

ARCHITECT:
C/O A/R CO-AR DESIGN, INC.
 680 Brea Canyon Road, Suite 178
 Diamond Bar, California 91789
 Office: 909-598-0186
 Dennis J. Lee, NCARB dennisl@coar.design.com

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 NOTES:

GENERAL NOTES:

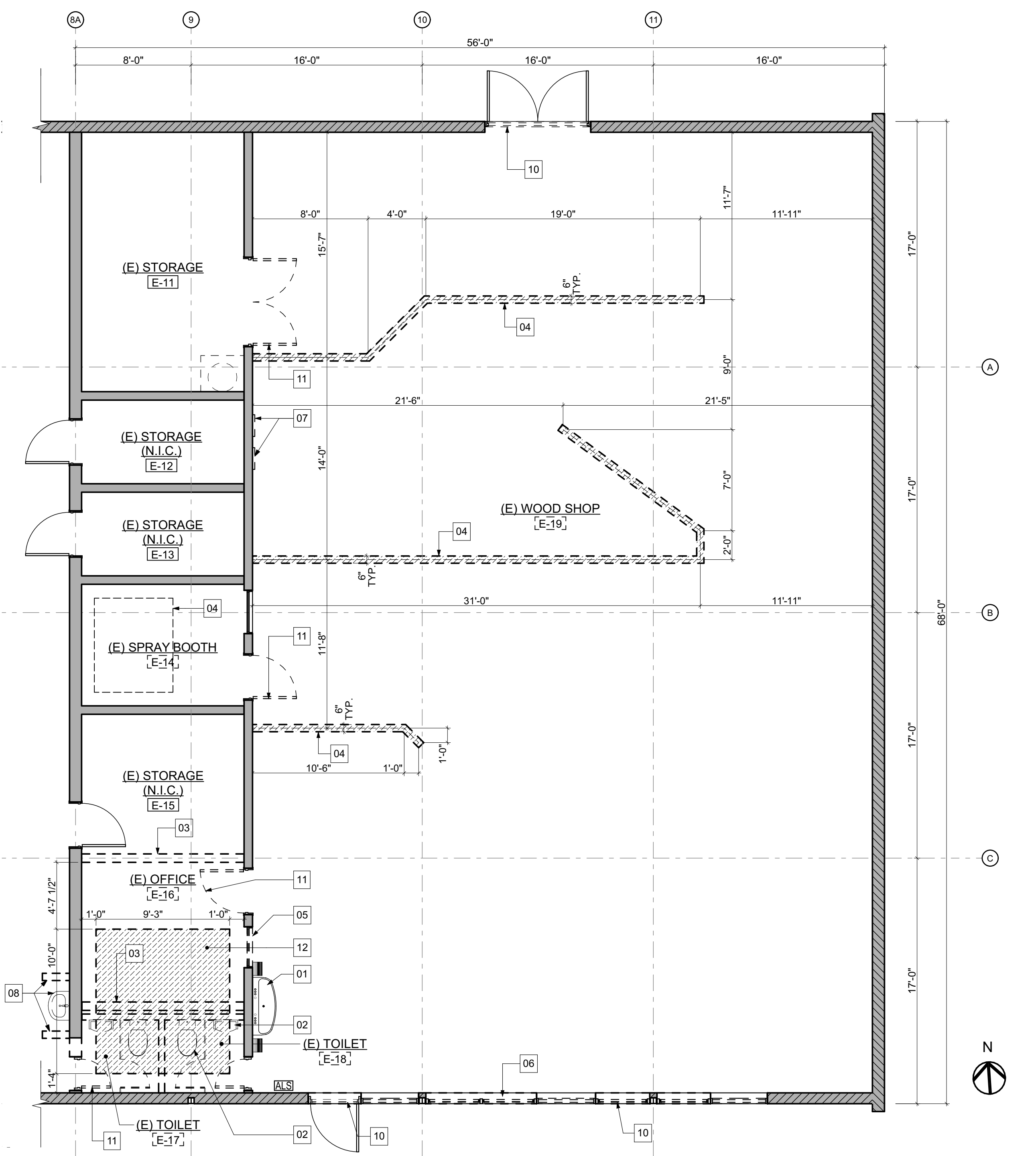
1. THE DEMOLITION PLAN IS INTENDED TO SHOW A GENERAL SCOPE OF DEMOLITION WORK. CONTRACTOR SHALL INCLUDE ALL OTHER DEMOLITION NOT SPECIFICALLY INDICATED ON THIS PLAN BUT REQUIRED TO ACCOMPLISH NEW WORK.
2. SEE PLUMBING AND ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION. CONTRACTORS SHALL VERIFY IN FIELD ALL EXISTING DIMENSIONS AND CONDITION.
3. VERIFY WITH DISTRICT ALL ITEMS THAT ARE TO BE SALVAGED AND RETURNED TO DISTRICT PRIOR TO DEMOLITION.
4. REMOVE A PORTION OF (E) SLAB ON GRADE OR WALL SURFACES AS REQUIRED FOR ALL NEW PLUMBING WORK.
5. CONTRACTOR SHALL PATCH AND REPAIR ALL FLOOR OR CEILING SURFACES TO MATCH ADJACENT IN EACH ROOM AFFECTED BY NEW WORK.
6. (E) DOORS TO RECEIVE NEW HARDWARE SHALL BE FULLY PATCHED AND PAINTED.

FLOOR PLAN KEYNOTES: [xx]

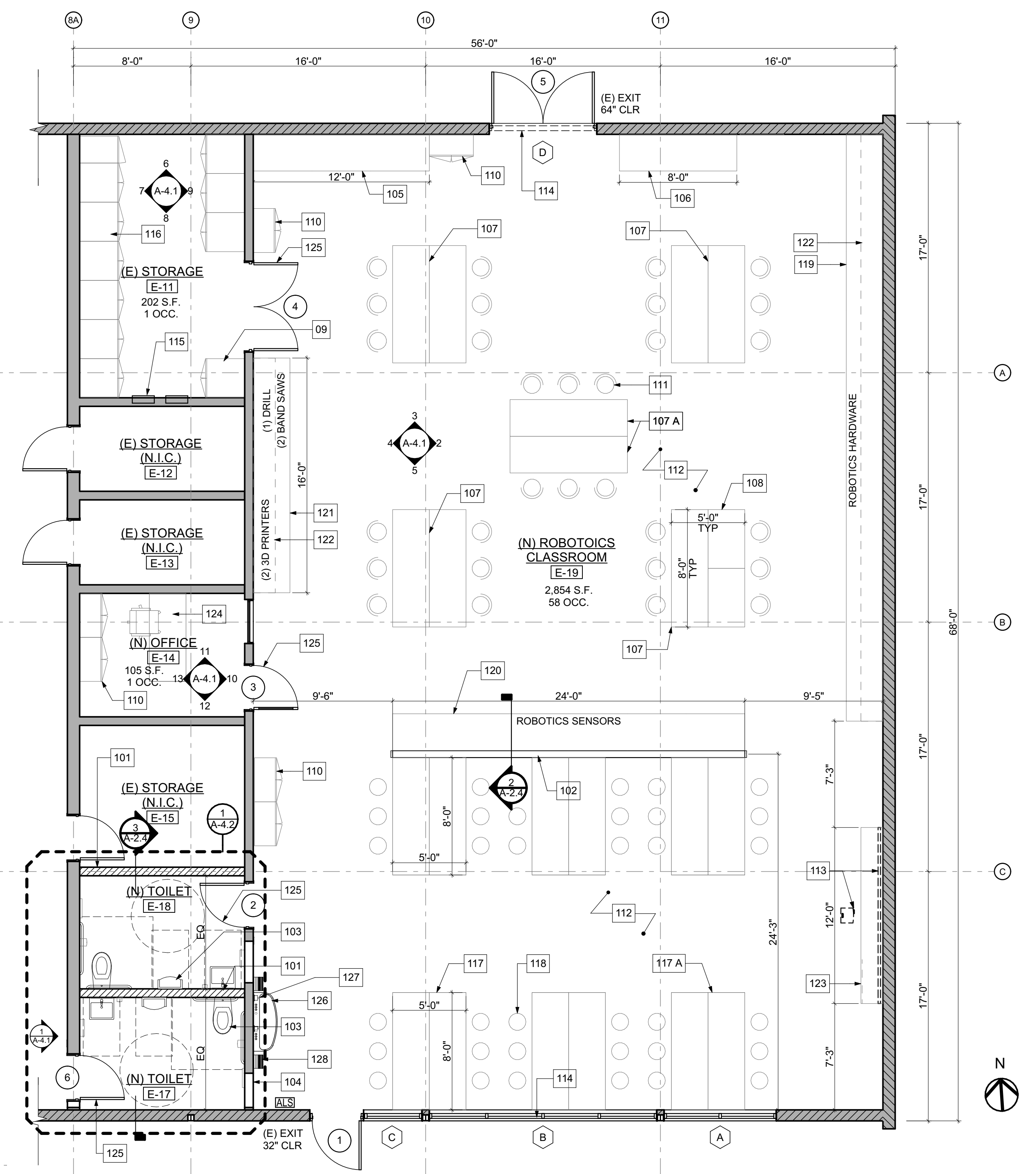
- 01 REMOVE (E) SINK, SEE PLUMBING DRAWINGS FOR MORE INFO.
- 02 REMOVE (E) TOILET & URINAL, TYP. SEE PLUMBING DRAWINGS FOR MORE INFO.
- 03 REMOVE (E) WALL, TYP.
- 04 TRENCH FOR UNDERGROUND CONDUIT, TYP. SEE E-2.3 FOR MORE INFORMATION. CONTRACTOR TO VERIFY LOCATION IN FIELD, SEE 14/S-1.1 FOR BACKFILL & SLAB PATCH DETAIL.
- 05 REMOVE (E) WINDOW
- 06 REMOVE PLYWOOD FROM (E) WINDOWS
- 07 RELOCATE (E) ELECTRICAL PANELS, SEE ELECTRICAL DWGS.
- 08 REMOVE (E) HAND SINK, PAPER TOWEL DISPENSER, SOAP DISPENSER & LOW WING WALLS. REMOVE VINYL TACKBOARDS AT AFFECTED AREAS, REPLACE WITH MATCHING TACKBOARDS, VCT & BASE. SEE PLUMBING DRAWINGS FOR MORE INFO.
- 09 REMOVE (E) WATER HEATER, SEE PLUMBING DRAWINGS FOR MORE INFO.
- 10 REMOVE (E) WINDOWS & LOUVER, TYP.
- 11 REMOVE (E) DOOR & FRAME.
- 12 REMOVE (E) SLAB AS SHOWN FOR PLUMBING WORK, SEE P-1.1 FOR MORE INFORMATION. CONTRACTOR TO VERIFY LOCATION IN FIELD, SEE 14/S-1.1 FOR BACKFILL & SLAB PATCH DETAIL.
- 101 PROVIDE (N) FULL HEIGHT WALL, SEE 3/A-2.4 & STRUCTURAL DWGS FOR MORE INFO.
- 102 PROVIDE (N) 3'-10" HIGH WALL, SEE 2/A-2.4 & STRUCTURAL DWGS FOR MORE INFO.
- 103 PROVIDE (N) PLUMBING FIXTURE & ACCESSORIES, SEE INTERIOR ELEVATIONS.
- 104 INFILL WALL AFTER DOOR DEMOLITION, SEE 1/A-5.2. MATCH ADJ. FINISH.
- 105 (E) SNAP-ON WORK BENCH, 12' x 2'-6" x 43" H, RELOCATE FROM CLASSROOM D-2
- 106 (E) SNAP-ON WORK BENCH, 8' x 2'-6" x 40" H, RELOCATE FROM CLASSROOM D-2
- 107 (E) SNAP-ON TABLES, 8' x 2'-6" x 40" H, RELOCATE FROM CLASSROOM D-2 (TYP. OF 8)
- 107A (E) SNAP-ON TABLES, 8' x 2'-6", ADJUST HEIGHT TO BE 34" H. MAX., x 34" H, RELOCATE FROM CLASSROOM D-2 (TYP. OF 2)
- 108 (E) SNAP-ON TABLES, 4' x 2'-6" x 40" H, RELOCATE FROM CLASSROOM D-2 (TYP. OF 2)
- 109 NOT USED.
- 110 (E) METAL CABINET, 3' x 1'-6" x 6" H, RELOCATE FROM CLASSROOM D-2 (TYP. OF 6). SEE 2/A-5.2 FOR ANCHORAGE DETAIL.
- 111 (E) STOOLS, RELOCATE FROM CLASSROOM D-2 (TYP. OF 30)
- 112 PROVIDE NEW WAXLESS HVT FLOORING BY CATALINAPRODUCTS INTERNATIONAL, TYP.
- 113 NEW PROJECTOR (SEE 3/A-5.2) & SCREEN (SEE 4/A-5.2)
- 114 NEW ALUMINUM STOREFRONT WINDOWS WITH DUAL PANE INSULATED GLAZING, TYP. SEE WINDOW SCHEDULE ON A-6.1 & INTERIOR ELEVATIONS ON A-4.1 FOR MORE INFORMATION.
- 115 NEW ELECTRICAL PANELS, SEE ELECTRICAL DWGS FOR MORE INFO. SEE 2/E-1.2 FOR PANEL MOUNTING DETAIL.
- 116 NEW WALL CABINETS, TYP. SEE INTERIOR ELEVATIONS & 15/A-5.1.
- 117 NEW SCIENCE TABLES 8' x 2'-6", FROM SCHOOLSIN.COM (TYP. OF 10)
- 117A NEW SCIENCE TABLES 8' x 2'-6", 34" H. MAX. FROM SCHOOLSIN.COM (TYP. OF 2)
- 118 NEW STOOLS FROM SCHOOLSIN.COM (TYP. OF 36)
- 119 NEW WORKBENCH SYSTEM W/ WOOD TOP, 40' x 2'-6" x 34" H
- 120 NEW WORKBENCH SYSTEM W/ WOOD TOP, 24' x 2'-6" x 34" H
- 121 NEW WORKBENCH SYSTEM W/ WOOD TOP, 16' x 2'-6" x 34" H
- 122 NEW WALL MOUNTED STEEL SHELVES, 18" DEEP, 16 GA. MIN., BLACK POWDER COATED. SEE INTERIOR ELEVATIONS & 8/A-5.2.
- 123 NEW BASE CABINET, SEE INTERIOR ELEVATION
- 124 NEW OFFICE TABLE & CHAIR
- 125 NEW DOOR, FRAME & HARDWARE PER SCHEDULE, TYP. OF (4).
- 126 PROVIDE NEW ACORN ELPS2 WASH BASIN, 34" H. MAX. SEE PLUMBING DWGS FOR MORE INFO. PROVIDE BACKING PER 17/A-5.1.
- 127 PROVIDE (N) SOAP DISPENSER, SEE INTERIOR ELEVATIONS ON A-4.1 & 12/A-5.1.
- 128 PROVIDE (N) PAPER TOWEL DISPENSER, SEE INTERIOR ELEVATIONS ON A-4.1 & 12/A-5.1.

LEGEND:

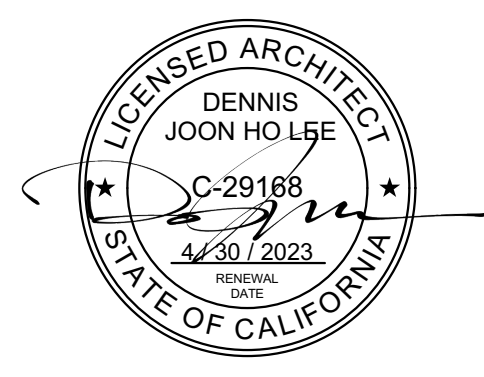
- EXISTING BRICK WALL TO REMAIN, TYP.
- EXISTING 2X STUD WALL TO REMAIN, TYP.
- DEMO (E) 2X STUD WALL
- NEW 2X STUD WALL, FULL HEIGHT
- NEW 2X STUD WALL, PARTIAL HEIGHT
- PROVIDE ASSISTIVE LISTENING SYSTEM SIGN, SEE 20/A-5.1
- DISTRICT TO PROVIDE MIN. OF 1 TRANSMITTER & 3 RECEIVERS PER SPECIFICATIONS. MIN. OF 2 RECEIVERS SHALL BE HEARING-AID COMPATIBLE PER CBC 11B-706.3. (4% x 58 = 3 MIN.)



EXISTING / DEMOLITION PLAN
 SCALE: 3/16" = 1'-0"



PROPOSED FLOOR PLAN
 SCALE: 3/16" = 1'-0"



CTE ROBOTICS CLASSROOM UPGRADE - NOGALES HIGH SCHOOL

401 NOGALES STREET LA
 PLUENTE CA 91744
 CLIENT:
 ROWLAND UNIFIED SCHOOL DISTRICT
 1830 NOGALES STREET
 ROWLAND HEIGHTS, CA 91748

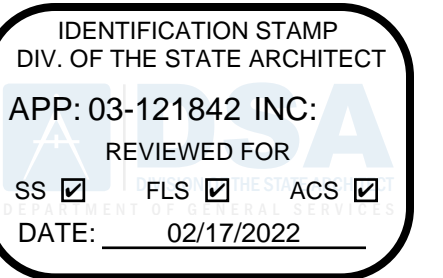
SUBMITTAL REVISIONS:	DATE
1. DESIGN DEVELOPMENT	4/22/2021
2. CONSTRUCTION DOCUMENTATION	7/26/2021
3. DSA SUBMITTAL	10/8/2021
4. DSA BACKCHECK	1/11/2022

PROJECT NO: 202015
 SCALE: AS SHOWN
 DATE: 1/27/2022
 DRAWN BY: ED / FW
 CHECKED BY: DL

DEMO & PROPOSED FLOOR PLANS

SHEET NO:

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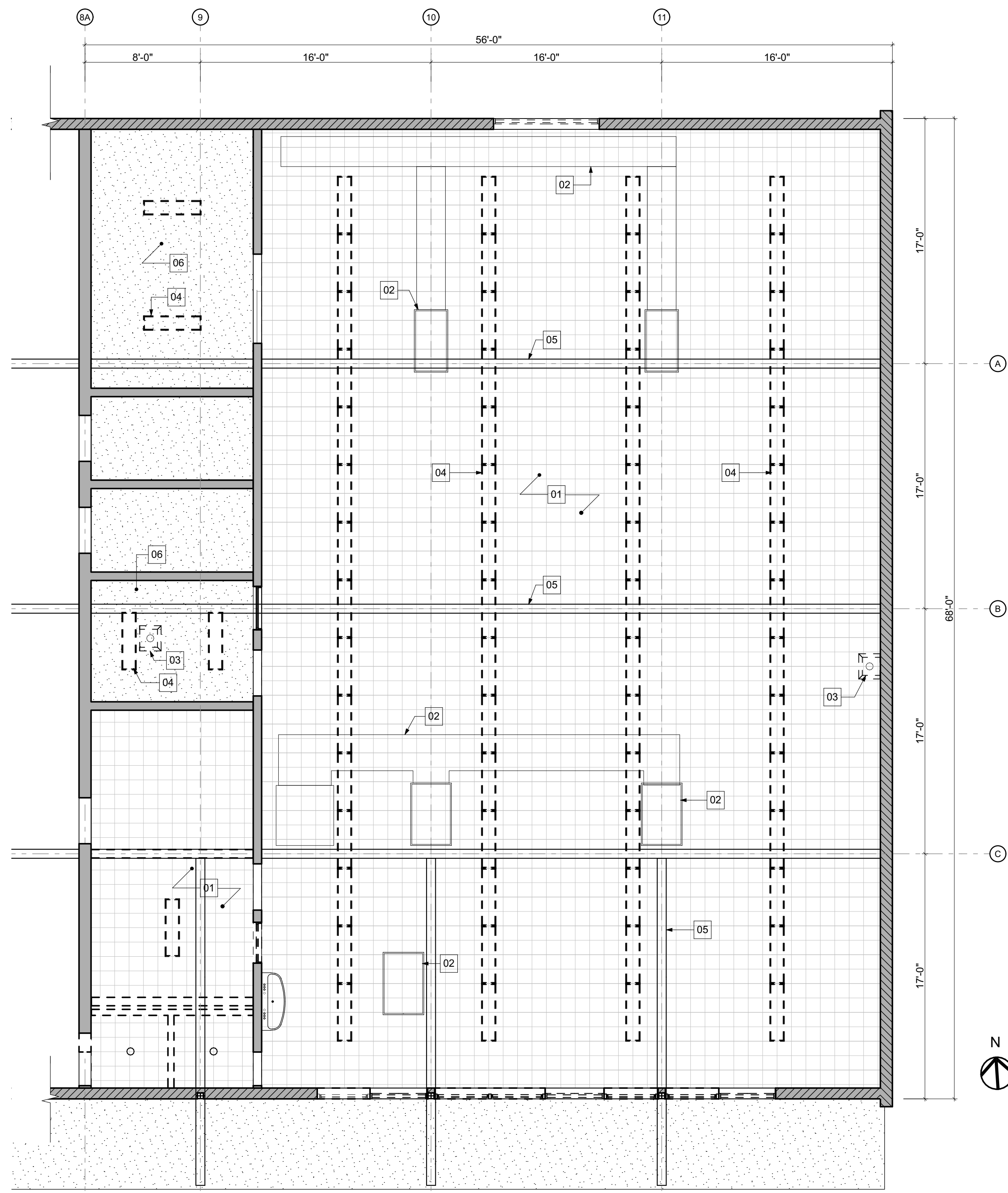
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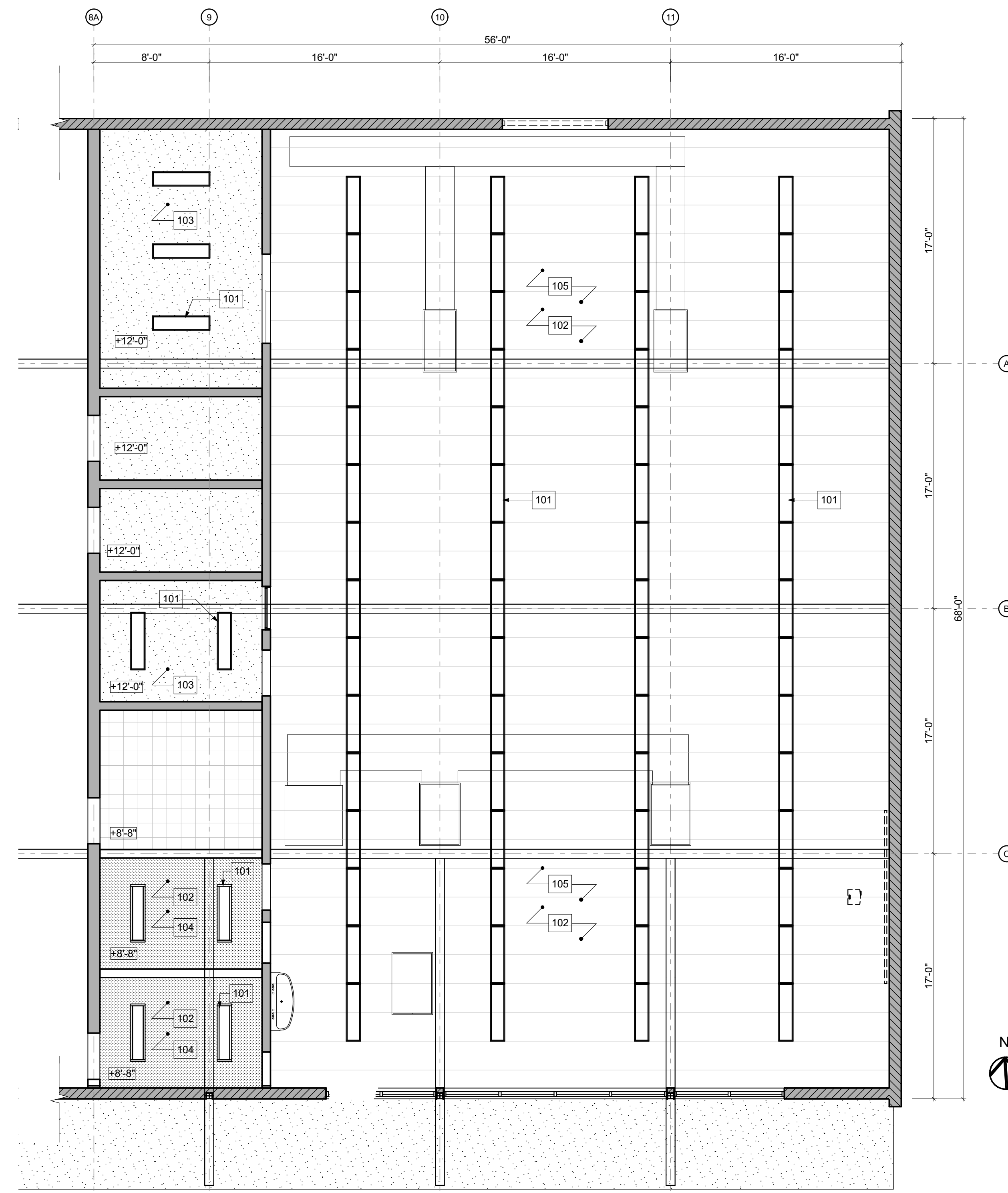
CEILING PLAN KEYNOTES: [XX]

- 01 REMOVE (E) ACOUSTICAL CEILING TILES & INSULATION, TYP.
- 02 (E) AC & DUCTWORK TO REMAIN, TYP.
- 03 REMOVE (E) HOOD & CAP EXHAUST DUCT.
- 04 REMOVE (E) FLUORESCENT LIGHT FIXTURES, TYP.
- 05 (E) EXPOSED BEAMS TO REMAIN, TYP.
- 06 (E) PLASTER CEILING TO REMAIN, PATCH ALL ABANDONED OPENINGS, SEE 13/A-6.2.

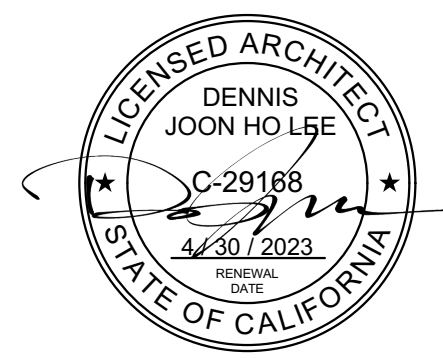
- 101 PROVIDE (N) L.E.D. LIGHT FIXTURES THROUGHOUT, TYP. LIGHT FIXTURE WEIGHT 22 LBS. SEE ELECTRICAL DRAWINGS (3/E-1.2 FOR MOUNTING) FOR MORE INFORMATION.
- 102 PROVIDE (N) R30 INSULATION W/ FACING, THROUGHOUT ENTIRE SCOPE OF WORK AREA.
- 103 EXISTING PLASTER CEILING TO REMAIN.
- 104 PROVIDE (N) GYP. BD. CEILING (TYP.), PAINTED.
- 105 EXPOSED INSULATION W/ FACING (WHITE), PAINT ALL STRUCTURE AND MECHANICAL DUCTWORK WHITE.



EXISTING / DEMO REFLECTED CEILING PLAN (2)
 SCALE: 3/16" = 1'-0"



REFLECTED CEILING PLAN (1)
 SCALE: 3/16" = 1'-0"



CTE ROBOTICS CLASSROOM UPGRADE - NOGALES HIGH SCHOOL

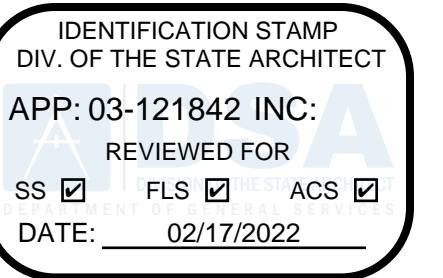
401 NOGALES STREET LA
 PUENTE CA 91744
 CLIENT:
 ROWLAND UNIFIED SCHOOL DISTRICT
 1830 NOGALES STREET
 ROWLAND HEIGHTS, CA 91748

SUBMITTAL REVISIONS	DATE
1. DESIGN DEVELOPMENT	4/22/2021
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 DRAWN BY: ED / FW
 CHECKED BY: DL

DEMO & PROPOSED REF. CLNG. PLANS

BIMbaud.com CONFERENCE - BIMbaud.com for ARCHICAD 25(2021) - BUBD Member Help Robotis - Friday, January 21, 2022, 5:37 PM



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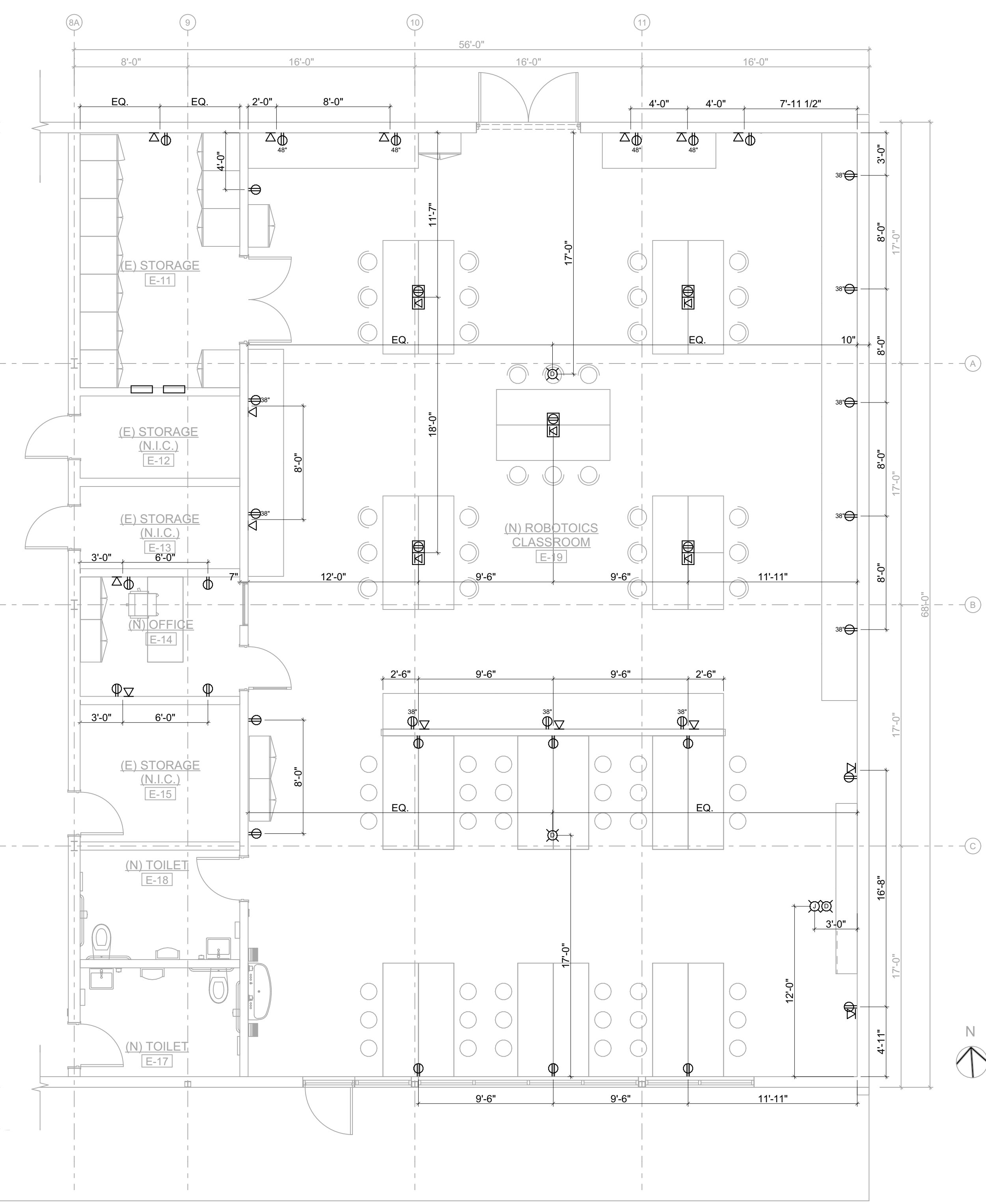
POWER & DATA LEGEND:

- FLOOR OUTLET FOR POWER & DATA. SEE ELEC. DWGS FOR MORE INFO. SEE 14/S-1.1 FOR SLAB PATCH DETAIL.
- 38" WALL OUTLET FOR POWER & DATA, 15" A.F.F. U.N.O. SEE ELEC. DWGS FOR MORE INFO.
- 15" WALL OUTLET, 15" A.F.F. U.N.O. SEE ELEC. DWGS FOR MORE INFO.
- WALL OUTLET FOR DATA, 15" A.F.F. U.N.O. SEE ELEC. DWGS FOR MORE INFO.
- J-BOX FOR POWER OUTLET AT CEILING. SEE ELEC. DWGS FOR MORE INFO.
- J-BOX FOR DATA - WIFI ACCESS POINT AT CEILING. SEE ELEC. DWGS FOR MORE INFO.

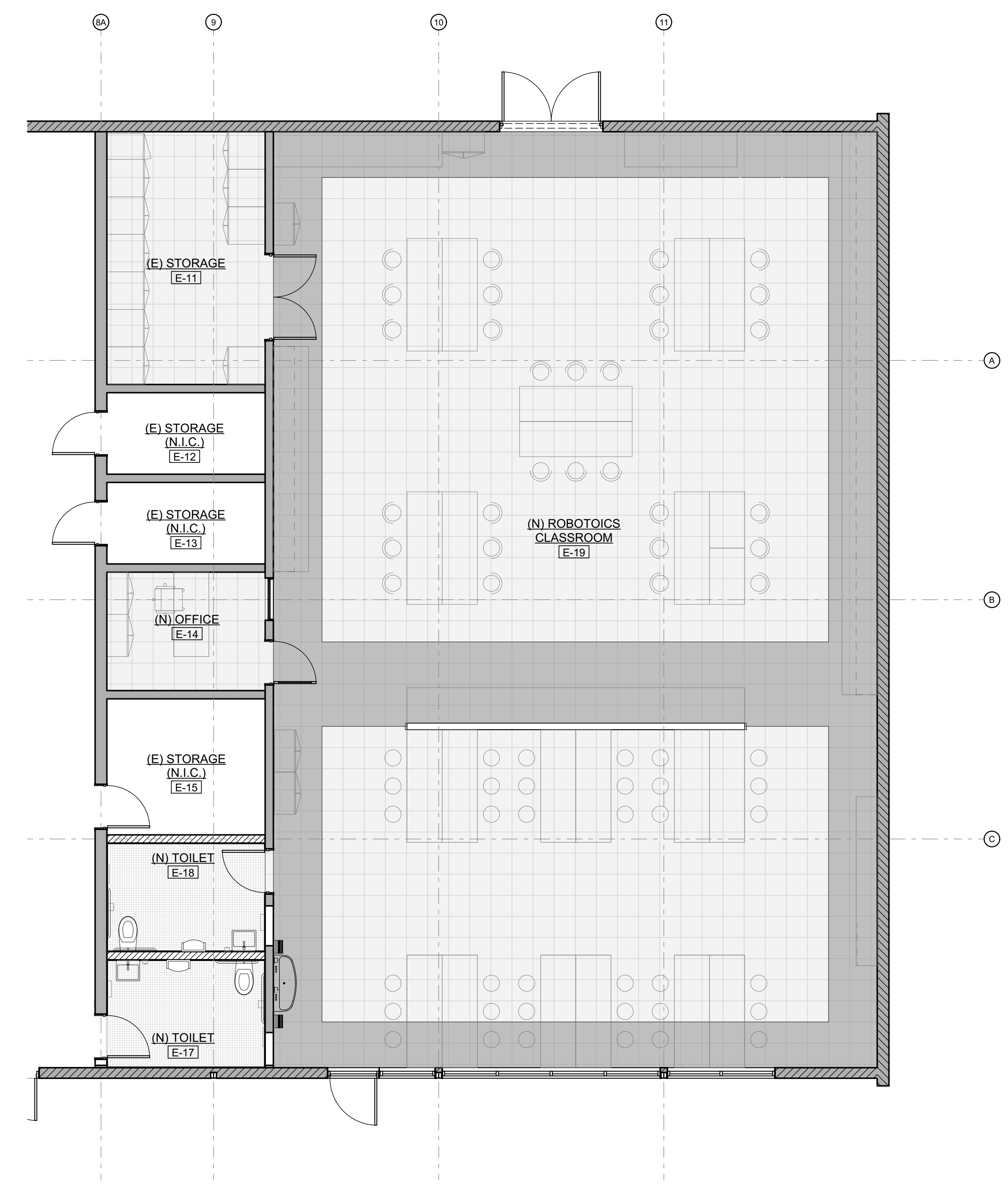
FINISH PLAN LEGEND:

- 5mm 18" x 18" HYBRID VINYL TILE, FIELD COLOR: ALMOND CATALINA PRODUCTS INTERNATIONAL, INSTALL PER MANUFACTURER'S INSTRUCTIONS
- 5mm 18" x 18" HYBRID VINYL TILE, BORDER COLOR: ONYX CATALINA PRODUCTS INTERNATIONAL, INSTALL PER MANUFACTURER'S INSTRUCTIONS
- DAL TILE, HAUTE MONDE, COLOR: GLITTERATI GRANITE HM03, UNPOLISHED, 2"X2" MOSAIC.

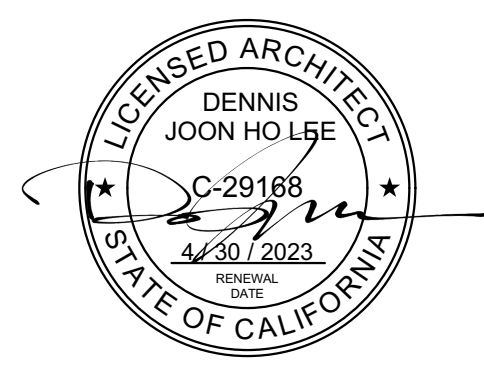
(FOR LOCATION INFORMATION ONLY, SEE ELECTRICAL DRAWINGS FOR COMPLETE SCOPE)



POWER & DATA COORDINATION PLAN
 SCALE: 3/16" = 1'-0" **2**



FLOOR FINISH PLAN
 SCALE: 3/16" = 1'-0" **1**



CTE ROBOTICS CLASSROOM UPGRADE - NOGALES HIGH SCHOOL

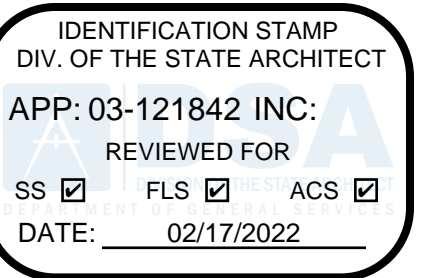
401 NOGALES STREET LA
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 1830 NOGALES STREET
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 SCALE: AS SHOWN
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 DRAWN BY: ED / FW
 CHECKED BY: DL
POWER/ DATA & FINISH FLOOR PLANS

SHEET NO:

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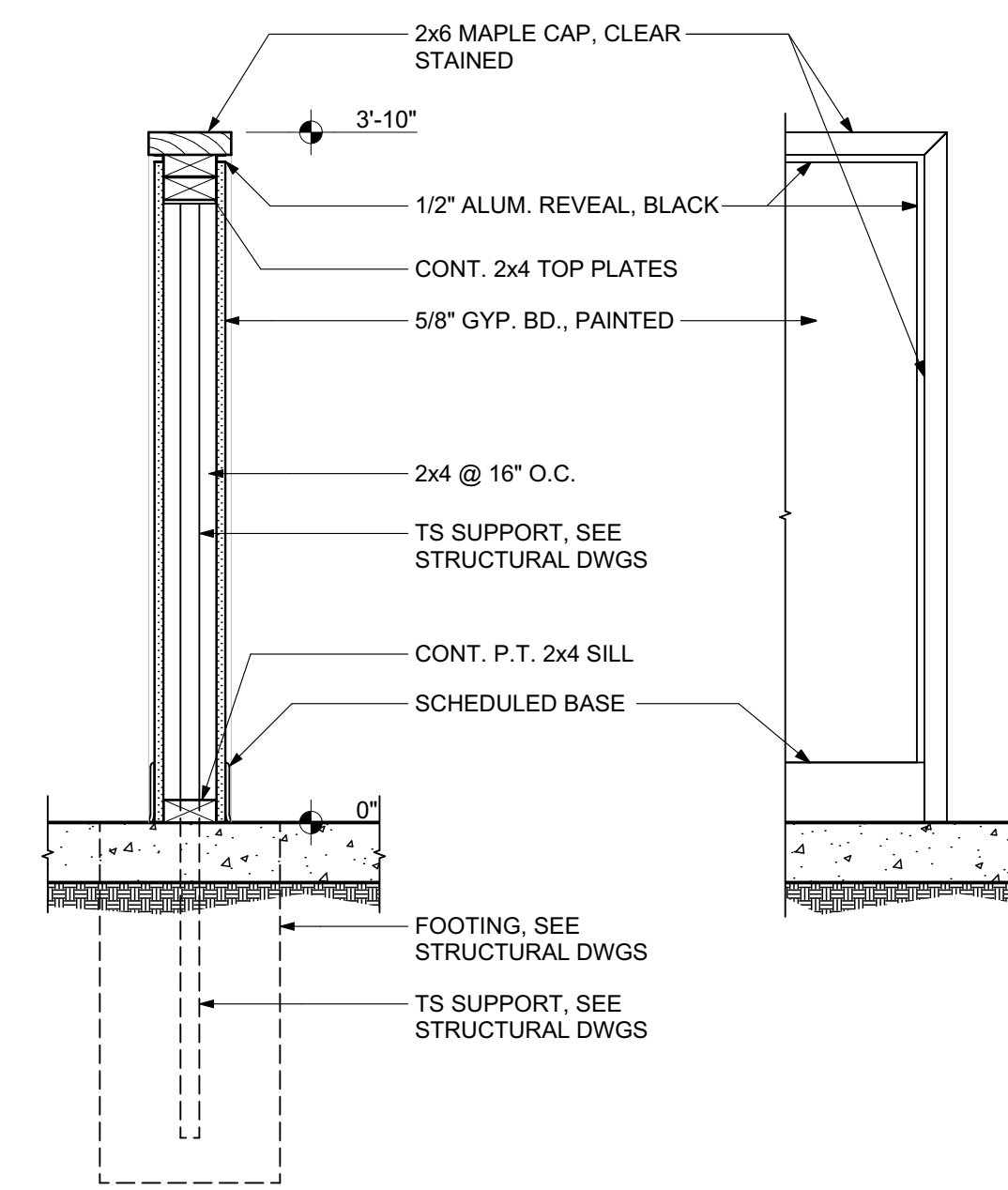


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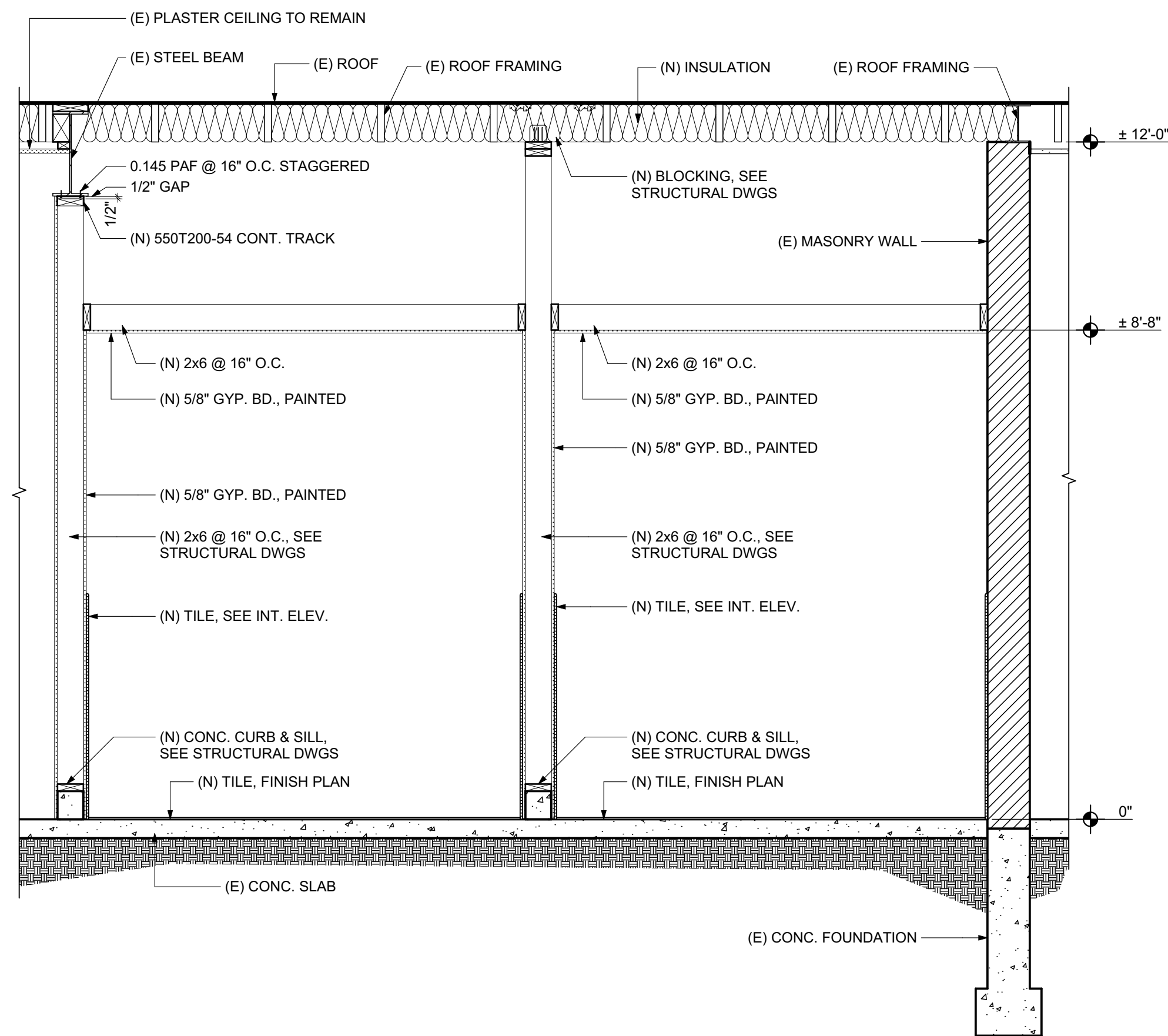
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 NOTES:

ROOF PLAN KEYNOTES: ☒

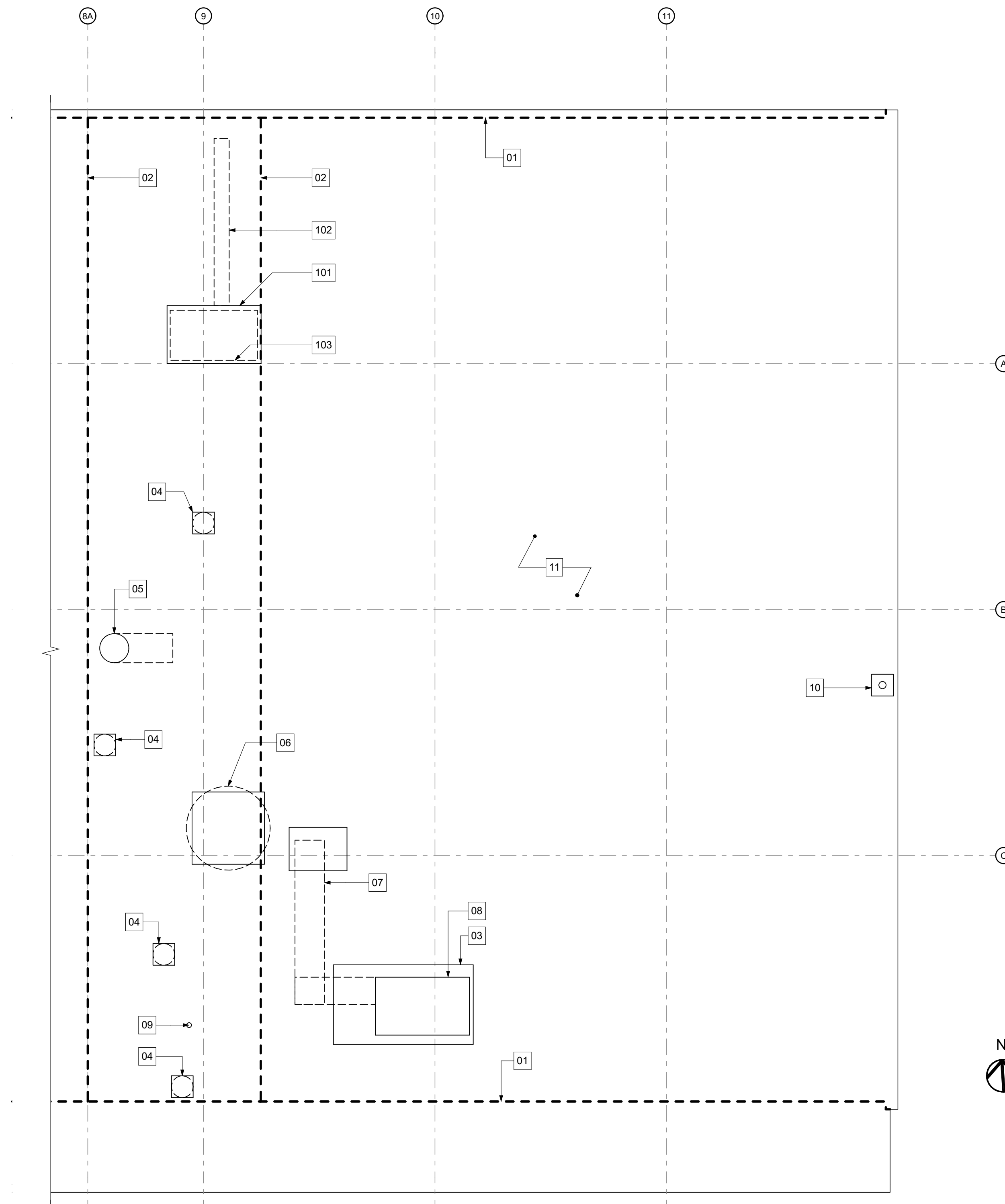
- 01 LINE OF EXTERIOR WALL BELOW
 - 02 LINE OF INTERIOR WALL BELOW
 - 03 NOT USED.
 - 04 (E) AIR VENT, SEE MECHANICAL DRAWINGS FOR MORE INFORMATION
 - 05 (E) EXISTING EXHAUST FAN BELOW & OUTLET TO BE REMOVED, SEE MECHANICAL DRAWINGS FOR MORE INFORMATION
 - 06 (E) OUTSIDE AIR INTAKE TO BE REMOVED, SEE MECHANICAL DRAWINGS FOR MORE INFORMATION
 - 07 (E) HVAC DUCT
 - 08 (E) HVAC UNIT TO REMAIN, SEE MECHANICAL DRAWINGS FOR MORE INFORMATION
 - 09 (E) PLUMBING VENT
 - 10 (E) AIR VENT TO BE REMOVED, SEE MECHANICAL DRAWINGS FOR MORE INFORMATION
 - 11 (E) ROOF TO REMAIN, PATCH & REPAIR AS REQUIRED
-
- 101 (N) HVAC UNIT, SEE M-2.0 FOR MORE INFORMATION.
 - 102 (N) DUCT, SEE M-2.0 FOR MORE INFORMATION.
 - 103 (N) EQUIPMENT CURB & REINFORCING, SEE 8/S-2.1 FOR MORE INFORMATION.



