.1(c) 141.0(b)2 and 160.2(c)21^2	
								Provided	
08	09	10	11	12	13	14	15	16	
Space Name or Item Tag	Mechanical Ventilation Required per 120.1(c)3^3 & 160.2(c)3					Exh. Vent per 120.1(c)4 & 160.2(c)4		DCV or Sensor Controls per 120.1(d)3, 120.1(d)5, and 120.1(e)3^6 160.2(c)5D 160.2(c)5E 160.2(c)5D	
	Occupancy Type^4	Conditioned Floor Area (ft^2)	# of Shower heads/ toilets	# of people^5	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
Cafeteria	Cafeteria/ fastfood dining	1194			597	0	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				597	18	Ventilation for this System Complies?		Yes
04		05			06			07	
System Name	AC-D3	System Design OA CFM Airflow^1		579	System Design Transfer Air CFM		0	Air Filtration per 120.1(c) 141.0(b)2 and 160.2(c)21^2	
								Provided	
08	09	10	11	12	13	14	15	16	

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	El Monte High School Gym and Kitchen	Report Page:	(Page 18 of 32)
		Date Prepared:	8/31/2023

J. VENTILATION AND INDOOR AIR QUALITY

Space Name or Item Tag	Mechanical Ventilation Required per 120.1(c)3^3 & 160.2(c)3					Exh. Vent per 120.1(c)4 & 160.2(c)4		DCV or Sensor Controls per 120.1(d)3, 120.1(d)5, and 120.1(e)3^6 160.2(c)5D 160.2(c)5E 160.2(c)5D	
	Occupancy Type^4	Conditioned Floor Area (ft^2)	# of Shower heads/ toilets	# of people^5	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
Serving Room	Cafeteria/ fastfood dining	1544			772	0	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				772	18	Ventilation for this System Complies?		Yes
04		05			06			07	
System Name	AC-D4	System Design OA CFM Airflow^1		1238	System Design Transfer Air CFM		0	Air Filtration per 120.1(c) 141.0(b)2 and 160.2(c)21^2	
								Provided	
08	09	10	11	12	13	14	15	16	
Space Name or Item Tag	Mechanical Ventilation Required per 120.1(c)3^3 & 160.2(c)3					Exh. Vent per 120.1(c)4 & 160.2(c)4		DCV or Sensor Controls per 120.1(d)3, 120.1(d)5, and 120.1(e)3^6 160.2(c)5D 160.2(c)5E 160.2(c)5D	
	Occupancy Type^4	Conditioned Floor Area (ft^2)	# of Shower heads/ toilets	# of people^5	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
Kitchen	Kitchen (cooking)	825			123.8	577.5	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				124	18	Ventilation for this System Complies?		Yes
04		05			06			07	
System Name	HP-1K	System Design OA CFM Airflow^1		9125	System Design Transfer Air CFM		0	Air Filtration per 120.1(c) 141.0(b)2 and 160.2(c)21^2	
								Provided	
08	09	10	11	12	13	14	15	16	

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	El Monte High School Gym and Kitchen	Report Page:	(Page 19 of 32)
		Date Prepared:	8/31/2023

J. VENTILATION AND INDOOR AIR QUALITY

Space Name or Item Tag	Mechanical Ventilation Required per 120.1(c)3^3 & 160.2(c)3					Exh. Vent per 120.1(c)4 & 160.2(c)4		DCV or Sensor Controls per 120.1(d)3, 120.1(d)5, and 120.1(e)3^6 160.2(c)5D 160.2(c)5E 160.2(c)5D	
	Occupancy Type^4	Conditioned Floor Area (ft^2)	# of Shower heads/ toilets	# of people^5	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
Practice Gym 443-4 (interior south)	Assembly- multiuse	2555			1277.5	0	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				1278	18	Ventilation for this System Complies?		Yes
04		05			06			07	
System Name	HP-2K	System Design OA CFM Airflow^1		9125	System Design Transfer Air CFM		0	Air Filtration per 120.1(c) 141.0(b)2 and 160.2(c)21^2	
								Provided	
08	09	10	11	12	13	14	15	16	
Space Name or Item Tag	Mechanical Ventilation Required per 120.1(c)3^3 & 160.2(c)3					Exh. Vent per 120.1(c)4 & 160.2(c)4		DCV or Sensor Controls per 120.1(d)3, 120.1(d)5, and 120.1(e)3^6 160.2(c)5D 160.2(c)5E 160.2(c)5D	
	Occupancy Type^4	Conditioned Floor Area (ft^2)	# of Shower heads/ toilets	# of people^5	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
Practice Gym 443-4 (exterior south)	Assembly- multiuse	2555			1277.5	0	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				1278	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.*

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	El Monte High School Gym and Kitchen	Report Page:	(Page 20 of 32)
		Date Prepared:	8/31/2023

J. VENTILATION AND INDOOR AIR QUALITY

[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 250ft^2 or smaller, multipurpose rooms less than 1,000 ft^2, 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 to this project.

L. DISTRIBUTION (DUCTWORK and PIPING)

This table is used to show compliance with mandatory pipe insulation requirements found in 120.3 and mandatory requirements found in 120.4(g) for duct sealing.

01	☐	Insulation shall be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind. Insulation exposed to weather shall be installed with a cover suitable for outdoor service. Insulation covering chilled water piping and refrigerant suction piping located outside the conditioned space shall have a Class I or Class II vapor retarder. All penetrations and joints of which shall be sealed.

Duct Leakage Testing

The answers to the questions below apply to the following duct systems:	AC-N1	**NR/ Common Use:** Duct leakage testing shall not exceed 6% per NA7.5.3 required for these systems?	No

---

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	El Monte High School Gym and Kitchen	Report Page:	(Page 21 of 32)
		Date Prepared:	8/31/2023

L. DISTRIBUTION (DUCTWORK and PIPING)

		Dwelling Units: Total duct leakage of duct system shall not exceed 12% or duct system to outside shall not exceed 6% per RA3.1.4 required for systems?	No
		Duct leakage testing per CMC Section 603.10.1 required for these systems?	Yes
11	No	The scope of the project includes only duct systems serving healthcare facilities	
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.	
13	Yes	The space conditioning system serves less than 5,000 ft^2 of conditioned floor area.	
14	No	The combined surface area of the ducts is more than 25% of the total surface area of the entire duct system:	
15		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.	
17		All Ductwork and plenums with pressure class ratings shall be constructed to Seal Class A	
18		All ductwork is an extension of an existing duct system	
19		Ductwork serving individual dwelling unit	
20		< 25 ft of new or replacement space conditioning ducts installed	
21	R-8	Duct Insulation R-value	
22			
23			
The answers to the questions below apply to the following duct systems:	AC-N2	**NR/ Common Use:** Duct leakage testing shall not exceed 6% per NA7.5.3 required for these systems?	No

---

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	El Monte High School Gym and Kitchen	Report Page:	(Page 22 of 32)
		Date Prepared:	8/31/2023

L. DISTRIBUTION (DUCTWORK and PIPING)

		Dwelling Units: Total duct leakage of duct system shall not exceed 12% or duct system to outside shall not exceed 6% per RA3.1.4 required for systems?	No
		Duct leakage testing per CMC Section 603.10.1 required for these systems?	Yes
11	No	The scope of the project includes only duct systems serving healthcare facilities	
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.	
13	Yes	The space conditioning system serves less than 5,000 ft^2 of conditioned floor area.	
14	No	The combined surface area of the ducts is more than 25% of the total surface area of the entire duct system:	
15		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.	
17		All Ductwork and plenums with pressure class ratings shall be constructed to Seal Class A	
18		All ductwork is an extension of an existing duct system	
19		Ductwork serving individual dwelling unit	
20		< 25 ft of new or replacement space conditioning ducts installed	
21	R-8	Duct Insulation R-value	
22			
23			
The answers to the questions below apply to the following duct systems:	AC-D1	**NR/ Common Use:** Duct leakage testing shall not exceed 6% per NA7.5.3 required for these systems?	No

---

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	El Monte High School Gym and Kitchen	Report Page:	(Page 23 of 32)
		Date Prepared:	8/31/2023

L. DISTRIBUTION (DUCTWORK and PIPING)

		Dwelling Units: Total duct leakage of duct system shall not exceed 12% or duct system to outside shall not exceed 6% per RA3.1.4 required for systems?	No
		Duct leakage testing per CMC Section 603.10.1 required for these systems?	Yes
11	No	The scope of the project includes only duct systems serving healthcare facilities	
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.	
13	Yes	The space conditioning system serves less than 5,000 ft^2 of conditioned floor area.	
14	No	The combined surface area of the ducts is more than 25% of the total surface area of the entire duct system:	
15		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.	
17		All Ductwork and plenums with pressure class ratings shall be constructed to Seal Class A	
18		All ductwork is an extension of an existing duct system	
19		Ductwork serving individual dwelling unit	
20		< 25 ft of new or replacement space conditioning ducts installed	
21	R-8	Duct Insulation R-value	
22			
23			
The answers to the questions below apply to the following duct systems:	AC-D2	**NR/ Common Use:** Duct leakage testing shall not exceed 6% per NA7.5.3 required for these systems?	No

---

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	El Monte High School Gym and Kitchen	Report Page:	(Page 24 of 32)
		Date Prepared:	8/31/2023

L. DISTRIBUTION (DUCTWORK and PIPING)

		Dwelling Units: Total duct leakage of duct system shall not exceed 12% or duct system to outside shall not exceed 6% per RA3.1.4 required for systems?	No
		Duct leakage testing per CMC Section 603.10.1 required for these systems?	Yes
11	No	The scope of the project includes only duct systems serving healthcare facilities	
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.	
13	Yes	The space conditioning system serves less than 5,000 ft^2 of conditioned floor area.	
14	No	The combined surface area of the ducts is more than 25% of the total surface area of the entire duct system:	
15		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.	
17		All Ductwork and plenums with pressure class ratings shall be constructed to Seal Class A	
18		All ductwork is an extension of an existing duct system	
19		Ductwork serving individual dwelling unit	
20		< 25 ft of new or replacement space conditioning ducts installed	
21	R-8	Duct Insulation R-value	
22			
23			
The answers to the questions below apply to the following duct systems:	AC-D3	**NR/ Common Use:** Duct leakage testing shall not exceed 6% per NA7.5.3 required for these systems?	No

---

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	El Monte High School Gym and Kitchen	Report Page:	(Page 25 of 32)
		Date Prepared:	8/31/2023

L. DISTRIBUTION (DUCTWORK and PIPING)

		Dwelling Units: Total duct leakage of duct system shall not exceed 12% or duct system to outside shall not exceed 6% per RA3.1.4 required for systems?	No
		Duct leakage testing per CMC Section 603.10.1 required for these systems?	Yes
11	No	The scope of the project includes only duct systems serving healthcare facilities	
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.	
13	Yes	The space conditioning system serves less than 5,000 ft^2 of conditioned floor area.	
14	No	The combined surface area of the ducts is more than 25% of the total surface area of the entire duct system:	
15		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.	
17		All Ductwork and plenums with pressure class ratings shall be constructed to Seal Class A	
18		All ductwork is an extension of an existing duct system	
19		Ductwork serving individual dwelling unit	
20		< 25 ft of new or replacement space conditioning ducts installed	
21	R-8	Duct Insulation R-value	
22			
23			
The answers to the questions below apply to the following duct systems:	AC-D4	**NR/ Common Use:** Duct leakage testing shall not exceed 6% per NA7.5.3 required for these systems?	No

---

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	El Monte High School Gym and Kitchen	Report Page:	(Page 26 of 32)
		Date Prepared:	8/31/2023

L. DISTRIBUTION (DUCTWORK and PIPING)

		Dwelling Units: Total duct leakage of duct system shall not exceed 12% or duct system to outside shall not exceed 6% per RA3.1.4 required for systems?	No
		Duct leakage testing per CMC Section 603.10.1 required for these systems?	Yes
11	No	The scope of the project includes only duct systems serving healthcare facilities	
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.	
13	Yes	The space conditioning system serves less than 5,000 ft^2 of conditioned floor area.	
14	No	The combined surface area of the ducts is more than 25% of the total surface area of the entire duct system:	
15		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.	
17		All Ductwork and plenums with pressure class ratings shall be constructed to Seal Class A	
18		All ductwork is an extension of an existing duct system	
19		Ductwork serving individual dwelling unit	
20		< 25 ft of new or replacement space conditioning ducts installed	
21	R-8	Duct Insulation R-value	
22			
23			
The answers to the questions below apply to the following duct systems:	HP-1K	**NR/ Common Use:** Duct leakage testing shall not exceed 6% per NA7.5.3 required for these systems?	No

---

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	El Monte High School Gym and Kitchen	Report Page:	(Page 27 of 32)
		Date Prepared:	8/31/2023

L. DISTRIBUTION (DUCTWORK and PIPING)

		Dwelling Units: Total duct leakage of duct system shall not exceed 12% or duct system to outside shall not exceed 6% per RA3.1.4 required for systems?	No
		Duct leakage testing per CMC Section 603.10.1 required for these systems?	Yes
11	No	The scope of the project includes only duct systems serving healthcare facilities	
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.	
13	Yes	The space conditioning system serves less than 5,000 ft^2 of conditioned floor area.	
14	No	The combined surface area of the ducts is more than 25% of the total surface area of the entire duct system:	
15		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.	
17		All Ductwork and plenums with pressure class ratings shall be constructed to Seal Class A	
18		All ductwork is an extension of an existing duct system	
19		Ductwork serving individual dwelling unit	
20		< 25 ft of new or replacement space conditioning ducts installed	
21	R-8	Duct Insulation R-value	
22			
23			
The answers to the questions below apply to the following duct systems:	HP-2K	**NR/ Common Use:** Duct leakage testing shall not exceed 6% per NA7.5.3 required for these systems?	No

---

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	El Monte High School Gym and Kitchen	Report Page:	(Page 28 of 32)
		Date Prepared:	8/31/2023

L. DISTRIBUTION (DUCTWORK and PIPING)

		Dwelling Units: Total duct leakage of duct system shall not exceed 12% or duct system to outside shall not exceed 6% per RA3.1.4 required for systems?	No
		Duct leakage testing per CMC Section 603.10.1 required for these systems?	Yes
11	No	The scope of the project includes only duct systems serving healthcare facilities	
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.	
13	Yes	The space conditioning system serves less than 5,000 ft^2 of conditioned floor area.	
14	No	The combined surface area of the ducts is more than 25% of the total surface area of the entire duct system:	
15		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.	
17		All Ductwork and plenums with pressure class ratings shall be constructed to Seal Class A	
18		All ductwork is an extension of an existing duct system	
19		Ductwork serving individual dwelling unit	
20		< 25 ft of new or replacement space conditioning ducts installed	
21	R-8	Duct Insulation R-value	
22			
23			

M. COOLING TOWERS

This section does not apply to this project.

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	El Monte High School Gym and Kitchen	Report Page:	(Page 29 of 32)
		Date Prepared:	8/31/2023

N. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

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/

Form/Title
NRCI-MCH-01-E - Must be submitted for all buildings

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	El Monte High School Gym and Kitchen	Report Page:	(Page 30 of 32)
		Date Prepared:	8/31/2023

O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

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

Form/Title	Systems/Spaces To Be Field Verified
NRCA-MCH-02-A - Outdoor Air must be submitted for all newly installed HVAC units. Note: MCH-02-A can be performed in conjunction with MCH-07-A Supply Fan VFD Acceptance (if applicable) since testing activities overlap.	Trane YCH 360 ; Trane YCH 360 ; Trane YHJ 072 ; Trane YHJ 072 ; Trane YHC 067 ; Trane YHC 067 ; TRANE TUHY2403; TRANE TUHY2403;
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".	Trane YCH 360 ; Trane YCH 360 ; Trane YHJ 072 ; Trane YHJ 072 ; Trane YHC 067 ; Trane YHC 067 ; TRANE TUHY2403; TRANE TUHY2403;
NRCA-MCH-05-A - Air Economizer Controls	Trane YCH 360 ; Trane YCH 360 ; Trane YHJ 072 ; Trane YHJ 072 ; Trane YHC 067 ; Trane YHC 067 ;
NRCA-MCH-11-A Automatic Demand Shed Controls	Trane YCH 360 ; Trane YCH 360 ; Trane YHJ 072 ; Trane YHJ 072 ; Trane YHC 067 ; Trane YHC 067 ; TRANE TUHY2403; TRANE TUHY2403;
NRCA-MCH-12-A FDD for Packaged Direct Expansion Units	Trane YCH 360 ; Trane YCH 360 ; Trane YHJ 072 ; Trane YHJ 072 ; Trane YHC 067 ; Trane YHC 067 ;

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	El Monte High School Gym and Kitchen	Report Page:	(Page 31 of 32)
		Date Prepared:	8/31/2023

O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

NRCA-MCH-16-A Supply Air Temperature Reset Controls	Trane YCH 360 ; Trane YCH 360 ; Trane YHJ 072 ; Trane YHJ 072 ; Trane YHC 067 ; Trane YHC 067 ; TRANE TUHY2403; TRANE TUHY2403;
NRCA-MCH-18-A Energy Management Control Systems	Trane YCH 360 ; Trane YCH 360 ; Trane YHJ 072 ; Trane YHJ 072 ; Trane YHC 067 ; Trane YHC 067 ; TRANE TUHY2403; TRANE TUHY2403;

P. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

There are no NRCV forms required for this project.

Q. MANDATORY MEASURES DOCUMENTATION LOCATION

This table is used to indicate where mandatory measures are documented in the plan set or construction documentation.

01		02
Compliance with Mandatory Measures documented through MCH Mandatory Measures Note Block	Yes	Plan sheet or construction document location
		M-Sheets

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	El Monte High School Gym and Kitchen	Report Page:	(Page 32 of 32)
Project Address:	3048 Tyler Ave	Date Prepared:	8/31/2023

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: Chris Villalobos	Documentation Author Signature: C. Vill
Company: DCGA Engineers	Signature Date: 2023-08-31
Address: 4750 E. Ontario Mills Parkway	CEA/ HERS Certification Identification (If applicable):
City/State/Zip: Ontario CA 91764	Phone: 909-987-0017

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: Wblesther Gama	Responsible Designer Signature: W.G
Company: DCGA Engineers	Date Signed: 2023-08-31
Address: 4750 E. Ontario Mills Pkwy	License: M38752
City/State/Zip: Ontario CA 91764	Phone: (909)987-0017

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-123582 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 01/10/2024

No. M38752

DLR GROUP
© DLR Group

DCGA ENGINEERS
Consulting Mechanical and Electrical Engineers
4750 E. Ontario Mills Pkwy
Ontario, Ca. 91764
Ph.909.987.0017
Fax 909.980.7023

EL MONTE HIGH SCHOOL HVAC PROJECT

EL MONTE UNION HIGH SCHOOL DISTRICT
3048 Tyler Ave, El Monte, CA 91731

DSA SUBMITTAL
09/11/2023
REVISIONS

DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-01

TITLE 24

M4.02

PLUMBING SYMBOLS

RPBFP	REDUCED PRESSURE BACKFLOW PREVENTER (RPBFP)
	FLOOR DRAIN, AREA DRAIN
	ROOF DRAIN, OVERFLOW DRAIN
	FLOOR SINK
	REDUCER
	UNION
	FLEXIBLE CONNECTOR
	STRAINER
	WATER HAMMER ARRESTER BEHIND ACCESS PANEL
	TRAP PRIMER BEHIND ACCESS PANEL
	PRESSURE GAUGE WITH PET COCK
	THERMOMETER
	TEMPERATURE/PRESSURE RELIEF VALVE & PRESSURE RELIEF VALVE
	AIR RELIEF VALVE
	CHECK VALVE
	SHUT-OFF VALVE
	VALVE ON RISER
	BALANCING VALVE
	VALVE IN YARD BOX
	SOLENOID VALVE (ELECTRIC)
	GAS COCK
	GAS PRESSURE REGULATOR
	HOSE BIBB
	DIRECTION OF FLOW
	PLUGGED OUTLET
	PIPING BREAK
	CLEANOUT (CO)
	PIPING RISE OR DROP
	PIPING DOWN
	PIPING UP
	BRANCH CONNECTION
	BRANCH-BOTTOM CONNECTION
	GAS OUTLET/ GAS TURRET
	SQUARE FEET (SQ FT)
	FLOOR CLEANOUT
	FLOOR CLEANOUT IN YARDBOX
	DRAINAGE BELOW GROUND
	(E) DRAINAGE BELOW GROUND
AW	DRAINAGE BELOW GROUND
(E)AW	(E) DRAINAGE BELOW GROUND
	SANITARY VENT
	(E) SANITARY VENT
	DOMESTIC COLD WATER
	(E) DOMESTIC COLD WATER
	DOMESTIC HOT WATER
	(E) DOMESTIC HOT WATER
	DOMESTIC HOT WATER RETURN
	(E)DOMESTIC HOT WATER RETURN
G	NATURAL GAS (LOW PRESSURE)
(E)G	(E) NATURAL GAS (LOW PRESSURE)
CD	CONDENSATE DRAIN
(E)CD	(E) CONDENSATE DRAIN
	EXISTING TO BE REMOVED
	EXISTING FIXTURE TO BE REMOVED
	POINT OF DEMOLITION
	POINT OF CONNECTION
X / M-X (DETAIL NUMBER / DRAWING NUMBER)	DETAIL DESIGNATION
EQUIPMENT DESCRIPTION / EQUIPMENT NUMBER	EQUIPMENT DESIGNATION

ADA COMPLIANCE NOTES

1. COVER EXPOSED HOT & COLD WATER PIPING AND WASTE PIPING AT ALL LAVATORIES WITH NEATLY PRE-FORMED PIPE INSULATION, PLUMBEREX "PRO-EXTREME MODEL X4333 OR X4444 OR APPROVED EQUIVALENT.
2. ALL PIPING UNDER LAVATORIES SHALL BE INSULATED OR OTHERWISE COVERED. THERE SHALL BE NO SHARP OR ABRASIVE SURFACES UNDER LAVATORIES.
3. FAUCET CONTROLS AND OPERATING MECHANISMS SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING OR TWISTING OF THE WRIST.
4. THE FORCE REQUIRED TO ACTIVATE CONTROLS SHALL BE NO GREATER THE 5 lbf. LEVER-OPERATED, PUSH TYPE AND ELECTRONICALLY CONTROLLED MECHANISMS ARE EXAMPLES OF ACCEPTABLE DESIGNS. SELF-CLOSING VALVES ARE ALLOWED IF THE FAUCET REMAINS OPEN FOR AT LEAST 10 SECONDS.
5. ACCESSIBLE PLUMBING FIXTURES SHALL COMPLY WITH ALL OF THE REQUIREMENTS OF CBC 2022-CHAPTER 11B-DIVISION 6. HEIGHTS AND LOCATION OF ALL FIXTURES SHALL BE ACCORDING TO CBC TABLE 11B-604.9. FIXTURE CONTROLS SHALL COMPLY WITH CHAPTER SECTION 11B-309.4.

PLUMBING ABBREVIATIONS

- A -	
ABV	ABOVE
AC	AIR CONDITIONING (HVAC)
ACC	ACCESSIBLE
AFF	ABOVE FINISH FLOOR
AFSR	AUTOMATIC FIRE SPRINKLER RISER
AP	ACCESS PANEL
AV	ACID VENT
AW	ACID WASTE
- B -	
BEH	BEHIND
BEL	BELOW
BTUH	BRITISH THERMAL UNITS PER HOUR
- C -	
CD	CONDENSATE DRAIN
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CLG	CEILING
CO	CLEANOUT
CONT	CONTINUATION
COTG	CLEANOUT TO GRADE
CU FT	CUBIC FEET
CW	COLD WATER (DOMESTIC)
- D -	
DN	DOWN
DF	DRINKING FOUNTAIN
DR	DROP
DS	DOWN SPOUT
DWG	DRAWING
- E -	
(E)	EXISTING
EL	ELEVATION
EQUIP	EQUIPMENT
ESEW	EMERGENCY SHOWER EYE WASH
EWC	ELECTRIC WATER COOLER
- F -	
F	FIRE LINE
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FFE	FINISHED FLOOR ELEVATION
FLR	FLOOR
FS	FLOOR SINK
FT	FOOT, FEET
FU	FIXTURE UNIT
FV	FLUSH VALVE
- G -	
G	GAS (LOW PRESSURE)
GAL	GALLON
GC	GAS COCK
GPF	GALLONS PER FLUSH
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GPR	GAS PRESSURE REGULATOR
GWH	GAS WATER HEATER
GW	GREASE WASTE
- H -	
HB	HOSE BIBB
HP	HORSEPOWER
HW	HOT WATER (DOMESTIC)
HWR	HOT WATER RETURN (DOMESTIC)
- I -	
ICW	INDUSTRIAL COLD WATER
IW	INDIRECT WASTE
IE	INVERT ELEVATION
INT	INTEGRAL
- K -	
KW	KILOWATT
- L -	
LAV	LAVATORY
- M -	
MPG	MEDIUM PRESSURE GAS
MTD	MOUNTED
- N -	
NTS	NOT TO SCALE
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
- O -	
OC	ON CENTER
OD	OVERFLOW DRAIN
- P -	
PH	PHASE
PO	PLUGGED OUTLET
POC	POINT OF CONNECTION
PSI	POUNDS PER SQUARE INCH
- Q -	
QTY	QUANTITY
- R -	
RD	ROOF DRAIN
RPM	REVOLUTIONS PER MINUTE
- S -	
SAN	SANITARY SEWER
SD	STORM DRAIN
SK	SINK
SOV	SHUT-OFF VALVE
SQ	SQUARE
SS	SERVICE SINK
- T -	
TMV	THERMOSTATIC MIXING VALVE
TP	TRAP PRIMER
TPL	TRAP PRIMER LINE
TYP	TYPICAL
TW	TEMPERED WATER
TWR	TEMPERED WATER RETURN
- U -	
UR	URINAL
- V -	
V	VENT
VERT	VERTICAL
VTR	VENT THROUGH ROOF
VB	VACUUM BREAKER
- W -	
W	WASTE
W/	WITH
WC	WATER CLOSET
WCO	WALL CLEANOUT
WH	WALL HYDRANT
WHA	WATER HAMMER ARRESTOR
- Y -	
YB	YARD BOX

EQUIPMENT ANCHORAGE NOTE

MEP COMPONENT ANCHORAGE NOTE

ALL MECHANICAL, PLUMBING, AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2022 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 THAT 400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET OR MORE ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT IS REQUIRED TO BE RESTRAINED IN A MANNER APPROVED BY DSA.

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

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

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

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

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-16 SECTION 13.3 AS DEFINED IN ASCE 7-16 SECTIONS 13.6.5, 13.6.6, 13.6.7, 13.6.8; AND 2022 CBC, SECTIONS 1617A.1.24, 1617A.1.25 AND 1617A.1.26.

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

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

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 HCAi (OSHPD) PRE-APPROVAL (OPM#) #0043-13, AS INCLUDED IN THESE DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS.

GENERAL NOTES

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE 2022 CALIFORNIA PLUMBING CODES, CALIFORNIA STATE FIRE MARSHAL, CALIFORNIA OFFICE OF THE STATE ARCHITECT, AND CALIFORNIA ADMINISTRATIVE CODES, TITLE 17, 24 AND AUTHORITIES HAVING JURISDICTIONS.
2. CONTRACTOR SHALL VERIFY ALL UTILITIES LOCATION, SIZE AND ELEVATIONS WITH CIVIL ENGINEER'S DRAWINGS PRIOR TO START OF WORK.
3. CONTRACTOR SHALL COORDINATE WITH ALL OTHER TRADES FOR CLEARANCES AND WORK INCLUDED PRIOR TO START OF WORK.
4. KEEP ALL PIPING CLEAR FROM LOAD BEARING FOOTINGS.
5. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS, MOUNTING HEIGHTS AND COLORS OF ALL PLUMBING FIXTURES.
6. ALL VENTS SHALL TERMINATE NOT LESS THAN 10 FEET FROM, OR NOT LESS THAN 3 FEET ABOVE FRESH AIR INTAKE, WINDOWS, DOORS OR OTHER OPENINGS.
7. PROVIDE AND INSTALL ACCESS PANELS AT ALL LOCATION OF WATER HAMMER ARRESTORS.
   - PANELS TO 12 X 12 OR AS REQUIRED. FINISH SELECTED BY ARCHITECT.
8. CLEANOUTS SHALL BE INSTALLED PER CALIFORNIA PLUMBING CODE SECTION 707, 719 AND 803.
9. SLOPE OF BUILDING SEWERS SHALL NOT BE LESS THAN 2% UNLESS NOTED OTHERWISE.
10. ALL DOMESTIC HOT WATER PIPING SHALL BE INSULATED AS REQUIRED BY CALIFORNIA ENERGY COMMISSIONS TABLE 120.3-A OF THE BUILDING ENERGY EFFICIENCY STANDARDS. INSULATION SHALL HAVE A FIRE HAZARD CLASSIFICATION 25/50 COMPOSITE RATING.

PIPE SIZE	INSULATION THICKNESS	INSULATION VALUE
< 1"	1"	K FACTOR = 0.25
1" <	1-1/2"	K FACTOR = 0.25

11. CIRCULATING HOT WATER SYSTEMS SHALL BE EQUIPPED WITH A CONTROL CAPABLE OF AUTOMATICALLY TURNING OFF THE CIRCULATING PUMPS WHEN HOT WATER IS NOT REQUIRED (TIME CLOCK).
12. ALL SERVICE WATER HEATING EQUIPMENT TO BE IN COMPLIANCE WITH THE CALIFORNIA ENERGY COMMISSIONS (CEC) REQUIREMENTS AND BE SO LABELED.
13. COORDINATE WITH ELECTRICAL TRADE PRIOR TO ORDERING EQUIPMENT FOR AVAILABLE VOLTAGES AT EQUIPMENT LOCATIONS.
14. ALL HOSE BIBBS, WALL HYDRANTS AND JANITORIAL SERVICE SINKS SHALL BE EQUIPPED WITH APPROVED, PROPERLY INSTALLED ATMOSPHERIC TYPE VACUUM BREAKER.
15. ALL WATER CONNECTIONS TO HVAC EQUIPMENT SHALL BE PROTECTED BY APPROVED, REDUCED PRESSURE BACKFLOW PREVENTION DEVICES. DEVICES SHALL BE ACCESSIBLE FOR TEST AND MAINTENANCE. PROVIDE FUNNEL DRAIN AND INDIRECT WASTE PIPING FOR BACKFLOW DEVICES DISTANCE FROM FLOOR SINKS.
16. NATURAL GAS LINES SHALL NOT BE LOCATED UNDER ANY STRUCTURE. 2019 CPC SECTION 1210.1.6
17. DO NOT USE METALLIC GAS LINES TO GROUND ELECTRICAL SYSTEM.
18. PROVIDE COATED 12 GAUGE COPPER WIRE ATTACHED TO POLYETHYLENE GAS YARD PIPING FOR TRACING PURPOSE. TERMINAL WIRES SHALL BE IDENTIFIED IN LABELED ACCESS BOXES.
19. FOR LOCATION OF PIPING SLEEVES AND FLOOR OPENINGS THROUGH STRUCTURAL FLOOR SLABS, REFER TO DETAILS INDICATED IN STRUCTURAL DRAWINGS.
20. CONTRACTOR SHALL PATCH AND REPAIR ALL SURFACE AREAS DAMAGED BY HIS OPERATION.
21. ALL VALVES, UNIONS, ETC. TO BE LINE SIZE UNLESS OTHERWISE INDICATED ON DRAWINGS.
22. UNIONS SHALL BE PROVIDED AND INSTALLED AFTER EACH THREADED TYPE VALVE AND PRIOR TO EQUIPMENT CONNECTIONS.
23. ANY DEVIATION FROM THE DRAWINGS OR SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER PRIOR TO INSTALLATION.
24. CUTTING, BORING, SAWCUTTING OR DRILLING THROUGH THE NEW OR EXISTING STRUCTURAL ELEMENTS TO BE DONE ONLY WHEN SO DETAILED IN THE DRAWINGS OR ACCEPTED BY THE ARCHITECT AND STRUCTURAL ENGINEER WITH THE APPROVAL OF DSA REPRESENTATIVE.
25. FOR THE PURPOSE OF CLEARNESS AND LEGIBILITY, THE DRAWINGS ARE ESSENTIALLY DIAGRAMMATIC AND ALTHOUGH SIZES AND LOCATION OF EQUIPMENT IS DRAWN TO SCALE WHEREVER POSSIBLE, THE CONTRACTOR SHALL MAKE USE OF ALL DATA IN ALL OF THE CONTRACTOR DOCUMENTS AND VERIFY THIS INFORMATION BEFORE ORDERING, FABRICATING OR INSTALLING OF ANY MATERIALS.
26. ALL INTERIOR CONDENSATE PIPING SHALL BE INSULATED WITH CLOSED CELL FOAM INSULATION; WITH SURFACE BURNING CHARACTERISTIC FIRE HAZARD CLASSIFICATION 25/50 PER ASTM E84, UL 723, NFPA 255.
27. CONTRACTOR SHALL PROVIDE AS-BUILTS, CAD GENERATED AND DRAWN TO THE SAME SCALE THAT CONSTRUCTION DRAWINGS INDICATE (I.E. ENLARGED PLANS @ 1/4"=1'-0") SUBMIT 6 SETS OF HARD COPIES AND 1 ELECTRONIC COPY ON CD-ROM. CAD DRAWINGS SHALL BE AUTOCAD LATEST VERSION. COORDINATE REQUIREMENTS WITH OWNER.
28. PROVIDE WRITTEN WARRANTY TO REPLACE ALL FAULTY MATERIALS AND/OR LABOR, AT NO COST TO OWNER FOR A PERIOD OF ONE YEAR FROM DATE OF OWNERS ACCEPTANCE.
29. ALL WORK SHALL BE IN ACCORDANCE WITH TITLE 24, 2019 CALIFORNIA CODE OF REGULATIONS (CCR), 2019 CALIFORNIA BUILDING CODE, PART 2, TITLE 24 CCR, 2019 CALIFORNIA PLUMBING CODE, PART 5, TITLE 24 CCR.
30. ALL DEMOLITION WORK SHALL COMPLY WITH CBC CHAPTER 33 AND CFC CHAPTER 33.

PLUMBING SHEET INDEX

TOTAL SHEETS = 8

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-123582 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 01/10/2024

REGISTERED PROFESSIONAL ENGINEER
WEBSTHER GAMA
No. M38752
MECHANICAL
STATE OF CALIFORNIA

DLRGROUP
© DLR Group

EL MONTE HIGH SCHOOL HVAC PROJECT
EL MONTE UNION HIGH SCHOOL DISTRICT
3048 Tyler Ave, El Monte, CA 91731

DCGA ENGINEERS
Consulting Mechanical and Electrical Engineers

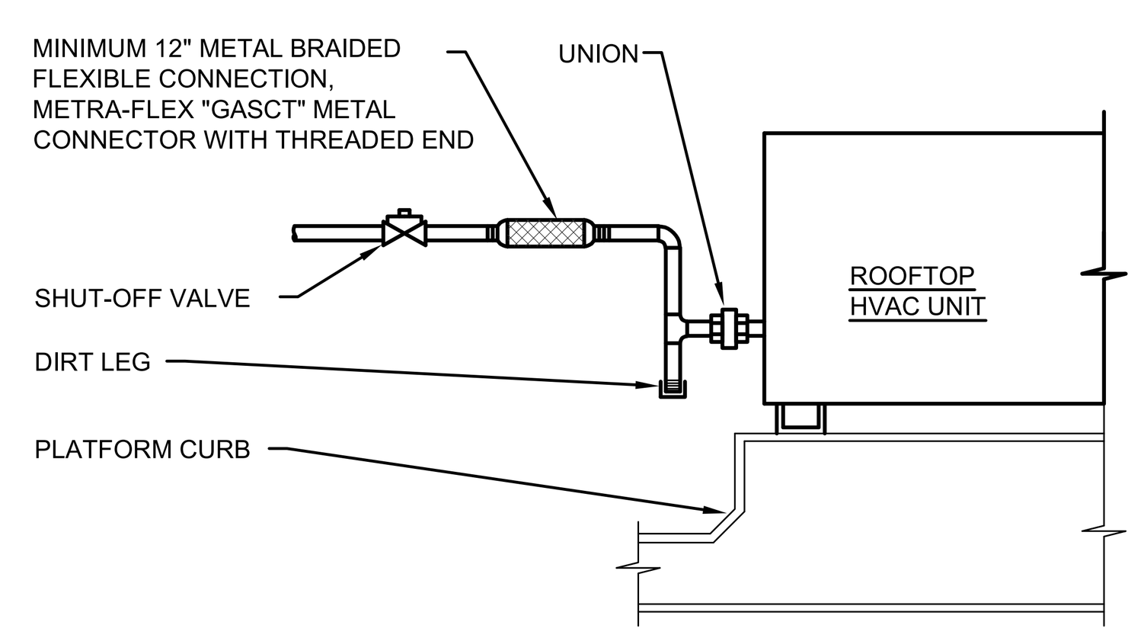
DSA SUBMITTAL
09/11/2023
REVISIONS

DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-01

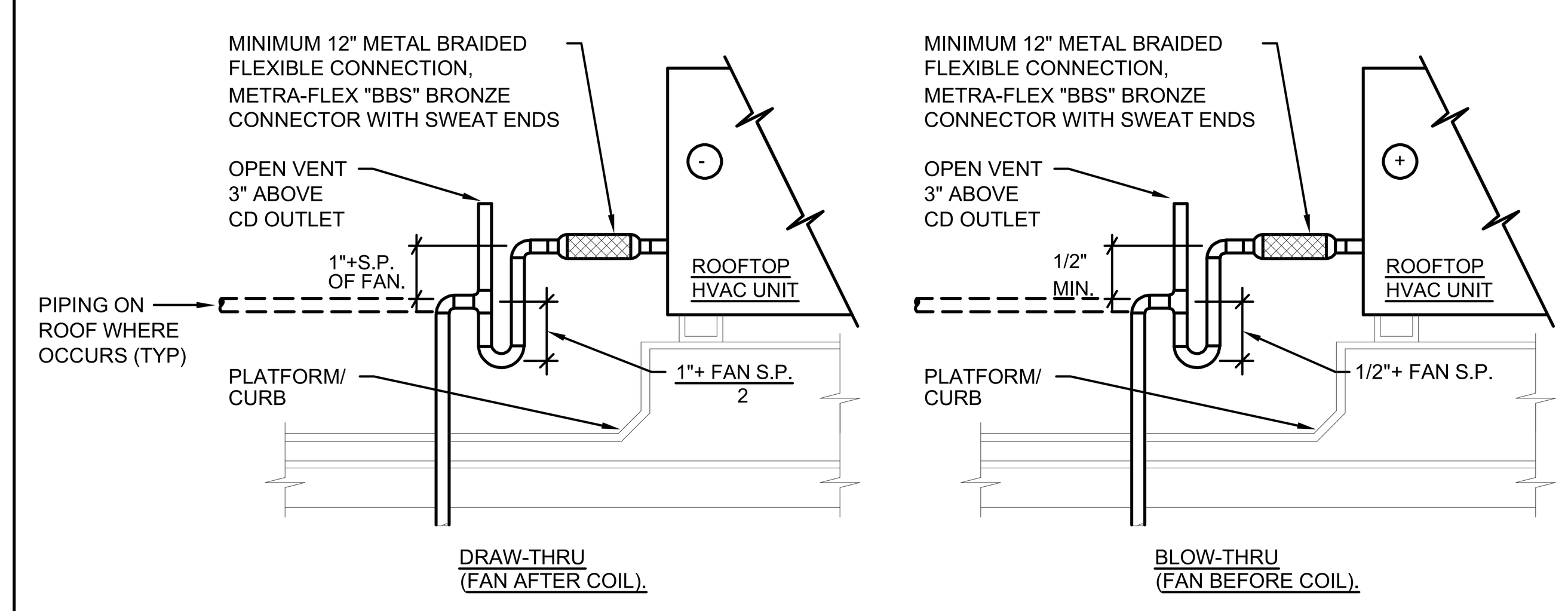
PLUMBING GENERAL NOTES, ABBREVIATIONS & SYMBOLS

P0.01

PLUMBING FIXTURE SCHEDULE									
MARK	FIXTURE	ROUGH-IN-SIZE					FIXTURE UNIT		DESCRIPTION/REMARKS
		TRAP	S/W	V	CW	HW	WASTE	WATER	
HB-1	HOSE BIBB	-	-	-	3/4"	-	-	1	ACORN #8126 STANDPIPE, ROUGH CHROME PLATED, COMPLETE WITH LOOSE-KEY HANDLE AND VACUUM BREAKER.
RD-1	ROOF DRAIN	-	-	-	-	-	-	-	J.R. SMITH #1010Y-RCU, CAST IRON BODY WITH DOME STRAINER AND BOTTOM OUTLET. SIZE AS INDICATED ON PLUMBING ROOF PLANS.

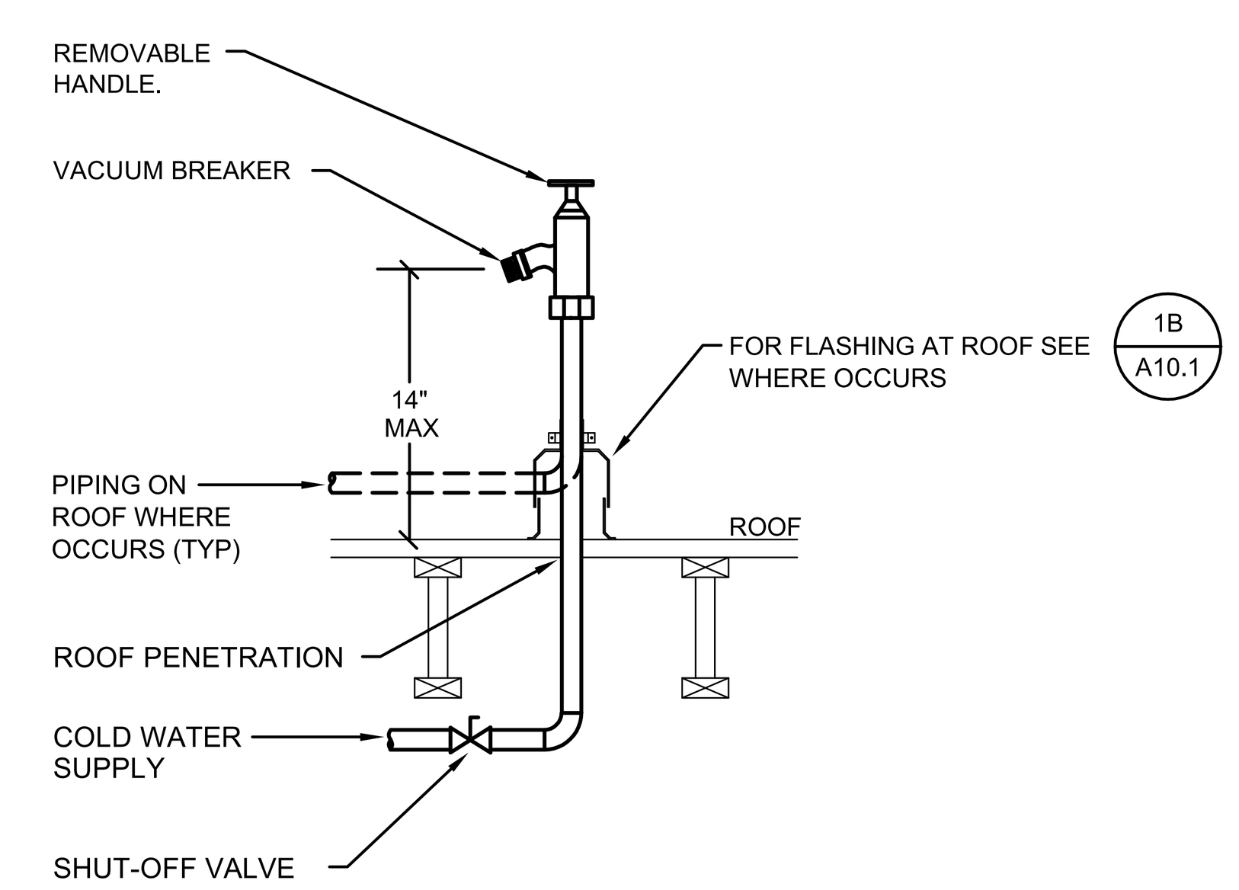


GAS CONNECTION TO EQUIPMENT DETAIL
SCALE NONE 1

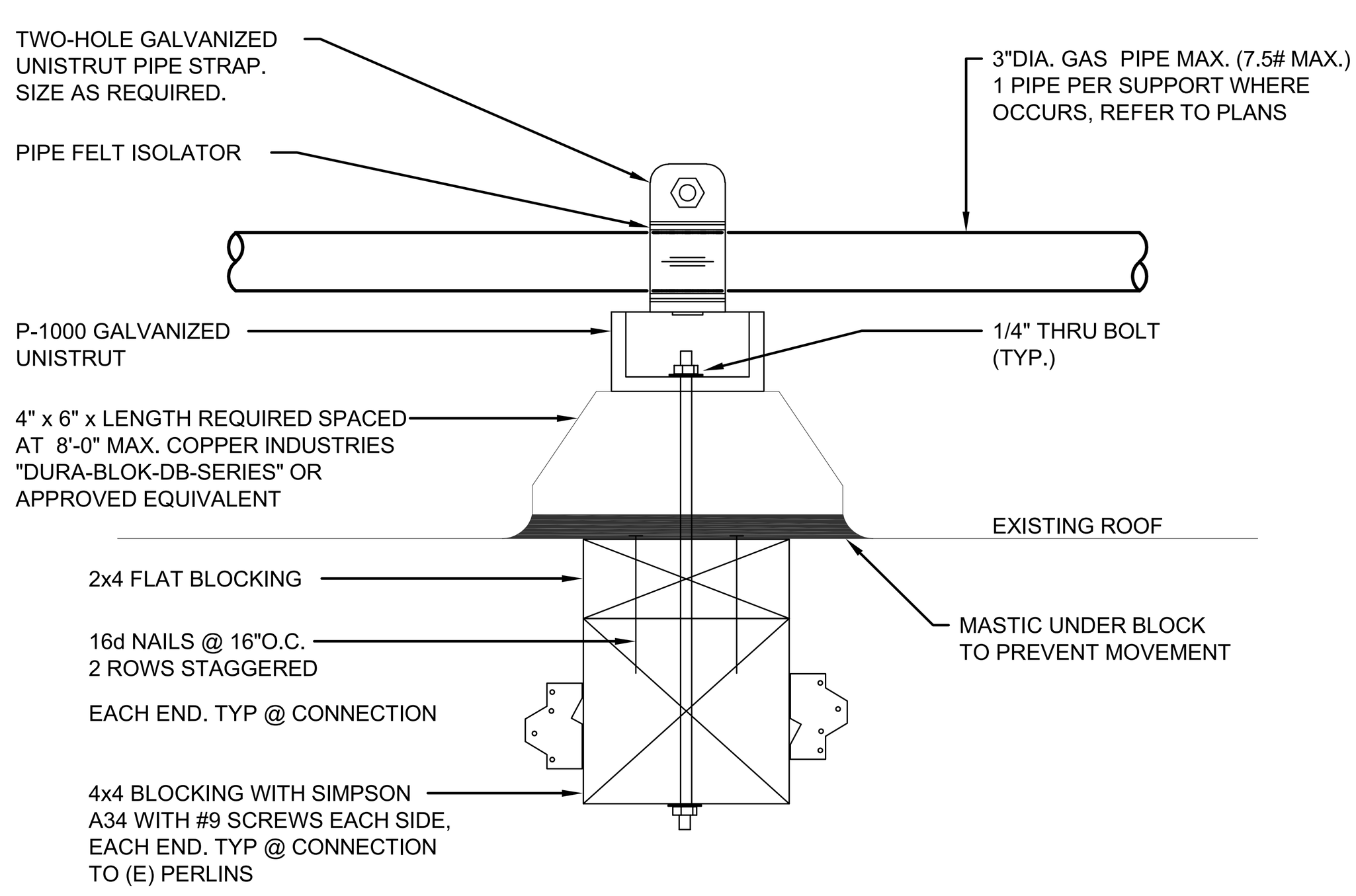


NOTE:
1. SEE PLANS FOR PIPE SIZES
2. INSULATE ALL INTERIOR CONDENSATE DRAIN PIPING WITH CLOSED CELL FOAM INSULATION.
3. SLEEVES SHALL BE PROVIDED AT ALL FLOOR AND WALL PENETRATIONS WITH 1" CLEARANCE AROUND PIPE & CAULK W/ FIRE RATED CAULKING.
4. COORDINATE WITH MECHANICAL CONTRACTOR TO DETERMINE FAN STATIC PRESSURE.

INDIRECT WASTE CONNECTION TO EQUIPMENT DETAIL
SCALE NONE 2



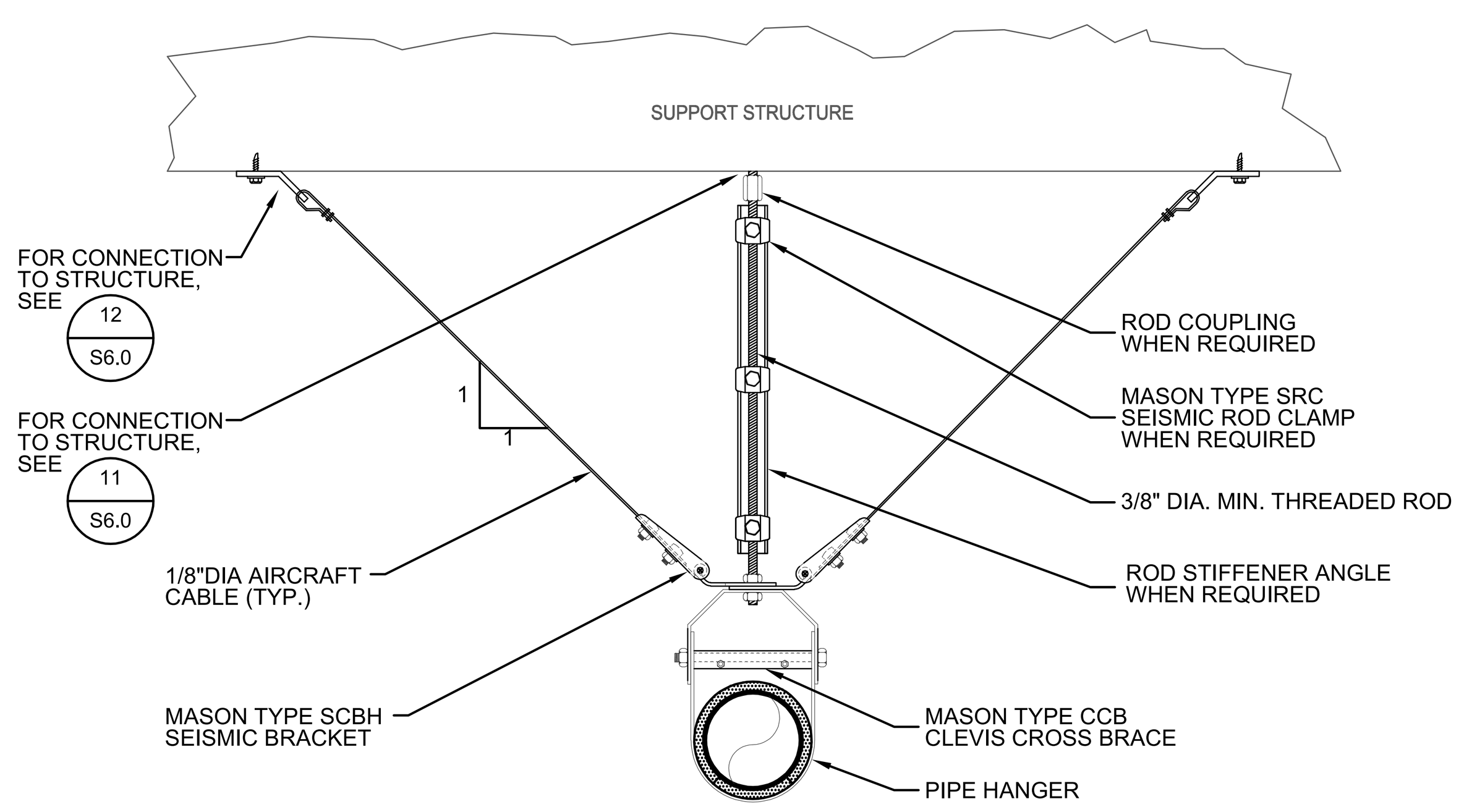
HOSE BIBB ON ROOF DETAIL
SCALE NONE 3



ROOF MOUNTED PIPE - POSITIVE CONNECTION
SCALE NONE 4

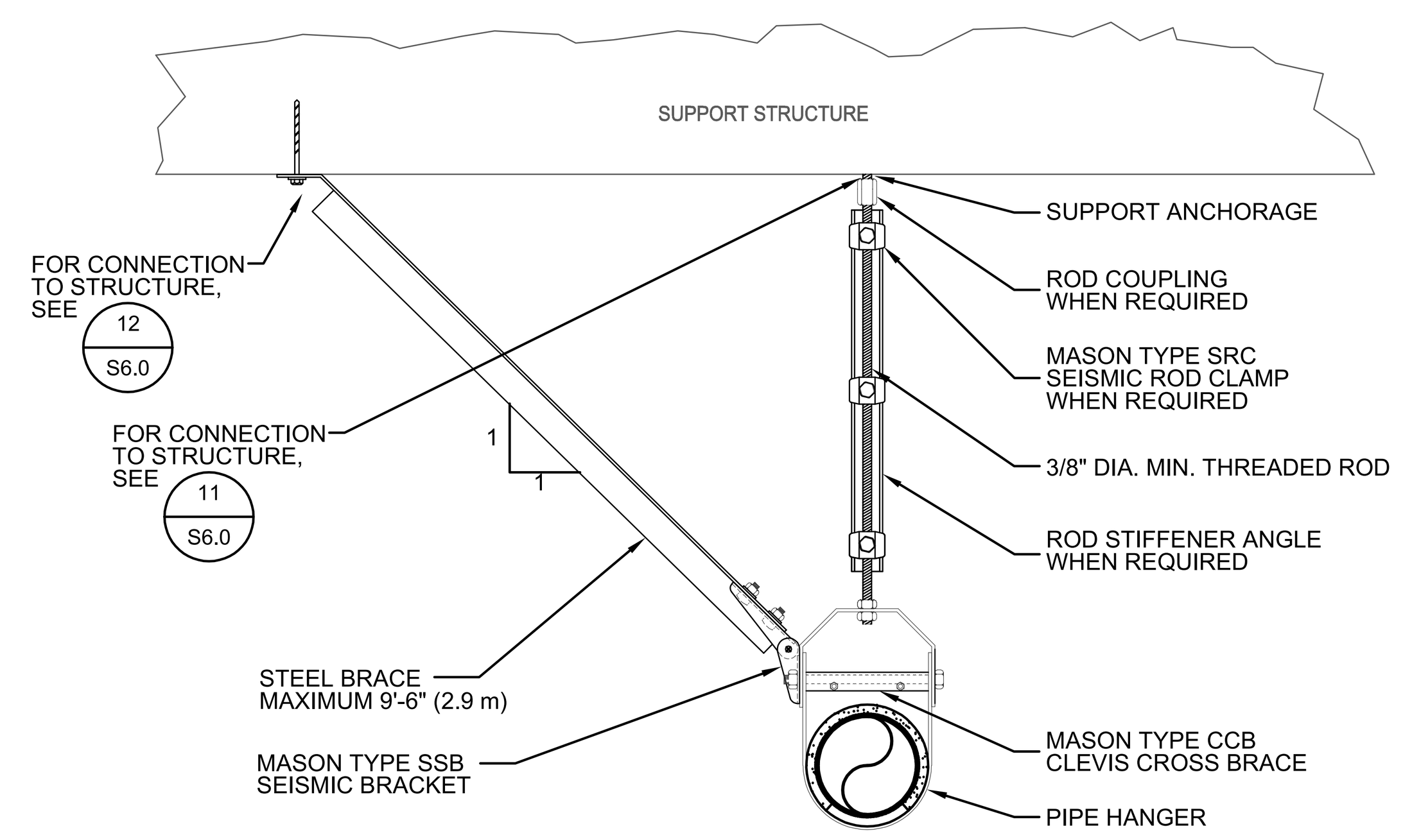
-
SCALE NONE 5

-
SCALE NONE 6



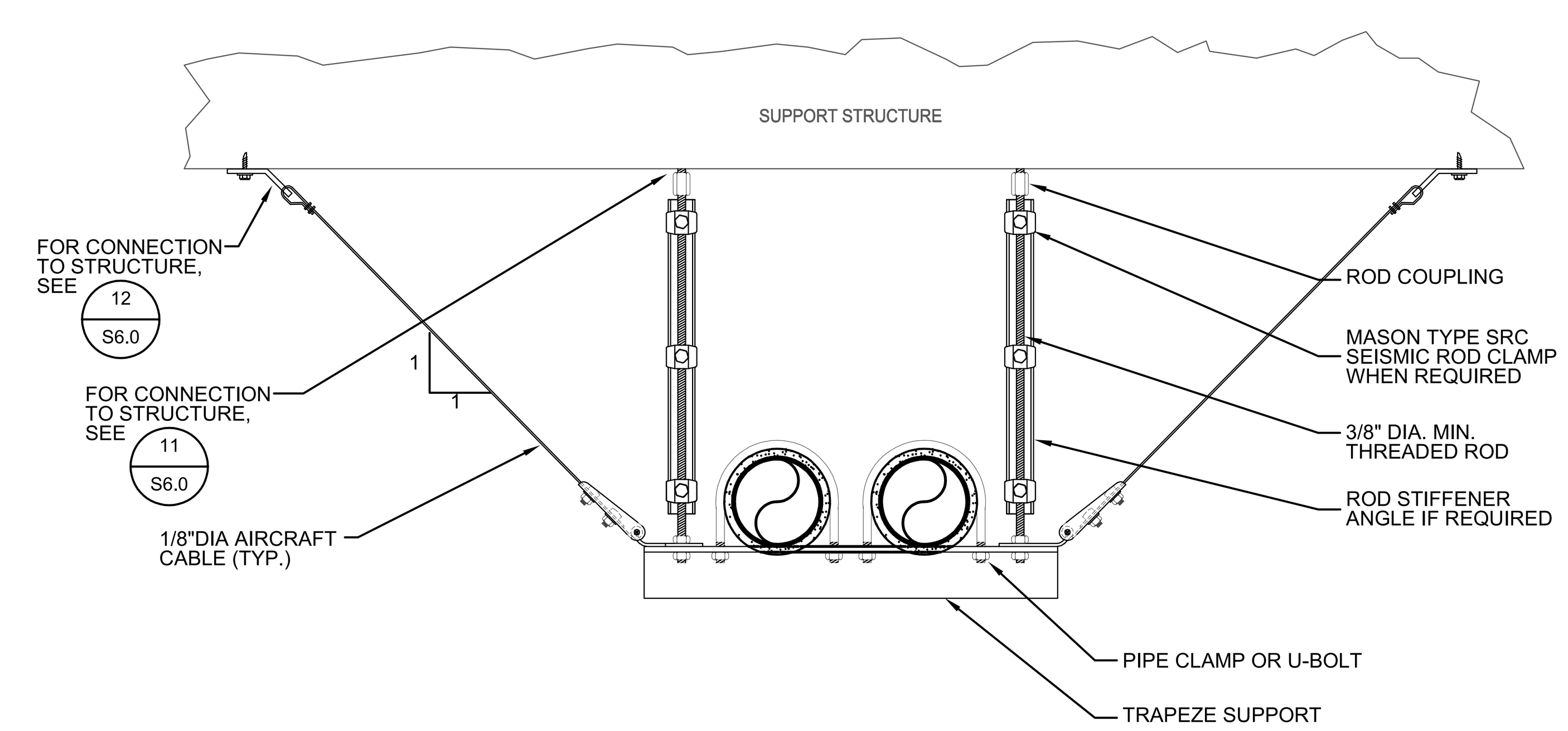
TRANSVERSE SEISMIC CABLE BRACE FOR SPRING-ISOLATED CLEVIS SUPPORTED PIPE

PIPE HANGER DETAIL
SCALE NONE 7



TRANSVERSE SEISMIC SOLID BRACE FOR CLEVIS SUPPORTED PIPE/CONDUIT

PIPE HANGER DETAIL
SCALE NONE 8



TRANSVERSE SEISMIC CABLE BRACE FOR TRAPEZE SUPPORTED PIPE/CONDUIT

PIPE HANGER DETAIL
SCALE NONE 9

IDENTIFICATION STAMP DIV. OF THE STATE ARCHITECT
APP: 03-123582 INC:
REVIEWED FOR SS ☑ FLS ☑ ACS ☑
DATE: 01/10/2024

DLRGROUP © DLR Group

EL MONTE HIGH SCHOOL HVAC PROJECT
EL MONTE UNION HIGH SCHOOL DISTRICT
3048 Tyler Ave, El Monte, CA 91731

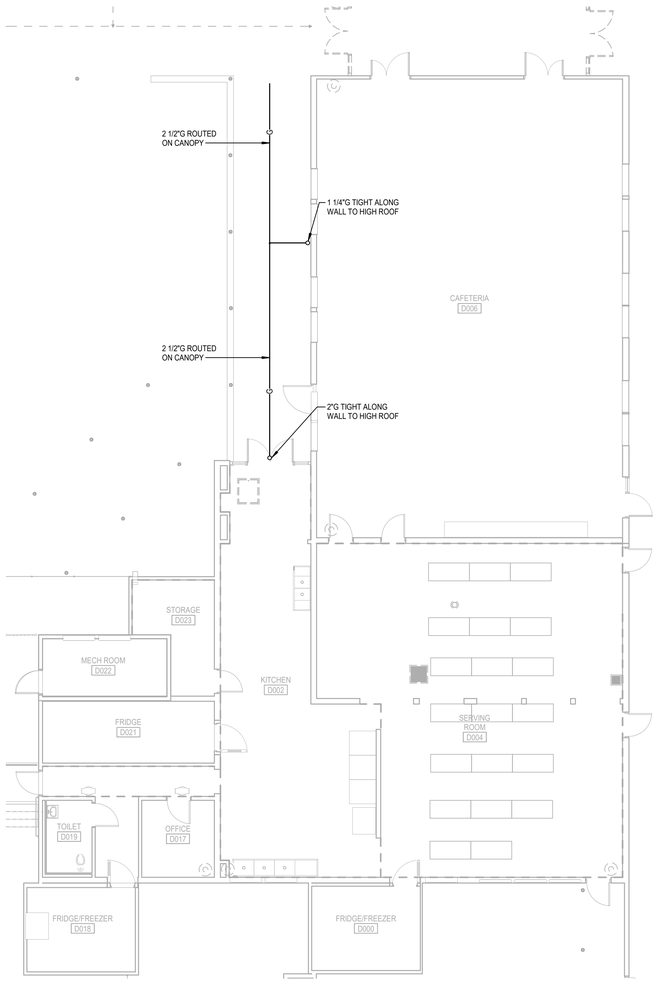
DCGA ENGINEERS Consulting Mechanical and Electrical Engineers

DSA SUBMITTAL
09/11/2023
REVISIONS

DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-01

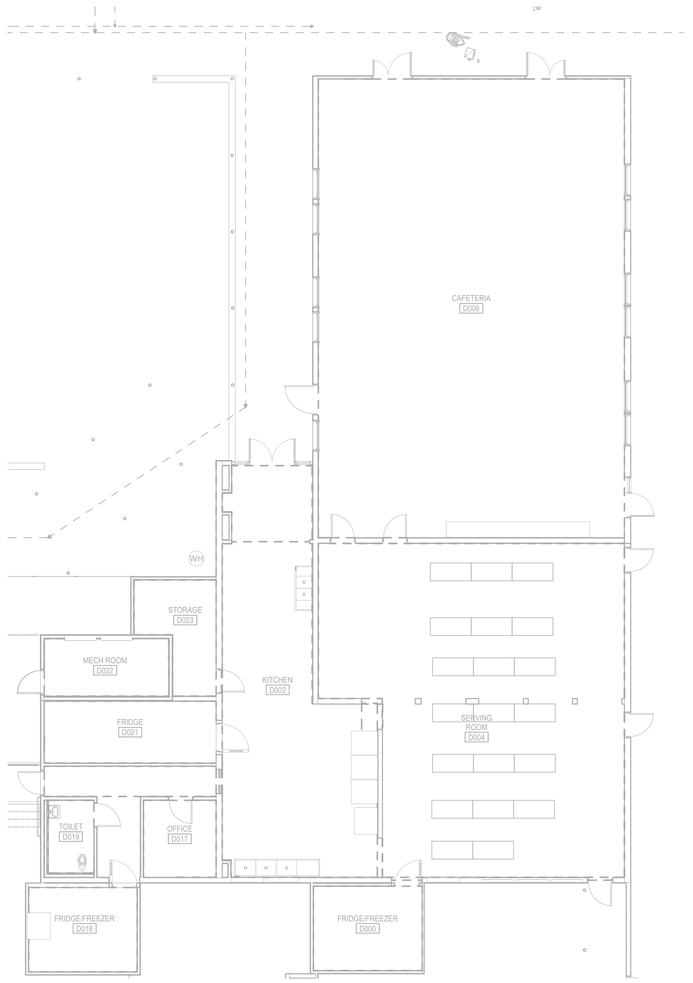
PLUMBING SCHEDULES AND DETAILS

P0.02



BLDG D - CAFETERIA - PARTIAL PLUMBING DEMOLITION PLAN

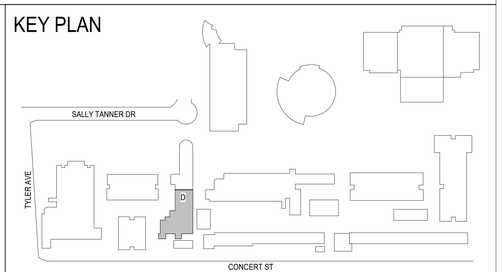
SCALE: 1/8" = 1'-0"



BLDG D - CAFETERIA - PARTIAL PLUMBING PLAN

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

KEY PLAN



IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-123582 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 01/10/2024

REGISTERED PROFESSIONAL ENGINEER
WILLIAM HEATH GRAY
No. M38752
Exp. 3-31-24
MECHANICAL
STATE OF CALIFORNIA

DLRGROUP
© DLR Group

EL MONTE HIGH SCHOOL HVAC PROJECT
EL MONTE UNION HIGH SCHOOL DISTRICT
3048 Tyler Ave, El Monte, CA 91731

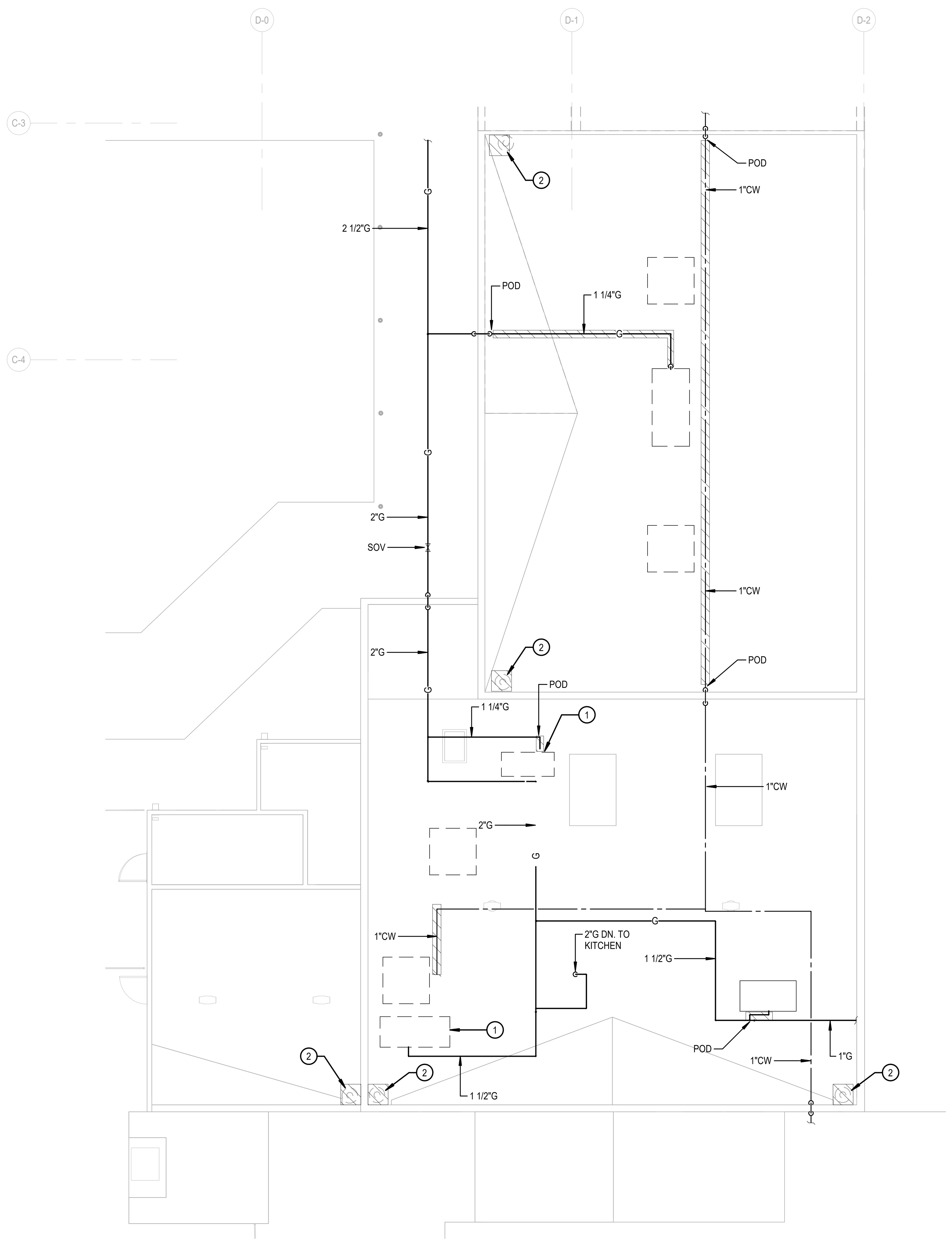
OCSA ENGINEERS
Consulting Mechanical and Electrical Engineers
4745 E. Ontario Mills Pkwy
Ontario, CA 91764
Ph 909.980.5533

DSA SUBMITTAL
09/11/2023
REVISIONS

DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-01

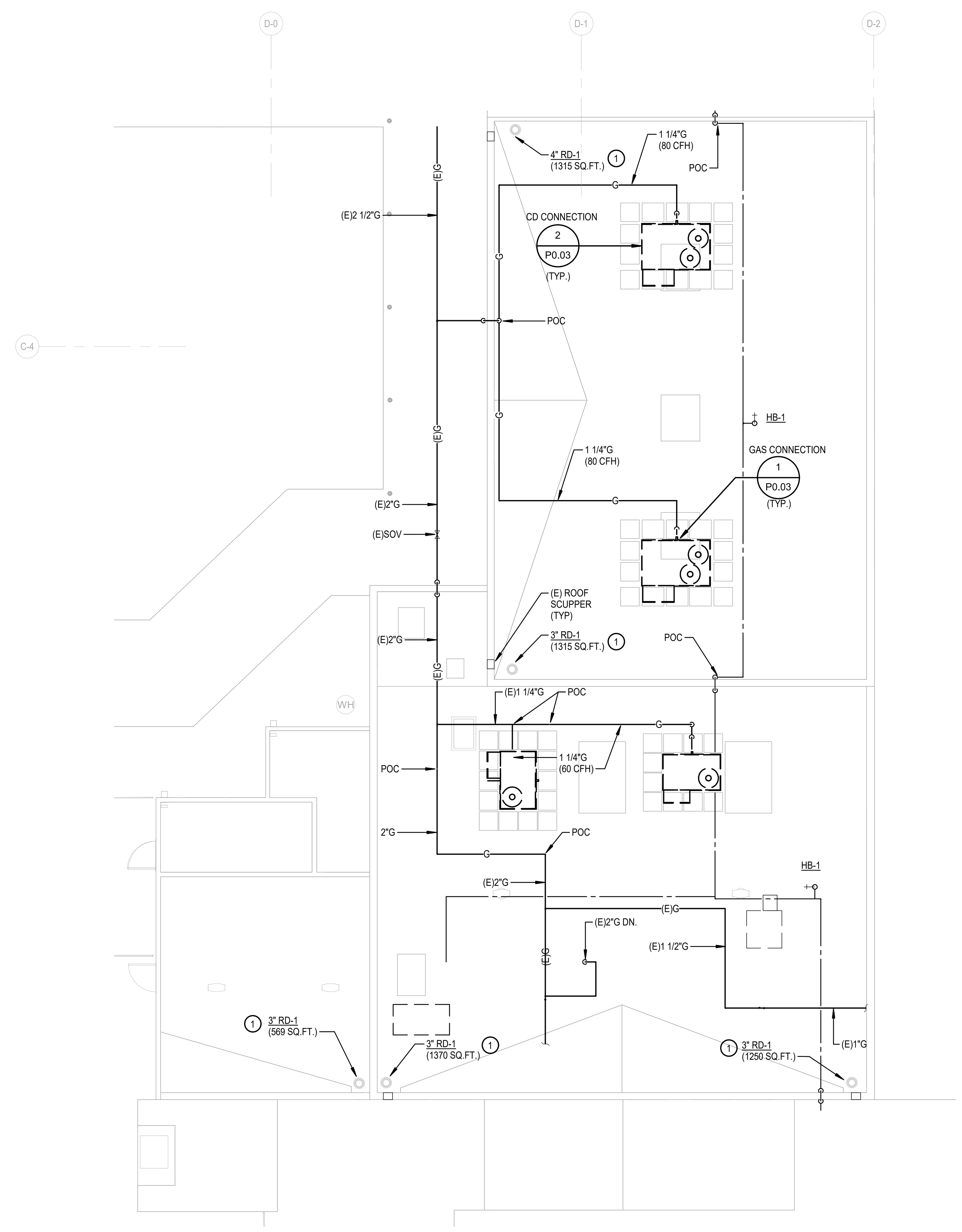
BLDG D - CAFETERIA - PLUMB DEMO AND PLUMB PLAN

P1.D1



BLDG D - CAFETERIA - PARTIAL PLUMBING DEMOLITION ROOF PLAN

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



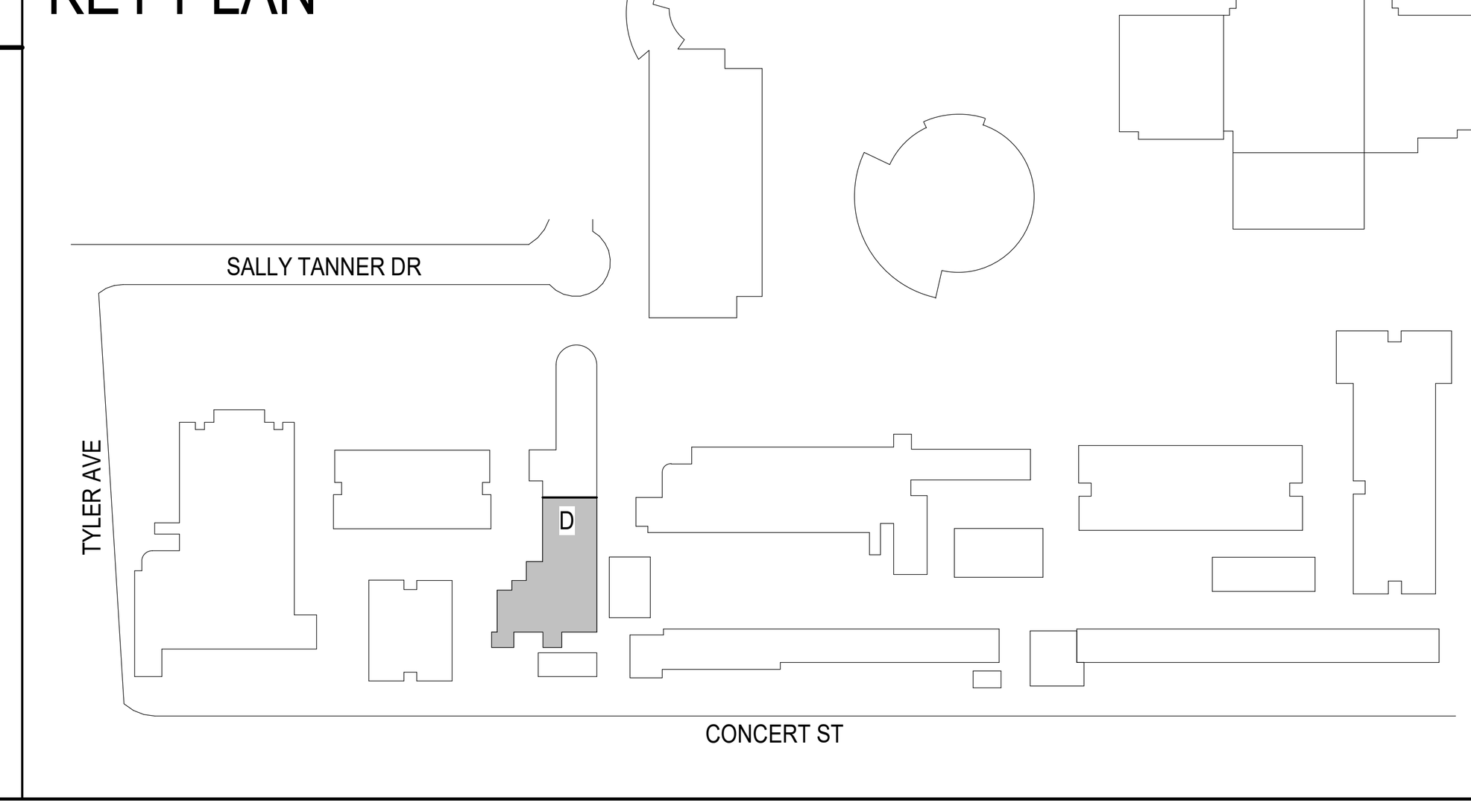
BLDG D - CAFETERIA - PARTIAL PLUMBING ROOF PLAN

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

SHEET NOTES

(1) CONNECT RD-1 TO EXISTING STORM DRAIN PIPING BELOW ROOF.

KEY PLAN



IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-123582 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 01/10/2024

REGISTERED PROFESSIONAL ENGINEER
WELLESTHER GAMA
No. M38752
Exp. 3-31-24
MECHANICAL
STATE OF CALIFORNIA

DLRGROUP

© DLR Group

EL MONTE UNION HIGH SCHOOL DISTRICT
COMMUNITY COMMITTED TO COLLEGE AND CAREER

DCGA ENGINEERS
Consulting Mechanical and Electrical Engineers
4750 E. Ontario Mills Pkwy
Ontario, Ca. 91764
Ph.909.987.0017
Fax 909.980.7023

EL MONTE HIGH SCHOOL HVAC PROJECT

EL MONTE UNION HIGH SCHOOL DISTRICT

3048 Tyler Ave, El Monte, CA 91731

DSA SUBMITTAL
09/11/2023
REVISIONS

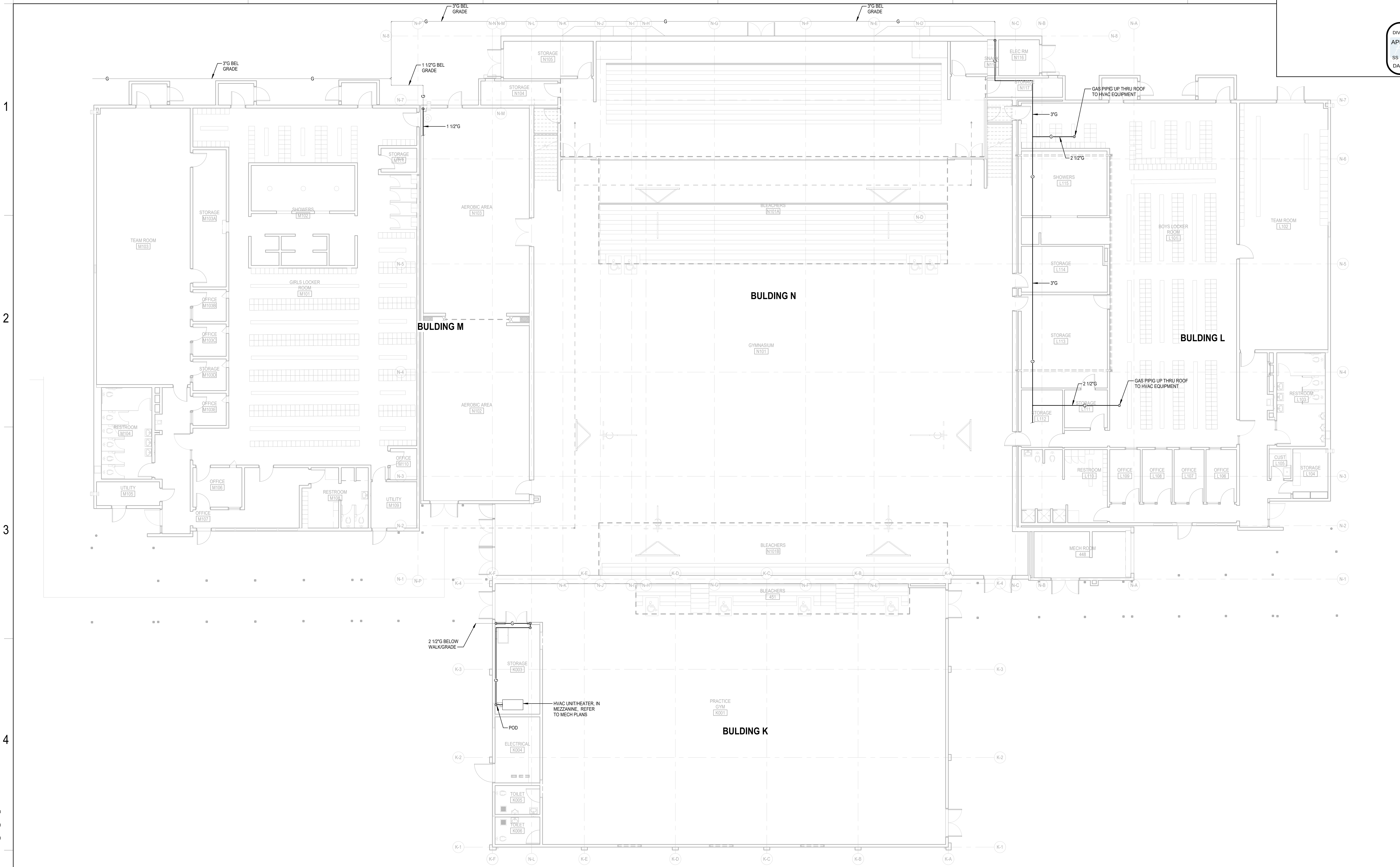
DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-01

BLDG D - CAFETERIA - PLUMB DEMO ROOF AND PLUMB ROOF PLAN

P1.D2

Autodesk Docs://75-22201-00 El Monte UHSD - EMHS Mod/75-22201-00_El Monte UHSD - EMHS Mod_MPE_2022_BLDG K-N.rvt
11/16/2023 5:39:55 PM

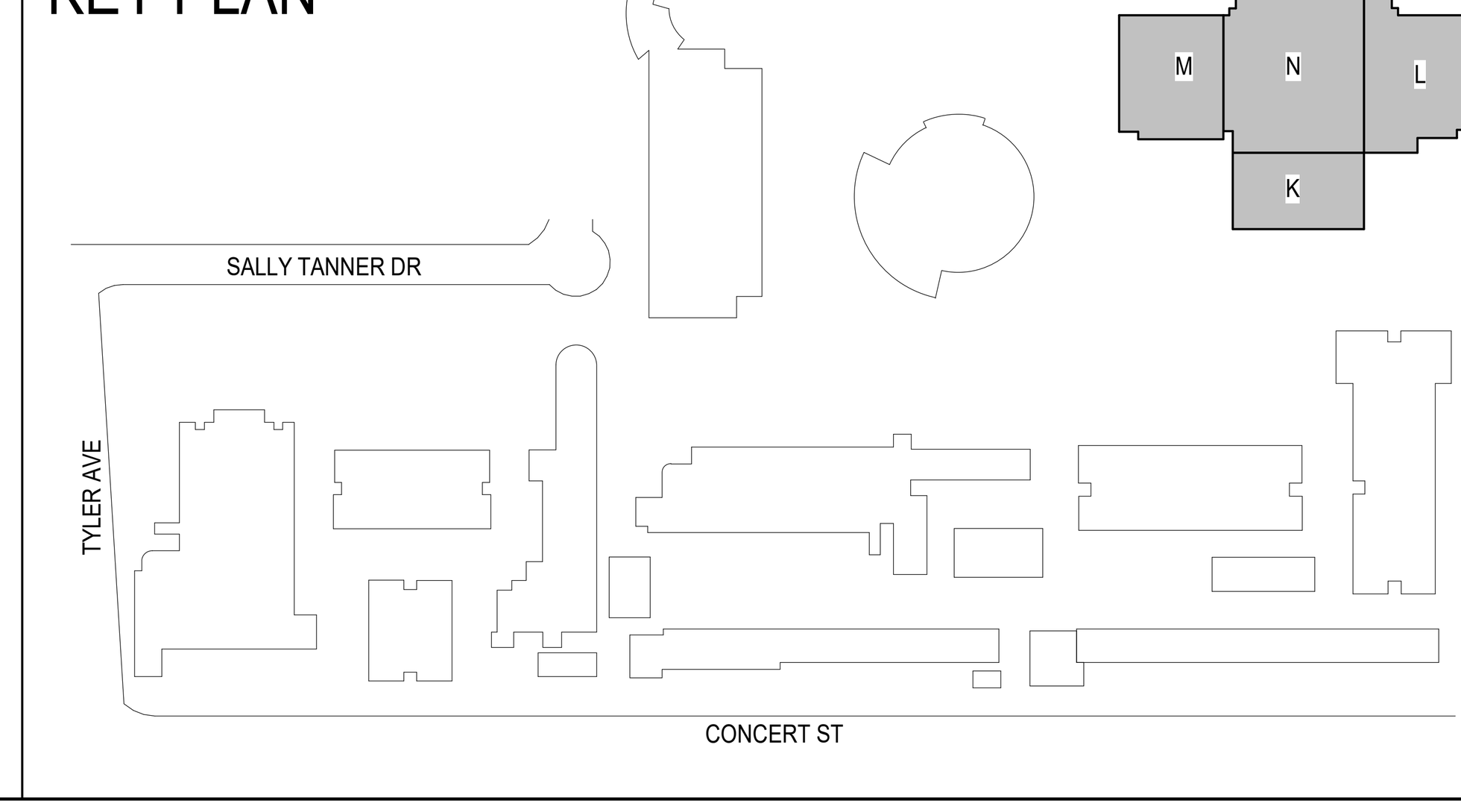
IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-123582 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 01/10/2024



BLDG K,L,M,N - PLUMBING DEMOLITION PLAN

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

KEY PLAN



REGISTERED PROFESSIONAL ENGINEER
W. ESTHER GAMA
No. M38752
Exp. 3-31-24
MECHANICAL
STATE OF CALIFORNIA

DLRGROUP
© DLR Group

DCSR ENGINEERS
Consulting Mechanical and Electrical Engineers

EL MONTE HIGH SCHOOL HVAC PROJECT
EL MONTE UNION HIGH SCHOOL DISTRICT
3048 Tyler Ave, El Monte, CA 91731

DSA SUBMITTAL
09/11/2023
REVISIONS

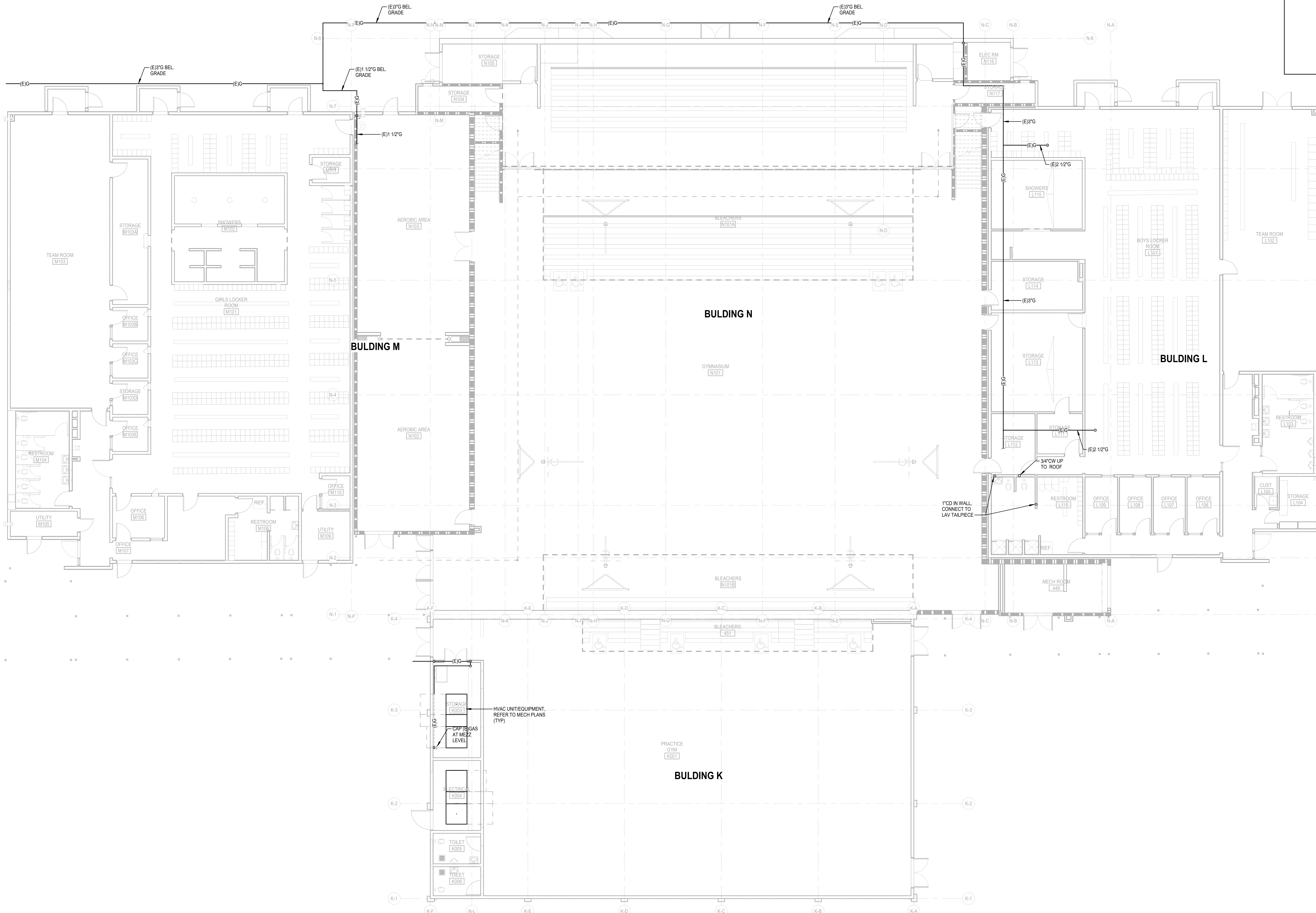
DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-01

BLDG K, L, M, N - PLUMBING DEMOLITION PLAN

P1.KN1

Autodesk Docs://75-22201-00 El Monte UHSD - EMHS Mod/75-22201-00_El Monte UHSD - EMHS Mod_MPE_2022_BLDG K-N.rvt
11/16/2023 5:40:00 PM

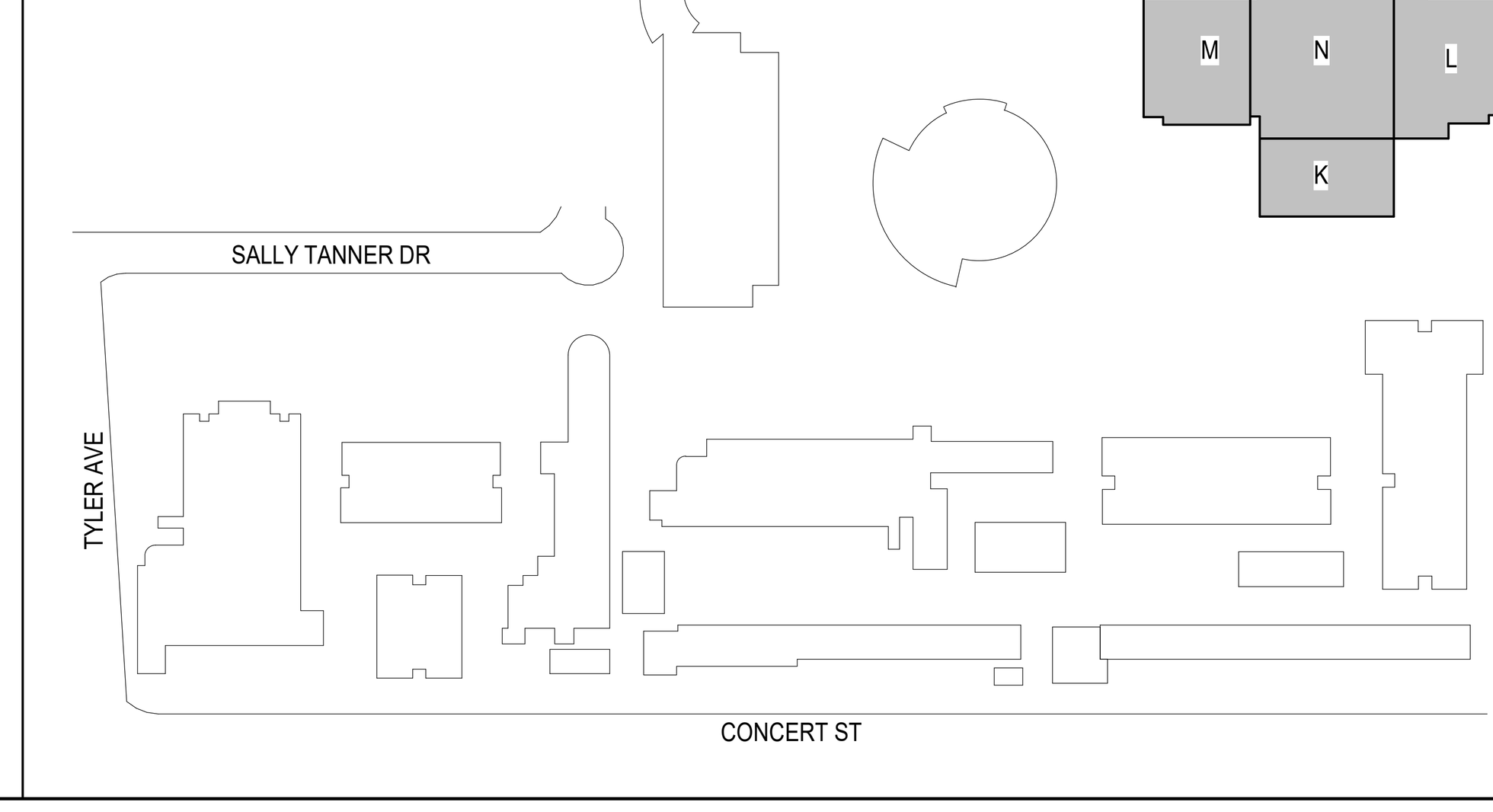
IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-123582 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 01/10/2024



BLDG K,L,M,N - PLUMBING PLAN

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

KEY PLAN



REGISTERED PROFESSIONAL ENGINEER
No. M38752
Exp. 3-31-24
MECHANICAL
STATE OF CALIFORNIA

DLRGROUP
© DLR Group

DCGR ENGINEERS
Consulting Mechanical and Electrical Engineers

EL MONTE HIGH SCHOOL HVAC PROJECT

EL MONTE UNION HIGH SCHOOL DISTRICT
3048 Tyler Ave, El Monte, CA 91731

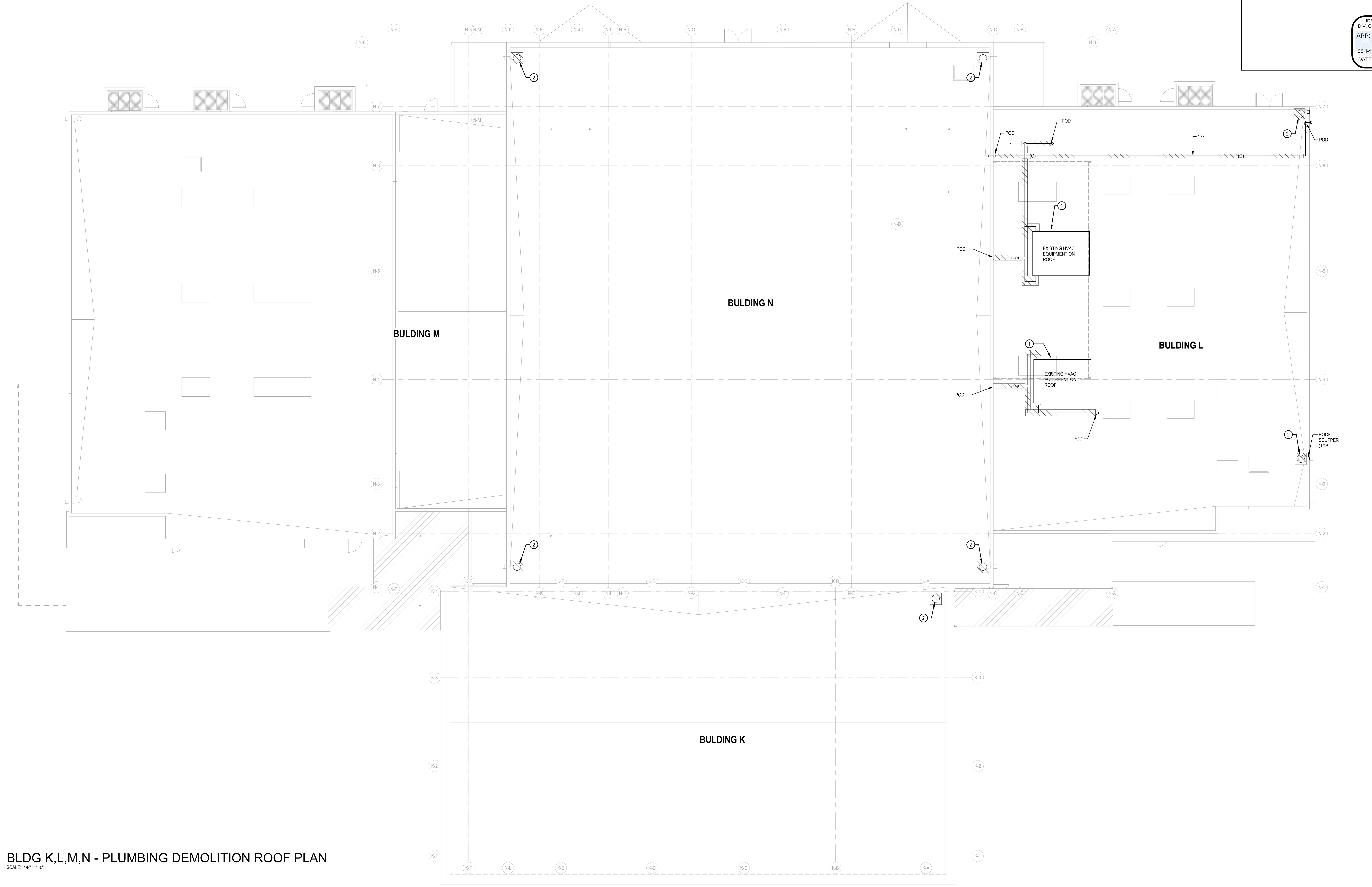
DSA SUBMITTAL
09/11/2023
REVISIONS

DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-01

BLDG K, L, M, N - PLUMBING PLAN

P1.KN2

Autodesk Docs://75-22201-00 El Monte UHSD - EMHS Mod/75-22201-00_El Monte UHSD - EMHS Mod_MPE_2022_BLDG K-N.rvt
11/16/2023 5:40:05 PM



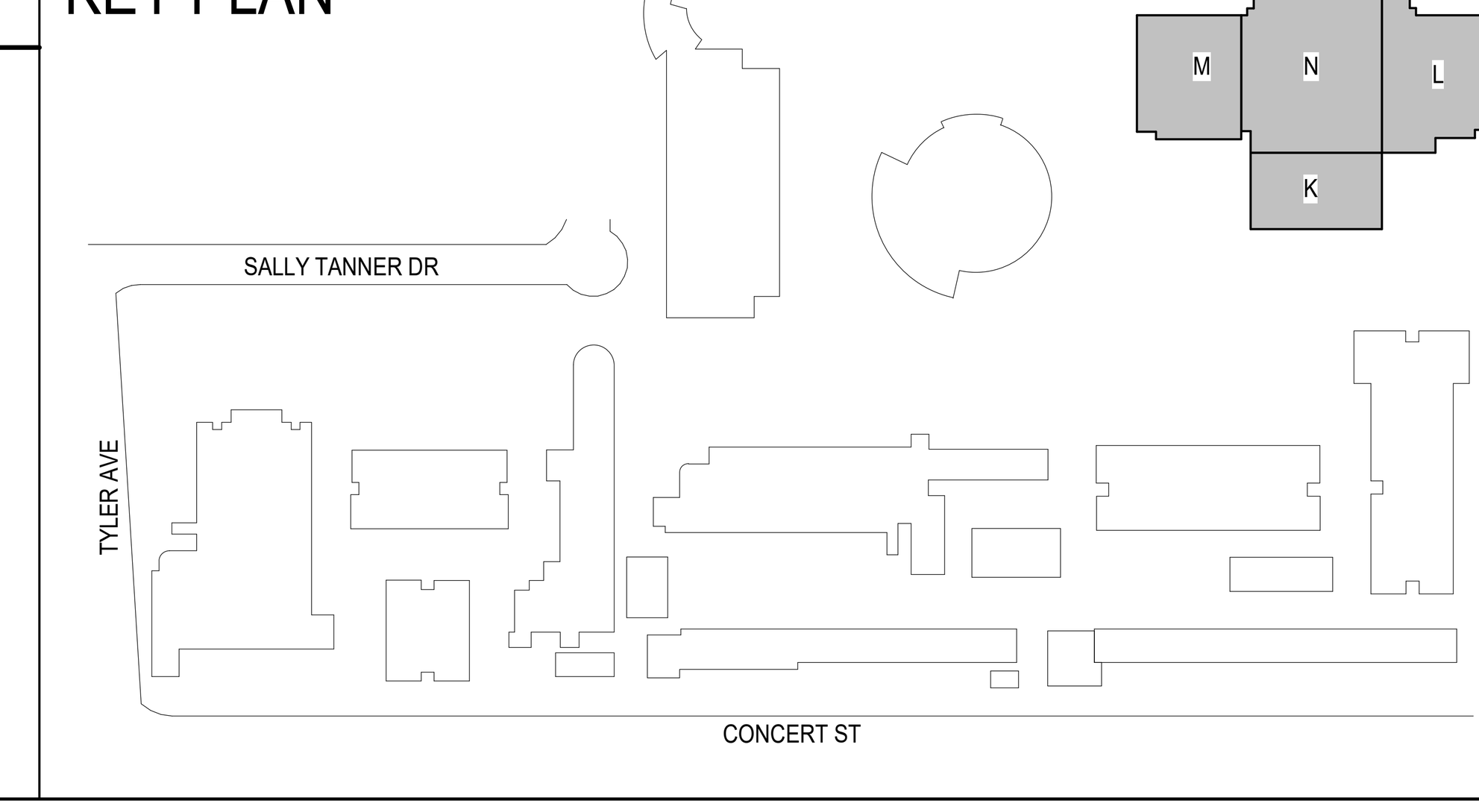
BLDG K,L,M,N - PLUMBING DEMOLITION ROOF PLAN

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

SHEET NOTES

1. DISCONNECT AND REMOVE UTILITY PIPING BACK TO PENETRATION THRU ROOF AND CAP PIPING.
2. REMOVE AND DISPOSE OF ROOF DRAIN BODY, UNDERDECK CLAMP, PIPING TO REMAIN, PROTECT IN PLACE.

KEY PLAN



IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-123582 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 01/10/2024

REGISTERED PROFESSIONAL ENGINEER
No. M38752
Exp. 3-31-24
MECHANICAL
STATE OF CALIFORNIA

DLRGROUP
© DLR Group

EL MONTE HIGH SCHOOL HVAC PROJECT

EL MONTE UNION HIGH SCHOOL DISTRICT

3048 Tyler Ave, El Monte, CA 91731

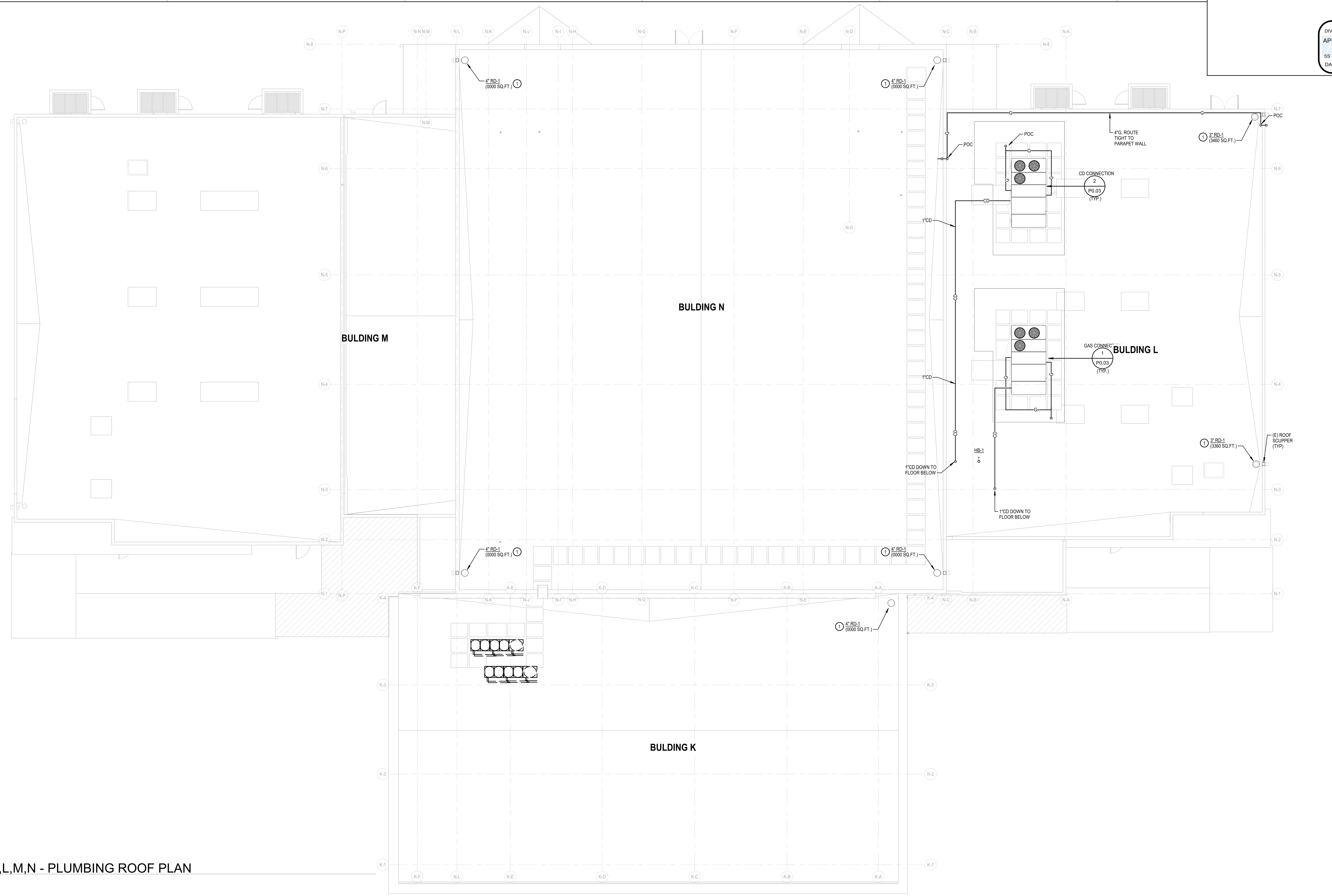
DCBA ENGINEERS
Consulting Mechanical and Electrical Engineers

DSA SUBMITTAL
09/11/2023
REVISIONS

DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-01

BLDG K, L, M, N - PLUMBING DEMOLITION ROOF PLAN

P1.KN3



BLDG K,L,M,N - PLUMBING ROOF PLAN

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

SHEET NOTES

1. CONNECT RD-1 TO EXISTING STORM DRAIN PIPING BELOW ROOF.

KEY PLAN

SALLY TANNER DR
TYLER AVE
CONCERT ST
M N L K

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-123582 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 01/10/2024

REGISTERED PROFESSIONAL ENGINEER
No. M38752
Exp. 3-31-24
MECHANICAL
STATE OF CALIFORNIA

DLRGROUP
© DLR Group

COMMITTED TO COLLEGE AND CAREER

EL MONTE HIGH SCHOOL HVAC PROJECT
EL MONTE UNION HIGH SCHOOL DISTRICT
3048 Tyler Ave, El Monte, CA 91731

DCGR ENGINEERS
Consulting Mechanical and Electrical Engineers

DSA SUBMITTAL
09/11/2023
REVISIONS

DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-01

BLDG K, L, M, N - PLUMBING ROOF PLAN

P1.KN4

Autodesk Docs://75-22201-00 El Monte UHSD - EMHS Mod/75-22201-00_El Monte UHSD - EMHS Mod_MPE_2022_BLDG K-N.rvt
11/16/2023 5:40:12 PM

GENERAL NOTES

1. PROJECT RECORD DOCUMENTS. USE A COMPUTER AIDED DRAFTING (CAD) SYSTEM IN THE PREPARATION OF RECORD DRAWINGS FOR THIS PROJECT. ACCEPTABLE CAD SYSTEMS SHALL BE CAPABLE OF PRODUCING FILES COMPATIBLE WITH THE LATEST VERSION OF AUTOCAD IN DWG OR DXF FORMAT. OWNER'S CONSULTANT WILL FURNISH CAD BACKGROUNDS FOR USE BY THE CONTRACTOR AFTER CONSTRUCTION IS 90% COMPLETE EXCEPT WHERE PROHIBITED BY CONTRACT.