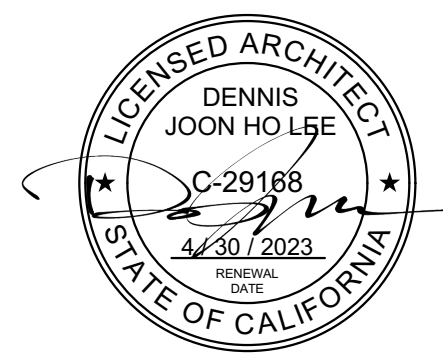
HALF HEIGHT WALL SECTION ②
 SCALE: 1" = 1'-0"



RESTROOM WALL SECTION ③
 SCALE: 1/2" = 1'-0"



ROOF PLAN ①
 SCALE: 3/16" = 1'-0"



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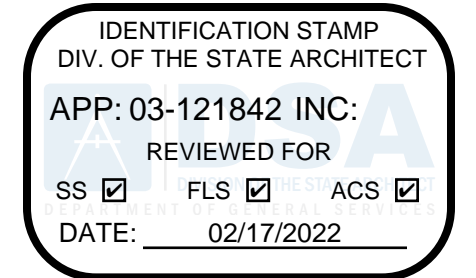
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ROOF PLAN & SECTIONS

SHEET NO:



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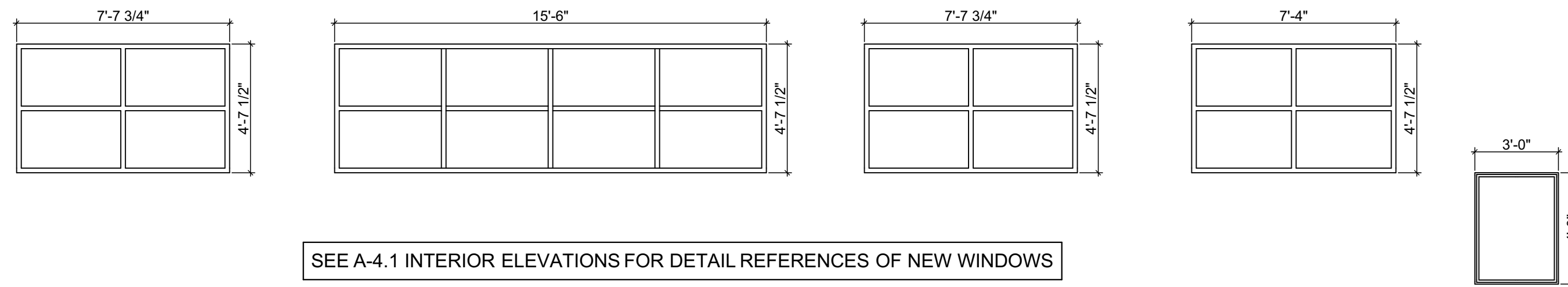
WINDOW SCHEDULE

NO.	NEW / EX	OPERATION	WIDTH	HEIGHT	SILL HEIGHT	AREA	QNTY	GLAZING			FRAME			U VALUE	SHGC	FIRE RATING	NOTES / REMARKS	
								THK	TYPE	MAT	FINISH	HEAD	JAMB					SILL
A	New	FIXED	7'-7 3/4"	4'-7 1/2"	7'-2"	35	1	1"	TGL-IN-T	ALUM	ANOD	1/A-5.1	3,4/A-5.1	2/A-5.1				
B	New	FIXED	15'-6"	4'-7 1/2"	7'-2"	72	1	1"	TGL-IN-T	ALUM	ANOD	1/A-5.1	4/A-5.1	2/A-5.1				
C	New	FIXED	7'-7 3/4"	4'-7 1/2"	7'-2"	35	1	1"	TGL-IN-T	ALUM	ANOD	1/A-5.1	3,4/A-5.1	2/A-5.1				
D	New	FIXED	7'-4"	4'-7 1/2"	7'-2"	34	1	1"	TGL-IN-T	ALUM	ANOD	5/A-5.1	7/A-5.1	6/A-5.1				
E	Existing	FIXED	3'-0"	4'-0"	3'-2"	12	1											
							5											

DOOR SCHEDULE

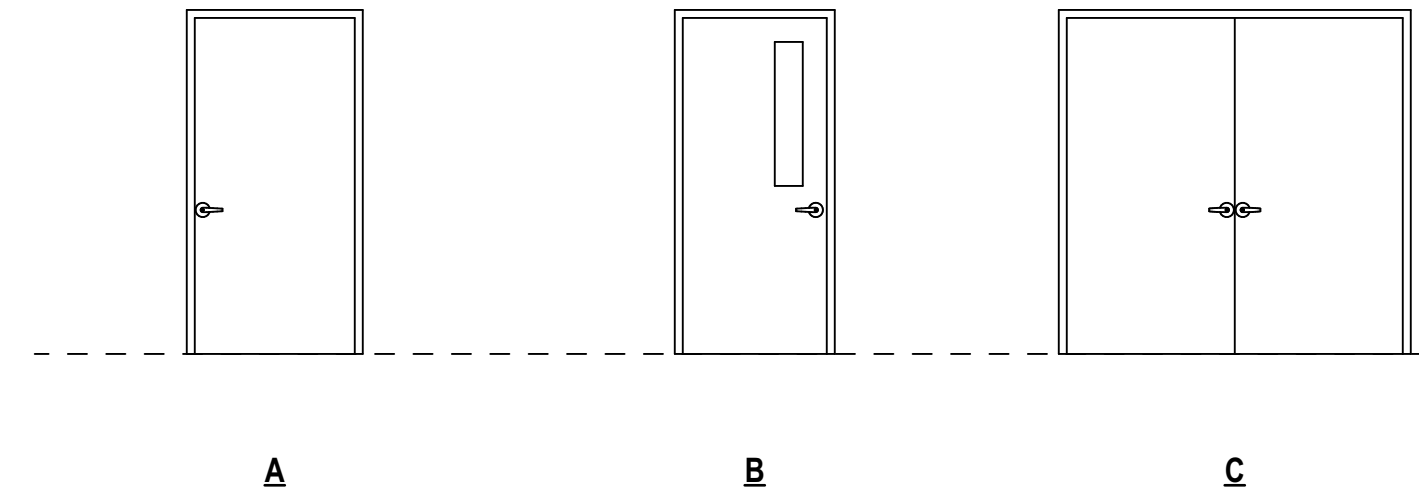
NO.	NEW / EX	TYPE	WIDTH	HEIGHT	THK	DOOR				FRAME		HDWR GROUP	FIRE RATING	REMARKS
						MATERIAL	FINISH	GLAZING	UNDERCUT / LOUVER	MATERIAL	FINISH			
1	Existing	A	3'-4"	7'-0"		HM	SGPT		1/2"	HM	SGPT	05		
2	New	A	3'-0"	7'-0"		HM	SGPT			HM	SGPT	03		
3	New	B	3'-0"	7'-0"		HM	SGPT	CGL-T		HM	SGPT	02		
4	New	C	6'-0"	7'-0"		HM	SGPT			HM	SGPT	04		
5	Existing	C	7'-0"	7'-0"		HM	SGPT			HM	SGPT	06		
6	New	A	3'-0"	7'-0"		HM	SGPT		1/2"	HM	SGPT	01		

WINDOW TYPES



SEE A-4.1 INTERIOR ELEVATIONS FOR DETAIL REFERENCES OF NEW WINDOWS

DOOR TYPES



NOTES

WINDOW GENERAL NOTES

- OVERALL DIMENSIONS SHOWN ARE NOMINAL DESIGN DIMENSIONS. SEE DETAILS AND FIELD VERIFY ROUGH OPENING / EXISTING OPENING DIMENSIONS TO DETERMINE OVERALL FABRICATION DIMENSIONS.
- ALL GLAZING IN DOORS AND ALL SIDELITE / TRANSOM GLAZING TO BE TEMPERED OR LAMINATED GLASS U O N.

ABBREVIATIONS:

ALUM	ALUMINUM
ANOD	ANODIZED
B.ANOD	BRONZE ANODIZED
C.ANOD	CLEAR ANODIZED
GL	GLASS
HC	HOLLOW CORE
HDWD	HARDWOOD
HM	HOLLOW METAL
F.F	FACTORY FINISH
FOAM	FOAM CORE
MTL	METAL
PCG	POLYMER CELL CORE
P.LAM	PLASTIC LAMINATE
P.MTL	PRESSED METAL
P.NICK	POLISHED NICKEL
PTD	PAINTED
S.ANOD	SATIN ANODIZED
SC	SOLID CORE
SGPT	SEMI-GLOSS PAINT
S.S.	STAINLESS STEEL
STL	STEEL
STN	STAIN
WD	WOOD

GLAZING TYPE:

CGL	CLEAR GLASS
OGL	OBSCURE GLASS
TGL	TINTED GLASS
-IN	INSULATED, DOUBLE PANE
-T	TEMPERED

NOTES

DOOR GENERAL NOTES

- THE FORCE FOR PUSHING OR PULLING OPEN A DOOR OR GATE SHALL BE AS FOLLOWS:
 - INTERIOR HINGED DOORS AND GATES: 5 LBS MAX.
 - SLIDING OR FOLDING DOORS: 5 LBS MAX.
 - REQUIRED FIRE DOORS: THE MINIMUM OPENING FORCE ALLOWABLE BY THE APPROPRIATE ADMINISTRATIVE AUTHORITY, NOT TO EXCEED 15 LBS.
 - EXTERIOR HINGED DOORS: 5 LBS MAX.
 THESE FORCES DO NOT APPLY TO THE FORCE REQUIRED TO RETRACT LATCH BOLTS OR DISENGAGE OTHER DEVICES THAT HOLD THE DOOR OR GATE IN A CLOSED POSITION. (CBC 11B-404.2.9)
- EGRESS DOORS SHALL BE READILY OPENABLE FROM THE EGRESS SIDE WITHOUT THE USE OF A KEY OR SPECIAL KNOWLEDGE OR EFFORT. (CBC 1010.1.9)
- REFER TO FLOOR PLANS FOR PAIRS OF DOORS AND DIRECTIONS OF SWING.
- HANDLES, PULLS, LATCHES, LOCKS, AND OTHER OPERABLE PARTS ON DOORS AND GATES SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST. THE FORCE REQUIRED TO ACTIVATE OPERABLE PARTS SHALL BE 5 POUNDS MAXIMUM. OPERABLE PARTS OF SUCH HARDWARE SHALL BE 34" MIN. AND 44" MAX. ABOVE THE FINISH FLOOR OR GROUND. WHERE SLIDING DOORS ARE IN THE FULLY OPEN POSITION, OPERATING HARDWARE SHALL BE EXPOSED AND USABLE FROM BOTH SIDES. (CBC 11B-404.2.7)
- FLOOR STOPS SHALL NOT BE LOCATED IN THE PATH OF TRAVEL AND 4" MAXIMUM FROM WALLS. POLJOY 99-08
- SWINGING DOOR AND GATE SURFACES WITHIN 10 INCHES OF THE FINISH FLOOR OR GROUND MEASURED VERTICALLY SHALL HAVE A SMOOTH SURFACE ON THE PUSH SIDE EXTENDING THE FULL WIDTH OF THE DOOR OR GATE. PARTS CREATING HORIZONTAL OR VERTICAL JOINTS IN THESE SURFACES SHALL BE WITHIN 1/16 INCH OF THE SAME PLANE AS THE OTHER AND BE FREE OF SHARP OR ABRASIVE EDGES. CAVITIES CREATED BY ADDED KICKPLATES SHALL BE CAPPED. (CBC 11B-404.2.10)

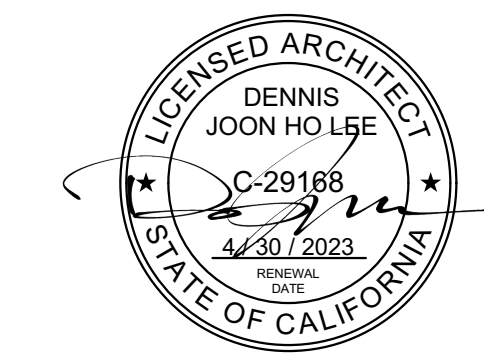
- FIRE-RATED DOOR FRAMES SHALL BE INSTALLED STRICTLY PER MANUFACTURER'S PRINTED INSTRUCTIONS. MANUFACTURER'S PRINTED INSTRUCTION SHALL BE MADE AVAILABLE TO THE INSPECTING AUTHORITIES.
- ALL RATED DOORS ARE TO BE POSITIVE LATCHING AND SELF-CLOSING.
- ALL RATED DOORS ARE TO BE LABELED PER CBC 715.4.5.
- ALL HARDWARE SHALL COMPLY WITH CBC SECTION 11B-404.2.7 AND 1010.1.9. THRESHOLDS SHALL COMPLY WITH CBC 11B-404.2.5.
- DOOR CLOSERS AND GATE CLOSERS SHALL BE ADJUSTED SO THAT FROM AN OPEN POSITION OF 90 DEGREES, THE TIME REQUIRED TO MOVE THE DOOR TO A POSITION OF 12 DEGREES FROM THE LATCH IS 5 SECONDS MINIMUM. (CBC 11B-404.2.8.1)
- PANIC HARDWARE SHALL COMPLY WITH SECTION CBC 1010.1.9 & 1010.1.10.
- ALL NEW DOORS AND WINDOWS SHALL BE FITTED ON EXISTING WALL OPENINGS WITHOUT TRIMMING OR ENLARGING UNLESS EACH LOCATION AND REFERENCE DETAILS ARE SHOWN ON STRUCTURAL DRAWINGS.
- THE MINIMUM WIDTH OF EACH DOOR OPENING SHALL BE SUFFICIENT FOR THE OCCUPANT LOAD THEREOF AND SHALL PROVIDE A CLEAR WIDTH OF NOT LESS THAN 32 INCHES. THE HEIGHT OF DOORS SHALL NOT BE LESS THAN 80 INCHES PER CBC SECTION 1008.1.9.

ABBREVIATIONS:

ALUM	ALUMINUM
ANOD	ANODIZED
B.ANOD	BRONZE ANODIZED
C.ANOD	CLEAR ANODIZED
GL	GLASS
HC	HOLLOW CORE
HDWD	HARDWOOD
HM	HOLLOW METAL
F.F	FACTORY FINISH
FOAM	FOAM CORE
MTL	METAL
PCG	POLYMER CELL CORE
P.LAM	PLASTIC LAMINATE
P.MTL	PRESSED METAL
P.NICK	POLISHED NICKEL
PTD	PAINTED
S.ANOD	SATIN ANODIZED
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GLAZING TYPE:

CGL	CLEAR GLASS
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-IN	INSULATED, DOUBLE PANE
-T	TEMPERED



PROJECT:
CTE ROBOTICS CLASSROOM UPGRADE - NOGALES HIGH SCHOOL

401 NOGALES STREET LA
 PUENTE CA 91744

CLIENT:
ROWLAND UNIFIED SCHOOL DISTRICT
 1830 NOGALES STREET
 ROWLAND HEIGHTS, CA 91748

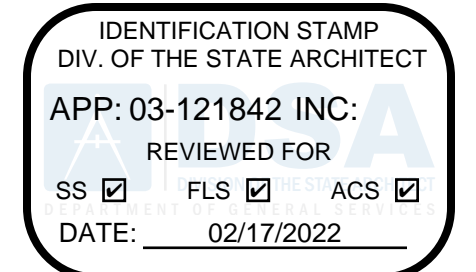
SUBMITTAL REVISIONS:

1	DESIGN DEVELOPMENT	4/22/2021
2	CONSTRUCTION DOCUMENTATION	7/26/2021
3	DSA SUBMITTAL	10/8/2021
4	DSA BACKCHECK	1/11/2022

PROJECT NO: 202015
 SCALE: AS SHOWN
 DATE: 1/21/2022
 DRAWN BY: ED / FW
 CHECKED BY: DL

SCHEDULES

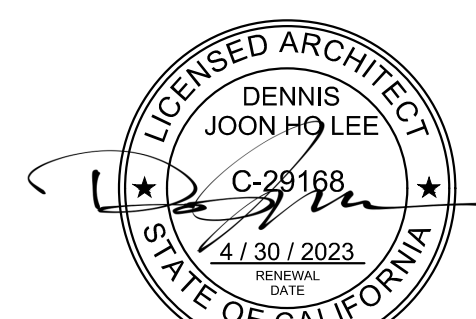
SHEET NO:



ARCHITECT:
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PROJECT:
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401 NOGALES STREET LA
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CLIENT:
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 1830 NOGALES STREET
 ROWLAND HEIGHTS, CA 91748

SUBMITTED REVISIONS:
 1 DESIGN DEVELOPMENT 4/22/2021
 2 CONSTRUCTION DOCUMENTATION 7/26/2021

PROJECT NO: 202015
 SCALE: AS SHOWN
 DATE: 9/22/2021
 DRAWN BY: HAV
 CHECKED BY: LT

SHEET TITLE:
GENERAL NOTES, TYP. DETAILS, FLOOR PLAN & SECTIONS

SHEET NO:

S-1.1

GENERAL NOTES AND STRUCTURAL MATERIALS:

- VERIFY ALL DIMENSIONS AND CONDITIONS ON THE SITE.
- COORDINATE STRUCTURAL DETAILS AND DIMENSIONS WITH RELATED REQUIREMENTS ON ALL DRAWINGS.
- THE ARCHITECT WILL INTERPRET THE INTENT OF THE DOCUMENTS IN CASE OF POSSIBLE CONFLICT OR DISCREPANCY BETWEEN STRUCTURAL AND OTHER DISCIPLINES.
- DETAILS SHOWN ON SHEETS S1.1, AND DETAILS NOTED AS "TYPICAL" OR "TYP." APPLY IN ALL CASES, WHETHER OR NOT SPECIFICALLY REFERENCED.
- WORKMANSHIP AND MATERIALS SHALL CONFORM TO THE REQUIREMENTS OF CALIFORNIA BUILDING CODE (2019).
- STRUCTURAL PLANS INDICATE ONLY THE APPROXIMATE LOCATION OF MECHANICAL, ELECTRICAL, AND OTHER EQUIPMENT, AS WELL AS RELATED AUXILIARY FRAMING NECESSARY TO SUPPORT SUCH GEAR. THE FINAL POSITIONING OF THESE ITEMS IS DEPENDENT UPON THE EQUIPMENT SELECTED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WORK BETWEEN SUBCONTRACTORS AND CRAFTS IN THIS REGARD, AND PROVIDING NECESSARY DIMENSIONS IN A TIMELY MANNER TO ALL PARTIES AND DETAILERS INVOLVED.
- REFER TO ARCHITECTURAL PLANS AND SECTIONS FOR THE EXTENT, DEPTH AND SLOPES OF ALL DEPRESSIONS OR IRREGULARITIES IN FLOORS. STRUCTURAL PLANS MAY NOT INDICATE ALL SUCH SPECIAL FEATURES.

DESIGN CRITERIA:

- WIND CRITERIA:
 I BASIC WIND SPEED: 115 MPH
 II SITE CLASS: D
 III RISK CATEGORY: FACTOR III
 IV S_g: 1.173 S_w: 0.63g
 V S_{gs}: 1.423g S_{ps}: N/A
 VI SEISMIC DESIGN CATEGORY: N/A

SEISMIC CRITERIA:

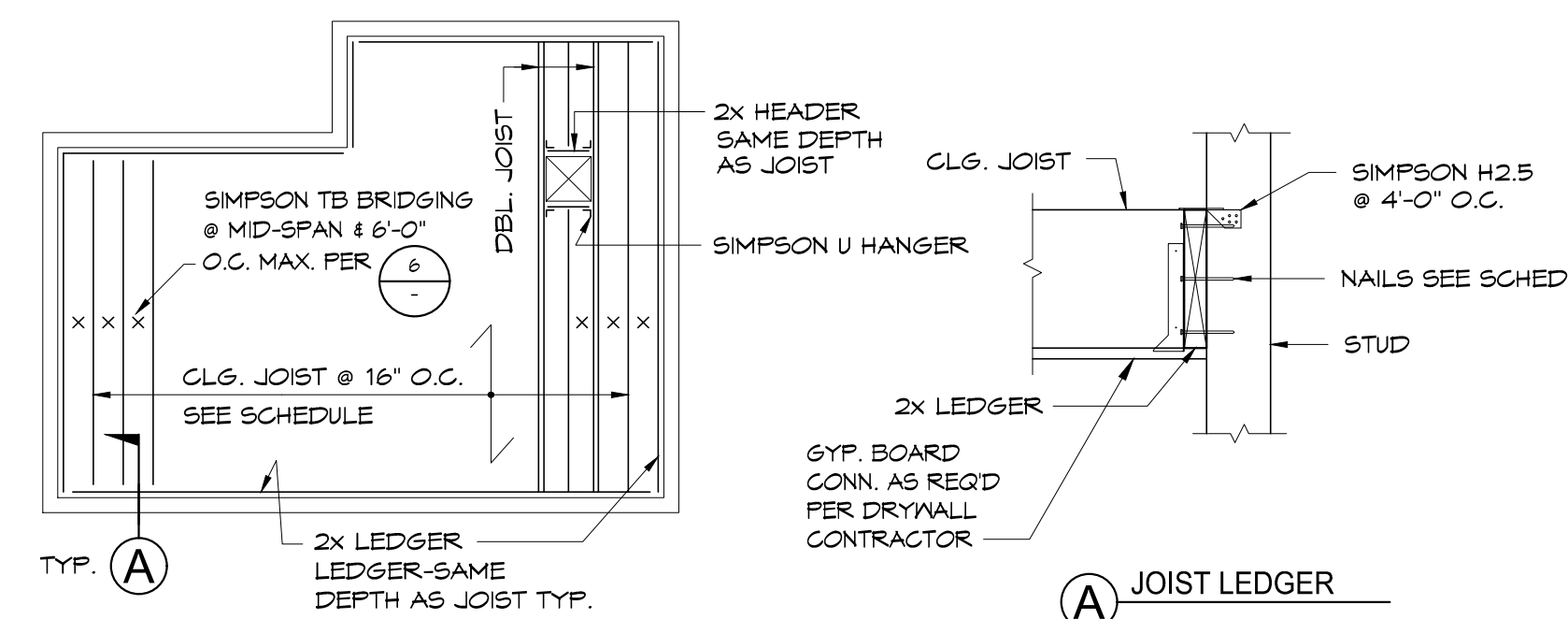
- RISK CATEGORY III
- SITE CLASS D
- S_g: 1.173 S_w: 0.63g
- S_{gs}: 1.423g S_{ps}: N/A
- SEISMIC DESIGN CATEGORY N/A

MATERIAL REQUIREMENTS:

CONCRETE:	STRENGTH	UNIT WEIGHT	MIN. CEMENT CONTENT	MAX. WATER/CEMENT RATIO
SLAB ON GRADE	3,000 PSI	150 PCF	5.5 BAGS/C.Y.	0.45
ALL OTHER CONCRETE	3,000 PSI	150 PCF	5.5 BAGS/C.Y.	0.60
CEMENT:	ASTM C150, TYPE II			
AGGREGATE:	ASTM C33, NORMAL WEIGHT, 1" MAX. SIZE			
REINFORCING STEEL:	ASTM A615, GRADE 40 FOR #3 GRADE 60 FOR ALL OTHERS.			
STRUCTURAL STEEL:	ASTM A36			
STRUCTURAL TUBES:	ASTM A500 GRADE B			
WELDING ELECTRODES:	E70			
BOLT AND NUTS:	ASTM A 307, UNLESS NOTED OTHERWISE			
SAWN TIMBER:	DOUGLAS FIR LARCH NO. 1 AND BETTER FOR ALL SIZE U.N.O. NO. 2 FOR BLK.G. SELECT STRUCTURAL FOR 6x POSTS MAXIMUM MOISTURE CONTENT AT THE TIME OF PLACING SHALL BE 14% FOR BOTH TREATED AND UNTREATED LUMBER.			

WOOD FRAMING CONNECTIONS: BY SIMPSON STRONG-TIE CO.

* NOTE: STRUCTURAL DRAWINGS AND SPECIFICATIONS DO NOT INCLUDE NECESSARY COMPONENTS OR PROCEDURES FOR CONSTRUCTION SAFETY.

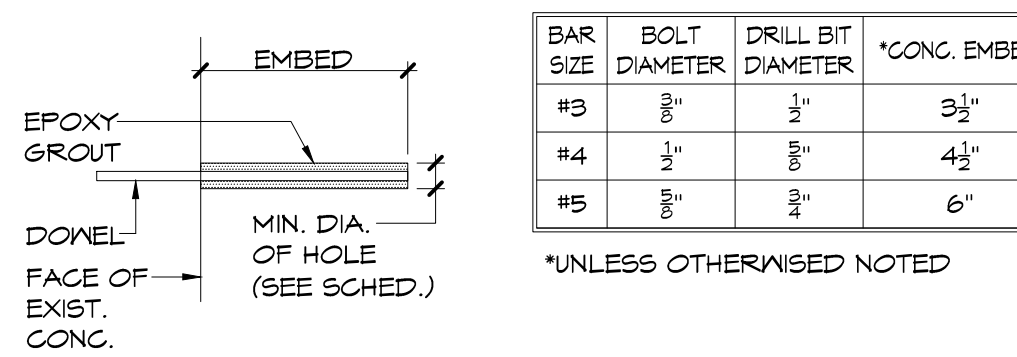


WOOD FRAMED CEILING			
SPAN	JOIST SIZE	LEDGER CONN. TO STUD	JOIST TO LEDGER
0' TO 6'-0"	2x4	(2) 16d	U24
6'-1" TO 10'-0"	2x6	(3) 16d	U26
10'-1" TO 14'-0"	2x8	(4) 16d	U28

- NOTES:
 1. FOR WOOD FRAMED WALLS PROVIDE WOOD CEILING FRAMING.
 2. CEILING LOAD ASSUMED TO BE 5 PSF DEAD LOAD AND 10 PSF LIVE LOAD.

PROCEDURE:

- DRILL HOLE OF PROPER DIAMETER AND DEPTH USING A CARBIDE TIPPED DRILL OR CORING BIT. AVOID CUTTING ANY EXISTING REINFORCING STEEL BY RELOCATING HOLE SLIGHTLY.
- CLEAN THOROUGHLY BY VACUUM OR AIR PRESSURE.
- MAKE SURE THAT HOLE IS DRY AND CLEAN BEFORE GROUTING.
- PLACE EPOXY GROUT IN HOLE WITH CAULKING GUN OR SIMILAR EQUIPMENT. START AT BOTTOM, FILL HOLE APPROXIMATELY 3/4 FULL. COAT DONEL WITH SAME EPOXY AND INSERT INTO HOLE, FORCING MATERIAL AROUND THE SIDES OF THE BAR AND COMPLETELY FILLING ALL VOIDS.
- PROVIDE SUPPORT FOR DONEL BY TYING TO REBAR OR OTHER ELEMENT UNTIL GROUT HAS CURED.
- EPOXY GROUT: SIMPSON SET-UP AS MANUFACTURED BY SIMPSON STRONG-TIE, INC. (ICCESR-2508) ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS.



1

2

CEILING JOIST SCHEDULE AND DETAILS

3

EPOXY GROUT DETAIL

GENERAL NOTES AND MATERIAL REQUIREMENTS

5

6

TYPICAL BRIDGING DETAIL (AT 6'-0" O.C. MAX.)

7

DETAIL

8

9

10

PARTITION ANCHOR DETAIL

15

WALL SECTION

16

PROPOSED FLOOR PLAN

13

14

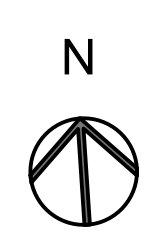
SLAB PATCH

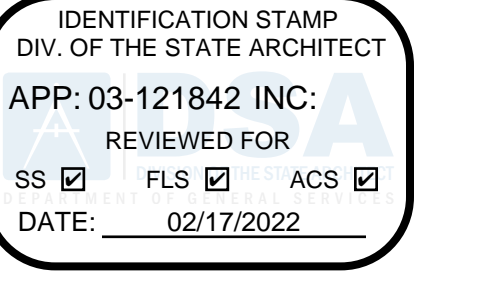
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WALL SECTION

16

PROPOSED FLOOR PLAN

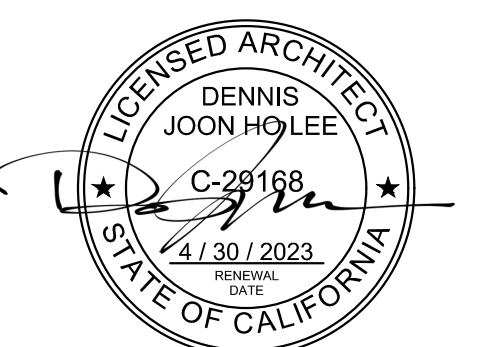




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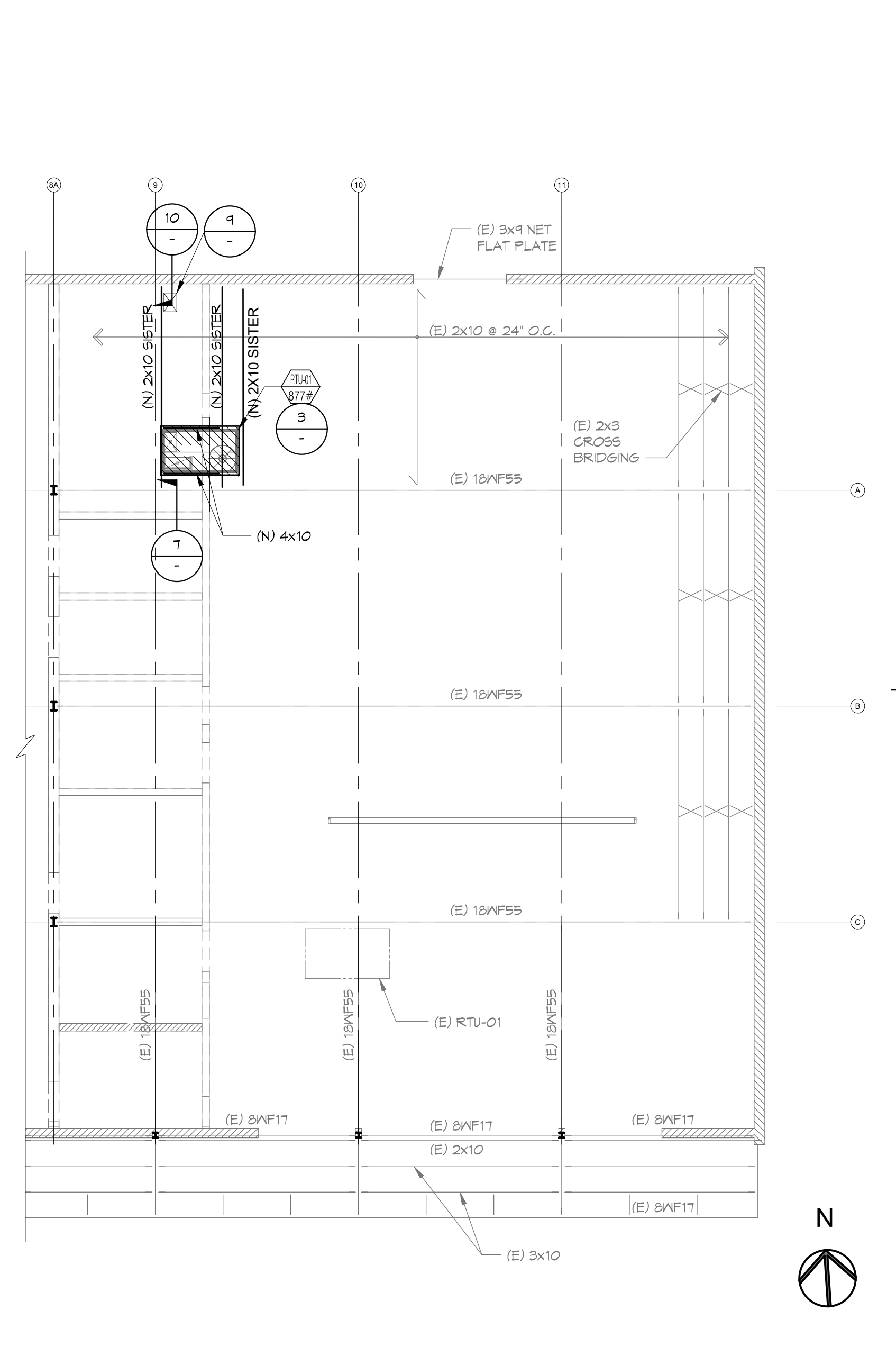
SUBMITTALS/REVISIONS:

1	DESIGN DEVELOPMENT	4/22/2021
2	CONSTRUCTION DOCUMENTATION	7/26/2021

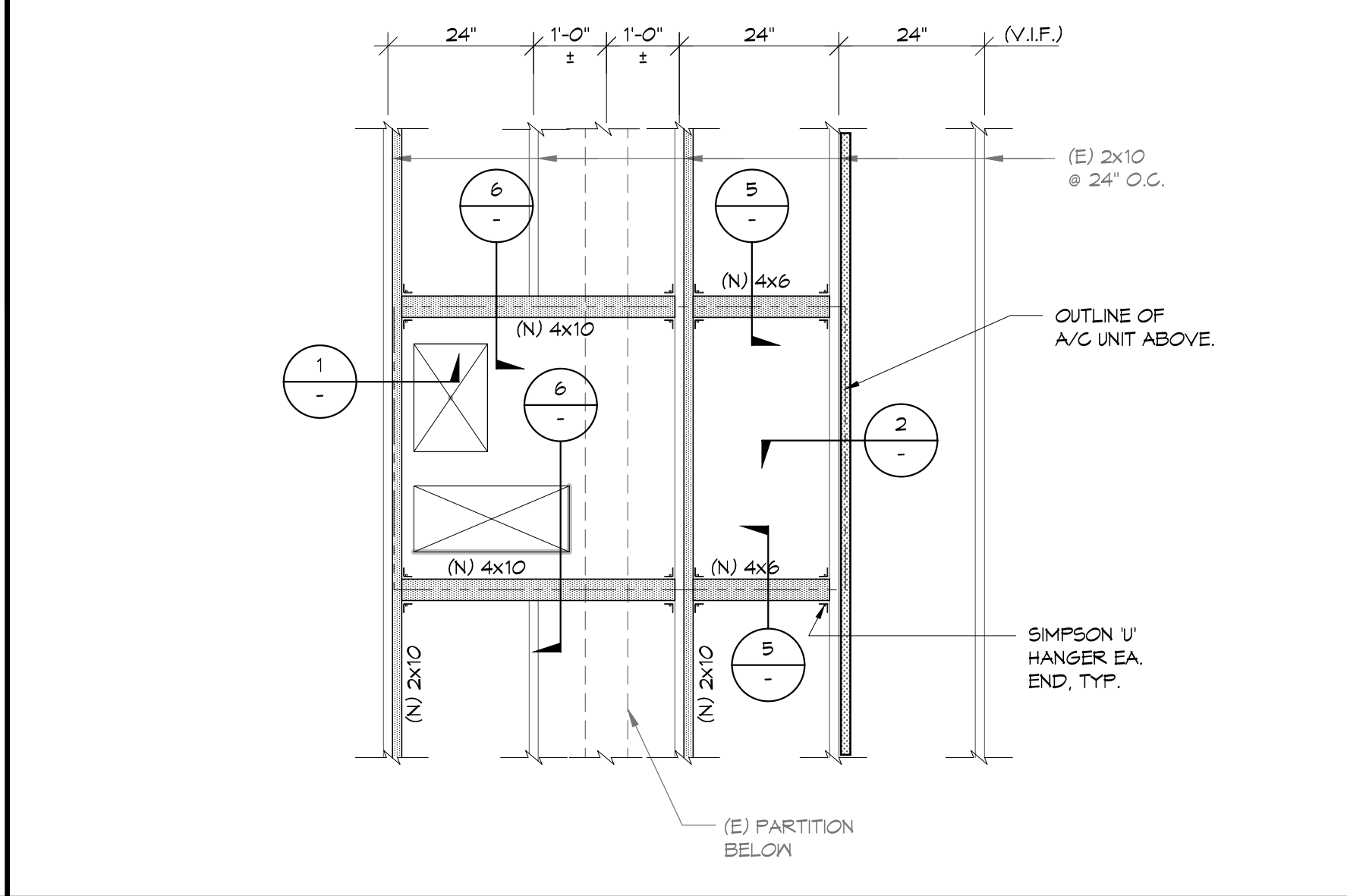
PROJECT NO: 202015
SCALE: AS SHOWN
DATE: 9/22/2021
DRAWN BY: HAV
CHECKED BY: LT

SHEET TITLE:
PARTIAL ROOF FRAMING PLAN, SECTIONS & DETAILS

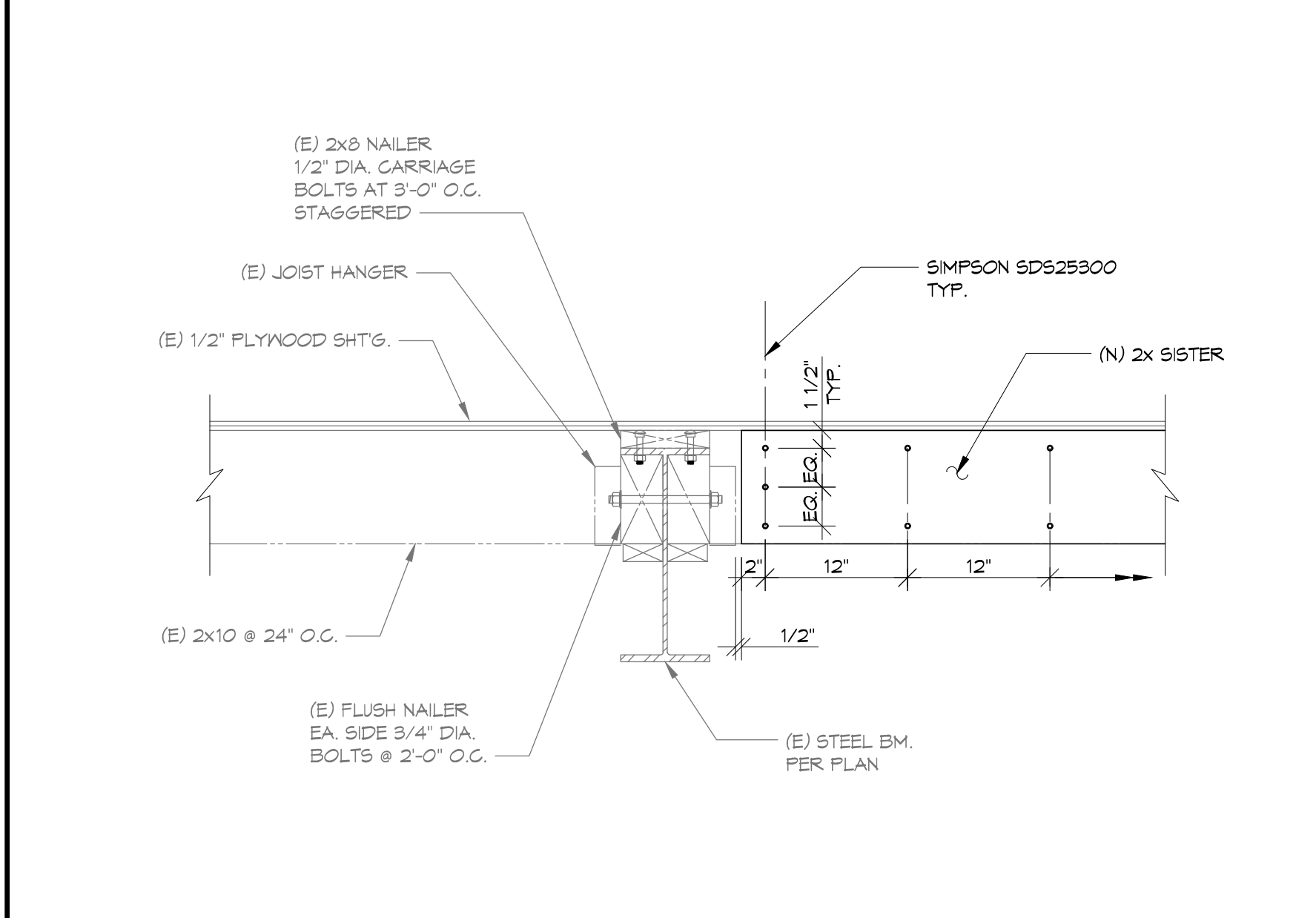
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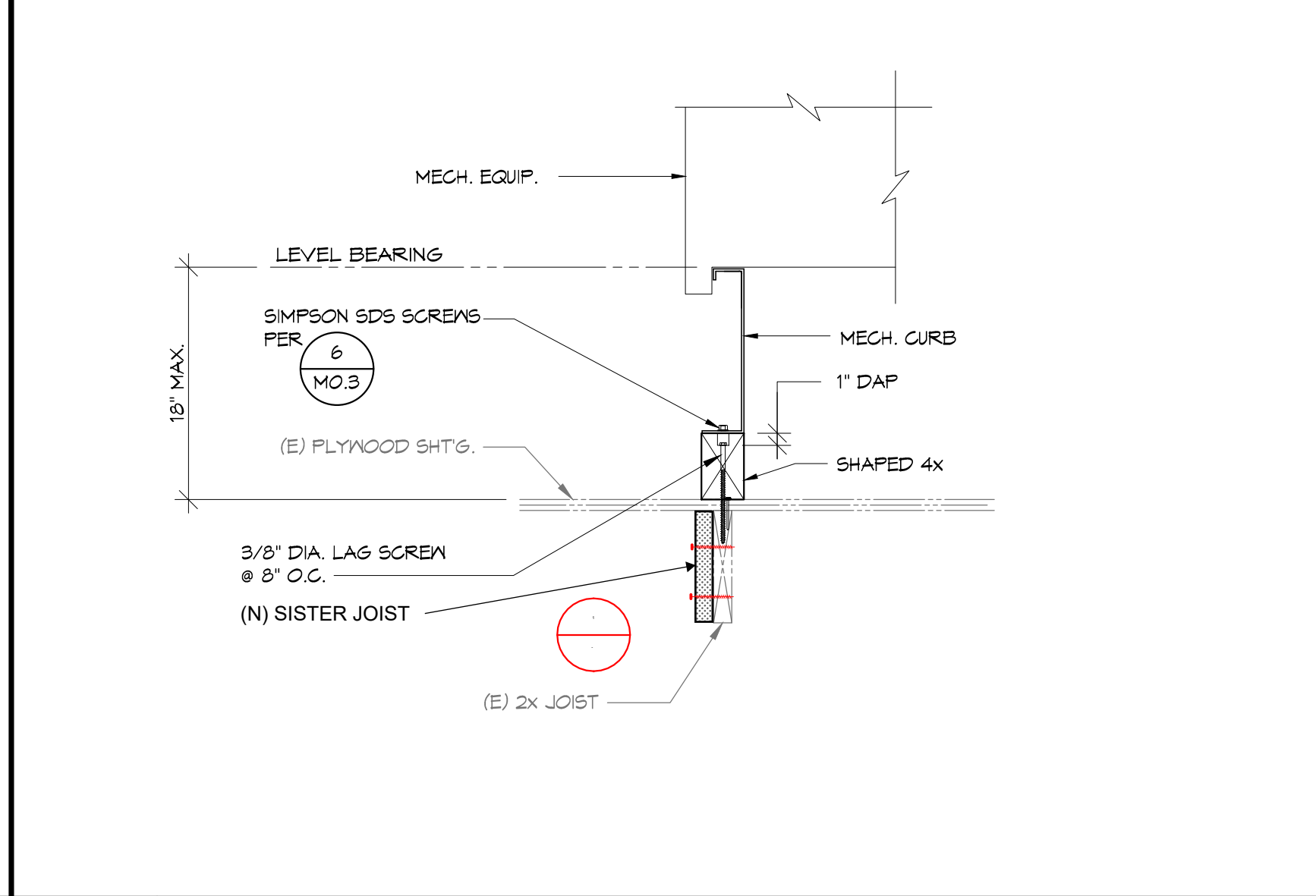
8 PARTIAL ROOF FRAMING PLAN 1/8"=1'-0"