2. ALL ELECTRICAL PREFABRICATED EQUIPMENT SHALL BE DESIGNED AND CONSTRUCTED IN SUCH A MANNER THAT ALL PORTIONS, ELEMENTS, SUB-ASSEMBLIES AND/OR PARTS OF SAID EQUIPMENT, AND THE EQUIPMENT AS A WHOLE INCLUDING ITS ATTACHMENTS, WILL RESIST A LOAD WHICH EXCEEDS THE FORCE LEVEL USED TO RESTRAIN AND ANCHOR THE EQUIPMENT TO THE SUPPORTING STRUCTURE.

3. ALL ELECTRICAL MATERIALS AND EQUIPMENT SHALL BE NEW AND SHALL BE LISTED BY UNDERWRITER'S LABORATORIES (UL) AND BEAR THEIR LABEL, OR LISTED AND CERTIFIED BY A NATIONALLY RECOGNIZED TESTING AUTHORITY, WHERE UL DOES NOT HAVE A LISTING. CUSTOM MADE EQUIPMENT SHALL HAVE COMPLETE TEST DATA SUBMITTED BY THE MANUFACTURER ATTESTING TO ITS SAFETY. IN ADDITION, THE MATERIALS, EQUIPMENT, AND INSTALLATION SHALL COMPLY WITH THE REQUIREMENTS OF THE FOLLOWING:

   AMERICAN SOCIETY OF TESTING MATERIALS (ASTM)
   INSULATED POWER CABLE ENGINEERS ASSOCIATION (IPCEA)
   NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)
   AMERICAN STANDARD ASSOCIATION (ASA)
   NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)
   AMERICAN NATIONAL STANDARD INSTITUTE (ANSI)
   CALIFORNIA ELECTRICAL CODE (CEC) - LATEST EDITION CALIFORNIA CODE OF REGULATIONS TITLE 24 (CCR)
   INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS (IEEE) ALL LOCAL CODES HAVING JURISDICTION.

   WHERE THE CODES HAVE DIFFERENT LEVELS OF REQUIREMENTS, THE MOST STRINGENT RULE SHALL APPLY.

4. THE CONTRACTOR SHALL VISIT THE SITE INCLUDING ALL AREAS INDICATED ON THE DRAWINGS. HE SHALL THOROUGHLY FAMILIARIZE HIMSELF WITH THE EXISTING CONDITIONS AND BY SUBMITTING A BID, ACCEPTS THE CONDITIONS UNDER WHICH HE SHALL BE REQUIRED TO PERFORM HIS WORK.

5. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN A COMPLETE SET OF CONTRACT DOCUMENTS AND ADDENDA (DRAWINGS AND SPECIFICATIONS.) HE SHALL CHECK THE CONTRACT DOCUMENTS OF THE OTHER TRADES AND DETERMINE HIS RESPONSIBILITIES. FAILURE TO DO SO SHALL NOT RELEASE THE CONTRACTOR FROM COMPLETING ALL RESPONSIBLE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

6. SECURE AND PAY FOR ALL PERMITS, FEES, CHARGES, AND INCIDENTAL COSTS NECESSARY FOR EXECUTION AND COMPLETION OF ELECTRICAL WORK, INCLUDING ALL CHARGES BY STATE, COUNTY AND LOCAL GOVERNMENTAL AGENCIES.

7. ALL ELECTRICAL WORK REFERENCED HEREIN SHALL BE COORDINATED WITH OTHER TRADES AND SITE CONDITIONS. ANY COSTS TO INSTALL WORK TO ACCOMPLISH SAID COORDINATION WHICH DIFFERS FROM THE WORK AS SHOWN ON THE CONTRACT DOCUMENTS SHALL BE INCURRED BY THE CONTRACTOR. ANY DISCREPANCIES, AMBIGUITIES OR CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT DURING BID TIME FOR CLARIFICATION. ANY SUCH CONFLICTS NOT CLARIFIED PRIOR TO BID SHALL BE SUBJECT TO THE INTERPRETATION OF THE ARCHITECT AT NO ADDITIONAL COST TO THE OWNER.

8. PROVIDE TEMPORARY POWER FACILITIES AND CONNECTIONS FOR ALL FEEDERS, BRANCH CIRCUITS, OR SIGNAL AND COMMUNICATIONS SYSTEMS BEING DISCONNECTED IN ORDER TO MAINTAIN SYSTEMS IN OPERATION.

9. ALL INTERRUPTION OF ELECTRICAL POWER SHALL BE KEPT TO A MINIMUM. HOWEVER, WHEN AN INTERRUPTION IS NECESSARY, THE SHUTDOWN MUST BE COORDINATED WITH THE OWNER AND ENGINEER 14 DAYS PRIOR TO THE OUTAGE. ANY OVERTIME PAY SHALL BE INCLUDED IN THE CONTRACTOR'S BID. WORK IN EXISTING SWITCHBOARDS OR PANELBOARDS SHALL BE COORDINATED WITH THE OWNER PRIOR TO REMOVING ACCESS PANELS OR DOORS.

10. AFTER ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS HAVE BEEN FULLY COMPLETED, REPRESENTATIVES OF THE OWNERS WILL INSPECT THE WORK. THE CONTRACTOR SHALL PROVIDE COMPETENT PERSONNEL TO DEMONSTRATE THE OPERATION OF ANY ITEM OR SYSTEM TO THE FULL SATISFACTION OF EACH REPRESENTATIVE. FINAL ACCEPTANCE OF THE WORK WILL BE MADE BY THE OWNER AFTER RECEIPT OF APPROVAL AND RECOMMENDATION OF ACCEPTANCE FROM EACH REPRESENTATIVE.

11. FURNISH A ONE YEAR WRITTEN GUARANTEE OF MATERIALS AND WORKMANSHIP FROM THE DATE OF SUBSTANTIAL COMPLETION.

12. REVIEW AND COORDINATE WITH THE MECHANICAL, FIRE PROTECTION AND PLUMBING CONTRACT DOCUMENTS FOR DUCTS, LINES AND EQUIPMENT.

13. ALL FINAL CONNECTIONS TO OWNER FURNISHED EQUIPMENT SHALL BE MADE BY THE CONTRACTOR.

14. COORDINATE WITH OTHER TRADES AS TO THE EXACT LOCATION OF THEIR RESPECTIVE EQUIPMENT. SUPPLY POWER AND MAKE CONNECTION TO MOTORS AND EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS AS INDICATED ON THE SINGLE LINE DIAGRAM, ELECTRICAL DRAWINGS, AND DRAWINGS OF OTHER TRADES. REVIEW THE DRAWINGS OF OTHER TRADES FOR CONTROL DIAGRAMS, SIZE AND LOCATION OF EQUIPMENT. DISCONNECT SWITCHES, STARTERS, WIRING, CONTROLS, AND CONDUIT FOR MECHANICAL AND PLUMBING OPERATIONS SHALL BE PROVIDED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING MANUFACTURER'S SHOP DRAWINGS PRIOR TO ROUGHING IN ALL CONDUIT TO THIS EQUIPMENT.

15. EXACT METHOD AND LOCATION OF CONDUIT PENETRATION AND OPENINGS IN CONCRETE OR MASONRY WALLS, GRADEBEAMS, FLOORS OR STRUCTURAL STEEL MEMBERS SHALL BE AS DIRECTED BY THE STRUCTURAL ENGINEER. PERFORM CORING, SAWCUTTING, PATCHING, AND REFINISHING OF WALLS AND SURFACES WHEREVER IT IS NECESSARY TO PENETRATE. OPENINGS SHALL BE SEALED IN AN APPROVED METHOD TO MEET THE FIRE RATING OF THE PARTICULAR WALL, FLOOR OR CEILING. EXACT METHOD AND LOCATIONS OF CONDUIT PENETRATIONS AND OPENINGS IN CONCRETE WALLS OR FLOORS SHALL BE UL APPROVED.

16. CONNECTIONS TO MECHANICAL, PLUMBING AND VIBRATING EQUIPMENT AND SEISMIC SEPARATIONS:

   LIQUID-TIGHT FLEXIBLE STEEL CONDUIT IN DRY INTERIOR LOCATIONS.

   LIQUID-TIGHT FLEXIBLE STEEL CONDUIT IN AREAS EXPOSED TO WEATHER, DAMP LOCATIONS, CONNECTIONS TO TRANSFORMER ENCLOSURES, AND FINAL CONNECTIONS TO MOTORS.

17. EQUIPMENT OUTLETS, LIGHTING FIXTURES, CONDUIT, WIRE, AND CONNECTION METHODS IN HVAC AIR-PLENUMS SHALL BE APPROVED FOR USE IN PLENUMS AND SHALL CONFORM TO THE CALIFORNIA ELECTRICAL CODE.

18. ROUTE EXPOSED CONDUIT AND CONDUIT ABOVE ACCESSIBLE CEILING SPACES PARALLEL AND PERPENDICULAR TO WALLS AND ADJACENT PIPING. ARRANGE CONDUIT TO MAINTAIN HEADROOM AND TO PRESENT A NEAT APPEARANCE.

19. CONDUIT SHALL NOT BE INSTALLED IN ANY FLOOR SLAB. CONDUIT SHALL BE INSTALLED CONCEALED IN THE CEILING SPACE, CONCEALED IN WALLS, OR 24" MINIMUM BELOW SLAB ON GRADE UNLESS NOTED OTHERWISE.

20. LOCATE ELECTRICAL EQUIPMENT AND BOXES, IN ACCESSIBLE CEILING SPACE OR PROVIDE AN ACCESS PANEL FOR INACCESSIBLE CEILING SYSTEMS. ACCESS DOORS SHALL BE A MINIMUM DIMENSION OF 24"x24". ACCESS DOOR LOCATIONS SHALL SUIT ACCESSIBILITY AND CONSTRUCTION CONDITIONS. ACCESS DOORS SHALL HAVE A FIRE RATING EQUAL TO THE CEILING ASSEMBLY IN WHICH THEY ARE INSTALLED.

21. COORDINATE REQUIRED ACCESS DOORS IN NON-ACCESSIBLE CEILINGS TO SUIT FIELD CONDITIONS. THE EXACT SIZES AND PHYSICAL LOCATIONS SHALL SUIT ACCESSIBILITY AND CONSTRUCTION CONDITIONS. ACCESS DOORS SHALL BE PROVIDED IN OTHER SECTIONS OF THE SPECIFICATIONS. ACCESS DOORS SHALL HAVE A FIRE RATING EQUAL TO THE CEILING ASSEMBLY IN WHICH THEY ARE INSTALLED.

22. PROVIDE ALL SAWCUTTING, TRENCHING, BACKFILLING, COMPACTION AND PATCHING OF CONCRETE, ASPHALT AND LANDSCAPING AS REQUIRED TO PERFORM THIS WORK. THE CONTRACTOR SHALL USE EXTREME CAUTION WHEN TRENCHING FOR HIS WORK AND SHALL BE RESPONSIBLE FOR DETERMINING AND/OR VERIFYING ALL EXISTING UNDERGROUND SYSTEMS PRIOR TO COMMENCEMENT OF WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER AND APPROVED REPAIR OF ANY AND ALL DAMAGES CAUSED BY HIM OR HIS WORK.

23. WHENEVER A DISCREPANCY OF ANY SYSTEM AND/OR EQUIPMENT ARISES ON THE CONTRACT DOCUMENTS OR SPECIFICATIONS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL MATERIAL AND SERVICES REQUIRED BY THE STRICTEST CONDITIONS NOTED ON THE DRAWINGS OR SPECIFICATIONS TO ENSURE COMPLETE AND OPERABLE SYSTEMS AS REQUIRED BY THE OWNER AND ARCHITECT/ENGINEER.

24. VERIFY TYPE OF CEILING SYSTEMS AND FURNISH APPROVED LIGHTING FIXTURES OF THE TYPE REQUIRED FOR MOUNTING IN THE SPECIFIC CEILING. WHERE FIXTURES ARE RECESSED IN PLASTER OR DRYWALL CEILINGS, THEY SHALL BE COMPLETE WITH NECESSARY MOUNTING HARDWARE AND PLASTER FRAMES.

25. ALL EQUIPMENT/DEVICES INSTALLED RECESSED IN FIRE RATED CEILINGS OR WALLS SHALL BE ENCLOSED WITH AN APPROVED UL LISTED ENCLOSURE CARRYING THE SAME FIRE RATING AS THE CEILING OR WALL.

26. UTILITY PENETRATIONS OF ANY KIND IN FIRE AND SMOKE PARTITIONS AND CEILING ASSEMBLIES, SHALL BE FIRESTOPPED AND SEALED WITH AN APPROVED UL LISTED SYSTEM OR MATERIAL.

   STEEL ELECTRICAL OUTLET BOXES WHICH DO NOT EXCEED 16 SQUARE INCHES IN AREA, NEED NOT BE PROTECTED IN ONE HOUR OR TWO HOUR FIRE RATED WALLS, PARTITIONS, CEILINGS, OR AREA SEPARATION UNLESS THEY:

   OCCUR ON OPPOSITE SIDES OF THE WALL WITHIN 24 INCH HORIZONTAL DISTANCE OF ONE ANOTHER. IN THIS CASE, ONLY ONE OUTLET BOX NEED TO PROTECTED BY AN APPROVED FIRESTOP MATERIAL OR DETAIL TO CORRECT THIS CONDITION.

   OCCUR IN COMBINATION WITH OUTLET BOXES OF ANY SIZE SUCH THAT THE AGGREGATE AREA OF UNPROTECTED OUTLET BOXES EXCEEDS 100 SQUARE INCHES IN ANY 100 SQUARE FEET OF WALL AREA. IN THIS CASE, ONLY A SUFFICIENT NUMBER OF OUTLET BOXES NEED BE PROTECTED BY AN APPROVED MATERIAL OR DETAIL TO DECREASE THE AGGREGATE AREA OF UNPROTECTED UTILITY BOXES TO LESS THAN 100 SQUARE INCHES IN ANY 100 SQUARE FEET OF WALL.

   STEEL ELECTRICAL OUTLET BOXES WHICH EXCEED 16 SQUARE INCHES IN AREA, AND ALL OTHER STEEL UTILITY OUTLET BOXES REGARDLESS OF SIZE, SHALL BE PROTECTED BY AN APPROVED FIRESTOP MATERIAL AS LISTED OR EQUAL.

   FIRESTOPPING MATERIAL: MPP-1 MOLDABLE PUTTY PADS

   3M CONTRACTOR PRODUCTS
   MINNEAPOLIS, MN
   3M TEST REPORT NO. 1167
   DATED AUGUST 21, 1987

   FSP FIRESTOP PUTTY PADS
   HEVI-DUTY NELSON PRODUCTS
   TULSA, OK

   FLAMESAFE FSP 1077 FIRESTOP PADS
   INTERNATIONAL PROTECTIVE COATINGS
   OAKHURST, NJ

   STEEL UTILITY BOXES WHICH EXCEED 100 SQUARE INCHES IN AREA SHALL BE PROTECTED BY ENCASEMENT.

   UTILITY AND ELECTRICAL OUTLETS OR BOXES SHALL BE SECURELY FASTENED TO THE STUD FRAMING OF THE WALL, PARTITION OR CEILING ASSEMBLY. THE OPENING IN THE GYPSUM BOARD FACING SHALL BE CUT SO THAT THE CLEARANCE BETWEEN THE BOX AND THE GYPSUM BOARD DOES NOT EXCEED 1/8 INCH. IN SMOKE WALLS OR PARTITIONS, THE 1/8 INCH CLEARANCE SHALL BE FILLED WITH AN APPROVED FIRE-RATED SEALANT.

27. ARCHITECTURAL REFLECTED CEILING PLANS INDICATING THE LOCATION OF LIGHTING FIXTURES SHALL TAKE PRECEDENCE OVER THE LOCATIONS OF SAME SHOWN ON THE ELECTRICAL DRAWINGS. INSTALL THE LIGHTING FIXTURES IN ANY GIVEN AREA PER THE ARCHITECTURAL REFLECTED CEILING PLANS. DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT.

28. THE LOCATIONS AND MOUNTING HEIGHTS OF LIGHTING FIXTURES LOCATED IN MECHANICAL EQUIPMENT SPACES AND PENTHOUSES SHALL BE COORDINATED IN THE FIELD PRIOR TO INSTALLATION TO AVOID INTERFERENCE WITH DUCTS, PIPING, AND OTHER MECHANICAL EQUIPMENT. WHEN LOCATIONS AND MOUNTING HEIGHTS ARE DETERMINED, OBTAIN APPROVAL FROM THE ARCHITECT PRIOR TO INSTALLATION.

29. REFER TO SINGLE LINE DIAGRAM AND FEEDER SCHEDULES FOR CONDUIT AND CONDUCTOR SIZE TO PANELS, TRANSFORMERS, MECHANICAL AND PLUMBING EQUIPMENT, ETC. CONDUIT RUNS MAY NOT BE SHOWN ON DRAWINGS, BUT SHALL BE INCLUDED AS PART OF THIS CONTRACT.

30. STRAIGHT FEEDER, BRANCH CIRCUIT, AND CONDUIT RUNS SHALL BE PROVIDED WITH SUFFICIENT PULL BOXES OR JUNCTION BOXES TO LIMIT THE MAXIMUM LENGTH OF ANY SINGLE CABLE PULL TO 100 FEET. PULL BOXES SHALL BE SIZED PER CODE OR AS INDICATED ON DRAWINGS. LOCATIONS SHALL BE DETERMINED IN THE FIELD OR AS INDICATED ON THE DRAWINGS.

31. MAXIMUM QUANTITY OF CONDUCTORS IN AN OUTLET OR JUNCTION BOX SHALL CONFORM TO THE CALIFORNIA ELECTRICAL CODE, ARTICLE 314.16. IN NO CASE SHALL OUTLET OR JUNCTION BOXES CONTAIN MORE THAN THE FOLLOWING QUANTITY OF #12 AWG CONDUCTORS FOR THE SIZE OF BOX INDICATED. THE MINIMUM SIZE OUTLET OR JUNCTION BOX PERMITTED IN A WALL IS FOUR INCHES SQUARE BY 1-1/2 INCHES DEEP.

4" SQ. BY 1-1/2" D =	9 CONDUCTORS
4" SQ. BY 2-1/8" D =	13 CONDUCTORS
4-11/16" SQ. BY 1-1/2" D =	11 CONDUCTORS
4-11/16" SQ. BY 2-1/8" D =	18 CONDUCTORS

   ALL OUTLET BOXES CONTAINING MORE THAN ONE DEVICE SHALL BE GANGED. TWO DEVICES DOUBLE GANGED, MINIMUM.

32. WHERE MULTIPLE HOMERUNS ARE INDICATED ON DRAWINGS REFERENCING THE SAME PANELBOARD CIRCUIT NUMBER, PROVIDE JUNCTION BOX ABOVE ACCESSIBLE CEILING AND ROUTE ONE SET OF WIRES TO CIRCUIT BREAKERS.

33. RECESSED PANELS AND CABINETS SHALL HAVE FIVE SPARE 3/4" INCH CONDUITS STUBBED UP INTO AN ACCESSIBLE CEILING SPACE AND CAPPED UNLESS NOTED OTHERWISE.

34. THE LOCATION OF ALL ELECTRICAL DEVICES AND EQUIPMENT SHALL BE COORDINATED WITH THE ARCHITECTURAL ELEVATIONS, DETAILS, OR SECTIONS PRIOR TO INSTALLATION. ALL ELECTRICAL DEVICES AND EQUIPMENT SHALL BE RECESSED IN WALLS UNLESS OTHERWISE NOTED. OUTLETS NOT INDICATED ON ARCHITECTURAL ELEVATIONS SHALL BE COORDINATED WITH THE ARCHITECT PRIOR TO ROUGH-IN. UNLESS OTHERWISE NOTED, ELECTRICAL DEVICES SHALL BE MOUNTED PER "ACCESSIBLE DEVICE MOUNTING HEIGHT" DETAIL.

   REVIEW ARCHITECTURAL ELEVATIONS OF CASEWORK-OUTLETS MOUNTED ABOVE OR BELOW, OR ADJACENT TO CASEWORK SHALL BE COORDINATED WITH THE ARCHITECTURAL DRAWINGS, PRIOR TO FINAL ROUGH-IN. ELECTRICAL DRAWINGS SHALL GOVERN NUMBER AND TYPE OF OUTLETS; HOWEVER, LOCATIONS SHALL BE AS INDICATED ON ARCHITECTURAL ELEVATIONS. PROVIDE CONDUIT, WIRES, AND OUTLETS FOR WORK REQUIRED IN CASEWORK INSTALLATIONS. REFERENCE ARCHITECTURAL DETAILS FOR METHOD OF ROUTING CONDUIT WITHIN CASEWORK CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CUT-OUTS IN TILE OR COUNTER SPLASHES WHERE RECEPTACLES, OUTLETS, ETC., OCCUR. PROVIDE BOX EXTENSIONS THROUGH ALL CASEWORK TO ENSURE FINISHED INSTALLATION IS FLUSH WITH FACE OF SPLASH, CABINET, ETC.

   MOUNTING HEIGHTS OF ALL DEVICES AND EQUIPMENT ARE FROM FINISHED FLOOR TO CENTER OF DEVICES AND EQUIPMENT UNLESS OTHERWISE NOTED. BOXES INSTALLED IN LOCATIONS NOT APPROVED BY THE ARCHITECT SHALL BE RELOCATED AS DIRECTED BY THE ARCHITECT AT NO ADDITIONAL COST TO THE OWNER.

35. DRAWINGS ARE DIAGRAMMATIC AND DO NOT INDICATE DETAILED CONDUIT ROUTING OR LENGTHS REQUIRED FOR COMPLETE INSTALLATION. ROUTING OF RACEWAYS SHALL BE AT THE OPTION OF THE CONTRACTOR BUT SHALL BE IN STRICT COMPLIANCE WITH STRUCTURAL REQUIREMENTS, CONTRACT DOCUMENTS AND SPECS UNLESS OTHERWISE NOTED. ALL WORK SHALL BE COORDINATED WITH OTHER TRADES. DO NOT SCALE THE ELECTRICAL DRAWINGS FOR LOCATIONS OF ANY ELECTRICAL, ARCHITECTURAL, STRUCTURAL AND/OR MECHANICAL ITEMS OR FEATURES. REFER TO ARCHITECTURAL AND STRUCTURAL CONTRACT DOCUMENTS FOR DIMENSIONS.

36. A PROPERLY SIZED EQUIPMENT GROUNDING CONDUCTOR, ALTHOUGH NOT SHOWN ON CONDUIT RUNS, SHALL BE INSTALLED AND RUN CONTINUOUS FROM PANEL TO THE LAST DEVICE. THIS WIRE SHALL BE PIGTAILED IN EACH OUTLET FOR CONNECTION TO BOX AND DEVICE SUCH THAT IF DEVICE IS REMOVED THE CONTINUITY OF THE GROUND WILL NOT BE COMPROMISED/INTERRUPTED. ALL EQUIPMENT GROUNDING CONDUCTORS SHALL BE INSULATED GREEN CONDUCTORS - ALTERNATE METHODS OF IDENTIFICATION SHALL NOT BE USED. CONTRACTOR SHALL NOTIFY ELECTRICAL ENGINEER TO EXAMINE CONDUCTOR INSTALLATION PRIOR TO INSTALLATION OF DEVICES.

37. COORDINATE WITH ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR HOUSEKEEPING PADS AND EQUIPMENT FOUNDATIONS. PROVIDE SIZES REQUIRED FOR EQUIPMENT TO BE INSTALLED.

38. ALL CONDUCTORS SHALL BE UL LISTED COPPER #12 AWG MINIMUM SIZE, TYPE THHN/THWN THERMOPLASTIC, 600 VOLT, 75 DEGREES CELSIUS WET AND 90 DEGREES CELSIUS DRY AND UL LISTED UNLESS NOTED OTHERWISE. CONDUCTORS #10 AWG AND SMALLER SHALL BE SOLID. CONDUCTORS #8 AWG AND LARGER SHALL BE STRANDED.

39. REVIEW STRUCTURAL DRAWINGS FOR LOCATIONS AND SIZES OF FOOTINGS AND GRADE BEAMS. REFERENCE STRUCTURAL DRAWINGS FOR REQUIREMENTS FOR INSTALLATION OF CONDUIT THROUGH GRADE BEAMS AND FOOTINGS.

40. PANEL SCHEDULES SHALL BE REVISED TO REFLECT FINAL ROOM NAMES AND NUMBERS USING OWNERS ROOM NAMES AND NUMBERS DESIGNATIONS.

41. WHERE OUTLETS OCCUR AT TACKABLE WALL PANELS OR OTHER WALL FINISHES, PROVIDE EXTENSION RINGS AS REQUIRED SO THAT NO SPACE WILL EXIST BETWEEN DEVICE PLATE AND BACKBOX, PER CALIFORNIA ELECTRICAL CODE 314.20. SEE ARCHITECTURAL ELEVATIONS FOR WALL FINISHES AND LOCATIONS.

42. COORDINATE LOCATIONS OF ALL SEISMIC SEPARATIONS.

43. REFER TO FIRE ALARM PLANS FOR ADDITIONAL POWER REQUIREMENTS REQUIRED FOR FIRE/SMOKE DAMPERS AND POWER SUPPLIES.

44. REFER TO ARCHITECTURAL EXTERIOR ELEVATIONS FOR EXTERIOR WALL MOUNTED LIGHTS, SPEAKERS AND FIRE ALARM SPEAKERS.

45. A DEDICATED NEUTRAL SHALL BE RUN FOR EACH BRANCH CIRCUIT WHERE A NEUTRAL IS REQUIRED TO COMPLY WITH CEC 210.4(B).

DEMOLITION NOTES

1. IN GENERAL, THE DEMOLITION PLAN INDICATES ALL EXISTING EQUIPMENT TO BE REMOVED; HOWEVER, ELECTRICAL EQUIPMENT, WHETHER SHOWN ON THIS DRAWING OR NOT, THAT IS LOCATED IN REMOVED WALLS, FLOORS OR CEILINGS, SHALL BE REMOVED/RELOCATED UNLESS OTHERWISE NOTED.

2. THE CONTRACTOR SHALL VISIT THE SITE AND ALL AREAS INCLUDED IN THE DRAWINGS. CONTRACTOR SHALL THOROUGHLY FAMILIARIZE THEMSELVES WITH THESE EXISTING CONDITIONS, AND BY SUBMITTING A BID ACCEPTS CONDITIONS UNDER WHICH THE CONTRACTOR WILL BE REQUIRED TO PERFORM HIS WORK.

3. IT SHALL BE THE ELECTRICAL CONTRACTOR'S RESPONSIBILITY TO DISCONNECT AND REMOVE ALL EXISTING LIGHTING FIXTURES, RECEPTACLES, ELECTRICAL EQUIPMENT, ETC., AFFECTED BY THE REMODELED AREA. THIS WILL INCLUDE REROUTING, OR THE EXTENSION OF EXISTING CONDUIT AND FEEDERS WHERE NECESSARY TO MAINTAIN THE CONTINUITY OF EQUIPMENT TO REMAIN.

4. ALL CIRCUIT NUMBERS AND EXISTING CONDUIT HOMERUNS SHOWN ON THESE DRAWINGS WERE TAKEN FROM EXISTING RECORD DRAWINGS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY LOCATIONS OF HOMERUNS, AND ADJUST CIRCUIT NUMBERS ACCORDING TO EXISTING CONDITIONS AS REQUIRED.

5. EXISTING CONDUIT FEEDS UP THROUGH FLOOR SHALL BE CUT OFF AND PLUGGED FLUSH WITH FLOOR WHERE EXISTING WALLS, ETC., ARE REMOVED. REMOVE CONDUCTORS FROM THIS POINT BACK TO LAST OUTLET REMAINING IN SERVICE.

6. WHERE EXISTING WALLS HAVE BEEN REMOVED, AND THERE ARE EXISTING CONDUIT FEEDS WHICH HAVE BEEN CUT-OFF AND CAPPED FLUSH WITH FLOOR, IT IS THE CONTRACTOR'S RESPONSIBILITY TO IDENTIFY AND DIMENSION ALL SUCH CONDUITS ON THE "AS-BUILT" DRAWINGS UNLESS OTHERWISE NOTED.

7. IT SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR TO MAINTAIN CONTINUITY OF ALL ELECTRICAL SYSTEMS, EQUIPMENT, ETC., REMAINING IN OPERATION WHICH ARE BEING FED BY AN ABANDONED OUTLET. MAINTAINING CONTINUITY SHALL CONSIST OF REROUTING CONDUIT, WIRING, ETC., AS REQUIRED.

8. ALL ELECTRICAL FIXTURES, OUTLETS, DEVICES, ETC., THAT ARE REMOVED SHALL BE REMOVED COMPLETELY, INCLUDING CONDUIT AND WIRING BACK TO THE LAST FIXTURE, OUTLET, DEVICE, ETC., REMAINING IN SERVICE.

9. EXISTING CIRCUITS WHICH ARE REMOVED AND NOT REUSED SHALL BE IDENTIFIED ON THE PANEL SCHEDULE AS "SPARE".

10. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE OWNER PRIOR TO REMOVAL OF EXISTING ELECTRICAL EQUIPMENT AND CONDUCTORS. CONTRACTOR SHALL TURN OVER REMOVED EQUIPMENT THAT THE OWNER REQUESTS IN AN "AS-FOUND" CONDITION. EQUIPMENT THAT IS TO BE TURNED OVER SHALL BE BOXED AND TAGGED TO IDENTIFY THE SPECIFIC EQUIPMENT.

11. WHERE NEW CIRCUITS ARE SHOWN TO EXISTING PANELS, INSTALL NEW BREAKERS (MINIMUM 20 AMP, SINGLE POLE) AS REFERENCED ON DRAWINGS. IDENTIFY EACH NEW CIRCUIT ON THE ASSOCIATED PANEL SCHEDULE DIRECTORY.

12. EXISTING CONDUIT MAY BE REUSED IF ADEQUATELY SIZED, BUT IN NO CASE SHALL ANY EXISTING CONDUCTORS BE REUSED.

13. IN SOME INSTANCES, IT MAY BE NECESSARY FOR THE ELECTRICAL CONTRACTOR TO TEMPORARILY RELOCATE, REROUTE, ETC., EXISTING ELECTRICAL EQUIPMENT. THIS SHALL BE DONE SO THAT THE SYSTEMS IN ALL PHASES (THOSE COMPLETED AND THOSE YET TO BEGIN), ARE IN COMPLETE, OPERABLE, CONDITION AS CONSTRUCTION PROCEEDS THROUGH EACH PHASE.

14. WHERE NEW CIRCUITS ARE SHOWN CROSSING PHASING BOUNDARIES (I.E. CORRIDOR LIGHTING, ETC.) THE CONTRACTOR SHALL CONNECT ALL EQUIPMENT, FIXTURES, ETC., IN THE PHASE WHICH IS THEN UNDER CONSTRUCTION. CONTRACTOR SHALL STUB-OUT ALL REQUIRED CONDUIT AND WIRING ACROSS PHASE BOUNDARIES, THEN PICK UP AND EXTEND THESE CONDUIT RUNS WHEN CONSTRUCTION BEGINS IN THE ADJACENT PHASE.

15. DURING EACH PHASE OF DEMOLITION, ALL CIRCUITS FROM EXISTING PANELS WHICH FEED AREAS OUTSIDE THE BOUNDARIES OF THAT PHASE, SHALL BE MAINTAINED.

16. PANELS OR TERMINAL CABINETS WHICH ARE LOCATED IN A WALL THAT IS TO BE DEMOLISHED, SHALL REMAIN IN AN OPERATIVE CONDITION UNTIL ALL AREAS FED BY THE RELATED PANELS HAVE BEEN DEMOLISHED. THIS CONTRACTOR SHALL PROVIDE AND INSTALL ALL EQUIPMENT REQUIRED TO TEMPORARILY SUPPORT PANELS. PANELS MAY BE TEMPORARILY FREESTANDING, MOUNTED IN TEMPORARY PORTION OF WALLS TO BE DEMOLISHED LATER, ETC., CHECK WITH ARCHITECT AND ENGINEER FOR APPROVAL OF SUPPORTS. IT SHALL ALSO BE THE CONTRACTOR'S RESPONSIBILITY TO RELOCATE AND RECONNECT ALL CIRCUITS ON A TEMPORARY BASIS IF THE PANELS, TERMINAL CABINETS, NURSE CALL TERMINAL CABINETS, ETC., CONFLICT WITH THE NEW CONSTRUCTION PHASES, AND THEN REMOVED AFTER COMPLETION OF PHASES.

17. ALL AREAS EXPOSED BY ABANDONED OUTLETS INCLUDING LIGHTS, RECEPTACLES, TELEPHONES, ETC., SHALL BE COVERED AND PATCHED TO MATCH THE FINISH OF SURROUNDING WALL OR CEILING TO THE SATISFACTION OF THE OWNER.

18. ALL DEVICES REMOVED TO ACCOMPLISH DEMOLITION WORK SHALL BE REINSTALLED SIMILAR TO NEW WORK.

19. DO NOT REMOVE EXISTING FIRE ALARM DEVICES OR EQUIPMENT UNTIL NEW FIRE ALARM SYSTEM HAS BEEN INSTALLED, TESTED, APPROVED AND ACCEPTED BY THE LOCAL FIRE AUTHORITY HAVING JURISDICTION (AHJ). IN INSTANCES WHERE EXISTING FIRE ALARM DEVICES ARE REMOVED PRIOR TO ACCEPTANCE BY THE AHJ(S) A FIRE WATCH IS REQUIRED WHENEVER THE BUILDING (WHOLE OR PARTIAL) IS OCCUPIED PER CFC CHAPTER 33, CFC SECTION 901.7, & CCR TITLE 19 SECTION 1.14. CONTRACTOR TO INCLUDE FIRE WATCH AS PART OF BASE BID. FIRE WATCH COST SHALL NOT BE PAID FOR BY THE OWNER.

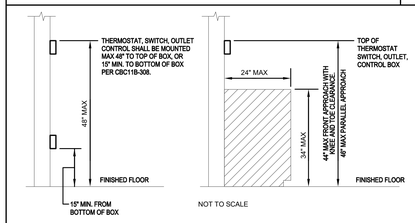
CODE ANALYSIS

THE CONSTRUCTION OF THIS PROJECT SHALL CONFORM TO THE REQUIREMENTS OF:

1. CALIFORNIA CODE OF REGULATIONS (CCR), TITLE 24, PART 2 - CALIFORNIA BUILDING CODE (CBC) - 2022 EDITION.
2. CALIFORNIA CODE OF REGULATIONS (CCR), TITLE 24, PART 3 - CALIFORNIA ELECTRICAL CODE (CEC) - 2022 EDITION.
3. CALIFORNIA CODE OF REGULATIONS (CCR), TITLE 24, PART 9 - CALIFORNIA FIRE CODE (CFC) - 2022 EDITION.

ACCESSIBLE DEVICE MOUNTING HEIGHTS

1



NOT TO SCALE

✱ PROVIDE MINIMUM 30"x48" CLEAR FLOOR SPACE FOR PERPENDICULAR APPROACH AT EACH CONTROL OR DEVICE.

SHEET INDEX

SHEET	DESCRIPTION
E0.01	ELECTRICAL GENERAL NOTES
E0.02	ELECTRICAL SYMBOLS LIST AND ABBREVIATIONS
E0.03	LIGHTING FIXTURE SCHEDULE AND NOTES
E0.04	SINGLE LINE DIAGRAM
E0.05	BRANCH CIRCUIT VOLTAGE DROP CALCULATIONS
E1.D1	BLDG D - CAFETERIA - LIGHTING AND FIRE ALARM PLAN
E1.D2	BLDG D - CAFETERIA - ELECTRICAL ROOF PLAN
E1.KN1	BLDG K, L, M, N - FIRE ALARM PLAN
E1.KN2	BLDG K, L, M, N - ELECTRICAL ROOF PLAN
E3.01	FIRE ALARM SYMBOLS AND NOTES
E3.02	FIRE ALARM WIRING DETAILS
E3.03	FIRE ALARM WIRING DETAILS
E3.04	FIRE ALARM RISER DIAGRAM
E3.05	FIRE ALARM BATTERY CALCULATIONS
E4.01	ELECTRICAL DETAILS
E4.02	ELECTRICAL DETAILS
E5.01	PANEL SCHEDULES
E6.01	TITLE 24
ES1.1	ELECTRICAL SITE PLAN

TOTAL SHEETS = 19

STRUCTURAL NOTE

UNLESS SPECIFICALLY SHOWN ON THESE PLANS, STRUCTURAL MEMBERS SHALL NOT BE CUT, DRILLED, OR NOTCHED WITHOUT PRIOR WRITTEN AUTHORIZATION FROM THE STRUCTURAL ENGINEER AND THE DIVISION OF THE STATE ARCHITECT.

EQUIPMENT ANCHORAGE NOTES

MEP COMPONENT ANCHORAGE NOTE

ALL MECHANICAL, PLUMBING, AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2022 CBC, SECTIONS 1617A.1.18 THROUGH 1617A.1.26 AND ASCE 7-16 CHAPTERS 13, 26 AND 30.

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

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

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

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

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-16 SECTION 13.3 AS DEFINED IN ASCE 7-16 SECTIONS 13.6.5, 13.6.6, 13.6.7, 13.6.8; AND 2022 CBC, SECTIONS 1617A.1.24, 1617A.1.25 AND 1617A.1.26.

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

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

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 HCAi (OSHPD) PRE-APPROVAL (OPM#) #0043-13, AS INCLUDED IN THESE DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-123582 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 01/10/2024

No. E 16592
CHEN HSING FANG
ELECTRICAL

DLRGROUP
© DLR Group

DCGA ENGINEERS
Consulting Mechanical and Electrical Engineers

EL MONTE HIGH SCHOOL HVAC PROJECT
EL MONTE UNION HIGH SCHOOL DISTRICT
3048 Tyler Ave, El Monte, CA 91731

DSA SUBMITTAL
09/11/2023
REVISIONS

DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-01

ELECTRICAL GENERAL NOTES

E0.01

ELECTRICAL ABBREVIATIONS

AF	AMPERE FUSE RATING
AFF	ABOVE FINISHED FLOOR
AIC	AMPS INTERRUPTED CAPACITY RATING (RMS SYMMETRICAL MINIMUM)
AM	AMMETER
AMP, A	AMPERES
APPR	APPROVED
AS	AMPERE SWITCH RATING
AT	AMPERE TRIP RATING OR BREAKER
AUTO	AUTOMATIC
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAGE
BRD, BD	BOARD
BFC	BELOW FINISHED CEILING
BKR	BREAKER
C.	CONDUIT
CAB	CABINET
CAT	CATEGORY
CC	CENTER TO CENTER
cd	CANDELA
CHLOR	CHLORINE, CHLORINATION
CKT	CIRCUIT
CMH	COMMUNICATION MANHOLE
C.O.	CONDUIT ONLY
COMPT	COMPARTMENT
COMPR	COMPRESSOR
CPB	COMMUNICATION PULLBOX
CPT	CONTROL POWER TRANSFORMER
CR	CONTROL RELAY (MAGNETICALLY HELD U.N.O.)
CSFM	CALIFORNIA STATE FIRE MARSHALL
CT	CURRENT TRANSFORMER
CU	COPPER
D.C.A.	DETECTOR CHECK ASSEMBLY
DISC.	DISCONNECT
DISTR	DISTRIBUTION
DWG	DRAWING
ELEV	ELEVATION
EMERG, EM	EMERGENCY
ENCL	ENCLOSURE
EQPT	EQUIPMENT
EXH	EXHAUST
E	EXISTING
FAA	FIRE ALARM ANNUNCIATOR
FDR	FEEDER
FF	FINISHED FLOOR
FG	FINISHED GRADE
FS	FLOW SWITCH
FLEX	FLEXIBLE
FLUOR	FLUORESCENT
FOC	FIBER OPTIC CABLE
FUT	FUTURE
FUP	FUSE, CPT PRIMARY
FUS	FUSE, CPT SECONDARY
GND, GRD	GROUND
HH	HAND HOLE
HOA	HAND-OFF-AUTOMATIC
HTR	HEATER
HZ	HERTZ
IDF	INTERMEDIATE DISTRIBUTION FRAME
ICPB	INTERCEPT COMMUNICATION PULLBOX
INC	INCANDESCENT
IND	INDICATION
INSTR	INSTRUMENT
IPPB	INTERCEPT POWER PULLBOX
ISC	SHORT CIRCUIT CURRENT
J.B.	JUNCTION BOX
K	THOUSAND (KILO)
KV	KILOVOLTS
KW	KILOWATTS
KVA	KILOVOLT AMPERES
KVAR	KILOVOLT AMPERES REACTIVE
KWH	KILOWATT HOURS
KWHD	KILOWATT HOUR DEMAND METER
LCP	LIGHTING CONTROL PANEL
LOS	PUSH BUTTON WITH "LOCK-OUT-STOP"
LS	LIMIT SWITCH
LT, LTS	LIGHT, LIGHTS
LTG	LIGHTING
MA	MILLIAMPS
MAN	MANUAL
MAG	MAGNETIC
MAX	MAXIMUM
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MCM	THOUSAND CIRCULAR MILS
MCP	MOTOR CIRCUIT PROTECTOR
MDF	MAIN DISTRIBUTION FRAME
MH	MANHOLE
MS	MANUAL MOTOR STARTER
MIN	MINUTES, MINIMUM
MOV	MOTOR OPERATED VALVE, METAL OXIDE VARISTER
MT, MTD, MTG	MOUNT, MOUNTED, MOUNTING
N.A.P.	NEUTRALIZATION ALARM PANEL
NO, NOS	NUMBER, NUMBERS
NP	NAMEPLATE
NTS	NOT TO SCALE
OC	ON CENTER
OFOI	OWNER FURNISHED OWNER INSTALLED
OL	OVERLOAD
PB	PULLBOX
PIV	POST INDICATOR VALVE
PMH	POWER MANHOLE
PNL	PANEL
PNLBD	PANELBOARD
POS	POSITION
PPB	POWER PULLBOX
PRI	PRIMARY
PS	PRESSURE SWITCH
PT	POTENTIAL TRANSFORMER
PVC	POLYVINYL CHLORIDE
PW	PART WINDING
PWR	POWER
REC	RECEPTACLE
RECPTS	RECEPTACLES
REQD	REQUIRED
SA	STATUS ANNUNCIATOR
SCH	SCHEDULE
SEC	SECONDS, SECONDARY
SECT	SECTION
SEL SW	SELECTOR SWITCH
SEQ	SEQUENCE
SHLD	SHIELDED
SHT	SHEET
SIG	SIGNAL
SM	START CONTACTOR COIL
SPECS	SPECIFICATIONS
SP HTR	SPACE HEATER
ST	SHUNT TRIP
STA	STATION
STD	STANDARD
STL	STEEL
STR	STARTER
SV	SOLENOID VALVE
SW	SWITCH
SYS	SYSTEM
TACH	TACHOMETER
TDOD	TIME DELAY ON DE-ENERGIZATION
TDOE	TIME DELAY ON ENERGIZATION
TEMP	TEMPERATURE
TERM	TERMINAL
THERM	THERMOSTAT
TR	TIME DELAY RELAY
TS	TAMPER SWITCH
TSP	TWISTED SHIELDED PAIR
TSTAT	THERMOSTAT
TYP.	TYPICAL
U.N.O.	UNLESS NOTED OTHERWISE
UGPS	UNDERGROUND PULL SECTION
UTP	UNSHIELDED TWISTED PAIR
VFD	VARIABLE FREQUENCY DRIVE
V	VOLTS
VM	VOLTMETER
VS	VOLTMETER SWITCH
W	WATTS
WHM	WATT HOUR METER
WP	WEATHERPROOF
WPL	WEATHERPROOF LOCKING
XFMR	TRANSFORMER
XMTR	TRANSMITTER

ELECTRICAL SYMBOLS LIST

(E) EQUIPMENT WITH "E" ADJACENT IS EXISTING TO REMAIN.

(R) EXISTING EQUIPMENT WITH "R" ADJACENT IS TO BE COMPLETELY DISCONNECTED AND REMOVED.

(RR) EXISTING EQUIPMENT WITH "RR" ADJACENT IS TO BE DISCONNECTED, REMOVED AND RELOCATED TO NEW LOCATION AND RECONNECTED AS REQUIRED.

(ER) RELOCATED EQUIPMENT SHOWN IN NEW LOCATION.

—E— EXISTING CONDUIT RUN TO REMAIN. EXISTING CONDUCTORS TO REMAIN UNLESS NOTED OTHERWISE ON DRAWINGS.

—EA— EXISTING CONDUIT RUN TO BE ABANDONED. REMOVE CONDUCTORS AND CAP ENDS OF CONDUIT.

—EX— EXISTING CONDUIT RUN TO BE REWIRED. REFER TO PLANS FOR WIRING REQUIREMENTS.

—R— EXISTING CONDUIT AND WIRE RUN TO BE COMPLETELY DISCONNECTED AND REMOVED BACK TO LAST REMAINING OUTLET OR DEVICE.

—R✳E— "X" INDICATES APPROXIMATE POINT OF INTERCEPTION OF EXISTING CONDUIT RUN. CONDUIT TO BE REMOVED AT "R" SIDE OF "X". REMOVE ALL CONDUCTORS PRIOR TO CUTTING CONDUIT. EXACT LOCATION OF ALL CONDUITS SHALL BE FIELD VERIFIED.

CONDUIT RUN CONCEALED IN WALLS OR UNDER FLOORS.

CONDUIT RUN EXPOSED.

CONDUIT RUN UNDERGROUND.

CONDUIT STUBBED OUT AND CAPPED. PULL LINE IN PLACE.

CROSS LINES ON CONDUIT RUNS INDICATE NUMBER OF #12 CURRENT CARRYING CONDUCTORS CONTAINED THEREIN. TWO #12 AND MINIMUM OF ONE #12 GROUND WIRE ARE INDICATED WHEN CROSS LINES ARE NOT SHOWN. NUMERALS ADJACENT TO CROSS LINES ON CONDUIT RUNS INDICATE SIZE OF CONDUCTORS IN LIEU OF #12. ALL CONDUITS SHALL CONTAIN ONE GROUND WIRE SIZED PER C.E.C. TABLE 250.122, BUT NOT SMALLER THAN #12. WHERE ISOLATED GROUND RECEPTACLES ARE INDICATED, PROVIDE ADDITIONAL #12 GROUND WIRE IN CONDUIT RUNS, CONNECTED FROM ISOLATED GROUND BUS IN PANEL TO DEVICE.

B-1,3 CONDUIT HOMERUN TO PANELBOARD. LETTER AND NUMERALS INDICATE ELECTRICAL PANEL AND CIRCUIT NUMBER.

SURFACE MOUNTED BRANCH CIRCUIT PANELBOARD.

RECESSED BRANCH CIRCUIT PANELBOARD.

(PNL) PANEL DESIGNATION.

SURFACE MOUNTED COMMUNICATION TERMINAL CABINET. REFER TO DRAWINGS AND SPECIFICATIONS.

RECESSED COMMUNICATION TERMINAL CABINET. REFER TO DRAWINGS AND SPECIFICATIONS.

JUNCTION BOX IN ACCESSIBLE CEILING SPACE OR FLUSH IN WALL WITH BLANK COVER PLATE TO MATCH DEVICE PLATES.

JUNCTION BOX FLUSH FLOOR MOUNTED.

JUNCTION BOX PEDESTAL TYPE FLOOR MOUNTED.

THREE PHASE FRACTIONAL OR INTEGRAL HORSEPOWER MOTOR. NUMERAL IN PLACE OF "M" INDICATES HORSEPOWER. (SINGLE LINE DIAGRAM ONLY).

100A 3P MOLDED CASE CIRCUIT BREAKER AND NUMBER OF POLES AS INDICATED. "A" INDICATES TRIP RATING. SUBSCRIPT INDICATES TYPE.

NO SUBSCRIPT	THERMAL MAGNETIC
NA	NON-AUTOMATIC
MO	MAGNETIC ONLY
CL	CURRENT LIMITING
SS	SOLID STATE

100AS 90AF 3P FUSED SWITCH. "AS" INDICATES AMPERE SWITCH RATING, "AF" INDICATES AMPERE FUSE RATING, NUMBER OF POLES AS INDICATED.

ENCLOSED VOLTAGE TRANSFORMER PER SPEC'S. COPPER WOUND, DRY TYPE, U.N.O.

UTILITY METER SOCKET, WITH C.T.'S, CLIPS, ETC., PER SERVING UTILITY COMPANY.

GROUND, "GRD", "GND".

GF BREAKER EQUIPPED WITH THE GROUND FAULT PROTECTION

GFI "GROUND FAULT INTERRUPTER"

1a CEILING LIGHT FIXTURE AND OUTLET, LED. LOWER CASE LETTER INDICATES CONTROLLING SWITCH, NUMERAL INDICATES CIRCUIT. SHADED CIRCLE INDICATES FIXTURE WITH 90-MINUTE MINIMUM EMERGENCY POWER PROVISIONS.

1a LED LIGHT FIXTURE OUTLET. LOWER CASE LETTER INDICATES CONTROLLING SWITCH, NUMERAL INDICATES CIRCUIT. SHADED CIRCLE INDICATES FIXTURE WITH 90-MINUTE MINIMUM EMERGENCY POWER PROVISIONS.

1a LED STRIP FIXTURE. LOWER CASE LETTER INDICATES CONTROLLING SWITCH. NUMERAL INDICATES CIRCUIT. SHADED CIRCLE INDICATES FIXTURE WITH 90-MINUTE MINIMUM EMERGENCY POWER PROVISIONS.

1a BRACKET OR WALL MOUNTED SURFACE OR RECESSED LIGHT FIXTURE AND OUTLET, LED. LOWER CASE LETTER INDICATES CONTROLLING SWITCH, NUMERAL INDICATES CIRCUIT. SHADED CIRCLE INDICATES FIXTURE WITH 90-MINUTE MINIMUM EMERGENCY POWER PROVISIONS.

ILLUMINATED EXIT LIGHT FIXTURE. SIDE, BACK, CEILING, OR PENDANT MOUNTED, SINGLE OR DOUBLE FACED AS NOTED BY SHADED ARC, WITH OR WITHOUT DIRECTIONAL ARROW AS NOTED ON THE DRAWINGS. EXIT SIGN SHALL NOT BE USED AS JUNCTION BOX OR "THROUGH-WIRE". PROVIDE WITH 90-MINUTE MINIMUM EMERGENCY POWER PROVISION.

L LOW LEVEL EXIT LIGHT FIXTURE, WALL MOUNTED WITH OR WITHOUT DIRECTIONAL ARROW AS NOTED ON THE DRAWINGS. BOTTOM OF FIXTURE AT +10" ABOVE FINISHED FLOOR AND WITHIN FOUR INCHES OF DOOR FRAME WHERE APPLICABLE. PROVIDE WITH 90-MINUTE MINIMUM EMERGENCY POWER PROVISION.

O 16 72 +12'-0" LIGHTING FIXTURE IDENTIFICATION SYMBOL. LETTER INDICATES FIXTURE TYPE. NUMERALS IN LOWER HALF OF HEXAGON INDICATE FIXTURE WATTAGE (INCLUDING BALLAST WHERE APPLICABLE). NUMERAL OUTSIDE TOP OF HEXAGON INDICATES NUMBER OF FIXTURES USED FOR LOAD CALCULATIONS. NUMERAL OUTSIDE BOTTOM OF HEXAGON INDICATES MOUNTING HEIGHT FROM FLOOR TO BOTTOM OF FIXTURE. OMISSION OF MOUNTING HEIGHT INDICATES CEILING MOUNTING.

WALL MOUNTED DUAL HEAD EMERGENCY LIGHTING FIXTURE UNIT WITH 90-MINUTE MINIMUM EMERGENCY POWER PROVISION.

D 4 a DIGITAL WALL SWITCH WITH "ON/OFF" AND DIMMING CAPABILITY. REFER TO DETAIL #3/E0-4.3 FOR MANUFACTURERS AND MODEL NUMBERS. NUMERAL ADJACENT INDICATES QUANTITY OF BUTTONS. LOWER CASE LETTER ADJACENT INDICATES FIXTURES CONTROLLED. MOUNT AT +48" PER DETAIL #1/E0-0.1.

S WALL MOUNTED PASSIVE INFRARED OCCUPANCY SENSOR. MOUNT AT +48". WATTSTOPPER #DW-200 OR APPROVED EQUAL.

OS INFRARED/ULTRASONIC DUAL TECHNOLOGY TYPE OCCUPANCY SENSOR COMPLETE WITH ALL POWER SUPPLIES, RELAY PACKS AND CONNECTIONS. REFER TO DETAIL #3/E0-4.3 FOR MANUFACTURER AND MODEL NUMBER.

RL a DIGITAL ROOM CONTROLLER/POWER PACK WITH 0-10 VOLT DIMMING AND CAT5 CABLE CONNECTIONS. REFER TO DETAIL #3/E0-4.3 FOR MANUFACTURERS AND MODEL NUMBERS. LOWER CASE LETTER ADJACENT INDICATES LIGHT FIXTURES CONTROLLED.

PC a1 DIGITAL PHOTOCELL. REFER TO DETAIL #3/E0-4.3 FOR MANUFACTURER AND MODEL NUMBER. LOWER CASE LETTER ADJACENT INDICATES LIGHT FIXTURES CONTROLLED. NUMERAL ADJACENT INDICATES DAYLITE ZONE CONTROL.

PL A-1 DIGITAL RECEPTACLE ROOM CONTROLLER WITH 20 AMP RATED RELAY AND CAT5 CABLE CONNECTIONS. REFER TO DETAIL #3/E0-4.3 FOR MANUFACTURER AND MODEL NUMBERS. CIRCUIT ADJACENT SYMBOL INDICATES CIRCUIT TO BE CONTROLLED.

S_a^3 SWITCH. LOWER CASE LETTER AT BOTTOM INDICATES OUTLETS CONTROLLED. CAPITAL SUPERSCRIPT INDICATES SWITCH TYPE. MOUNT PER DETAIL #1 ON E0-0.1 U.N.O.

NO SUPERSCRIPT	-	SINGLE POLE SWITCH
2	-	DOUBLE POLE
3	-	THREE WAY
4	-	FOUR WAY
I	-	ILLUMINATED HANDLE
K	-	KEYED SWITCH
LC	-	LOCKABLE COVER
M	-	MANUAL MOTOR STARTER WITH THERMAL OVERLOAD PROTECTION
MC	-	MOMENTARY CONTACT
P	-	PILOT LIGHT
PR	-	PRESS TYPE
TP	-	THREE POSITION
T	-	TIMER-0-4 HR ROTARY WITH HOLD-ON FEATURE
L	-	LOCKABLE POSITION TOGGLE SWITCH

POLE MOUNTED PARKING LOT LIGHTING FIXTURE, SINGLE

POLE MOUNTED PARKING LOT LIGHTING FIXTURE, DOUBLE

MS-1 FEEDER DESIGNATION. SEE SINGLE LINE DIAGRAM, FEEDER SCHEDULES AND ELECTRICAL SITE PLAN.

DUPLEX GROUNDING TYPE RECEPTACLE, 20 AMP, 125 VOLT, 2 POLE, 3 WIRE. MOUNT PER DETAIL #1 ON E0-0.1 U.N.O. "C" ADJACENT SYMBOL INDICATES DEVICE MOUNTED ON CEILING TYPICAL UNLESS NOTED OTHERWISE. "IG" ADJACENT INDICATES ISOLATED GROUND TYPE RECEPTACLE.

DUPLEX GROUND FAULT INTERRUPTING TYPE RECEPTACLE, 20 AMP, 125 VOLT, 2 POLE, 3 WIRE. MOUNT PER DETAIL #1 ON E0-0.1 U.N.O. "WP" ADJACENT INDICATES METAL COVERED PAD-LOCKABLE WEATHERPROOF COVER. "WPL" ADJACENT INDICATES RECESSED METAL HINGED WEATHERPROOF LOCKING COVER EQUAL TO LEGRAND-PASS & SEYMOUR #4600 SERIES & ALL MOUNTING HARDWARE.

DUPLEX GROUNDING TYPE CONTROLLED RECEPTACLE, 20AMP, 125 VOLT, 2 POLE, 3 WIRE. MOUNT PER DETAIL #1 ON E0-0.1 U.N.O. RECEPTACLE SHALL HAVE PERMANENT IDENTIFICATION.

FLUSH FLOOR MOUNTED DUPLEX GROUNDING TYPE RECEPTACLE, 20 AMP, 125 VOLT, 2 POLE, 3 WIRE IN SPECIAL FLOOR BOX.

PEDESTAL TYPE FLOOR MOUNTED DUPLEX GROUNDING TYPE RECEPTACLE, 20 AMP, 125 VOLT, 2 POLE, 3 WIRE.

DUPLEX GROUNDING TYPE RECEPTACLE, 20 AMP, 125 VOLT 2 POLE, 3 WIRE. MOUNT ABOVE COUNTER PER DETAIL #1 ON E0-0.1 U.N.O.

DUPLEX GROUND FAULT INTERRUPTING TYPE RECEPTACLE, 20 AMP, 125 VOLT, 2 POLE, 3 WIRE. MOUNT ABOVE COUNTER PER DETAIL #1 ON E0-0.1 U.N.O.

TWO DUPLEX GROUNDING TYPE RECEPTACLES IN 4S BOX, 20 AMP, 125 VOLT, 2 POLE, 3 WIRE. MOUNT PER DETAIL #1 ON E0-0.1 U.N.O.

TWO DUPLEX GROUND FAULT INTERRUPTING TYPE RECEPTACLES IN 3-GANG BOX WITH 2-GANG RING AND PLATE. 20A., 125 VOLT 2 POLE, 3 WIRE. MOUNT PER DETAIL #1 ON E0-0.1 U.N.O.

TWO 20 AMP DUPLEX RECEPTACLES IN SPECIAL FLOOR BOX.

DUPLEX GROUNDING TYPE RECEPTACLE, 20 AMP, 125 VOLT, 2 POLE, 3 WIRE, SPLIT WIRED WITH LOWER OUTLET SWITCHED. MOUNT PER DETAIL #1 ON E0-0.1 U.N.O.

DUPLEX GROUNDING TYPE USB CHARGING RECEPTACLE, 20 AMP 125 VOLT, 2 POLE, 3 WIRE. EQUIPPED WITH (2) TYPE-A USB PORTS. MOUNT PER DETAIL #1 ON E0-0.1 U.N.O.

SPECIAL RECESSED COMBINATION POWER/DATA FLOOR BOX.

A L SPECIAL PURPOSE OUTLET MOUNTED IN FLUSH WALL BOX. LETTER INDICATES TYPE. "L" ADJACENT INDICATES TWIST LOCK TYPE

A	-	NEMA TYPE 10-30R (250 VOLT, 1 PHASE, 30 AMP)
B	-	NEMA TYPE 5-50R (125 VOLT, 1 PHASE, 50 AMP)
C	-	NEMA TYPE 6-20R (250 VOLT, 1 PHASE, 20 AMP)
D	-	NEMA TYPE 6-30R (250 VOLT, 1 PHASE, 30 AMP)
E	-	NEMA TYPE 6-50R (250 VOLT, 1 PHASE, 50 AMP)
F	-	NEMA TYPE 11-20R (250 VOLT, 3 PHASE, 20 AMP)
G	-	NEMA TYPE 11-30R (250 VOLT, 3 PHASE, 30 AMP)
H	-	NEMA TYPE 11-50R (250 VOLT, 3 PHASE, 50 AMP)
J	-	NEMA TYPE 14-20R (125/250 VOLT, 1 PHASE, 20 AMP)
K	-	NEMA TYPE 14-30R (125/250 VOLT, 1 PHASE, 30 AMP)
M	-	NEMA TYPE 14-50R (125/250 VOLT, 1 PHASE, 50 AMP)

100AS NON-FUSED DISCONNECT SWITCH. "AS" INDICATES SWITCH AMPERE RATING UNLESS NOTED OTHERWISE ON DRAWINGS.

FUSED DISCONNECT SWITCH. "AS" INDICATES SWITCH AMPERE RATING. "AF" INDICATES FUSE AMPERE RATING.

VFD II MAGNETIC MOTOR STARTER. ROMAN NUMERAL INDICATES NEMA STARTER SIZE. ADDITIONAL SUBSCRIPTS INDICATE STARTER TYPE AND SIZE. (TYPICAL FOR ALL MAGNETIC STARTER SYMBOLS.)

NO SUBSCRIPT	-	FULL VOLTAGE, NON REVERSING
PR	-	PRIMARY RESISTOR REDUCED VOLTAGE
AT	-	AUTOTRANSFORMER REDUCED VOLTAGE
WD	-	WYE-DELTA REDUCED VOLTAGE
PW	-	PART WINDING REDUCED VOLTAGE
SS	-	SOLID STATE REDUCED VOLTAGE
REV	-	REVERSING TYPE
2S	-	TWO SPEED
2W	-	TWO WINDINGS
CH	-	CONSTANT HORSEPOWER
CT	-	CONSTANT TORQUE
VT	-	VARIABLE TORQUE
VFD	-	VARIABLE FREQUENCY DRIVE

COMBINATION MAGNETIC MOTOR STARTER AND NON-FUSED DISCONNECT SWITCH. TYPE AS INDICATED ABOVE.

COMBINATION MAGNETIC MOTOR STARTER AND FUSED DISCONNECT SWITCH. TYPE AS INDICATED ABOVE.

COMBINATION MAGNETIC MOTOR STARTER AND CIRCUIT BREAKER. TYPE AS INDICATED ABOVE.

COMBINATION MAGNETIC MOTOR STARTER AND MOTOR CIRCUIT PROTECTOR. TYPE AS INDICATED ABOVE.

SINGLE PHASE FRACTIONAL OR INTEGRAL HORSEPOWER

—WM— SURFACE NON-METAL RACEWAY FOR COMMUNICATIONS (AND POWER WHERE CALLED FOR ON DRAWINGS). WIREMOLD 5400 SERIES, WITH ALL OFFSETS, ANCHORING ATTACHMENTS, ENDCAPS, ETC. AS REQUIRED FOR A COMPLETE INSTALLATION. SOLID SQUARE INDICATES WIREMOLD DROP FROM CEILING.

—PM— SURFACE MOUNTED NON-METAL PLUGMOLD RACEWAY WITH 20 AMP GROUNDING DUPLEX ISOLATED GROUND RECEPTACLES AT 12" ON CENTER. (2 CKT. TYPE - HUBBELL #PT206212)

—WB— WIRE BASKET CABLE SUPPORT SYSTEM "B-LINE" #WB424 (MOUNTED IN CEILING SPACE). INCLUDING ALL MOUNTING HARDWARE, CLAMPS, SUPPORTS, OFFSETS, ETC. SUBMIT COMPLETE INSTALLATION SHOP DRAWINGS FOR REVIEW PRIOR TO CONSTRUCTION.

DOOR CONTACT SWITCH FOR SECURITY SYSTEM ACCESS POINT. FLUSH MOUNTED IN DOOR JAMB.

SECURITY SYSTEM MOTION SENSOR MOUNTED AT +96".

K DIGITAL KEY PAD ARM/DISARM FOR SECURITY SYSTEM. MOUNT PER DETAIL #1 ON E0-0.1 U.N.O.

CR ACCESS CONTROL CARD READER STATION MOUNTED AT +46".

—SI— SECURITY SYSTEM CONDUIT. 3/4" CONDUIT MINIMUM WITH WIRING.

S PUBLIC ADDRESS SPEAKER, BACKBOX, AND GRILL RECESSED MOUNT FLUSH WITH SURFACE.

S PUBLIC ADDRESS SPEAKER, BACKBOX, AND GRILL WALL MOUNTED TYPE. MOUNT AT +8'-0" U.N.O.

S WEATHERPROOF PUBLIC ADDRESS SPEAKER, BACKBOX, AND VANDAL RESISTANT GRILL RECESSED MOUNT FLUSH WITH SURFACE. MOUNT AT +96".

—S— PUBLIC ADDRESS SYSTEM CONDUIT. 3/4" CONDUIT MINIMUM WITH WIRING.

VC VOLUME CONTROL. MOUNT AT +48" U.N.O

TV C MASTER TELEVISION ANTENNA SYSTEM SIGNAL AND POWER OUTLET. MOUNT PER DETAIL ON E0-0.1 U.N.O. CONNECT RECEPTACLE AS INDICATED ON DRAWINGS. "C" INDICATES CEILING MOUNTED. PROVIDE 3/4" CONDUIT MINIMUM WITH PULL STRINGS AND BUSHINGS STUBBED UP INTO CEILING SPACE.

—TV— MASTER ANTENNA TV SYSTEM CONDUIT. 3/4" CONDUIT MINIMUM, WITH CABLING.

VGA COMBINATION SVGA OUTLET AND (2) RCA JACK OUTLETS. MOUNT PER DETAIL #1 ON E0-0.1 U.N.O.

—VGA— 1"C. WITH (1) SVGA-VIDEO CABLE AND (2) 22GA. TSP AUDIO CABLE.

WALL MOUNTED BATTERY POWERED ATOMIC RADIO CONTROLLED CLOCK (PRIMEX#14155). MOUNT AT +96" U.N.O. PROVIDE 4S BOX AND 3/4"C. STUBBED UP INTO CEILING SPACE.

—C— CLOCK SYSTEM CONDUIT. 3/4" CONDUIT MINIMUM WITH WIRING.

W TELEPHONE OUTLET AND HANDSET WITH RJ-45 JACK. MOUNT PER DETAIL #1 ON E0-0.1 U.N.O. "W" ADJACENT INDICATES WALL MOUNTED AT SWITCH HEIGHT PER DETAIL #1 ON E0-0.1 U.N.O. PROVIDE 1"CONDUIT MINIMUM STUBBED UP INTO CEILING SPACE.

TELEPHONE OUTLET AND HANDSET WITH RJ-45 JACK. MOUNT ABOVE COUNTER PER DETAIL #1 ON E0-0.1 U.N.O.

—T1— VOICE SYSTEM CONDUIT RUN. NUMERAL ADJACENT TO "T" INDICATES QUANTITY OF 4 PAIR UTP CAT.6 CABLES IN RUN. PROVIDE 1" CONDUIT FOR 1-8 PAIRS OF CABLE AND 1 1/2" CONDUIT FOR 9-16 PAIRS OF CABLE.

DATA OUTLET WITH CAT 6 RATED RJ-45 JACK. MOUNT PER DETAIL #1 ON E0-0.1 U.N.O. NUMERAL ADJACENT TO OUTLET INDICATES QUANTITY OF RJ-45 JACKS. PROVIDE 1"CONDUIT MINIMUM STUBBED UP INTO CEILING SPACE.

DATA OUTLET WITH CAT 6 RATED RJ-45 JACK. MOUNT ABOVE COUNTER PER DETAIL #1 ON E0-0.1 U.N.O.

DATA OUTLET WITH CAT 6 RATED RJ-45 JACK. MOUNT IN SPECIAL FLUSH FLOOR BOX. NUMERAL ADJACENT TO OUTLET INDICATES OF RJ-45 JACKS.

—D1— DATA SYSTEM CONDUIT RUN. NUMERAL ADJACENT TO "D" INDICATES QUANTITY OF 4 PAIR UTP CAT.6 CABLES IN RUN. PROVIDE 1" CONDUIT FOR 1-8 PAIRS OF CABLE AND 1 1/2" CONDUIT FOR 9-16 PAIRS OF CABLE.

COMBINATION VOICE/DATA OUTLET WITH (2) CAT.6 RATED RJ-45 JACKS. MOUNT PER DETAIL #1 ON E0-0.1 U.N.O. PROVIDE A 4S DEEP BOX WITH 2 GANG RING AND PLATE. PROVIDE 1"C. MINIMUM STUBBED UP INTO CEILING SPACE.

COMBINATION VOICE/DATA OUTLET WITH (2) CAT.6 RATED RJ-45 JACKS. MOUNT ABOVE COUNTER PER DETAIL #1 ON E0-0.1 U.N.O.

COMBINATION VOICE/DATA OUTLET WITH (2) CAT.6 RATED RJ-45 JACKS. FLUSH MOUNT IN SPECIAL FLOOR BOX.

—TD— VOICE/DATA SYSTEM CONDUIT RUN. NUMERAL ADJACENT TO "TD" INDICATES QUANTITY OF 4 PAIR UTP CAT.6 CABLES IN RUN. PROVIDE 1" CONDUIT FOR 1-8 PAIRS OF CABLE AND 1 1/2" CONDUIT FOR 9-16 PAIRS OF CABLE.

MC MICROPHONE JACK. MOUNT PER DETAIL #1 ON E0-0.1 U.N.O. PROVIDE A 4S DEEP BOX WITH SINGLE GANG RING.

M MICROPHONE JACK MOUNTED IN SPECIAL FLUSH FLOOR BOX

—SS— MULTI-USE SOUND SYSTEM CONDUIT RUN. 3/4" CONDUIT MINIMUM WITH CABLING.

CS AUDIO/VIDEO CONTROL STATION MOUNTED AT +48". PROVIDE EXTRA DEEP 2 GANG BOX AND 1 1/4"C.O. STUBBED UP INTO CEILING SPACE.

SS RECESSED SPEAKER BACKBOX FOR AUDIO/VISUAL SYSTEM WITH HANGING WIRE HARDWARE. PROVIDE MINIMUM OF 2 HANGER WIRES CONNECTED TO STRUCTURE.

AVS DIGITAL WALL MOUNT AUDIO/VIDEO SWITCHER.

AV T AUDIO/VIDEO OUTLET WITH (1) RJ-45 JACK, (2) HDMI AND (1) 3.5 MINI-STEREO JACKS/CONNECTORS. PROVIDE EXTRA DEEP 2 GANG BOX AND 1 1/4"C. STUBBED UP INTO CEILING SPACE. "T" ADJACENT INDICATES TEACHER STATION LOCATION.

WAP CEILING MOUNTED WIRELESS ACCESS POINT. ROUTE MINIMUM 3/4"C. WITH (2) CAT 6 RATED CABLES TO BUILDING MDF/IDF.

CLOSED CIRCUIT TELEVISION SYSTEM CAMERA OUTLET BOX AND BLANK COVER PLATE. ROUTE 1"C. FROM OUTLET BOX TO BUILDING MDF/IDF. MOUNT OUTLET BOX AT 10'-6" U.N.O.

HATCH INDICATES PRIMARY SIDELIT DAYLIT ZONE.

HATCH INDICATES SECONDARY SIDELIT DAYLIT ZONE.

FIRE RATED "POKE-THRU" FLOOR MOUNTED DEVICES WITH COMBINATION POWER/DATA OUTLETS. PROVIDE WITH (2) DUPLEX GROUNDING TYPE RECEPTACLES, 20 AMP, 125 VOLT, 2 POLE, 3 WIRE. EQUAL TO LEGRAND WIREMOLD "EVOLUTION SERIES 6".

AVP AUDIO/VIDEO OUTLET WITH (1) RJ-45 JACK, (2) HDMI AND (1) 3.5 MINI-STEREO JACKS/CONNECTORS.

FOR FIRE ALARM LEGEND
SEE SHEET E3.01

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-123582 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 01/10/2024

REGISTERED PROFESSIONAL ENGINEER
No. E 16592
ELECTRICAL
STATE OF CALIFORNIA

DLRGROUP
© DLR Group

DCGA ENGINEERS
Consulting Mechanical and Electrical Engineers

EL MONTE HIGH SCHOOL HVAC PROJECT
EL MONTE UNION HIGH SCHOOL DISTRICT
3048 Tyler Ave, El Monte, CA 91731

DSA SUBMITTAL
09/11/2023
REVISIONS

DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-01

ELECTRICAL SYMBOLS LIST AND ABBREVIATIONS

E0.02

LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	FINISH	LAMP(S)	REMARKS	MANUFACTURER & NO.
A / 57	RECESSED MOUNTED 6'-0" DIRECT LINEAR LIGHT FIXTURE WITH EXTRUDED ALUMINUM HOUSING AND ACRYLIC DIFFUSER. MOUNTING FOR T-BAR CEILING. MIN. 935L OUTPUT PER FOOT. 277V.	WHITE SATIN	LED 4000K	PROVIDE 90 MINUTE EMERGENCY BATTERY PACK WHERE NOTED ON DRAWINGS.	MARK LIGHTING #SL1L-LOP-*FT-TG-90CRI-40K-1000LMF-MIN1-MVOLT
B / 45	RECESSED MOUNTED DIRECT LINEAR LIGHT FIXTURE WITH EXTRUDED ALUMINUM HOUSING AND ACRYLIC DIFFUSER. MOUNTING FOR GYP CEILING. MIN. 935L OUTPUT PER FOOT. 277V.	WHITE SATIN	LED 4000K	PROVIDE 90 MINUTE EMERGENCY BATTERY PACK WHERE NOTED ON DRAWINGS.	MARK LIGHTING #SL1L-LOP-*FT-FL-90CRI-40K-1000LMF-MIN1-MVOLT
C / 5	EMERGENCY EDGE LIT EXIT LIGHT, LED TYPE, GREEN LETTERS, SINGLE FACE, WALL, CEILING OR END MOUNT, WITH DIRECTIONAL ARROWS SHOWN. 277V.	BRUSHED ALUMINUM TRIM	LED	TYPE "C": VERIFY MOUNTING CONFIGURATION AND ARROWS PRIOR TO ORDERING FIXTURES. PROVIDE 90 MINUTE EMERGENCY BATTERY PACK.	BEGHELLI #CYC-SA-LG-1-C-*-BA OR EQUAL BY ISOLITE

ACCEPTANCE TESTING

MANDATORY ACCEPTANCE TESTING PER TITLE 24, PART 6 SECTION 130.4 SHALL BE AS FOLLOWS:

THE CONTRACTOR SHALL PROVIDE THE ACCEPTANCE TESTING AGENT. THE ACCEPTANCE TESTING AGENT SHALL BE A CERTIFIED LIGHTING CONTROLS ACCEPTANCE TEST TECHNICIAN (CLCATT). THE CLCATT SHALL PERFORM ALL LIGHTING CONTROL INSTALLATION CERTIFICATION AS REQUIRED BY TITLE 24, PART 6 SECTION 130.4 (a) AND 130.4 (b). THIS SHALL INCLUDE, BUT NOT LIMITED TO, FILLING OUT, SIGNING AND SUBMITTING ALL REQUIRED DOCUMENTATION,

THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE LIGHTING CONTROL SYSTEMS WITH THE CLCATT PRIOR TO INSTALLATION.

LIGHTING CONTROL SYSTEM SEQUENCE OF OPERATIONS

REFER TO LIGHTING PLANS FOR QUANTITY AND LOCATION OF ALL LIGHTING CONTROL COMPONENTS AND LIGHT FIXTURES; IDENTIFICATION OF LIGHT FIXTURE AND DEVICE SWITCH LEG IDENTIFICATION. REFER TO THE LIGHTING CONTROL WIRING DIAGRAMS FOR ADDITIONAL INFORMATION. LIGHTING CONTROLS SHALL BE INSTALLED IN COMPLIANCE WITH 2022 CALIFORNIA ENERGY CODE (CEC) SECTION 130.1 MINIMUM.

<u>OFFICE/WORKROOMS/RECEPTION AREAS/LIBRARIES (GENERAL LIGHTING)</u> - ROOM OCCUPANCY SENSOR(S) SHALL TURN LIGHT FIXTURES OFF WHEN ROOM HAS BEEN UNOCCUPIED FOR 20 MINUTES. LIGHT FIXTURES SHALL BE TURNED ON TO 50 PERCENT WHEN ROOM BECOMES OCCUPIED. WHEN LIGHT FIXTURES ARE TURNED ON AT WALL SWITCH, THEY SHALL BE SET OR COME ON TO FULL BRIGHTNESS OR PRESET FOOT CANDLE LEVELS.

WALL DIMMERS SHALL BE USED FOR MANUAL CONTROL OF LIGHT FIXTURES AND SHALL BE EQUIPPED WITH AN ON/OFF SWITCH.

LIGHT FIXTURES WHICH ARE REQUIRED TO HAVE AUTOMATIC "DAYLIGHTING" CONTROLS SHALL ALSO BE CONTROLLED WITH A PHOTOCELL IN ADDITION TO OCCUPANCY SENSORS AND WALL DIMMERS. THE PHOTOCELL SHALL MEASURE THE AMOUNT OF DAYLIGHT ENTERING THE SPACE AND REDUCE THE LIGHT OUTPUT OF THE LIGHT FIXTURES TO MAINTAIN THE DESIGNED FOOT CANDLE LEVELS IN THE ROOM. WALL DIMMERS SHALL ALLOW THE LIGHT FIXTURES TO DIM LOWER THAN THE LIGHT BEING MEASURED IN THE ROOM, BUT NOT HIGHER.

WHERE CONTROLLED RECEPTACLES ARE SHOWN, THEY SHALL BE CONTROLLED BY THE ROOM OCCUPANCY SENSOR AND LIGHTING CONTROL SYSTEM. OCCUPANCY SENSOR SETTINGS USED FOR CONTROLLING LIGHT FIXTURES SHALL BE USED FOR CONTROLLING THE RECEPTACLES.

<u>CLASSROOMS/MULTI-PURPOSE ROOMS/GYMNASIUMS</u> - ROOM OCCUPANCY SENSOR(S) SHALL TURN LIGHT FIXTURES OFF WHEN ROOM HAS BEEN UNOCCUPIED FOR 20 MINUTES. LIGHT FIXTURES SHALL BE TURNED ON TO 50 PERCENT WHEN ROOM BECOMES OCCUPIED. WHEN LIGHT FIXTURES ARE TURNED ON AT WALL SWITCH, THEY SHALL BE SET OR COME ON TO FULL BRIGHTNESS OR PRESET FOOT CANDLE LEVELS.

WALL DIMMERS SHALL BE USED FOR MANUAL CONTROL OF LIGHT FIXTURES AND SHALL BE EQUIPPED WITH AN ON/OFF SWITCH. WHERE MULTI-BUTTON SWITCH(S)/DIMMER(S) ARE USED, EACH BUTTON SHALL BE PROGRAMMED FOR A SPECIFIC LIGHTING SCENE. ACTIVATION OF A SPECIFIC BUTTON SHALL AUTOMATICALLY RECALL THE LIGHTING SCENE. "ON/OFF" AND MANUAL DIMMING CONTROL FUNCTIONS SHALL OVERRIDE PRESET SCENES. REFER TO LIGHTING CONTROL WIRING DIAGRAMS FOR SCENE SETTINGS AND SWITCH BUTTON IDENTIFICATION WHERE REQUIRED.

LIGHT FIXTURES WHICH ARE REQUIRED TO HAVE AUTOMATIC "DAYLIGHTING" CONTROLS SHALL ALSO BE CONTROLLED WITH A PHOTOCELL IN ADDITION TO OCCUPANCY SENSORS AND WALL DIMMERS. THE PHOTOCELL SHALL MEASURE THE AMOUNT OF DAYLIGHT ENTERING THE SPACE AND REDUCE THE LIGHT OUTPUT OF THE LIGHT FIXTURES TO MAINTAIN THE DESIGNED FOOT CANDLE LEVELS IN THE ROOM. WALL DIMMERS SHALL ALLOW THE LIGHT FIXTURES TO DIM LOWER THAN THE LIGHT BEING MEASURED IN THE ROOM, BUT NOT HIGHER.

<u>CORRIDORS</u> - CORRIDOR OCCUPANCY SENSORS SHALL REDUCE THE LIGHTING POWER BY 50% WHEN CORRIDOR HAS BEEN UNOCCUPIED FOR 5 MINUTES. LIGHT FIXTURES SHALL BE COMPLETELY TURNED OFF WHEN SPACE HAS BEEN UNOCCUPIED FOR 20 MINUTES. LIGHT FIXTURES SHALL BE AUTOMATICALLY TURNED ON WHEN SPACE IS OCCUPIED. WHEN LIGHT FIXTURES ARE TURNED ON, THEY SHALL BE SET TO FULL BRIGHTNESS OR PRESET FOOT CANDLE LEVELS.

WALL SWITCHES SHALL BE USED FOR MANUAL "ON/OFF" CONTROL OF LIGHT FIXTURES.

<u>RESTROOMS</u> - ROOM OCCUPANCY SENSOR(S) SHALL TURN LIGHT FIXTURES OFF WHEN ROOM HAS BEEN UNOCCUPIED FOR 15 MINUTES. LIGHT FIXTURES SHALL BE AUTOMATICALLY TURNED ON WHEN ROOM BECOMES OCCUPIED. WHEN LIGHT FIXTURES ARE TURNED ON, THEY SHALL BE SET TO FULL BRIGHTNESS OR PRESET FOOT CANDLE LEVELS.

WALL SWITCHES SHALL BE USED FOR MANUAL "ON/OFF" CONTROL OF LIGHT FIXTURES.

WHERE SHOWN ON PLANS, WALL DIMMERS SHALL BE USED FOR MANUAL CONTROL OF LIGHT FIXTURES AND SHALL BE EQUIPPED WITH AN "ON/OFF" SWITCH.

<u>STORAGE ROOMS</u> - ROOM OCCUPANCY WALL SENSOR(S) SHALL TURN LIGHT FIXTURES OFF WHEN ROOM HAS BEEN UNOCCUPIED FOR 15 MINUTES. LIGHT FIXTURES SHALL BE MANUALLY TURNED ON WHEN ROOM IS OCCUPIED. WHEN LIGHT FIXTURES ARE TURNED ON, THEY SHALL BE SET TO FULL BRIGHTNESS OR PRESET FOOT CANDLE LEVELS.

WALL SWITCHES SHALL BE USED FOR MANUAL "ON/OFF" CONTROL OF LIGHT FIXTURES.

WHERE SHOWN ON PLANS, WALL DIMMERS SHALL BE USED FOR MANUAL CONTROL OF LIGHT FIXTURES AND SHALL BE EQUIPPED WITH AN "ON/OFF" SWITCH.

<u>LIBRARY STACK AISLE</u> - OCCUPANCY SENSORS CONTROLLING LIGHT FIXTURES ILLUMINATING BOOK STACK AISLES MATCHING THE REQUIREMENTS OF CEC 131(C),6,B SHALL REDUCE THE LIGHTING POWER BY 50% WHEN THE BOOK STACK AISLE IS UNOCCUPIED FOR 5 MINUTES. LIGHT FIXTURES SHALL BE COMPLETELY TURNED OFF WHEN BOOK STACK AISLES HAVE BEEN UNOCCUPIED FOR 20 MINUTES. LIGHT FIXTURES SHALL AUTOMATICALLY COME ON WHEN BOOK STACK AISLES ARE OCCUPIED. WHEN LIGHT FIXTURES ARE TURNED ON, THEY SHALL BE SET TO FULL BRIGHTNESS OR PRESET FOOT CANDLE LEVELS.

<u>DEMAND RESPONSE</u> - LIGHT FIXTURES, RECEPTACLES AND LIGHTING CONTROLS SUBJECTED TO DEMAND RESPONSE REQUIRMENTS SHALL BE INSATLLED IN ACCORDANCE WITH CEC SECTION 110.12. LIGHTING CONTROLS SHALL COMPLY WITH THE REQUIREMENTS OF CEC 110.12(a). LIGHT FIXTURES SUBJECTED TO DEMAND RESPONSE SHALL HAVE THEIR LIGHTING POWER REDUCED BY A MINIMUM OF 15 PERCENT. CONTROLLED RECEPTACLES SHALL BE AUTOMATICALLY TURNED OFF.

<u>OUTDOOR LIGHTING</u> – ASTRONOMICAL TIMECLOCK PROGRAMMING SHALL BE PROVIDE BY THE ELECTRICAL CONTRACTOR. ELECTRICAL CONTRACTOR SHALL RECIEVE OUTDOOR LIGHTING SCHUDELS FROM THE OWNER AND PROGRAM SYSTEM ACCORDINGLY.

LIGHT FIXTURES WITH MOTION SENSOR CONTROL SHALL HAVE THEIR POWER REDUCED BY 50 PERCENT 15 MINUTES AFTER THE AREA HAS BEEN VACATED. FIXTURES SHALL BE RETURNED TO FULL BRITE WHEN THE AREA BECOMES OCCUPIED.

<u>LIGHT LEVELS:</u>
LIGHTING LEVELS (FOOTCANDLES) WILL BE DESIGNED IN ACCORDANCE WITH ILLUMINATING ENGINEERING SOCIETY (IES) GUIDELINES. THE FOLLOWING LIGHTING LEVELS WILL BE PROVIDED:

AREA	MAINTAINED LIGHTING LEVEL AT THE WORK PLANE
OFFICES	40-50
LOBBY	20-30
CORRIDORS	10-20
STORAGE/JANITOR'S ROOM	10-20
TOILETS	20-30
ELECTRICAL/MECHANICAL ROOMS	20-30
COMMUNICATIONS EQUIPMENT ROOMS	50-70
CLASSROOMS	40-50
KITCHENS	40-50
GYMNASIUM	50-100
LIBRARY	40-50

LIGHTING FIXTURE NOTES

1. EXIT SIGNS WITH THROUGH WIRING SHALL BE EQUIPPED WITH A SEPARATE JUNCTION BOX FOR TERMINATION OF CONDUITS. FURNISH A SEPARATE BOX FOR EACH CIRCUIT.
2. CONTRACTOR SHALL VERIFY ALL MOUNTING REQUIREMENTS FOR ALL RECESSED LIGHTING FIXTURES, PRIOR TO SHOP DRAWINGS SUBMITTALS. IT IS THE CONTRACTORS RESPONSIBILITY TO SECURE THE MOUNTING HARDWARE THAT IS COMPATIBLE WITH THE CEILING AND THE CONFIGURATION OF THE LIGHTING LAYOUT.
3. FOR LIGHTING FIXTURE VOLTAGE RATINGS, THE CONTRACTOR IS RESPONSIBLE TO VERIFY FIXTURE AND DRIVER VOLTAGES WITH BRANCH CIRCUIT WIRING.
4. LAMP COLOR FOR LED FIXTURES SHALL BE 4000°K U.N.O.
5. LENSES OF ALL LED LIGHTING FIXTURES SHALL NOT BE LESS THAN 0.125" THICK, EQUAL TO KSH-K12 WHERE APPLICABLE.
6. FOR FIXTURES RECESSED INTO NON-COMBUSTIBLE CEILINGS, PROVIDE YOKE MOUNTED OUTLET BOXES, ACCESSIBLE FROM INSIDE FIXTURE.
7. FIXTURES SHALL BE U.L. LISTED FOR INTENDED LOCATION.
8. FINISH OF FIXTURES SHALL BE AS SELECTED BY ARCHITECT.
9. LIGHTING FIXTURES IN MECHANICAL SPACES ARE SHOWN IN THEIR APPROXIMATE LOCATION ONLY. DO NOT INSTALL LIGHT OUTLETS FOR FIXTURES UNTIL MECHANICAL PIPING AND DUCTWORK ARE INSTALLED; THEN LIGHTING FIXTURES SHALL BE INSTALLED IN LOCATIONS BEST SUITED FOR EQUIPMENT ARRANGEMENT AND AS APPROVED BY THE PROJECT MANAGER.
10. THE CONTRACTOR SHALL VERIFY ALL WINDOW HEIGHTS AND DAYLIT ZONES PRIOR TO INSTALLATION OF LIGHTING CONTROLS.
11. ALL LED LIGHT FIXTURES SHALL BE TESTED TO LM-79 AND LM-80 IES STANDARDS.

SUSPENDED ACOUSTICAL CEILINGS:

HEAVY DUTY GRID SYSTEM:
FLUSH OR RECESSED LIGHT FIXTURES WEIGHING LESS THAN 56 POUNDS MAY BE SUPPORTED DIRECTLY ON THE RUNNERS OF A HEAVY DUTY GRID SYSTEM. IN ADDITION, THEY SHALL HAVE A MINIMUM OF TWO 12 GAUGE SLACK SAFETY WIRES ATTACHED TO THE FIXTURE AT DIAGONAL CORNERS AND ANCHORED TO THE STRUCTURE ABOVE. ALL 4 FOOT BY 4 FOOT LIGHT FIXTURES SHALL HAVE SLACK SAFETY WIRES AT EACH CORNER. ALL FLUSH OR RECESSED LIGHT FIXTURES WEIGHING 56 POUNDS OR MORE SHALL BE INDEPENDENTLY SUPPORTED BY NOT LESS THAN 4 TAUT 12 GAUGE WIRES EACH ATTACHED TO THE FIXTURE AND TO THE STRUCTURE ABOVE. REGARDLESS OF THE TYPE OF CEILING GRID SYSTEM USED. THE 4 TAUT 12 GAUGE WIRES INCLUDING THEIR ATTACHMENT TO THE STRUCTURE ABOVE SHALL BE CAPABLE OF SUPPORTING 4 TIMES THE WEIGHT OF THE UNIT.

SURFACE MOUNTED FIXTURES:
SUPPORT SURFACE MOUNTED LIGHT FIXTURES BY AT LEAST TWO POSITIVE DEVICES WHICH SURROUND THE CEILING RUNNER AND WHICH ARE EACH SUPPORTED FROM THE STRUCTURE ABOVE BY A 12 GAUGE WIRE. SPRING CLIPS OR CLAMPS THAT CONNECT ONLY TO THE RUNNER ARE NOT ACCEPTABLE. PROVIDE ADDITIONAL SUPPORTS WHEN LIGHT FIXTURES ARE EIGHT FEET OR LONGER.

SUSPENDED DRYWALL CEILINGS:
ALL RECESSED OR DROP-IN LIGHT FIXTURES SHALL BE SUPPORTED DIRECTLY BY MAIN RUNNERS OR BY SUPPLEMENTAL FRAMING WHICH IS SUPPORTED BY MAIN RUNNERS. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH THE CEILING CONTRACTOR TO PROVIDE APPROPRIATE FRAMING AND LOCATION FOR FIXTURES. SURFACE MOUNTED FIXTURES SHALL BE ATTACHED TO A MAIN RUNNER WITH A POSITIVE CLAMPING DEVICE MADE OF MATERIAL WITH A MINIMUM OF 14 GAUGE. ROTATIONAL SPRING CATCHES SHALL NOT BE ALLOWED.

PENDANT MOUNTED FIXTURES:
PENDANT MOUNTED FIXTURES SHALL BE SUPPORTED BY A WIRE OR (SAFETY) CABLE PASSING THROUGH EACH PENDANT HANGER AND CAPABLE OF SUPPORTING 4 TIMES THE WEIGHT OF THE FIXTURE. WHERE PENDANT MOUNTED FIXTURES ARE INSTALLED ON A GRID CEILING OR WHERE THE FIXTURE WEIGHS 50 POUNDS OR MORE, THE WIRE OR CABLE PASSING THROUGH THE PENDANT HANGER SHALL BE SUPPORTED DIRECTLY FROM THE STRUCTURE.

PENDANT MOUNTED FIXTURES SHALL BE SUPPLIED WITH SWIVEL HANGERS AND SHALL BE CAPABLE OF SWINGING 45 DEGREES IN ANY DIRECTION FROM PLUMB WITHOUT OBSTRUCTION. FIXTURES SHALL HAVE STEMS WHICH ARE ONE PIECE WITHOUT COUPLING AND ARE TO HAVE THE SAME FINISH AS THE FIXTURE AND SWIVEL HANGER CANOPY. INDUSTRIAL TYPE FLUORESCENT FIXTURES INSTALLED IN AREAS OR ROOMS WITH EXPOSED STRUCTURE (NO CEILING) MAY BE CHAIN HUNG IN LIEU OF PROVIDING A STEM AND CANOPY. WHERE FIXTURES CAN NOT SWING UNOBSTRUCTED 45 DEGREES IN ANY DIRECTION, ADDITIONAL GUY WIRES OR SOLID BRACING IS REQUIRED. THE CONTRACTOR SHALL SUBMIT THE METHOD OF BRACING TO THE ARCHITECT FOR APPROVAL PRIOR TO INSTALLATION.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-123582 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 01/10/2024

REGISTERED PROFESSIONAL ENGINEER
CHEN HSING FANG
No. E 16592
ELECTRICAL
STATE OF CALIFORNIA

DLRGROUP
© DLR Group

EL MONTE HIGH SCHOOL HVAC PROJECT
EL MONTE UNION HIGH SCHOOL DISTRICT
3048 Tyler Ave, El Monte, CA 91731

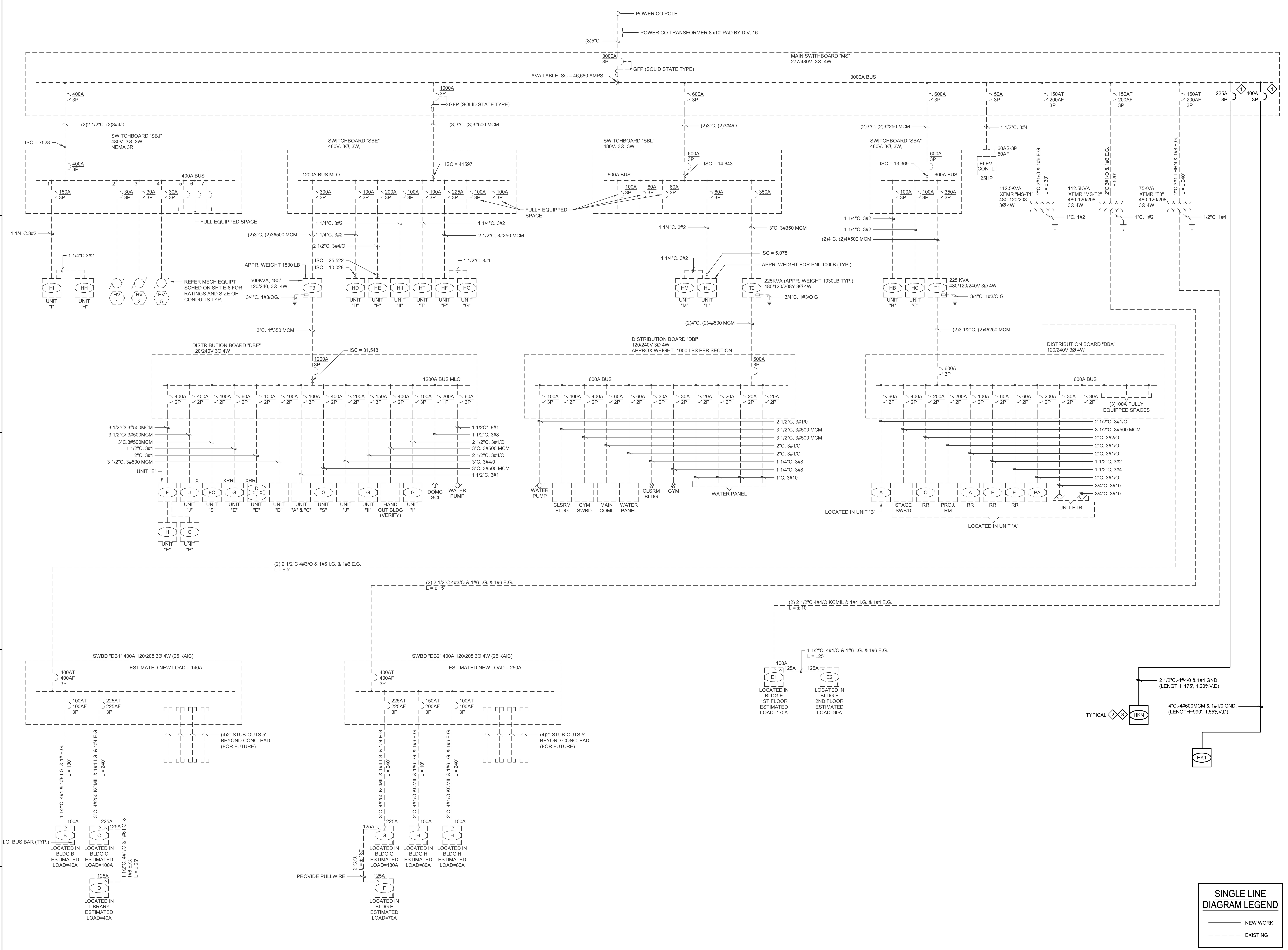
DCGA ENGINEERS
Consulting Mechanical and Electrical Engineers
4750 E. Ontario Mills Pkwy
Ontario, Ca. 91764
Ph.909.987.0017
Fax 909.980.7023

DSA SUBMITTAL
09/11/2023
REVISIONS

DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-01

LIGHTING FIXTURE SCHEDULE AND NOTES

E0.03



SINGLE LINE DIAGRAM LEGEND

- NEW WORK (solid line)
- EXISTING (dashed line)

SHEET NOTES

1. PROVIDE NEW CIRCUIT BREAKER TO MATCH EXISTING MANUFACTURER AND AIC RATING
2. FURNISH GROUND BUS IN EACH BRANCH CIRCUIT PANEL, ALL PANELS 480/277 VOLT AND 208/120 VOLT, SHALL HAVE THE FEEDER EQUIPMENT GROUNDING CONDUCTOR CONNECTED TO GROUND BUS. FURNISH EQUIPMENT GROUNDING CONDUCTOR IN EVERY FEEDER AND BRANCH CIRCUIT, RUN TO LAST OUTLET AND CONNECT TO BUS. CONDUIT GROUND IS NOT ACCEPTABLE AS A SUBSTITUTE. TYPICAL ALL PANELS, SWITCHBOARDS, DISTRIBUTION PANELBOARDS, AND SWITCHGEAR.
3. PANELBOARDS SHALL BE PROVIDED WITH BRANCH METERING CAPABILITIES AND ALL REQUIRED ACCESSORIES.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-123582 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 01/10/2024

DLRGROUP
© DLR Group

DCGA ENGINEERS
Consulting Mechanical and Electrical Engineers

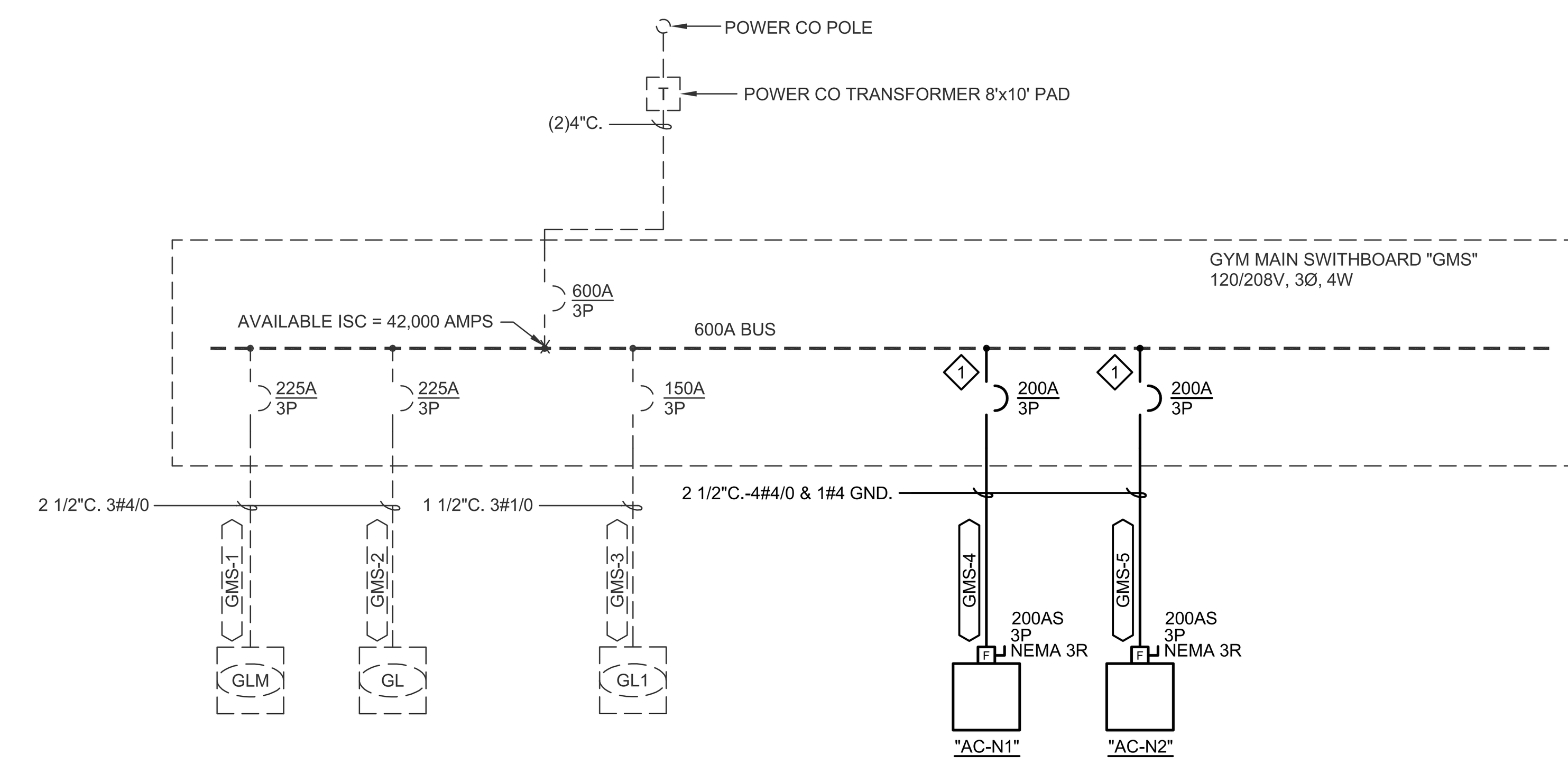
EL MONTE HIGH SCHOOL HVAC PROJECT
EL MONTE UNION HIGH SCHOOL DISTRICT
3048 Tyler Ave, El Monte, CA 91731

DSA SUBMITTAL
09/11/2023
REVISIONS

DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-01

SINGLE LINE DIAGRAM

E0.04



SINGLE LINE DIAGRAM LEGEND

——— NEW WORK
- - - - EXISTING

SHEET NOTES

1. PROVIDE NEW CIRCUIT BREAKER TO MATCH EXISTING MANUFACTURER AND AIC RATING

Size-Ampacity	Copper AWG 12 (Max ampacity - 25 amps 60°)															
Strands	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1
Phase	1	1	1	1	3	3	1	1	3	3	1	1	1	1	3	3
Voltage	120	120	208	208	208	208	240	240	240	240	277	277	480	480	480	480
Amps	Maximum lenghts of wire at 3% voltage drop in feet															
1	909.1	932.6	1575.8	1616.6	1819.5	1866.7	1818.2	1865.3	2099.5	2153.8	2098.5	2152.8	3636.4	3730.6	4198.9	4307.7
2	454.5	466.3	787.9	808.3	909.8	933.3	909.1	932.6	1049.7	1076.9	1049.2	1076.4	1818.2	1865.3	2099.5	2153.8
3	303.0	310.9	525.3	538.9	606.5	622.2	606.1	621.8	699.8	717.9	699.5	717.6	1212.1	1243.5	1399.6	1435.9
4	227.3	233.2	393.9	404.1	454.9	466.7	454.5	466.3	524.9	538.5	524.6	538.2	909.1	932.6	1049.7	1076.9
5	181.8	186.5	315.2	323.3	363.9	373.3	363.6	373.1	419.9	430.8	419.7	430.6	727.3	746.1	839.8	861.5
6	151.5	155.4	262.6	269.4	303.3	311.1	303.0	310.9	349.9	359.0	349.7	358.8	606.1	621.8	699.8	717.9
7	129.9	133.2	225.1	230.9	259.9	266.7	259.7	266.5	299.9	307.7	299.8	307.5	519.5	532.9	599.8	615.4
8	113.6	116.6	197.0	202.1	227.4	233.3	227.3	233.2	262.4	269.2	262.3	269.1	454.5	466.3	524.9	538.5
9	101.0	103.6	175.1	179.6	202.2	207.4	202.0	207.3	233.3	239.3	233.2	239.2	404.0	414.5	466.5	478.6
10	90.9	93.3	157.6	161.7	182.0	186.7	181.8	186.5	209.9	215.4	209.8	215.3	363.6	373.1	419.9	430.8
15	60.6	62.2	105.1	107.8	121.3	124.4	121.2	124.4	140.0	143.6	139.9	143.5	242.4	248.7	279.9	287.2
16	56.8	58.3	98.5	101.0	113.7	116.7	113.6	116.6	131.2	134.6	131.2	134.6	227.3	233.2	262.4	269.2
17	53.5	54.9	92.7	95.1	107.0	109.8	107.0	109.7	123.5	126.7	123.4	126.6	213.9	219.4	247.0	253.4
18	50.5	51.8	87.5	89.8	101.1	103.7	101.0	103.6	116.6	119.7	116.6	119.6	202.0	207.3	233.3	239.3
19	47.8	49.1	82.9	85.1	95.8	98.2	95.7	98.2	110.5	113.4	110.4	113.3	191.4	196.3	221.0	226.7
20	45.5	46.6	78.8	80.8	91.0	93.3	90.9	93.3	105.0	107.7	104.9	107.6	181.8	186.5	209.9	215.4
25	36.4	37.3	63.0	64.7	72.8	74.7	72.7	74.6	84.0	86.2	83.9	86.1	145.5	149.2	168.0	172.3
30																
35																
40																
45																
50																
60																
70																
80																
90																
100																

Size-Ampacity	Copper AWG 10 (Max ampacity - 30 amps 60°)															
Strands	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1
Phase	1	1	1	1	3	3	1	1	3	3	1	1	1	1	3	3
Voltage	120	120	208	208	208	208	240	240	240	240	277	277	480	480	480	480
Amps	Maximum lenghts of wire at 3% voltage drop in feet															
1	1451.6	1487.6	2516.1	2578.5	2905.4	2977.4	2903.2	2975.2	3352.4	3435.5	3350.8	3433.9	5806.5	5950.4	6704.7	6870.9
2	725.8	743.8	1258.1	1289.3	1452.7	1488.7	1451.6	1487.6	1676.2	1717.7	1675.4	1716.9	2903.2	2975.2	3352.4	3435.5
3	483.9	495.9	838.7	859.5	968.5	992.5	967.7	991.7	1117.5	1145.2	1116.9	1144.6	1935.5	1983.5	2234.9	2290.3
4	362.9	371.9	629.0	644.6	726.3	744.4	725.8	743.8	838.1	858.9	837.7	858.5	1451.6	1487.6	1676.2	1717.7
5	290.3	297.5	503.2	515.7	581.1	595.5	580.6	595.0	670.5	687.1	670.2	686.8	1161.3	1190.1	1340.9	1374.2
6	241.9	247.9	419.4	429.8	484.2	496.2	483.9	495.9	558.7	572.6	558.5	572.3	967.7	991.7	1117.5	1145.2
7	207.4	212.5	359.4	368.4	415.1	425.3	414.7	425.0	478.9	490.8	478.7	490.6	829.5	850.1	957.8	981.6
8	181.5	186.0	314.5	322.3	363.2	372.2	362.9	371.9	419.0	429.4	418.9	429.2	725.8	743.8	838.1	858.9
9	161.3	165.3	279.6	286.5	322.8	330.8	322.6	330.6	372.5	381.7	372.3	381.5	645.2	661.2	745.0	763.4
10	145.2	148.8	251.6	257.9	290.5	297.7	290.3	297.5	335.2	343.5	335.1	343.4	580.6	595.0	670.5	687.1
15	96.8	99.2	167.7	171.9	193.7	198.5	193.5	198.3	223.5	229.0	223.4	228.9	387.1	396.7	447.0	458.1
16	90.7	93.0	157.3	161.2	181.6	186.1	181.5	186.0	209.5	214.7	209.4	214.6	362.9	371.9	419.0	429.4
17	85.4	87.5	148.0	151.7	170.9	175.1	170.8	175.0	197.2	202.1	197.1	202.0	341.6	350.0	394.4	404.2
18	80.6	82.6	139.8	143.3	161.4	165.4	161.3	165.3	186.2	190.9	186.2	190.8	322.6	330.6	372.5	381.7
19	76.4	78.3	132.4	135.7	152.9	156.7	152.8	156.6	176.4	180.8	176.4	180.7	305.6	313.2	352.9	361.6
20	72.6	74.4	125.8	128.9	145.3	148.9	145.2	148.8	167.6	171.8	167.5	171.7	290.3	297.5	335.2	343.5
25	58.1	59.5	100.6	103.1	116.2	119.1	116.1	119.0	134.1	137.4	134.0	137.4	232.3	238.0	268.2	274.8
30	48.4	49.6	83.9	86.0	96.8	99.2	96.8	99.2	111.7	114.5	111.7	114.5	193.5	198.3	223.5	229.0
35																
40																
45																
50																
60																
70																
80																
90																
100																