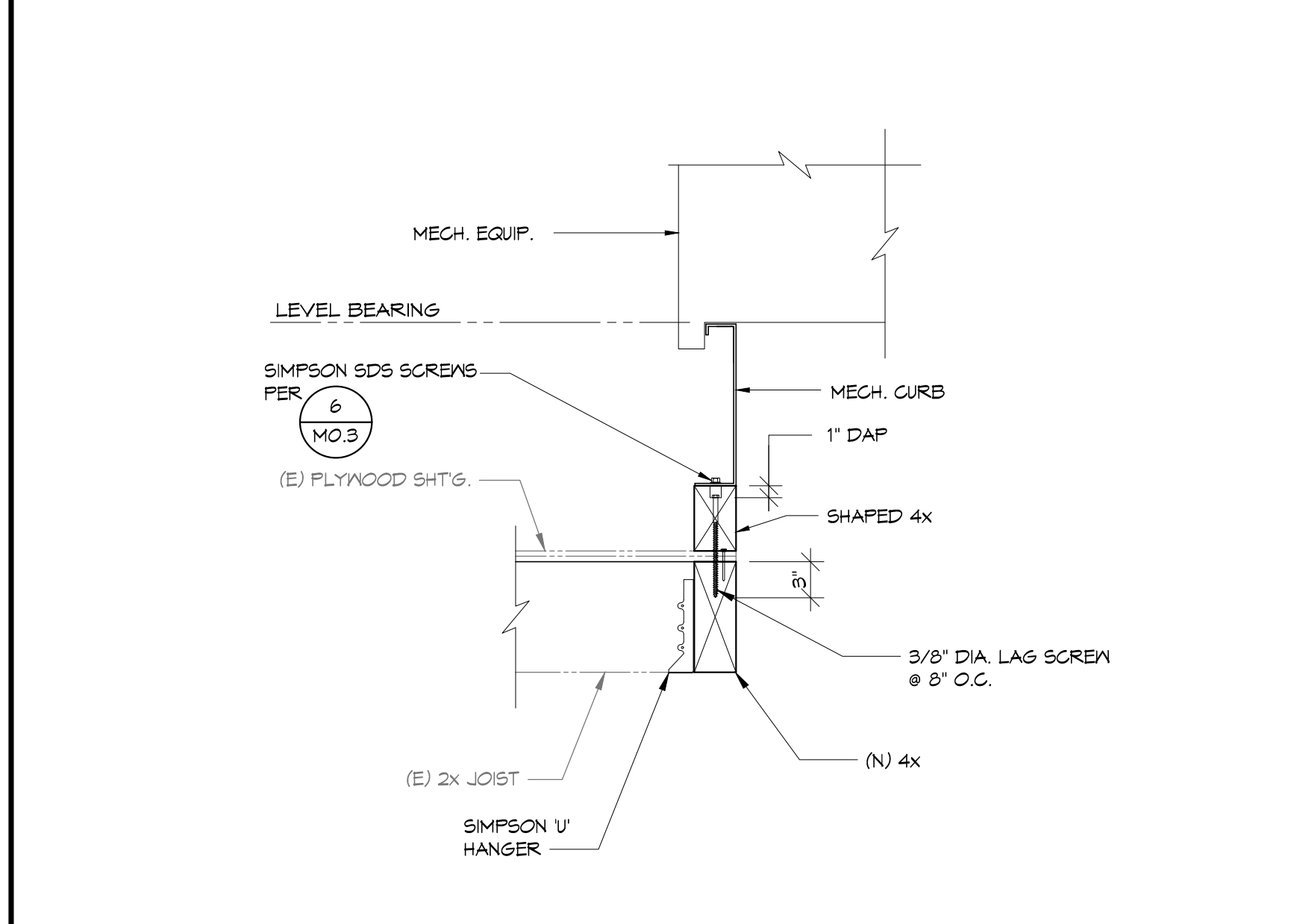
3 EQUIPMENT SUPPORT FRAMING PLAN 1/8"=1'-0"



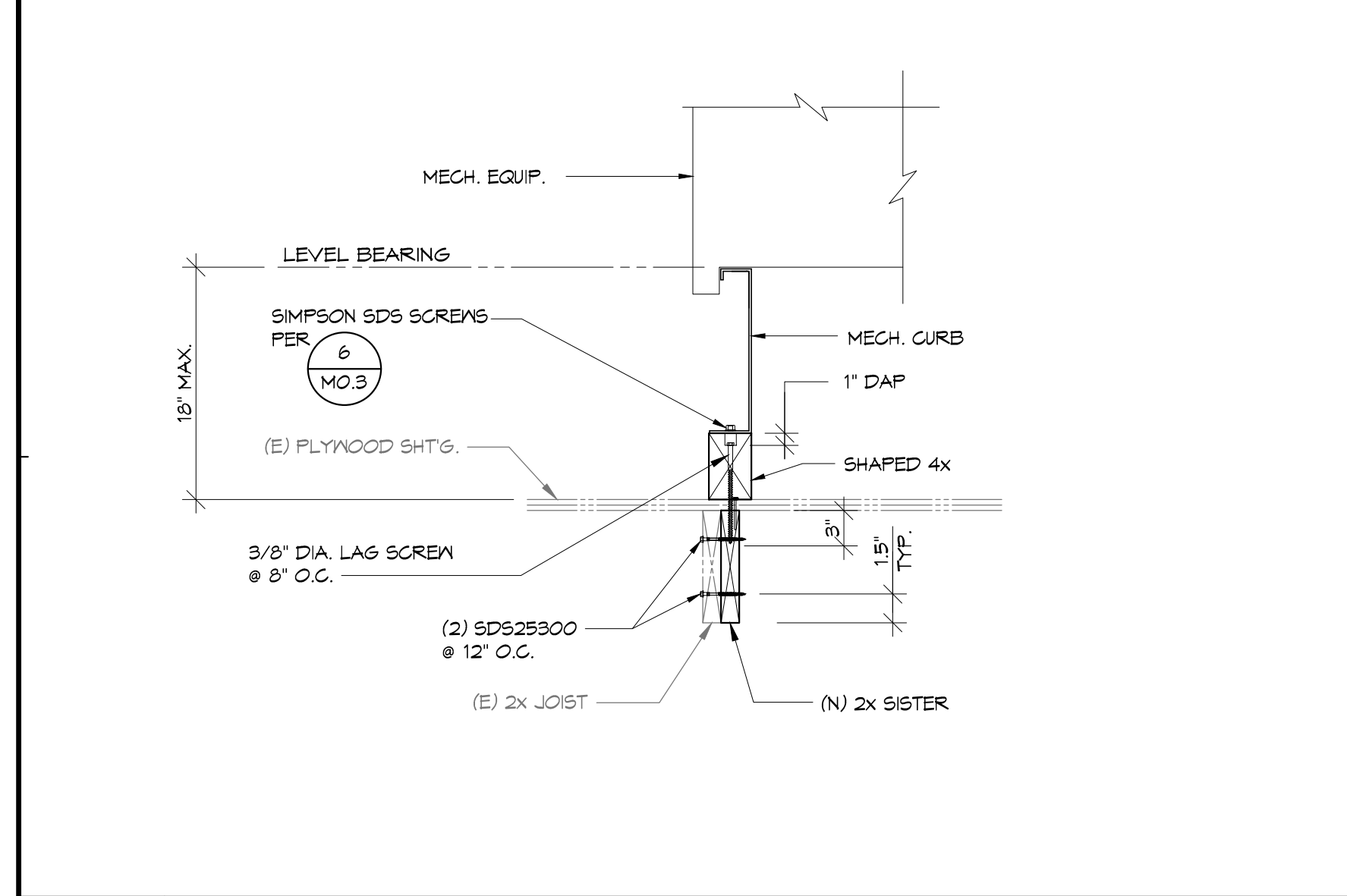
7 DETAIL 1"=1'-0"



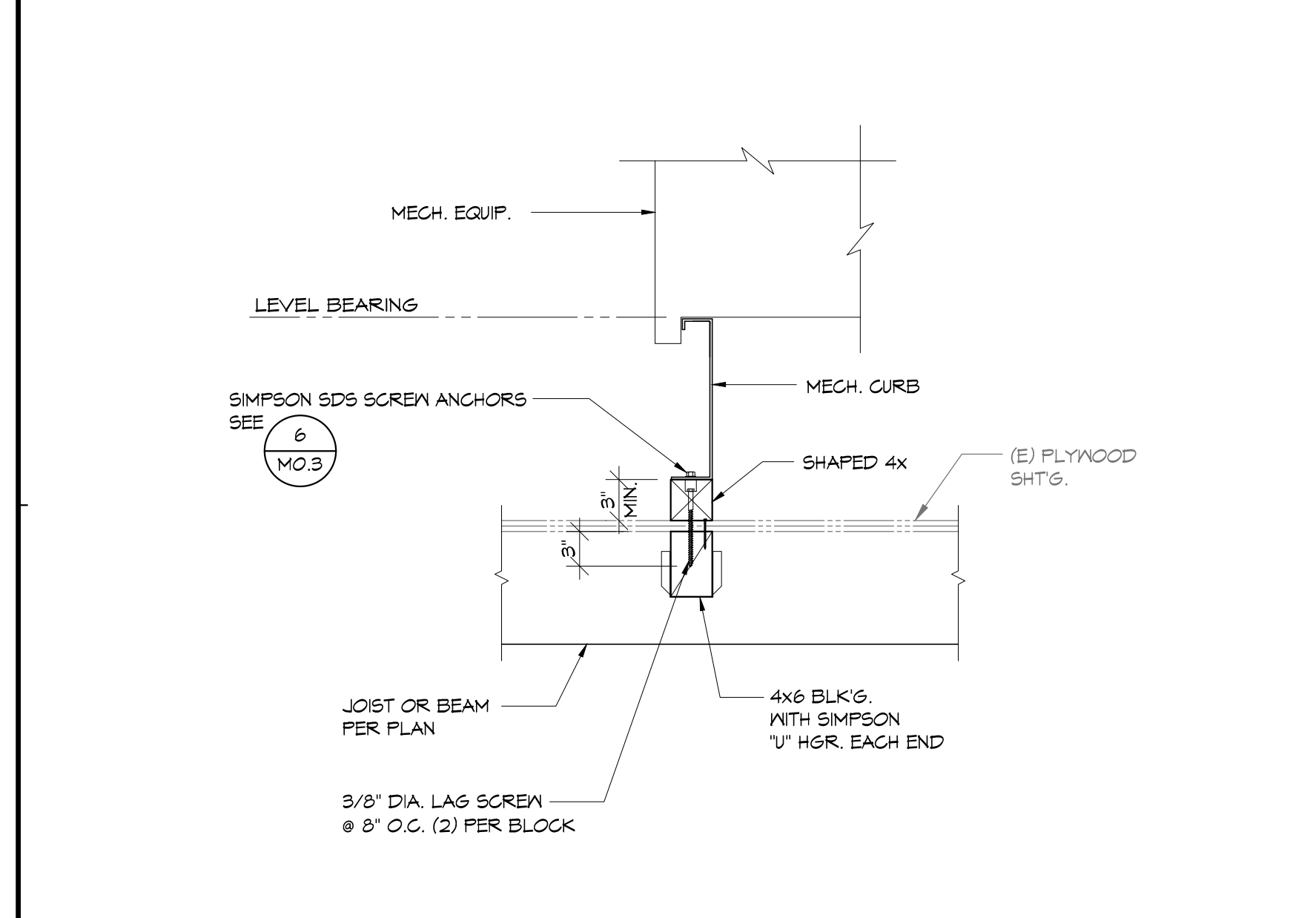
2 SECTION 1"=1'-0"



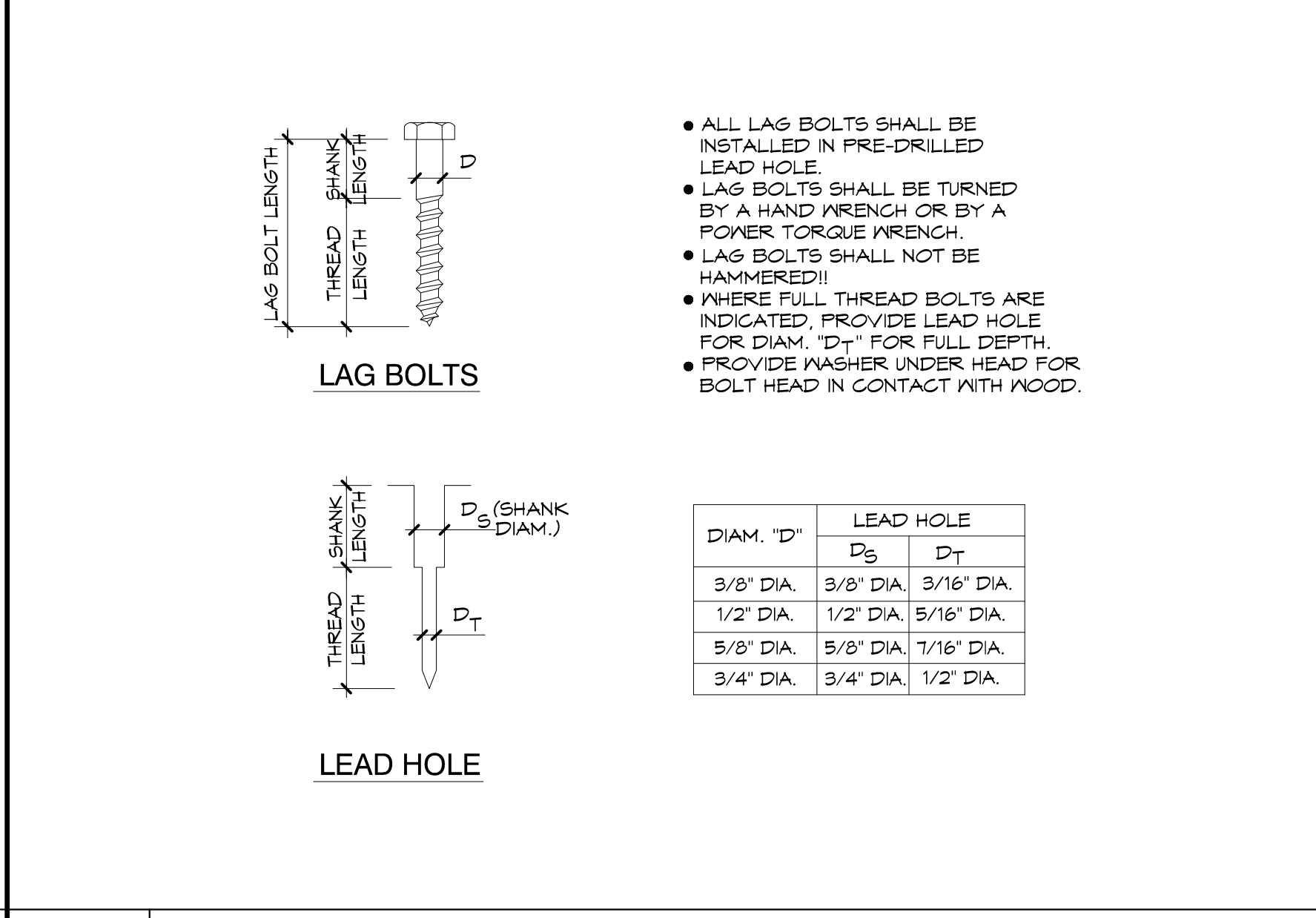
6 SECTION 1"=1'-0"



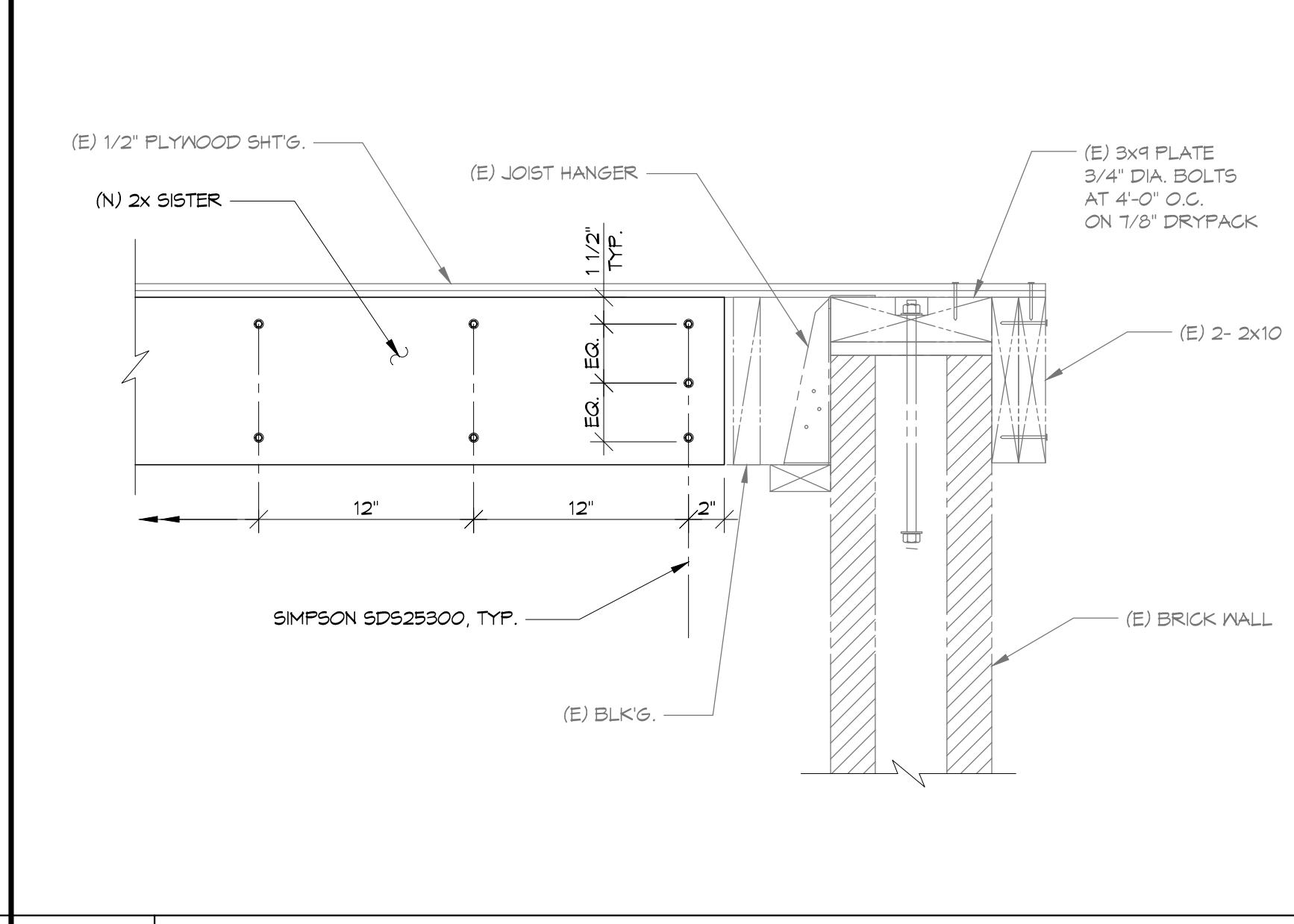
1 SECTION 1"=1'-0"



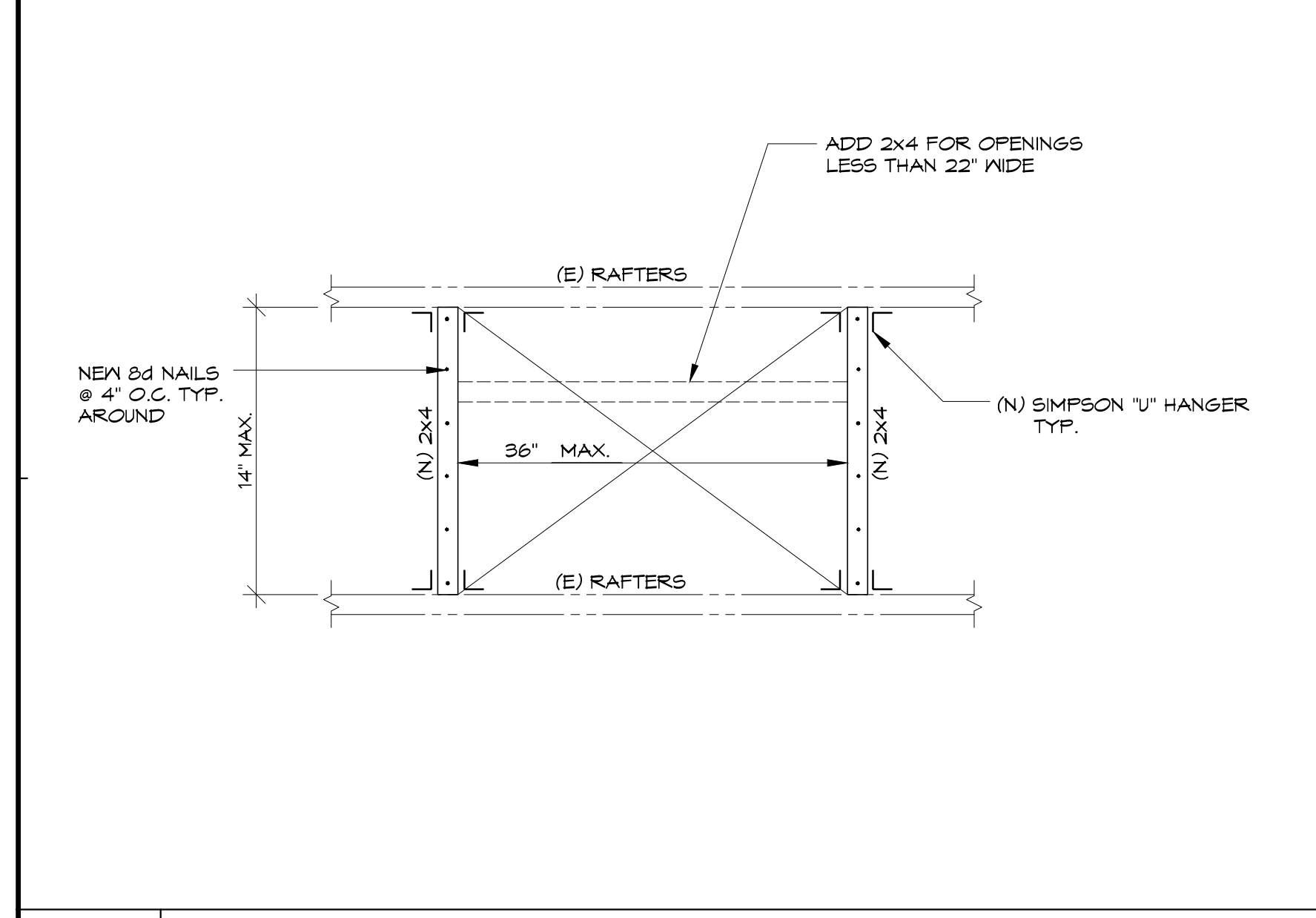
5 A/C UNIT ANCHORAGE DETAIL 1"=1'-0"



11 TYPICAL LAG BOLT INSTALLATION N.T.S.



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



9 NEW OPENING THRU (E) ROOF N.T.S.

GENERAL NOTES	
1.	CONTRACTOR SHALL VISIT JOB SITE TO VERIFY FIELD CONDITION AGAINST CONSTRUCTION PLAN AND SPECIFICATION. IDENTIFY POSSIBLE CONFLICT AND DISCREPANCY BETWEEN PLAN AND SITE CONDITION, AND BRING TO OWNER'S AND ENGINEERS ATTENTION PRIOR TO ENTER CONTRACT.
2.	SUBMISSION OF A CONTRACT SHALL BE CONSTRUCTED AS EVIDENCE THAT A CAREFUL EXAMINATION OF THE PORTION OF THE EXISTING BUILDING, EQUIPMENT, SYSTEMS, SITE CONSTRAINTS, ETC. WHICH MAY AFFECT THE ASSOCIATED WORK SCOPE UNDER THIS CONTRACT, AND THE ACCESS TO SUCH SPACES, HAVE ALL BEEN MADE AND THAT THE CONTRACTOR IS FULLY AWARE OF WITH EXISTING CONDITIONS AND DIFFICULTIES THAT WILL AFFECT THE EXECUTION OF WORK. LATER CLAIMS SHALL NOT BE MADE FOR LABOR, EQUIPMENT, OR MATERIAL REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED WHICH COULD HAVE BEEN FORESEEN DURING SUCH EXAMINATIONS.
3.	BY ENTERING CONTACT OF CONSTRUCTION, WHETHER IT IS SHOWN OR NOT SHOWN ON THIS PLAN, CONTRACTOR IS FULLY RESPONSIBLE TO COMPLETE WORK WITH MEETING ALL APPLICABLE CODES, LAWS, AND REGULATIONS GOVERNING ANY PORTION OF THE WORK SCOPE ON PLAN AND SPECIFICATIONS PRIOR TO SUBMITTING A PROPOSAL. CONTRACTOR SHALL FULLY UNDERSTAND AND COVER ALL COSTS WORK SCOPE AND MATERIALS TO MEET ALL APPLICABLE CODES, LAWS, AND REGULATIONS. ANY WORK DONE BY THE CONTRACTOR CAUSING SUCH VIOLATION SHALL BE CORRECTED BY THE CONTRACTOR.
4.	CONTRACTOR IS TO REVIEW PLANS OF OTHER DISCIPLINES AND COORDINATE WITH THE WORK OF OTHER TRADES PRIOR TO INSTALLATION TO AVOID ANY CONFLICT. NO COST SHALL BE INCURRED ON CONSTRUCTABILITY ISSUE DUE TO LACK OF COORDINATION.
5.	ALL WORK SHOWN ON PLAN ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT OF SYSTEM AND WORK. INFORMATION ON PLAN SHALL NOT BE USED TO DETERMINE EXACT LOCATION OF INSTALLATION. WHERE INSTALLATION REQUIRES EXACT MEASUREMENTS AND COORDINATION WITH WORKS OF OTHER TRADE, CONTRACTOR SHALL PREFORM ALL REQUIRED WORK AND PROVIDE SHOP DRAWINGS FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION. THE CONTRACTOR SHALL ALLOW IN HIS PRICE FOR WORK DONE WITH DEVIATIONS IN LOCATION AND METHOD TO AVOID OBSTRUCTIONS AND CONFLICT OF OTHER TRADES AND EXISTING UTILIZES OF BASE BUILDING.
6.	CONTRACTOR SHALL SUBMIT SPECIFICATIONS OF ALL THE MATERIALS AND EQUIPMENT TO BE USED ALONG WITH SHOP DRAWING WHERE REQUIRES IN SPECIFICATION FOR APPROVAL PRIOR TO ORDER.
7.	ALL NEW WORK CONNECTING TO EXISTING BASE BUILDING UTILIZES SHALL BE FULLY COORDINATED WITH REPRESENTATIVE OF OWNERSHIP TO RESULT MINIMUM INTERFERENCE TO EXISTING FACILITIES. TEMPORARY UTILITY SHUT-DOWN TO EXISTING BUILDING SERVICE SHALL BE APPROVED BY OWNERSHIP WITH WRITTEN CONSENT OF BUILDING OWNER AND SHALL INCURRED NO ADDITIONAL CHARGES. FOLLOW ALL REQUIRED CLEANING PROCEDURES AND CONNECTION REQUIREMENT PRIOR TO ESTABLISH SERVICE AFTER CONNECTION. WHERE CONTINUOUS OPERATION OF EXISTING BUILDING SERVICES ARE REQUIRED, PROVIDE WORKMANSHIP AND MATERIAL FOR ISOLATION BETWEEN BUILDING AND PROJECT SPACE, RESTORE BUILDING SERVICE IMMEDIATELY WITH MAINTAINING ORIGINAL OPERATING CONDITION.
8.	CONTRACTOR SHALL STORE ALL EQUIPMENT AND MATERIAL IN A ORGANIZED AND CLEANED SPACE AT ALL TIME TO PREVENT FROM DAMAGING AND DETERIORATION PRIOR TO INSTALLATION. CONTRACTOR SHALL KEEP ALL PART OF THE CONSTRUCTION AREA AND ASSOCIATED ACCESSES CLEAN AND FREE OF DEBRIS RESULTING FROM EXECUTION OF WORK.
9.	ALL LOCATION OF EXISTING UTILITIES ARE SHOWN BASED ON RECORD DRAWING OR INFORMATION PROVIDED BY SURVEYOR OR BASE BUILDING. CONTRACTOR IS RESPONSIBLE TO VERIFY EXACT LOCATION, SIZE, CONDITION, MATERIAL, AND INVERT AS APPLICABLE TO CONFIRM CONSTRUCTABILITY PRIOR TO INSTALL.
10.	ALL EQUIPMENT INSTALLED SHALL BE PROVIDED WITH ACCESS AND CLEARANCES MEETING CODE REQUIREMENT AND REQUIREMENTS OF FACTORY INSTALLATION GUIDELINES FOR MAINTENANCE. WHERE ACCESS SHALL BE PROVIDED FOR OPERATION, INSPECTION, TESTING, BALANCING, MAINTENANCE, OR CODE COMPLIANCE, WHETHER SHOWN ON NOT SHOWN ON ARCHITECTURAL PLAN, CONTRACTOR SHALL COORDINATE WITH GENERAL CONTRACTOR FOR PROVISION OF SUCH ACCESS.
11.	ANY INVASIVE CONSTRUCTION, SUCH AS CORE-DRILLING, CUTTING, BORING, OPENING, TO EXISTING BUILDING FLOOR OR WALL, STRUCTURAL OR NON-STRUCTURAL RELATED, SHALL BE SUBJECTED TO WRITTEN APPROVAL BY REPRESENTATIVE OR OWNERSHIP OF BASE BUILDING. WHERE REQUIRED BY OWNER, PROVIDE SHOP DRAWING WITH DETAILED MEANS AND METHODS WITH DIMENSIONAL RESULTS OF X-RAY SCANNING AS EVIDENCE TO ENSURE NO DAMAGE WILL CAUSE TO EXISTING BUILDING STRUCTURE OR UTILITY PRIOR TO PERFORM SUCH WORK. NO CONSTRUCTION SHALL BE DONE IN RESULTING OF ANY DAMAGING OR DERATING OF BUILDING STRUCTURE INTEGRITY AND UTILITY SERVICEABILITY.
12.	ANY OPENING MADE TO EXISTING BUILDING SHALL BE SUPPORTED, PATCHED, AND SEALED TO MEET ALL SPECIFICATION OF ORIGINAL CONSTRUCTION. ALL PENETRATION TO RATED ASSEMBLY SHALL BE PROTECTED BY UL LISTED FIRM AND/OR SMOKE PROTECTION ASSEMBLY TO MAINTAIN ORIGINAL ASSEMBLY FIRE AND SMOKE RATING.
13.	CONTRACTOR SHALL PROVIDE INSURANCE POLICY IN ACCORDANCE TO BUILDING OWNERS AND PROJECT OWNERS REQUIREMENTS INCLUDING A HOLD HARMLESS CAUSE FOR OWNER AND ENGINEER ON RECORD.
14.	FOR THE USE OF EQUIPMENT OR MATERIAL THAT ARE DIFFERENT FROM SCHEDULES OR SPECIFICATIONS, CONTRACTOR IS RESPONSIBLE TO PROVIDE, INCLUDING BUT NOT LIMITED TO, SPECIFICATION, CALCULATION, ENGINEERING, COST DIFFERENCE, ETC. FOR APPROVAL OF EQUAL AND OWNERS APPROVAL.
15.	ALL WORK DONE SHALL BE GUARANTEED FOR A PERIOD OF TWO YEARS FROM DATE OF ACCEPTANCE OF WORK.
16.	PRIOR TO FINAL ACCEPTANCE BY OWNER OR REPRESENTATIVE OF OWNER, CONTRACTOR IS RESPONSIBLE TO TEST, ADJUST, AND BALANCE ALL ASSOCIATED EQUIPMENT AND SYSTEM WITHIN SCOPE WITH PROVISIONS OF REPORTS WHERE REQUIRED IN SPECIFICATIONS TO DEMONSTRATE THAT ALL REQUIREMENTS OF PLANS AND SPECIFICATIONS ARE FULLY MET AND ALL APPLICABLE CODES, LAWS, AND REGULATIONS ARE FULLY COMPLIED.

HVAC GENERAL NOTES	
1.	ALL WORK SHALL BE IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL CODES, LAWS AND REGULATIONS.
2.	ALL NEW DUCT SHALL BE SUPPORTED PER THE MINIMUM REQUIREMENT OF LATEST SMACMA GUIDELINE, AND SHALL BE BRACED AND GUYED TO PREVENT LATERAL OR HORIZONTAL SWING. THE USE OF SEISMIC RESTRAINT GUIDELINES PER SMACMA IS ALSO APPLICABLE (604.2 and 604.5). FASTEN ALL DUCT WORK JOINTS AND SEAMS WITH SHEET METAL SCREW AND CAULK AIR TIGHT TO AVOID AIR STREAK.
3.	CONTRACTOR IS DIRECTED TO VISIT SITE AND BE FULLY COGNIZANT OF ALL CONDITIONS PRIOR TO PROPOSAL. VERIFY EXACT LOCATION, ELEVATIONS, SIZES AND CONDITIONS OF EXISTING UTILITIES, DUCTS AND PIPING ASSOCIATED WITH THE PROJECT ANY EXTRA EXPENSE DUE TO FAILURE TO MAKE SUCH EXAMINATION. SHALL NOT BE MADE. WHERE CHANGES IN THE EXISTING WORK ARE NECESSARY TO PERMIT THE INSTALLATION OF NEW WORK, THEY SHALL BE MADE AT NO ADDITIONAL COST TO THE OWNER.
4.	CONTRACTOR SHALL OBTAIN AND PAY FOR ALL REQUIRED UTILITY SERVICES, INSPECTIONS AND PERMITS.
5.	ALL MECHANICAL WORK SHALL BE CONCEALED, UNLESS OTHERWISE NOTED.
6.	CLEAN THE PREMISES ON A DAILY BASIS TO LEAVE WORK AREA IN AN UNCLUTTERED CONDITION.
7.	INSTALL THE ENTIRE MECHANICAL SYSTEM TO ELIMINATE ANY OBJECTIONABLE VIBRATION AND NOISE.
8.	NOTIFY OWNER'S REPRESENTATIVE IMMEDIATELY IF A DISCREPANCY BETWEEN THE DRAWING AND THE ACTUAL SITE CONDITION OCCURS. STOP THE WORK THAT IS AFFECTED AND OBTAIN INSTRUCTION FROM THE OWNER'S REPRESENTATIVE BEFORE THE WORK CAN BE RESTARTED.
9.	THE DRAWING INDICATES THE GENERAL ARRANGEMENT AND LOCATION OF PIPING, DUCTWORK, AND EQUIPMENT. MAKE DEVIATIONS SUCH AS OFFSETS IN DUCTS AND PIPES THAT ARE NECESSARY TO MEET SITE CONDITIONS AND TO COORDINATE WORK WITH OTHER TRADES. ALL DEVIATIONS TO THE CONTRACT DOCUMENT, WHETHER SHOWN OR NOT, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE MADE AT NO EXTRA EXPENSE TO THE OWNER.
10.	OBTAIN AND FOLLOW MANUFACTURER'S DIRECTIONS WHEN INSTALLING NEW EQUIPMENT. SUBMIT OPERATING AND MAINTENANCE MANUALS.
11.	COORDINATE ALL CUTTING AND PATCHING WITH GENERAL CONTRACTOR, INDIVIDUAL SUB-CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING TO THEIR WORK.
12.	COORDINATE ALL WORK WITH ARCHITECTURAL, ELECTRICAL AND STRUCTURAL, AND PLUMBING DRAWINGS, INSTALL ALL WORK TO CLEAR NEW AND EXISTING ARCHITECTURAL AND STRUCTURAL MEMBERS.
13.	FURNISH AND INSTALL COMPLETE ALL MATERIALS, EQUIPMENT AND LABOR AS SHOWN AND AS NECESSARY FOR COMPLETE WORKABLE SYSTEM.
14.	CONTRACTOR SHALL GUARANTEE THAT THE WORK DONE UNDER THIS SPECIFICATION WILL BE FREE FROM FAULTY MATERIALS OR WORKMANSHIP AND HEREBY AGREES, UPON RECEIVING NOTIFICATION FROM THE OWNER, AND TO ITS ENTIRE SATISFACTION. ALL DEFECTS, DAMAGES OR IMPERFECTIONS APPEARING IN SAID WORK WITHIN A PERIOD OF ONE (1) YEAR FROM DATE OF FILING NOTICE OF COMPLETIONS.
15.	ALL SUPPLY AIR DUCTWORK WITHIN UN-CONDITIONAL SPACE SHALL BE EXTERNALLY OR INTERNALLY INSULATED WITH MINIMUM R-8 INSULATION.
16.	RESTORE ALL DAMAGE AND LEAVE PREMISES IN CLEAN CONDITION WHEN FINISHED WITH WORK.
17.	PROVIDE TO THE OWNER TWO SETS OF AS-BUILT DRAWINGS AND TWO BOUND SETS OF ALL OPERATING MANUALS, DIAGRAMS SERVICE CONTRACTS, GUARANTEES, ETC.
18.	TEST AND BALANCE ALL EQUIPMENT AND DEVICES TO PERFORM AND DELIVER SPECIFIED QUANTITIES ON THE DRAWING. AIR BALANCING SHALL BE PERFORMED BY 3RD PARTY. SUBMIT 4 SET OF AIR BALANCE REPORT TO THE ENGINEER PRIOR FINAL.
19.	PROVIDE TO THE OWNER TWO SETS OF AS-BUILT DRAWINGS AND TWO BOUND SETS OF ALL OPERATING MANUALS, DIAGRAMS SERVICE CONTRACTS, GUARANTEES, ETC.
20.	TEST AND BALANCE ALL EQUIPMENT AND DEVICES TO PERFORM AND DELIVER SPECIFIED QUANTITIES ON THE DRAWING. AIR BALANCING SHALL BE PERFORMED BY 3RD PARTY. SUBMIT 4 SET OF AIR BALANCE REPORT TO THE ENGINEER PRIOR FINAL.
21.	THE MATERIAL OF THE DUCTS SHALL BE AS FOLLOWING: a) RECTANGULAR DUCTS AND ANY EXPOSED DUCTS : GALVANIZED SHEET METAL WITH GAUGE PER LATEST SMACNA STANDARD. b) ROUND DUCTS IN CEILING SPACE : GALVANIZED SHEET METAL WITH GAUGE PER LATEST SMACNA STANDARDS. CLASS 1 FLEXIBLE DUCT SHALL BE USED NOT MORE THAN 5 FT. FROM THE AIR IN/OUTLET. c) BATHROOM & KITCHEN EXHAUST DUCTS AND DRYER VENTS : GALVANIZED SHEET METAL INSTALL IN ACCORDANCE WITH METHODS AND STANDARDS OF ASHRAE AND SMACNA FOR LOW PRESSURE CONSTRUCTION.
22.	ALL ELECTRICAL MATERIALS AND EQUIPMENT SHALL BE LISTED BY UNDERWRITERS LABORATORIES.
23.	DUCTWORK SHALL BE SUPPORTED PER SMACNA STANDARDS.
24.	SHEET METAL DUCTWORKS SHALL BE CONSTRUCTED PER SMACNA STANDARDS.
25.	SEAL ALL TRANSVERSE JOINTS OF AIR DUCTS WITH DUCT SEALANT PER SMACNA STANDARD.
26.	SUPPLY AND RETURN AIR DUCTS AND PLENUMS OF A HEATING OR COOLING SYSTEM SHALL BE INSULATED TO ACHIEVE THE MINIMUM THERMAL (R) VALUE AS SET FORTH IN 2019 CMC TABLE E 503.7.2(2) AND 503.7.3(1). APPROVED MATERIALS SHALL BE INSTALLED ON DUCTS AND PLENUMS FOR INSULATING, SOUND DEADENING, OR OTHER PURPOSES. MATERIALS SHALL HAVE A MOLD, HUMIDITY, AND EROSION-RESISTANT SURFACE THAT MEETS THE REQUIREMENTS OF THE REFERENCED STANDARD FOR AIR DUCTS IN CHAPTER 17. INSULATION APPLIED TO THE SURFACE OF DUCTS, INCLUDING DUCT COVERINGS, LININGS, TAPES, AND ADHESIVES. LOCATED IN BUILDINGS SHALL HAVE A FLAME-SPREAD INDEX NOT GREATER THAN TWENTY-FIVE (25) AND A SMOKE DEVELOPED INDEX NOT GREATER THAN FIFTY (50), WHEN TESTED AS A COMPOSITE INSTALLATION.
27.	RECTANGULAR DUCT AND PLENUMS SHALL BE FABRICATED OF GALVANIZED STEEL. INSULATE PLENUMS AND RECTANGULAR DUCTING AS INDICATED. DUCT SHALL HAVE THE MINIMUM GAUGE PER SMACNA. FOR PRODUCT CONVEY DUCT, MINIMUM GAUGE OF SHEET METAL SHALL MEET REQUIREMENTS LISTED ON 2019 CMC TABLE 506.2(1) AND TABLE 506.2(2).
28.	CONTRACTOR SHALL COORDINATE WITH ARCHITECT BEFORE PURCHASING DIFFUSERS AND REGISTERS FOR APPROPRIATE SIZE, TYPE, FINISH, AND INSTALLATION LOCATION.
29.	FLEXIBLE DUCTS MAY BE USED IN BETWEEN JOISTS AND AT CONNECTION TO DIFFUSERS WITHIN A MAXIMUM 5 FEET LENGTH. FLEXIBLE DUCT SHALL BE LISTED AND LABELED UMC 10-1 (UL181).
30.	VERIFY THERMOSTAT/SWITCH LOCATIONS W/ARCHITECT PRIOR TO INSTALLATION.
31.	MECHANICAL CONTRACTOR SHALL PROVIDE ALL APPURTENANCES WHICH SHALL INCLUDE BUT NOT LIMITED TO WIRING IN CONDUIT AS REQUIRED BY CODE, CONTROL DEVICES, DAMPER, ACTUATORS, MOTORS, LINKAGES, CONTROLLERS, RELAYS, CONTRACTORS, REDUCED VOLTAGE TRANSFORMERS, PNEUMATIC TUBES, PNEUMATIC CONTROL VALVES, ETC. AS REQUIRED TO AUTOMATICALLY PERFORMED ALL FUNCTIONS.
32.	DUCT TESTING AND SEALING SHALL BE PERFORMED BY HERS RATER AND THE CERTIFICATE & FORMS SHALL BE SUBMITTED TO THE CITY.
33.	PROVIDE ACCESS PANELS FOR ALL FIRE DAMPERS, FIRE/SMOKE DAMPERS AND ACCESS FOR SHUT-OFF AND CONTROL VALVES. COORDINATE ALL CEILING AND WALL ACCESS WITH GENERAL CONTRACTOR.
34.	FIRE DAMPER AND FIRE/SMOKE COMBINATION DAMPERS SHALL BE LABELED BY AN APPROVED TESTING AND LISTING AGENCY.

DRAWING INDEX	
M-0.1	MECHANICAL GENERAL NOTES AND INFORMATION
M-0.2	MECHANICAL EQUIPMENT SCHEDULES
M-0.3	MECHANICAL DETAILS
M-0.4	MECHANICAL PRESCRIPTIVE TITLE 24 COMPLIANCE
M-0.5	MECHANICAL PRESCRIPTIVE TITLE 24 COMPLIANCE
M-1.0	PARTIAL GROUND FLOOR MECHANICAL REFLECTED CEILING PLANS
M-2.0	PARTIAL ROOF MECHANICAL PLANS
APPLICABLE CODE	
2019 CALIFORNIA BUILDING CODE 2019 CALIFORNIA MECHANICAL CODE 2019 CALIFORNIA PLUMBING CODE 2019 CALIFORNIA ENERGY CODE 2019 CALIFORNIA FIRE CODE 2019 NFPA 13 ALL AMENDMENTS AND SUPPLEMENTS TO ABOVE CODES ALL CITY OF LA PUENTE ORDINANCES AND AMENDMENTS TO ABOVE CODES	
SCOPE OF WORK	
<ul style="list-style-type: none"> DEMOLISH AND REMOVE EXISTING DUCTWORK PER PLAN AND ALL OTHER REQUIRED COMPONENTS. FURNISH AND INSTALL NEW PACKAGED ROOFTOP HEAT PUMP UNITS WITH ALL ASSOCIATED COMPONENTS PER PLAN FOR PROPER SYSTEM FUNCTIONALITIES. FURNISH AND INSTALL EXHAUST FAN SYSTEM WITH ALL ASSOCIATED COMPONENTS PER PLAN FOR PROPER SYSTEM FUNCTIONALITIES. PROVIDE MATERIAL AND LABOR FOR HAVC SYSTEM BALANCING, TESTING, AND SCHEDULING. 	

LEGENDS, SYMBOLS AND ABBREVIATIONS			
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	EQUIPMENT TYPE		RECTANGULAR DUCT SECTION/UP (OR PENETRATION THROUGH FLOOR/ROOF).
	EQUIPMENT NUMBER		EXHAUST
	DETAIL DRAWING NUMBER		RETURN
	DETAIL DRAWING PAGE		CEILING EXHAUST REGISTER
			CEILING RETURN REGISTER
			CEILING SUPPLY DIFFUSER WITH FLEXIBLE DUCT AND AIRFLOW PATTERN
			SIDEWALL EXHAUST OR RETURN REGISTER
			LINEAR SLOT DIFFUSER
			RECTANGULAR DUCT WITH NET INSIDE DIMENSIONS SHOWN IN INCHES. ARROW INDICATES FLOW DIRECTION.
			ROUND DUCT WITH NET INSIDE DIMENSION SHOWN
			SQUARE ELBOW W/ TURNING VANES
			R/D = 1.5, 90° / 45° RADIUS ELBOW
			RECT. DUCT TAP ON RECTANGULAR DUCT
			ROUND DUCT WITH 45° TAKE-OFF
			CONCENTRIC / ECCENTRIC DUCT REDUCER RECTANGULAR TO RECTANGULAR, ROUND TO ROUND OR DUCT TO FILTER HOUSING TRANSFORMATION. MAX. 15° INCLUDED ANGLE EXCEPT WHERE SHOWN OTHERWISE.
			RECTANGULAR TO ROUND DUCT TRANSFORMATION MANUAL SINGLE BLADE OR MULTIPLE BLADE VOLUME DAMPER
			FIRE/SMOKE DAMPER W/ DUCT ACCESS PANEL FLEXIBLE CONNECTION IN DUCT
ABBR.	DESCRIPTION	ABBR.	DESCRIPTION
AFF	ABOVE FINISHED FLOOR	ICS	IN CEILING SPACE
B.G.	BELOW GRADE	INS	INSULATION (THERMAL)
BLDG	BUILDING	MA	MAKE-UP AIR
BSMT	BASEMENT	NIC	NOT IN CONTRACT
CFF	CAP FOR FUTURE	OSA	OUTSIDE AIR (FRESH AIR)
CLG	CEILING	POC	POINT OF CONNECTION
CSD	CEILING SUPPLY DIFFUSER	RA	RETURN AIR
EA	EXHAUST AIR	SA	SUPPLY AIR
DN	DOWN	SAD	SEE ARCHITECTURAL DRAWING
FA	FRESH AIR	SOV	SHUT-OFF VALVE
FL	FLOOR	SRR	SIDEWALL RETURN REGISTER
FR	FROM	UTR	UP THROUGH ROOF
FR	FROM	U.G.	UNDERGROUND/BELOW GRADE
GE	GREASE EXHAUST	VTF	VENT THROUGH ROOF
KEA	KITCHEN EXHAUST AIR		
SYMBOL	ABBREV.	DESCRIPTION	
	--	DIGITAL PROGRAMMABLE THERMOSTAT	
	CSD	CEILING SUPPLY DIFFUSER W/ MANUAL VOLUME DAMPER	
	CRR	CEILING RETURN REGISTER W/ MANUAL VOLUME DAMPER	
	CRR	CEILING EXHAUST GRILLE W/ MANUAL VOLUME DAMPER	
	MVD/OBD	MANUAL VOLUME / OPPOSED-BLADE BALANCING DAMPER	
	UP	DUCT UP WITH SMOOTH 90° ELBOW	
	DN	DUCT DOWN WITH SMOOTH 90° ELBOW	
	AP	ACCESS PANEL	
	DSD	DUCT SMOKE DETECTOR	
	FD	FIRE SMOKE DAMPER	
	POC	POINT OF CONNECTION	
	POD	POINT OF DISCONNECT	
	FSD	FIRE AND SMOKE DAMPER COMBO	

DSA APPLICATION: # 03-121842

IDENTIFICATION STAMP OF THE STATE ARCHITECT
APP: 03-121842 INC:
REVIEWED FOR:
DATE: 02/17/2022

ARCHITECT: **CO-AR DESIGN, INC.**
680 Brea Canyon Road, Suite 178
Diamond Bar, California 91789
Office: 909-598-0186
Dennis J. Lee, NCARB dennis@coar-design.com

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CTE ROBOTICS CLASSROOM UPGRADE - NOGALES HIGH SCHOOL
401 NOGALES STREET LA PUENTE CA 91744
CLIENT:

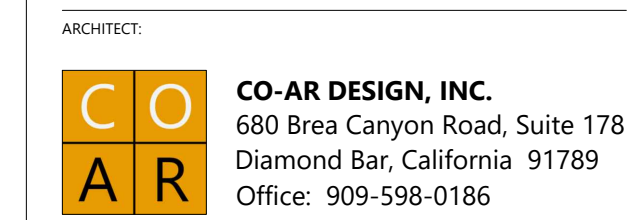
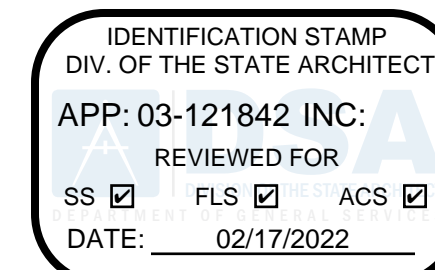
PROJECT: ROWLAND UNIFIED SCHOOL DISTRICT
1830 NOGALES STREET
ROWLAND HEIGHTS, CA 91748

SUBMITTALS REVISIONS:
PERMIT REVIEW SET 04/09/2021
PERMIT SET 08/18/2021

PROJECT NO: 20073
SCALE: AS SHOWN
DATE: 9/23/2021
DRAWN BY: SL
CHECKED BY: JP
SHEET TITLE: **MECHANICAL GENERAL NOTES**
SHEET NO: **M-0.1**

MECHANICAL EQUIPMENT SCHEDULE

DSA APPLICATION: # 03-121842



Dennis J. Lee, NCARB dennis@coar.design

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PACKAGED ROOFTOP AC UNIT SCHEDULE																											
EQMT. TAG	AREA SERVED	MANUFACTURE / MODEL NO.	COOLING PERFORMANCE					HEATING PERFORMANCE					SUPPLY FAN DATA						ELECTRICAL DATA					TOTAL WEIGHT	REMARKS		
			NOMINAL COOLING TONNAGE	TOTAL SENSIBLE (MBTUH)	EER/IEER /SEER	NO. OF COMPRESSOR	COOLING STAGE	TOTAL INPUT/OUTPUT CAPACITY(MBTUH)	COP (HSPF) /AFUE(%)	MIN. HEATING STAGE	HEATING STAGE (%)	OPERATING AIRFLOW (CFM)	MIN. % OF OSA	E.S.P. (IN W.G.)	MOTOR RATED HP	MOTOR BHP	FAN SPEED (RPM)	FAN DRIVE TYPE	VOLT	PHASE /HZ	MCA	DISC. FLA	MOCP			ELECTRIC HEATER (KW)	FILTER DATA (QUANTITY/ SIZE)
(E)RTU-01	OPEN LAB AREA	CARRIER / 48GCLM06A2M6-0A0A0	5.0	48.32	~ / ~ /16.1	1	1	60	(81)	1	N/A	1,990	655	1.0	EXISTING	1.20	1,075	DIRECT	460	3/60	13	EXISTING	15	N/A	EXISTING	617	⑦⑧⑩
RTU-02	ROBOTICS CLASSROOM AREA	CARRIER / 48GCGM06A3A5-0A0A0	5.0	48.32	~ / ~ /16.1	1	2	60.0/49.0	81%	2	--	2,000	700	1.0	2.4	1.37	2,337	DIRECT	208	3/60	29	28	40	N/A	4 / 16x16X2	782*	①②③④⑤⑥

REMARKS:

① PROVIDE AND INSTALL THE FOLLOWING MANUFACTURER INSTALLED OPTIONS AND FIELD INSTALLED ACCESSORIES:
a. TWO STAGE COOLING COMPRESSORS AND ULTRA LOW NOx FURNACE.
b. FACTORY DIRECT FAN MOTOR WITH MOTORIZED DAMPER DOWNFLOW CONFIGURATION.
c. TITLE 24 COMPLIANT ECONOMIZER WITH FDD AND BAROMETRIC RELIEF DAMPER.
d. PROVIDE UNIT WITH FACTORY WITH WEATHER HOOD, 2-INCH MERV-13 DISPOSABLE RETURN AND OUTSIDE AIR FILTERS, AND DRAIN PAN.
② PROVIDE AND INSTALL FACTORY RECOMMENDING ROOF CURB WITH KNOCK-DOWN.
③ COORDINATE WITH PLUMBING CONTRACTOR FOR INSTALLATION OF 3/4" CONDENSATE DRAIN TO UNIT WITH VENT AND TRAP.
④ UNIT SHALL BE PROGRAMMED TO OPERATE 2 HOURS BEFORE BUSINESS HOUR FOR PRE-HEAT/PRE-COOL SPACE FOR OPTIMUM SPACE TEMPERATURE CONTROL. CONFIRM WITH OWNER FOR BUSINESS HOURS.
⑤ FAN OF UNIT SHALL BE SHUT-DOWN BY FACP UPON DETECTION OF FIRE OR SMOKE BY AREA SMOKE DETECTOR SERVING THE SAME PROJECT AREA. SEE ELECTRICAL PLAN FOR DETAILS.

⑥ PROVIDE (N) 24/7 PROGRAMMABLE THERMOSTAT AND INSTALL WITH VENTILATED CLEAR PLASTIC LOCK BOX.
⑦ RE-BALANCE SUPPLY FAN AND MINIMUM OUTSIDE AIR DAMPER POSITION FOR NEW OUTSIDE AIR FLOW RATE PER PLAN. OUTSIDE AIR DAMPER SHALL BE TURNED TO MINIMUM POSITION WHEN UNIT IS CALLED FOR HEATING.
⑧ PROVIDE COMPLETELY HEATING AND COOLING FUNCTIONAL TESTS PRIOR TO CONSTRUCTION. FUNCTIONAL TESTS SHALL ALSO INCLUDE HEATING AND COOLING PERFORMANCE TESTS, CONTROL OF DAMPER, ECONOMIZER, CONDENSATE AND DRAIN PAN DRAINAGE, AND DUCT SMOKE DETECTOR AT DISCHARGE. REPORT DEFICIENCY OF UNIT AND ASSOCIATED EQUIPMENT TO ENGINEER AND/OR ARCHITECT.
⑨ RELOCATED (E) 24/7 PROGRAMMABLE THERMOSTAT AS SHOWN ON PLAN. SET HEATING AND COOLING SETPOINTS WITH MINIMUM 6°F (ADJUSTABLE) DEADBAND.
⑩ FAN OF EXISTING UNIT SHALL BE SHUT-DOWN BY FACP UPON DETECTION OF FIRE OR SMOKE BY AREA SMOKE DETECTOR SERVING THE SAME PROJECT AREA. SEE ELECTRICAL PLAN FOR DETAILS.
* WEIGHT INCLUDES ALL SELECTED FACTORY OPTION AND ROOF CURB.

INSULATION SCHEDULE					
ITEM	LOCATION	INSULATION TYPE	MIN. R-VALUE	MIN. THICKNESS	REMARK
SUPPLY AIR DUCT/PLENUM	EXTERIOR AND UNCONDITIONAL SPACE	FIBERGLASS	R-8	3"	①②
RETURN AIR DUCT/PLENUM	EXTERIOR AND UNCONDITIONAL SPACE	FIBERGLASS	R-8	3"	①②
SUPPLY AIR DUCT/PLENUM	INDIRECT CONDITIONAL SPACE	FIBERGLASS	R-4.2	1.5"	①②
INTERNAL ACOUSTICAL LINING IN SUPPLY DUCT/PLENUM	ALL	ACOUSTIC FOAM	R-4.2	1"	①②
CONDENSATE WATER PIPE	INDOOR	FIBERGLASS	R-3	0.5"	①

REMARKS:
① ALL INSULATION OR ACCOUSTICAL LINING SHALL HAVE SMOKE SPREAD INDEX LESS THAN 50 AND FLAME SPREAD INDEX LESS THAN 25.
② ALL EXTERIOR DUCTWORK AND PLENUMS SHALL BE EXTERNALLY INSULATED WITH WEATHERPROOFED OUTDOOR INSULATION.

MIN. OSA VENTILATION CALCULATIONS*									
OCCUPANCY CLASSIFICATIONS	OCCUPANT DENSITY (PPL/1000 FT ²)	AREA (A _Z -FT ²)	NO. OF OCC. (PZ)	PPL OSA RATE (R _Z -CFM/PPL)	AREA OSA RATE (R _A -CFM/FT ²)	MIN. REQ'D OSA (V _{oz} -CFM)	DISTRIBUTION EFFECTIVENESS (E _Z)	FINAL REQ'D OSA RATE (E _{oz} -CFM)	PROVIDE OSA (CFM)
CLASSROOM	35	2,850	99.75	10	0.12	1,340	1.0	1,340	1,340
OFFICE	5	95	1	5	0.06	10.7	1.0	10.7	15

* MIN. OSA VENTILATION IS CALCULATED BASED ON 2019 CMC.
A. SECTION 403.2.1 : V_{oz} = P_Z x P_Z + R_A x A_Z
B. SECTION 403.2.3 : V_{oz} = V_{oz}/E_Z
C. TABLE 402.1 AND TABLE 403.2.2

EXHAUST FAN SCHEDULE																	
TAG	MAKE/MODEL	CFM		ESP	FRPM	ELECTRICAL DATA					EQUIPMENT SERVING	UL LISTING	FAN DISCHARGE CONFIG.	DIRECTION OF FAN ROTATION	WEIGHT (LBS)	REMARK	
		MIN	MAX			VOLTS	Ø	BHP	ENCL.	FLA							HP /WATT
EF-01	PANASONIC/ FV-11VQ3	N/A	110	0.5	979	115	1	--	--	0.26	3/4"	RESTROOM/JANITOR	UL705	N/A	N/A	14	①②③④

REMARK:
① PROVIDE EQUIPMENT AS SCHEDULED OR APPROVE EQUAL.
② INSTALL EXHAUST FAN TO MAINTAIN ACCESS AND MAINTENANCE CLEARANCES PER MANUFACTURE'S REQUIREMENT.
③ EXHAUST FAN SHALL BE EQUIPPED WITH BACK-DRAFT DAMPER.
④ EXHAUST FAN SHALL BE CONTROLLED BY LIGHT SWITCH WITH ADJUSTABLE TIMER DELAY-OFF CONTROL.

DIFFUSER AND GRILLE SCHEDULE						
TAG	LOCATION	TYPE TYPE	BRAND / MODEL	MODULE SIZE	NECK SIZE	REMARK
A	SEE PLAN	CEILING SUPPLY DIFFUSER	TITUS / PCS	24X24	SEE PLAN	①②③④
B	SEE PLAN	CEILING RETURN REGISTER	TITUS / PAR	24X24	SEE PLAN	①②③④
C	SEE PLAN	SIDEWALL /CEILING SUPPLY GRILLE	TITUS / 300FL	SEE PLAN	SEE PLAN	①②③④
D	SEE PLAN	SIDEWALL RETURN GRILLE	TITUS / 350FL	SEE PLAN	SEE PLAN	①③④

REMARKS:
① ORDER DIFFUSERS / GRILLES WITH BORDER TYPE FOR SURFACE MOUNT.
② PROVIDE AND FIELD INSTALL MATCH NECK SIZE TAB BOX ON TOP OF DIFFUSER WHERE CEILING SPACE IS LIMITED FOR DUCT CONNECTION.
③ PROVIDE FACTORY OPPOSED-BLADES DAMPER FOR BALANCING WHERE ACCESS OF MANUAL DAMPER CANNOT BE OBTAINED.
④ ORDER DIFFUSER WITH COLOR TO MATCH CEILING FINISHES. CONFIRM WITH ARCHITECT PRIOR TO ORDER.

Unit Report For RTU 1

Project: JHP - Nogales HS
Prepared By: Bruno Hoang
09/28/2021
09:07AM

Unit Parameters
Unit Model: 48GCGM06A3A5-0A0A0
Unit Size: 06 (5 Tons)
Volts-Phase-Hertz: 208-3-60
Heating Type: Gas
Duct Cfg: Vertical Supply / Vertical Return
Ultra Low Nox, Low Heat
Two Stage Cooling Models

Dimensions (ft. in.) & Weight (lb.)***
Unit Length: 6' 2.375"
Unit Width: 3' 10.625"
Unit Height: 3' 5.375"
*** Total Operating Weight: 635 lb

*** Weights and Dimensions are approximate. Weight does not include unit packaging. Approximate dimensions are provided primarily for shipping purposes. For exact dimensions and weights, refer to appropriate product data catalog.

Lines and Filters
Gas Line Size: 1/2"
Condensate Drain Line Size: 3/4"
Return Air Filter Type: Throwaway
Return Air Filter Quantity: 4
Return Air Filter Size: 16 x 16 x 2

Unit Configuration
Direct Drive - EcoBlue - High Static
AI/Cu - AI/Cu
Base controls set up for field installed air management devices
Standard Packaging

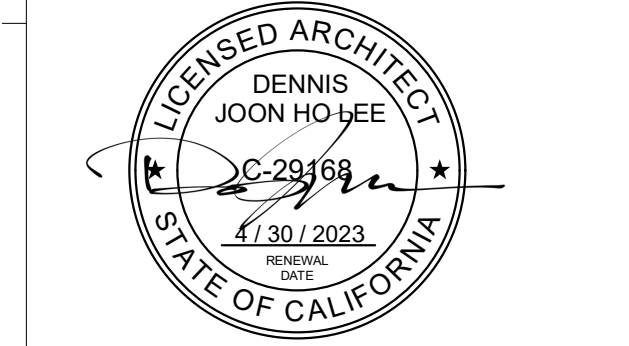
Warranty Information
1-Year parts(std.)
5-Year compressor parts(std.)
No optional warranties were selected.

NOTE: Please see Warranty Catalog 500-089 for explanation of policies and ordering methods.

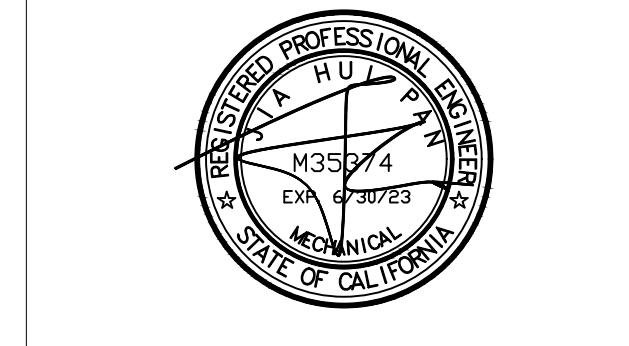
Ordering Information

Part Number	Description	Quantity
48GCGM06A3A5-0A0A0	Rooftop Unit	1
Accessories		
16X16X2-M13-R-F4	16x16x2 MERV-13 replacement air filters	1

Packaged Rooftop Builder 1.60 Page 4 of 18



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PROJECT:
CTE ROBOTICS CLASSROOM UPGRADE - NOGALES HIGH SCHOOL

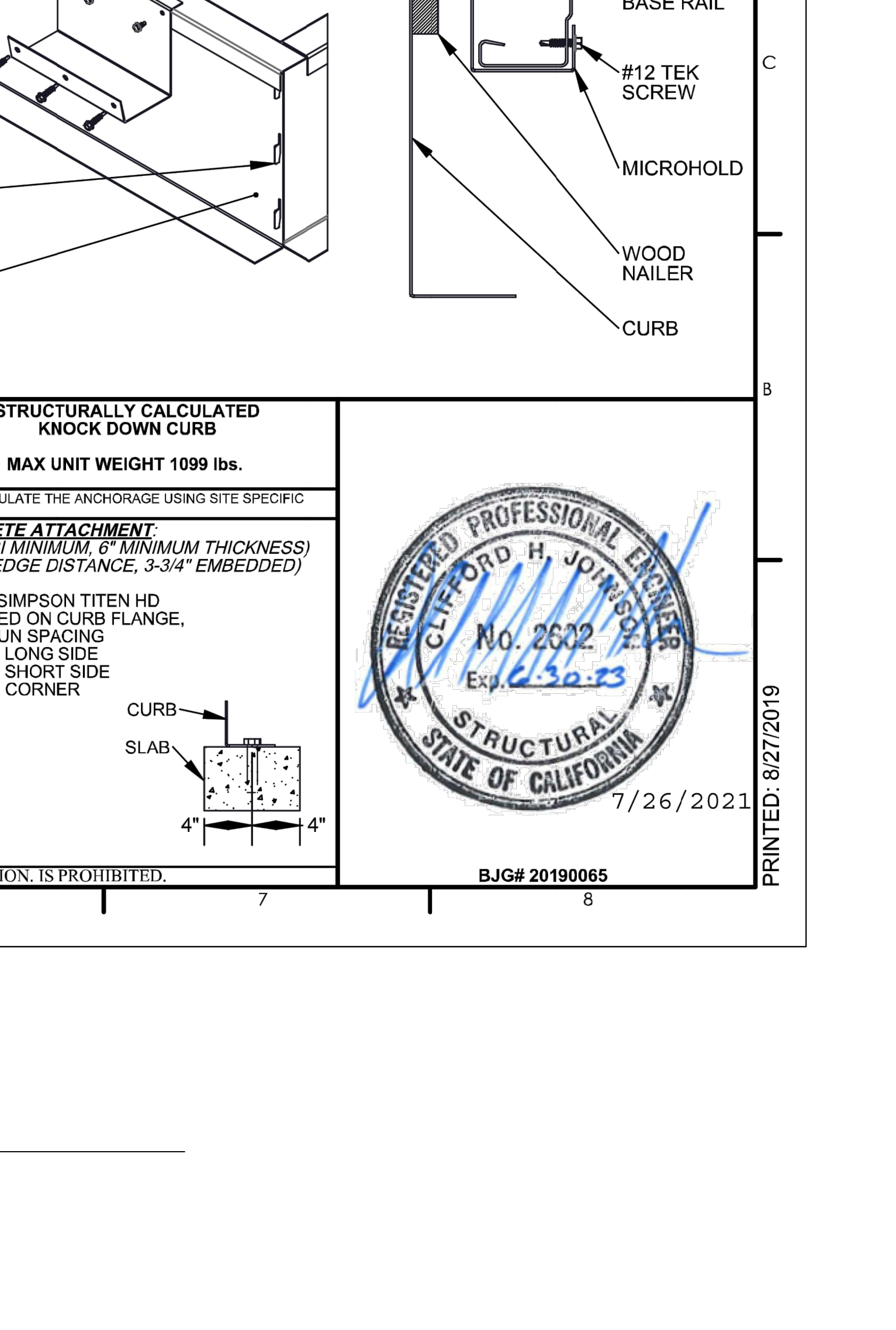
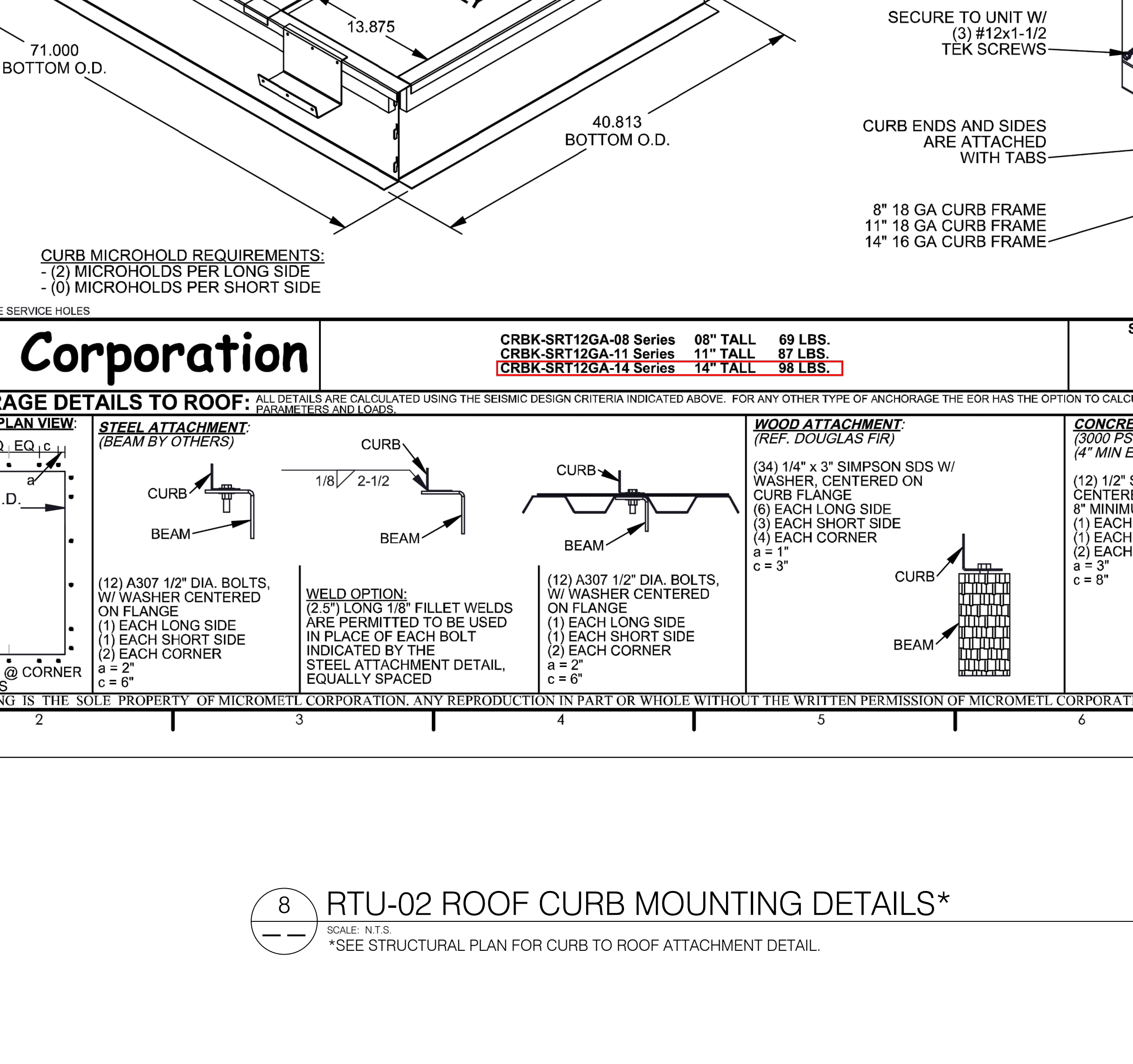
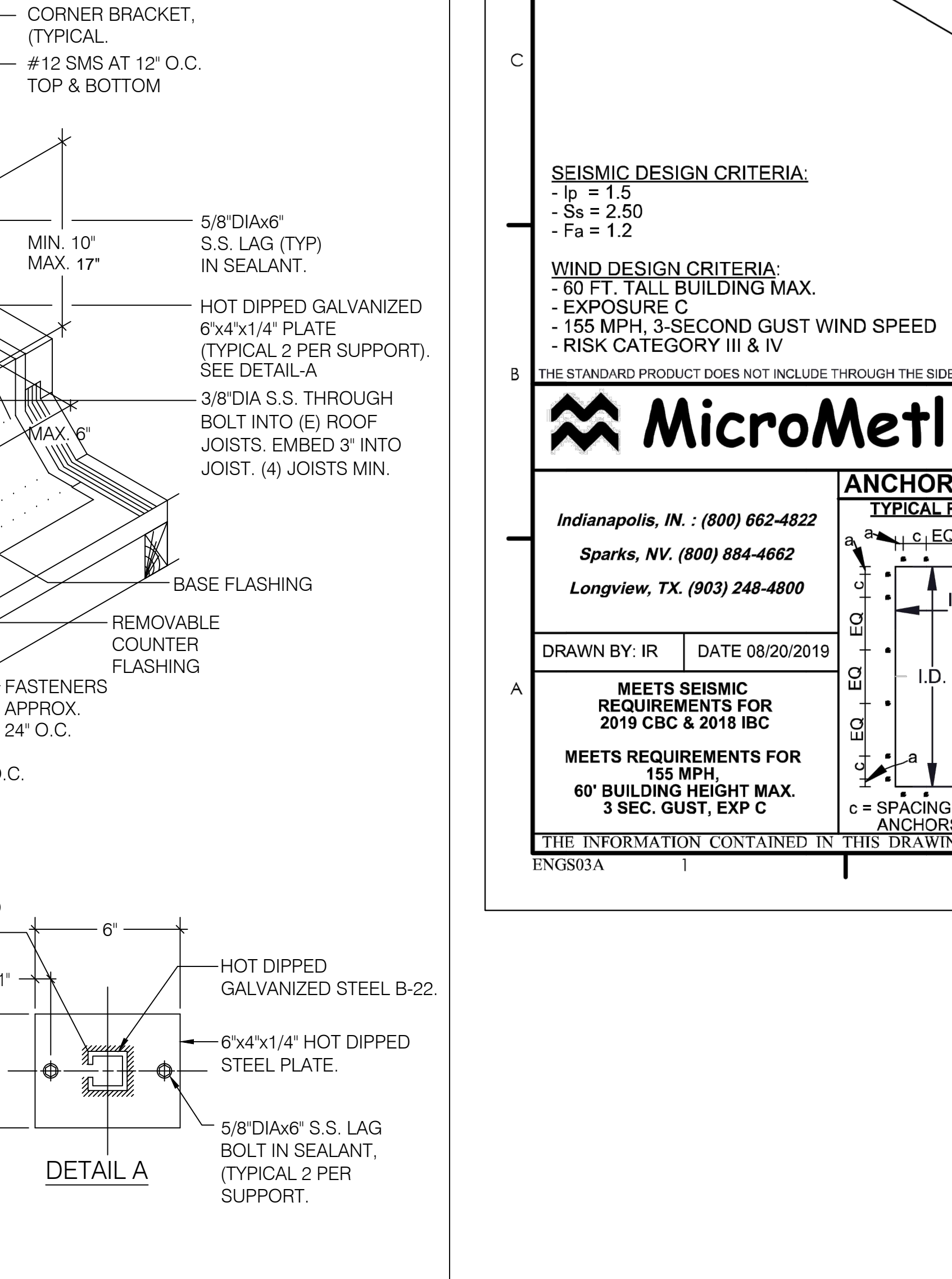
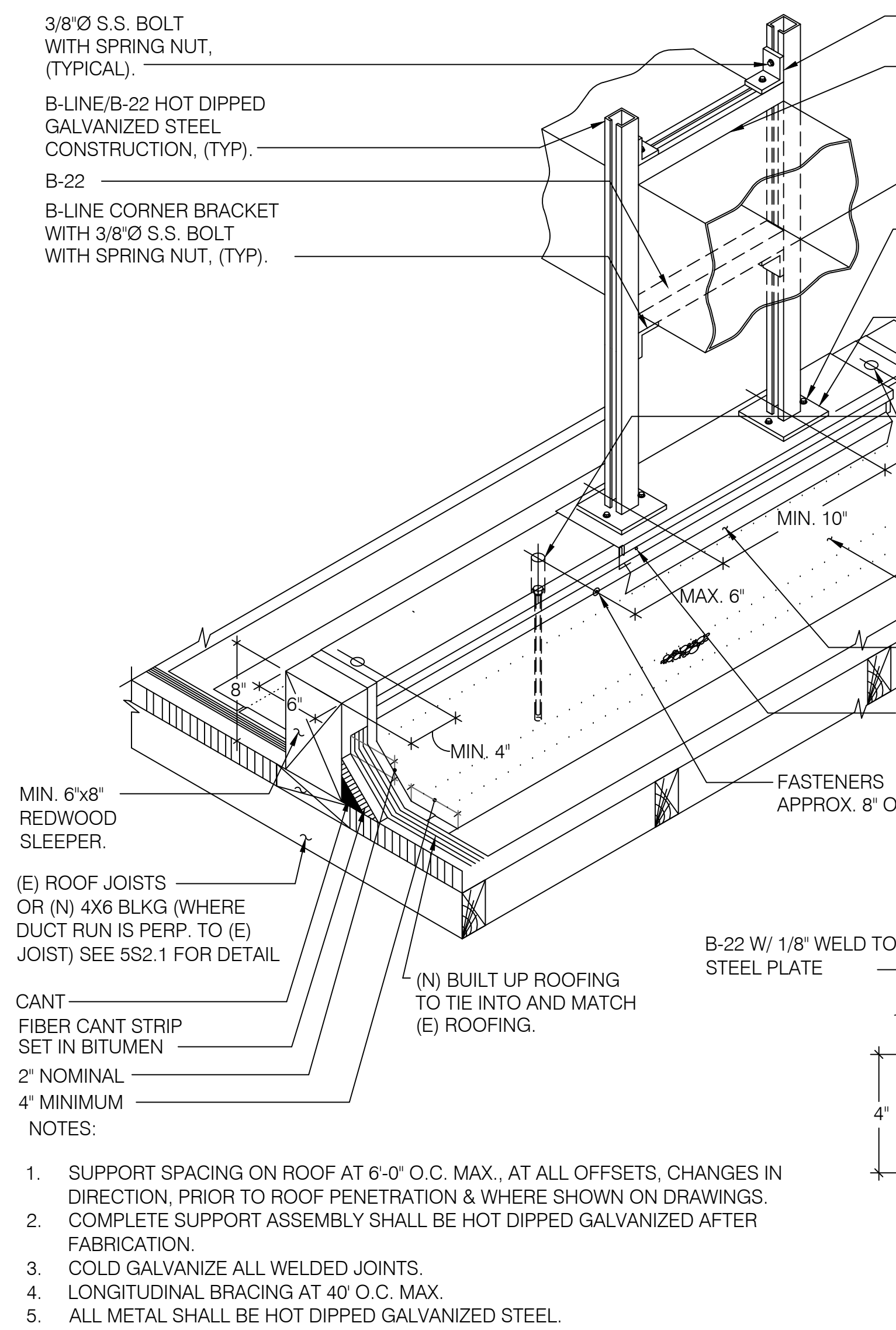
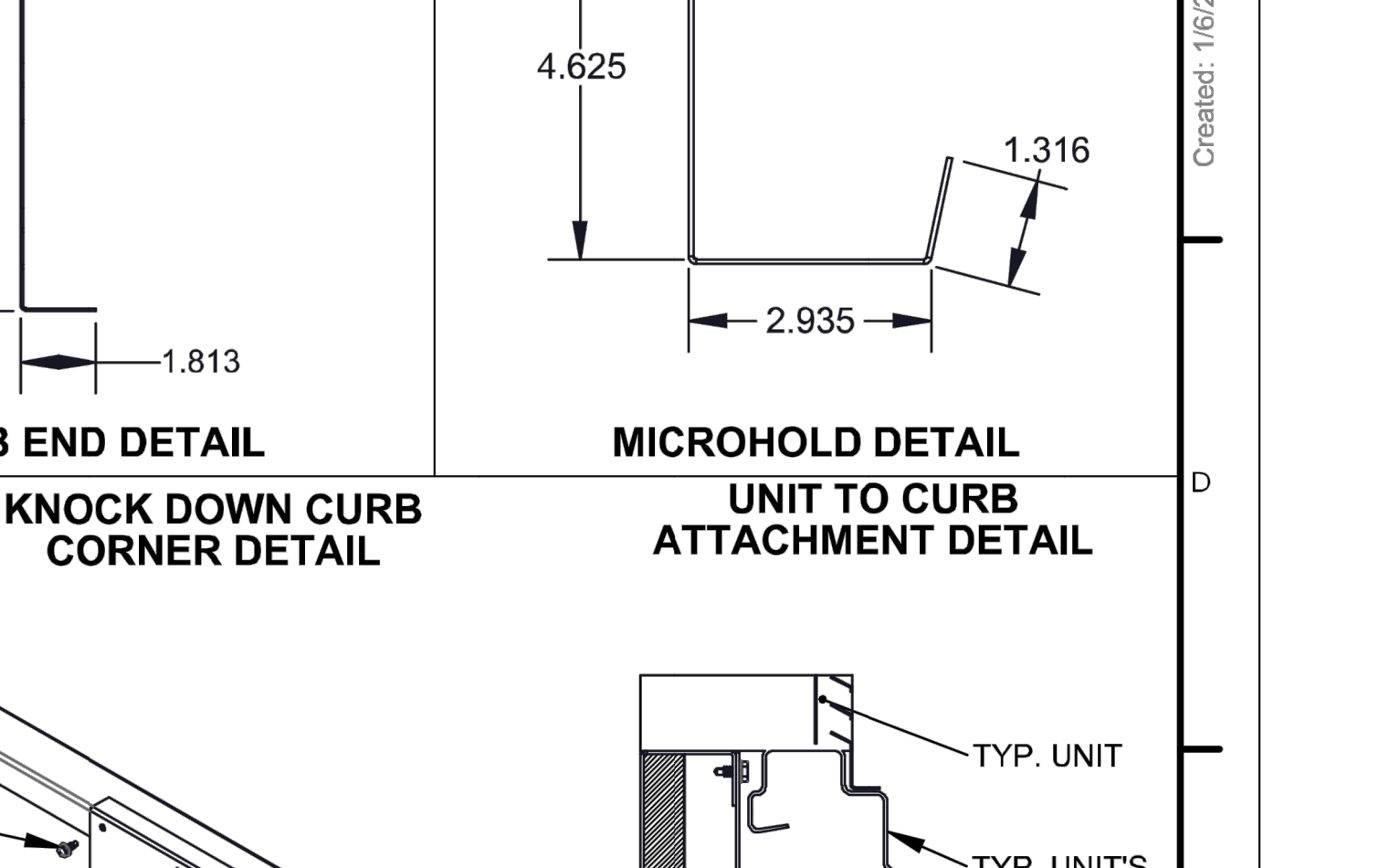
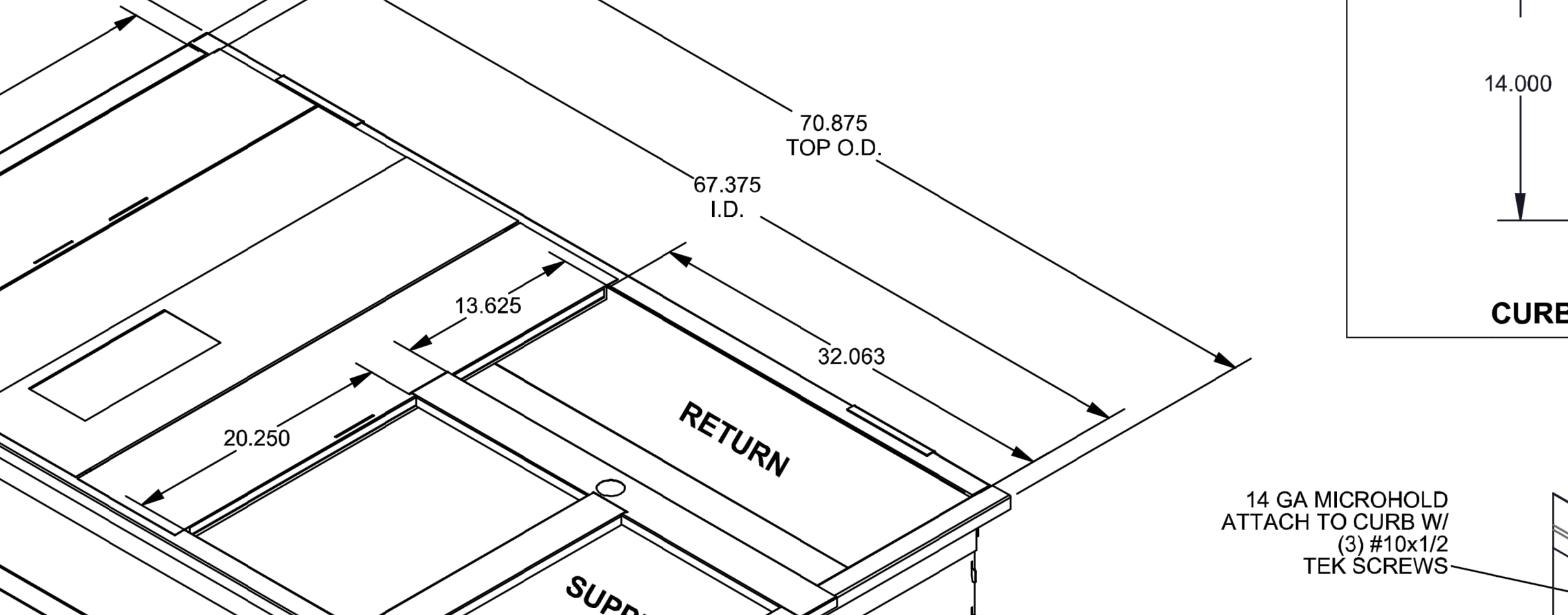
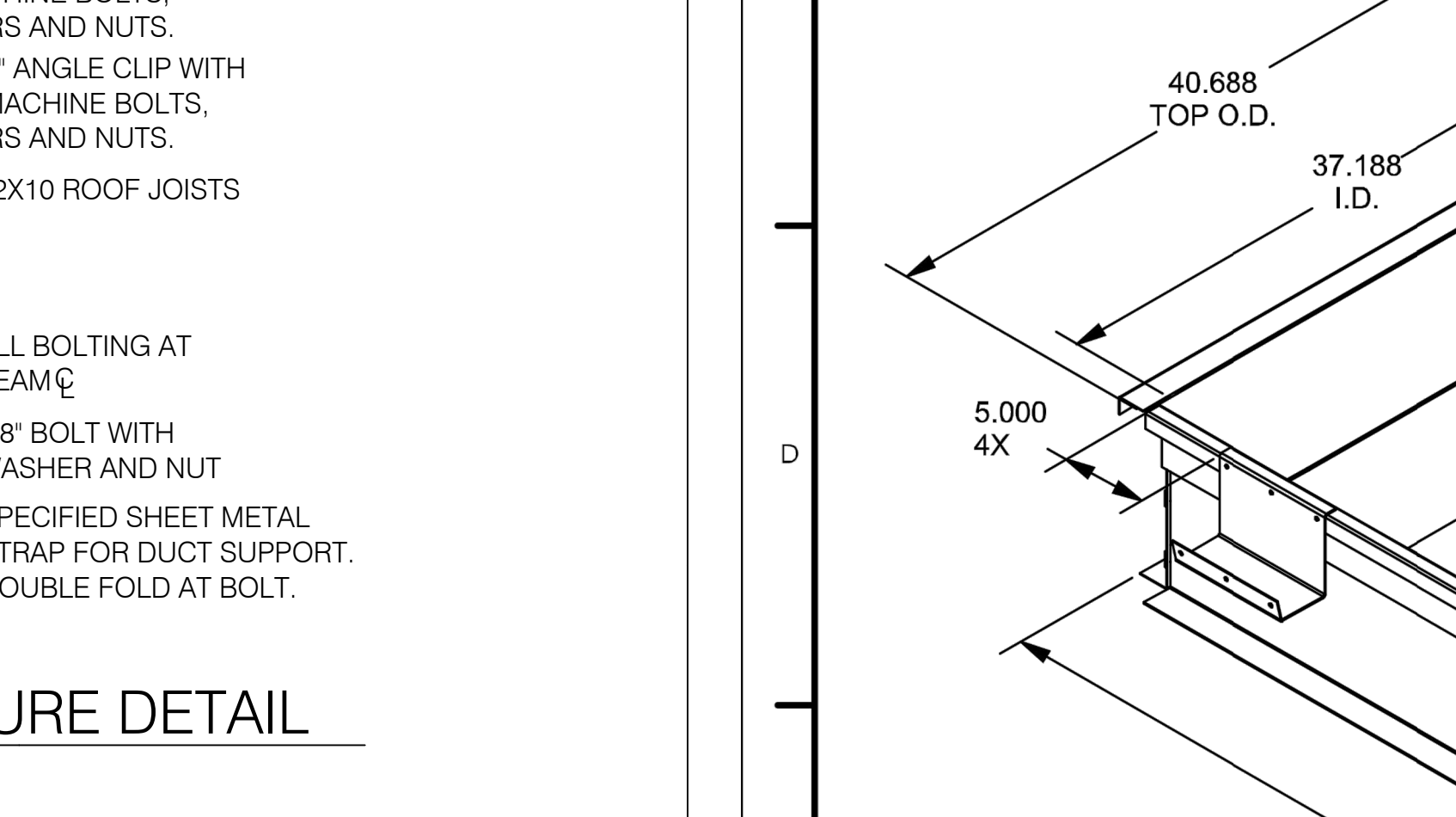
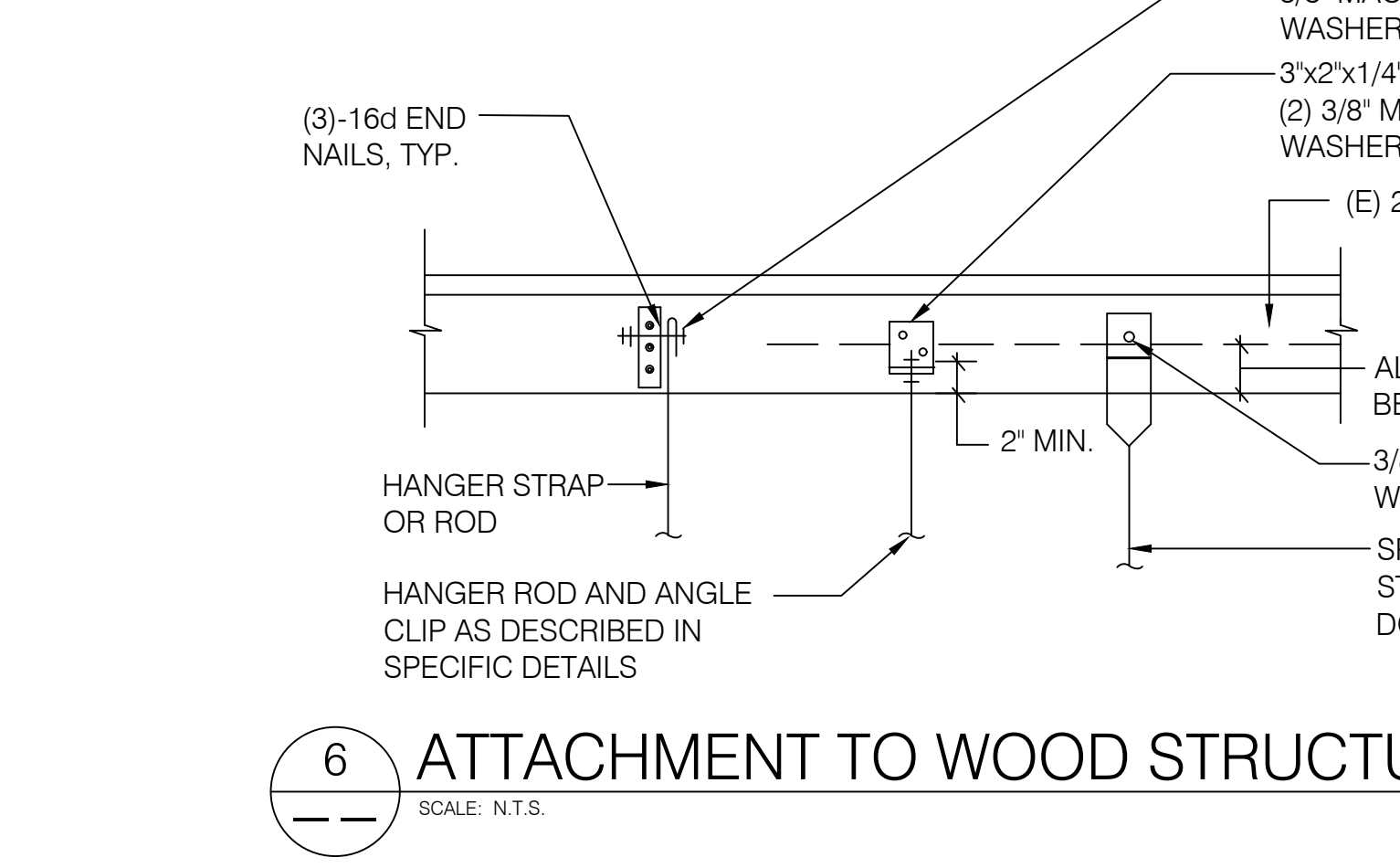
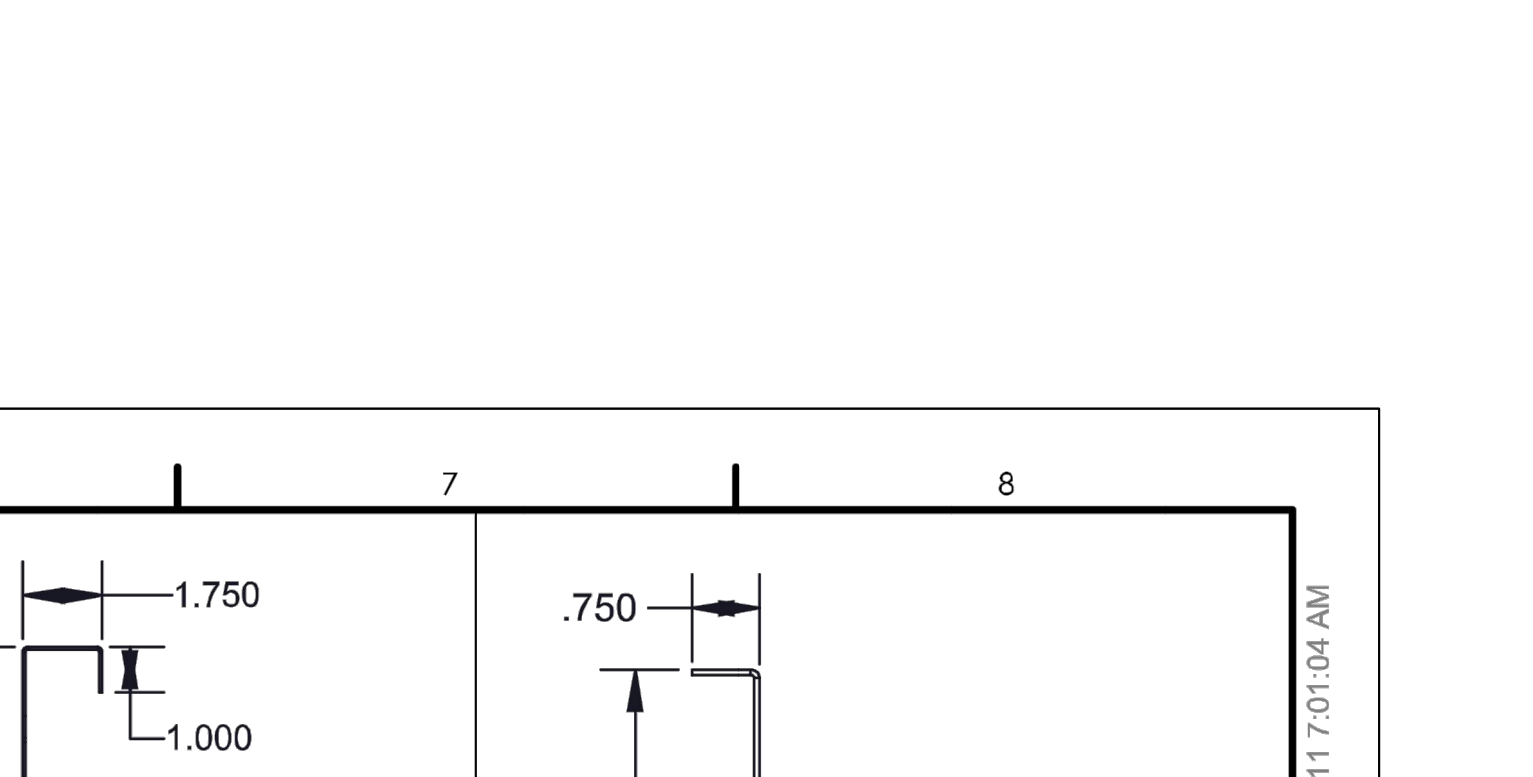
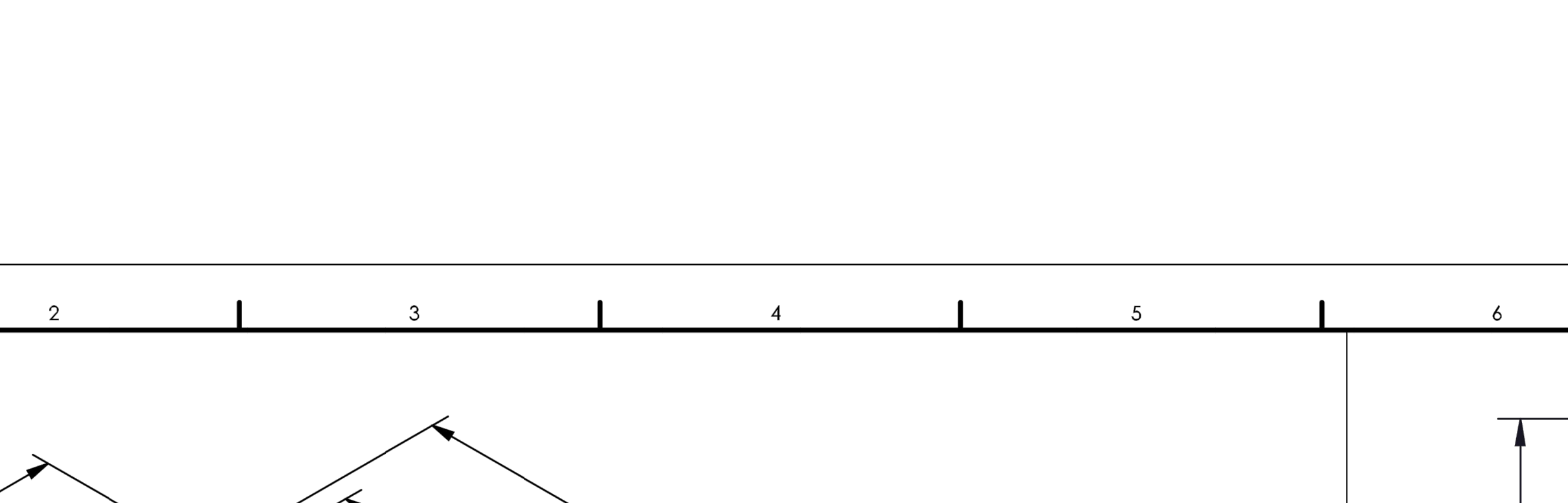
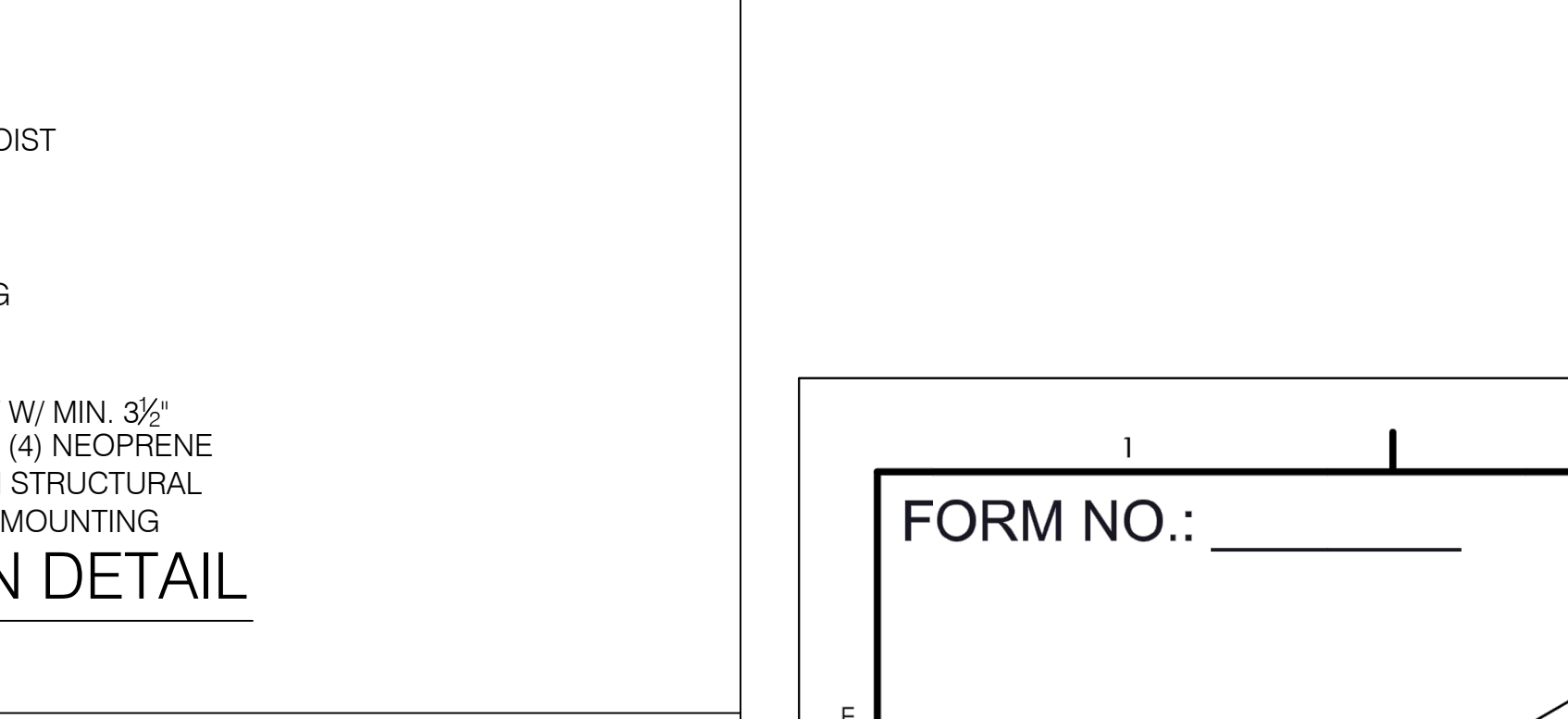
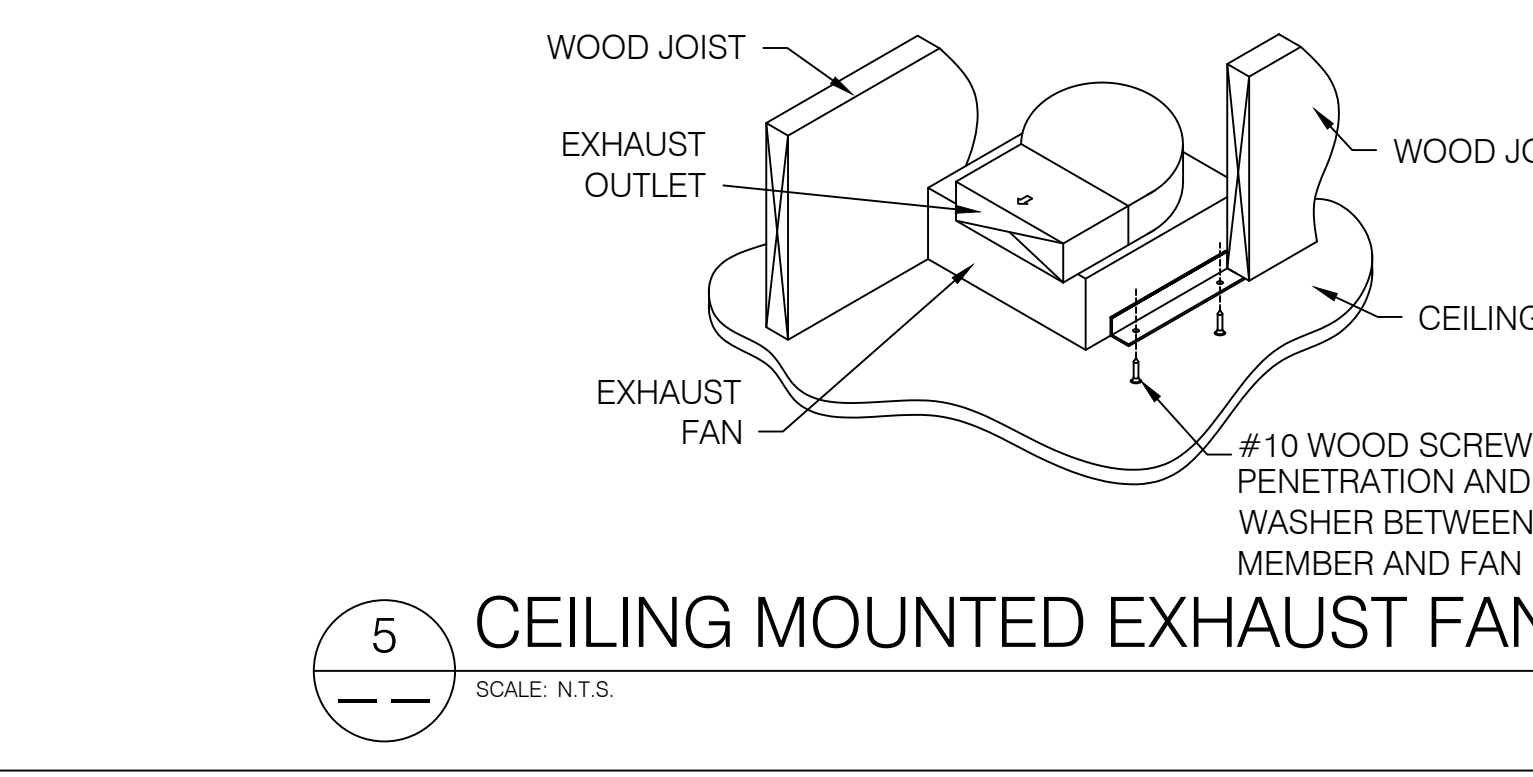
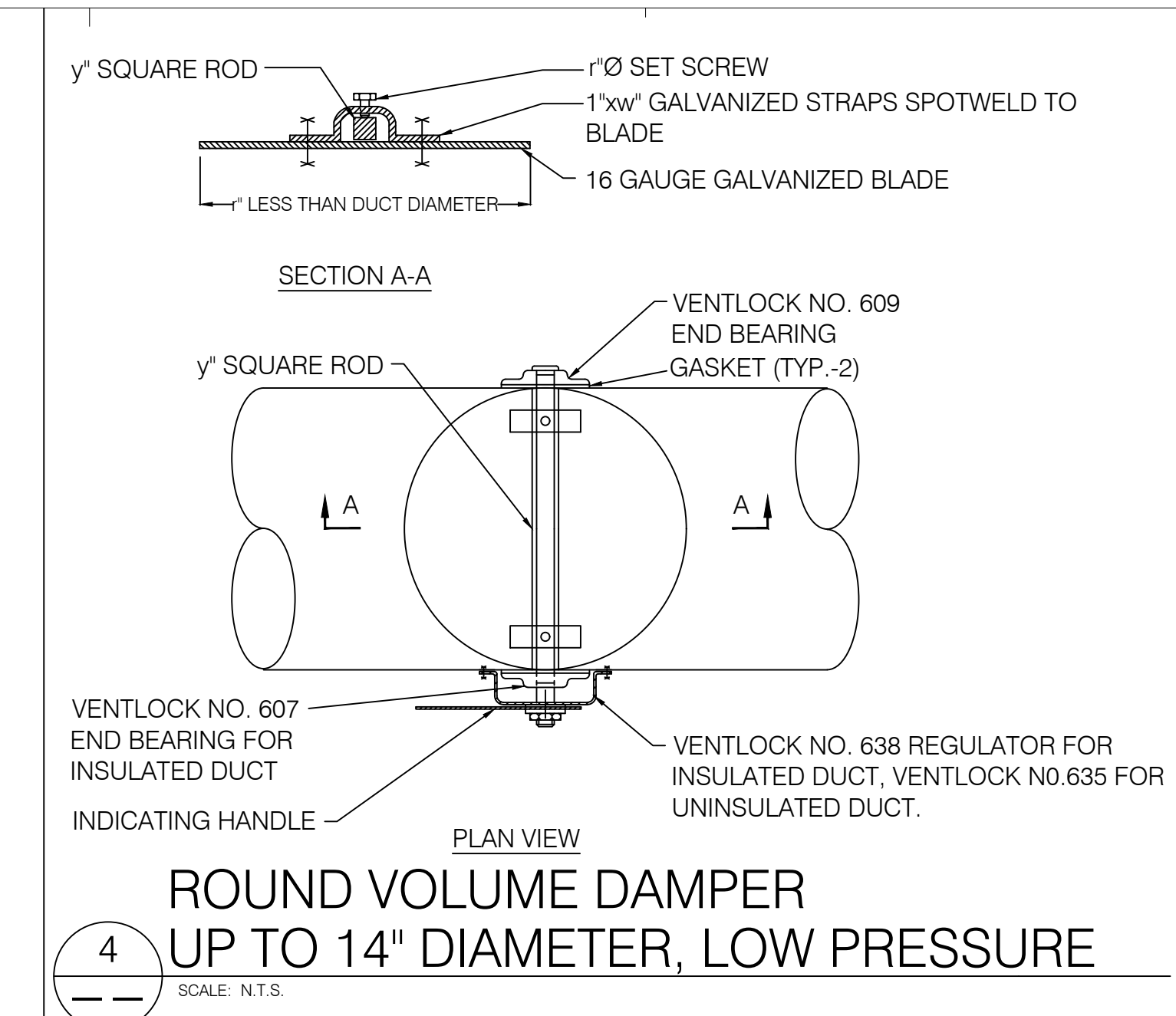
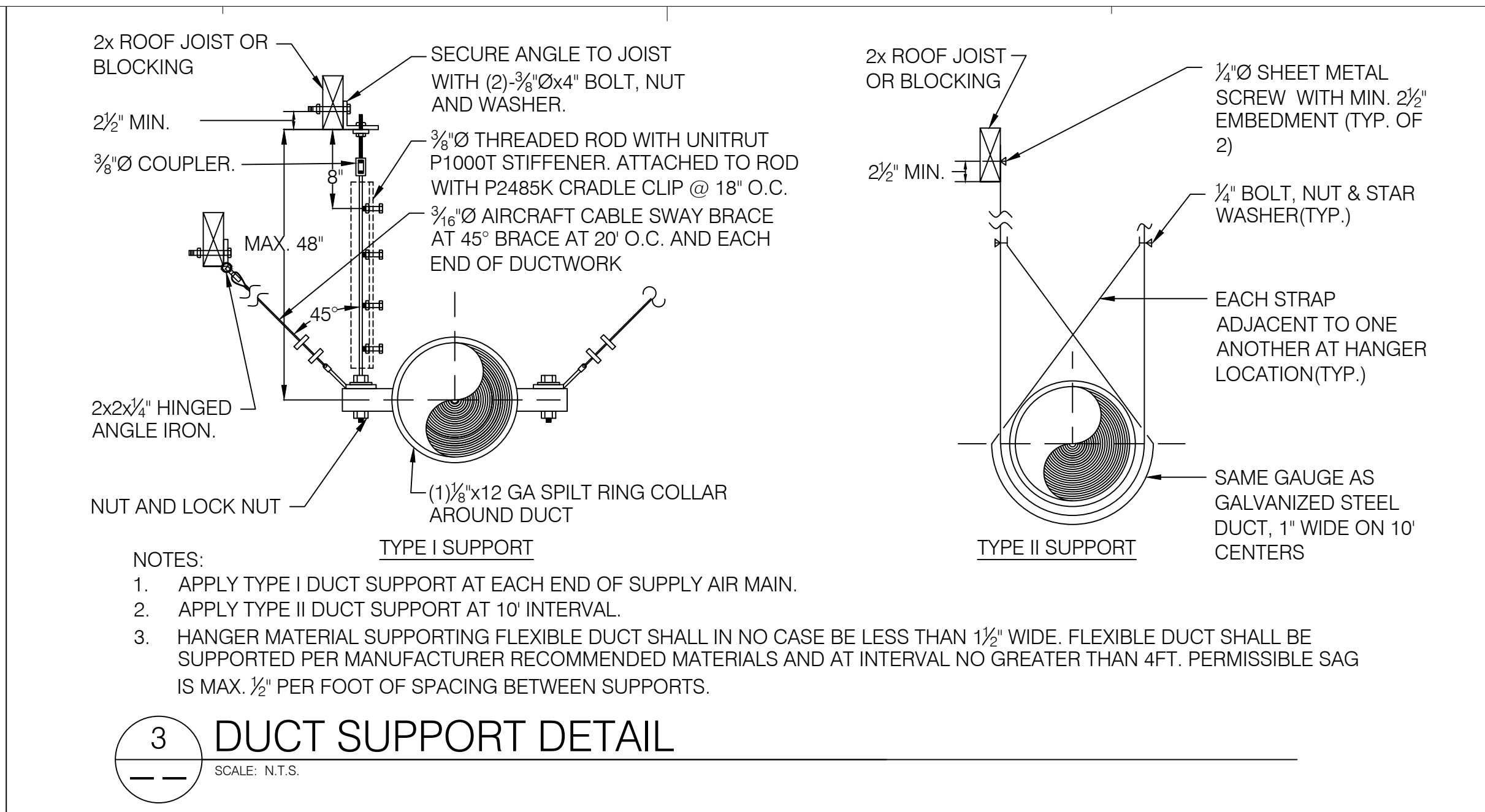
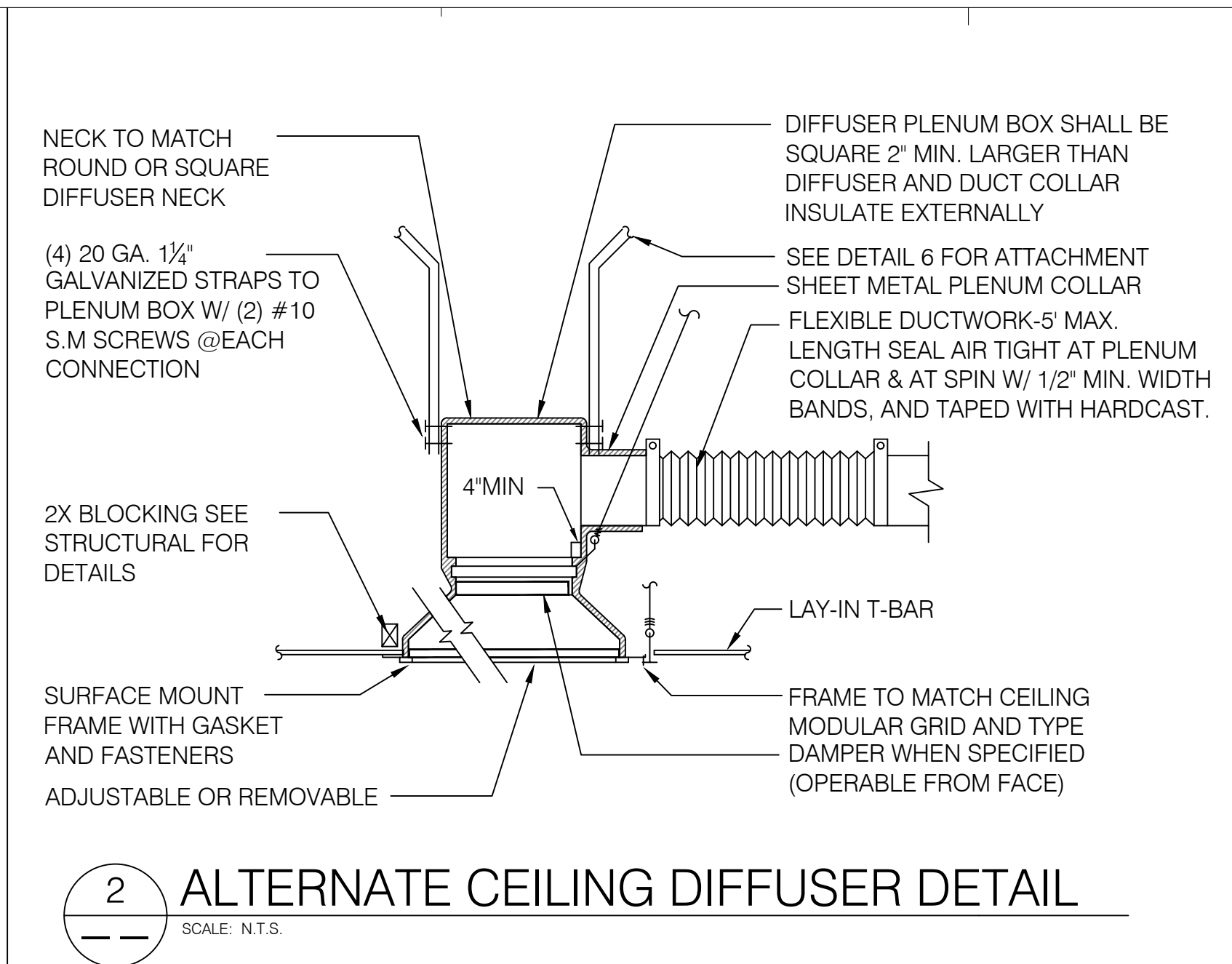
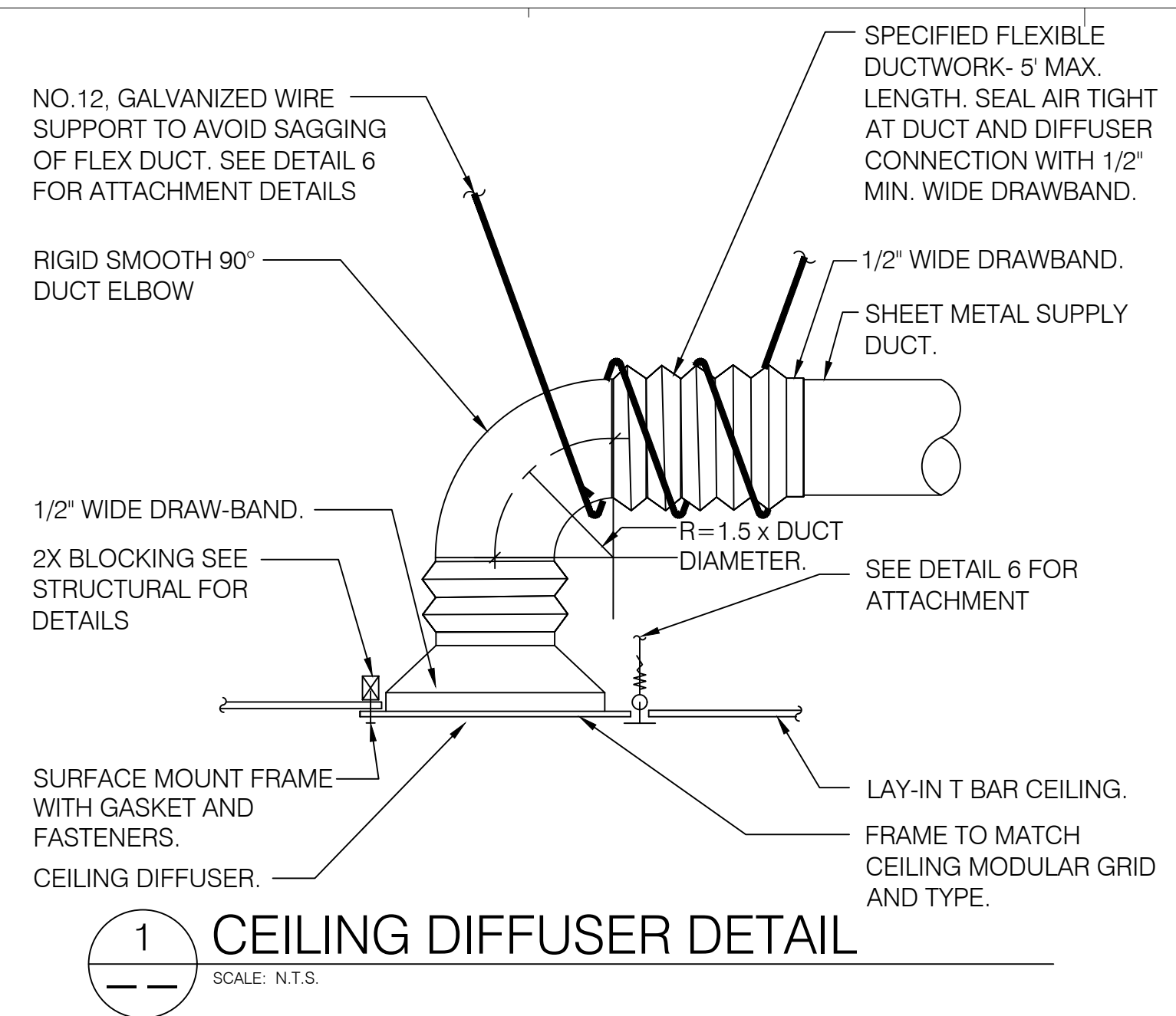
401 NOGALES STREET LA
PUENTE CA 91744