Size-Ampacity	Copper AWG 8 (Max ampacity - 40 amps 60°)															
Strands	7	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1
Phase	1	1	1	1	3	3	1	1	3	3	1	1	1	1	3	3
Voltage	120	120	208	208	208	208	240	240	240	240	277	277	480	480	480	480
Amps	Maximum lenghts of wire at 3% voltage drop in feet															
1	2313.6	2356.0	4010.3	4083.8	4630.7	4715.5	4627.2	4712.0	5343.1	5441.0	5340.6	5438.5	9254.5	9424.1	10686.2	10882.0
2	1156.8	1178.0	2005.1	2041.9	2315.3	2357.8	2313.6	2356.0	2671.5	2720.5	2670.3	2719.2	4627.2	4712.0	5343.1	5441.0
3	771.2	785.3	1336.8	1361.3	1543.6	1571.8	1542.4	1570.7	1781.0	1813.7	1780.2	1812.8	3084.8	3141.4	3562.1	3627.3
4	578.4	589.0	1002.6	1020.9	1157.7	1178.9	1156.8	1178.0	1335.8	1360.2	1335.2	1359.6	2313.6	2356.0	2671.5	2720.5
5	462.7	471.2	802.1	816.8	926.1	943.1	925.4	942.4	1068.6	1088.2	1068.1	1087.7	1850.9	1884.8	2137.2	2176.4
6	385.6	392.7	668.4	680.6	771.8	785.9	771.2	785.3	890.5	906.8	890.1	906.4	1542.4	1570.7	1781.0	1813.7
7	330.5	336.6	572.9	583.4	661.5	673.6	661.0	673.1	763.3	777.3	762.9	776.9	1322.1	1346.3	1526.6	1554.6
8	289.2	294.5	501.3	510.5	578.8	589.4	578.4	589.0	667.9	680.1	667.6	679.8	1156.8	1178.0	1335.8	1360.2
9	257.1	261.8	445.6	453.8	514.5	523.9	514.1	523.6	593.7	604.6	593.4	604.3	1028.3	1047.1	1187.4	1209.1
10	231.4	235.6	401.0	408.4	463.1	471.6	462.7	471.2	534.3	544.1	534.1	543.8	925.4	942.4	1068.6	1088.2
15	154.2	157.1	267.4	272.3	308.7	314.4	308.5	314.1	356.2	362.7	356.0	362.6	617.0	628.3	712.4	725.5
16	144.6	147.3	250.6	255.2	289.4	294.7	289.2	294.5	333.9	340.1	333.8	339.9	578.4	589.0	667.9	680.1
17	136.1	138.6	235.9	240.2	272.4	277.4	272.2	277.2	314.3	320.1	314.2	319.9	544.4	554.4	628.6	640.1
18	128.5	130.9	222.8	226.9	257.3	262.0	257.1	261.8	296.8	302.3	296.7	302.1	514.1	523.6	593.7	604.6
19	121.8	124.0	211.1	214.9	243.7	248.2	243.5	248.0	281.2	286.4	281.1	286.2	487.1	496.0	562.4	572.7
20	115.7	117.8	200.5	204.2	231.5	235.8	231.4	235.6	267.2	272.0	267.0	271.9	462.7	471.2	534.3	544.1
25	92.5	94.2	160.4	163.4	185.2	188.6	185.1	188.5	213.7	217.6	213.6	217.5	370.2	377.0	427.4	435.3
30	77.1	78.5	133.7	136.1	154.4	157.2	154.2	157.1	178.1	181.4	178.0	181.3	308.5	314.1	356.2	362.7
35	66.1	67.3	114.6	116.7	132.3	134.7	132.2	134.6	152.7	155.5	152.6	155.4	264.4	269.3	305.3	310.9
40	57.8	58.9	100.3	102.1	115.8	117.9	115.7	117.8	133.6	136.0	133.5	136.0	231.4	235.6	267.2	272.0
45	51.4	52.4	89.1	90.8	102.9	104.8	102.8	104.7	118.7	120.9	118.7	120.9	205.7	209.4	237.5	241.8
50	46.3	47.1	80.2	81.7	92.6	94.3	92.5	94.2	106.9	108.8	106.8	108.8	185.1	188.5	213.7	217.6
60	38.6	39.3	66.8	68.1	77.2	78.6	77.1	78.5	89.1	90.7	89.0	90.6	154.2	157.1	178.1	181.4
70																
80																
90																
100																

Size-Ampacity	Copper AWG 6 (Max ampacity - 55 amps 60°)								
Strands	7	7	7	7	7	7	7	7	7
Phase	1	1	3	1	3	1	3	1	3
Voltage	120	208	208	240	240	277	277	480	480
Amps	Maximum lenghts of wire at 3% voltage drop in feet								
1	3666.0	6354.4	7337.4	7332.0	8466.2	8462.3	9771.4	14664.0	16932.5
2	1833.0	3177.2	3668.7	3666.0	4233.1	4231.2	4885.7	7332.0	8466.2
3	1222.0	2118.1	2445.8	2444.0	2822.1	2820.8	3257.1	4888.0	5644.2
4	916.5	1588.6	1834.4	1833.0	2116.6	2115.6	2442.9	3666.0	4233.1
5	733.2	1270.9	1467.5	1466.4	1693.2	1692.5	1954.3	2932.8	3386.5
6	611.0	1059.1	1222.9	1222.0	1411.0	1410.4	1628.6	2444.0	2822.1
7	523.7	907.8	1048.2	1047.4	1209.5	1208.9	1395.9	2094.9	2418.9
8	458.2	794.3	917.2	916.5	1058.3	1057.8	1221.4	1833.0	2116.6
9	407.3	706.0	815.3	814.7	940.7	940.3	1085.7	1629.3	1881.4
10	366.6	635.4	733.7	733.2	846.6	846.2	977.1	1466.4	1693.2
15	244.4	423.6	489.2	488.8	564.4	564.2	651.4	977.6	1128.8
16	229.1	397.1	458.6	458.2	529.1	528.9	610.7	916.5	1058.3
17	215.6	373.8	431.6	431.3	498.0	497.8	574.8	862.6	996.0
18	203.7	353.0	407.6	407.3	470.3	470.1	542.9	814.7	940.7
19	192.9	334.4	386.2	385.9	445.6	445.4	514.3	771.8	891.2
20	183.3	317.7	366.9	366.6	423.3	423.1	488.6	733.2	846.6
25	146.6	254.2	293.5	293.3	338.6	338.5	390.9	586.6	677.3
30	122.2	211.8	244.6	244.4	282.2	282.1	325.7	488.8	564.4
35	104.7	181.6	209.6	209.5	241.9	241.8	279.2	419.0	483.8
40	91.6	158.9	183.4	183.3	211.7	211.6	244.3	366.6	423.3
45	81.5	141.2	163.1	162.9	188.1	188.1	217.1	325.9	376.3
50	73.3	127.1	146.7	146.6	169.3	169.2	195.4	293.3	338.6
60	61.1	105.9	122.3	122.2	141.1	141.0	162.9	244.4	282.2
70	52.4	90.8	104.8	104.7	120.9	120.9	139.6	209.5	241.9
80	45.8	79.4	91.7	91.6	105.8	105.8	122.1	183.3	211.7
90									
100									

Size-Ampacity	Copper AWG 4 (Max ampacity - 70 amps 60°)							
Strands	7	7	7	7	7	7	7	7
Phase	1	1	3	1	3	1	1	3
Voltage	120	208	208	240	240	277	480	480
Amps								
1	5844.2	10129.9	11697.0	11688.3	13496.5	13490.3	23376.6	26993.0
2	2922.1	5064.9	5848.5	5844.2	6748.2	6745.1	11688.3	13496.5
3	1948.1	3376.6	3899.0	3896.1	4498.8	4496.8	7792.2	8997.7
4	1461.0	2532.5	2924.2	2922.1	3374.1	3372.6	5844.2	6748.2
5	1168.8	2026.0	2339.4	2337.7	2699.3	2698.1	4675.3	5398.6
6	974.0	1688.3	1949.5	1948.1	2249.4	2248.4	3896.1	4498.8
7	834.9	1447.1	1671.0	1669.8	1928.1	1927.2	3339.5	3856.1
8	730.5	1266.2	1462.1	1461.0	1687.1	1686.3	2922.1	3374.1
9	649.4	1125.5	1299.7	1298.7	1499.6	1498.9	2597.4	2999.2
10	584.4	1013.0	1169.7	1168.8	1349.6	1349.0	2337.7	2699.3
15	389.6	675.3	779.8	779.2	899.8	899.4	1558.4	1799.5
16	365.3	633.1	731.1	730.5	843.5	843.1	1461.0	1687.1
17	343.8	595.9	688.1	687.5	793.9	793.5	1375.1	1587.8
18	324.7	562.8	649.8	649.4	749.8	749.5	1298.7	1499.6
19	307.6	533.2	615.6	615.2	710.3	710.0	1230.3	1420.7
20	292.2	506.5	584.8	584.4	674.8	674.5	1168.8	1349.6
25	233.8	405.2	467.9	467.5	539.9	539.6	935.1	1079.7
30	194.8	337.7	389.9	389.6	449.9	449.7	779.2	899.8
35	167.0	289.4	334.2	334.0	385.6	385.4	667.9	771.2
40	146.1	253.2	292.4	292.2	337.4	337.3	584.4	674.8
45	129.9	225.1	259.9	259.7	299.9	299.8	519.5	599.8
50	116.9	202.6	233.9	233.8	269.9	269.8	467.5	539.9
60	97.4	168.8	194.9	194.8	224.9	224.8	389.6	449.9
70	83.5	144.7	167.1	167.0	192.8	192.7	334.0	385.6
80	73.1	126.6	146.2	146.1	168.7	168.6	292.2	337.4
90	64.9	112.6	130.0	129.9	150.0	149.9	259.7	299.9
100	58.4	101.3	117.0	116.9	135.0	134.9	233.8	269.9

BRANCH CIRCUIT VOLTAGE DROP CALCULATION

$$VD = \frac{2 \times L \times R \times I}{1000}$$

VD = VOLTAGE DROP
V = VOLTAGE
L = ONE WAY LENGTH OF CONDUCTOR
R = CONDUCTOR RESISTANCE IN OHMS PER THOUSAND FEET
I = LOAD CURRENT (AMPERES)

NOTICE TO CONTRACTOR:
THIS BRANCH CIRCUIT VOLTAGE DROP SCHEDULE IS TO BE USED WHEN SIZING CONDUCTORS FOR ACTUAL INSTALLED FIELD CONDITION CIRCUIT LENGTHS. SPECIFIC CONDUCTOR SIZING ON PLANS SHALL BE THE MINIMUM SIZE CONDUCTOR USED FOR INSTALLATION UNLESS INSTALLED CONDITION EXCEEDS CIRCUIT LENGTH ALLOWED ON TABLE AND SHALL BE INCREASED TO THE NEXT SIZE CONDUCTOR SCHEDULED. ALL CONDUCTORS AS DESIGNED OR AS REQUIRED PER INSTALLED CONDITION IS PART OF THE CONTRACTORS BASE BID.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-123582 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 01/10/2024

REGISTERED PROFESSIONAL ENGINEER
CHEN HSING TANG
No. E 16592
ELECTRICAL
STATE OF CALIFORNIA

DLRGROUP
© DLR Group

EL MONTE HIGH SCHOOL HVAC PROJECT
EL MONTE UNION HIGH SCHOOL DISTRICT
3048 Tyler Ave. El Monte, CA 91731

DCGA ENGINEERS
Consulting Mechanical and Electrical Engineers

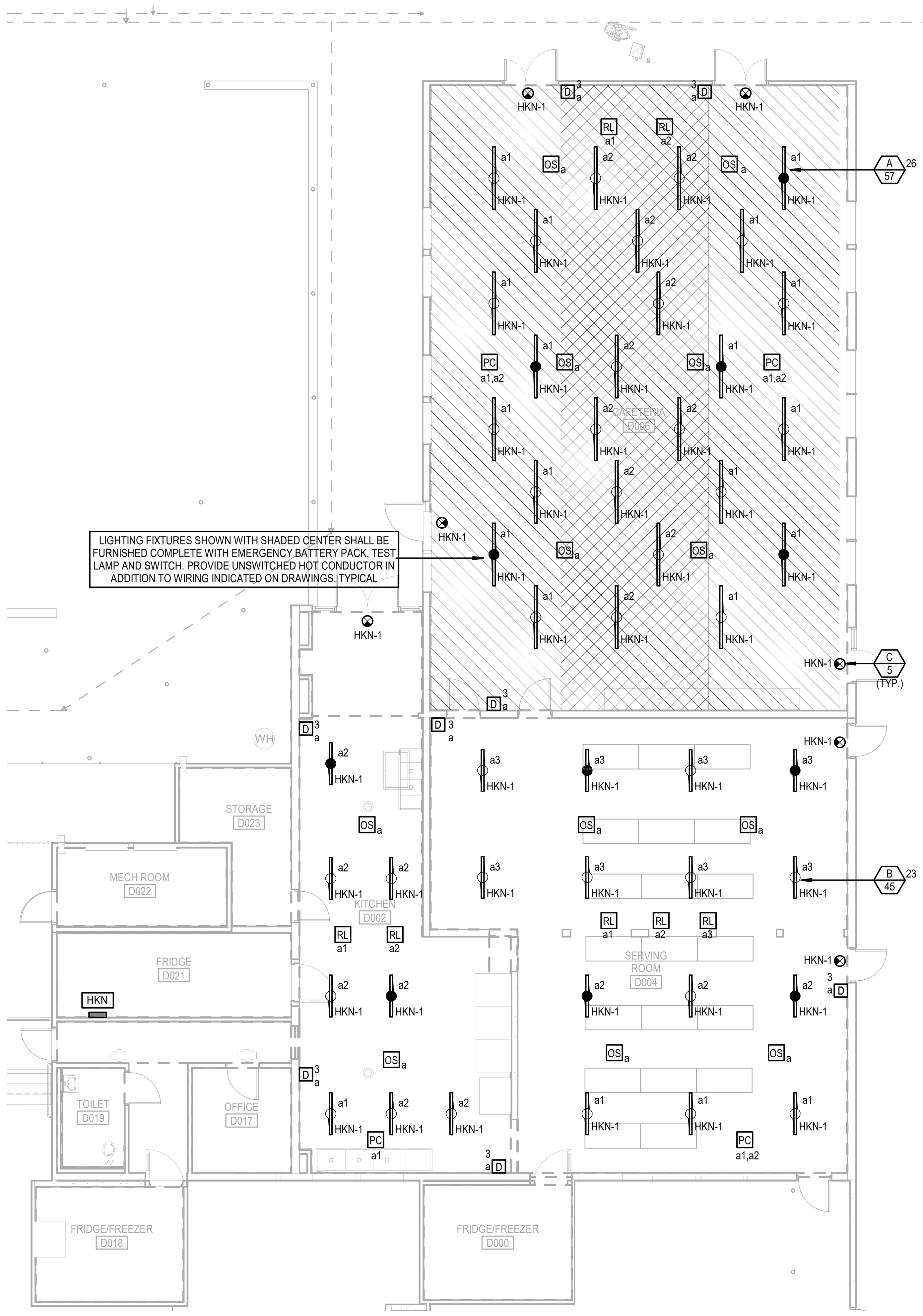
DSA SUBMITTAL
09/11/2023
REVISIONS

DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-01

BRANCH CIRCUIT VOLTAGE DROP CALCULATIONS

E0.05

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-123582 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 01/10/2024

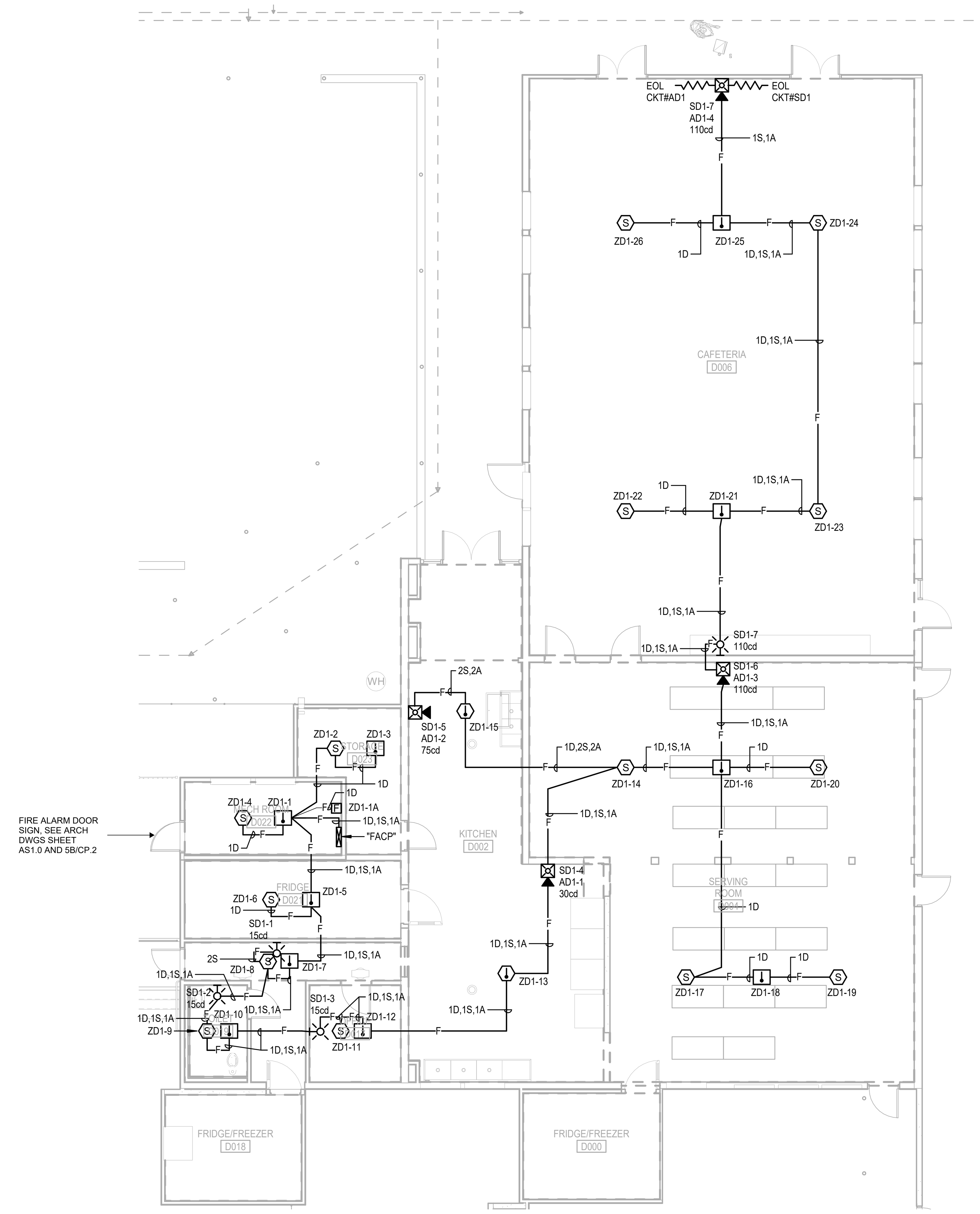


BLDG D - CAFETERIA - PARTIAL LIGHTING PLAN

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

CIRCUITING NOTE:

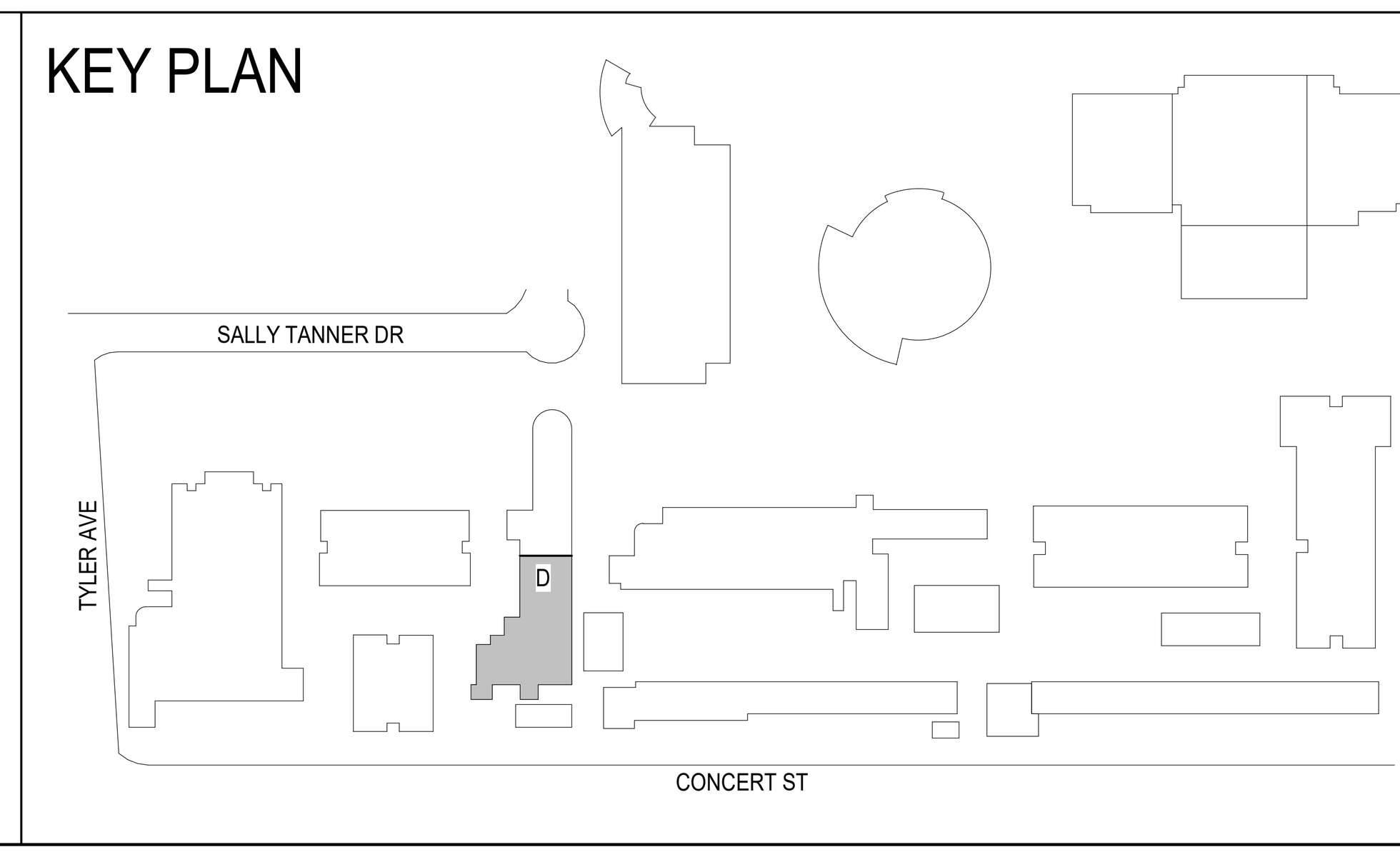
CIRCUITS SHOWN ON HOMERUNS SHALL BE EXTENDED TO LIGHT FIXTURES WHERE CIRCUITS ARE IDENTIFIED. PROVIDE SWITCHING AS SHOWN ON THE DRAWINGS. ALL CONDUCTORS SHALL BE ROUTED IN CONDUIT. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL CONDUIT, BOXES, CONDUCTORS, SUPPORTS, ETC. REQUIRED FOR A COMPLETE INSTALLATION. REFER TO THE SPECIFICATIONS FOR MINIMUM CONDUIT AND CONDUCTOR REQUIREMENTS.



BLDG D - CAFETERIA - PARTIAL FIRE ALARM PLAN

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

KEY PLAN



DLRGROUP
© DLR Group

DCGA ENGINEERS
Consulting Mechanical and Electrical Engineers

EL MONTE HIGH SCHOOL HVAC PROJECT

EL MONTE UNION HIGH SCHOOL DISTRICT

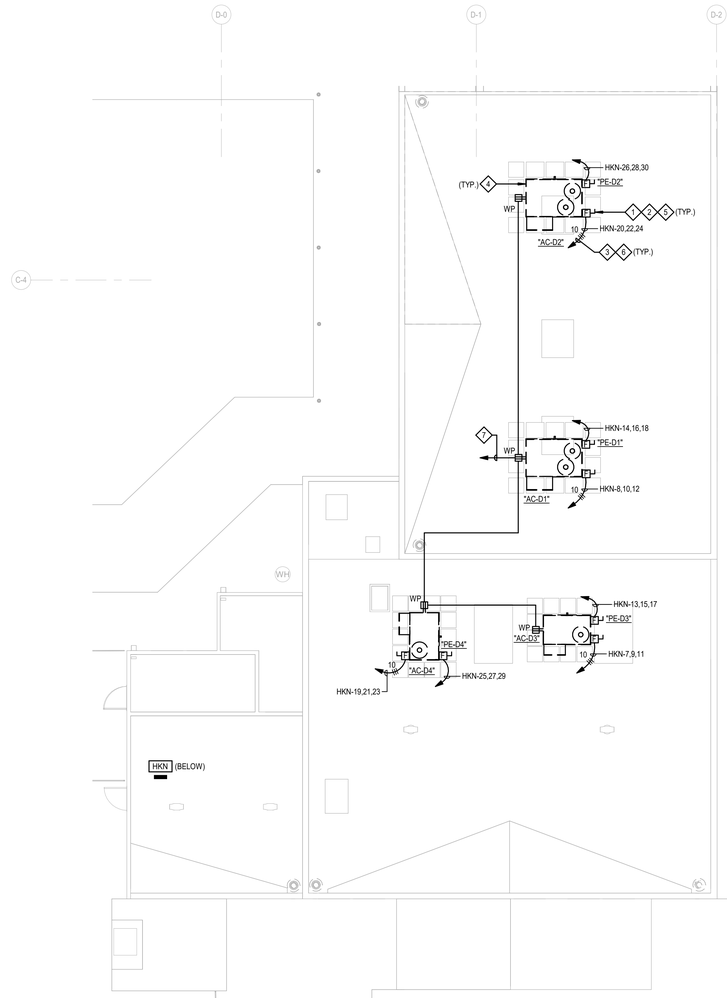
3048 Tyler Ave, El Monte, CA 91731

DSA SUBMITTAL
09/11/2023
REVISIONS

DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-01

BLDG D - CAFETERIA - LIGHTING AND FIRE ALARM PLAN

E1.D1



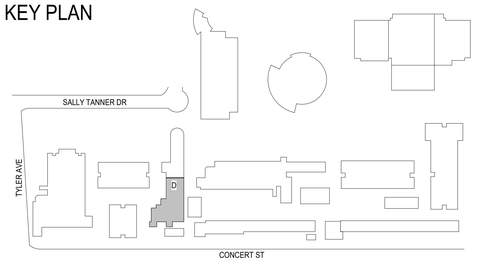
BLDG D - CAFETERIA - PARTIAL ELECTRICAL ROOF PLAN

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

SHEET NOTES

1. ALL EQUIPMENT ON ROOF SHALL BE WEATHERPROOF, ALL BOXES, CONDUIT, SWITCHES, RECEPTACLES, ETC., SHALL BE WEATHERPROOF. SEAL ALL OPENINGS.
2. UNIT DISCONNECT SHALL BE MOUNTED TO MAINTAIN ALL CODE REQUIRED CLEARANCES. WHERE DISCONNECT IS MOUNTED ON A/C UNIT, MOUNT TO AVOID ACCESS PANELS.
3. ROUTE "SEAL TITE" CONDUIT FEEDERS TO RELATED DISCONNECT SWITCH AND/OR RECEPTACLES, ETC.
4. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH MECHANICAL CONTRACTOR FOR EXACT EQUIPMENT LOCATION AND ELECTRICAL CONNECTION POINTS TO ALL EQUIPMENT PRIOR TO ROUGH-IN, TYPICAL.
5. 30 AMP WEATHERPROOF FUSED DISCONNECT SWITCH WITH FUSES SIZED PER EQUIPMENT NAMEPLATE REQUIREMENTS, U.N.O. TYPICAL.
6. NO CONDUIT SHALL BE RUN EXPOSED ON THE ROOF. RUN ALL CONDUIT IN CEILING SPACE AND STUB THROUGH ROOF AT CONNECTION POINT. VERIFY ROUGH-IN LOCATIONS WITH EQUIPMENT MANUFACTURER, TYPICAL.
7. INTERCEPT AND EXTEND EXISTING ROOFTOP RECEPTACLE CIRCUIT.

KEY PLAN



IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-123582 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 01/10/2024

REGISTERED PROFESSIONAL ENGINEER
CHEN HSING FANG
No. E 16592
ELECTRICAL
STATE OF CALIFORNIA

DLRGROUP
© DLR Group

EL MONTE HIGH SCHOOL HVAC PROJECT
EL MONTE UNION HIGH SCHOOL DISTRICT
3048 Tyler Ave, El Monte, CA 91731

DCHA ENGINEERS
Consulting Mechanical and Electrical Engineers

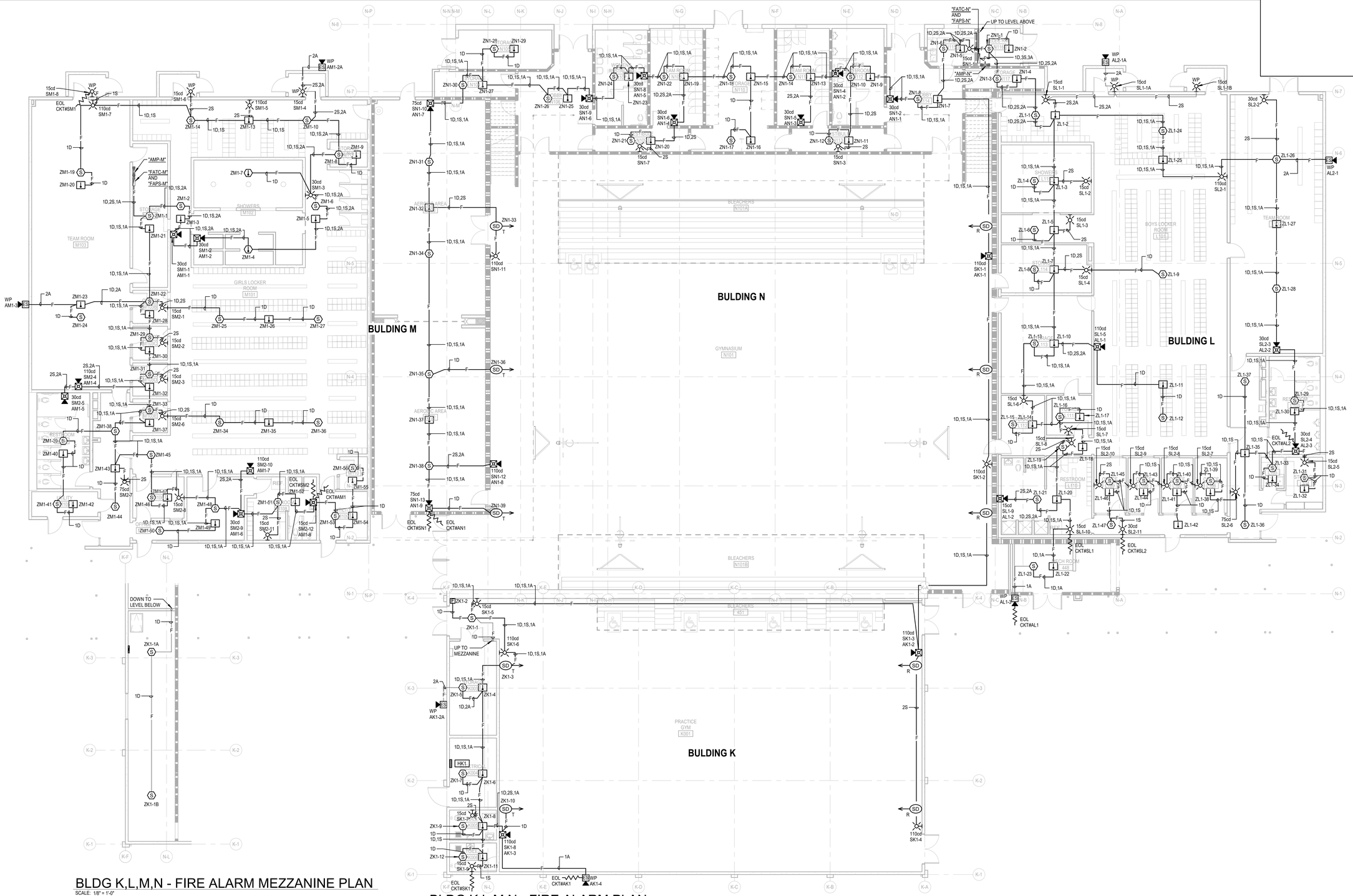
4745 E. Ontario Mills Pkwy
Ontario, CA 91764
Ph: 909.980.5533

DSA SUBMITTAL
09/11/2023
REVISIONS

DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-01

BLDG D - CAFETERIA - ELECTRICAL ROOF PLAN

E1.D2



IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-123582 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 01/10/2024

REGISTERED PROFESSIONAL ENGINEER
CHEN HSING FANG
No. E 16592
ELECTRICAL
STATE OF CALIFORNIA

BLDG K,L,M,N - FIRE ALARM MEZZANINE PLAN

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

BLDG K,L,M,N - FIRE ALARM PLAN

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

BLDG K,L,M,N - FIRE ALARM PLAN - LEVEL 2

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

KEY PLAN

DLRGROUP

© DLR Group

COMMUNITY COMMITTED TO COLLEGE AND CAREER

EL MONTE HIGH SCHOOL HVAC PROJECT

EL MONTE UNION HIGH SCHOOL DISTRICT

3048 Tyler Ave, El Monte, CA 91731

DCGA ENGINEERS
Consulting Mechanical and Electrical Engineers
4750 E. Ontario Mills Pkwy
Ontario, Ca. 91764
Ph 909.987.0017
Fax 909.980.7023

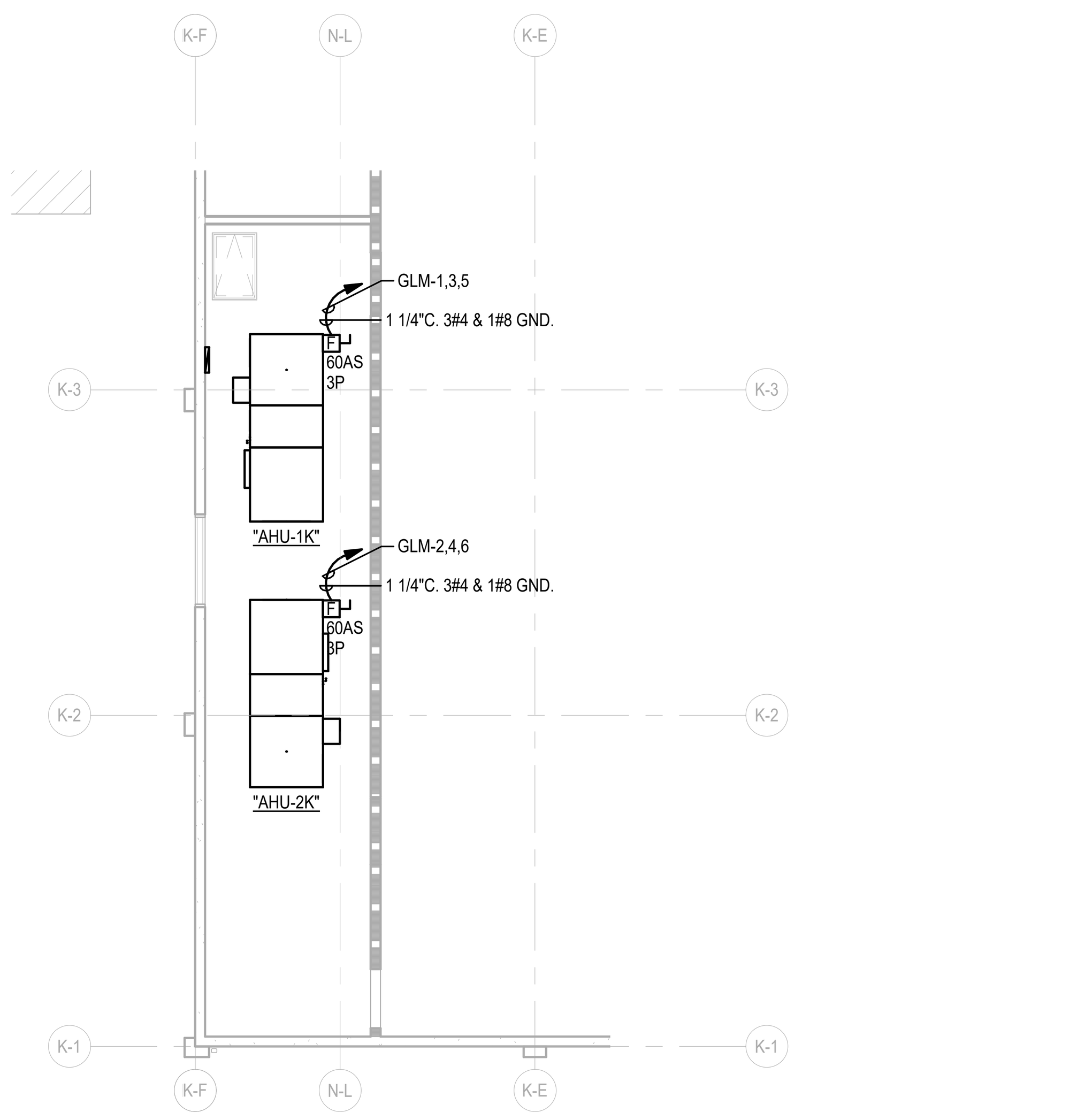
DSA SUBMITTAL
09/11/2023
REVISIONS

DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-01

BLDG K, L, M, N
- FIRE ALARM
PLAN

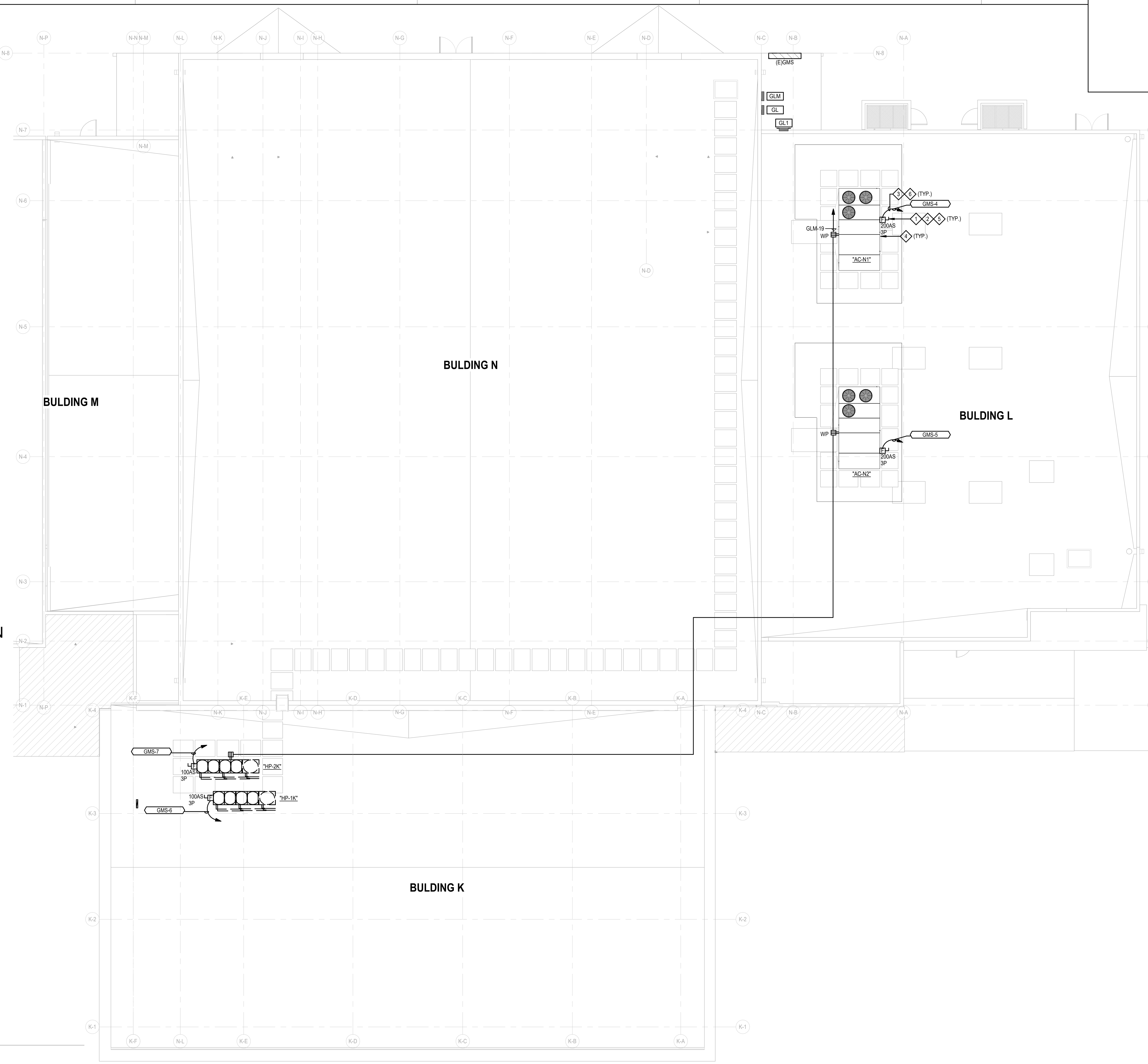
E1.KN1

Autodesk Docs://75-22201-00 El Monte Mod/75-22201-00_El Monte UHSD - EMHS Mod - EMHS Mod_MPE_2022_BLDG K-N.rvt
11/16/2023 5:39:11 PM



BLDG K,L,M,N - ELECTRICAL MEZZANINE PLAN

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



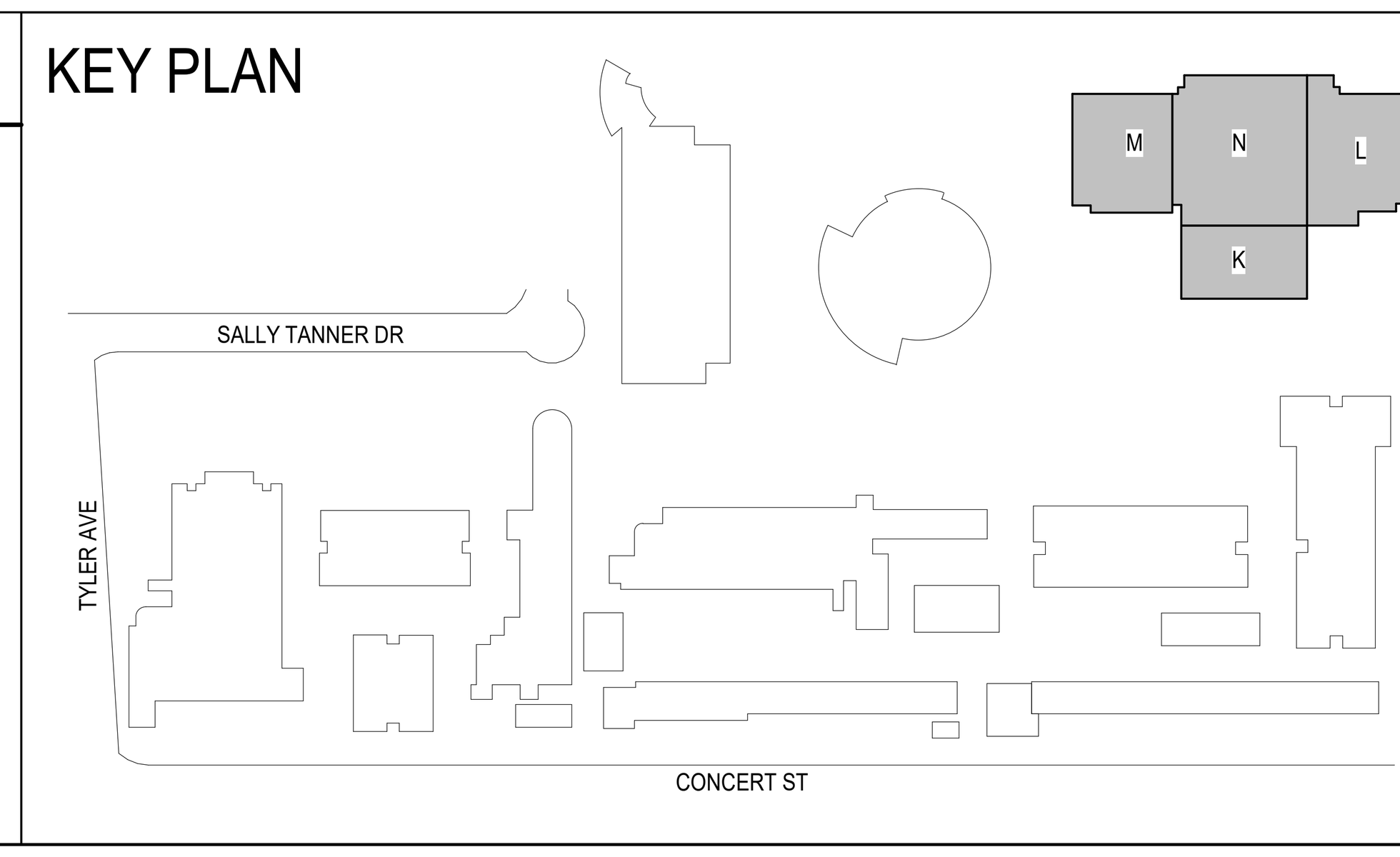
BLDG K,L,M,N - ELECTRICAL ROOF PLAN

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

SHEET NOTES

1. ALL EQUIPMENT ON ROOF SHALL BE WEATHERPROOF, ALL BOXES, CONDUIT, SWITCHES, RECEPTACLES, ETC., SHALL BE WEATHERPROOF. SEAL ALL OPENINGS.
2. UNIT DISCONNECT SHALL BE MOUNTED TO MAINTAIN ALL CODE REQUIRED CLEARANCES. WHERE DISCONNECT IS MOUNTED ON A/C UNIT, MOUNT TO AVOID ACCESS PANELS.
3. ROUTE "SEAL TITE" CONDUIT FEEDERS TO RELATED DISCONNECT SWITCH AND/OR RECEPTACLES, ETC.
4. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH MECHANICAL CONTRACTOR FOR EXACT EQUIPMENT LOCATION AND ELECTRICAL CONNECTION POINTS TO ALL EQUIPMENT PRIOR TO ROUGH-IN, TYPICAL.
5. 30 AMP WEATHERPROOF FUSED DISCONNECT SWITCH WITH FUSES SIZED PER EQUIPMENT NAMEPLATE REQUIREMENTS, U.N.O. TYPICAL.
6. NO CONDUIT SHALL BE RUN EXPOSED ON THE ROOF. RUN ALL CONDUIT IN CEILING SPACE AND STUB THROUGH ROOF AT CONNECTION POINT. VERIFY ROUGH-IN LOCATIONS WITH EQUIPMENT MANUFACTURER, TYPICAL.

KEY PLAN



IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-123582 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 01/10/2024

REGISTERED PROFESSIONAL ENGINEER
CHEN HSING FANG
No. E 16592
ELECTRICAL
STATE OF CALIFORNIA

DLRGROUP
© DLR Group

EL MONTE HIGH SCHOOL HVAC PROJECT

EL MONTE UNION HIGH SCHOOL DISTRICT

3048 Tyler Ave, El Monte, CA 91731

DCCA ENGINEERS
Consulting Mechanical and Electrical Engineers
4750 E. Ontario Mills Pkwy
Ontario, Ca. 91764
Ph 909.987.0017
Fax 909.980.7023

DSA SUBMITTAL
09/11/2023
REVISIONS

DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-01

BLDG K, L, M, N - ELECTRICAL ROOF PLAN

E1.KN2

Autodesk Docs://75-22201-00 El Monte UHSD - EMHS Mod/75-22201-00_El Monte UHSD - EMHS Mod_MPE_2022_BLDG K-N.rvt
11/16/2023 5:39:16 PM

SEQUENCE OF OPERATION

ACTION \ DEVICE	MANUAL PULL STATION	SMOKE DETECTOR	HEAT DETECTOR	120VAC POWER FAILURE LOW BATTERY	KITCHEN FIRE SUPPRESSION SYSTEM
SOUND CONTROL PANEL TROUBLE BUZZER - -	ON WIRING FAULT	ON WIRING FAULT	ALARM	YES	ON WIRING FAULT
ANNUNCIATE AT ADMINISTRATION BUILDING -	ALARM	ALARM	ALARM	TROUBLE	ALARM
ANNUNCIATE AT FIRE CONTROL PANEL (ALARM OR TROUBLE) -	ALARM	ALARM	ALARM	TROUBLE	ALARM
ACTIVATE AUDIBLE/ VISUAL ALARM SIGNAL THROUGH - OUT BUILDINGS	YES	YES	YES	NO	YES
SHUT DOWN HVAC UNITS & CLOSE FIRE/ SMOKE DAMPERS -	NO	YES	NO	NO	NO
ALERT OFF-SITE MONITORING COMPANY - -	YES	YES	YES	NO	YES

FIRE ALARM WIRE LEGEND

SYMBOL	DESCRIPTION	TYPE
D	DATA LINE - INITIATING DEVICE	16/2 UNSHIELDED TWISTED PR (UTSP) DATA LOOP
P	POWER CIRCUIT	2#12 THWN
S	SIGNAL (STROBE) CIRCUIT	2#12 THWN
A	AUDIBLE (SPEAKER) CIRCUIT	2#16 SHIELDED (TSP)
N	NETWORK CONNECTION	INDOOR/OUTDOOR FIBER OPTIC CABLE, 6-STRAND, SINGLEMODE, OS2, 8/125

* ALL WIRING USED IN CONDUIT ON THE EXTERIOR OF THE BUILDING SHALL BE U.L. LISTED FOR WET LOCATION.

FIRE ALARM LEGEND

SYMBOL	DESCRIPTION	MODEL
FACP	FIRE ALARM CONTROL PANEL WITH VOICE EVACUATION	FCI: E3 SERIES CSFM #7165-1703:0125
SRM	SUPERVISED REMOTE MICROPHONE WITH ANNUNCIATOR	FCI: LOC CSFM #7165-1703:0125
AMP	INTELLIGENT NETWORK TRANSPONDER EQUIPPED WITH 50 WATT AMPLIFIERS AND ALL NECESSARY COMPONENTS	FCI: INX CSFM #7165-1703:0125
FAA	FIRE ALARM ANNUNCIATOR	FCI: LCD-E3 CSFM #7165-1703:0125
F	FIRE ALARM MANUAL PULL STATION, MOUNT TOP AT +48". STI 1200 OR 1230 WITHOUT HORN	FCI: MS-7AF CSFM #7150-1703:0119
S	PHOTOELECTRIC SMOKE DETECTOR & BASE	FCI: ASD-PL2F CSFM #7272-1703:0121
	HEAT DETECTOR MOUNTED ON CEILING	FCI: ATD-RL2F CSFM #7270-1703:0115
	190° FIXED TEMPERATURE HEAT DETECTOR MOUNTED IN CEILING SPACE. SEE FIRE ALARM NOTE #23 ON THIS SHEET.	FCI: ATD-HL2F CSFM #7270-1703:0115
FSD	COMBINATION FIRE/SMOKE DAMPER PER MECHANICAL. PROVIDE WITH TOGGLE SWITCH DISCONNECT AND CONTROL MODULE. MAKE CONNECTION TO MOTOR OPERATOR PER THE MANUFACTURERS REQUIREMENTS. REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATION AND QUANTITIES.	PROVIDED BY MECHANICAL
15cd 30cd 75cd 110cd	FIRE ALARM MULTI-CANDELA STROBE LIGHT, MOUNT AT +80"A.F.F. OR 6" BELOW CEILING, WHICHEVER IS LOWER.	SYSTEM SENSOR: SR CSFM #7125-1653:0186
15cd 30cd 75cd 110cd	FIRE ALARM MULTI-CANDELA STROBE LIGHT. CEILING MOUNTED	SYSTEM SENSOR: SCW CSFM #7125-1653:0186
15cd 30cd 75cd 110cd	MULTI-CANDELA COMBINATION SPEAKER/STROBE LIGHT, MOUNT AT +80"A.F.F. OR 6" BELOW CEILING, WHICHEVER IS LOWER. SPEAKER SHALL HAVE THE POWER TAP SET AT 1/2W U.N.O.	SYSTEM SENSOR: SPSR CSFM #7320-1653:0201
15cd 30cd 75cd 110cd C	MULTI-CANDELA COMBINATION SPEAKER/STROBE LIGHT. CEILING MOUNTED. SPEAKER SHALL HAVE THE POWER TAP SET AT 1/2W U.N.O.	SYSTEM SENSOR: SPSCW CSFM #7320-1653:0201
S	FIRE ALARM SPEAKER, MOUNT AT +80"A.F.F. OR 6" BELOW CEILING, WHICHEVER IS LOWER. SPEAKER SHALL HAVE THE POWER TAP SET AT 2W U.N.O.	SYSTEM SENSOR: SPR CSFM #7320-1653:0201
ES WP	FIRE ALARM SPEAKER WEATHERPROOF, MOUNT AT +90"A.F.F. SPEAKER SHALL HAVE THE POWER TAP SET AT 2W U.N.O.	SYSTEM SENSOR: SPRK CSFM #7320-1653:0201
FAPS	FIRE ALARM REMOTE POWER SUPPLY	FCI: GFPS-6 CSFM #7300-1703:0167
TS	TAMPER SWITCH (VIA MONITOR MODULE)	
FS	FLOW SWITCH (VIA MONITOR MODULE)	
B	FIRE ALARM BELL (VIA RELAY MODULE)	
AIM	MONITOR MODULE	FCI: AMM-4F CSFM #7300-1703:0102
AOM	RELAY MODULE	FCI: AOM-2SF CSFM #7300-1703:0102
SA1	INDICATES SIGNAL CIRCUIT #1 INDICATES BUILDING DESIGNATION "S" INDICATES STROBE CIRCUIT. "A" INDICATES SPEAKER CIRCUIT.	
Z1-XX	INDICATES ADDRESS NUMBER	
—F—	FIRE ALARM SYSTEM CONDUIT RUN (3/4" CONDUIT MINIMUM UNLESS INDICATED OTHERWISE ON DRAWINGS) AND REQUIRED WIRING.	BELDEN: FPLR CSFM #7161-0060:0103
FATC	24"L x 24"W x 6"D FIRE ALARM TERMINAL CABINET	
EOL	END OF LINE RESISTOR (10 OHMS)	
SD	SINGLE-ENDED REFLECTED TYPE BEAM SMOKE SENSOR	FCI: ABD-RT2F CSFM #7260-1703:0120

FIRE ALARM REQUIREMENTS

1. THE CONTRACTOR SHALL PROVIDE AND SUBMIT THE FIRE ALARM SHOP DRAWINGS TO THE ARCHITECT FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION OF THE FIRE ALARM SYSTEM. THE SUBMITTAL SHALL CONTAIN THE FOLLOWING:
   - A. SHOP DRAWINGS: COMPLETE 1/8" SCALE FLOOR PLANS SHOWING ALL DEVICES, COMPONENTS, CONDUIT AND WIRING INDICATING A COMPLETE AND OPERABLE SYSTEM AS DESIGNED AND SPECIFIED. REPRODUCED COPIES OF BID SET FIRE ALARM PLANS ARE NOT ACCEPTABLE AS SHOP DRAWINGS. SHOP DRAWINGS MUST ALSO INDICATE DEVICE MOUNTING HEIGHTS, ROOM NAMES AND NUMBERS AND THE LOCATION OF ALL FIRE RATED WALLS.
   - B. ELECTRICAL CONTRACTOR'S AND FIRE ALARM SYSTEM INSTALLER'S NAME, ADDRESS, PHONE NUMBER AND C-10 LICENSE NUMBER.
   - C. LIST OF SYSTEM COMPONENTS, EQUIPMENT AND DEVICES, INCLUDING MANUFACTURERS' MODEL NUMBER(S) AND CALIFORNIA STATE FIRE MARSHALL LISTING NUMBERS.
   - D. ORIGINAL COPIES OF MANUFACTURERS' SPECIFICATION SHEETS FOR ALL EQUIPMENT AND DEVICES INDICATED.
   - E. VOLTAGE DROP CALCULATIONS -- INCLUDE THE FOLLOWING INFORMATION FOR THE WORST CASE:
     1. POINT-TO-POINT OR OHMS LAW CALCULATIONS.
     2. IDENTIFICATION OF ZONE USED IN CALCULATIONS.
     3. VOLTAGE DROP PERCENT (NOT TO EXCEED MANUFACTURERS' REQUIREMENTS).

        NOTE: IF VOLTAGE DROP EXCEEDS 10% INDICATE MANUFACTURERS' LISTED OPERATING VOLTAGE RANGE(S) OR EQUIPMENT AND DEVICES.
     4. NOTE CIRCUIT NUMBER FOR WORST CASE CALCULATION.
   - F. BATTERY TYPE(S), AMP HOURS AND LOAD CALCULATIONS -- INCLUDE THE FOLLOWING INFORMATION:
     1. NORMAL OPERATION: 100% OF APPLICABLE DEVICES FOR 24 HOURS = CONTROL PANEL AMPS PLUS LIST OF AMPS PER DEVICE WHICH DRAW POWER FROM THE PANEL DURING STANDBY POWER CONDITION -- I.E.:
        - A. ZONE MODULES
        - B. DETECTORS
        - C. OTHER DEVICES (IDENTIFY)
     2. ALARM CONDITION: 100% OF APPLICABLE DEVICES FOR 15 MINUTES = CONTROL PANEL AMPS PLUS LIST OF AMPS PER DEVICE WHICH DRAW POWER FROM THE PANEL DURING ALARM CONDITION -- I.E.:
        - A. ZONE MODULES
        - B. SIGNAL MODULES
        - C. DETECTORS
        - D. SIGNAL DEVICES
        - E. ANNUNCIATOR
        - F. OTHER DEVICES (IDENTIFY)
     3. NORMAL OPERATION + ALARM OPERATION
        - A. TOTAL AMP HOURS REQUIRED.
        - B. TOTAL AMP HOURS PROVIDED.

FIRE ALARM NOTES

1. SCOPE OF WORK: PROVIDE A COMPLETE AUTOMATIC FIRE ALARM SYSTEM WITH VOICE EVACUATION IN ACCORDANCE TO 2022 NFPA-72 AND CCR TITLE 24, PART 2, SECTION 907.2.3; 907.5.2.2.
2. A FIRE ALARM SYSTEM IS BEING INSTALLED IN OCCUPANCIES LISTED. PROVIDE NEW FCI FIRE ALARM CONTROL PANEL AS INDICATED.
3. PLANS AND SPECIFICATIONS FOR THE SYSTEM SHALL BE APPROVED BY DSA-FIRE AND LIFE SAFETY PRIOR TO SYSTEM INSTALLATION.
4. UPON RECEIPT OF THE CERTIFICATE OF COMPLIANCE, THE MANUFACTURER AND OR INSTALLER SHALL SUPPLY THE OWNER WITH WRITTEN OPERATING, TESTING AND MAINTENANCE INSTRUCTIONS, POINT-TO-POINT AS-BUILT DRAWINGS, AND EQUIPMENT SPECIFICATIONS.
5. THE SYSTEM SHALL CONFORM TO TITLE 19 AND TITLE 24 AS APPLICABLE TO THIS PROJECT.
6. ALL THE DEVICES OF THE FIRE ALARM SYSTEM SHALL BE APPROVED AND LISTED BY THE CALIFORNIA STATE FIRE MARSHAL.
7. A STAMPED SET OF APPROVED PLANS SHALL BE ON THE JOB SITE AND USED FOR INSTALLATION. ANY DEVIATION FROM APPROVED PLANS, SHALL BE APPROVED AND SIGNED BY THE DSA INSPECTOR OF RECORD.
8. ANY DISCREPANCIES BETWEEN THE DRAWINGS AND THE CODE OR RECOGNIZED STANDARDS SHALL BE BROUGHT TO THE ATTENTION OF THE INSPECTOR OR ARCHITECT/ENGINEER OF RECORD.
9. CONDUIT SYSTEM TO BE FURNISHED AND INSTALLED PER PLANS AND SPECIFICATIONS.
10. UPON COMPLETION OF SYSTEM INSTALLATION, THE SYSTEM SHALL BE TESTED IN THE PRESENCE OF AND IN A MANNER ACCEPTABLE TO THE ENFORCING AGENCY.
11. PENETRATIONS OF FIRE-RATED WALLS SHALL BE PROTECTED IN ACCORDANCE WITH 2022 EDITION CALIFORNIA BUILDING CODE, CHAPTER 7.
12. ALL EQUIPMENT SHALL BE U.L. AND C.S.F.M. LISTED.
13. ALL WIRING SHALL BE IN ACCORDANCE WITH THE C.E.C. AND AUTHORITIES HAVING JURISDICTION.
14. ALL FIRE ALARM CONDUIT SHALL BE 3/4"C. MIN., U.N.O. ALL FIRE ALARM CONDUIT INSTALLED UNDERGROUND SHALL BE 1"C. MIN. U.N.O. ALL FIRE ALARM CONDUCTORS SHALL BE INSTALLED IN AN APPROVED RACEWAY.
15. ALL AUDIBLE DEVICES SHALL BE IN SYNCHRONOUS.
16. VISUAL DEVICES SHALL NOT EXCEED 2 FLASHES PER SECOND AND SHALL NOT BE SLOWER THAN 1 FLASH EVERY SECOND. THE DEVICE SHALL HAVE A PULSING LIGHT SOURCE NOT LESS THAN 15 CANDELA. VISUAL DEVICES WITHIN 55' FROM EACH OTHER SHALL BE SYNCHRONIZED.
17. UNDERGROUND AND EXTERIOR CONDUITS SHALL HAVE WATERTIGHT FITTINGS AND WIRE TO BE APPROVED FOR WET LOCATIONS.
18. AUDIBLE DEVICES SHALL BE AT LEAST 15dBA ABOVE THE EQUIVALENT SOUND LEVEL BUT NOT LESS THAN 75dBA AT 10' OR MORE THAN 110dBA AT THE MINIMUM HEARING DISTANCE. SOUND LEVEL SHALL BE MAINTAINED FOR DURATION OF AT LEAST 60 SECONDS. 5dBA MUST BE MAINTAINED.
19. AUDIBLE DEVICES SHALL SOUND A PRERECORDED MESSAGE AS DIRECTED BY THE OWNER.
20. COORDINATE EXACT LOCATION OF ALL CEILING FIRE ALARM DEVICES IN FIELD.
21. CIRCUIT LENGTH INDICATED ON DRAWINGS IS FOR PLAN CHECK PURPOSES ONLY. CONTRACTOR SHALL FIELD VERIFY EXACT LENGTH.
22. ALL JUNCTION BOXES SHALL BE SIZED IN ACCORDANCE WITH THE C.E.C.
23. ELECTRICAL CONTRACTOR SHALL FURNISH ACCESS PANELS TO AREAS THAT REQUIRE SERVICING, TROUBLE SHOOTING, ETC., AS REQUIRED. COORDINATE WITH ARCHITECT FOR ACCESS PANELS.
24. ALL 120VAC POWER REQUIREMENTS FOR THE FIRE ALARM SYSTEM SHALL BE FURNISHED BY CONTRACTOR AND SHALL MEET ALL REQUIREMENTS OF THE AUTHORITIES HAVING JURISDICTION.
25. ALL WIRING, ANNUNCIATING DEVICES AND ANNUNCIATOR PANEL SHALL BE SUPERVISED TO THE PRINCIPLE POINT OF ANNUNCIATION. THE FIRE ALARM CONTROL PANEL TO SUPERVISE THE ANNUNCIATOR PANEL, ALL INITIATING AND INDICATING DEVICE CIRCUITS.
26. AUTOMATIC FIRE ALARM SYSTEMS SHALL TRANSMIT THE ALARM, SUPERVISORY AND TROUBLE SIGNALS TO AN APPROVED SUPERVISING STATION AS REQUIRED BY CFC 907.6.5.3. THE SUPERVISING STATION SHALL BE LISTED AS EITHER UUFX OR UUJS BY UNDERWRITERS LABORATORY OR SHALL MEET THE REQUIREMENTS OF FACTORY MUTUAL RESEARCH APPROVAL STANDARD 3011. SUPERVISION OF SYSTEM AND LEASED TELEPHONE LINES SHALL BE ARRANGED BY OWNER.
27. ALL FIRE ALARM WIRING IN PULLBOXES SHALL BE ROUTED WITHIN INNERDUCT AND IDENTIFIED AS FIRE ALARM.
28. PROVIDE ACCESSIBLE OPERATING HARDWARE AT INITIATIVE DEVICE (e.g., NOT REQUIRING TIGHT GRASPING, PINCHING OR TWISTING OF THE WRIST AND FORCE LESS THAN 5 LBS.)
29. SEE SHEET E3.3 FOR TYPICAL DEVICE MOUNTING HEIGHT DETAIL.
30. INSTALLATION OF THE SYSTEMS SHALL NOT BE STARTED UNTIL DETAILED DESIGN DOCUMENTS AND SPECIFICATION, INCLUDING STATE FIRE MARSHAL LISTING NUMBERS FOR EACH COMPONENT OF THE SYSTEM HAS BEEN APPROVED BY DSA.
31. DSA ARCHITECT AND OWNER SHALL BE NOTIFIED MINIMUM OF 48 HOURS PRIOR TO THE FINAL INSPECTION AND/OR TESTING.
32. THE CONTRACTOR SHALL ADJUST/INSTALL ALL DEVICES TO MAXIMIZE PERFORMANCE AND TO MINIMIZE FALSE ALARMS.
33. ALL FIRE ALARM WIRING SHALL BE FLP OR FPLP (FIRE POWER LIMITED OR FIRE POWER LIMITED PLENUM) AS REQUIRED FOR APPLICATION. WIRING IN CONDUIT ABOVE GROUND MAY BE THHN OR THWN.
34. PER CEC STANDARDS, ALL WIRING IS TO BE PULLED THROUGH EACH JUNCTION BOX AND CONNECTED DIRECTLY TO EACH FIRE DEVICE, DO NOT SPLICE THE WIRE. THERE MUST BE AT LEAST 6' OF LEAD WIRE FROM THE BOX TO THE DEVICE. ALL BOXES TO BE SIZED PER CEC.
35. SMOKE DETECTORS SHALL NOT BE ANY CLOSER THAN 1' FROM FIRE SPRINKLERS OR 3' FROM ANY SUPPLY DIFFUSER. IN AREA OF CONSTRUCTION OR POSSIBLE DAMAGE/CONTAMINATION ON NEWLY INSTALLED FIRE ALARM, DEVICES SHALL BE COVERED UNTIL THAT AREA IS READY TO BE TURNED OVER TO THE OWNER.
36. ALL FIRE ALARM CIRCUITS SHALL BE IN CONDUIT OR SURFACE RACEWAY, UNDER FLOORS AND IN WALLS IN A NEAT AND PROTECTED MANOR AS INDICATED ON DESIGN DOCUMENTS. EXPOSED CIRCUITS ARE ONLY PERMITTED WHEN NOTED AS EXPOSED ON DESIGN DOCUMENTS.
37. FIRE ALARM PANELS, REMOTES AND COMPONENTS SHALL BE SECURED TO MOUNTING SURFACES PER MANUFACTURERS SPECIFICATIONS. NO SINGLE DEVICE SHALL EXCEED THE WEIGHT OF 20lbs WITHOUT SPECIAL MOUNTING DETAILS.
38. A DEDICATED BRANCH CIRCUIT SHALL BE PROVIDED FOR FIRE ALARM EQUIPMENT. THIS CIRCUIT SHALL BE ENERGIZED FROM THE COMMON USE AREA PANEL AND SHALL HAVE NO OTHER OUTLETS. THE BREAKER SHALL HAVE A RED LOCKING DEVICE TO BLOCK THE HANDLE IN THE "ON" POSITION. THE CIRCUIT BREAKER SHALL BE LABELED "FIRE ALARM CIRCUIT CONTROL". CIRCUIT ID TO BE LABELED AT FIRE PANEL/EXTENDERS.
39. THE INSTALLING CONTRACTOR SHALL PROVIDE A RECORD OF COMPLETION PER NFPA 72, FIGURES 7.8.2(a) - 7.8.2(f).
40. FIRE ALARM CONTROL PANELS AND REMOTE ANNUNCIATIONS SHALL BE INSTALLED WITH THEIR BOTTOMS MOUNTED AT 48" ABOVE THE FINISHED FLOOR.
41. MICROPHONES ASSOCIATED WITH EMERGENCY VOICE ALARM COMMUNICATION SYSTEMS (EVAC) SHALL BE ACCESSIBLE FOR USE, INSTALLED IN COMPLIANCE WITH CBC SECTIONS 11B-305 AND 11B-308.
42. THE INSTALLING CONTRACTOR SHALL PROVIDE SYSTEM PROGRAMMING FOR SUPERVISORY MONITORING PER CBC SECTION 901.6.2.
43. THE INSTALLING CONTRACTOR SHALL PERFORM A VOICE MESSAGE INTELLIGIBILITY TEST USING INTELLIGIBILITY MEASUREMENT METHODS 1 AND/OR 2 TO COMPLY WITH NFPA-72 24.3.1 AND 18.4.10. INTELLIGIBILITY TEST SHALL BE WITNESSED BY THE INSPECTOR OF RECORD.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-123582 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 01/10/2024

REGISTERED PROFESSIONAL ENGINEER
CHEN HSING FANG
No. E 16592
ELECTRICAL
STATE OF CALIFORNIA

DLRGROUP

EL MONTE UNION HIGH SCHOOL DISTRICT 1901 — COMMITTED TO COLLEGE AND CAREER — EXCELLENCE

DCGA ENGINEERS
Consulting Mechanical and Electrical Engineers

EL MONTE HIGH SCHOOL HVAC PROJECT

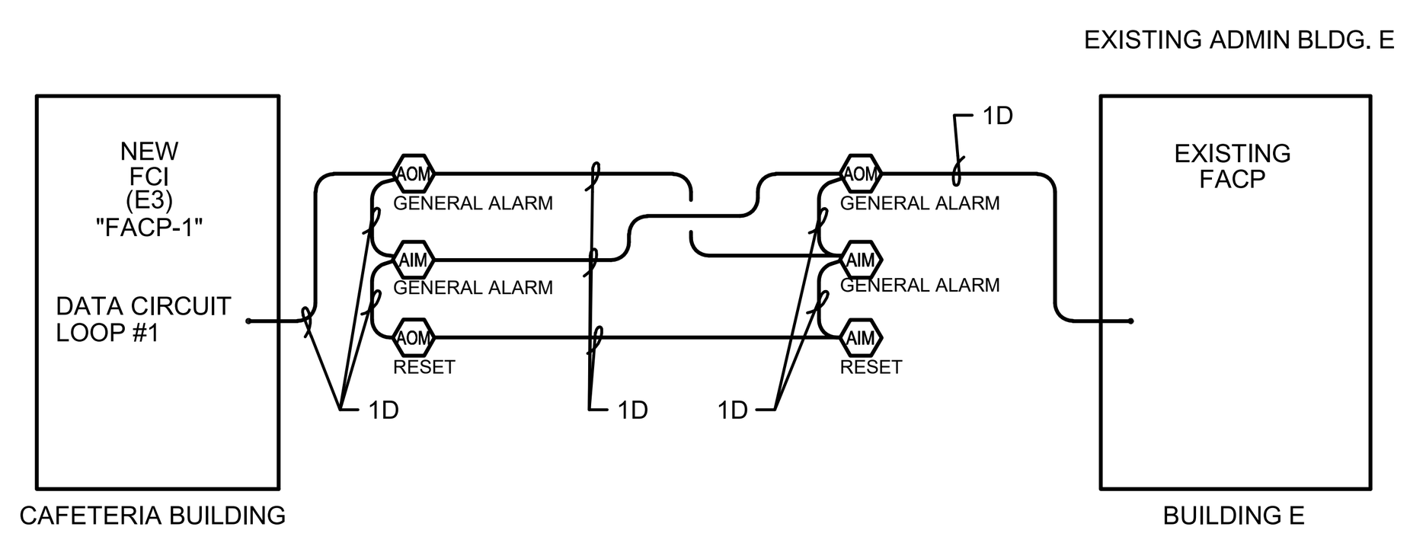
EL MONTE UNION HIGH SCHOOL DISTRICT
3048 Tyler Ave, El Monte, CA 91731

DSA SUBMITTAL
09/11/2023
REVISIONS

DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-01

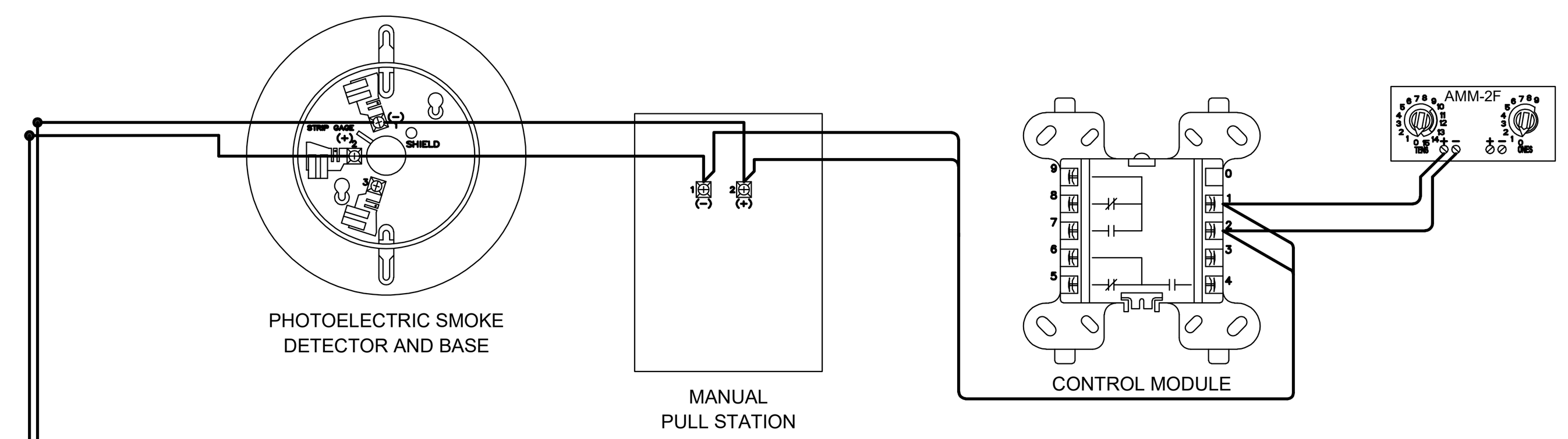
FIRE ALARM SYMBOLS AND NOTES

E3.01

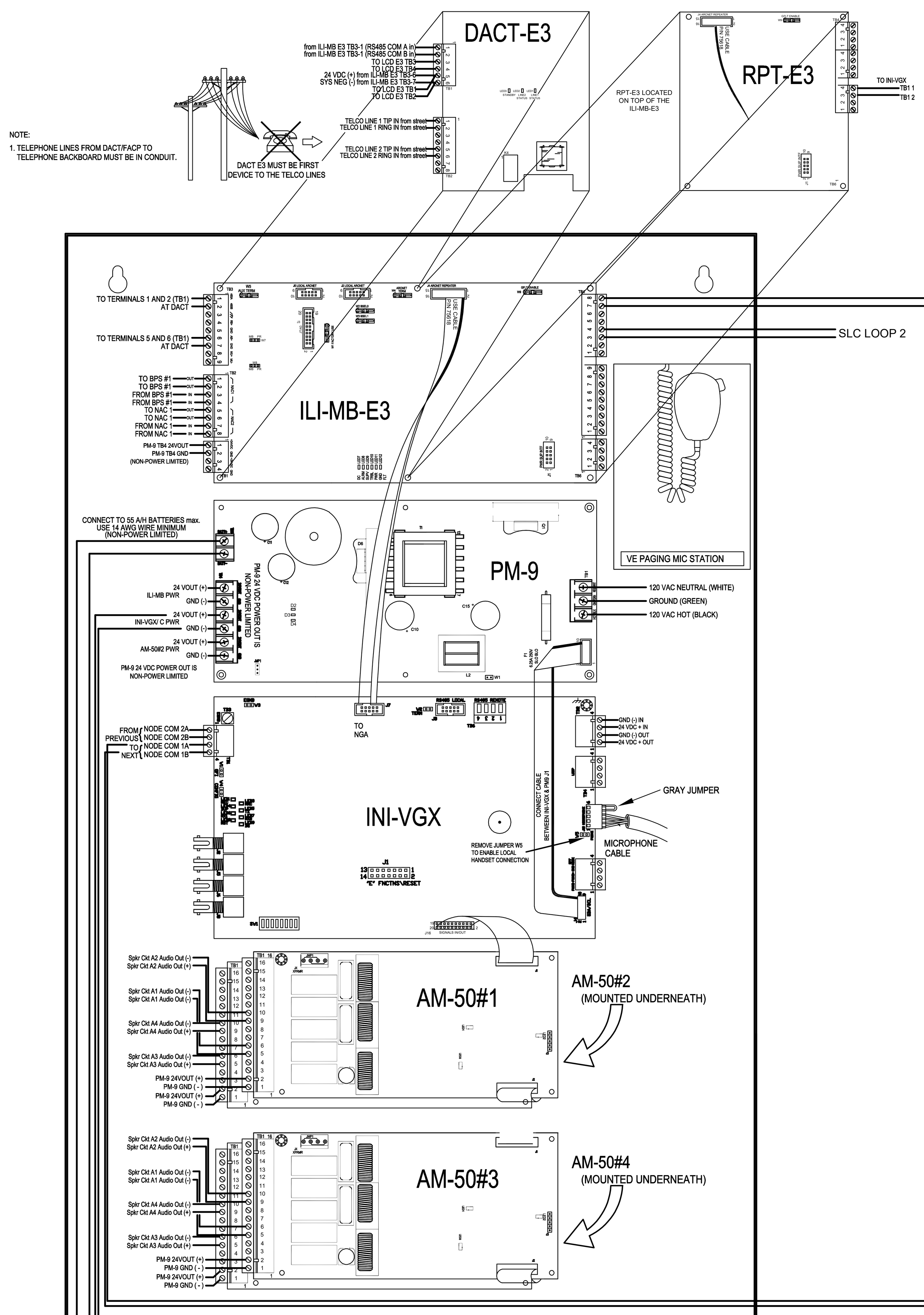


NOTE: AT EACH PANEL PROVIDE INSTRUCTION ON HOW TO RESET PANELS.

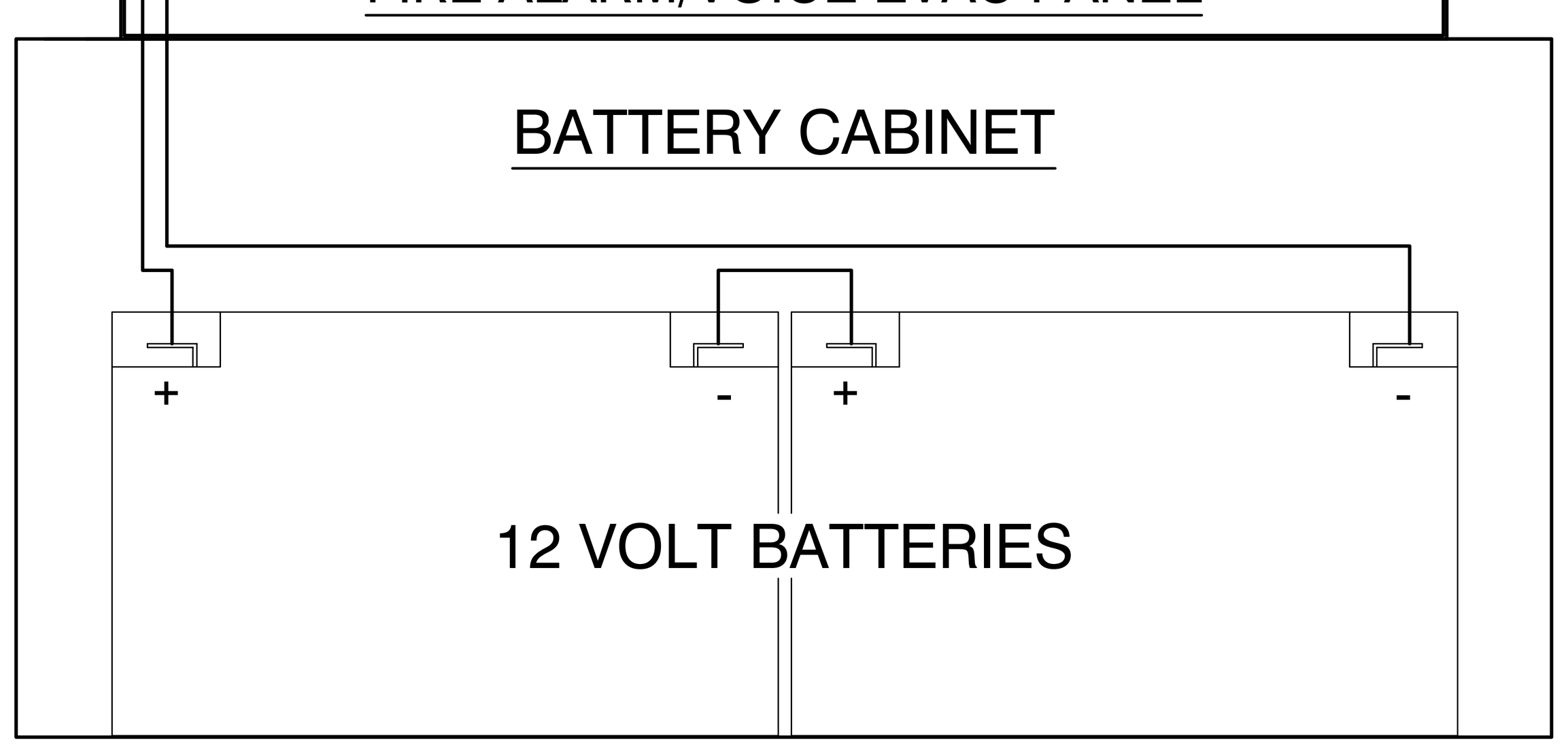
FIRE ALARM CONTROL PANEL INTERFACE DETAIL



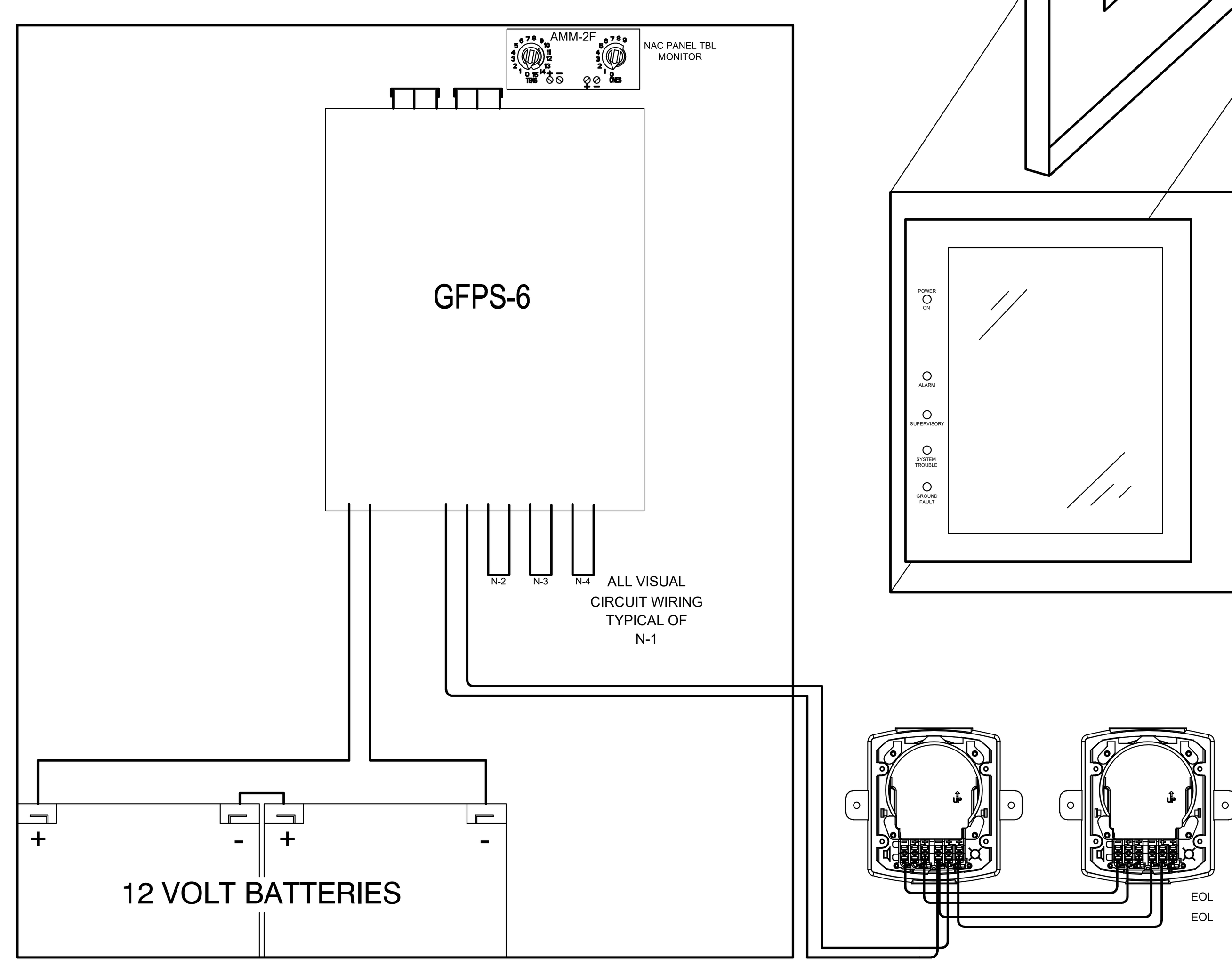
SLC LOOP1 WIRING DETAIL



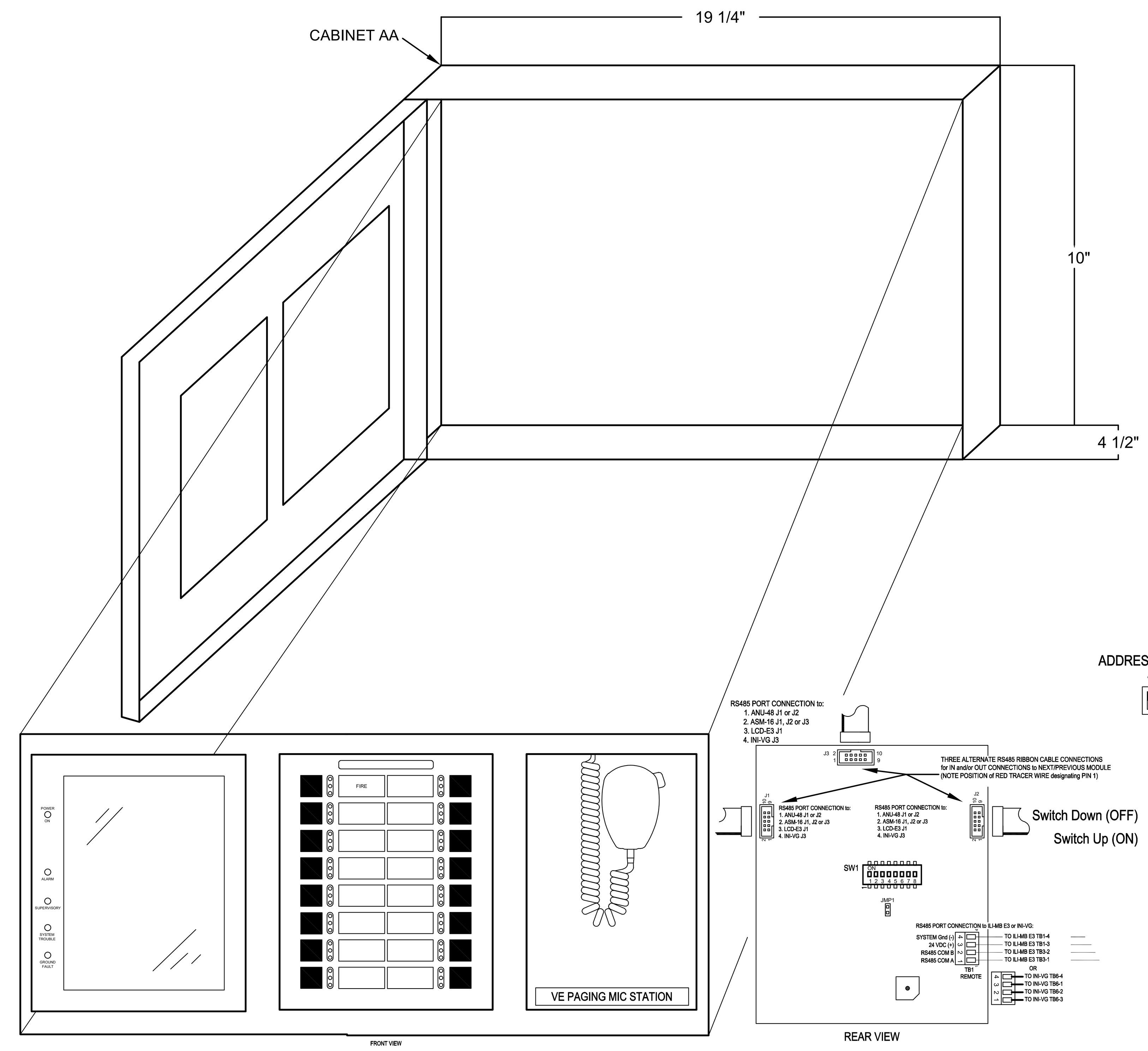
FACP
FIRE ALARM/VOICE EVAC PANEL



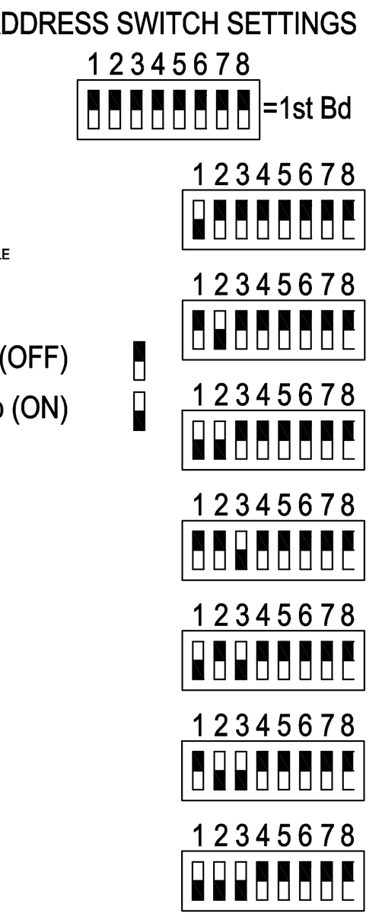
BATTERY CABINET



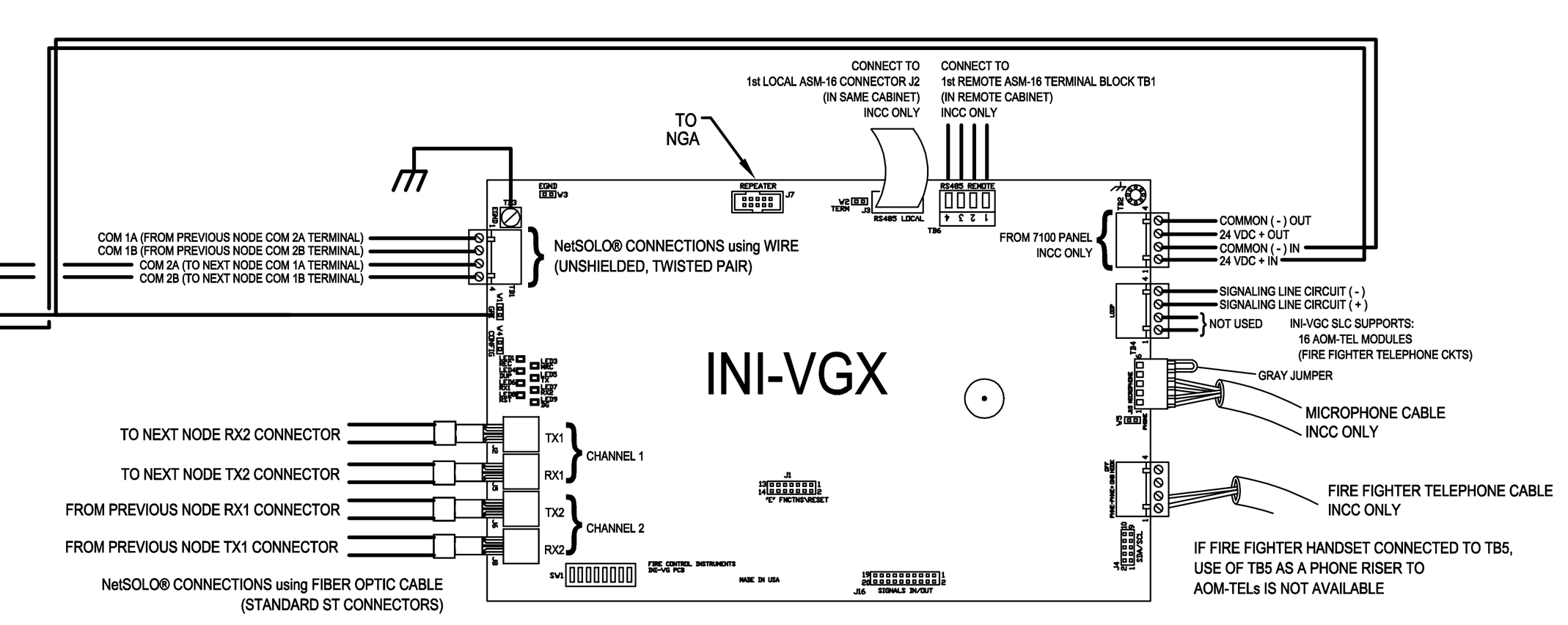
POWER SUPPLY - FAPS (TYP.)



LOC DETAIL



IMPORTANT NOTE:
SET SWITCH 6 TO **ON** POSITION WHEN CONNECTING ASM-16 TO ILI-MB E3. SET OTHER SWITCHES ACCORDING TO DIAGRAM SHOWN ABOVE.



IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-123582 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 01/10/2024

DLRGROUP
© DLR Group

DCGA ENGINEERS
Consulting Mechanical and Electrical Engineers

EL MONTE HIGH SCHOOL HVAC PROJECT
EL MONTE UNION HIGH SCHOOL DISTRICT
3048 Tyler Ave, El Monte, CA 91731

DSA SUBMITTAL
09/11/2023
REVISIONS

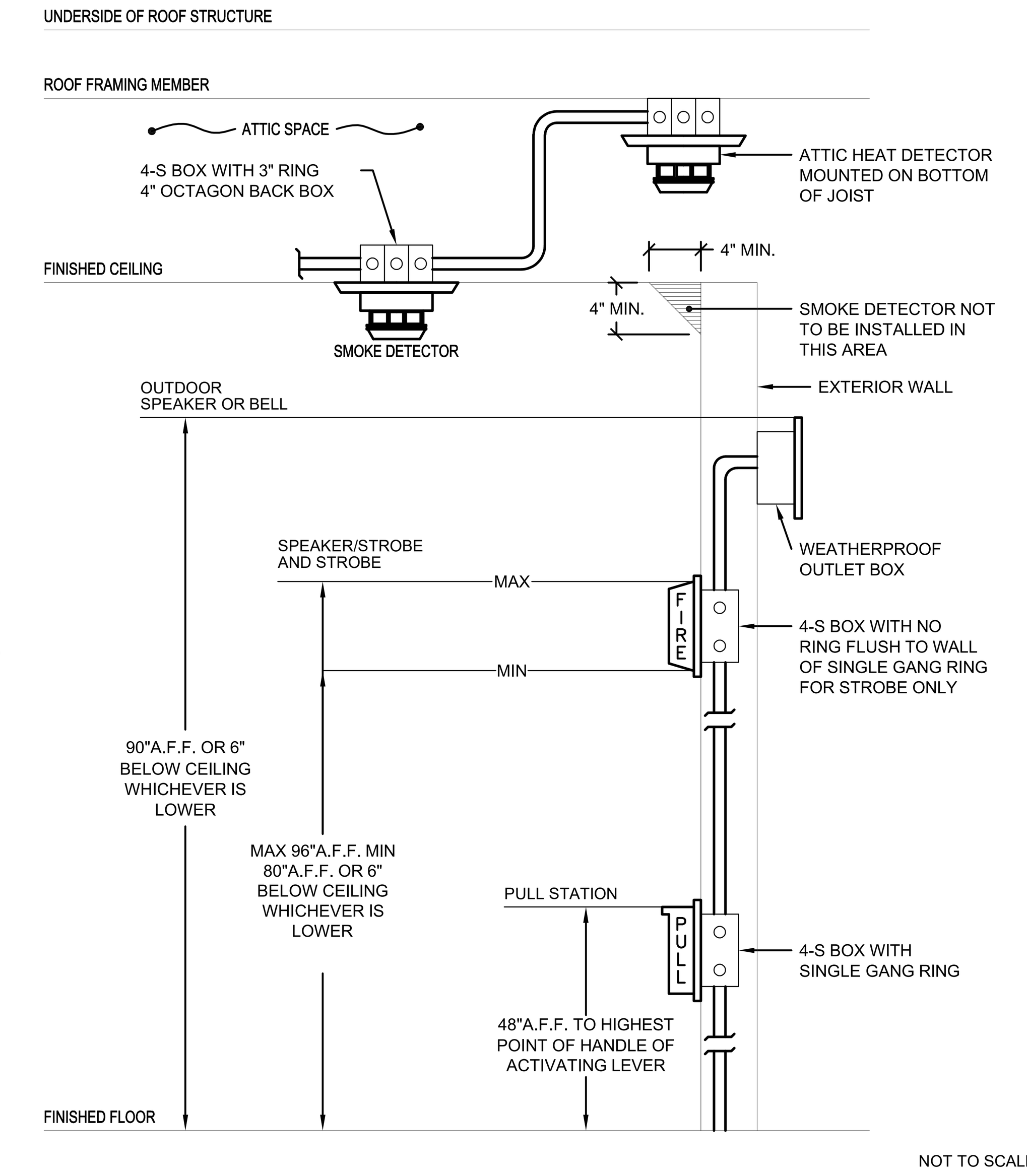
DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-01

FIRE ALARM WIRING DETAILS

E3.02

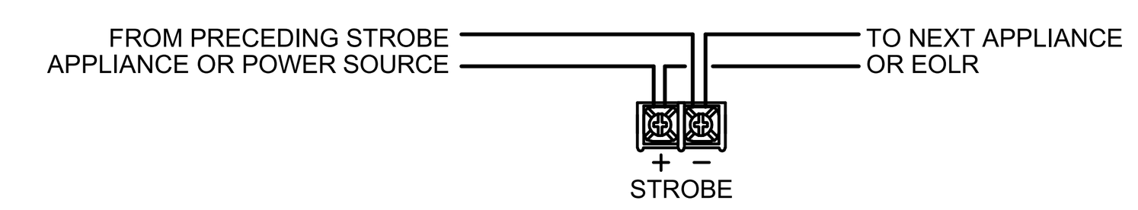
KEY NOTES:

1. THE ENTIRE LENS OF STROBE LIGHTS MUST BE BETWEEN 80" AND 96" ABOVE FINISHED FLOOR (A.F.F.) (2022 NFPA 72 18.5.5.1)
2. IF CEILING HEIGHTS EXCEED 30 FEET, CEILING STROBE LIGHTS MUST BE SUSPENDED AT OR BELOW 30 FEET. (2022 NFPA 72 18.5.5.4.6)
3. ALL EXPOSED RACEWAY SHALL BE WIREMOLD, UNLESS OTHERWISE NOTED ON PLANS. DEPENDING ON WALL TYPE AND CONSTRUCTION.



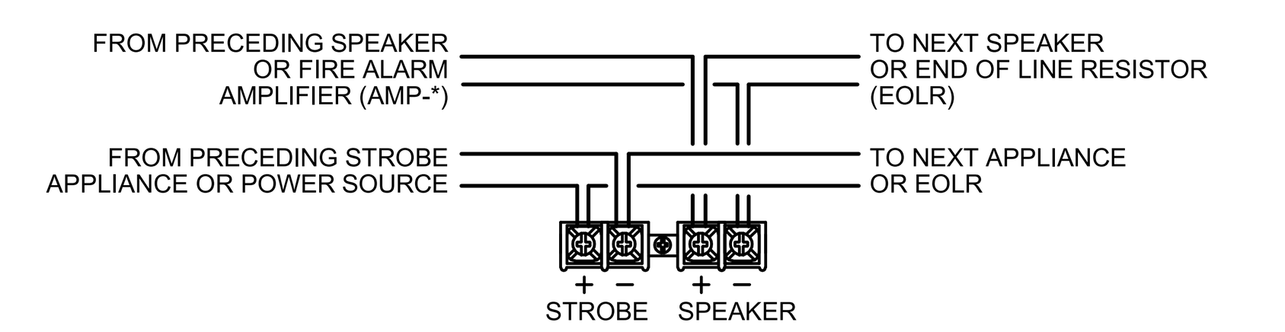
NOT TO SCALE

TYPICAL DEVICE MOUNTING HEIGHT DETAIL



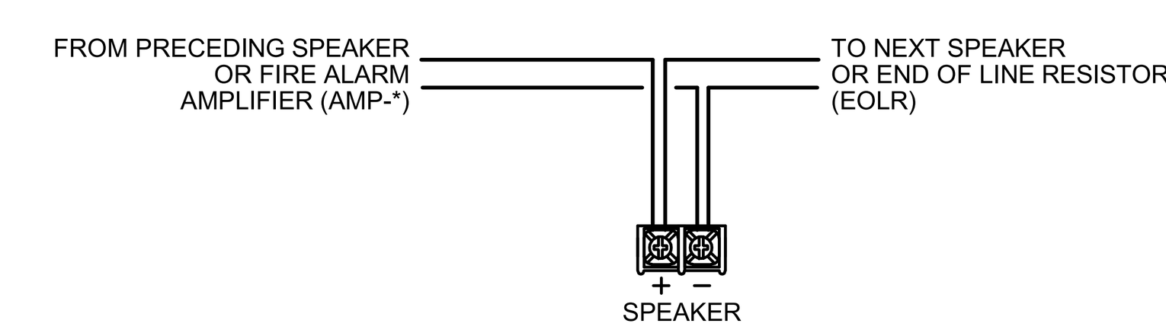
TYPICAL 2-WIRE STROBE WIRING DIAGRAM

NO SCALE



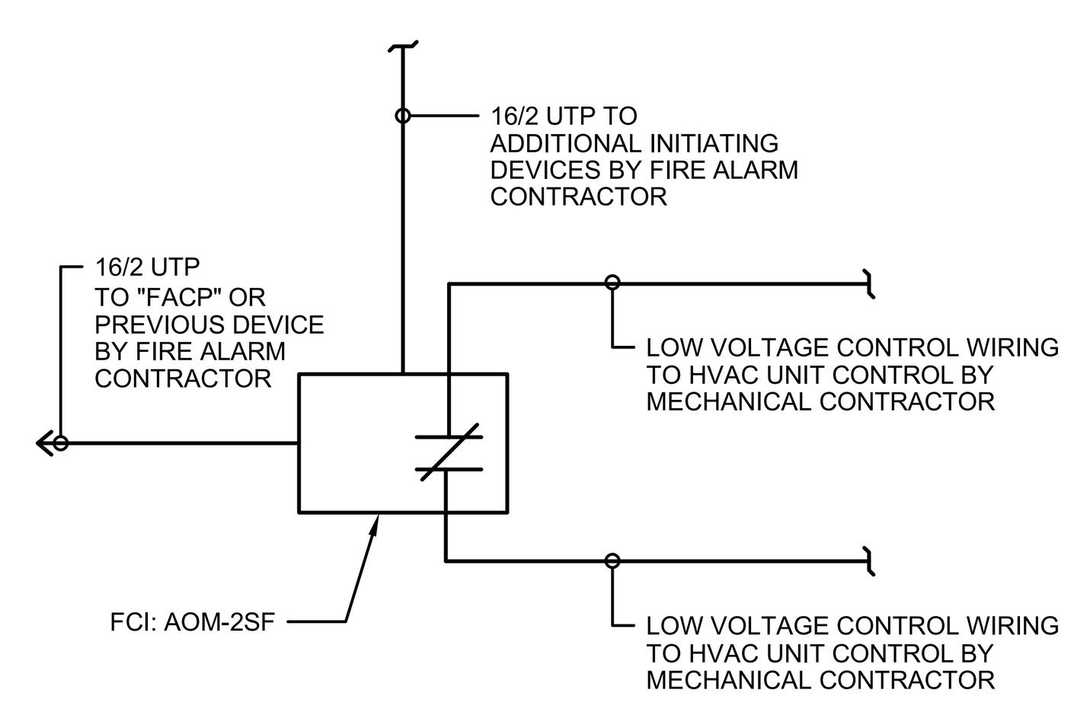
TYPICAL 4-WIRE SPEAKER/STROBE WIRING DIAGRAM

NO SCALE

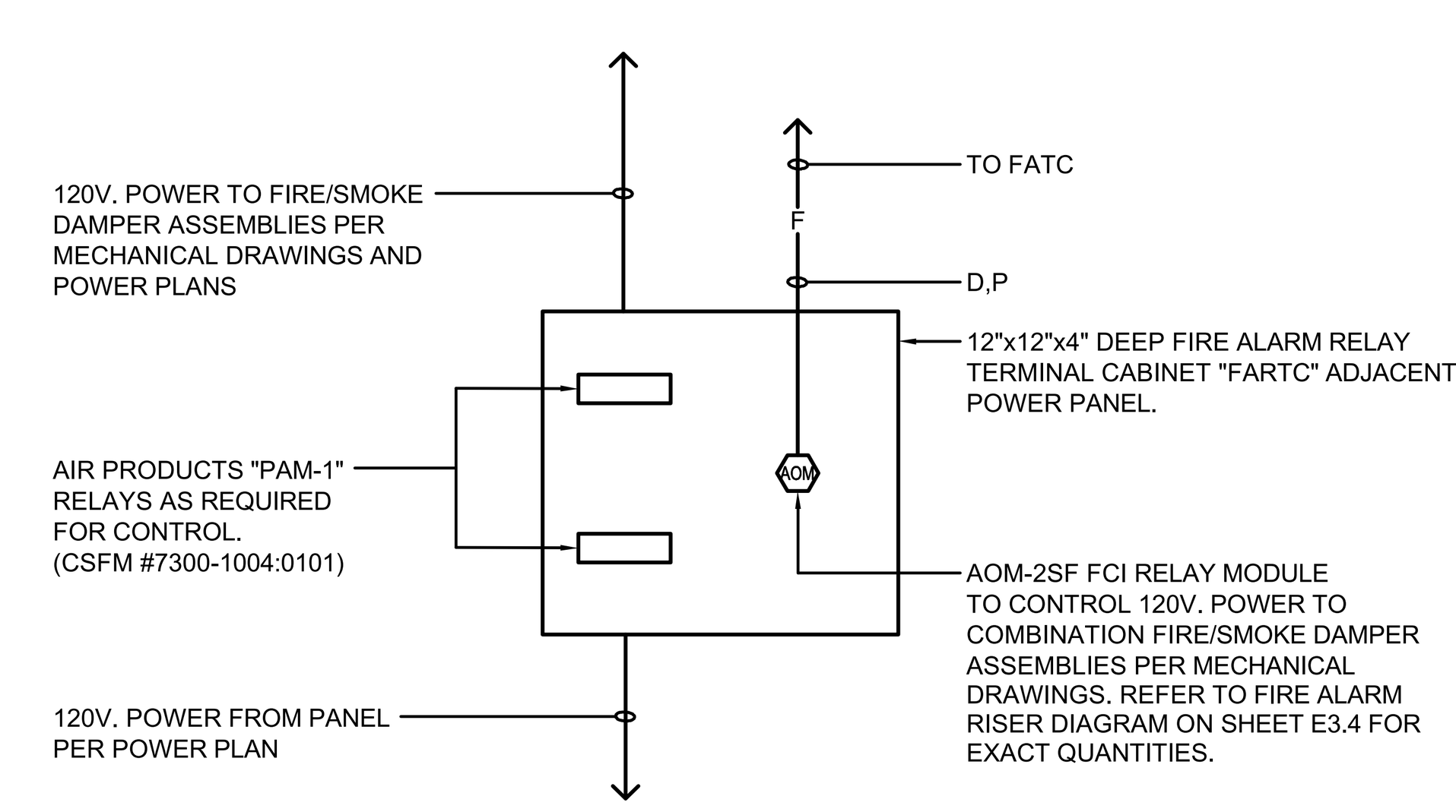


TYPICAL 2-WIRE SPEAKER WIRING DIAGRAM

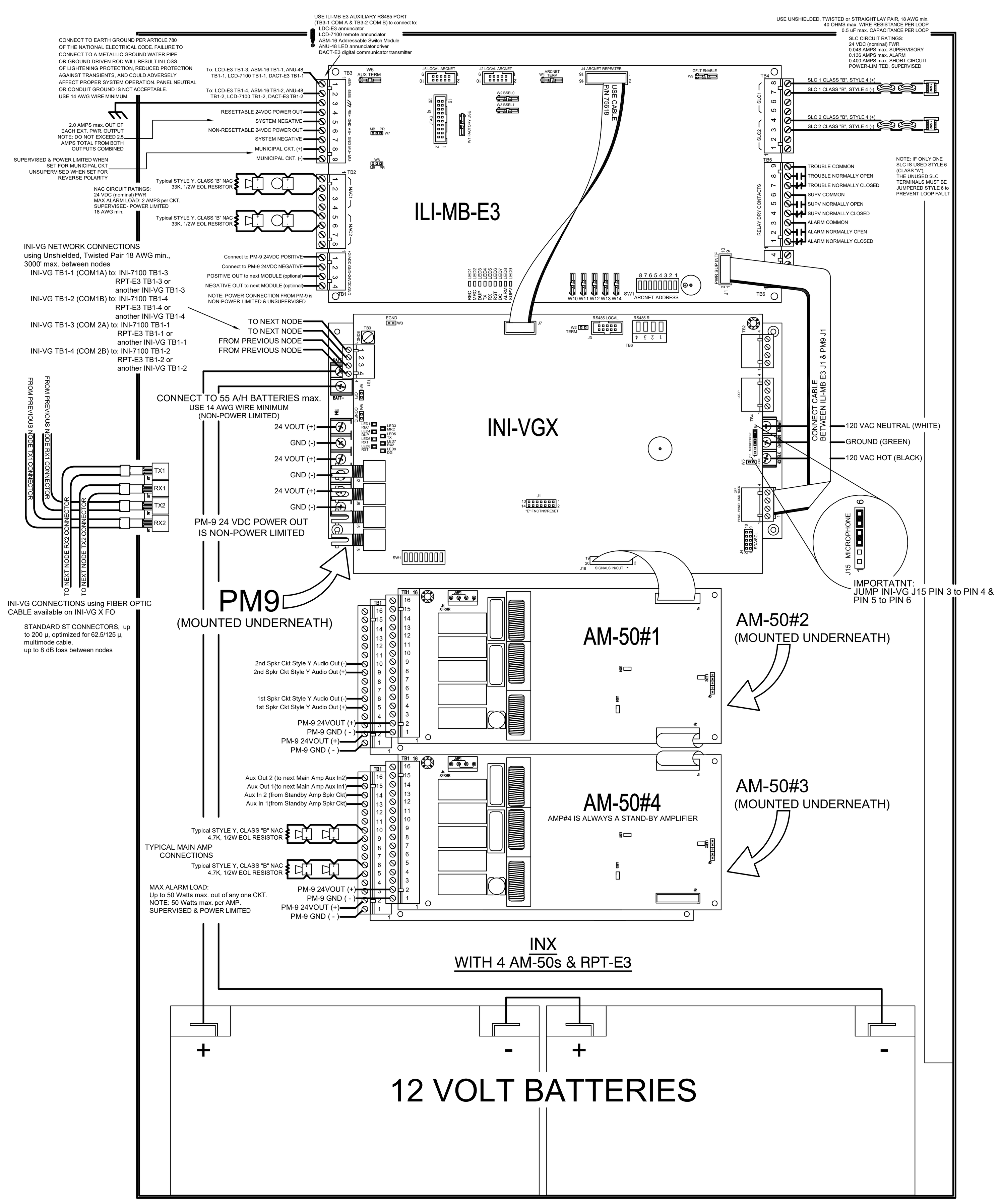
NO SCALE

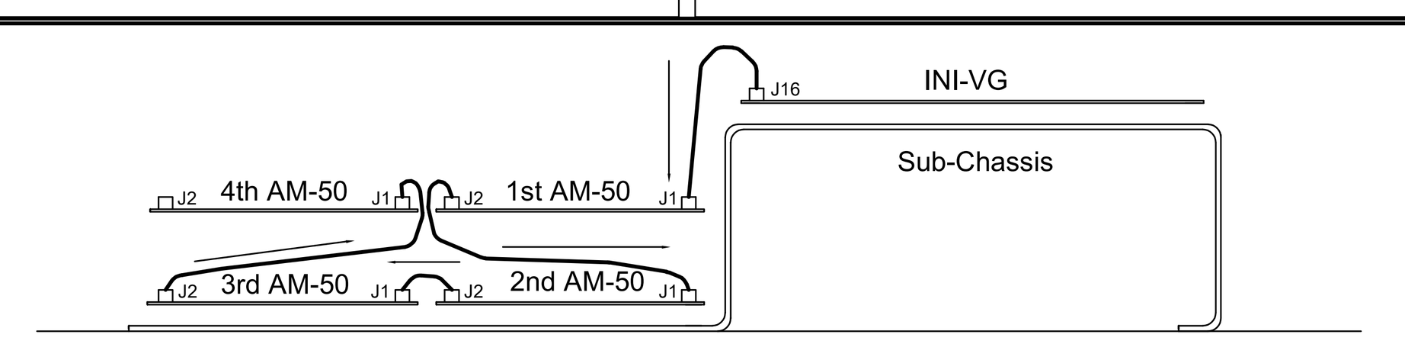


HVAC UNIT SHUT-DOWN



"FARTC" INSTALLATION DETAIL





IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-123582 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 01/10/2024