CLIENT:
ROWLAND UNIFIED SCHOOL DISTRICT
1830 NOGALES STREET
ROWLAND HEIGHTS, CA 91748

SUBMITTALS REVISIONS:
PERMIT REVIEW SET 04/09/2021
PERMIT SET 08/18/2021

PROJECT NO: 20073
SCALE: AS SHOWN
DATE: 9/23/2021
DRAWN BY: SL
CHECKED BY: JP
SHEET TITLE:
MECHANICAL SCHEDULES

SHEET NO:
M-0.2



NOTES:
1. SUPPORT SPACING ON ROOF AT 6'-0" O.C. MAX. AT ALL OFFSETS, CHANGES IN DIRECTION, PRIOR TO ROOF PENETRATION & WHERE SHOWN ON DRAWINGS, COMPLETE SUPPORT ASSEMBLY SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION.
2. COLD GALVANIZE ALL WELDED JOINTS.
3. LONGITUDINAL BRACING AT 40' O.C. MAX.
4. ALL METAL SHALL BE HOT DIPPED GALVANIZED STEEL.

NOTES:
1. APPLY TYPE I DUCT SUPPORT AT EACH END OF SUPPLY AIR MAIN.
2. APPLY TYPE II DUCT SUPPORT AT 10' INTERVAL.
3. HANGER MATERIAL SUPPORTING FLEXIBLE DUCT SHALL IN NO CASE BE LESS THAN 1/2" WIDE, FLEXIBLE DUCT SHALL BE SUPPORTED PER MANUFACTURER RECOMMENDED MATERIALS AND AT INTERVAL NO GREATER THAN 4FT. PERMISSIBLE SAG IS MAX. 1/2" PER FOOT OF SPACING BETWEEN SUPPORTS.

SEISMIC DESIGN CRITERIA:
- I_p = 1.5
- S_s = 2.50
- F_a = 1.2
WIND DESIGN CRITERIA:
- 60 FT. TALL BUILDING MAX.
- EXPOSURE C
- 155 MPH, 3-SECOND GUST WIND SPEED
- RISK CATEGORY III & IV
CURB MICROHOLD REQUIREMENTS:
- (2) MICROHOLDS PER LONG SIDE
- (0) MICROHOLDS PER SHORT SIDE

STRUCTURALLY CALCULATED KNOCK DOWN CURB
MAX UNIT WEIGHT 1099 lbs.
CONCRETE ATTACHMENT:
(3000 PSI MINIMUM, 6" MINIMUM THICKNESS)
(4" MIN EDGE DISTANCE, 3-3/4" EMBEDDED)
(12) 1/2" SIMPSON TITEN HD CENTERED ON CURB FLANGE,
8" MINIMUM SPACING
(1) EACH LONG SIDE
(1) EACH SHORT SIDE
a = 3"
b = 3"
c = 8"

DSA APPLICATION: # 03-121842
IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-121842 INC:
REVIEWED FOR:
DATE: 02/17/2022

CO-AR DESIGN, INC.
580 Brea Canyon Road, Suite 178
Diamond Bar, California 91789
Office: 909-598-0186
Dennis J. Lee, NCARB dennis@coar.design

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NOTES

JHP Engineering and Design Services Inc.
3113 Independence Drive,
Livermore, CA 94551
TEL: 925-409-2588 Ext. 101
CEL: 510-468-0613
FAX: 510-788-6039

REGISTERED PROFESSIONAL ENGINEER
CLIFFORD H. JOHNSON
No. 2632
Exp. 6/30/23
STATE OF CALIFORNIA

PROJECT:
CTE ROBOTICS CLASSROOM UPGRADE - NOGALES HIGH SCHOOL
401 NOGALES STREET LA PUENTE CA 91744
CLIENT:
ROWLAND UNIFIED SCHOOL DISTRICT
1830 NOGALES STREET
ROWLAND HEIGHTS, CA 91748
SUBMITTALS REVISIONS:
PERMIT REVIEW SET 04/09/2021
PERMIT SET 08/18/2021
PROJECT NO: 20073
SCALE: AS SHOWN
DATE: 9/23/2021
DRAWN BY: SL
CHECKED BY: JP
SHEET TITLE: MECHANICAL DETAILS
SHEET NO: M-0.3

STATE OF CALIFORNIA
Mechanical Systems
 NRCC-MCH-E (Created 09/2020)
 CERTIFICATE OF COMPLIANCE
 Project Name: CTE ROBOTICS PROGRAM - NOGALES HIGH SCHOOL
 Project Address: 401 NOGALES STREET LA PUENTE CA 91744
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A. GENERAL INFORMATION

01 Project Location (city)	LA PUENTE	04 Total Conditioned Floor Area	3,153
02 Climate Zone	9	05 Total Unconditioned Floor Area	0
03 Occupancy Types Within Project:	<input type="checkbox"/> Office (B) <input type="checkbox"/> Hotel/ Motel Guest Rooms (R-1) <input type="checkbox"/> High-Rise Residential (R-2/R-3)		
<input type="checkbox"/> Retail (M) <input checked="" type="checkbox"/> School (E) <input type="checkbox"/> Relocatable Class Bldg (E) <input type="checkbox"/> Non-refrigerated Warehouse (S) <input type="checkbox"/> Healthcare Facility (H) <input type="checkbox"/> Other (N/rite in):			

B. PROJECT SCOPE

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.

C. COMPLIANCE RESULTS

01 System Summary	02 Pumps	03 Fans/Economizers	04 System Controls	05 Ventilation	06 Terminal Box Controls	07 Distribution	08 Cooling Towers	09 Compliance Results
§110.1, §110.2, §140.4 (See Table F)	§140.4(a)	§140.4(c)	§110.2, §120.2, §140.4(i)	§120.1, §140.4(i)	§140.4(i)	§120.3, §140.4(i)	§110.2(e), §110.2(f)	COMPLIES
Yes	AND	AND	AND	AND	AND	AND	AND	COMPLIES

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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)

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

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

01	02	03	04	05	06	07	08	09	10	11
Name or Item Tag	Equipment Category per Tables 110.2	Equipment Type per Tables 110.2 & Title 20	Smallest Size Available ¹ §140.4(a)	Heating Output ^{2,3}		Cooling Output ^{2,3}		Load Calculations ^{4,5}		
RTU-02	Unitary heat pumps	Air cooled, package (3 phase)	Yes	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)
				58	55.9	32	49.05	50	60	62.31

G. PUMPS

This Section Does Not Apply

H. FAN SYSTEMS & AIR ECONOMIZERS

Table Instructions: Complete the following Table for fan systems to demonstrate compliance with prescriptive requirements found in §140.4(c), §140.4(e) and §140.4(m). First document the system details, then add fans within that system to document compliance with fan power requirements. Fan systems serving only process loads are exempt from these requirements and do not need to be included in Table H.

System Name	RTU-01	Economizer ¹	Differential Temperature Controls	Economizer Controls	Designed per §140.4(e) and (m)	System Fan Type	Constant Volume			
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit ²	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4-9				
RTU-02	Supply	1	2,000	BHP	1.48	None used				
Total System Design Supply Airflow (CFM)					2,000	Total System Design (B)HP ²		1.48	Maximum System Fan Power (B)HP ²	

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

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

01	02	03	04	05	06	07	08	09
Name or Item Tag	Size Category (Btu/h)	Rating Condition (°F)	Efficiency Unit	Min Efficiency Required per Tables 110.2/Title 20	Design Efficiency	Efficiency Unit	Min Efficiency Required per Tables 110.2/Title 20	Design Efficiency
RTU-02	<65,000		HSPF	8	8.3	SEER	14	16.2

G. PUMPS

This Section Does Not Apply

H. FAN SYSTEMS & AIR ECONOMIZERS

Table Instructions: Complete the following Table for fan systems to demonstrate compliance with prescriptive requirements found in §140.4(c), §140.4(e) and §140.4(m). First document the system details, then add fans within that system to document compliance with fan power requirements. Fan systems serving only process loads are exempt from these requirements and do not need to be included in Table H.

System Name	RTU-01	Economizer ¹	Differential Temperature Controls	Economizer Controls	Designed per §140.4(e) and (m)	System Fan Type	Constant Volume			
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit ²	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4-9				
RTU-02	Supply	1	2,000	BHP	1.48	None used				
Total System Design Supply Airflow (CFM)					2,000	Total System Design (B)HP ²		1.48	Maximum System Fan Power (B)HP ²	

I. FOOTNOTE: Computer room economizers must meet requirements of §140.3(a) and will be documented on the NRCC-PRCC-E document.
² The unit used for HP must be consistent for all fans within a system.

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I. SYSTEM CONTROLS

Table Instructions: Complete the following Table to demonstrate compliance with mandatory controls in §110.2 and §120.2 and prescriptive controls in §140.4(i) and (j) or requirements in §141.0(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)(8) & (c) ¹ , §120.2(a) or §141.0(b)(2)	Shut-Off Controls §120.2(a)	Isolation Zone Controls §120.2(a)	Demand Response §110.2 and §120.2(b)	Supply Air Temp. Reset §140.4(i)	Window Interlocks per §140.4(i)
RTU-02	single zone	≤ 25,000 ft²	Setback Thermostat	Auto Timeswitch	NA: Single Zone	NA: PTAC, PTHP, Rm AC, HP	NA: Single Zone	NA: Auto-closing doors

J. VENTILATION AND INDOOR AIR QUALITY

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

01	02	03	04	05	06	07	08	09
System Name	System Zoning	Conditioned Floor Area Being Served (ft²)	Thermostats §110.2(b)(8) & (c) ¹ , §120.2(a) or §141.0(b)(2)	Shut-Off Controls §120.2(a)	Isolation Zone Controls §120.2(a)	Demand Response §110.2 and §120.2(b)	Supply Air Temp. Reset §140.4(i)	Window Interlocks per §140.4(i)
RTU-02	single zone	≤ 25,000 ft²	Setback Thermostat	Auto Timeswitch	NA: Single Zone	NA: PTAC, PTHP, Rm AC, HP	NA: Single Zone	NA: Auto-closing doors

K. TERMINAL BOX CONTROLS

08	09	10	11	12	13	14	15	16
Space Name or Item Tag	Mechanical Ventilation Required per §120.1(c)(3) ²	Conditioned Floor Area (ft²)	# of showerheads / toilets	# of people ³	Required Min OA CFM	Exh. Vent. per §120.1(c)(4)	Provided per Design CFM	DCV or Occupant Sensor Controls per §120.1(d)(3), §120.1(d)(5) & §120.2(c)(3) ⁴
RTU-02	Office space	95		1	15		15	DCV NA: Not required per §120.1(d)(3) Occ Sensor NA: Not required space type
	Classroom (age 5-18)	1,800		30	684		685	DCV NA: Not required per §120.1(d)(3) Occ Sensor NA: Not required space type
17	Total System Required Min OA CFM			699	18			Ventilation for this System Complies? Yes

L. DISTRIBUTION (DUCTWORK AND PIPING)

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

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance: <http://www.energy.ca.gov/title24/2019standards/> September 2020

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Table Continued

08	09	10	11	12	13	14	15	16
Space Name or Item Tag	Mechanical Ventilation Required per §120.1(c)(3) ²	Conditioned Floor Area (ft²)	# of showerheads / toilets	# of people ³	Required Min OA CFM	Exh. Vent. per §120.1(c)(4)	Provided per Design CFM	DCV or Occupant Sensor Controls per §120.1(d)(3), §120.1(d)(5) & §120.2(c)(3) ⁴
RTU-02	Office space	95		1	15		15	DCV NA: Not required per §120.1(d)(3) Occ Sensor NA: Not required space type
	Classroom (age 5-18)	1,800		30	684		685	DCV NA: Not required per §120.1(d)(3) Occ Sensor NA: Not required space type
17	Total System Required Min OA CFM			699	18			Ventilation for this System Complies? Yes

M. COOLING TOWERS

This Section Does Not Apply

N. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

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

YES	NO	Form/Title	Systems To Be Field Verified	Field Inspector
<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCC-MCH-01-E - Must be submitted for all buildings.		Pass Fail

O. COOLING TOWERS

This Section Does Not Apply

N. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

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

YES	NO	Form/Title	Systems To Be Field Verified	Field Inspector
<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCC-MCH-01-E - Must be submitted for all buildings.		Pass Fail

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P. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

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

YES	NO	Form/Title	Systems To Be Field Verified	Field Inspector
<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCV-MCH-04-H Duct Leakage Test NOTE: Must be completed by a HERS Rater		Pass Fail
<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCV-MCH-24 Enclosure Air Leakage Worksheet NOTE: Must be completed by a HERS Rater		Pass Fail
<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCV-MCH-27 High-rise Residential NOTE: Must be completed by a HERS Rater		Pass Fail
<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCV-MCH-32 Local Mechanical Exhaust NOTE: Must be completed by a HERS Rater		Pass Fail

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance: <http://www.energy.ca.gov/title24/2019standards/> September 2020

STATE OF CALIFORNIA
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O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

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

YES	NO	Form/Title	Systems To Be Field Verified	Field Inspector
<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCA-MCH-02-A Outdoor Air must be submitted for all newly installed HVAC units. Note: MCH02-A can be performed in conjunction with MCH-07-A Supply Fan VFD Acceptance (if applicable) since testing activities overlap.		Pass Fail
<input checked="" type="checkbox"/>	<input type="checkbox"/>	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".		Pass Fail
<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-04-A Air Distribution Duct Leakage		Pass Fail
<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCA-MCH-05-A Air Economizer Controls		Pass Fail
<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-06-A Demand Control Ventilation Systems Acceptance must be submitted for all systems required to employ demand controlled ventilation (refer to §120.1(c)(3) can vary outside ventilation flow rates based on maintaining interior carbon dioxide (CO2) concentration setpoints.		Pass Fail
<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-07-A Supply Fan Variable Flow Controls		Pass Fail
<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-08-A Valve Leakage Test		Pass Fail
<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-09-A Supply Water Temperature Reset Controls		Pass Fail
<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-10-A Hydronic System Variable Flow Controls		Pass Fail
<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-11-A Automatic Demand Shed Controls		Pass Fail

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance: <http://www.energy.ca.gov/title24/2019standards/> September 2020

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

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance: <http://www.energy.ca.gov/title24/2019standards/> September 2020

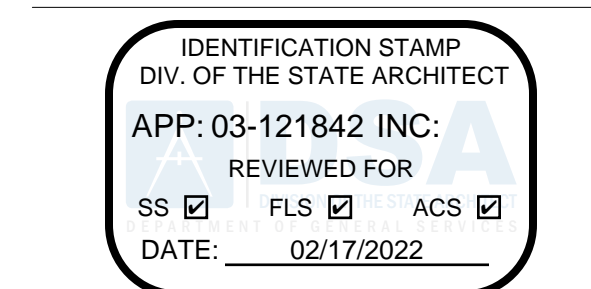
STATE OF CALIFORNIA
Mechanical Systems
 NRCC-MCH-E (Created 09/2020)
 CERTIFICATE OF COMPLIANCE
 Project Name: CTE ROBOTICS PROGRAM - NOGALES HIGH SCHOOL
 Project Address: 401 NOGALES STREET LA PUENTE CA 91744
 Report Page: Page 9 of 11
 Date Prepared: 2021-04-06

P. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

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

YES	NO	Form/Title	Systems To Be Field Verified	Field Inspector
<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCV-MCH-04-H Duct Leakage Test NOTE: Must be completed by a HERS Rater		Pass Fail
<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCV-MCH-24 Enclosure Air Leakage Worksheet NOTE: Must be completed by a HERS Rater		Pass Fail
<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCV-MCH-27 High-rise Residential NOTE: Must be completed by a HERS Rater		Pass Fail
<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCV-MCH-32 Local Mechanical Exhaust NOTE: Must be completed by a HERS Rater		Pass Fail

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance: <http://www.energy.ca.gov/title24/2019standards/> September 2020



Dennis J. Lee, NCBAB dennis@coar-design.com

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CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance: <http://www.energy.ca.gov/title24/2019standards/> September 2020

STATE OF CALIFORNIA
Mechanical Systems
 NRCC-MCH-E (Created 09/2020)
 CERTIFICATE OF COMPLIANCE
 Project Name: CTE ROBOTICS PROGRAM - NOGALES HIGH SCHOOL
 Project Address: 401 NOGALES STREET LA PUENTE CA 91744
 Report Page: Page 10 of 11
 Date Prepared: 2021-04-06

Q. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

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YES	NO	Form/Title	Systems To Be Field Verified	Field Inspector
<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCV-MCH-04-H Duct Leakage Test NOTE: Must be completed by a HERS Rater		Pass Fail
<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCV-MCH-24 Enclosure Air Leakage Worksheet NOTE: Must be completed by a HERS Rater		Pass Fail
<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCV-MCH-27 High-rise Residential NOTE: Must be completed by a HERS Rater		Pass Fail
<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCV-MCH-32 Local Mechanical Exhaust NOTE: Must be completed by a HERS Rater		Pass Fail

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance: <http://www.energy.ca.gov/title24/2019standards/> September 2020

STATE OF CALIFORNIA
Mechanical Systems
 NRCC-MCH-E (Created 09/2020)
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YES	NO	Form/Title	Systems To Be Field Verified	Field Inspector
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<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCV-MCH-24 Enclosure Air Leakage Worksheet NOTE: Must be completed by a HERS Rater		Pass Fail
<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCV-MCH-27 High-rise Residential NOTE: Must be completed by a HERS Rater</		

01		02	
Compliance with Mandatory Measures documented through MCH Mandatory Measures Note Block:	No	Plan sheet or construction document location	
03		04	
Mandatory Measure		Plan sheet or construction document location	
Heating Equipment Efficiency per §110.1	M-0.2		
Cooling Equipment Efficiency per §110.1	M-0.2		
Furnace Standby Loss Control per §110.2(d)	N/A		
Duct Insulation per §120.4	M-0.2		
Heating Hot Water Equipment Efficiency per §110.1	N/A		
Cooling Chilled and Condenser Water Equipment Efficiency per §110.1	N/A		
Open and Closed Circuit Cooling Towers conductivity of flow-based controls per §110.2(e)(1)	N/A		
Open and Closed Circuit Cooling Towers Flow Meter with analog output per §110.2(e)(3)	N/A		
Open and Closed Circuit Cooling Towers Overflow Alarm per §110.2(e)(4)	N/A		
Open and Closed Circuit Cooling Towers Efficient Drift Eliminators per §110.2(e)(5)	N/A		
Pipe Insulation per §120.3(b)	N/A		
Combustion air shutoff, combustion air fan controls and stack design and controls for boilers per §120.9	N/A		
Heat Pump with Supplementary Electric Resistance Heater Controls per §110.2(b)	N/A		
The air duct and plenum system is designed per §120.4(a)-(f)	M-0.1		
Kitchen range hoods shall be rated for sound in accordance with Section 7.2 of ASHRAE 62.2	N/A		

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance: <http://www.energy.ca.gov/title24/2019standards> September 2020

Mechanical Systems

STATE OF CALIFORNIA
NRC/MCH-E (Created 09/2020)

CERTIFICATE OF COMPLIANCE

Project Name: CTE ROBOTICS PROGRAM - NOGALES HIGH SCHOOL
Project Address: 401 NOGALES STREET LA PUENTE CA 91744

Report Page: Page 11 of 11
Date Prepared: 2021-04-06

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: Jia H. Pan
Company: JHP Engineering and Design Services, Inc.
Address: 3103 Independence Drive
City/State/Zip: Livermore CA 94551

Documentation Author Signature: [Signature]
Signature Date: 2021-04-06
CEA/ HERS Certification Identification (if applicable): M35374
Phone: 925-409-2508

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

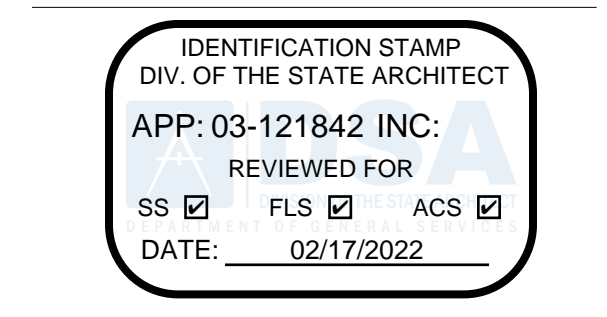
- The information provided on this Certificate of Compliance is true and correct.
- I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
- The energy features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

Responsible Designer Name: Jia H. Pan
Company: JHP Engineering and Design Services, Inc.
Address: 3103 Independence Drive
City/State/Zip: Livermore CA 94551

Responsible Designer Signature: [Signature]
Date Signed: 2021-04-06
License: M35374
Phone: 925-409-2508

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance: <http://www.energy.ca.gov/title24/2019standards> September 2020

DSA APPLICATION: **A# 03-121842**

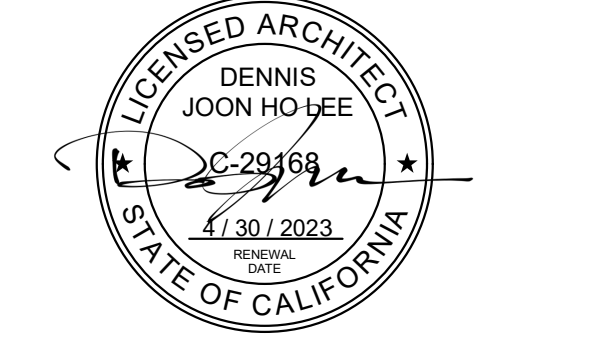


ARCHITECT: **CO-AR DESIGN, INC.**
680 Brea Canyon Road, Suite 178
Diamond Bar, California 91789
Office: 909-598-0186

Dennis J. Lee, NCARB dennisl@coar-design.com

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JHP Engineering and Design Services Inc.
3103 Independence Drive,
Livermore, CA 94551
TEL: 925-409-2508 EX.101
CEL: 510-468-0613
FAX: 510-788-6039



PROJECT: **CTE ROBOTICS CLASSROOM UPGRADE - NOGALES HIGH SCHOOL**

401 NOGALES STREET LA PUENTE CA 91744

CLIENT: ROWLAND UNIFIED SCHOOL DISTRICT
1830 NOGALES STREET
ROWLAND HEIGHTS, CA 91748

SUBMITTALS REVISIONS:	
PERMIT REVIEW SET	04/09/2021
PERMIT SET	08/18/2021

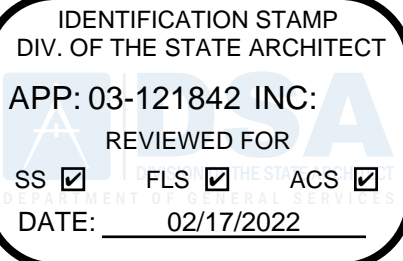
PROJECT NO: 20073
SCALE: AS SHOWN
DATE: 9/23/2021
DRAWN BY: SL
CHECKED BY: JP
SHEET TITLE:

MECHANICAL PRESCRIPTIVE TITLE 24 COMPLIANCE

SHEET NO:

M-0.5

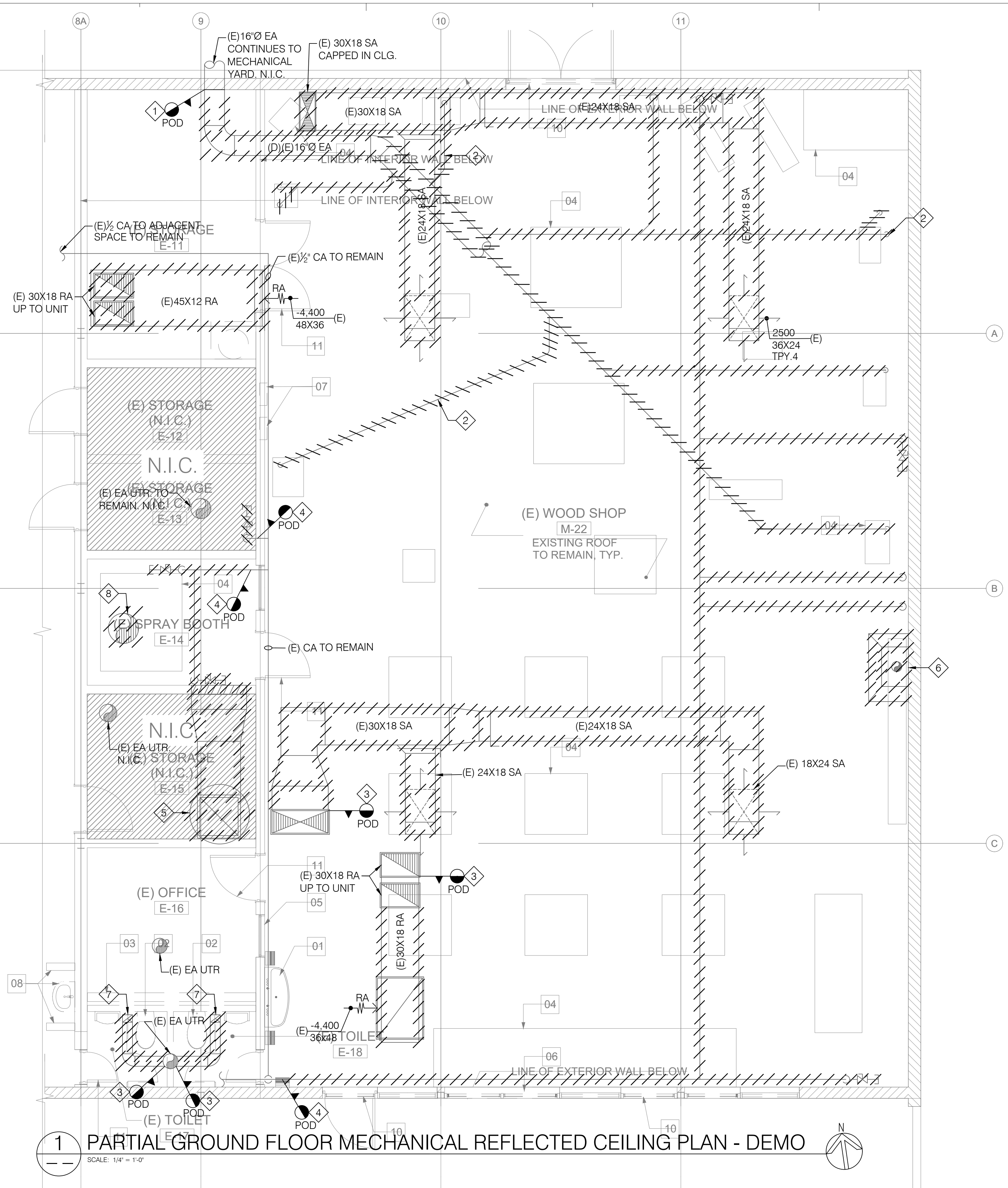
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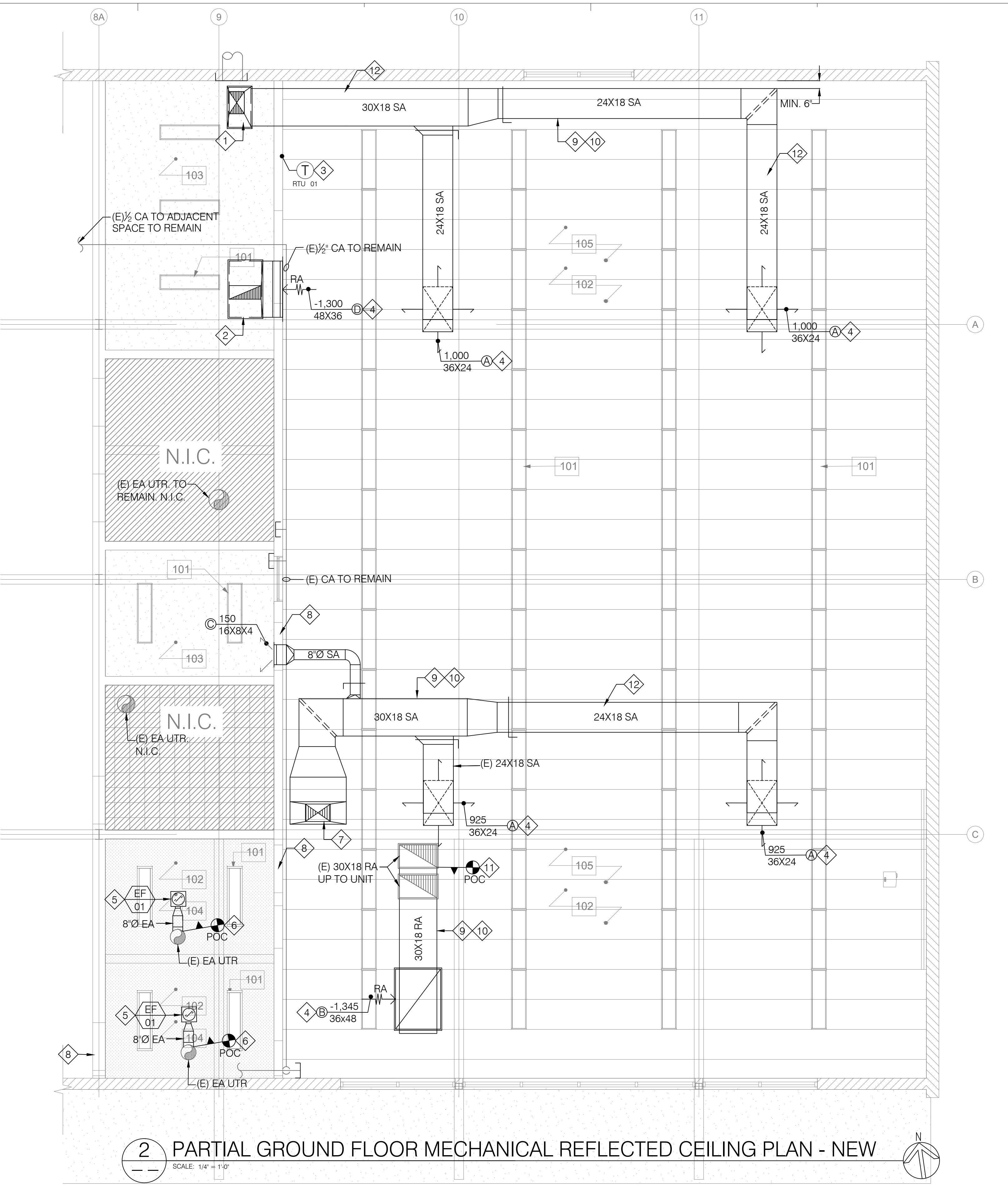
ARCHITECT: **CO-AR DESIGN, INC.**
 680 Brea Canyon Road, Suite 178
 Diamond Bar, California 91789
 Office: 909-598-0186

Dennis J. Lee, N.CARB dennis@coar-design.com

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 NOTES:



1 PARTIAL GROUND FLOOR MECHANICAL REFLECTED CEILING PLAN - DEMO
 SCALE: 1/4" = 1'-0"



2 PARTIAL GROUND FLOOR MECHANICAL REFLECTED CEILING PLAN - NEW
 SCALE: 1/4" = 1'-0"

GENERAL DEMOLITION NOTES:

- DEMOLITION SHALL NOT INTERRUPT UTILITY SERVICE OF FACILITY. IF TEMPORARY UTILITY SHUT-DOWN IS REQUIRED, ALWAYS COORDINATE WITH FACILITY FACULTY PRIOR TO SHUT-DOWN.
- ALL DEMOLITION DONE IN PLACE SHALL NOT JEOPARDIZE THE STRUCTURAL INTEGRITY OF EXISTING BUILDING OR EXISTING UTILITY SUPPORT THAT IS REQUIRED TO MAINTAIN.
- ALL WORK SHOWN ON PLAN ARE BASED ON INFORMATION FROM RECORD DRAWING. CONTRACTOR SHALL VERIFY EXACT LOCATION, SIZE, CONDITION, AND MATERIAL PRIOR TO DEMOLITION AND INSTALLATION. REPORT DISCREPANCY OF EXISTING MECHANICAL SYSTEM AGAINST INFORMATION ON CONTRACT DOCUMENT TO SCHOOL DISTRICT, ARCHITECT, OR ENGINEER PRIOR TO CONSTRUCT.
- ALL DEMOLITION SHOWN SHALL BE DONE BY COMPLETELY REMOVING, EQUIPMENT AND ASSOCIATED COMPONENTS UNLESS OTHERWISE POD IS SPECIFICALLY NOTED ON PLAN FOR PARTIALLY REUSE EXISTING. ALL FLOOR OR WALL OPENING SHALL BE FILLED AND PATCHED TO MAINTAIN ORIGINAL BUILDING ENVELOP RATING W/ NEW WATER PROOFING BY GC.
- CONTRACTOR SHALL VERIFY EXACT LOCATION, SIZE, CONDITION, AND MATERIAL OF EXISTING MECHANICAL SYSTEM THAN IS INTENDED TO REMAIN AND REUSE. REPORT DEFICIENCY OR CODE COMPLIANCE ISSUE OF EXISTING SYSTEM IF FOUND TO SCHOOL DISTRICT, ARCHITECT, OR ENGINEER.
- COORDINATE WITH GENERAL CONTRACTOR FOR PATCHING AND SEALING WALL OPENING WITH NEW WATERPROOFING.

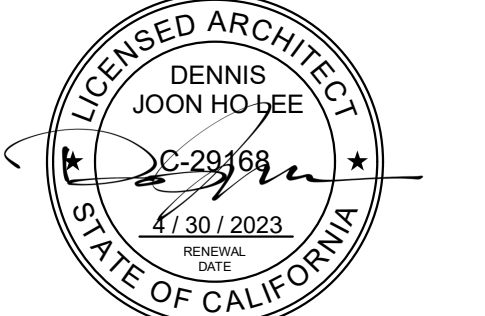
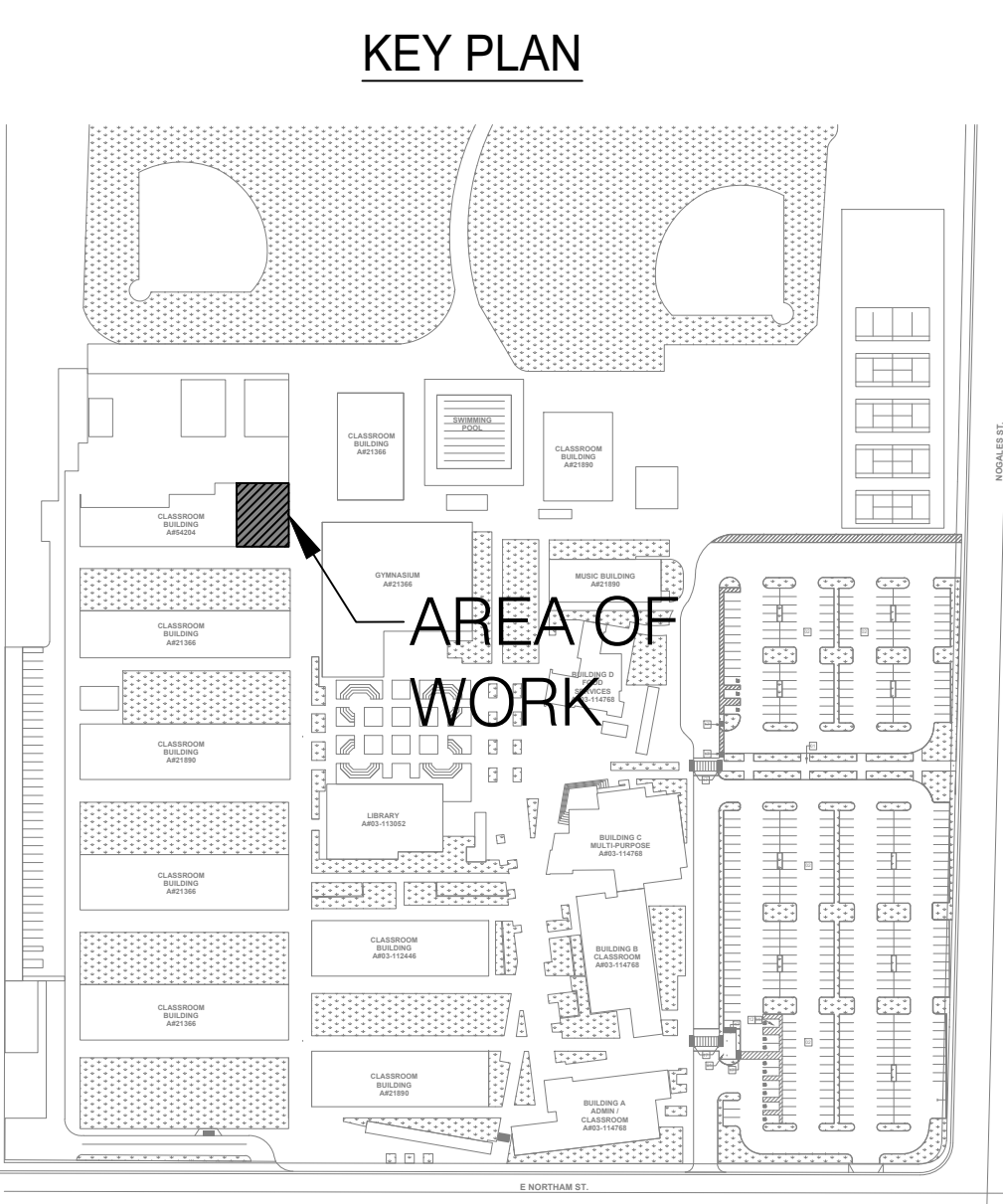
SHEET NOTES:

- CUT AND REMOVE EXISTING 16" O PRODUCT CONVEY EXHAUST DUCTWORK SYSTEM FROM POD PER PLAN. COORDINATE WITH GC FOR PATCHING AND SEALING EXISTING BUILDING OPENING WITH NEW WATERPROOFING.
- COMPLETELY REMOVE ALL PRODUCT CONVEY EXHAUST SYSTEM WITH BRANCHED DUCTS, BLAST-GATE DAMPERS, SNORKEL EXHAUST, SUPPORTS, AND ALL OTHER ASSOCIATED COMPONENTS WHETHER SHOWN ON NOT SHOWN. TYPICAL OF ALL.

- CUT AND REMOVE EXISTING DUCTWORK AND ASSOCIATED COMPONENTS PER PLAN. CAP AND SEAL DUCT OPENING AIRTIGHT. TEMPORARY FOR RECONNECT. SEE DWG. 2/ M-1.0 FOR DETAIL.
- CUT AND REMOVE EXISTING COMPRESSED AIR PIPING FROM POD PER PLAN. COMPLETELY REMOVE ALL PIPES AND ASSOCIATED COMPONENTS WHETHER SHOWN ON NOT SHOWN. TYPICAL OF ALL. CAP EXISTING COMPRESSED AIR AIRTIGHT THAT NEEDS TO BE REMAINED.
- DEMOLISH AND REMOVE EXISTING MAKE-UP AIR DUCT AND GRILLE DOWN FROM ROOF INCLUDING ROOF INTAKE HOOD. COORDINATE WITH GC FOR PATCHING AND SEALING EXISTING ROOF AND WALL OPENING WITH NEW WATERPROOFING.
- DEMOLISH AND REMOVE EXISTING HOOD WITH ASSOCIATED DUCTWORK AND EXHAUST FAN ON ROOF. COORDINATE WITH GC FOR PATCHING AND SEALING EXISTING ROOF OPENING WITH NEW WATERPROOFING.
- DEMOLISH AND REMOVE EXISTING CEILING MOUNTED EXHAUST FAN AND ASSOCIATED EXHAUST GRILLES, DUCTWORK UP TO EXISTING RISER TO ROOF. TEMPORARILY CAP EXISTING 8" O EA RISER OPENING FOR RECONNECTION.
- DEMOLISH AND REMOVE EXISTING EXHAUST FAN AND ASSOCIATED DUCT RISER UP TO ROOF. COORDINATE WITH GC FOR PATCHING AND SEALING EXISTING BUILDING OPENING WITH NEW WATERPROOFING.

SHEET NOTES:

- 14"X 20" SA DOWN FROM ROOF AND CONNECTED TO (N)32"X18"X24"(H) SA PLENUM WITH 1" ACOUSTICAL INTERNAL LINING.
- 25"X 10" RA DOWN FROM ROOF AND CONNECTED TO (N)45"X26"X24"(H) RA PLENUM WITH 1" ACOUSTICAL INTERNAL LINING.
- PROVIDE (N)24/7 PROGRAMMABLE THERMOSTAT WITH PLASTIC VENTILATED LOCKABLE BOX. CONFIRM LOCATION W/ ARCHITECT AND OWNER PRIOR TO INSTALL.
- REPLACE (E) SUPPLY DIFFUSER/ RETURN REGISTER WITH MATCHED SIZE. CONTRACTOR TO VERIFY EXACT DIMENSION AT FIELD PRIOR TO ORDER.
- CEILING MOUNTED EXHAUST FAN. SEE EQUIPMENT SCHEDULE FOR DETAILS.
- 8" O EA CONNECT TO (E) EA UP THROUGH ROOF.
- CONNECT 20x14 SA DN. FR ROOF TO 45X18 SA PLENUM IN CEILING SPACE.
- PROVIDE 1/2" UNDERCUT DOOR WAY FOR TRANSFER AIR.
- PROVIDE MIN. R-6 EXTERNAL INSULATION TO ALL EXPOSED SUPPLY AND RETURN DUCTWORK TO MEET REQUIREMENT OF SCHOOL DISTRICT. TYP. OF ALL.
- ALL DUCT JOINTS OF NEW DUCTWORK SYSTEM SHALL BE SEALED WITH DUCT SEALER TO AIRTIGHT AND PROVIDE PRESSURE TEST TO CHECK LEAKAGE. TYPICAL OF ALL.
- REMOVE 45X18 RA PLENUM CONNECTING TO (E) 30X18 RA DOWN FORM (E) RTU.
- INSTALL DUCT AT 6" BELOW ROOF JOISTS. CONTRACTOR TO COORDINATE EXACT ELEVATIONS AND LOCATION OF DUCT ROUTE WITH OTHER TRADES PRIOR TO INSTALL. SEE DWG. 3 ON M-0.3 FOR DETAIL.



JHP Engineering and Design Services Inc.
 3113 Independence Drive,
 Livermore, CA 94551
 TEL: 925-409-2508 EX.101
 CEL: 510-468-0613
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PROJECT:
 CTE ROBOTICS
 CLASSROOM UPGRADE -
 NOGALES HIGH SCHOOL

401 NOGALES STREET LA
 PUENTE CA 91744

CLIENT:
 ROWLAND UNIFIED SCHOOL DISTRICT
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 ROWLAND HEIGHTS, CA 91748

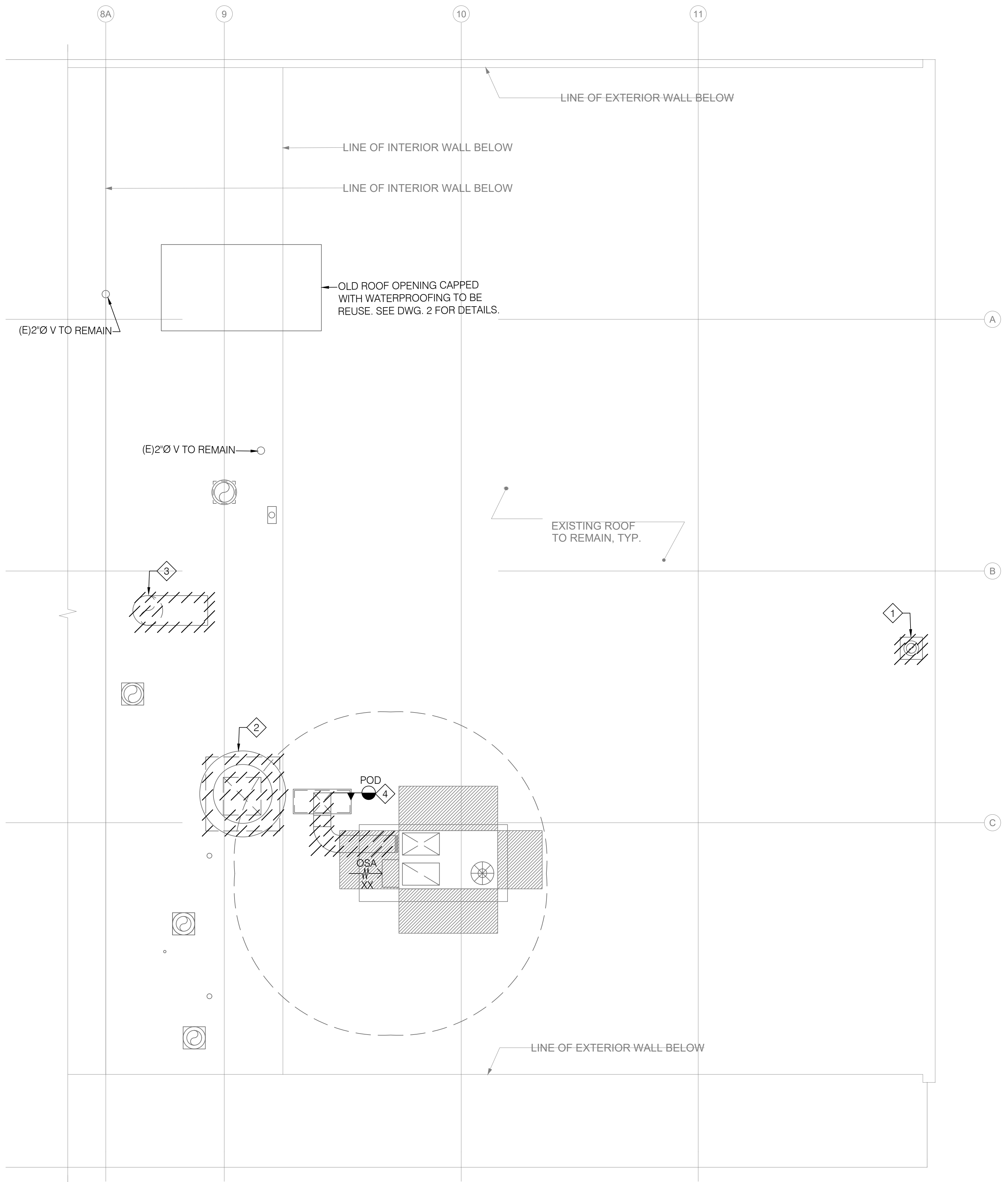
SUBMITTALS REVISIONS:
 PERMIT REVIEW SET 04/09/2021
 PERMIT SET 08/18/2021

PROJECT NO: 20073
SCALE: AS SHOWN
DATE: 9/23/2021
DRAWN BY: SL
CHECKED BY: JP
SHEET TITLE:

**PARTIAL GROUND FL.
 MECHANICAL REFLECTED
 CEILING PLAN - DEMO**

SHEET NO:
M-1.0

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1 PARTIAL ROOF MECHANICAL PLAN- DEMO
SCALE: 1/4" = 1'-0"



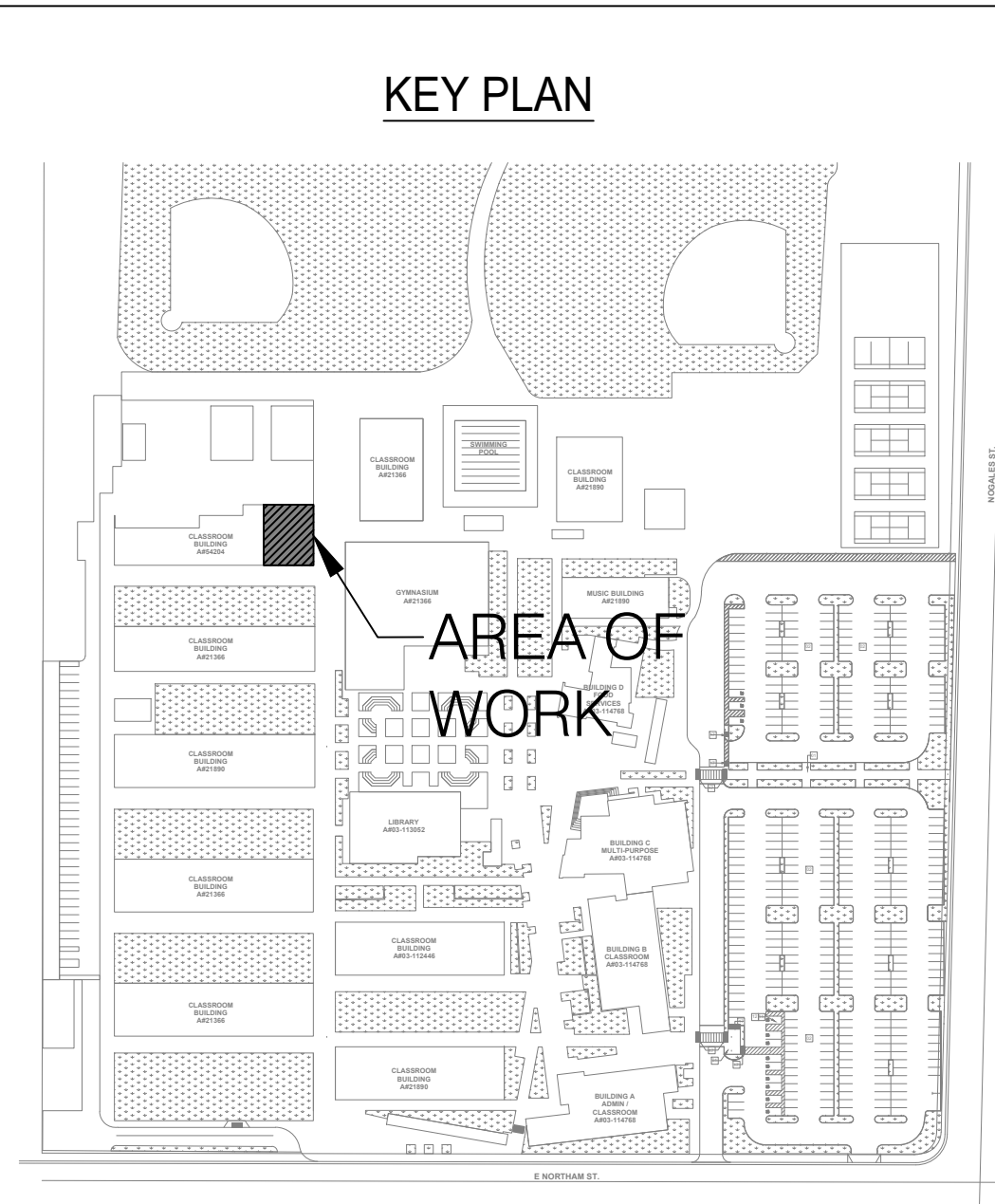
2 PARTIAL ROOF MECHANICAL PLAN- NEW
SCALE: 1/4" = 1'-0"

- GENERAL DEMOLITION NOTES:**
- DEMOLITION SHALL NOT INTERRUPT UTILITY SERVICE OF FACILITY. IF TEMPORARY UTILITY SHUT-DOWN IS REQUIRED, ALWAYS COORDINATE WITH FACILITY FACULTY PRIOR TO SHUT-DOWN.
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 - ALL DEMOLITION SHOWN SHALL BE DONE BY COMPLETELY REMOVING EQUIPMENT AND ASSOCIATED COMPONENTS UNLESS OTHERWISE POD IS SPECIFICALLY NOTED ON PLAN FOR PARTIALLY REUSE EXISTING. ALL FLOOR OR WALL OPENING SHALL BE FILLED AND PATCHED TO MAINTAIN ORIGINAL BUILDING ENVELOPE RATING W/ NEW WATER PROOFING BY GC.
 - CONTRACTOR SHALL VERIFY EXACT LOCATION, SIZE, CONDITION, AND MATERIAL OF EXISTING MECHANICAL SYSTEM THAN IS INTENDED TO REMAIN AND REUSE. REPORT DEFICIENCY OR CODE COMPLIANCE ISSUE OF EXISTING SYSTEM IF FOUND TO SCHOOL DISTRICT, ARCHITECT, OR ENGINEER.

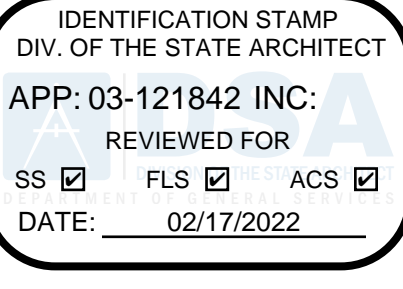
- SHEET NOTES:**
- DEMOLISH AND REMOVE EXISTING EXHAUST FAN SERVING HOOD BELOW. COORDINATE WITH GC FOR PATCHING AND SEALING EXISTING ROOF OPENING WITH NEW WATERPROOFING.
 - DEMOLISH AND REMOVE EXISTING MAKE-UP AIR INTAKE HOOD. COORDINATE WITH GC FOR PATCHING AND SEALING EXISTING ROOF OPENING WITH NEW WATERPROOFING.
 - DEMOLISH AND REMOVE EXISTING EXHAUST DUCT RISER ON ROOF. COORDINATE WITH GC FOR PATCHING AND SEALING EXISTING ROOF OPENING WITH NEW WATERPROOFING.
 - CUT AND REMOVE EXISTING DUCTWORK AND ASSOCIATED COMPONENTS PER PLAN. CAP AND SEAL DUCT OPENING AIRTIGHT. TEMPORARY FOR RECONNECT. SEE DWG. 2/ M-2.0 FOR DETAIL.

- SHEET NOTES:**
- (E)5-TON ROOFTOP PACKAGED AC SYSTEM TO BE REMAIN AND REUSE PER PLAN. SEE EQUIPMENT SCHEDULE FOR DETAILED REQUIREMENT.
 - OUTLINE OF 10-FEET CLEARANCES FROM PLUMBING VENT AND EXHAUST FOR MECHANICAL OSA INTAKE.
 - (E) EA TERMINATED ON ROOF WITH WEATHER CAP TO REMAIN. N.I.C.
 - (N) 14X20 SA DOWN TO CEILING BELOW THROUGH (E) ROOF OPENING WITH NEW ROOF S.M. CAP AND WEATHERPROOFED.
 - (N)5.0-TON ROOFTOP PACKAGED AC UNIT INSTALLED ON (N) FACTORY CURB UNIT WITH MAINTAINING ALL FACTORY REQUIRED CLEARANCE. SEE EQUIPMENT SCHEDULE FOR DETAILED REQUIREMENTS AND STRUCTURAL DRAWING FOR ANCHORAGE DETAILS.
 - COORDINATE W/ GC FOR MODIFICATION OF (E) ROOF OPENING TO FIT (N) ROOF CURB FOR (N) RTU INSTALLATION. SEE DWG 6/ M-0.3 FOR DETAILS OF ROOF CURB.
 - 14X20 SA DOWN TO CEILING SPACE OF GND. FL. COORDINATE W/ GC FOR (N) ROOF OPENING AND WATERPROOFING.
 - 14X20 INTERNALLY INSULATED SA ON ROOF. PAINT DUCTWORK FOR WEATHERPROOFING.
 - (E) 2'0" V TO BE OFFSET TO MAINTAIN 10-FEET CLEARANCE TO OSA INTAKE OF RTU. SEE PLUMBING PLAN FOR DETAILS.
 - PROVIDE MIN. R-8 EXTERNAL WEATHERPROOFED INSULATION TO ALL DUCTWORK MEETING REQUIREMENT OF SCHOOL DISTRICT. TYP. OF ALL.
 - ALL DUCT JOINTS OF NEW DUCTWORK SYSTEM SHALL BE SEALED WITH DUCT SEALER TO AIRTIGHT AND PROVIDE PRESSURE TEST TO CHECK LEAKAGE. TYPICAL OF ALL.

- RECONNECT (N) 14X20 SUPPLY AIR MAIN RISER TO DISCHARGES OF (E) RTU-01 WITH NEW MATCHED SIZED SUPPLY AND RETURN MAIN TO UNIT. PROVIDE NEW DUCT SUPPORT AS REQUIRED AND FLEXIBLE DUCT CONNECTORS AT CONNECTION TO UNIT. CONTRACTOR TO FIELD VERIFY EXACT DIMENSION OF DUCT AND REQUIRE TRANSITIONS FOR CONNECTIONS.

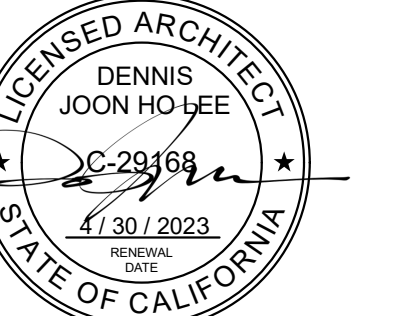


DSA APPLICATION: **A# 03-121842**



ARCHITECT:
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PROJECT:
CTE ROBOTICS CLASSROOM UPGRADE - NOGALES HIGH SCHOOL

401 NOGALES STREET LA
PUENTE CA 91744

CLIENT:
**ROWLAND UNIFIED SCHOOL DISTRICT
1830 NOGALES STREET
ROWLAND HEIGHTS, CA 91748**

SUBMITTALS REVISIONS:
PERMIT REVIEW SET 04/09/2021
PERMIT SET 08/18/2021

PROJECT NO: 20073
SCALE: AS SHOWN
DATE: 9/23/2021
CHECKED BY: JP
SHEET TITLE:

PARTIAL ROOF MECHANICAL PLANS

SHEET NO:
M-2.0

B:\Drawing\COM-CONCRETE - BIM\Road Base for ARCH\CAD 25/02/2021 11:40:55 - Nogaes High School - Thursday, September 23, 2021 7:50 AM

GENERAL NOTES	
1.	CONTRACTOR SHALL VISIT JOB SITE TO VERIFY FIELD CONDITION AGAINST CONSTRUCTION PLAN AND SPECIFICATION. IDENTIFY POSSIBLE CONFLICT AND DISCREPANCY BETWEEN PLAN AND SITE CONDITION, AND BRING TO OWNER'S AND ENGINEERS ATTENTION PRIOR TO ENTER CONTRACT.
2.	SUBMISSION OF A CONTRACT SHALL BE CONSTRUCTED AS EVIDENCE THAT A CAREFUL EXAMINATION OF THE PORTION OF THE EXISTING BUILDING, EQUIPMENT, SYSTEMS, SITE CONSTRAINTS, ETC. WHICH MAY AFFECT THE ASSOCIATED WORK SCOPE UNDER THIS CONTRACT, AND THE ACCESS TO SUCH SPACES, HAVE ALL BEEN MADE AND THAT THE CONTRACTOR IS FULLY AWARE OF WITH EXISTING CONDITIONS AND DIFFICULTIES THAT WILL AFFECT THE EXECUTION OF WORK. LATER CLAIMS SHALL NOT BE MADE FOR LABOR, EQUIPMENT, OR MATERIAL REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED WHICH COULD HAVE BEEN FORESEEN DURING SUCH EXAMINATIONS.
3.	BY ENTERING CONTRACT OF CONSTRUCTION, WHETHER IT IS SHOWN OR NOT SHOWN ON THIS PLAN, CONTRACTOR IS FULLY RESPONSIBLE TO COMPLETE WORK WITH MEETING ALL APPLICABLE CODES, LAWS, AND REGULATIONS GOVERNING ANY PORTION OF THE WORK SCOPE ON PLAN AND SPECIFICATIONS PRIOR TO SUBMITTING A PROPOSAL. CONTRACTOR SHALL FULLY UNDERSTAND AND COVER ALL COSTS WORK SCOPE AND MATERIALS TO MEET ALL APPLICABLE CODES, LAWS, AND REGULATIONS. ANY WORK DONE BY THE CONTRACTOR CAUSING SUCH VIOLATION SHALL BE CORRECTED BY THE CONTRACTOR.
4.	CONTRACTOR IS TO REVIEW PLANS OF OTHER DISCIPLINES AND COORDINATE WITH THE WORK OF OTHER TRADES PRIOR TO INSTALLATION TO AVOID ANY CONFLICT. NO COST SHALL BE INCURRED ON CONSTRUCTABILITY ISSUE DUE TO LACK OF COORDINATION.
5.	ALL WORK SHOWN ON PLAN ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT OF SYSTEM AND WORK. INFORMATION ON PLAN SHALL NOT BE USED TO DETERMINE EXACT LOCATION OF INSTALLATION. WHERE INSTALLATION REQUIRES EXACT MEASUREMENTS AND COORDINATION WITH WORKS OF OTHER TRADE, CONTRACTOR SHALL PREFORM ALL REQUIRED WORK AND PROVIDE SHOP DRAWINGS FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION. THE CONTRACTOR SHALL ALLOW IN HIS PRICE FOR WORK DONE WITH DEVIATIONS IN LOCATION AND METHOD TO AVOID OBSTRUCTIONS AND CONFLICT OF OTHER TRADES AND EXISTING UTILIZES OF BASE BUILDING.
6.	CONTRACTOR SHALL SUBMIT SPECIFICATIONS OF ALL THE MATERIALS AND EQUIPMENT TO BE USED ALONG WITH SHOP DRAWING WHERE REQUIRES IN SPECIFICATION FOR APPROVAL PRIOR TO ORDER.
7.	ALL NEW WORK CONNECTING TO EXISTING BASE BUILDING UTILIZES SHALL BE FULLY COORDINATED WITH REPRESENTATIVE OF OWNERSHIP TO RESULT MINIMUM INTERFERENCE TO EXISTING FACILITIES. TEMPORARY UTILITY SHUT-DOWN TO EXISTING BUILDING SERVICE SHALL BE APPROVED BY OWNERSHIP WITH WRITTEN CONSENT OF BUILDING OWNER AND SHALL INCURRED NO ADDITIONAL CHARGES. FOLLOW ALL REQUIRED CLEANING PROCEDURES AND CONNECTION REQUIREMENT PRIOR TO ESTABLISH SERVICE AFTER CONNECTION. WHERE CONTINUOUS OPERATION OF EXISTING BUILDING SERVICES ARE REQUIRED, PROVIDE WORKMANSHIP AND MATERIAL FOR ISOLATION BETWEEN BUILDING AND PROJECT SPACE, RESTORE BUILDING SERVICE IMMEDIATELY WITH MAINTAINING ORIGINAL OPERATING CONDITION.
8.	CONTRACTOR SHALL STORE ALL EQUIPMENT AND MATERIAL IN A ORGANIZED AND CLEANED SPACE AT ALL TIME TO PREVENT FROM DAMAGING AND DETERIORATION PRIOR TO INSTALLATION. CONTRACTOR SHALL KEEP ALL PART OF THE CONSTRUCTION AREA AND ASSOCIATED ACCESSES CLEAN AND FREE OF DEBRIS RESULTING FROM EXECUTION OF WORK.
9.	ALL LOCATION OF EXISTING UTILITIES ARE SHOWN BASED ON RECORD DRAWING OR INFORMATION PROVIDED BY SURVEYOR OR BASE BUILDING. CONTRACTOR IS RESPONSIBLE TO VERIFY EXACT LOCATION, SIZE, CONDITION, MATERIAL, AND INVERT AS APPLICABLE TO CONFIRM CONSTRUCTABILITY PRIOR TO INSTALL.
10.	ALL EQUIPMENT INSTALLED SHALL BE PROVIDED WITH ACCESS AND CLEARANCES MEETING CODE REQUIREMENT AND REQUIREMENTS OF FACTORY INSTALLATION GUIDELINES FOR MAINTENANCE. WHERE ACCESS SHALL BE PROVIDED FOR OPERATION, INSPECTION, TESTING, BALANCING, MAINTENANCE, OR CODE COMPLIANCE, WHETHER SHOWN ON NOT SHOWN ON ARCHITECTURAL PLAN, CONTRACTOR SHALL COORDINATE WITH GENERAL CONTRACTOR FOR PROVISION OF SUCH ACCESS.
11.	ANY INVASIVE CONSTRUCTION, SUCH AS CORE-DRILLING, CUTTING, BORING, OPENING, TO EXISTING BUILDING FLOOR OR WALL, STRUCTURAL OR NON-STRUCTURAL RELATED, SHALL BE SUBJECTED TO WRITTEN APPROVAL BY REPRESENTATIVE OR OWNERSHIP OF BASE BUILDING. WHERE REQUIRED BY OWNER, PROVIDE SHOP DRAWING WITH DETAILED MEANS AND METHODS WITH DIMENSIONAL RESULTS OF X-RAY SCANNING AS EVIDENCE TO ENSURE NO DAMAGE WILL CAUSE TO EXISTING BUILDING STRUCTURE OR UTILITY PRIOR TO PERFORM SUCH WORK. NO CONSTRUCTION SHALL BE DONE IN RESULTING OF ANY DAMAGING OR DERATING OF BUILDING STRUCTURE INTEGRITY AND UTILITY SERVICEABILITY.
12.	ANY OPENING MADE TO EXISTING BUILDING SHALL BE SUPPORTED, PATCHED, AND SEALED TO MEET ALL SPECIFICATION OF ORIGINAL CONSTRUCTION. ALL PENETRATION TO RATED ASSEMBLY SHALL BE PROTECTED BY UL LISTED FIRM AND/OR SMOKE PROTECTION ASSEMBLY TO MAINTAIN ORIGINAL ASSEMBLY FIRE AND SMOKE RATING.
13.	CONTRACTOR SHALL PROVIDE INSURANCE POLICY IN ACCORDANCE TO BUILDING OWNERS AND PROJECT OWNERS REQUIREMENTS INCLUDING A HOLD HARMLESS CAUSE FOR OWNER AND ENGINEER ON RECORD.
14.	FOR THE USE OF EQUIPMENT OR MATERIAL THAT ARE DIFFERENT FROM SCHEDULES OR SPECIFICATIONS, CONTRACTOR IS RESPONSIBLE TO PROVIDE, INCLUDING BUT NOT LIMITED TO, SPECIFICATION, CALCULATION, ENGINEERING, COST DIFFERENCE, ETC. FOR APPROVAL OF EQUAL AND OWNERS APPROVAL.
15.	ALL WORK DONE SHALL BE GUARANTEED FOR A PERIOD OF TWO YEARS FROM DATE OF ACCEPTANCE OF WORK.
16.	PRIOR TO FINAL ACCEPTANCE BY OWNER OR REPRESENTATIVE OF OWNER, CONTRACTOR IS RESPONSIBLE TO TEST, ADJUST, AND BALANCE ALL ASSOCIATED EQUIPMENT AND SYSTEM WITHIN SCOPE WITH PROVISIONS OF REPORTS WHERE REQUIRED IN SPECIFICATIONS TO DEMONSTRATE THAT ALL REQUIREMENTS OF PLANS AND SPECIFICATIONS ARE FULLY MET AND ALL APPLICABLE CODES, LAWS, AND REGULATIONS ARE FULLY COMPLIED.