DLRGROUP
© DLR Group

DCGA ENGINEERS
Consulting Mechanical and Electrical Engineers

EL MONTE HIGH SCHOOL HVAC PROJECT

EL MONTE UNION HIGH SCHOOL DISTRICT

3048 Tyler Ave, El Monte, CA 91731

DSA SUBMITTAL
09/11/2023
REVISIONS

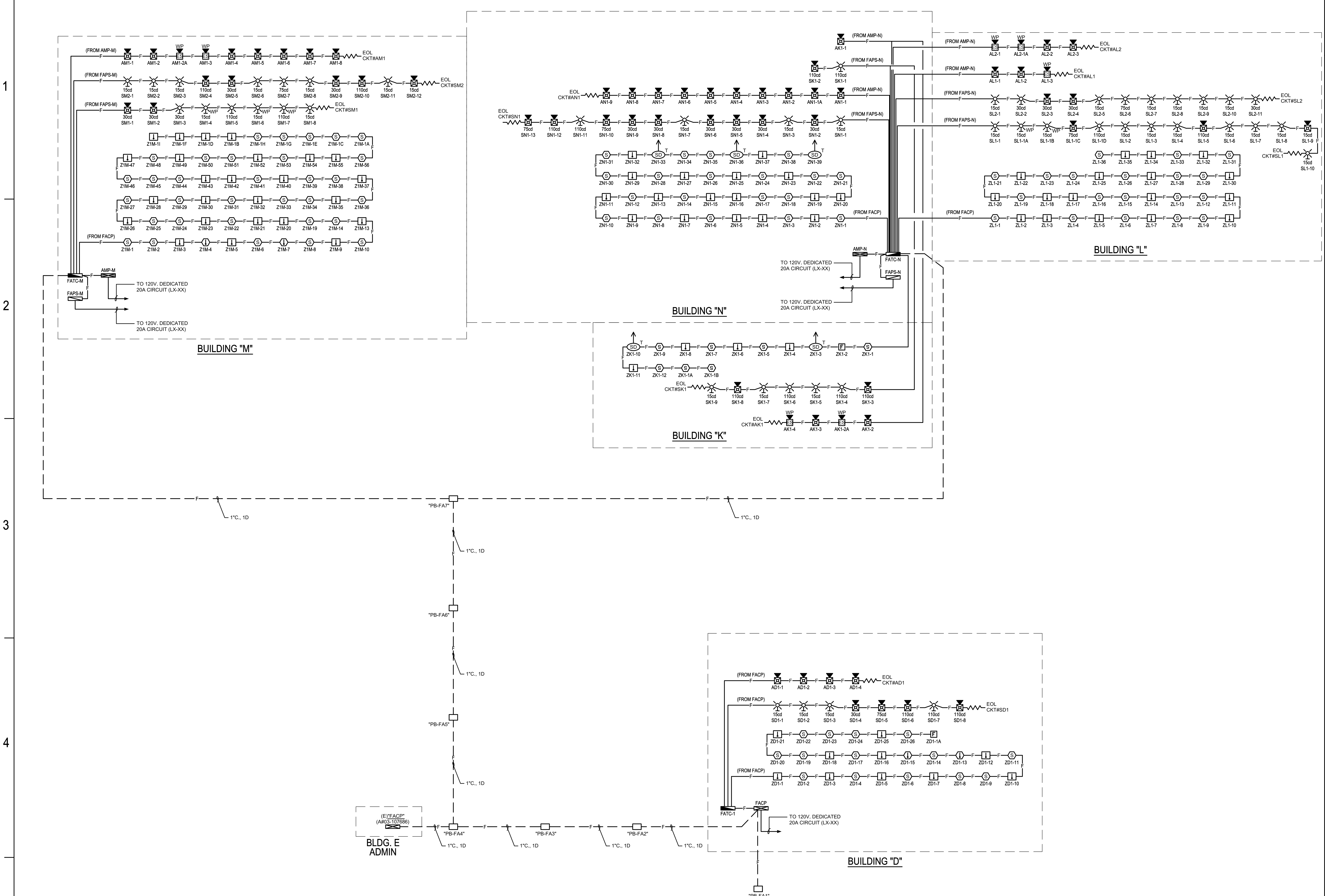
DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-01

FIRE ALARM WIRING DETAILS

E3.03

R:\EMUHSD - El Monte HS Gym and Kitchen HVAC #23017\CAD Dwgs\E\23017E303.dwg 11-16-23-5:42 PM

DCGA #23017



IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-123582 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 01/10/2024

REGISTERED PROFESSIONAL ENGINEER
CHEN HSING FANG
No. E 16592
ELECTRICAL
STATE OF CALIFORNIA

DLRGROUP
© DLR Group

DCGA ENGINEERS
Consulting Mechanical and Electrical Engineers

EL MONTE HIGH SCHOOL HVAC PROJECT

EL MONTE UNION HIGH SCHOOL DISTRICT

3048 Tyler Ave. El Monte, CA 91731

DSA SUBMITTAL
09/11/2023
REVISIONS

DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-01

FIRE
ALARM
RISER
DIAGRAM

E3.04

FCI E3 SERIES Battery Calculations
EL MONTE HS GYM AND KITCHEN
FACP

Description	Quantity		Standby (Amps)		Total Standby (Amps)	Alarm (Amps)	Total Alarm (Amps)
ILI-MB-E3	1	x	0.081000		0.081000	0.150000	0.150000
ILI-S-E3	1	x	0.118000		0.118000	0.119000	0.119000
RPT-E3-FO	1	x	0.013000		0.013000	0.013000	0.013000
DACT-E3	1	x	0.018000		0.018000	0.018000	0.018000
PM-9	1	x	0.050000		0.050000	0.050000	0.050000
LCD-E3	1	x	0.024000		0.024000	0.028000	0.028000
LOC	1	x	0.001000		0.001000	0.001000	0.001000
INI-VGX	1	x	0.150000		0.150000	0.150000	0.150000
AM-50-70	1	x	0.049000		0.049000	2.300000	2.300000
WATTS @ 70.7Vrms	2	x	0.000000		0.000000	0.014000	0.028000
ASD-PL2F	92	x	0.000300		0.027600	0.006500	0.598000
ABD-RT2F	5	x	0.002000		0.010000	0.008500	0.042500
MCS-COF	0	x	0.000300		0.000000	0.007200	0.000000
B200S	0	x	0.000300		0.000000	0.000300	0.000000
B200S (AUX POWER)	0	x	0.000500		0.000000	0.035000	0.000000
ATD-RL2F	4	x	0.000300		0.001200	0.006500	0.026000
ATD-HL2F	69	x	0.000300		0.020700	0.006500	0.448500
AMM-4F	0	x	0.000375		0.000000	0.005000	0.000000
AOM-2SF	0	x	0.000375		0.000000	0.006500	0.000000
MS-7AF	2	x	0.000300		0.000600	0.003000	0.006000
SR/SCW 15cd Strobe	3	x	0.000000		0.000000	0.066000	0.198000
SR/SCW 30cd Strobe	0	x	0.000000		0.000000	0.094000	0.000000
SR/SCW 75cd Strobe	0	x	0.000000		0.000000	0.158000	0.000000
SR/SCW 110cd Strobe	1	x	0.000000		0.000000	0.202000	0.202000
SPSR/SPSCW 15cd Spkr St.	0	x	0.000000		0.000000	0.066000	0.000000
SPSR/SPSCW 30cd Spkr St.	1	x	0.000000		0.000000	0.094000	0.094000
SPSR/SPSCW 75cd Spkr St.	1	x	0.000000		0.000000	0.158000	0.158000
SPSR/SPSCW 110cd Spkr St.	2	x	0.000000		0.000000	0.202000	0.404000
Total:					0.564100		5.034000
Battery Calculation	Time Multiplier				Amp Hours		
Supervisory Hours	24	x	0.564100	=	13.538400		
Alarm Minutes	0.250	x	5.034000	=	1.2585		
Total Amp Hours				=	14.796900		
Battery Used (AH)				=	36.000000		
Battery Spare (AH)				=	21.203100		

Battery Calculations
EL MONTE HS GYM AND KITCHEN
FAPS-M

Description	Quantity		Standby (Amps)		Total Standby (Amps)	Alarm (Amps)	Total Alarm (Amps)
Power Supply	1	x	0.075000		0.075000	0.175000	0.175000
SR/SCW 15cd Strobe	9	x	0.000000		0.000000	0.066000	0.594000
SR/SCW 30cd Strobe	1	x	0.000000		0.000000	0.094000	0.094000
SR/SCW 75cd Strobe	1	x	0.000000		0.000000	0.158000	0.158000
SR/SCW 110cd Strobe	2	x	0.000000		0.000000	0.202000	0.404000
SPSR/SPSCW 15cd Spkr St.	1	x	0.000000		0.000000	0.066000	0.066000
SPSR/SPSCW 30cd Spkr St.	4	x	0.000000		0.000000	0.094000	0.376000
SPSR/SPSCW 75cd Spkr St.	0	x	0.000000		0.000000	0.158000	0.000000
SPSR/SPSCW 110cd Spkr St.	2	x	0.000000		0.000000	0.202000	0.404000
Total:					0.075000		2.271000
Battery Calculation	Time Multiplier				Amp Hours		
Supervisory Hours	24	x	0.075000	=	1.800000		
Alarm Hours	0.250	x	2.271000	=	0.56775		
Total Amp Hours				=	2.367750		
Battery Used (AH)				=	7.000000		
Battery Spare (AH)				=	4.632250		

Battery Calculations
EL MONTE HS GYM AND KITCHEN
FAPS-N

Description	Quantity		Standby (Amps)		Total Standby (Amps)	Alarm (Amps)	Total Alarm (Amps)
Power Supply	1	x	0.075000		0.075000	0.175000	0.175000
SR/SCW 15cd Strobe	22	x	0.000000		0.000000	0.066000	1.452000
SR/SCW 30cd Strobe	2	x	0.000000		0.000000	0.094000	0.188000
SR/SCW 75cd Strobe	1	x	0.000000		0.000000	0.158000	0.158000
SR/SCW 110cd Strobe	4	x	0.000000		0.000000	0.202000	0.808000
SPSR/SPSCW 15cd Spkr St.	1	x	0.000000		0.000000	0.066000	0.066000
SPSR/SPSCW 30cd Spkr St.	8	x	0.000000		0.000000	0.094000	0.752000
SPSR/SPSCW 75cd Spkr St.	3	x	0.000000		0.000000	0.158000	0.474000
SPSR/SPSCW 110cd Spkr St.	5	x	0.000000		0.000000	0.202000	1.010000
Total:					0.075000		5.083000
Battery Calculation	Time Multiplier				Amp Hours		
Supervisory Hours	24	x	0.075000	=	1.800000		
Alarm Hours	0.250	x	5.083000	=	1.27075		
Total Amp Hours				=	3.070750		
Battery Used (AH)				=	7.000000		
Battery Spare (AH)				=	3.929250		

Voltage Drop Calculations
EL MONTE HS GYM AND KITCHEN
FACP Signal Circuit SD1

Description	Quantity		Alarm (Amps)		Total Alarm (Amps)
SR/SCW 15cd Strobe	3	x	0.066000		0.198000
SR/SCW 30cd Strobe	0	x	0.094000		0.000000
SR/SCW 75cd Strobe	0	x	0.158000		0.000000
SR/SCW 110cd Strobe	1	x	0.202000		0.202000
SPSR/SPSCW 15cd Spkr St.	0	x	0.066000		0.000000
SPSR/SPSCW 30cd Spkr St.	1	x	0.094000		0.094000
SPSR/SPSCW 75cd Spkr St.	1	x	0.158000		0.158000
SPSR/SPSCW 110cd Spkr St.	2	x	0.202000		0.404000
Total Current Draw:				=	1.056000
Wire Size 14	0	x	4110	=	0
Wire Size 12	1	x	6530	=	6530
Wire Used Circular Mills				=	6530
Distance to End of Circuit:				=	268
Multiplier				=	21.6
Voltage				=	24
Multiplier				=	4.166
Percentage Voltage Drop				=	3.900

Voltage Drop Calculations
EL MONTE HS GYM AND KITCHEN
FAPS-N Signal Circuit SK1

Description	Quantity		Alarm (Amps)		Total Alarm (Amps)
SR/SCW 15cd Strobe	3	x	0.066000		0.198000
SR/SCW 30cd Strobe	0	x	0.094000		0.000000
SR/SCW 75cd Strobe	0	x	0.158000		0.000000
SR/SCW 110cd Strobe	3	x	0.202000		0.606000
SPSR/SPSCW 15cd Spkr St.	0	x	0.066000		0.000000
SPSR/SPSCW 30cd Spkr St.	0	x	0.094000		0.000000
SPSR/SPSCW 75cd Spkr St.	0	x	0.158000		0.000000
SPSR/SPSCW 110cd Spkr St.	3	x	0.202000		0.606000
Total Current Draw:				=	1.410000
Wire Size 14	0	x	4110	=	0
Wire Size 12	1	x	6530	=	6530
Wire Used Circular Mills				=	6530
Distance to End of Circuit:				=	426
Multiplier				=	21.6
Voltage				=	24
Multiplier				=	4.166
Percentage Voltage Drop				=	8.277

Voltage Drop Calculations
EL MONTE HS GYM AND KITCHEN
FAPS-N Signal Circuit SL1

Description	Quantity		Alarm (Amps)		Total Alarm (Amps)
SR/SCW 15cd Strobe	10	x	0.066000		0.660000
SR/SCW 30cd Strobe	0	x	0.094000		0.000000
SR/SCW 75cd Strobe	0	x	0.158000		0.000000
SR/SCW 110cd Strobe	1	x	0.202000		0.202000
SPSR/SPSCW 15cd Spkr St.	1	x	0.066000		0.066000
SPSR/SPSCW 30cd Spkr St.	0	x	0.094000		0.000000
SPSR/SPSCW 75cd Spkr St.	1	x	0.158000		0.158000
SPSR/SPSCW 110cd Spkr St.	1	x	0.202000		0.202000
Total Current Draw:				=	1.288000
Wire Size 14	0	x	4110	=	0
Wire Size 12	1	x	6530	=	6530
Wire Used Circular Mills				=	6530
Distance to End of Circuit:				=	267
Multiplier				=	21.6
Voltage				=	24
Multiplier				=	4.166
Percentage Voltage Drop				=	4.739

Voltage Drop Calculations
EL MONTE HS GYM AND KITCHEN
FAPS-N Signal Circuit SL2

Description	Quantity		Alarm (Amps)		Total Alarm (Amps)
SR/SCW 15cd Strobe	5	x	0.066000		0.330000
SR/SCW 30cd Strobe	3	x	0.094000		0.282000
SR/SCW 75cd Strobe	1	x	0.158000		0.158000
SR/SCW 110cd Strobe	1	x	0.202000		0.202000
SPSR/SPSCW 15cd Spkr St.	0	x	0.066000		0.000000
SPSR/SPSCW 30cd Spkr St.	1	x	0.094000		0.094000
SPSR/SPSCW 75cd Spkr St.	0	x	0.158000		0.000000
SPSR/SPSCW 110cd Spkr St.	0	x	0.202000		0.000000
Total Current Draw:				=	1.066000
Wire Size 14	0	x	4110	=	0
Wire Size 12	1	x	6530	=	6530
Wire Used Circular Mills				=	6530
Distance to End of Circuit:				=	272
Multiplier				=	21.6
Voltage				=	24
Multiplier				=	4.166
Percentage Voltage Drop				=	3.996

Voltage Drop Calculations
EL MONTE HS GYM AND KITCHEN
FAPS-M Signal Circuit SM1

Description	Quantity		Alarm (Amps)		Total Alarm (Amps)
SR/SCW 15cd Strobe	3	x	0.066000		0.198000
SR/SCW 30cd Strobe	1	x	0.094000		0.094000
SR/SCW 75cd Strobe	0	x	0.158000		0.000000
SR/SCW 110cd Strobe	2	x	0.202000		0.404000
SPSR/SPSCW 15cd Spkr St.	0	x	0.066000		0.000000
SPSR/SPSCW 30cd Spkr St.	2	x	0.094000		0.188000
SPSR/SPSCW 75cd Spkr St.	0	x	0.158000		0.000000
SPSR/SPSCW 110cd Spkr St.	0	x	0.202000		0.000000
Total Current Draw:				=	0.884000
Wire Size 14	0	x	4110	=	0
Wire Size 12	1	x	6530	=	6530
Wire Used Circular Mills				=	6530
Distance to End of Circuit:				=	198
Multiplier				=	21.6
Voltage				=	24
Multiplier				=	4.166
Percentage Voltage Drop				=	2.412

Voltage Drop Calculations
EL MONTE HS GYM AND KITCHEN
FAPS-M Signal Circuit SM2

Description	Quantity		Alarm (Amps)		Total Alarm (Amps)
SR/SCW 15cd Strobe	6	x	0.066000		0.396000
SR/SCW 30cd Strobe	0	x	0.094000		0.000000
SR/SCW 75cd Strobe	1	x	0.158000		0.158000
SR/SCW 110cd Strobe	0	x	0.202000		0.000000
SPSR/SPSCW 15cd Spkr St.	1	x	0.066000		0.066000
SPSR/SPSCW 30cd Spkr St.	2	x	0.094000		0.188000
SPSR/SPSCW 75cd Spkr St.	0	x	0.158000		0.000000
SPSR/SPSCW 110cd Spkr St.	2	x	0.202000		0.404000
Total Current Draw:				=	1.212000
Wire Size 14	0	x	4110	=	0
Wire Size 12	1	x	6530	=	6530
Wire Used Circular Mills				=	6530
Distance to End of Circuit:				=	248
Multiplier				=	21.6
Voltage				=	24
Multiplier				=	4.166
Percentage Voltage Drop				=	4.142

Voltage Drop Calculations
EL MONTE HS GYM AND KITCHEN
FAPS-N Signal Circuit SN1

Description	Quantity		Alarm (Amps)		Total Alarm (Amps)
SR/SCW 15cd Strobe	3	x	0.066000		0.198000
SR/SCW 30cd Strobe	0	x	0.094000		0.000000
SR/SCW 75cd Strobe	0	x	0.158000		0.000000
SR/SCW 110cd Strobe	1	x	0.202000		0.202000
SPSR/SPSCW 15cd Spkr St.	0	x	0.066000		0.000000
SPSR/SPSCW 30cd Spkr St.	6	x	0.094000		0.564000
SPSR/SPSCW 75cd Spkr St.	2	x	0.158000		0.316000
SPSR/SPSCW 110cd Spkr St.	1	x	0.202000		0.202000
Total Current Draw:				=	1.482000
Wire Size 14	0	x	4110	=	0
Wire Size 12	1	x	6530	=	6530
Wire Used Circular Mills				=	6530
Distance to End of Circuit:				=	411
Multiplier				=	21.6
Voltage				=	24
Multiplier				=	4.166
Percentage Voltage Drop				=	8.394

INX Transponder - AM-50 Amplifier Calculation
EL MONTE HS GYM AND KITCHEN
AMP-M - Data Loop ??

Description	Quantity		Standby (Amps)		Total Standby (Amps)	Alarm (Amps)	Total Alarm (Amps)
ILI-MB-E3	0	x	0.081000		0.000000	0.150000	0.000000
PM-9	0	x	0.050000		0.000000	0.050000	0.000000
ASD-PL2F	0	x	0.000300		0.000000	0.006500	0.000000
MCS-COF	0	x	0.000300		0.000000	0.007200	0.000000
B200S	0	x	0.000300		0.000000	0.000300	0.000000
B200S (AUX POWER)	0	x	0.000500		0.000000	0.035000	0.000000
ATD-RL2F	0	x	0.000300		0.000000	0.006500	0.000000
ATD-HL2F	0	x	0.000300		0.000000	0.006500	0.000000
AMM-4F	0	x	0.000375		0.000000	0.005000	0.000000
AOM-2SF	0	x	0.000375		0.000000	0.006500	0.000000
MS-7AF	0	x	0.000300		0.000000	0.003000	0.000000
AM-50-70	1	x	0.098000		0.098000	4.600000	4.600000
INI-VGX	1	x	0.150000		0.150000	0.150000	0.150000
WATTS @ 70.7Vrms	13.5	x	0.000000		0.000000	0.014000	0.189000
Total:					0.248000		4.939000
Battery Calculation	Time Multiplier				Amp Hours	Total Watts Used	Total Watts Spare
Supervisory Hours	24	x	0.248000	=	5.952000		
Alarm Hours	0.250	x	4.939000	=	1.23475	13.5	36.5
Total Amp Hours				=	7.186750		
Battery Used (AH)				=	24.000000		
Battery Spare (AH)				=	16.813250		

INX Transponder - AM-50 Amplifier Calculation
EL MONTE HS GYM AND KITCHEN
AMP-N - Data Loop ??

Description	Quantity		Standby (Amps)		Total Standby (Amps)	Alarm (Amps)	Total Alarm (Amps)
ILI-MB-E3	0	x	0.081000		0.000000	0.150000	0.000000
PM-9	0	x	0.050000		0.000000	0.050000	0.000000
ASD-PL2F	0	x	0.000300		0.000000	0.006500	0.000000
MCS-COF	0	x	0.000300		0.000000	0.007200	0.000000
B200S	0	x	0.000300		0.000000	0.000300	0.000000
B200S (AUX POWER)	0	x	0.000500		0.000000	0.035000	0.000000
ATD-RL2F	0	x	0.000300		0.000000	0.006500	0.000000
ATD-HL2F	0	x	0.000300		0.000000	0.006500	0.000000
AMM-4F	0	x	0.000375		0.000000	0.005000	0.000000
AOM-2SF	0	x	0.000375		0.000000	0.006500	0.000000
MS-7AF	0	x	0.000300		0.000000	0.003000	0.000000
AM-50-70	1	x	0.098000		0.098000	4.600000	4.600000
INI-VGX	1	x	0.150000		0.150000	0.150000	0.150000
WATTS @ 70.7Vrms	18.5	x	0.000000		0.000000	0.014000	0.259000
Total:					0.248000		5.009000
Battery Calculation	Time Multiplier				Amp Hours	Total Watts Used	Total Watts Spare
Supervisory Hours	24	x	0.248000	=	5.952000		
Alarm Hours	0.250	x	5.009000	=	1.25225	18.5	31.5
Total Amp Hours				=	7.204250		
Battery Used (AH)				=	24.000000		
Battery Spare (AH)				=	16.795750		

EL MONTE HS GYM AND KITCHEN - SPEAKER CIRCUIT LOAD CALCULATION

SPEAKER CIRCUIT DESCRIPTION	PANEL CIRCUIT NUMBER	WIRE GAUGE (18, 16, 14, 12)	CIRCUIT VOLTAGE (25 OR 70 VRMS)	APPLIANCES QUANTITIES / TAP VALUES: SPSR / CW TAP .25 Watt	SPSR / CW TAP .5 Watt	SPSR / CW TAP 1. Watt	SPSR / CW TAP 2. Watt	SPRK TAP 2. Watt	TOTAL CIRCUIT LOAD (WATTS)	ESTIMATED CIRCUIT LENGTH (FEET)	MAXIMUM -3 dB DROP PER CIRCUIT: ACTUAL WIRE/LOSS (dB)	MAXIMUM ALLOWABLE CKT. LENGTH (FEET)	TOTAL CIRCUIT RESISTANCE (OHMS)
Building D Speakers (FACP)	AD1	16	70 vrms	0	4	0	0	0	2. Watts	267 ft.	-.01 db	112822 ft.	2.4 Ohms
Building M Speakers (AMP-M)	AM1	16	70 vrms	0	7	0	0	2	7.5 Watts	283 ft.	-.03 db	30086 ft.	2.544 Ohms
Building N Speakers (AMP-N)	AN1	16	70 vrms	0	10	0	0	0	5. Watts	304 ft.	-.02 db	45129 ft.	2.733 Ohms
Buildin K Speakers (AMP-N)	AK1	16	70 vrms	0	3	0	0	2	5.5 Watts	359 ft.	-.03 db	41026 ft.	3.228 Ohms
Building L Speakers (AMP-N)	AL1	16	70 vrms	0	2	0	0	1	3. Watts	168 ft.	-.01 db	75215 ft.	1.51 Ohms
Building L Speakers (AMP-N)	AL2	16	70 vrms	0	2	0	0	2	5. Watts	181 ft.	-.01 db	45129 ft.	1.627 Ohms
		16	70 vrms	0	0	0	0	0	. Watts	ft.	. db	ft.	. Ohms
				Appliance Summary					Total Load (Watts)				
				0	28	0	0	7	28.00				

NOTE:
LUMP SUM METHOD WAS USED TO CALCULATE MAXIMUM ALLOWABLE CIRCUIT LENGTH. THIS METHOD ALLOWS FOR A SMALL MARGIN OF SAFETY, TAKING INTO CONSIDERATION THE ACTUAL INSTALLED CIRCUIT ROUTING MAY DIFFER FROM WHAT IS SHOWN ON THE SHOP DRAWINGS.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-123582 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 01/10/2024

REGISTERED PROFESSIONAL ENGINEER
CHEN HSING FANG
No. E 16592
ELECTRICAL
STATE OF CALIFORNIA

DLRGROUP
© DLR Group

EL MONTE UNION HIGH SCHOOL DISTRICT
COMMUNITY COMMITTED TO COLLEGE AND CAREER
EXCELLENCE 1901

DCGA ENGINEERS
Consulting Mechanical and Electrical Engineers
4750 E. Ontario Mills Pkwy
Ontario, Ca. 91764
Ph.909.987.0017
Fax 909.980.7023

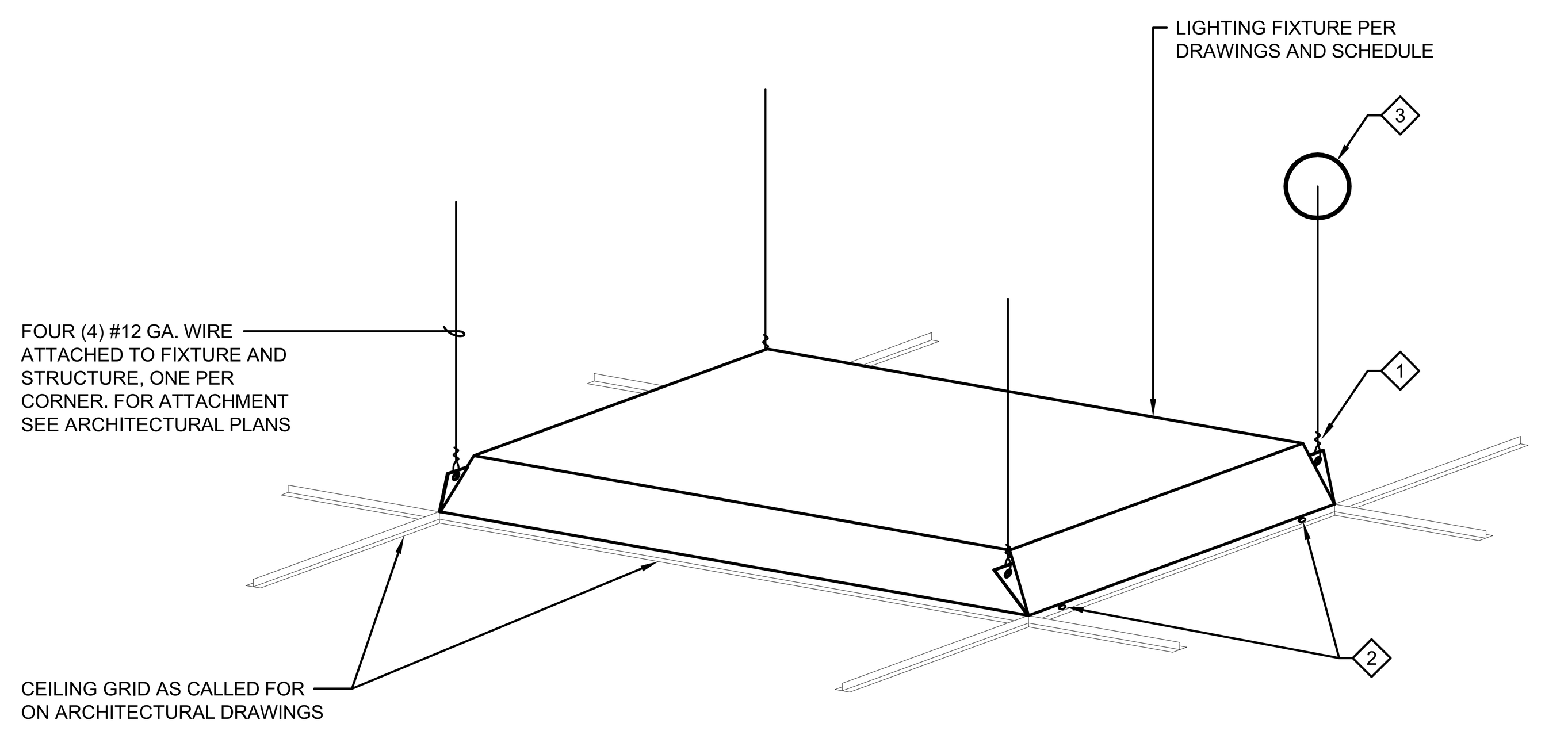
EL MONTE HIGH SCHOOL HVAC PROJECT
EL MONTE UNION HIGH SCHOOL DISTRICT
3048 Tyler Ave, El Monte, CA 91731

DSA SUBMITTAL
09/11/2023
REVISIONS

DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-01

FIRE
ALARM
BATTERY
CALCULATIONS

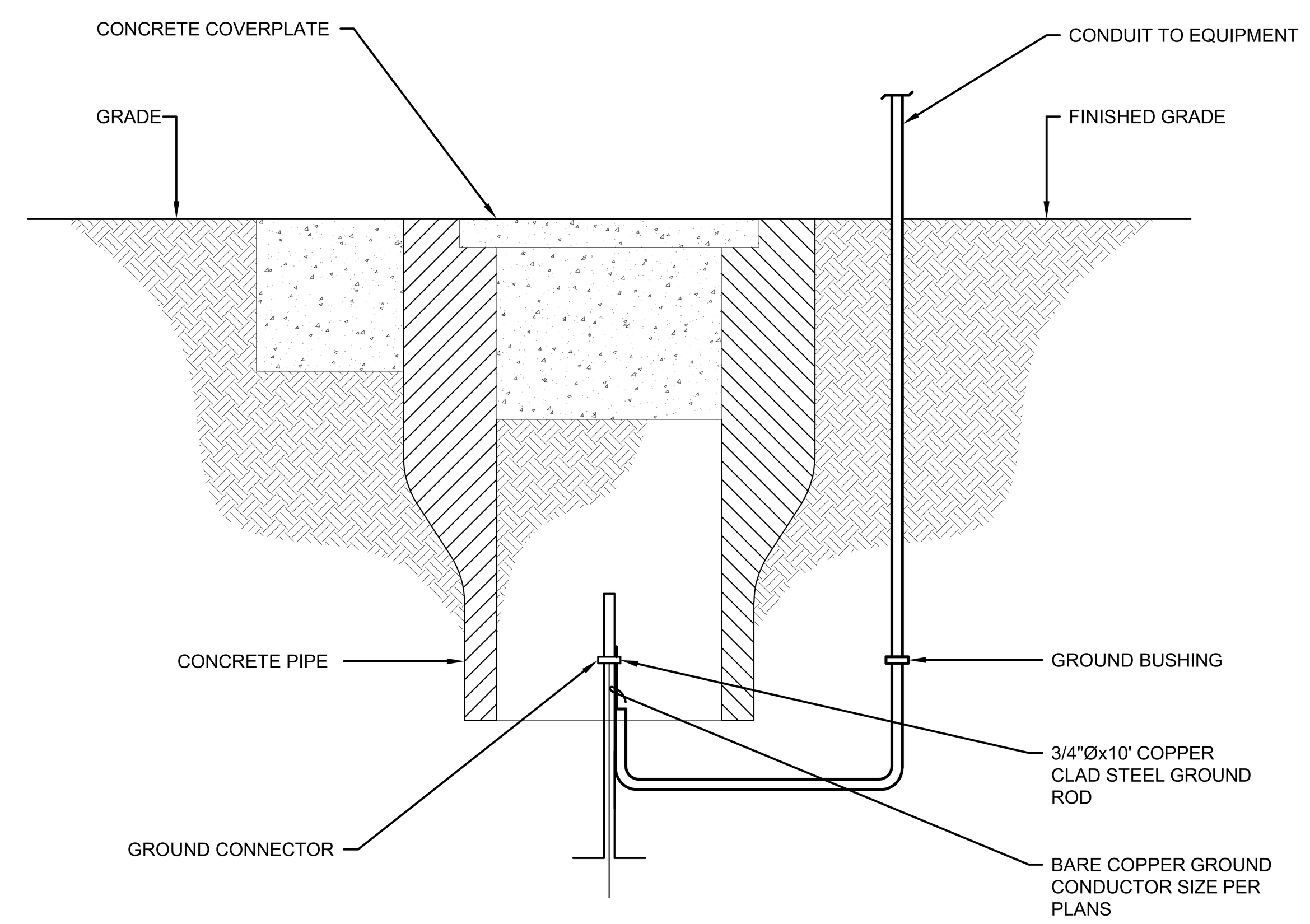
E3.05



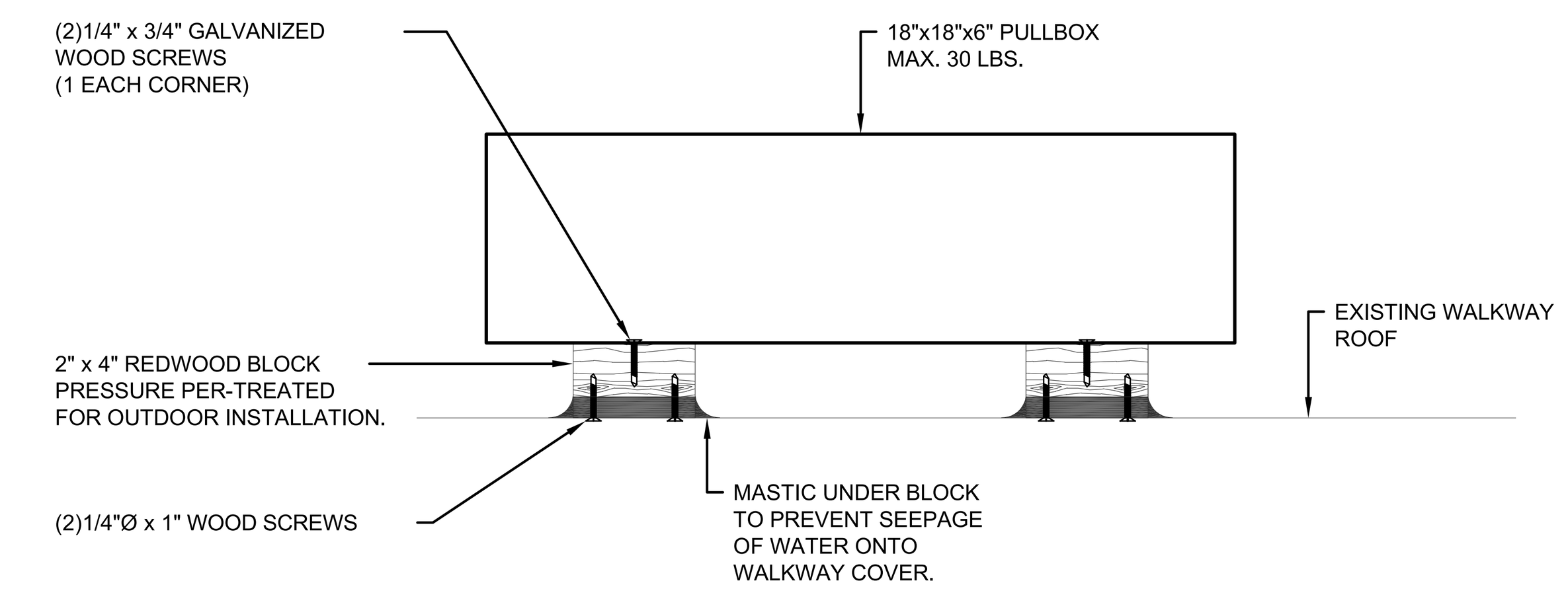
DETAIL NOTES:

1. ATTACH WIRE TO FIXTURE (3 TIGHT TURNS MIN. IN 1 1/2" MAX.)
2. "TEK" SCREW GRID TO FIXTURE @ EACH CORNER.
3. ATTACH HANGER WIRES TO STRUCTURE AS PER ARCHITECTURAL DETAIL 54/A11.11.

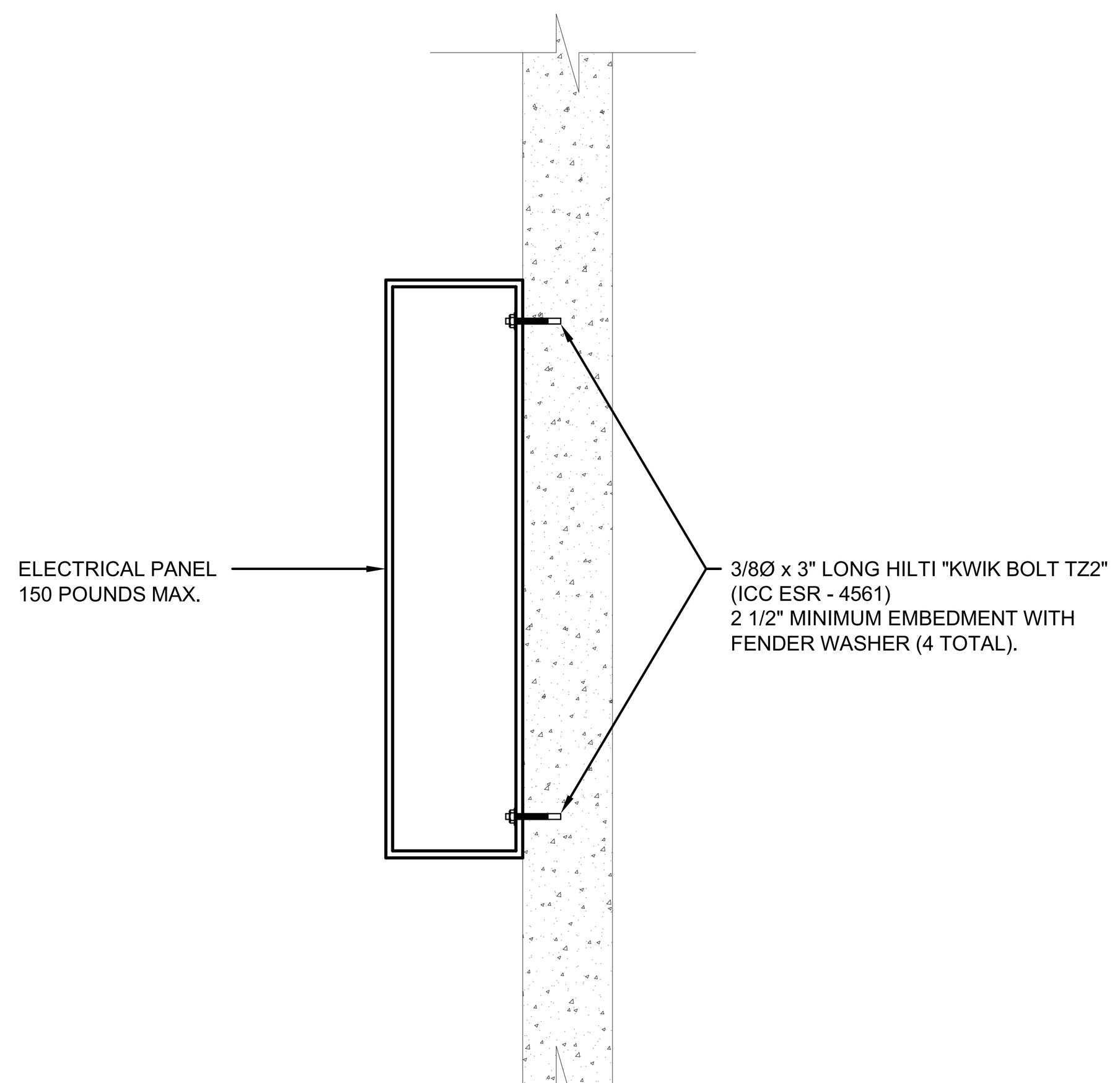
RECESSED FIXTURE IN LAY-IN GRID DETAIL — SCALE N.T.S. — 1



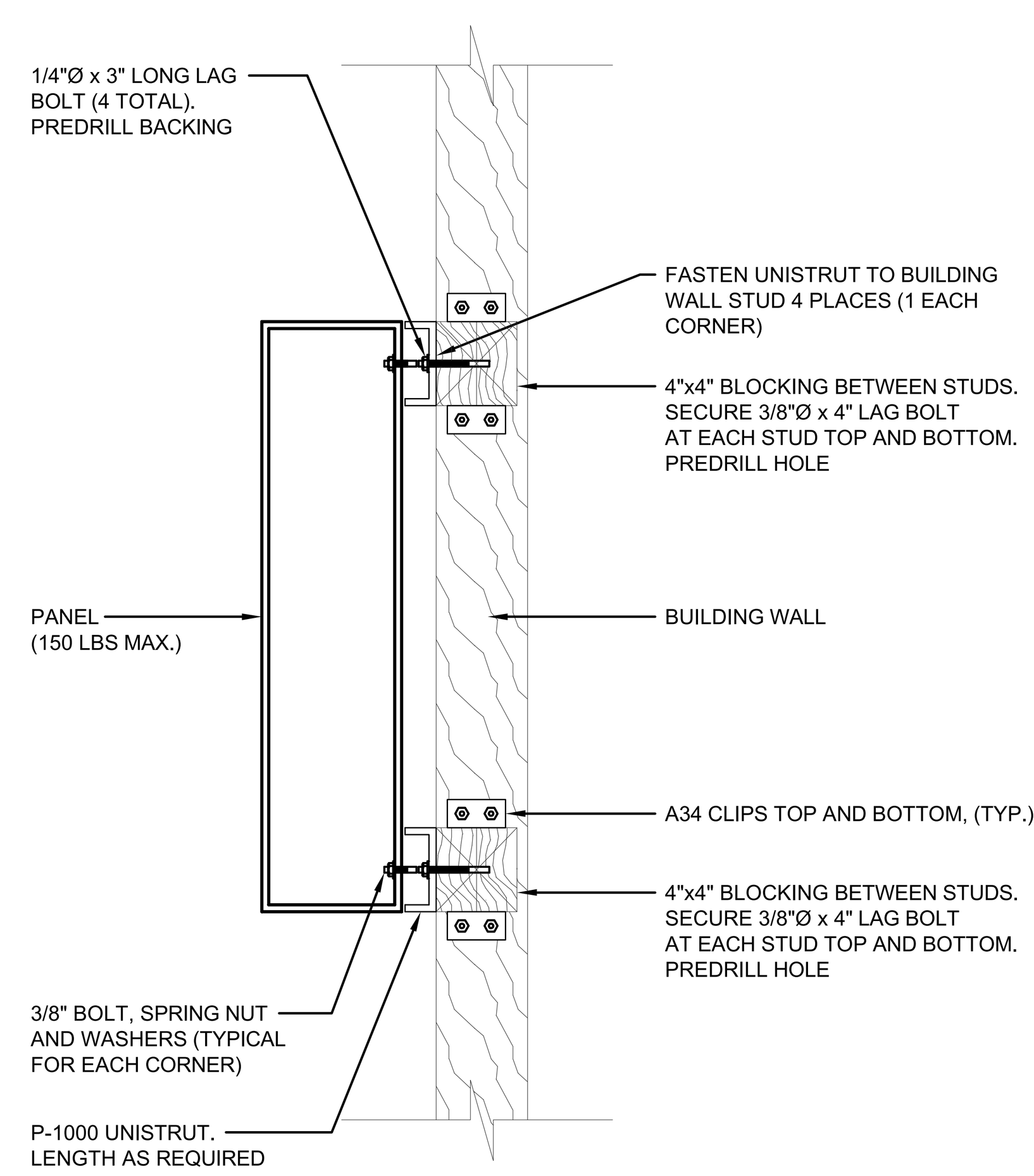
GROUND ROD DETAIL — SCALE N.T.S. — 2



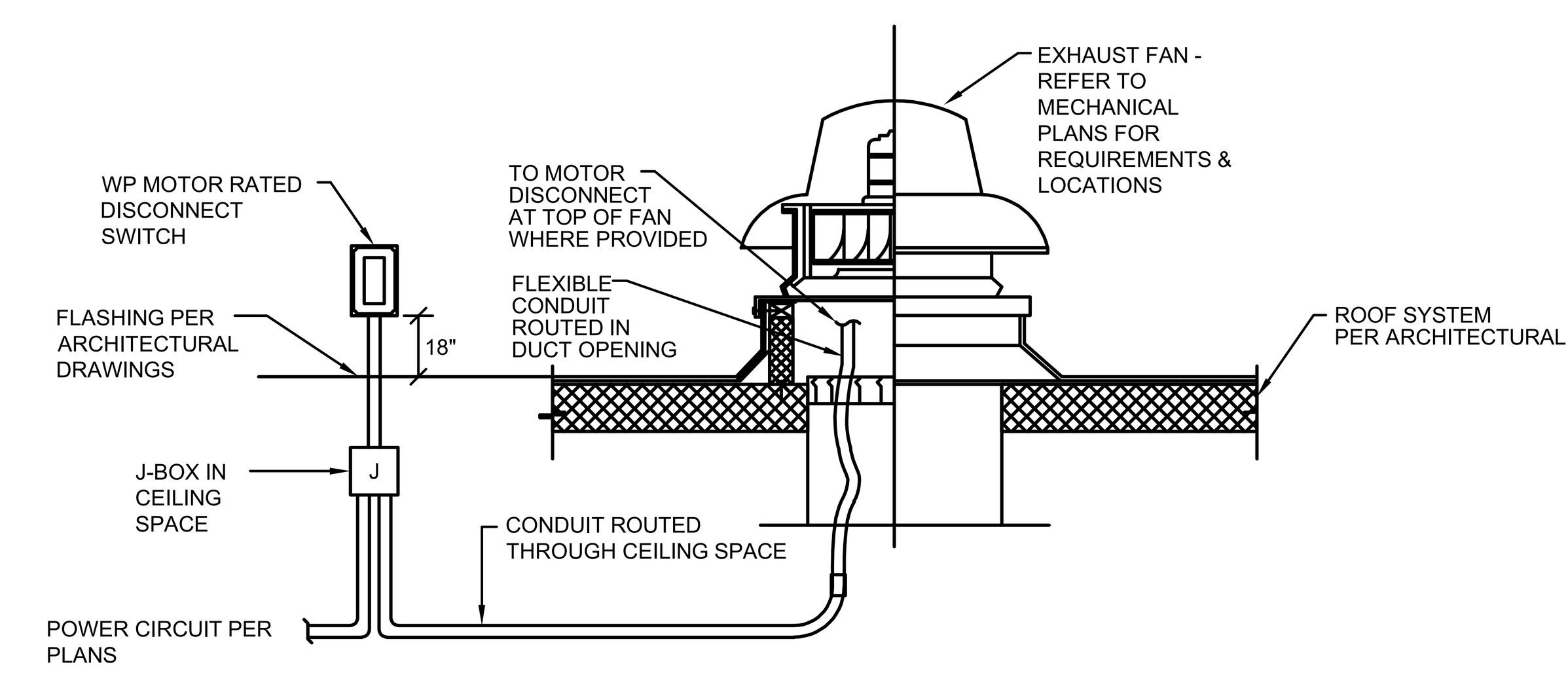
PULLBOX SUPPORT ON COVERED WALKWAY ROOF — SCALE N.T.S. — 3



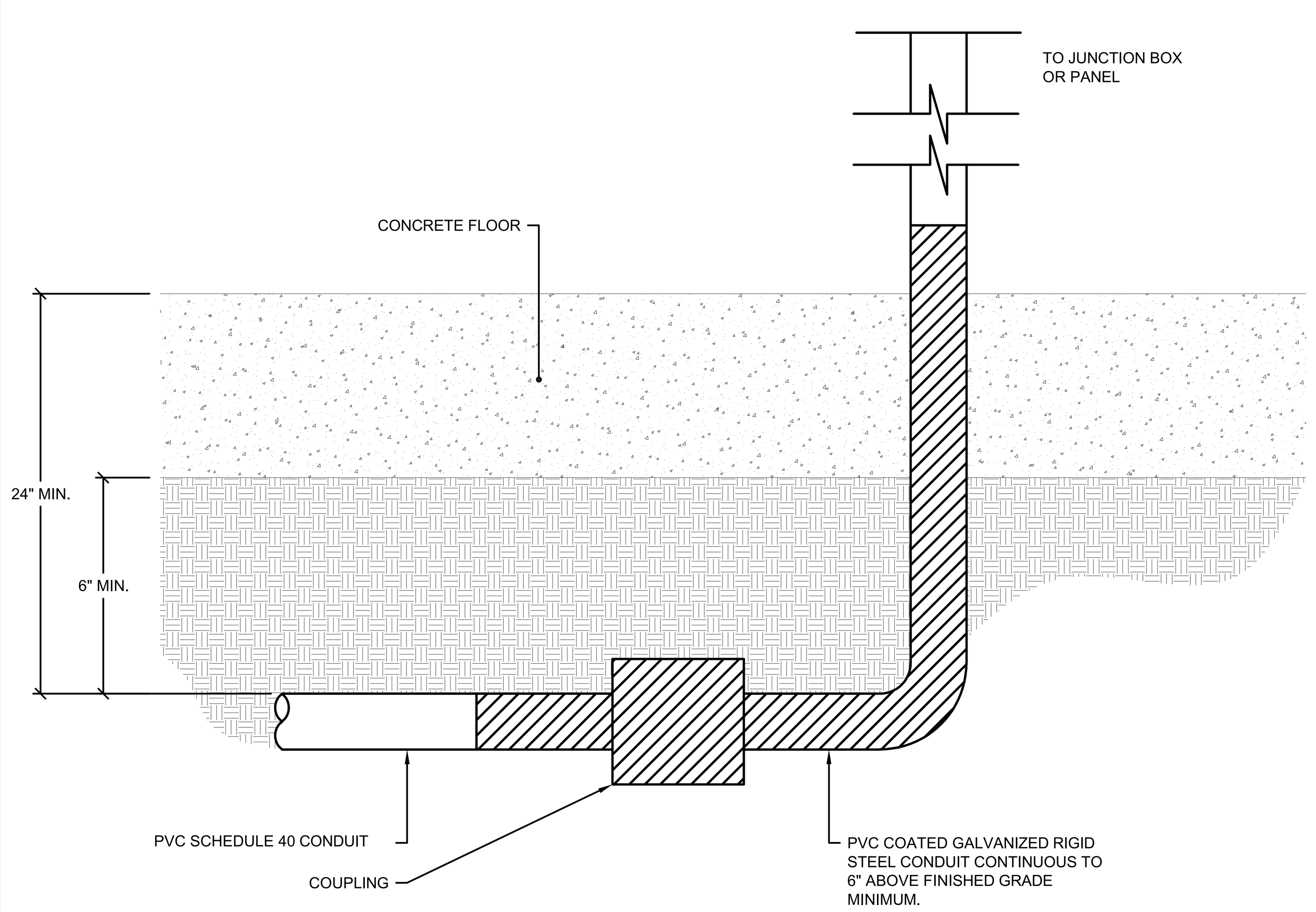
SURFACE MOUNTED PANEL AT MASONRY WALL — SCALE N.T.S. — 4



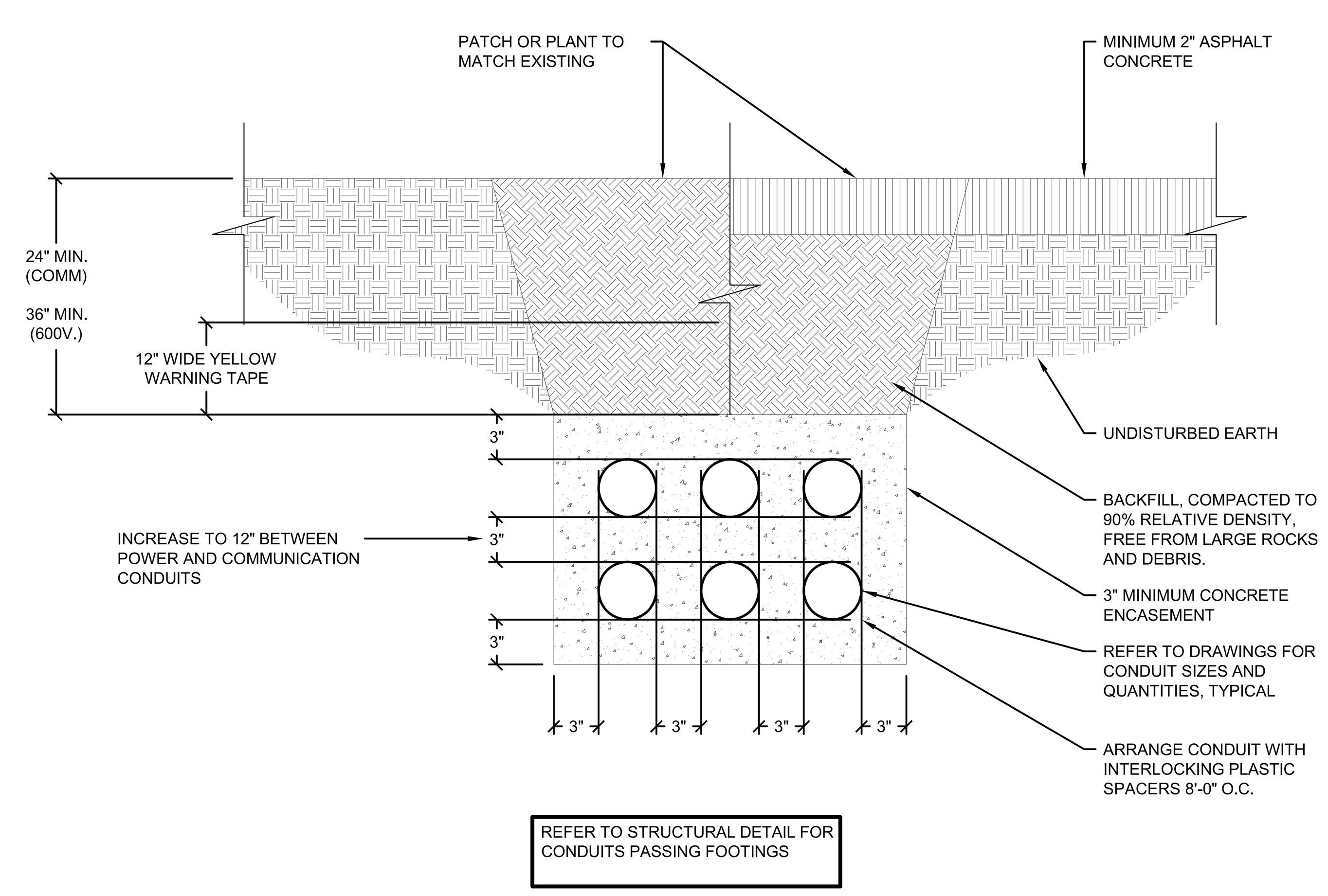
SURFACE MOUNTED PANEL/CABINET AT WOOD FRAMING — SCALE N.T.S. — 5



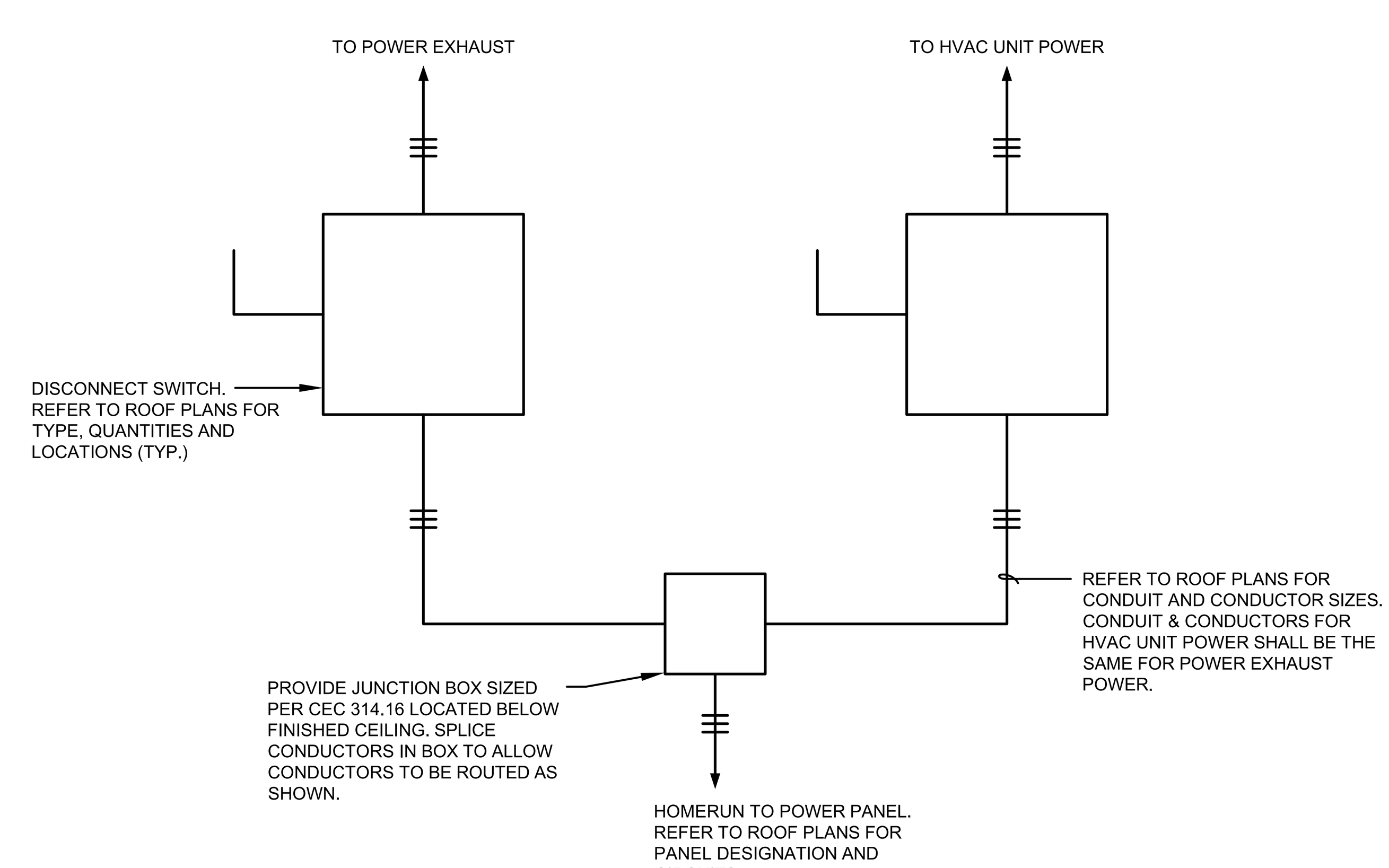
ROOF MOUNTED EXHAUST FAN CONNECTION DETAIL (WHERE OCCURS) — SCALE N.T.S. — 6



CONDUIT RISER INSTALLATION DETAIL — SCALE N.T.S. — 7



TYPICAL MULTI-CONDUIT PLACEMENT DETAIL — SCALE N.T.S. — 8



HVAC UNIT POWER EXHAUST CONNECTION DETAIL — SCALE N.T.S. — 9

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-123582 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 01/10/2024