PLUMBING GENERAL NOTES	
1.	PROVIDE ISOLATED COUPLINGS AND/OR UNIONS AT POINTS OF CONNECTION BETWEEN COPPER, STEEL AND BRASS PIPING.
2.	ALL WATER PIPING SYSTEMS AND DRAINAGE PIPING SYSTEMS, INCLUDING SUPPLY, WASTE AND DRAIN SHALL BE INSTALLED WITH VIBRATION ISOLATORS AND SHALL BE ISOLATED FROM ANY STRUCTURAL MEMBERS, WALL, SECTIONS OR OTHER MATERIALS THAT COULD TRANSMIT SOUND TO THE OCCUPIED AREAS. ALL HANGERS, STRAPS, BRACKETS, AND SUPPORTS SHALL HAVE ACOUSTICAL COMPONENTS OR COMBINED NEOPRENE AND PLASTIC FOAM BY TECH SPECIALTIES, DIVISION OF SPECIALTY PRODUCTS CO. TO ISOLATE COMPLETE PIPE CONTACT AREA. ALL ISOLATION MATERIAL SHALL HAVE A MINIMUM THICKNESS OF 1/2". INSTALL ALL COMPONENTS AS PER MANUFACTURER'S INSTRUCTIONS.
3.	INSTALL ALL CLEAN-OUTS WHERE REQUIRED BY ORDINANCES, AT ENDS OF HOUSE DRAINS, AT ALL CHANGES IN DIRECTIONS, IN ALL STRAIGHT RUNS AT 100 FOOT INTERVALS, WHERE HORIZONTAL MAINS CHANGE SIZE, AND AT ALL ENDS OF ALL BRANCH PIPES WHICH ARE 5' OR OVER IN LENGTH.
4.	PLUMBING FIXTURES SHALL BE COMPLETED WITH ALL ACCESSORIES REQUIRED FOR A COMPLETE INSTALLATION.
5.	SELECTION OF FAUCETS AND FITTINGS SHALL AVOID THE TYPE WITH POTENTIAL FOR LEAD CONTAMINATION.
6.	INSTALL STOP VALVES ON HOT AND COLD WATER SUPPLIES TO EACH FIXTURE.
7.	ALL FLOOR DRAIN MUST HAVE 1/2" COLD WATER LINE CONNECTED TO TRAP PRIMER. ALL UNDERGROUND COLD WATER LINE SHALL BE ASTM TYPE-K HARD DRAWN COOPER INSTALLED WITH CONTINUOUS SLOPE TOWARD FLOOR DRAIN.
8.	MATERIALS, METHODS AND LOCATIONS OF SERVICE MAINS CONNECTING THE NEW CONSTRUCTION TO ALL NEW AND EXISTING SERVICES SHALL BE IN STRICT ACCORDANCE WITH RULES, REGULATIONS, CODES AND REQUIREMENTS OF ALL AGENCIES HAVING JURISDICTION OVER THIS INSTALLATION. LOCATE ALL EXISTING STUBS TO BE CONNECTED TO IN THIS CONTRACT BEFORE WORK IS STARTED. COORDINATE LOCATION OF WATER AND SEWER CONNECTIONS WITH BUILDING ENGINEER.
9.	CAULK AIRTIGHT ALL PLUMBING PENETRATIONS IN SOUND RATED WALLS AND FLOOR/CEILINGS. SEAL PENETRATIONS OF CONCRETE FLOORS WITH CEMENT GROUT. MINIMIZE PENETRATIONS THROUGH SOUND RATED CONSTRUCTION.
10.	CONTRACTOR SHALL INSTALL ALL PLUMBING FIXTURES AND TRIM AS SHOWN ON THE ARCHITECTURAL PLANS. ROUGH-IN FOR ALL FIXTURES SHALL BE EXACTLY TO MEASUREMENTS FURNISHED BY FIXTURE MANUFACTURER. ALL EXPOSED PARTS TO BE CHROMIUM PLATED UNLESS SPECIFIED OTHERWISE.
11.	KEEP ROUGH-IN CUTS WITHIN THE PLATE LINES AND DO NOT CUT COMPLETELY THROUGH PLATES IN SOUND-RATED WALLS. DRILL OR SAW NEAT ROUND HOLES FOR ALL PIPING. SIZE APPROXIMATELY 1/2 INCH LARGER THAN THE PIPE DIAMETER.
12.	PIPE LINES SHALL BE INSTALLED FREE FROM TRAPS AND AIR POCKETS AND TRUE TO LINE AND GRADE WITH SUITABLE SUPPORTS PROPERLY SPACED. PIPING SHALL BE INSTALLED WITHOUT UNDUE STRESSES AND WITH PROVISION FOR EXPANSION AND CONTRACTIONS.
13.	HORIZONTAL LINES SHALL HAVE HANGERS OR SUPPORTS SPACED AS FOLLOWS: A. CAST IRON PIPE - 5' CENTERS B. STEEL PIPE - 10' CENTERS C. COOPER TUBING - 5' CENTERS FOR 1-1/2" AND SMALLER, 10' CENTERS FOR 2" AND LARGER
14.	PIPING SHALL BE NEW AND FREE FROM FOREIGN SUBSTANCES. REAM OUT ALL BURRS FORMED IN CUTTING PIPE. THREADS SHALL BE CUT ACCURATELY AND NOT OVER TWO THREADS SHALL SHOW BEYOND THE FITTING. FRICTION WRENCHES SHALL BE USED WITH PLATED POLISHED, OR SOFT METAL PIPING.
15.	CHANGES IN PIPE SIZE SHALL BE MADE WITH REDUCING FITTINGS, AND BUSHING WILL NOT BE PERMITTED.
16.	UNION CONNECTION SHALL BE INSTALLED DOWNSTREAM OF ALL VALVES, AT ALL EQUIPMENT CONNECTIONS AND AT OTHER POINTS AS REQUIRED.
17.	CUTTING OR BORING OF HOLES THROUGH STRUCTURAL MEMBERS SHALL BE DONE ONLY WHEN IT IS IMPOSSIBLE TO ROUTE PIPING IN ANOTHER MANNER. IF CUTTING OR BORING IS NECESSARY IT SHALL BE ACCOMPLISHED ONLY BY WRITTEN APPROVAL FROM THE ARCHITECT, STRUCTURAL AND BUILDING ENGINEER, AND ALSO INCLUDED IN HIS BIDS. WORK SHALL COMPLY WITH CBC SECTIONS 2320A.8.9 AND 2320A.11.10.
18.	DO NOT ALLOW THE PIPING, VALVES OR CONNECTORS TO FORM A RIGID CONNECTION WITH THE STRUCTURE OR OTHER PIPES. INSTALL PIPING TO ALLOW FOR EXPANSION AND CONTRACTION WITHOUT STRESSING PIPE, JOINTS OR CONNECTED EQUIPMENT.
19.	PROVIDE SIOUX CHIEF WATER HAMMER ARRESTER FOR EACH PLUMBING FIXTURE BANK OR 18" HIGH AIR CHAMBER FOR EACH PLUMBING FIXTURE. SIZE OF WATER HAMMER ARRESTER SHALL BE SUFFICIENT TO HANDLE THE REQUIRED FIXTURE UNIT AT EACH BANK.
20.	THE DOMESTIC WATER SUPPLY AND DISTRIBUTION SYSTEM WITHIN THE AREA OF WORK SHALL BE STERILIZED WITH CHLORINE IN SOLUTION IN ACCORDANCE WITH AMERICAN WATER WORKS ASSOCIATION PUBLICATION C-601-1954.
21.	PRESSURE TEST ENTIRE HOT AND COLD PIPING AND DRAINAGE SYSTEM FROM CAPPED CONNECTIONS, TO AND INCLUDING VENTS.
22.	HOT WATER PIPING TO BE INSULATED PER CODE.
23.	PROVIDE ACCESS PANEL FOR ALL STUB OUTS ENDED INSIDE CEILING OR WALL.
24.	THREADED FITTINGS: ANSI/ASME B16.3 BLACK MALLEABLE IRON.
25.	SOCKET-WELDING FITTINGS: ANSI B16.11 FORGED STEEL.
26.	BUTT-WELDING FITTINGS: ANSI/ASME B16.9 WROUGHT STEEL WITH BACKING RINGS OF COMPATIBLE MATERIAL.
27.	UNIONS: ASME/ANSI B16.39 BLACK MALLEABLE IRON.
28.	FLANGES AND FLANGED FITTINGS: ASME/ANSI B16.5 STEEL FLANGES OR CONVOLUTED STEEL FLANGES. FLANGE FACES SHALL HAVE INTEGRAL GROOVES OF RECTANGULAR CROSS SECTION WHICH AFFORD CONTAINMENT FOR SELF-ENERGIZING GASKET MATERIAL.
29.	THREADED JOINTS: WHERE POSSIBLE USE PIPE WITH FACTORY-CUT THREADS, OTHERWISE CUT PIPE LENGTHS ACCORDINGLY WITH ANSI/ASME B1.20.1. PROVIDE THREADS SMOOTH, CLEAN, AND FULL-CUT. APPLY ANTI-SEIZE PASTE OR TAPE TO MALE THREADS PORTION. WORK PIPING INTO PLACE WITHOUT SPRINGING OR FORCING. BACKING OFF TO PERMIT ALIGNMENT OF THREADED JOINTS WILL NOT BE PERMITTED. ENGAGE THREADS SO THAT NOT MORE THAN TWO THREADS REMAIN EXPOSED. USE UNIONS FOR CONNECTIONS TO VALVES, METERS FOR WHICH A MEANS OF DISCONNECTION IS NOT OTHERWISE PROVIDED.
30.	WELDED JOINTS: WELD BY THE SHIELDED METAL-ARC PROCESS, USING COVERED ELECTRODES AND IN ACCORDANCE WITH PROCEDURES ESTABLISHED AND QUALIFIED IN ACCORDANCE WITH ASME B31.8.
31.	FLANGED JOINTS: USE FLANGED JOINTS FOR CONNECTING WELDED JOINT PIPE AND FITTINGS TO VALVES TO PROVIDE FOR DISCONNECTION. INSTALL JOINTS SO THAT FLANGE FACES BEAR UNIFORMLY ON GASKETS. ENGAGE BOLTS SO THAT THERE IF COMPLETE THREADING THROUGH THE NUTS AND TIGHTEN SO THAT BOLTS ARE UNIFORMLY STRESSED AND EQUALLY TORQUE.
32.	USE TEST PRESSURE OF 50 PSIG. DO NOT TEST UNTIL EVERY JOINT HAS SET AND COOLED AT LEAST 8 HOURS AT TEMPERATURES ABOVE 50 DEGREES F. TEST PIPING SYSTEM FOR AT LEAST 4 HOURS WITHOUT PRESSURE LOSS OR VISIBLE LEAKS.
33.	PLUMBING FIXTURE CONNECTION SIZE: SEE PLAN.
34.	ALL HOT WATER PIPE SHALL BE INSULATED WITH INSULATION PER 2019 TITLE 24 STANDARD. MINIMUM 1"-THICK INSULATION FOR PIPE LESS THAN 1"Ø AND MINIMUM 1/2"-THICK INSULATION FOR PIPE LARGER THAN OR EQUAL TO 1"Ø.

PLUMBING GENERAL NOTES	
35.	PRESSURE PIPING AND FITTING: A. DOMESTIC COLD AND HOT WATER (ABOVE GRADE): HARD DRAWN DEOXIDIZED WATER SERVICE TUBING CONFORMING TO ASTM B88, TYPE "L". PROVIDE 125 PSI FLANGE AT CHANGE OF MATERIAL LOCATIONS. B. DOMESTIC COLD AND HOT WATER (BELOW GRADE): HARD DRAWN DEOXIDIZED WATER SERVICE TUBING CONFORMING TO ASTM B88, TYPE "K". C. FITTINGS FOR COPPER WATER TUBING: ANSI B16.22 WROUGHT COPPER SOLDER-JOINT FITTING. D. TRAP PRIMER PIPING (UNDERGROUND): HARD DRAWN DEOXIDIZED WATER SERVICE TUBING CONFORMING TO ASTM B88, TYPE "K", WROUGHT COPPER FITTING AND BRAZED JOINT. E. HARRIS, ENGELHARD, OR EQUAL, BCUP FILLER MATERIAL FOR BRAZING OF COPPER FITTING JOINTS. BRAZE JOINTS FOR COLD WATER PIPING 2-1/2" AND LARGER. BRAZE JOINTS FOR HOT WATER PIPING 2-1/2" AND LARGER.
36.	SANITARY AND GREASE DRAINAGE PIPING AND FITTING: A. CAST IRON SOIL PIPE AND FITTINGS (ABOVE FLOOR): REQUIRED CISPI 301 & 310 WHICH COMPLIANCE WITH HUD UM 77A CAST IRON HUBLESS SOIL PIPE AND FITTING. ALL PIPE AND FITTINGS SHALL BE MARKED WITH CISPI'S COLLECTIVE TRADEMARK OR RECEIVE PRIOR APPROVAL BE THE ENGINEER OF RECORD. JOINTS FOR HUBLESS PIPE AND FITTINGS: CISPI 310 AND SHALL CONFORM TO THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND LOCAL CODE REQUIREMENTS. ANACO "HUSKY SD 4000, CLAMP-ALL 125, TYLER WB, MG COUPLINGS, OR EQUAL, COMPLY WITH FM 1680, CLASS 1. B. CAST IRON SOIL PIPE AND FITTINGS (BELOW SLAB): ASTM A74 STANDARD WEIGHT HUB AND SPIGOT PIPING AND FITTING. ALL PIPE AND FITTINGS SHALL BE MARKED WITH CISPI'S COLLECTIVE TRADEMARK OR RECEIVE PRIOR APPROVAL BE THE ENGINEER OF RECORD. JOINT FOR HUB AND SPIGOT PIPE AND FITTINGS: ASTM C-564 COMPRESSION GASKETS OR SHALL BE INSTALLED WITH LEAD AND OAKUM. C. COPPER DRAINAGE PIPING AND FITTINGS (ABOVE FLOOR): ASTM B306 DWV TYPE COPPER TUBING AND ANSI B16.23 CAST BRONZE SOLDER-JOINT DRAINAGE TYPE FITTING. PROVIDE MISSION, OR EQUAL, CISPI 310 ADAPTOR COUPLING WITH NEOPRENE GASKET AND STAINLESS STEEL SHIELD WITH TWO BANOS. D. CONDENSATE PIPING AND FITTINGS: ASTM B88 HARD DRAWN DEOXIDIZED, TYPE M COPPER TUBING WITH ANSI B16.22 WROUGHT COPPER WYES AND LONG RADIUS SOLDER-JOINT FITTINGS.
37.	NATURAL GAS PIPING AND FITTING: A. BELOW GRADE PIPING: PE 2406, POLYETHYLENE PIPING CONFORMING WITH ASTM D 2513 WITH SOCKET TYPE FITTINGS CONFORMING WITH ASTM D 2683, AND MINIMUM SDR 11. FOR 6" SIZE NATURAL GAS MAIN, USE BUTT FITTINGS WITH SDR 11. PROVIDE POLYETHYLENE TO SCH. 40 STEEL PIPE TRANSITION FITTING AND RISER AT EACH BUILDING PRIOR TO EXTENDING GAS PIPING ABOVE GROUND. PROVIDE 16 AWG COPPER TRACE WIRE OVER ENTIRE RUN OF PE PIPING AT 12 INCHES ABOVE PIPE. B. FOR ABOVE GRADE PIPING: ASTM A-53, SCHEDULE 40 BLACK STEEL PIPING WITH MALLEABLE IRON THREADED FITTING CONFORMING TO ANSI B16.3, AND SCHEDULE 40 STEEL FITTING FOR BUTT WELDING CONFORMING TO ASTM A234, OR ASME B16.9
38.	ALL FIXTURES, EQUIPMENT, PIPING AND MATERIALS SHALL BE LISTED.
39.	ALL FAUCETS IN PUBLIC RESTROOMS SHALL BE SELF-CLOSING OR SELF-CLOSING METERING FAUCETS.
40.	PUBLIC LAVATORIES SHALL HAVE CONTROLS TO LIMIT THE WATER TEMPERATURE TO 105°F.
41.	WATER PIPE AND FITTINGS WITH A LEAD CONTENT WITH EXCEEDS 8% SHALL BE PROHIBITED IN SYSTEMS CONVEYING POTABLE WATER.
42.	ALL NATURAL GAS COOKING EQUIPMENT SHALL BE EQUIPPED WITH QUICK DISCONNECT GAS HOSE CONNECTION AND RESTRAINING CABLE ATTACHED TO THE EQUIPMENT.
43.	ALL PLUMBING FIXTURES AND FITTING SHALL MEET THE STANDARDS REFERENCED IN TABLE 1701.1 OF THE 2016 CPC CGBC CHAPTER 6, CGBC SECTION 5.303.6.
44.	ALL CLEAN-OUTS SHALL BE INSTALLED AS PER SEC. 707.0 & 719.0 OF LATEST CPC.
45.	WATER SUPPLY AND DRAIN PIPES UNDER ACCESSIBLE LAVATORIES AND SINKS SHALL BE INSULATED OR OTHERWISE BE CONFIGURED, TO PROTECT AGAINST CONTACT, PROTECTORS, INSULATORS, OR BOTH SHALL COMPLY WITH ASME A 112.18.9.
46.	ALL HOSE BIBBS AND FAUCETS CONNECTED TO NON-POTABLE WATER LINES SHALL BE POSTED "CAUTION: NON-POTABLE WATER, DO NOT DRINK".
47.	ALL NEW POTABLE WATER SYSTEMS SHALL BE DISINFECTED PRIOR TO USE ACCORDING TO SECTION 609.9(1-3) OF THE LATEST PLUMBING CODE.
SCOPE OF WORK	
<ul style="list-style-type: none"> PROVIDE PLUMBING SYSTEM DEMOLITION PER PLAN. FURNISH AND INSTALL PLUMBING FIXTURES AND ASSOCIATED COMPONENTS PER PLAN. FURNISH AND INSTALL NEW DOMESTIC WATER PIPING SYSTEM WITH ALL OTHER ASSOCIATED COMPONENTS PER PLAN. FURNISH AND INSTALL NEW WASTE AND VENT SYSTEM WITH ALL OTHER ASSOCIATED COMPONENT PER PLAN. FURNISH AND INSTALL NATURAL GAS PIPING SYSTEM AND ALL OTHER ASSOCIATED COMPONENTS PER PLAN. FURNISH AND INSTALL CONDENSATE PIPING SYSTEM AND ALL OTHER ASSOCIATED COMPONENTS PER PLAN. 	
DRAWING INDEX	
P-0.1	PLUMBING NOTES AND GENERAL INFORMATION
P-0.2	PLUMBING SCHEDULES, CALCULATION, AND TABLES
P-0.3	PLUMBING DETAILS
P-1.0	PARTIAL GROUND FLOOR DOMESTIC WATER AND NATURAL GAS PIPING PLANS
P-1.1	PARTIAL GROUND FLOOR WASTE AND VENT PIPING PLANS
P-2.0	PARTIAL ROOF PLUMBING PLAN
APPLICABLE CODE	
2019 CALIFORNIA BUILDING CODE 2019 CALIFORNIA MECHANICAL CODE 2019 CALIFORNIA PLUMBING CODE 2019 CALIFORNIA ENERGY CODE 2019 CALIFORNIA FIRE CODE 2019 NFPA 13 ALL AMENDMENTS AND SUPPLEMENTS TO ABOVE CODES ALL CITY OF LA PUENTE ORDINANCES AND AMENDMENTS TO ABOVE CODES	

LEGENDS, SYMBOLS AND ABBREVIATIONS			
SYMBOL		DESCRIPTION	
	=====	EQUIPMENT TYPE	
	=====	EQUIPMENT NUMBER	
	=====	DETAIL DRAWING NUMBER	
	=====	DETAIL DRAWING PAGE	
	POC	POINT OF CONNECTION	
	POD	POINT OF DISCONNECT	
	--	PLUMBING FIXTURE CONNECTION	
	CO	CLEAN OUT	
	DN.	PIPE DOWN	
	UP	PIPE UP	
	--	FLOW DIRECTION	
	TP	TRAP PRIMER W/ WALL ACCESS PANEL	
	SOV	SHUT-OFF VALVE	
	CKV	CHECK VALVE	
	GCK	GAS COCK	
	FD	FLOOR DRAIN	
	PR	PIPE REDUCER	
	WCO	WALL CLEAN-OUT	
	FCO	FLOOR CLEAN-OUT	
LINE TYPE		ABBREV.	
	(D)	PIPE TO BE REMOVED	
	(E)	EXISTING PIPE TO REMAIN	
	G.	NATURAL GAS	
	HWS	HOT WATER SUPPLY	
	HWR	HOT WATER RETURN	
	CW	COLD WATER SUPPLY	
	SW	SANITARY WASTE	
	V	VENT PIPE	
	CD	CONDENSATE DRAIN	
	BFP	BACK-FLOW PREVENTER	
ABBR.	DESCRIPTION	ABBR.	DESCRIPTION
AFF	ABOVE FINISHED FLOOR	FR	FROM
BG	BELOW GRADE	GE	GREASE EX-HAUST
BLDG	BUILDING	ICS	IN CEILING SPACE
BSMT	BASEMENT	INS	INSULATION (THERMAL)
CFF	CAP FOR FUTURE	OSA	OUTSIDE AIR (FRESH AIR)
CLG	CEILING	NIC	NOT IN CONTRACT
CSD	CEILING SUPPLY DIFFUSER	SA	SUPPLY AIR
EA	EXHAUST AIR	SAD	SEE ARCHITECTURAL DRAWING
DN	DOWN	SOV	SHUT-OFF VALVE
FA	FRESH AIR	SRR	SIDEWALL RETURN REGISTER
FL	FLOOR	UFR	UP THROUGH ROOF
FR	FROM	VTF	VENT THROUGH ROOF

DSA APPLICATION: # 03-121842

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-121842 INC:
REVIEWED FOR:
SS FLS ACS
DATE: 02/17/2022

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DENNIS JOON HEE
C-29169
4/30/2023
STATE OF CALIFORNIA

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PROFESSIONAL ENGINEER
MCS 4
CA 20205
MECHANICAL
STATE OF CALIFORNIA

PROJECT:
CTE ROBOTICS CLASSROOM UPGRADE - NOGALES HIGH SCHOOL

401 NOGALES STREET LA PUENTE CA 91744
CLIENT:

ROWLAND UNIFIED SCHOOL DISTRICT
1830 NOGALES STREET
ROWLAND HEIGHTS, CA 91748

SUBMITTALS REVISIONS:
PERMIT REVIEW SET 04/09/2021
PERMIT SET 08/18/2021

PROJECT NO: 20073
SCALE: AS SHOWN
DATE: 9/23/2021
DRAWN BY: SL
CHECKED BY: JP
SHEET TITLE:
PLUMBING GENERAL NOTES AND INFORMATION
SHEET NO:

P-0.1

PLUMBING EQUIPMENT SCHEDULES, CALCULATION, AND TABLES

PLUMBING FIXTURE SCHEDULE			
TAG	FIXTURE	MAX. WATER USAGE	DESCRIPTION
WC(ADA) (WC-3)	WATER CLOSET, ADA	1.28 GAL./FLUSH	AMERICAN STANDARD MEDERA FLOWISE 16-1/2" HEIGHT ELONGATED FLUSHOMETER TOILET. ADA COMPLIANT. HIGH EFFICIENCY, LOW CONSUMPTION. 1.1 TO 1.6 GPF. ELONGATED BOWL. TOILET SHALL HAVE OPTIONAL CEFIONTECT CERAMIC GLAZE.
UR (U-3)	URINAL, ADA	0.125 GPM	KOHLER BARDON HIGH EFFICIENCY WASHOUT URINAL. MODEL: K-4991-ETSS. 0.125-GPF ECOPOWER FLUSH VALVE K-76317. ADA COMPLIANT, COMPLETE WITH 3/4" TOP SPUD INLET AND CEFIONTECT, AND WALL MOUNT CARRIER.
LAV (L-2)	LAVATORY, ADA	0.4 GPM	AMERICAN STANDARD LUCERNE WALL-HUNG LAVATORY. MODEL: 0355.012. SINGLE CENTER. ADA COMPLIANT. CONFIRM COLOR AND FINISH WITH ARCHITECT/OWNER PRIOR TO ORDER. CHICAGO FAUCETS NO. 3400-ABCP. SINK FAUCET FOR HOT AND COLD WATER, METERING, DECK-MOUNTED WITH 4" FIXED CENTERS. CHROME PLATED. INTEGRAL CAST BRASS SPOUT, 4-3/4" CENTER-TO-CENTER. 0.5 GPM (1.9 L/MIN) VANDAL-PROOF, PRESSURE COMPENSATING, ECONO-FLO, NON-AERATING SPRAY, MVP SELF-CLOSING, AUTO-TIMED METERING CARTRIDGE, ADJUSTABLE RUN TIME FROM 2 TO 15 SECONDS, OPENS WITH PUSH, 0.25 GALLON/CYCLE. 1/2" NPSM SUPPLY INLETS AND COUPLING NUT FOR 3/8" OR 1/2" FLEXIBLE RISER. PROVIDE THERMAL MIXING VALVE TO LIMIT HOT WATER AT NO HIGHER THAN 110°F.
126	UTILITY SINK	0.5 GPM	ELLIPSE WALL MOUNTED HAND WASH BASIN, ADA/OBC COMPLIANT. MODEL: ELPS2-SW000-F60-PS1000-PS. STAINLESS-STEEL WALL MOUNTED HAND WASH BASIN, 1 1/2" DRAIN, 16 GAUGE, 304 STAINLESS STEEL, SINGLE TEMP BATTERY POWERED SENSOR OPERATED FAUCET WITH STAINLESS STEEL 'J' SPOUT AND DECK PLATE FOR 4" CENTERSET PUNCHING, NSF, AND LEAD-FREE, 0.5 GPM (1.9 LPM) FLOW CONTROL. COMPLY WITH UPC, cUPC, AND ASME A112.19.3. SINGLE TEMPERATURE SENSOR OPERATED FAUCET, J SPOUT, PLATE SW000-F60, PUMP SOAP DISPENSER PS1000-PS, STRAINER, TAILPIECE, 1/2" P-TRAP, CHROME ELPS-PTC.

PLUMBING FIXTURE UNIT (FU) CALCULATION							
FIXTURE			WATER		SANITARY WASTE		
TAG	TYPE	QTY	EACH	TOTAL	QTY	EACH	TOTAL
WC	WATER CLOSET	2	--	70.0	2	4.0	8.0
UR	URINAL	2	--	35.0	2	2.0	4.0
LAV	LAVATORY	2	1.0	2.0	2	2.0	4.0
126	UTILITY SINK	1	3.0	3.0	1	3.0	3.0
TOTAL FU				110		19	

WATER SUPPLY SYSTEM:
(PER 2019 CPC TABLE 610.4, OVER 45 PSI)
DISTANCE TO MOST REMOTE FIXTURE = 150 FT.
MIN. REQUIRED SIZE OF WATER METER/MAIN: 1 1/2" METER/1 1/2" M MAIN
EXISTING METER AND NEW COLD MAIN: (E) 2 1/2" METER/ (E) 2" M MAIN

WASTE AND VENT SYSTEM:
(PER 2019 CPC TABLE 703.2)
MINIMUM REQUIRED SIZE OF WASTE MAIN: (1) 4" Ø SW
EXISTING BUILDING WASTE MAIN: (1) 4" Ø SW
MINIMUM REQUIRED SIZE OF VENT PIPE: (1) 3" Ø V.
EXISTING BUILDING VENT PIPE: (1) 4" Ø V

MINIMUM PLUMBING FIXTURE BRANCH PIPE SIZE							
TAG	FIXTURE	WASTE	TRAP	VENT**	CW	HW	REMARK
WC	WATER CLOSET (FLUSH VALVE)	4"Ø	--	2"Ø	1 1/4"Ø	--	①③
UR	URINAL (FLUSH VALVE)	2"Ø	1 1/2"Ø	2"Ø	3/4"Ø	--	①③
LAV	LAVATORY	2"Ø	1 1/2"Ø	1 1/2"Ø	1/2"Ø	1/2"Ø	①②
126	UTILITY SINK	2"Ø	2"Ø	1 1/2"Ø	3/4"Ø	3/4"Ø	①②

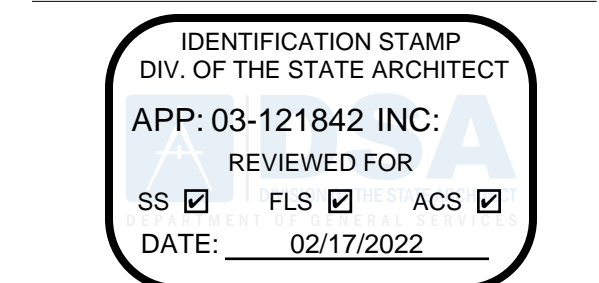
1. PIPE SIZES SHOWN MAY NOT BE NECESSARY THE FIXTURE CONNECTION SIZE. SEE FINAL PRODUCT MANUFACTURER RECOMMENDED PIPING CONNECTION SIZES PRIOR TO INSTALL. PROVIDE REDUCER BETWEEN BRANCH LINE AND CONNECTION AS REQUIRED. WATER HAMMER ARRESTERS SHALL BE APPROVED MECHANICAL DEVICES IN ACCORDANCE WITH ASSE 1010 OR PDI-WH 201 AND SHALL BE INSTALLED AS CLOSE AS POSSIBLE TO QUICK-ACTING VALVES.
2. UNDERGROUND VENT PIPE SHALL BE ONE SIZE LARGER THAN SCHEDULED SIZE. SEE PLUMBING GENERAL NOTES FOR DETAIL.
3. UNDERGROUND COLD WATER PIPE SHALL BE TYPE-K LEAD FREE COPPER PIPE. SEE PLUMBING GENERAL NOTES FOR DETAIL.

REMARKS
① PROVIDE ISOLATION VALVE AND WATER HAMMER ARRESTER FOR EACH FIXTURE AT EACH PLUMBING FIXTURE.
② PROVIDE THERMAL MIXING VALVE AND SET HOT WATER TEMPERATURE NO HIGHER THAN 110°F.
③ FLUSH VALVE PLUMBING FIXTURE

PLUMBING MATERIAL SCHEDULE*		
ITEM	LOCATION	SPECIFICATIONS
DOMESTIC COLD WATER PIPE	ABOVE GRADE	TYPE L COPPER. PIPE SHALL CONFORM WITH ASTM-(B42, B43, B75, B88, B135, B251, B302, B447). PIPE FITTING SHALL CONFORM WITH ASTM-(B16.15, B16.18, B16.22, B16.26, B16.50, B16.51), ASSE 1061.
DOMESTIC COLD WATER PIPE	BELOW GRADE	TYPE K COPPER. PIPE SHALL CONFORM WITH ASTM-(B42, B43, B75, B88, B135, B251, B302, B447). PIPE FITTING SHALL CONFORM WITH ASTM-(B16.15, B16.18, B16.22, B16.26, B16.50, B16.51), ASSE 1061.
SANITARY WASTE AND VENT PIPE	ABOVE GRADE	CAST IRON NO-HUB. PIPE SHALL CONFORM WITH ASTM-D2661, ASTM D2680. PIPE FITTING SHALL CONFORM WITH ASTM D2661, ASTM D2680
SANITARY WASTE AND VENT PIPE	BELOW GRADE	SCHEDULE 40 PVC. PIPE SHALL CONFORM WITH ASTM-D1785, D2665, F794. PIPE FITTING SHALL CONFORM WITH ASTM D2665, F794, F1866.
NATURAL GAS	ABOVE GRADE	BLACK STEEL SCHE. 40 PAINT WITH RUST INHIBITOR
NATURAL GAS	BELOW GRADE	PE 2406, POLYETHYLENE PIPING CONFORMING WITH ASTM D 2513, WITH SOCKET TYPE FITTINGS CONFORMING WITH ASTM D 2683, AND MINIMUM SDR 11.
CONDENSATE	ABOVE AND BELOW GRADE	TYPE M COPPER. PIPE SHALL CONFORM WITH ASTM-(B-43, B75, B251, B302, B306). PIPE FITTING SHALL CONFORM WITH ASTM-(B16.23, B16.29), ASSE 1061.

- * SCHEDULE SHOWN FOR QUICK REFERENCE ONLY. SEE SPECIFICATIONS FOR DETAILS.
- * MATERIALS FOR DRAINAGE PIPING SHALL BE IN ACCORDANCE WITH ONE OF THE REFERENCED STANDARDS IN TABLE 701.2. MATERIALS FOR BUILDING WATER PIPING AND BUILDING SUPPLY PIPING SHALL COMPLY WITH THE APPLICABLE STANDARD REFERENCED IN TABLE 604.1.
- * ALL METALLIC NATURAL GAS PIPE AND JOINTING SHALL COMPLY WITH STANDARDS LISTED UNDER CPC 1208.6.

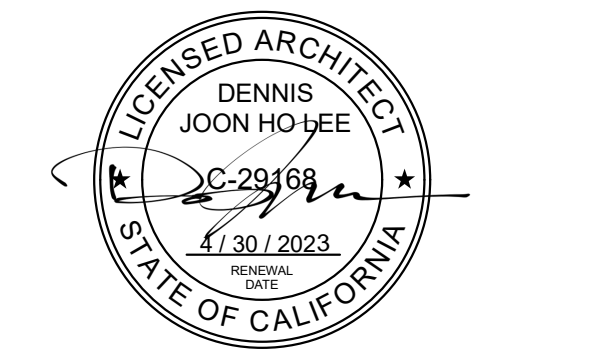
DSA APPLICATION: # 03-121842



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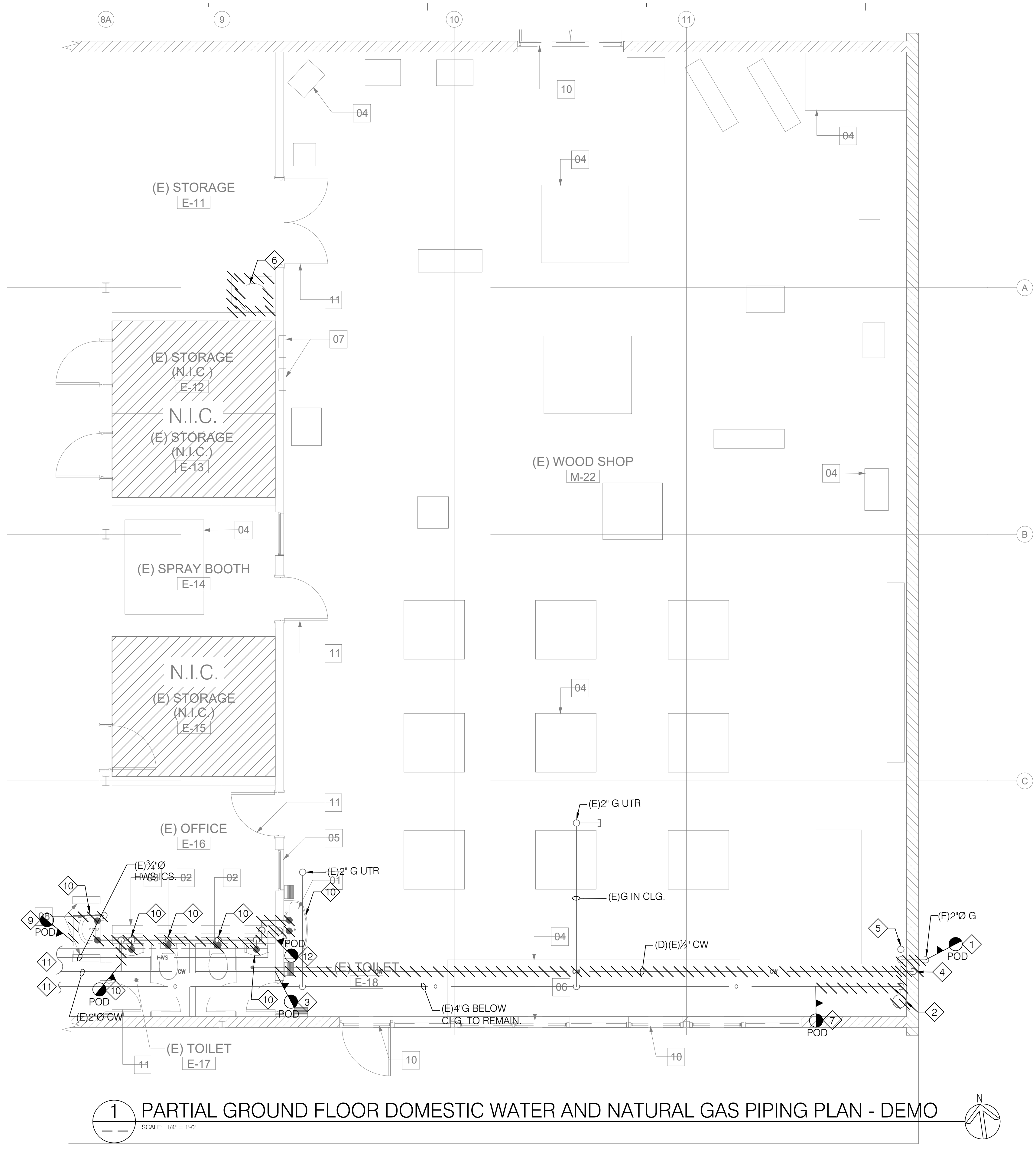
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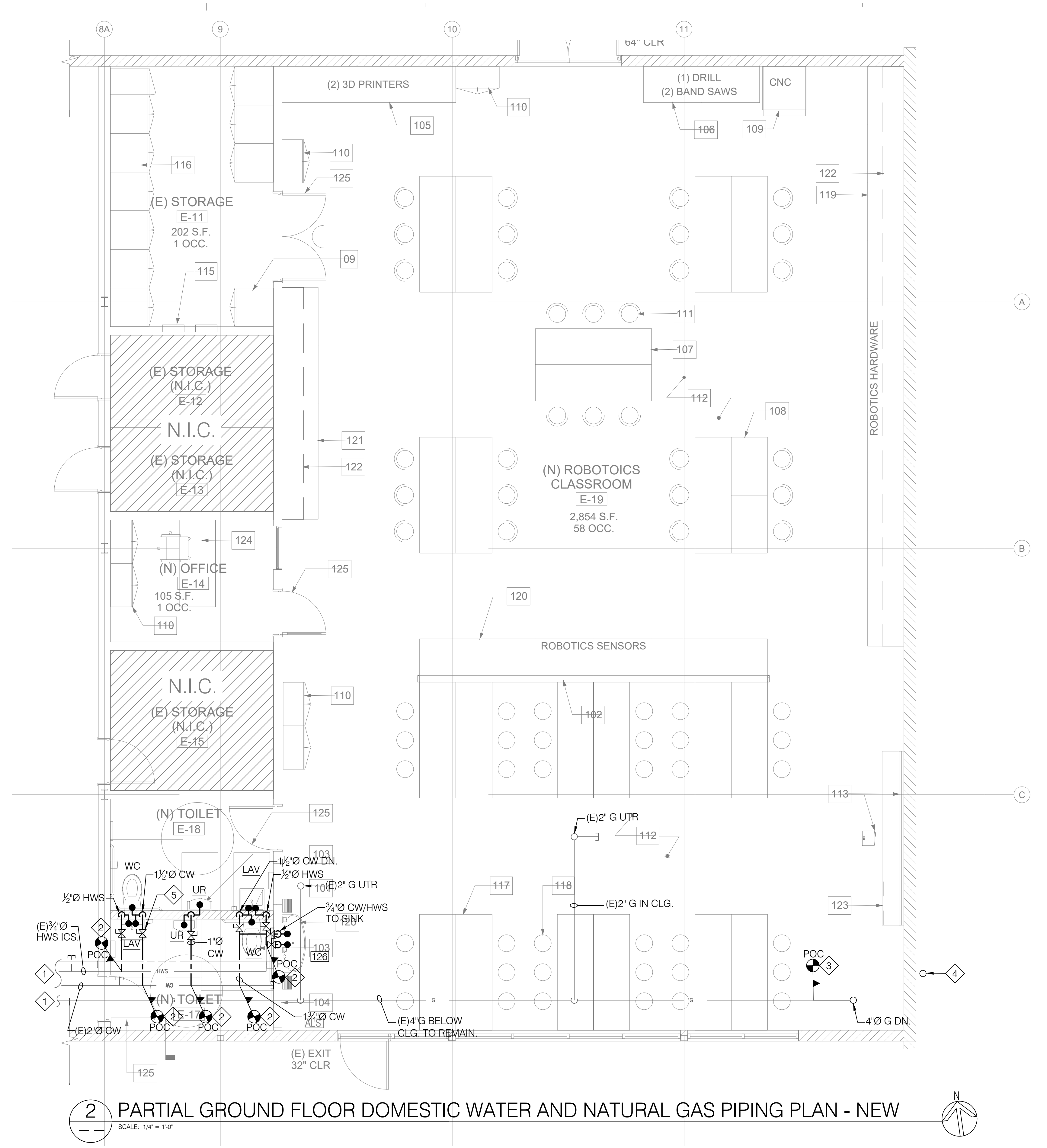
PLUMBING SCHEDULES

SHEET NO:

P-0.2



1 PARTIAL GROUND FLOOR DOMESTIC WATER AND NATURAL GAS PIPING PLAN - DEMO
SCALE: 1/4" = 1'-0"



2 PARTIAL GROUND FLOOR DOMESTIC WATER AND NATURAL GAS PIPING PLAN - NEW
SCALE: 1/4" = 1'-0"

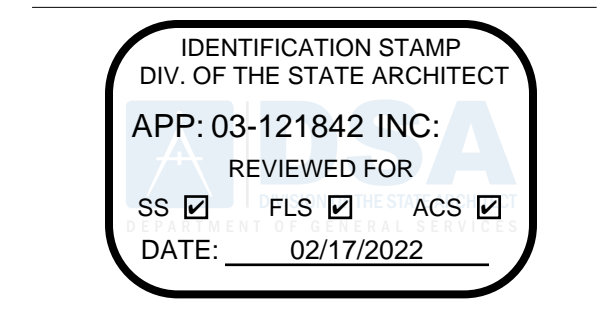
- GENERAL DEMOLITION NOTES:**
- DEMOLITION SHALL NOT INTERRUPT UTILITY SERVICE OF FACILITY. IF TEMPORARY UTILITY SHUT-DOWN IS REQUIRED, ALWAYS COORDINATE WITH FACILITY FACULTY PRIOR TO SHUT-DOWN.
 - ALL DEMOLITION DONE IN PLACE SHALL NOT JEOPARDIZE THE STRUCTURAL INTEGRITY OF EXISTING BUILDING OR EXISTING UTILITY SUPPORT THAT IS REQUIRED TO MAINTAIN.
 - ALL WORK SHOWN ON PLAN ARE BASED ON INFORMATION FROM RECORD DRAWING. CONTRACTOR SHALL VERIFY EXACT LOCATION, SIZE, CONDITION, MATERIAL, AND INVERT (AS NEEDED) PRIOR TO DEMOLITION AND INSTALLATION. REPORT DISCREPANCY OF EXISTING PLUMBING SYSTEM AGAINST INFORMATION ON CONTRACT DOCUMENT TO SCHOOL DISTRICT, ARCHITECT, OR ENGINEER PRIOR TO CONSTRUCT.
 - ALL DEMOLITION SHOWN SHALL BE DONE CUT, REMOVING, AND CAP PIPE BACK TO NEAREST MAIN PIPE AND SEALED WATERTIGHT. ALL FLOOR OR WALL OPENING SHALL BE FILLED AND PATCHED TO RECEIVE NEW FLOORING OR PAINTING BY GC.
 - CONTRACTOR SHALL CONFIRM WITH SCHOOL DISTRICT FOR REQUIREMENT OF X-RAY TO IDENTIFY STRUCTURE MEMBERS OR UTILITIES BELOW GRADE FOR AVOIDING DAMAGING PRIOR TO EXCAVATION.
 - CONTRACTOR SHALL VERIFY EXACT LOCATION, SIZE, CONDITION, AND MATERIAL OF EXISTING PLUMBING SYSTEM THAT IS INTENDED TO REMAIN AND REUSE. REPORT DEFICIENCY OR CODE COMPLIANCE ISSUE OF EXISTING SYSTEM IF FOUND TO SCHOOL DISTRICT, ARCHITECT, OR ENGINEER.

- SHEET NOTES:**
- CUT AND CAP EXISTING MEDIUM PRESSURE NATURAL GAS RISER PRIOR TO PENETRATING EXTERIOR WALL. COORDINATE WITH SCHOOL FOR GAS SERVICE SHUT-DOWN PRIOR TO WORK. COORDINATE WITH GC FOR PATCHING AND SEALING EXISTING WALL OPENING WITH MATCHED COLOR WATERPROOF GROUT TO SEAL WATERTIGHT. SEE DETAIL 8/P-0.3 FOR CONT.
 - REMOVE EXISTING PRESSURE REGULATOR AT GAS RISER WITH ASSOCIATED VENT PIPE. COORDINATE WITH GC FOR PATCHING AND SEALING EXISTING ROOF OPENING WITH NEW WATERPROOFING.
 - CUT AND CAP EXISTING COLD WATER LINE SERVING EXTERIOR HOSE BIBB FROM POD. CONTRACTOR TO VERIFY EXACT LOCATION AND SERVICES OF COLD WATER LINE AND REPORT DISCREPANCY TO ENGINEER IF OBSERVED.
 - DEMOLISH AND REMOVE EXISTING WATER LINE ON WALL AND HOSE BIBB AT EXTERIOR. COORDINATE WITH GC FOR PATCHING AND SEALING EXISTING WALL OPENING WITH NEW WATERPROOFING.
 - VERIFY WITH SCHOOL FOR SERVICE OF EXISTING GAS MAIN CAPPED AT FLOOR LEVEL. CUT AND CAP EXISTING GAS MAIN BELOW GRADE AS NEEDED. COORDINATE WITH GC FOR PATCHING AND SEALING FLOOR OPENING.
 - DEMOLISH AND COMPLETELY REMOVE EXISTING WATER HEATER AND ASSOCIATED PIPING SYSTEM.
 - CUT AND REMOVE EXISTING LOW PRESSURE GAS MAIN FROM THIS POINT AND ON PER PLAN. TEMPORARY CAP AND PREPARE FOR RECONNECTION.
 - DEMOLISH AND REMOVE EXISTING GAS LINE FROM THIS POINT AND ON PER PLAN. CAP EXISTING BRANCH LINE IN CEILING SPACE GASTIGHT.
 - CUT, REMOVE, AND CAP EXISTING PIPE LINE BACK TO MAIN AND SEAL WATERTIGHT PER PLAN.

- DEMOLISH AND REMOVE EXISTING PLUMBING FIXTURES AND ASSOCIATED VALVE, CONNECTION, CARRIER, AND FITTING WITHIN PLUMBING CHASE WALL.
- EXISTING PIPE CONTINUES TO ADJACENT SPACE. N.I.C.
- CUT AND REMOVE PIPE FOR RECONNECTION TO NEW FIXTURE. SEE DWG. 2 FOR CONTINUATION.

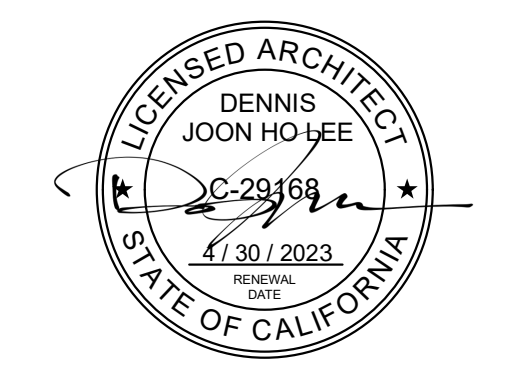
- SHEET NOTES:**
- EXISTING PIPE CONTINUES TO ADJACENT SPACE. N.I.C.
 - CONNECT NEW DOMESTIC WATER LINE TO EXISTING MAIN. CONTRACTOR TO VERIFY EXACT LOCATION, SIZE, INVERT, MATERIAL, AND CONDITION OF EXISTING PIPE PRIOR TO CONSTRUCT.
 - 4"Ø G DOWN FROM ROOF RECONNECTING TO (E) 4"Ø G MAIN IN CEILING SPACE. PROVIDE SEDIMENT TRAP AT VERTICAL SECTION.
 - EXTEND (E) 2"Ø GAS RISER AT MEDIUM PRESSURE UP TO ROOF. SEE P-2.0 FOR CONT. CONTRACTOR TO VERIFY EXACT SIZE AND LOCATION AT FIELD.
 - PROVIDE SOV IN CEILING SPACE PER DISTRICT COMMENT. TYP. OF ALL.