REGISTERED PROFESSIONAL ENGINEER — CHEN HSING FANG — No. E 16592 — ELECTRICAL — STATE OF CALIFORNIA

DLRGROUP

DCGA ENGINEERS
Consulting Mechanical and Electrical Engineers

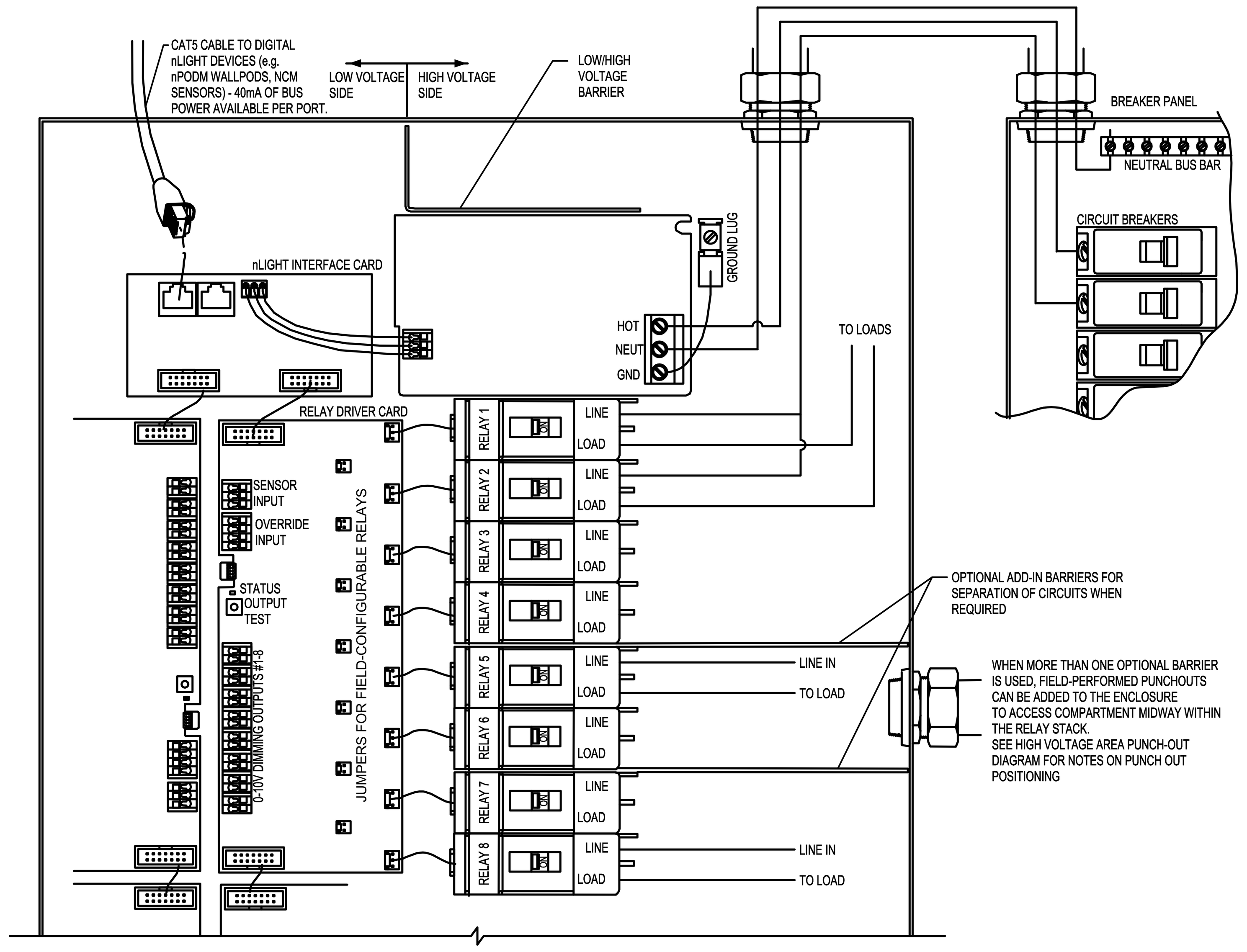
EL MONTE HIGH SCHOOL HVAC PROJECT
EL MONTE UNION HIGH SCHOOL DISTRICT
3048 Tyler Ave. El Monte, CA 91731

DSA SUBMITTAL
09/11/2023
REVISIONS

DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-01

ELECTRICAL DETAILS

E4.01

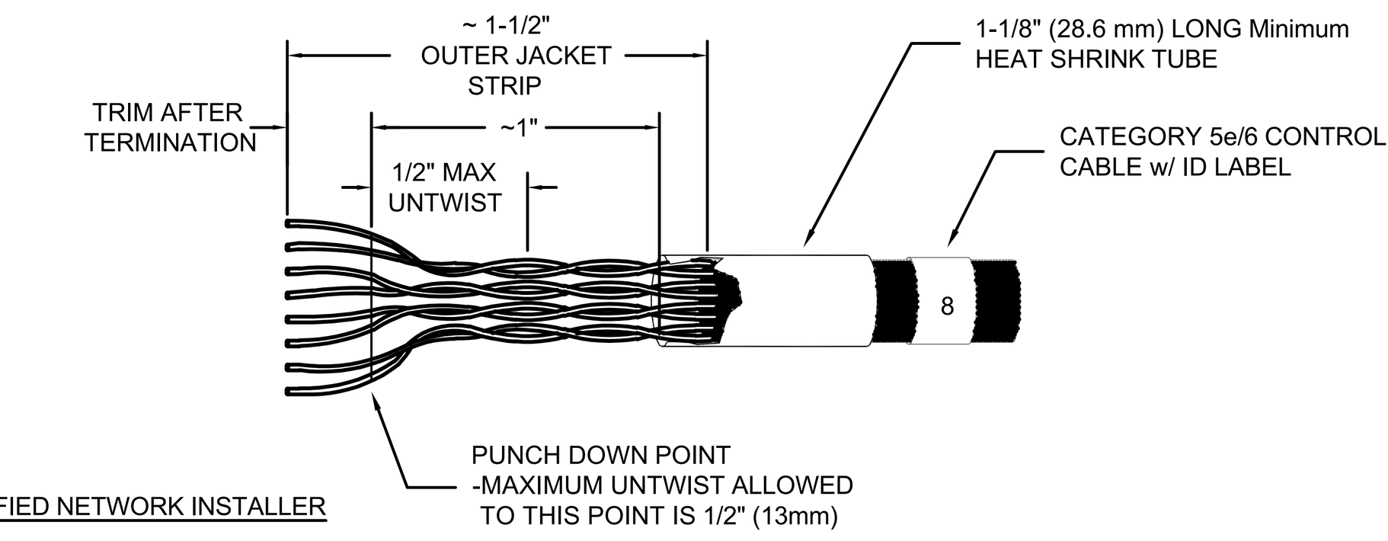


LIGHTING CONTROL PANEL "LCP-1"
ARP LIGHTING RELAY PANEL
MODEL #ARP INTENC16 16SPR MVOLT 2VB HLK SM

ALL EXTERIOR LIGHTING ROUTED VIA "LCP-1" SHALL BE CONTROLLED BY THE EMS SYSTEM. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE MECHANICAL CONTRACTOR FOR ALL INTEGRATION REQUIREMENTS FOR A COMPLETE SYSTEM.

TIA / EIA-568-B CABLING STANDARD TERMINATION

Function	PAIR #	PIN OUT (T568B)	Wire Color
(T1) (R1)	1	5 4	WHITE w/ BLUE BLUE
Tx + (T2) Tx - (R2)	2	1 2	WHITE w/ ORANGE ORANGE
Rx + (T3) Rx - (R3)	3	3 6	WHITE w/ GREEN GREEN
(T4) (R4)	4	7 8	WHITE w/ BROWN BROWN

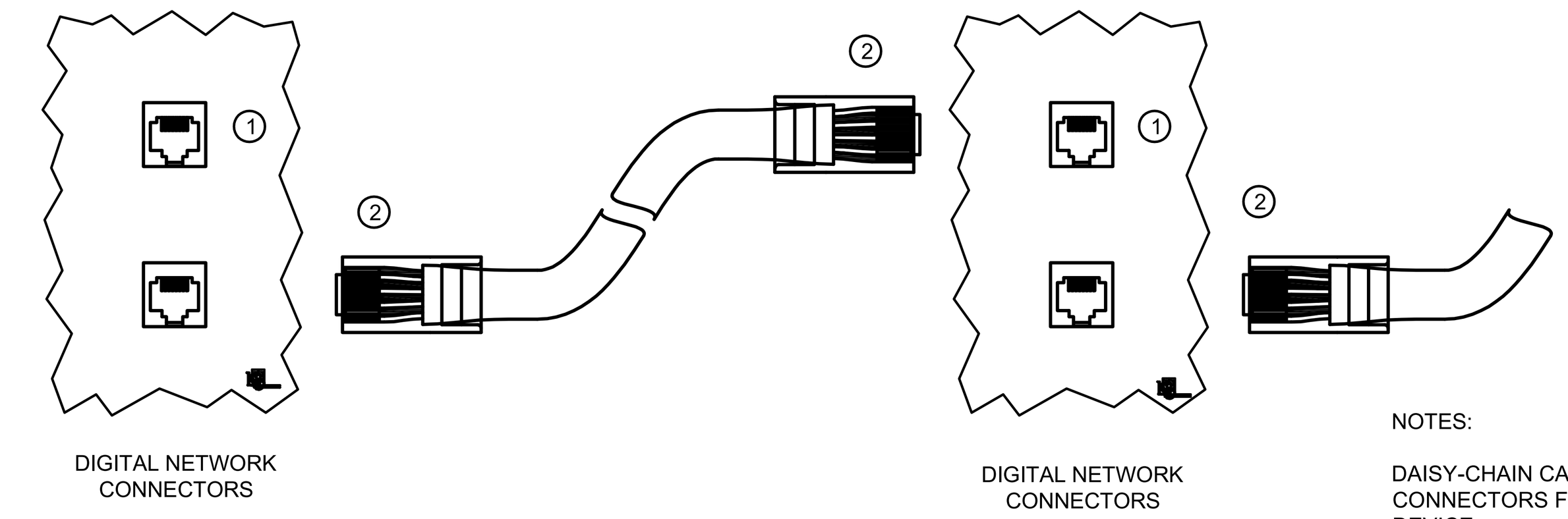


TERMINATION & TESTING OF CAT5 CABLES MUST BE DONE BY A QUALIFIED NETWORK INSTALLER

CABLE TERMINATION REQUIREMENTS :

1. STRIP OFF OUTER JACKET - APPROXIMATELY 1-1/2" (37.6 MM)
2. FIT A PIECE OF 1-1/8" (28.6 MM) LONG HEAT SHRINK TUBE OVER THE CABLE EXTENDING OUT 1/4" (6.25 MM) FROM OUTER JACKET
3. TERMINATE APPROXIMATELY 1/2" (12.2 MM) FROM END OF CONDUCTORS ON TYPE 110 PUNCH DOWN BLOCK OR CONNECTOR PER SCHEDULE (T568B) - MAXIMUM UNTWIST OF CONDUCTORS TO TERMINATIONS IS 1/2" (12.2 MM) - TRIM EXCESS LEADS
4. SHRINK TUBING AND ADD APPROPRIATE ID LABEL TO THE CABLE AT THE END OF THE HEAT SHRINK TUBE

SEE SYSTEM SPECIFIC NOTES ON SHEET LC0.1 FOR MAXIMUM CABLE LENGTHS.



① RJ45 FEMALE CONNECTOR

② RJ45 MALE CONNECTORS. ALL CABLES SUPPLIED BY CONTRACTOR.

NOTES:

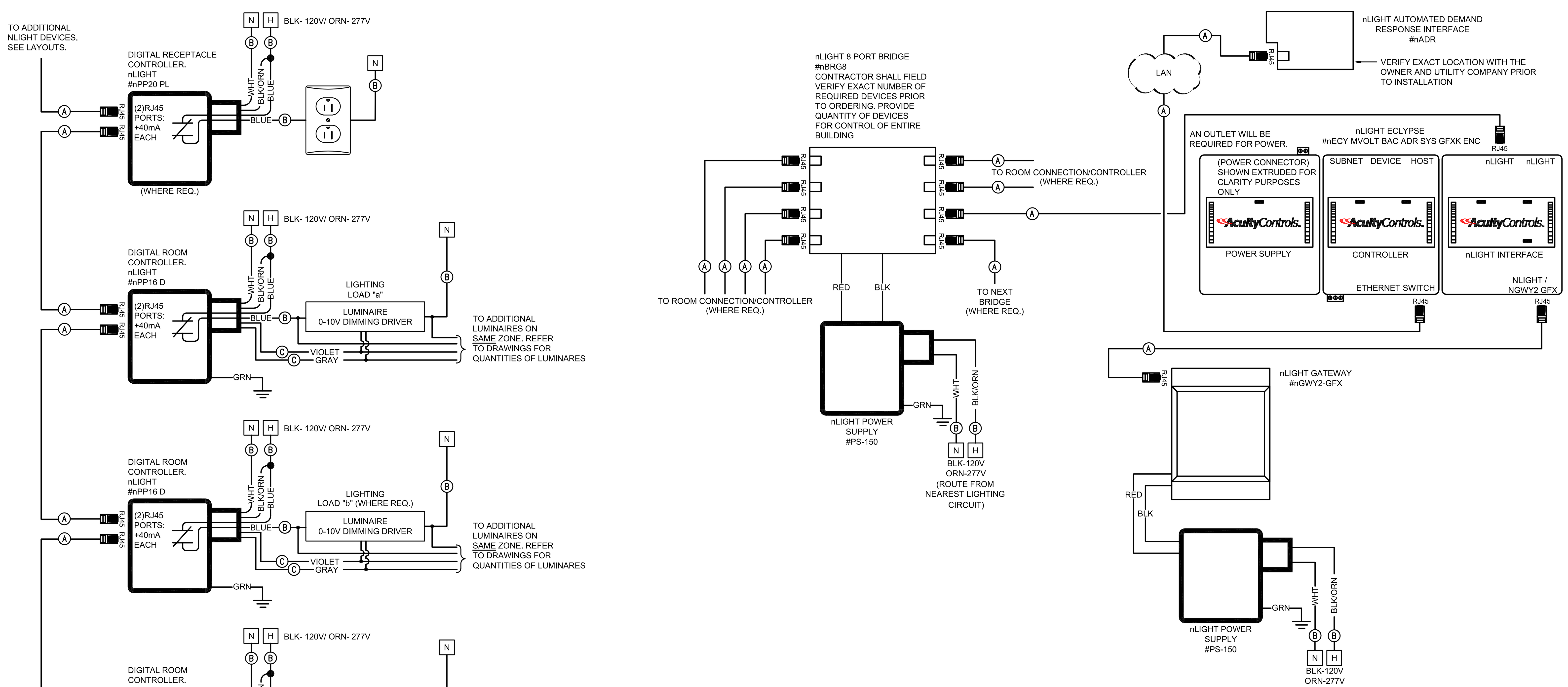
DAISY-CHAIN CAT5 PATCH CABLE WITH RJ45 CONNECTORS FROM DIGITAL DEVICE TO DIGITAL DEVICE.

REFER TO MANUFACTURERS INSTRUCTIONS FOR LONG DISTANCE RUNS BETWEEN DIGITAL DEVICES.

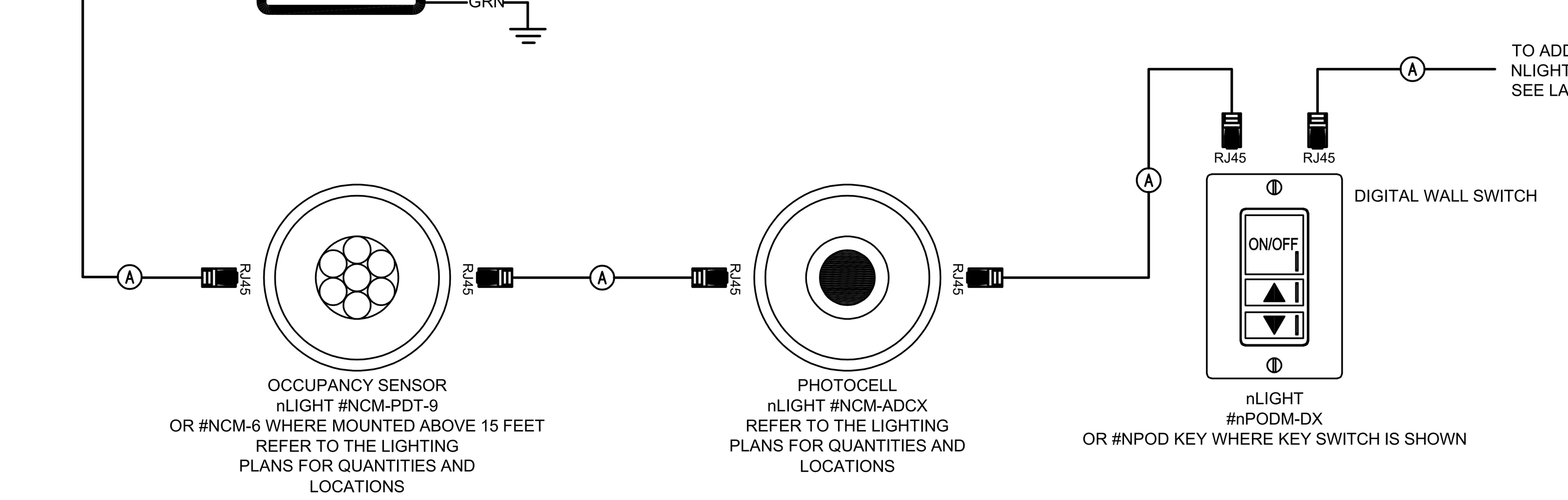
CRIMP AND TEST EACH CABLE WITH A LAN CIRCUIT TESTER PRIOR TO INSTALLATION.

CAT5e/6 CABLE TERMINATION

N.T.S.



LIGHTING CONTROL SYSTEM—NETWORK DIAGRAM



WALL SWITCH BUTTON ASSIGNMENTS (3 BUTTON SWITCH)

BUTTON	ENGRAVING	ASSIGNMENTS
1	"ON/OFF"	ALL LIGHTS "ON" OR "OFF"
2	▲	RAISE LIGHT LEVELS INCREMENTALLY
3	▼	LOWER LIGHT LEVELS INCREMENTALLY

WALL SWITCH BUTTON ASSIGNMENTS (1 BUTTON SWITCH)

BUTTON	ENGRAVING	ASSIGNMENTS
1	"ON/OFF"	ALL LIGHTS "ON" OR "OFF"

WIRE LEGEND

Symbol	Description
—Ⓐ—	CAT 5-E (CLASS 2)
—Ⓑ—	LINE VOLTAGE
—Ⓒ—	0-10 VDC
H	UNSWITCHED HOT CONDUCTOR
N	NEUTRAL CONDUCTOR

ALL LIGHTING CONTROL COMPONENTS SHALL BE "nLIGHT" OR EQUAL BY LEVITON OR WATTSTOPPER

ALL LINE VOLTAGE AND 0-10 VOLT CONDUCTORS SHALL BE ROUTED IN 3/4" CONDUIT, MINIMUM

REFER TO THE LIGHTING PLANS FOR QUANTITIES AND LOCATIONS OF ALL LIGHTING CONTROL DEVICES UNLESS NOTED OTHERWISE.

LIGHTING CONTROL WIRING DIAGRAMS

SCALE N.T.S. 1

IDENTIFICATION STAMP DIV. OF THE STATE ARCHITECT
APP: 03-123582 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 01/10/2024

REGISTERED PROFESSIONAL ENGINEER CHEN HSING FANG No. E 16592 ELECTRICAL STATE OF CALIFORNIA

DLRGROUP © DLR Group

DCGA ENGINEERS Consulting Mechanical and Electrical Engineers

EL MONTE HIGH SCHOOL HVAC PROJECT
EL MONTE UNION HIGH SCHOOL DISTRICT
3048 Tyler Ave. El Monte, Ca 91731

DSA SUBMITTAL
09/11/2023
REVISIONS

DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-01

ELECTRICAL DETAILS

E4.02

A | B | C | D | E | F

1 2 3 4 5

PANEL: "HK1" — BRANCH: NORMAL
LOCATION: ELECTRICAL ROOM — VOLTAGE: 480/277V — CKT CODE: 1=(CONTINUOUS LOAD)
FED FROM: MSB — PHASE & WIRE: 3PH,4W — 2=(NON-CONTINUOUS)
MOUNTING: SURFACE NEMA-1 — MIN. BUS: 400 AMPS — 3=(RECEPTACLES)
AIC RATING: 42000 — MCB: 400 AMPS — 4=(KITCHEN) — NO. OF EQUIP=

CIRCUIT		CKT BKR		LOAD TYPE & DESIGNATION				LOAD	PHASES			LOAD	LOAD TYPE & DESIGNATION				CKT BKR		CIRCUIT	
NO	CODE	TRIP	POLE	DESCRIPTION	MISC	REC	LTG	VA	A	B	C	VA	LTG	REC	MISC	DESCRIPTION	POLE	TRIP	CODE	NO
1	2	40	3	"AHU-1K"	1			7332	24783	----	----	17451				"HP-1K"	3	90	2	2
3	2	-	-	-				7332	----	24783	----	17451				-	-	-	2	4
5	2	-	-	-				7332	----	----	24783	17451				-	-	-	2	6
7	2	40	3	"AC-2K"	1			7332	24783	----	----	17451			1	"HP-2K"	3	90	2	8
9	2	-	-	-				7332	----	24783	----	17451				-	-	-	2	10
11	2	-	-	-				7332	----	----	24783	17451				-	-	-	2	12
13		20	1	SPARE					0	----	----					SPARE	1	20		14
15		20	1	SPARE					----	0	----					SPARE	1	20		16
17		20	1	SPARE					----	----	0					SPARE	1	20		18
19				SPACE					0	----	----					SPACE				20
21				SPACE					----	0	----					SPACE				22
23				SPACE					----	----	0					SPACE				24
25				SPACE					0	----	----					SPACE				26
27				SPACE					----	0	----					SPACE				28
29				SPACE					----	----	0					SPACE				30
31				SPACE					0	----	----					SPACE				32
33				SPACE					----	0	----					SPACE				34
35				SPACE					----	----	0					SPACE				36
37				SPACE					0	----	----					SPACE				38
39				SPACE					----	0	----					SPACE				40
41				SPACE					----	----	0					SPACE				42
NOTES:								TOTAL	49566	49566	49566									

CONN.KVA (CODE 1)	0.0
CONN.KVA (CODE 2)	148.7
CONN.KVA (CODE 3)	0.0
CONN.KVA (CODE 4)	0.0
CONNECTED KVA	148.7
CONNECTED AMPS	178.9
FEEDER DEMAND KVA	148.7
FEEDER DEMAND AMPS	178.9
MCB = MAIN CIRCUIT BREAKER	MLO = MAIN LUGS ONLY

PANEL: "HKN" — BRANCH: NORMAL
LOCATION: STORAGE ROOM — VOLTAGE: 480/277V — CKT CODE: 1=(CONTINUOUS LOAD)
FED FROM: MSB — PHASE & WIRE: 3PH,4W — 2=(NON-CONTINUOUS)
MOUNTING: SURFACE NEMA-3R — MIN. BUS: 225 AMPS — 3=(RECEPTACLES)
AIC RATING: 42000 — MCB: 225 AMPS — 4=(KITCHEN) — NO. OF EQUIP=

CIRCUIT		CKT BKR		LOAD TYPE & DESIGNATION				LOAD	PHASES			LOAD	LOAD TYPE & DESIGNATION				CKT BKR		CIRCUIT	
NO	CODE	TRIP	POLE	DESCRIPTION	MISC	REC	LTG	VA	A	B	C	VA	LTG	REC	MISC	DESCRIPTION	POLE	TRIP	CODE	NO
1	1	20	1	LIGHTING - KITCHEN & CAFETERIA				2517	2517	----	----					SPARE	1	20		2
3		20	1	SPARE					----	0	----					SPARE	1	20		4
5		20	1	SPARE					----	----	0					SPARE	1	20		6
7	2	30	3	"AC-D3"				4155	9141	----	----	4986			1	"AC-D1"	3	30	2	8
9	2	-	-	-				4155	----	9141	----	4986				-	-	-	2	10
11	2	-	-	-				4155	----	----	9141	4986				-	-	-	2	12
13	2	20	3	"PE-D3"				941	1882	----	----	941			1	"PE-D1"	3	20	2	14
15	2	-	-	-				941	----	1882	----	941				-	-	-	2	16
17	2	-	-	-				941	----	----	1882	941				-	-	-	2	18
19	2	30	3	"AC-D4"				4155	9141	----	----	4986				"AC-D2"	3	30	2	20
21	2	-	-	-				4155	----	9141	----	4986				-	-	-	2	22
23	2	-	-	-				4155	----	----	9141	4986				-	-	-	2	24
25	2	20	3	"PE-D4"				941	1882	----	----	941				"PE-D2"	3	20	2	26
27	2	-	-	-				941	----	1882	----	941				-	-	-	2	28
29	2	-	-	-				941	----	----	941					-	-	-	2	30
31		20	1	SPARE					0	----	----					SPACE				32
33		20	1	SPARE					----	0	----					SPACE				34
35		20	1	SPARE					----	----	0					SPACE				36
37				SPACE					0	----	----					SPACE				38
39				SPACE					----	0	----					SPACE				40
41				SPACE					----	----	0					SPACE				42
NOTES:								TOTAL	24563	22046	21105									

CONN.KVA (CODE 1)	2.5
CONN.KVA (CODE 2)	65.2
CONN.KVA (CODE 3)	0.0
CONN.KVA (CODE 4)	0.0
CONNECTED KVA	67.7
CONNECTED AMPS	81.4
FEEDER DEMAND KVA	68.3
FEEDER DEMAND AMPS	82.2
MCB = MAIN CIRCUIT BREAKER	MLO = MAIN LUGS ONLY

PANEL SCHEDULE NOTES: (WHERE NOTED)

1. CIRCUITS WITH "⬡" SHALL BE GROUND FAULT CIRCUIT INTERRUPTER TYPE.
2. CIRCUITS WITH "L" ADJACENT SHALL BE LOCKED "ON" WITH APPROVED LOCKING DEVICE.
3. CIRCUITS WITH "S" ADJACENT SHALL BE SHUNT TRIP CONTROLLED CIRCUIT BREAKERS. CONTROLS AS INDICATED ON DRAWINGS.
4. CIRCUITS WITH "△" ADJACENT SHALL BE CONTROLLED BY EMS SYSTEM FURNISH AND INSTALL CONTACTORS ABOVE PANEL IN SEPARATE ENCLOSURE.
5. CIRCUITS WITH "○" ADJACENT SHALL BE SHUNT TRIP CONTROLLED CIRCUIT BREAKERS. ACTIVATION OF HOOD SUPPRESSION SYSTEM SHALL DISCONNECT RELATED CIRCUITS INDICATED. PROVIDE N.C. CONTACTS IN SEPARATE ENCLOSURE ABOVE PANEL FOR CONTROL.
6. CIRCUITS WITH "*" ADJACENT SHALL BE RED IN COLOR AND INDICATED AS "FIRE ALARM CIRCUIT".

-	"HK1"	"HKN"
-	-	-
-	-	-

DLRGROUP
© DLR Group

DCGA ENGINEERS
Consulting Mechanical and Electrical Engineers
4750 E. Ontario Mills Pkwy
Ontario, Ca. 91764
Ph. 909.987.0017
Fax 909.980.7023

EL MONTE HIGH SCHOOL HVAC PROJECT
EL MONTE UNION HIGH SCHOOL DISTRICT
3048 Tyler Ave, El Monte, CA 91731

DSA SUBMITTAL
09/11/2023
REVISIONS

DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-01

PANEL SCHEDULES

E5.01

STATE OF CALIFORNIA

Indoor Lighting

CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	El Monte High School Gym and Kitchen	Report Page:	(Page 1 of 8)
Project Address:	3048 Tyler Ave	Date Prepared:	8/31/2023

This document is used to demonstrate compliance with requirements in 110.9, 110.12(c), 130.0, 130.1, 140.6 and 141.0(b)2 for indoor lighting scopes using the prescriptive path for nonresidential and hotel/motel occupancies. It is also used to document compliance with requirements in 160.5, 170.2(e) and 180.2(b)4 for indoor lighting scopes using the prescriptive path for multifamily occupancies. Multifamily includes dormitory and senior living facilities.

A. GENERAL INFORMATION

01	Project Location (city)	El Monte	04	Total Conditioned Floor Area (ft^2)	19,473
02	Climate Zone	9	05	Total Unconditioned Floor Area (ft^2)	0
03	Occupancy Types Within Project (select all that apply):		06	# of Stories (Habitable Above Grade)	1

• Gymnasium • All Other Occupancies

B. PROJECT SCOPE

This table includes any lighting systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in 140.6 / 170.2(e) or 141.0(b)2 / 180.2(b)4 for alterations.

Scope of Work	Conditioned Spaces		Unconditioned Spaces	
01	02	03	04	05
My Project Consists of (check all that apply):	Calculation Method	Area (ft^2)	Calculation Method	Area (ft^2)
☐ New Lighting System				
☐ New Lighting System - Parking Garage				
☒ Altered Lighting System	Area Category Method	19473	Area Category Method	0
Total Area of Work (ft^2)	19473		0	

STATE OF CALIFORNIA

Indoor Lighting

CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	El Monte High School Gym and Kitchen	Report Page:	(Page 2 of 8)
		Date Prepared:	8/31/2023

C. COMPLIANCE RESULTS

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

Lighting in conditioned and unconditioned spaces must not be combined for compliance per 140.6(b)1 / 170.2(e)	Allowed Lighting Power per 140.6(b) / 170.2(e) (Watts)							Adjusted Lighting Power per 140.6(a) / 170.2(e) (Watts)				Compliance Results
	01	02	03	04		05		06	07		08	09
	Complete Building 140.6(c)1	Area Category 140.6(c)2 / 170.2(e)4	Area Category Additional 140.6(c)2G / 170.2(e)4Av (+)	Tailored 140.6(c)3 / 170.2(e)4B (+)	=	Total Allowed (Watts)	≥	Total Designed (Watts)	Adjustments: PAF Lighting Control Credits 140.6(a)2 / 170.2(e)1B (-)	=	Total Adjusted (Watts) *Includes Adjustments	05 must be >= 08 140.6 / 170.2(e)
	(See Table I)	(See Table I)	(See Table J)	(See Table K)				(See Table F)	(See Table P)			
Conditioned		9,911.2	0		=	9,911	≥	2,517	0	=	2517	COMPLIES
Unconditioned					=		≥			=		
Controls Compliance (See Table H for Details)												COMPLIES
Rated Power Reduction Compliance (See Table Q for Details)												

D. EXCEPTIONAL CONDITIONS

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

E. ADDITIONAL REMARKS

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

STATE OF CALIFORNIA

Indoor Lighting

CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	El Monte High School Gym and Kitchen	Report Page:	(Page 3 of 8)
		Date Prepared:	8/31/2023

F. INDOOR LIGHTING FIXTURE SCHEDULE

This table includes all planned permanent and portable lighting other than dwelling unit/ hotel/ motel room lighting. Multifamily dwelling unit and hotel/motel room lighting is documented in Table T. If using Table T to document lighting in multifamily common use areas providing shared provisions for living, eating, cooking or sanitation, those luminaires are not included here.

Designed Wattage: Conditioned Spaces

01	02	03	04	05	06	07	08	09	10	
Name or Item Tag	Complete Luminaire Description	Modular (Track) Fixture	Small Aperture & Color Change[1]	Watts per luminaire[2]	How is Wattage determined	Total Number of Luminaires	Excluded per 140.6(a)3 / 170.2(e)2C	Design Watts	Field Inspector: Pass	Fail
A	Type A_6ft linear LED	No	NA	57	Mfr. Spec	26	No	1,482	☐	☐
B	Type B_1x4 LED	No	NA	45	Mfr. Spec	23	No	1,035	☐	☐
Total Designed Watts: CONDITIONED SPACES								2,517		

[1]*FOOTNOTE: Design Watts for small aperture and color changing luminaires which qualify per 140.6(a)4B / 170.2(e)2D is adjusted to be 75% /80% of their rated wattage. Table F automatically makes this adjustment, the permit applicant should enter full rated wattage in column 05.*

[2]*Authority Having Jurisdiction may ask for Luminaire cut sheets to confirm wattage used for compliance per 130.0(c) / 160.5(b). Wattage used must be the maximum rated for the luminaire, not the lamp.*

G. MODULAR LIGHTING SYSTEMS

This section does not apply to this project.

H. INDOOR LIGHTING CONTROLS (Not including PAFs)

This table includes lighting controls for conditioned and unconditioned spaces.

Building Level Controls

01	02	03	
Mandatory Demand Response 110.12(c)	Shut-off controls 130.1(c) / 160.5(b)4C	Field Inspector: Pass	Fail
NA < 4,000W subject to multilevel	Whole Building Auto Time Switch	☐	☐

STATE OF CALIFORNIA

Indoor Lighting

CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	El Monte High School Gym and Kitchen	Report Page:	(Page 4 of 8)
		Date Prepared:	8/31/2023

H. INDOOR LIGHTING CONTROLS (Not including PAFs)

Area Level Controls

04	05	06	07	08	09	10	11	12	
Area Description	Complete Building or Area Category Primary Function Area	Manual Area Controls 130.1(a) / 160.5(b)4A	Multi-Level Controls 130.1(b) / 160.5(b)4B	Shut-Off Controls 130.1(c) // 160.5(b)4C	Primary/Sky lit Daylighting 130.1(d) / 160.5(b)4D	Secondary Daylighting 130.1(d) / 160.5(b)4D	Interlocked Systems 140.6(a)1/ 170.2(e)2A	Field Inspector: Pass	Fail
Cafeteria	All Other Space Types	Readily Accessible	Dimmer	See Building Level	Included	Included	No	☐	☐
Kitchen	Kitchen/ Food Preparation	Readily Accessible	Dimmer	Occupancy Sensor	Included	Included	No	☐	☐
Serving Area	All Other Space Types	Readily Accessible	Dimmer	Occupancy Sensor	Included	Included	No	☐	☐
					13				
					Plan Sheet Showing Daylit Zones:				

I. LIGHTING POWER ALLOWANCE: COMPLETE BUILDING OR AREA CATEGORY METHODS

Each area complying using the Complete Building or Area Category Methods per 140.6(b) are included in this table. Column 06 indicates if additional lighting power allowances per 140.6(c) or adjustments per 140.6(a) are being used .

Conditioned Spaces

01	02	03	04	05	06	
Area Description	Complete Building or Area Category Primary Function Area	Allowed Density (W/ft^2)	Area (ft^2)	Allowed Wattage (Watts)	Additional Allowance / Adjustment: Area Category	PAF
Gym N101A-N101-4	Exercise Center Gymnasium	0.5	4,803	2,401.5	No	No
Gym N101B-N1014	Exercise Center Gymnasium	0.5	4,803	2,401.5	No	No
Cafeteria	All Other Space Types	0.45	1,194	537.3	No	No
Cafeteria	All Other Space Types	0.45	1,194	537.3	No	No

STATE OF CALIFORNIA

Indoor Lighting

CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	El Monte High School Gym and Kitchen	Report Page:	(Page 5 of 8)
		Date Prepared:	8/31/2023

I. LIGHTING POWER ALLOWANCE: COMPLETE BUILDING OR AREA CATEGORY METHODS

Serving Room	All Other Space Types	0.45	1,544	694.8	No	No
Kitchen	Kitchen/ Food Preparation	0.95	825	783.8	No	No
Practice Gym 443-4 (interior south)	Exercise Center Gymnasium	0.5	2,555	1,277.5	No	No
Practice Gym 443-4 (exterior south)	Exercise Center Gymnasium	0.5	2,555	1,277.5	No	No
		TOTALS:	19,473	9,911.2	See Tables J, or P for detail	

J. ADDITIONAL ALLOWANCE: AREA CATEGORY METHOD QUALIFYING LIGHTING SYSTEM

This section does not apply to this project.

K. TAILORED METHOD GENERAL LIGHTING POWER ALLOWANCE

This section does not apply to this project.

L. ADDITIONAL LIGHTING ALLOWANCE: TAILORED WALL DISPLAY

This section does not apply to this project.

M. ADDITIONAL LIGHTING ALLOWANCE: TAILORED FLOOR AND TASK LIGHTING

This section does not apply to this project.

N. ADDITIONAL LIGHTING ALLOWANCE: TAILORED DECORATIVE /SPECIAL EFFECTS

This section does not apply to this project.

O. ADDITIONAL LIGHTING ALLOWANCE: TAILORED VERY VALUABLE MERCHANDISE

This section does not apply to this project.

STATE OF CALIFORNIA

Indoor Lighting

CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	El Monte High School Gym and Kitchen	Report Page:	(Page 6 of 8)
		Date Prepared:	8/31/2023

P. POWER ADJUSTMENT: LIGHTING CONTROL CREDIT (POWER ADJUSTMENT FACTOR (PAF))

This section does not apply to this project.

Q. RATED POWER REDUCTION COMPLIANCE FOR ONE-FOR-ONE ALTERATIONS

This section does not apply to this project.

R. 80% LIGHTING POWER FOR ALL ALTERATIONS - CONTROLS EXCEPTIONS

This section does not apply to this project.

S. DAYLIGHT DESIGN POWER ADJUSTMENT FACTOR (PAF)

This section does not apply to this project.

T. DWELLING UNIT LIGHTING

This section does not apply to this project.

U. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in this document. If any selections have been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online

Form/Title
NRCI-LTI-E - Must be submitted for all buildings

STATE OF CALIFORNIA

Indoor Lighting

CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	El Monte High School Gym and Kitchen	Report Page:	(Page 7 of 8)
		Date Prepared:	8/31/2023

V. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections have been made based on information provided in this document. If any selections have been changed by the permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and any with "-A" in the form name must be completed through an Acceptance Test Technician Certification Provider (ATTCP). For more information visit: http://www.energy.ca.gov/title24/attcp/providers.html

Form/Title	Systems/Spaces To Be Field Verified
NRCA-LTI-02-A - Must be submitted for occupancy sensors and automatic time switch controls.	Whole Building Time Switch; Kitchen; Serving Area;
NRCA-LTI-03-A - Must be submitted for automatic daylight controls.	Cafeteria; Kitchen; Serving Area;

STATE OF CALIFORNIA

Indoor Lighting

CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	El Monte High School Gym and Kitchen	Report Page:	(Page 8 of 8)
Project Address:	3048 Tyler Ave	Date Prepared:	8/31/2023

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: Chris Villalobos	Documentation Author Signature:
Company: DCGA Engineers	Signature Date: 2023-08-31
Address: 4750 E. Ontario Mills Parkway	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: Ontario CA 91764	Phone: 909-987-0017

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: Chen Fang	Responsible Designer Signature:
Company: DCGA Engineers	Date Signed: 2023-08-31
Address: 4750 East Ontario Mills Parkway	License: E16592
City/State/Zip: Ontario CA 91764	Phone: (909)987-0017

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-123582 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 01/10/2024

REGISTERED PROFESSIONAL ENGINEER
CHEN HSING FANG
No. E 16592
ELECTRICAL
STATE OF CALIFORNIA

DLRGROUP
© DLR Group

EL MONTE HIGH SCHOOL HVAC PROJECT
EL MONTE UNION HIGH SCHOOL DISTRICT
3048 Tyler Ave. El Monte, CA 91731

DCGA ENGINEERS
Consulting Mechanical and Electrical Engineers

DSA SUBMITTAL
09/11/2023
REVISIONS

DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-01

TITLE 24

E6.01

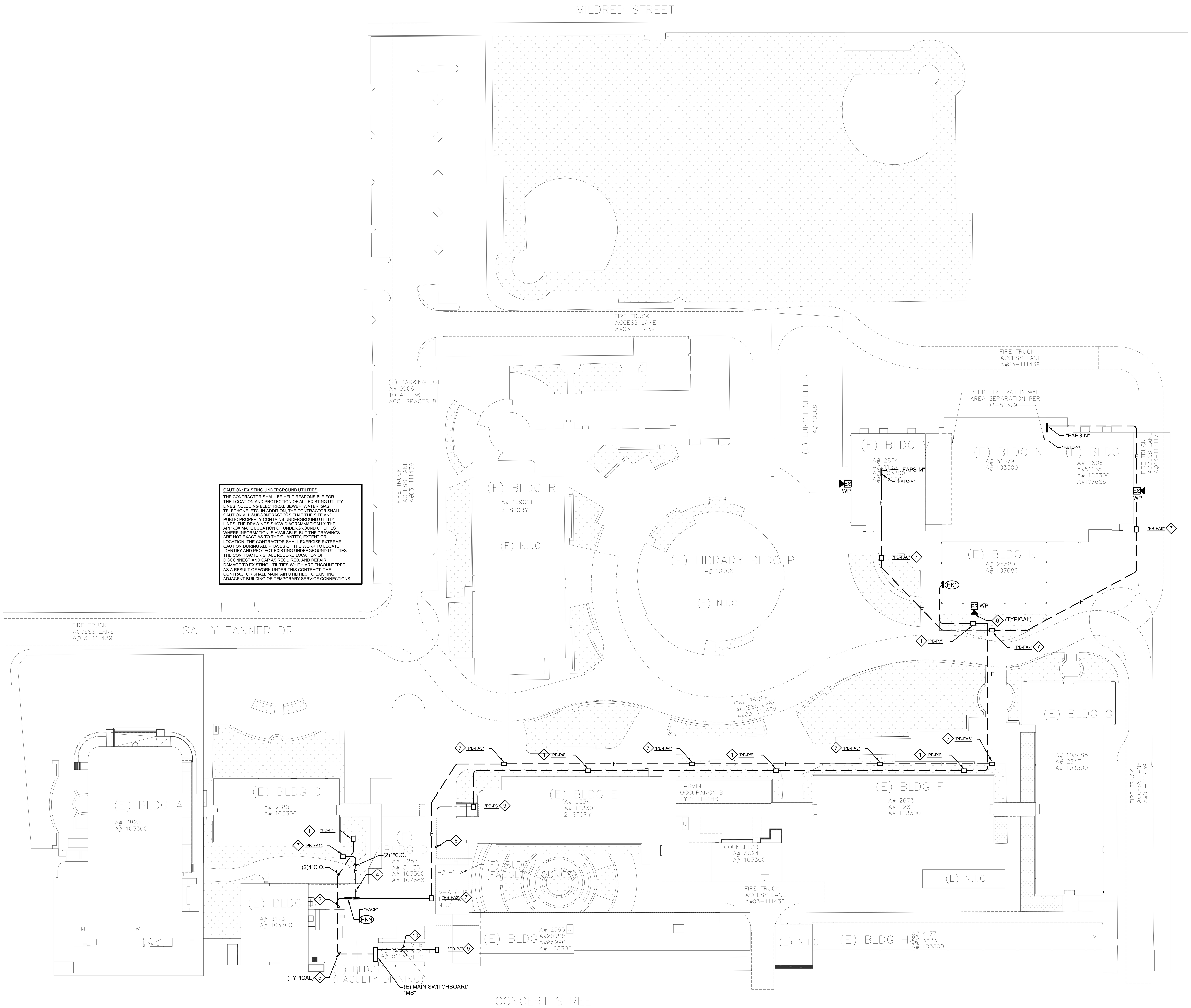
IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-123582 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 01/10/2024

SHEET NOTES

1. PROVIDE AND INSTALL 2'x3'xDEPTH REQUIRED PRECAST CONCRETE PULLBOX WITH HEAVY DUTY BOLT-DOWN HINGED TRAFFIC RATED COVER ENGRAVED "POWER". SET ON 6" COMPACTED CRUSHED ROCK.
2. SEE SINGLE LINE DIAGRAM FOR FEEDER SIZES, TYPICAL.
3. PROVIDE AND INSTALL 2'x3'xDEPTH REQUIRED PRECAST CONCRETE PULLBOX WITH HEAVY DUTY BOLT-DOWN HINGED TRAFFIC RATED COVER ENGRAVED "COMMUNICATION" SET ON 6" COMPACTED CRUSHED ROCK.
4. CONDUIT RISERS AT BUILDING EXTERIOR TO JUST UNDER CANOPY. PENETRATE INTO EXISTING BUILDING ACCESSIBLE CEILING SPACE.
5. SAWCUT, TRENCH, AND EXCAVATE AS REQUIRED TO INSTALL CONDUIT FEEDERS AS INDICATED. BACKFILL, TAMP, AND RESURFACE TO ORIGINAL CONDITION. POTHOLE AND HAND DIG AS REQUIRED. PROVIDE ALL NECESSARY SHORING FOR INSTALLATION.
6. FIRE ALARM DEVICES SHOWN ARE FOR REFERENCE ONLY. REFER TO FIRE ALARM DRAWINGS FOR EXACT LOCATIONS & QUANTITIES.
7. PROVIDE AND INSTALL 1'x2'xDEPTH REQUIRED PRECAST CONCRETE PULLBOX WITH HEAVY DUTY BOLT-DOWN HINGED TRAFFIC RATED COVER ENGRAVED "FIRE ALARM" SET ON 6" COMPACTED CRUSHED ROCK.
8. CONDUIT TO BE MOUNTED ON TOP OF CANOPY.
9. PROVIDE AND INSTALL MINIMUM 12"x12"x6" DEEP NEMA 3R PULLBOX. MOUNTED ON TOP OF CANOPY.
10. CONDUIT TO BE MOUNTED ON TOP OF ROOF.

CAUTION: EXISTING UNDERGROUND UTILITIES

THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL EXISTING UTILITY LINES INCLUDING ELECTRICAL SEWER, WATER, GAS, TELEPHONE, ETC. IN ADDITION, THE CONTRACTOR SHALL CAUTION ALL SUBCONTRACTORS THAT THE SITE AND PUBLIC PROPERTY CONTAINS UNDERGROUND UTILITY LINES. THE DRAWINGS SHOW DIAGRAMMATICALLY THE APPROXIMATE LOCATION OF UNDERGROUND UTILITIES WHERE INFORMATION IS AVAILABLE, BUT THE DRAWINGS ARE NOT EXACT AS TO THE QUANTITY, EXTENT OR LOCATION. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION DURING ALL PHASES OF THE WORK TO LOCATE, IDENTIFY AND PROTECT EXISTING UNDERGROUND UTILITIES. THE CONTRACTOR SHALL RECORD LOCATION OF, DISCONNECT AND CAP AS REQUIRED, AND REPAIR DAMAGE TO EXISTING UTILITIES WHICH ARE ENCOUNTERED AS A RESULT OF WORK UNDER THIS CONTRACT. THE CONTRACTOR SHALL MAINTAIN UTILITIES TO EXISTING ADJACENT BUILDING OR TEMPORARY SERVICE CONNECTIONS.



1 ES1.1 ELECTRICAL SITE PLAN
SCALE: 1" = 40'-0"

DLRGROUP
© DLR Group

EL MONTE HIGH SCHOOL HVAC PROJECT
EL MONTE UNION HIGH SCHOOL DISTRICT
3048 Tyler Ave, El Monte, CA 91731

DCGA ENGINEERS
Consulting Mechanical and Electrical Engineers
4750 E. Ontario Mills Pkwy
Ontario, Ca. 91764
Ph.909.987.0017
Fax 909.980.7023

DSA SUBMITTAL
09/11/2023
REVISIONS

DSA File #: 19-H10
DSA Appl #: 03-123582
75-22201-01

ELECTRICAL SITE PLAN

ES1.1