DSA APPLICATION: # 03-121842

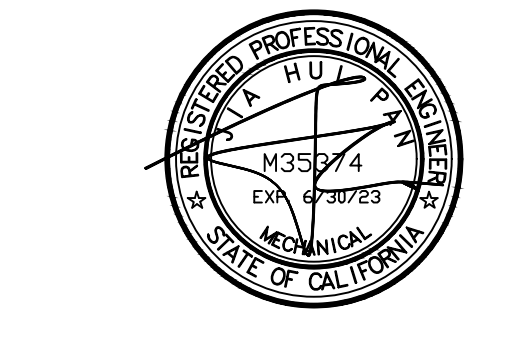


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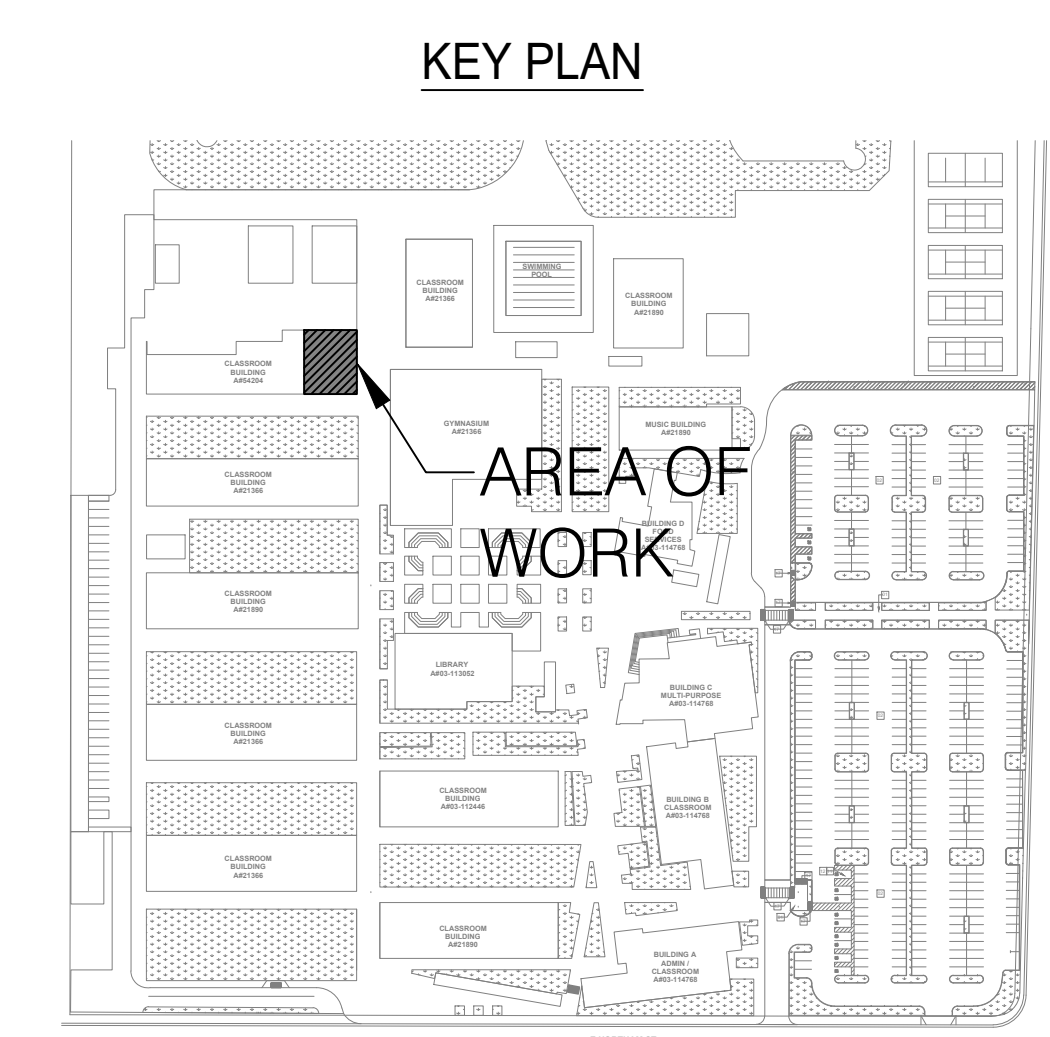
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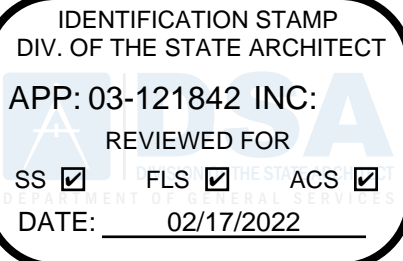
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PARTIAL GROUND FL. DOMESTIC WATER AND GAS PIPING PLANS

SHEET NO:

P-1.0





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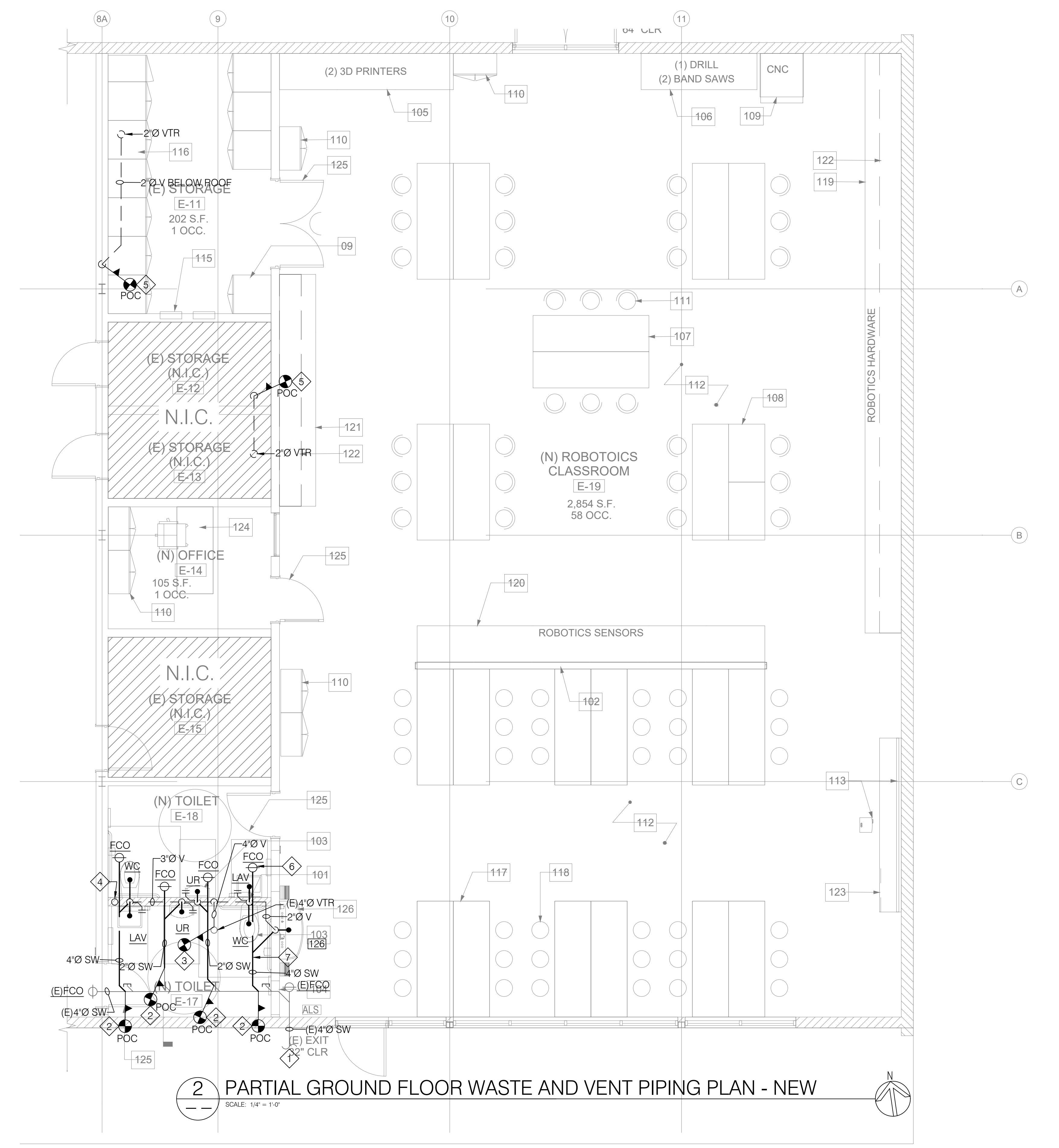
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1 PARTIAL GROUND FLOOR WASTE AND VENT PIPING PLAN - DEMO
 SCALE: 1/4" = 1'-0"

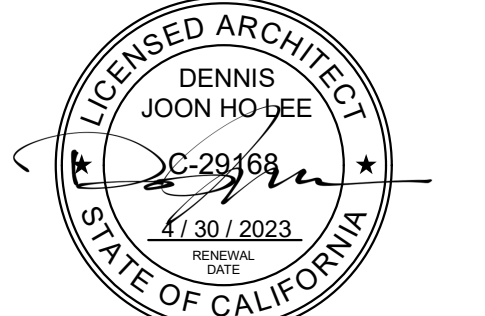
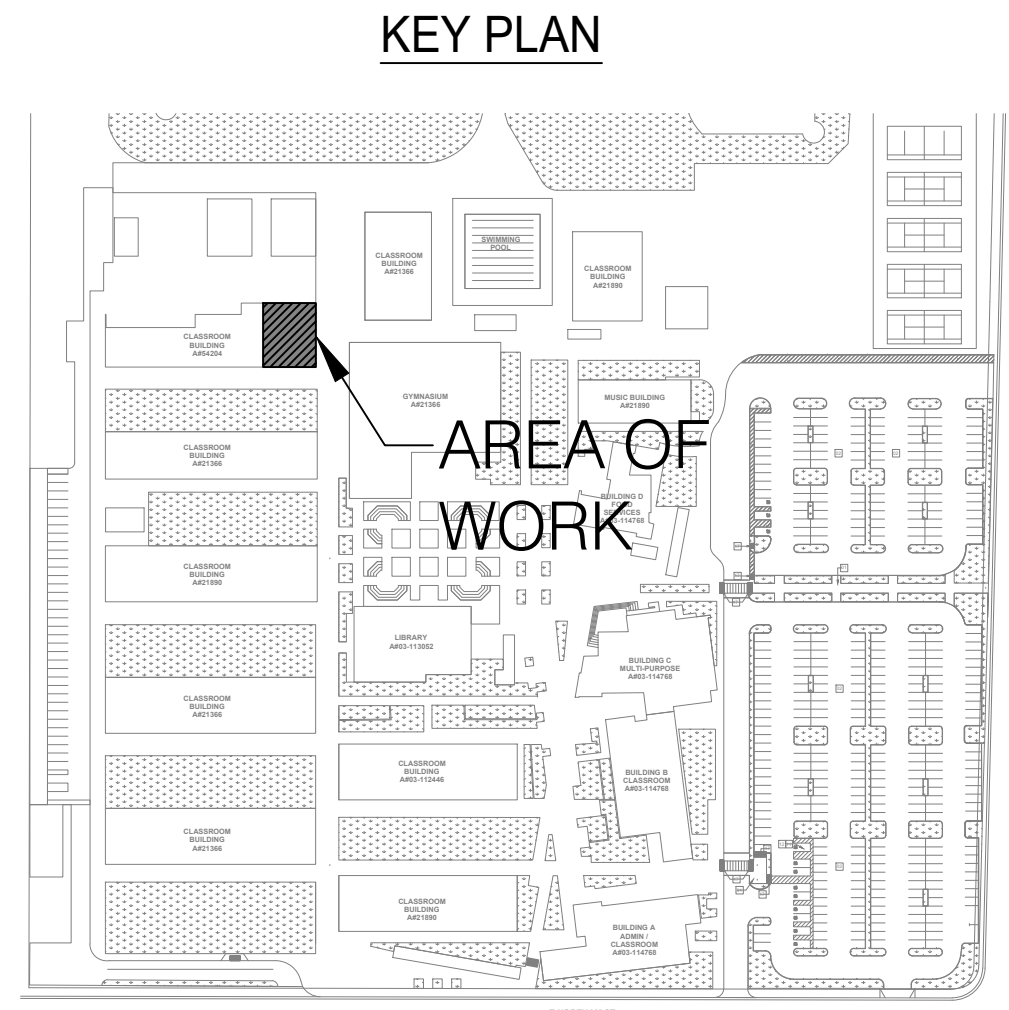


2 PARTIAL GROUND FLOOR WASTE AND VENT PIPING PLAN - NEW
 SCALE: 1/4" = 1'-0"

- GENERAL DEMOLITION NOTES:**
- DEMOLITION SHALL NOT INTERRUPT UTILITY SERVICE OF FACILITY. IF TEMPORARY UTILITY SHUT-DOWN IS REQUIRED, ALWAYS COORDINATE WITH FACILITY FACULTY PRIOR TO SHUT-DOWN.
 - ALL DEMOLITION DONE IN PLACE SHALL NOT JEOPARDIZE THE STRUCTURAL INTEGRITY OF EXISTING BUILDING OR EXISTING UTILITY SUPPORT THAT IS REQUIRED TO MAINTAIN.
 - ALL WORK SHOWN ON PLAN ARE BASED ON INFORMATION FROM RECORD DRAWING. CONTRACTOR SHALL VERIFY EXACT LOCATION, SIZE, CONDITION, MATERIAL, AND INVERT (AS NEEDED) PRIOR TO DEMOLITION AND INSTALLATION. REPORT DISCREPANCY OF EXISTING PLUMBING SYSTEM AGAINST INFORMATION ON CONTRACT DOCUMENT TO SCHOOL DISTRICT, ARCHITECT, OR ENGINEER PRIOR TO CONSTRUCT.
 - ALL DEMOLITION SHOWN SHALL BE DONE CUT, REMOVING, AND CAP PIPE BACK TO NEAREST MAIN PIPE AND SEALED WATERTIGHT. ALL FLOOR OR WALL OPENING SHALL BE FILLED AND PATCHED TO RECEIVE NEW FLOORING OR PAINTING BY GC.
 - CONTRACTOR SHALL CONFIRM WITH SCHOOL DISTRICT FOR REQUIREMENT OF X-RAY TO IDENTIFY STRUCTURE MEMBERS OR UTILITIES BELOW GRADE FOR AVOIDING DAMAGING PRIOR TO EXCAVATION.
 - CONTRACTOR SHALL VERIFY EXACT LOCATION, SIZE, CONDITION, AND MATERIAL OF EXISTING PLUMBING SYSTEM THAT IS INTENDED TO REMAIN AND REUSE. REPORT DEFICIENCY OR CODE COMPLIANCE ISSUE OF EXISTING SYSTEM IF FOUND TO SCHOOL DISTRICT, ARCHITECT, OR ENGINEER.

- SHEET NOTES:**
- CUT, REMOVE, AND CAP EXISTING PIPE LINE BACK TO MAIN AND SEAL AIRTIGHT PER PLAN.
 - DEMOLISH AND REMOVE ALL EXISTING PLUMBING FIXTURES AND ALL ASSOCIATED VALVE, CONNECTION, CARRIER, AND FITTING UP TO STUB-OUTS OF BRANCH PIPE WITHIN PLUMBING CHASE WALL.
 - EXISTING PIPE CONTINUES TO SEWER MAIN. N.I.C.
 - CUT EXISTING VENT UP THROUGH ROOF IN CEILING AND PREPARE OFFSET. SEE DWG. 2 FOR CONT.
 - CONTRACTOR SHALL FOLLOW DETAIL 5/S-1.1 FOR CUTTING AND PATCHING OF FLOOR. TYPICAL.

- SHEET NOTES:**
- EXISTING PIPE CONTINUES TO ADJACENT SPACE. N.I.C.
 - EXTEND NEW SANITARY WASTE LINE TO EXISTING MAIN. CONTRACTOR TO VERIFY EXACT LOCATION, SIZE, INVERT, MATERIAL, AND CONDITION OF EXISTING PIPE PRIOR TO CONSTRUCT.
 - CONNECT (N) 4" VENT TO (E) 4" VTR IN CEILING SPACE. CONTRACTOR TO VERIFY EXACT LOCATION, SIZE, MATERIAL, AND CONDITION OF EXISTING PIPE PRIOR TO CONSTRUCT.
 - 3/4" CD DOWN FROM RTU-02 ON ROOF AND CONNECT TO TAIL-PIECE OF LAVATORY. SEE DETAIL 6/ P-0.3 FOR FURTHER REQUIREMENTS.
 - CONNECT (N) 2" V TO (E) 2" V BELOW ROOF. CONTRACTOR TO VERIFY EXACT LOCATION, SIZE, MATERIAL, AND CONDITION OF EXISTING PIPE PRIOR TO CONSTRUCT.
 - PROVIDE LATERAL CLEAN-OUT AT FIXTURE PER DISTRICT COMMENT. TYPICAL OF ALL.
 - CONTRACTOR SHALL FOLLOW DETAIL 5/S-1.1 FOR CUTTING AND PATCHING OF FLOOR. TYPICAL.



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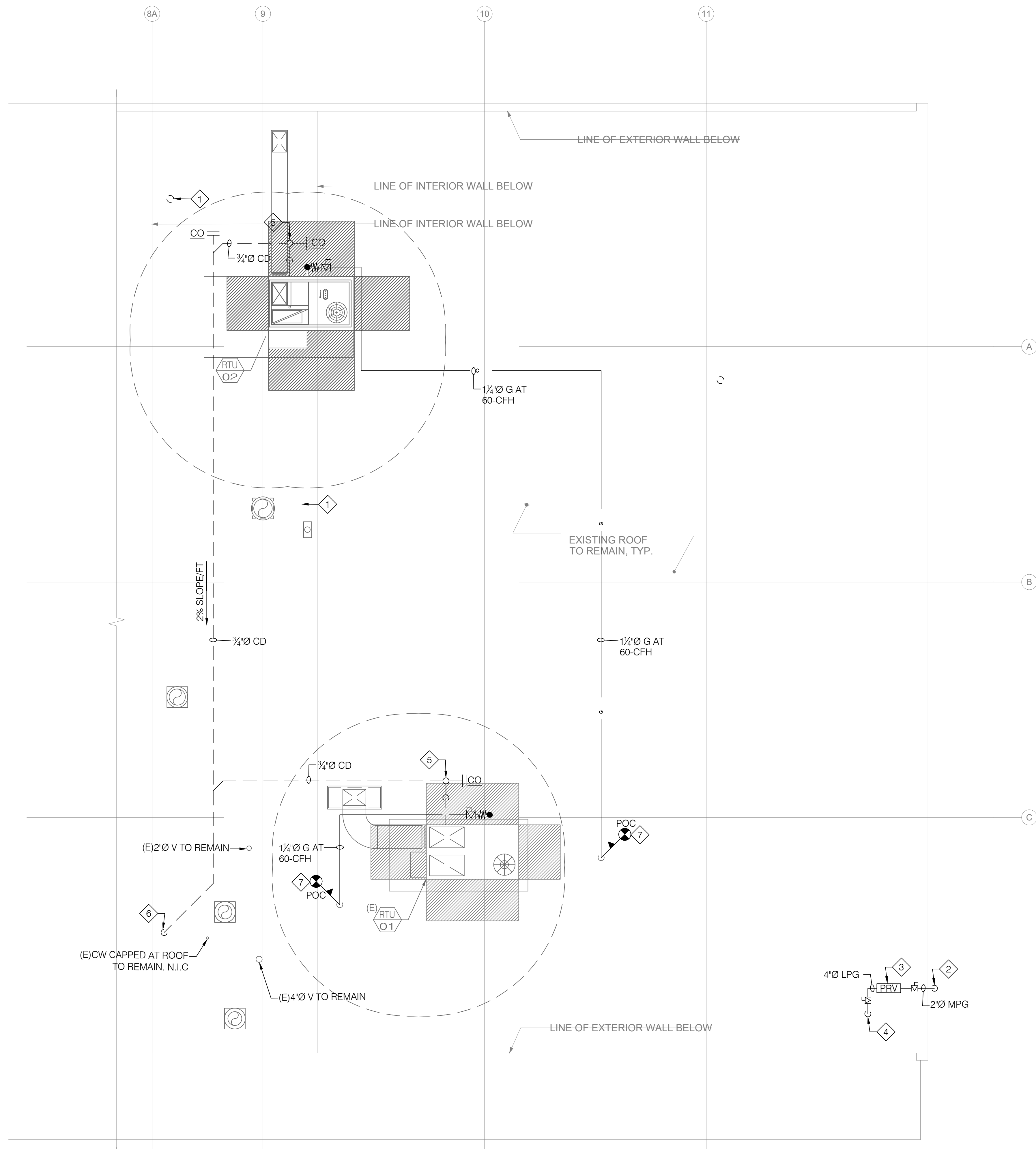
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SHEET NO:

P-1.1

B:\Modeling\COM-CONCRETE - BIM\Model Base for ARCH\CAD 25/02/2021 E. RUISS\Nogales High Robotics Thursday, September 23, 2021 7:50 AM



1 PARTIAL ROOF PLUMBING PLAN
SCALE: 1/4" = 1'-0"

SHEET NOTES:

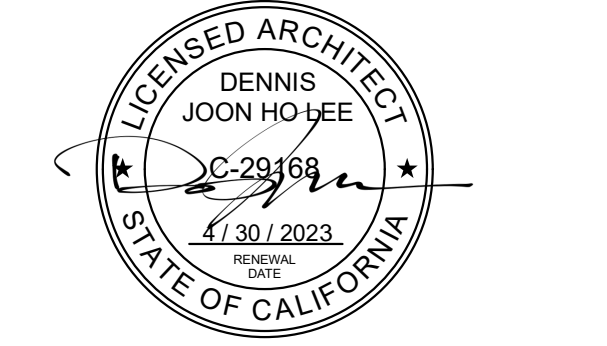
- 1 2" V TERMINATE ON ROOF WITH 3-FEET CLEARANCE TO PROPERTY LINE AND 10-FEET CLEARANCE TO OUTSIDE AIR INTAKE.
- 2 2" MPG UP FROM (E) RISER. SEE DWG. 2/ P-1.0 FOR DETAIL.
- 3 CONTRACTOR TO VERIFY SPEC OF EXISTING PRESSURE REGULATOR PRIOR TO DEMOLITION. FURNISH AND INSTALL (N) UL LISTED OUTDOOR PRESSURE REGULATOR WITH MATCHED SPEC ON ROOF WITH GAS SHUT-OFF VALVES.
- 4 4" LOW PRESSURE GAS (LPG) DOWN AND RECONNECT (E) 4" G MAIN IN CEILING SPACE. SEE P-1.0 FOR CONT.
- 5 PROVIDE 3/4" CD WITH TRAP AND VENT TO RTU-02.
- 6 3/4" CD DOWN TO TAIL-PIECE OF LAV. IN RESTROOM. SEE DWG. 2/ P-1.1 FOR CONT.
- 7 CONNECT (N) 1 1/2" G TO (E) 2" G ON ROOF. SEE DWG. 2/ P-1.0 FOR CONT.

DSA APPLICATION: A# 03-121842

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-121842 INC:
REVIEWED FOR:
SS FLS ACS
DATE: 02/17/2022

ARCHITECT
CO-AR DESIGN, INC.
680 Brea Canyon Road, Suite 178
Diamond Bar, California 91789
Office: 909-598-0186
Dennis J. Lee, NCARB dennis@coar.design.com

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NOTES



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CEL: 510-468-0613
FAX: 510-788-6039



PROJECT:
CTE ROBOTICS CLASSROOM UPGRADE - NOGALES HIGH SCHOOL

401 NOGALES STREET LA
PUENTE CA 91744
CLIENT:
ROWLAND UNIFIED SCHOOL DISTRICT
1830 NOGALES STREET
ROWLAND HEIGHTS, CA 91748

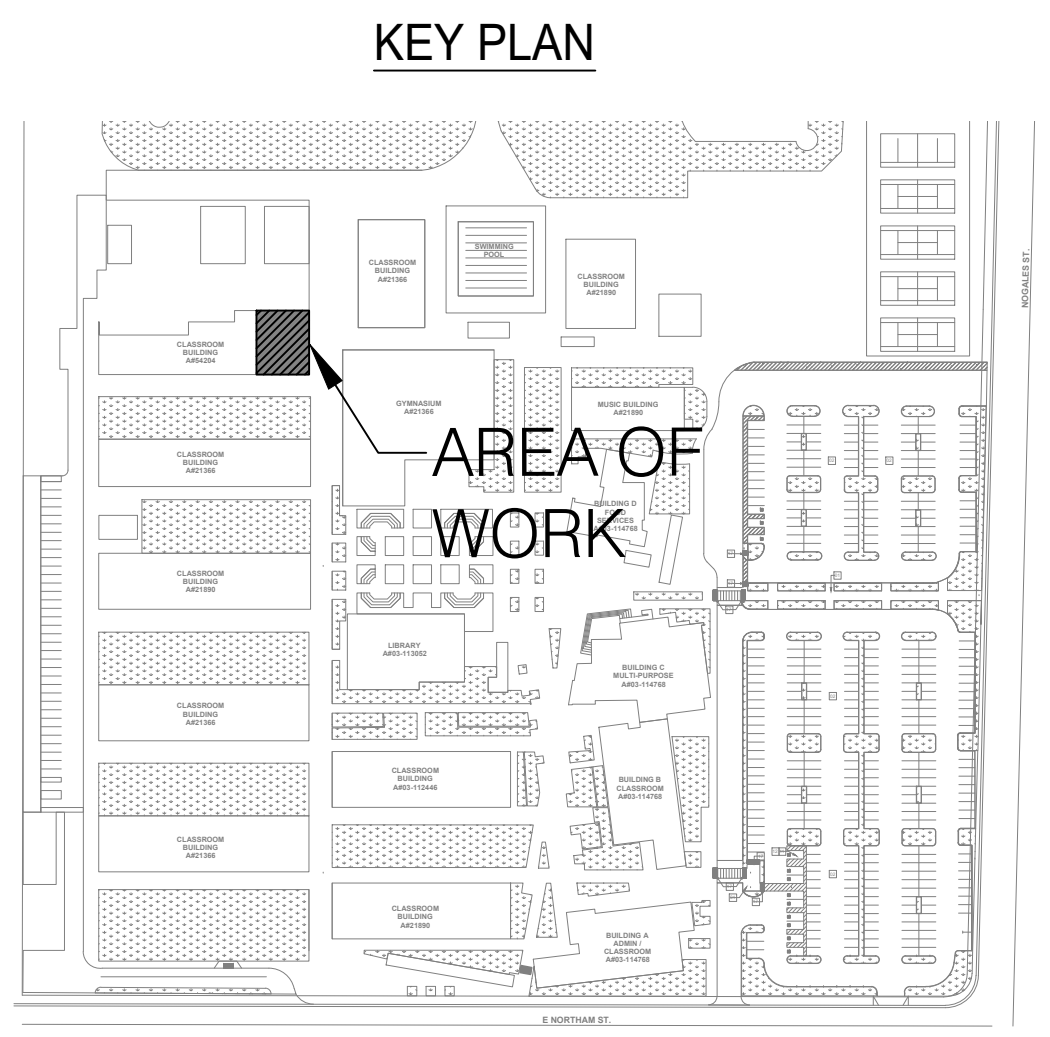
SUBMITTALS REVISIONS:	
PERMIT REVIEW SET	04/09/2021
PERMIT SET	08/18/2021

PROJECT NO: 20073
SCALE: AS SHOWN
DATE: 9/23/2021
DRAWN BY: SL
CHECKED BY: JP
SHEET TITLE:

PARTIAL ROOF PLUMBING PLAN

SHEET NO:

P-2.0



B:\Moodle\COM-CONCRETE - BIM\moodle\Basic for ARCH\CAD 25/02/2021 11:40:52\Nogales High Robotics Thursday, September 23, 2021 7:50 AM

ELECTRICAL SYMBOLS

	EXIT SIGN.
	LED STRIP LIGHTING.
	LED LIGHTING WITH EMERGENCY BATTERY PACK.
	CEILING MOUNT LIGHTING OCCUPANCY SENSOR "HLIGHT #CMPTD10(RUB)."
	WALL MOUNTED OCCUPANCY SENSOR SWITCH "ACUITY CONTROLS #WSX-PDT". +48" A.F.F., U.O.N.
	WALL MOUNT DIMMER SWITCH "HLIGHT #PODM4PDX". +48" A.F.F., U.O.N.
	CONTROL CABLE, PLENUM RATED CAT-5e DATA CABLE WITH JACK.
	PANEL DESIGNATION, LETTER IDENTIFIES THE PANEL.
	LIGHTING PANEL.
	HEAVY DUTY DISCONNECT SWITCH.
	HORSE POWER RATED SWITCH WITHOUT OVERLOAD.
	JUNCTION BOX: MOUNTED IN CEILING SPACE OR ON CEILING IF NO CEILING IN PLACE.
	GFI TYPE DUPLEX RECEPTACLE 125V, 15 AMP, NEMA 5-15R, +18" A.F.F., U.O.N.
	DUPLEX OUTLET 125V, 15 AMPS, NEMA 5-15R, +18" A.F.F., U.O.N.
	CEILING MOUNT DUPLEX OUTLET 125V, 15 AMPS, NEMA 5-15R, +18" A.F.F., U.O.N.
	DUPLEX OUTLET HORIZONTAL MOUNT, 125V, 15 AMPS, NEMA 5-15R.
	DUPLEX OUTLET 20 AMPS, 250 VOLTS, NEMA 6-20R.
	TELEPHONE OUTLET, PROVIDE NEW HANDSET, MATCH TO EXISTING.
	WALL MOUNT SECURITY MOTION SENSOR, MATCH TO EXISTING.
	CEILING MOUNT WIRELESS ACCESS POINT (WAP), MATCH TO EXISTING.
	5" SQ. BOX WITH 1-1/4" CONDUIT TO PROJECTOR.
	DUPLEX DATA OUTLET WITH CAT-6 DATA JACK, +18" A.F.F., U.O.N.
	CEILING MOUNT DUPLEX DATA OUTLET WITH CAT-6 DATA JACK.
	COMBINATION WALL MOUNT CLOCK-SPEAKER, MATCH TO EXISTING.
	FLUSH FLOOR BOX, COMBINATION RECEPTACLE AND DUPLEX DATA OUTLETS "WIREMOLD EVOLUTION SERIES #EFB65".
	EXISTING.
	GROUND FAULT CIRCUIT INTERRUPTER. C.O. CONDUIT ONLY WITH PULL STRING.
	A.F.F. ABOVE FINISHED FLOOR. W.P. WEATHERPROOF.
	U.O.N. UNLESS OTHERWISE NOTED. (N) NEW.
	HOMERUN TO PANEL "A", CIRCUITS 1, 3, 5.
	CONDUIT: EXPOSED IN UNFINISHED AREAS; CONCEALED ABOVE CEILING OR IN WALL IN FINISHED AREAS.
	3/4" x 1/2" x 1/2"
	3/4" x 1/2" x 1/2"
	3/4" x 1/2" x 1/2"
	WIREMOLD 5400T SERIES.
	WIREMOLD 2400 SINGLE CHANNEL.
	WIREMOLD 2400 DUAL CHANNEL.

CABLE TYPE

- "S" CABLE - "WEST PENN" NO. 240, 2 PAIR #22 - SECURITY ZONE & POWER FEED.
- "A" CABLE - "WEST PENN" NO. 355, 1 PAIR SHIELDED & 1 PAIR UNSHIELDED #22 - TEL/PA.
- "C" CABLE - #312 CLOCK WIRING.
- "D" CABLE - 4 PAIR #24 UTP CATEGORY 6 CABLE AS MANUFACTURED BY COMSCOPE.
- "T" CABLE - 4 PAIR #24 UTP CATEGORY 6 CABLE AS MANUFACTURED BY COMSCOPE.
- "DFO" CABLE - 6 STRAND MULTIMODE FIBER OPTIC CABLE.

SECURITY CABLE AND WIRING

- 1S— 3/4" CONDUIT WITH ONE "S" CABLE.
- 2S— 3/4" CONDUIT WITH TWO "S" CABLES.

TELEPHONE CABLE AND WIRING

- 1T— 3/4" CONDUIT WITH ONE "T" CABLE.
- 2T— 1" CONDUIT WITH TWO "T" CABLES.

CLOCK CABLE & WIRING

- C— 3/4" CONDUIT WITH ONE "C" CABLE.

PA/IC, SPEAKER CABLE & WIRING

- 1A— 3/4" CONDUIT WITH ONE "A" CABLE.
- 2A— 3/4" CONDUIT WITH TWO "A" CABLES.

COMPUTER DATA CABLE & WIRING

- 1D— 3/4" CONDUIT WITH ONE "D" CABLE.
- 2D— 3/4" CONDUIT WITH TWO "D" CABLES.
- 3D— 3/4" CONDUIT WITH THREE "D" CABLES.
- 4D— 3/4" CONDUIT WITH FOUR "D" CABLES.
- 5D— 1" CONDUIT WITH (5) "D" CABLES.
- 6D— 1" CONDUIT WITH (6) "D" CABLES.
- 8D— 1-1/2" CONDUIT WITH (8) "D" CABLES.
- 10D— 1-1/2" CONDUIT WITH (10) "D" CABLES.

GENERAL NOTES

- THE SPECIFICATIONS AND DRAWINGS ARE INTENDED TO COVER A COMPLETE INSTALLATION OF SYSTEMS. THE OMISSION OF EXPRESSED REFERENCE TO ANY ITEM OF LABOR OR MATERIAL FOR THE PROPER EXECUTION OF THE WORK IN ACCORDANCE WITH PRESENT PRACTICE OF THE TRADE SHALL NOT RELIEVE THE CONTRACTOR FROM PROVIDING SUCH ADDITIONAL LABOR AND MATERIALS.
- WORK INCLUDES ALL LABOR, MATERIALS, APPLIANCES, TOOLS, EQUIPMENT, FACILITIES, TRANSPORTATION AND SERVICES NECESSARY FOR AND INCIDENTAL TO PERFORMING ALL OPERATIONS IN CONNECTION WITH FURNISHING, DELIVERY AND INSTALLATION OF ELECTRICAL SYSTEM, COMPLETE, AS SHOWN ON THE DRAWINGS AND/OR SPECIFIED HEREIN.
- CONSTRUCT PROJECT IN ACCORDANCE WITH FOLLOWING CODES: REGULATIONS OF STATE AND LOCAL FIRE MARSHAL; NATIONAL ELECTRIC CODE; NATIONAL FIRE PROTECTION ASSOCIATION, EDITION IN FORCE; LOCAL CODES AND ORDINANCES; TITLE 19, 21 AND 24 CALIFORNIA ADMINISTRATIVE CODE.
- PERMITS, FEES AND INSPECTIONS: OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND FEES REQUIRED BY ANY CONSTITUTED AUTHORITY HAVING JURISDICTION INCLUDING UTILITIES. ARRANGE AND PAY FOR ALL REQUIRED INSPECTIONS OR EXAMINATIONS AND DELIVER CERTIFICATES OF INSPECTION TO ARCHITECT.
- RECORD DRAWINGS: ON COMPLETION OF WORK, OBTAIN ONE SET OF XEROX VELLUMS FROM ARCHITECT AT COST OF PRINTING, AND NOTE NEATLY IN SCALE ALL CHANGES ON RECORD SET. DELIVER COMPLETE SET OF VELLUMS TOGETHER WITH ONE SET OF BLUELINE PRINTS TO ARCHITECT TOGETHER WITH CONTRACTOR'S NAME, ADDRESS AND PHONE NUMBER. INCORRECT, NON-LEGIBLE OR NON-REPRODUCIBLE DRAWINGS WILL NOT BE ACCEPTED.
- SUBMIT A LIST OF MATERIALS AND EQUIPMENT MANUFACTURERS THAT CONTRACTOR INTENDS TO USE. SUBMIT SHOP DRAWINGS FOR: PANELBOARDS, LIGHT FIXTURES, AND DISCONNECT SWITCHES.
- THE TERM "PROVIDE" USED ON DRAWINGS SHALL BE CONSIDERED TO MEAN "FURNISH AND INSTALL".
- BEFORE PROCEEDING WITH WORK CAREFULLY CHECK AND VERIFY ALL DIMENSIONS AND SIZES AND ASSUME ALL RESPONSIBILITY FOR FITTING OF MATERIALS AND EQUIPMENT TO OTHER PARTS OF EQUIPMENT AND TO STRUCTURE. WHERE APPARATUS AND EQUIPMENT HAVE BEEN INDICATED ON DRAWINGS, DIMENSIONS HAVE BEEN TAKEN FROM TYPICAL EQUIPMENT OF CLASS INDICATED. CAREFULLY CHECK DRAWINGS AND SEE THAT EQUIPMENT WILL FIT INTO SPACES PROVIDED.
- LOCATIONS OF CONDUITS, OUTLETS, APPARATUS AND EQUIPMENT INDICATED ON DRAWINGS ARE APPROXIMATE ONLY AND SHALL BE CHANGED TO MEET ARCHITECTURAL AND STRUCTURAL CONDITIONS AS REQUIRED.
- BE CAUTIONED THAT DIAGRAMS SHOWING ELECTRICAL CONNECTIONS ARE DIAGRAMMATIC ONLY AND MUST NOT BE USED FOR OBTAINING LINEAL RUNS OF WIRING OR CONDUIT. WIRING DIAGRAMS DO NOT NECESSARILY SHOW EXACT PHYSICAL ARRANGEMENT OF EQUIPMENT.
- EXTRA WORK OR COSTS TO THIS CONTRACTOR DUE TO OTHER CONTRACTORS OR TRADES SHALL BE ADJUSTED BETWEEN THIS CONTRACTOR AND OFFENDING CONTRACTOR AT NO EXTRA COST TO OWNER. NOTIFY ARCHITECT BEFORE SUCH EXTRA WORK IS DONE.
- WHERE CONDUITS PASS THROUGH SLEEVES IN INTERIOR WALLS, FLOORS, OR CEILINGS, COMPLETELY FILL SPACE BETWEEN EACH CONDUIT AND ITS SLEEVE TO PROVIDE AN AIRTIGHT SEAL.
- USE GLASS FIBER MATERIAL, "DUXSEAL" COMPOUND, FOR ACOUSTIC SEALS.
- ALIGN WALL-MOUNTED OUTLET BOXES FOR SWITCHES, THERMOSTATS, AND SIMILAR DEVICES.
- PROVIDE CAST OUTLET BOXES IN EXTERIOR LOCATIONS AND WET LOCATIONS.
- WHERE BOXES ARE INSTALLED IN FIRE RATED CEILING OR WALLS, BE RESPONSIBLE FOR PRESERVING INTEGRITY OF FIRE RATING AS REQUIRED.
- IN FIRE-RATED WALL, USE 4" SQUARE DEEP BOXES. DO NOT AGGREGATE MORE THAN 100 SQUARE INCHES OF BOXES FOR ANY 100 SQUARE FEET OF WALL OR PARTITIONS. SEPARATE OUTLET BOXES ON OPPOSITE SIDES OF WALLS OR PARTITION BY A MINIMUM HORIZONTAL DISTANCE OF 24 INCHES.
- PROVIDE COPPER CONDUCTORS ONLY.
- PROVIDE TYPE "THHN" OR "THWN" WIRES ONLY.
- MOUNT RECEPTACLES, TELEPHONES AND J-BOXES LOCATED IN WALL AT +18" FROM FLOOR LINE TO CENTER LINE OF OUTLET UNLESS OTHERWISE NOTED ON PLAN.
- PROVIDE "U.L. APPROVED" OR "U.L. LISTED" ELECTRICAL EQUIPMENT ONLY.
- PROVIDE WHEREVER NECESSARY ALL ADDITIONAL BACKING, BLOCKING AND SUPPORTS FOR LIGHT FIXTURES.
- USE RIGID GALVANIZED STEEL CONDUIT FOR ALL SIZES WHERE DIRECTLY EXPOSED TO WEATHER, WHERE SUBJECT TO ABNORMAL CONDITIONS OF HEAT, COLD, MOISTURE, HUMIDITY, FUMES AND HAZARDOUS ELEMENTS; WHERE INSTALLED EXPOSED BELOW 7-1/2 FEET, IN AREAS WHERE SUBJECT TO MECHANICAL INJURY INCLUDING MECHANICAL AND EQUIPMENT ROOMS; AND IN CONCRETE SLABS ON GRADE.
- EMT CONDUIT WITH COMPRESSION TYPE FITTINGS MAY BE USED FOR ALL SIZES UP TO 1-1/2 INCHES MAXIMUM TRADE SIZE IN DRY LOCATIONS AS IN STUD PARTITIONS AND FURRED CEILING SPACES. CONDUITS SHALL BE CONTINUOUS FROM OUTLET TO OUTLET TO PANEL EXCEPT WHERE RIGID STEEL CONDUIT IS REQUIRED OR INDICATED. EMT SHALL NOT BE RUN EXPOSED, IN CONCRETE, RUNS MORE THAN 100 FEET FOR POWER FEEDERS.
- USE FLEXIBLE STEEL CONDUIT ONLY WHERE INDICATED AND FOR SHORT MOTOR OR VIBRATING EQUIPMENT CONNECTIONS, MINIMUM 36 INCHES LONG, OR FOR CONNECTIONS TO RECESSED FIXTURES FROM JUNCTION OR PULLBOXES. MAXIMUM LENGTH FOR ANY APPLICATION SHALL BE 8 FEET. PROVIDE LIQUIDTIGHT FLEXIBLE CONDUIT WITH SEPARATE INSULATED, STRANDED COPPER EQUIPMENT GROUND CONDUCTOR FOR CONNECTIONS IN AREAS EXPOSED TO THE WEATHER, DAMP OR WET LOCATIONS AND CONNECTIONS TO MOTORS AND TRANSFORMER ENCLOSURES, REGARDLESS OF LOCATION.
- WIRING DEVICES: HIGHEST SPECIFICATION GRADE, COLOR AS SELECTED BY ARCHITECT OR INTERIOR DESIGNER.
- WIRING DEVICE PLATES: COLOR-FINISH AS SELECTED BY ARCHITECT OR INTERIOR DESIGNER.
- PROVIDE ALL NECESSARY J-BOXES AND PULL BOXES OF PROPER SIZES AS REQUIRED.
- ELECTRICAL DRAWINGS ARE DIAGRAMMATIC ONLY AND INDICATE GENERAL ARRANGEMENT OF WORK. BE RESPONSIBLE FOR CHECKING AND COORDINATING WITH OTHER TRADES AND VERIFYING SPACE IN WHICH WORK WILL BE INSTALLED.
- EXISTING CONDITIONS AS INDICATED ON THESE DRAWINGS HAVE BEEN OBTAINED FROM BEST SOURCES AVAILABLE BUT CANNOT BE GUARANTEED. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING CONDITIONS BEFORE PROCEEDING WITH WORK. INCLUDE AS PART OF CONTRACT ALL WORK REQUIRED TO PRODUCE THE INDICATED RESULT.
- SEAL ALL SPACE AROUND CONDUIT PENETRATION THROUGH FIRE-RATED WALL WITH A UL LISTED FIRE BARRIER COMPOUND, "3M" CAULKING OR EQUAL.
- INCLUDE ALL ELECTRICAL DEMOLITION AS PART OF THIS CONTRACT. REFER TO ARCHITECTURAL DRAWINGS FOR EXTENT OF WALL REMOVALS, CEILING CHANGES AND ALL OTHER SIMILAR WORK. ELECTRICAL DEMOLITION SHALL INCLUDE DISCONNECTION AND REMOVAL OF AFFECTED LIGHTS, OUTLETS AND ALL OTHER ELECTRICAL DEVICES. REMOVE AND PLUG OR CAP ALL AFFECTED CONDUITS. REMOVE WIRES, IF REMOVED OUTLETS AFFECT DOWNSTREAM ACTIVE OUTLETS, PROVIDE ALL WORK NECESSARY TO REROUTE AND RECONNECT AFFECTED CIRCUITS.

EXISTING CONDITION NOTES

- THE WORK OF THIS PROJECT INCLUDES ALTERATIONS TO THE EXISTING SPACE TO ACHIEVE THE ARRANGEMENT INDICATED ON THE DRAWINGS. THE CONTRACTORS SHALL VISIT THE JOB SITE TO DETERMINE THE EXTENT OF DEMOLITION WORK REQUIRED BY CONSTRUCTION ACTIVITIES. FOR THESE AREAS SHOW THE CHANGES TO BE MADE. THE ELECTRICAL CONTRACTOR SHALL REVISE, RE-ARRANGE, RE-ROUTE OR REMOVE EXISTING WIRING AS REQUIRED TO ACCOMMODATE THE CHANGES AND ADDITIONS SHOWN AND TO PROVIDE CONTINUING SERVICE FOR THE AREAS OF THE PROJECT WHICH ARE TO REMAIN IN OPERATION.
- THESE DRAWINGS INDICATE THE FINISHED REQUIREMENTS FOR THE ELECTRICAL SYSTEMS, EQUIPMENT, LIGHTING FIXTURES, OUTLETS AND DEVICES. DUE TO STRUCTURAL CONDITIONS, MECHANICAL OR DUCT PIPING INTERFERENCE, RETAINED EXISTING FACILITIES OR FOR OTHER REASONS, THE CONTRACTOR MAY DESIRE TO INSTALL THE WORK IN A MANNER DIFFERENT FROM THAT SHOWN. SUCH CHANGES SHALL BE PRESENTED TO THE OWNER'S REPRESENTATIVE FOR APPROVAL BEFORE PROCEEDING, AND THE RECORD DRAWINGS SHALL BE ACCURATELY REVISED TO SHOW THE CHANGES AS COMPLETED.
- EXISTING ELECTRICAL WIRING MAY BE RE-USED WHERE IT IS IN COMPLIANCE WITH THE JOB REQUIREMENTS AND CODE PROVISIONS AND DOES NOT INTERFERE WITH ACCOMPLISHMENT OF THE WORK BEING DONE.
- ALL EXISTING LIGHTING FIXTURE NOT TO BE RE-USED IN THEIR PRESENT LOCATIONS SHALL BE CAREFULLY REMOVED AND STORED IN A SAFE PLACE. THEY SHALL BE MADE AVAILABLE FOR INSPECTION BY THE OWNER'S REPRESENTATIVE WHO WILL DESIGNATE THOSE TO BE RE-USED, THOSE TO BE STORED BY THE OWNER AND THOSE TO BE REMOVED FROM THE PREMISES BY THE CONTRACTOR.
- THE OUTLETS SHOWN ON THE DRAWINGS ARE THOSE THAT NOW EXIST. THE CONTRACTOR SHALL VISIT THE JOB SITE TO DETERMINE WHICH EXISTING OUTLETS AND DEVICES ARE TO REMAIN AND THE CONDUIT AND OTHER MATERIALS WHICH MAY BE REMOVED TO PROVIDE THE DESIRED ARRANGEMENT.
- IN AREAS WHERE THERE ARE NO ALTERATIONS INDICATED, THE EXISTING FACILITIES SHALL BE RETAINED IN SERVICE. IN CASE OF DOUBT, ASSUME THAT THE ELECTRICAL WIRING IS TO REMAIN IN OPERATION THROUGHOUT THE CONSTRUCTION PERIOD AND THEREAFTER.
- THE ALTERATION OF EXISTING SPACE IS A WORK OF A COMPLEX NATURE WHICH WILL REQUIRE ACCURATE PLANNING, CAREFUL PREPARATION AND EXECUTION, ATTENTION TO DETAIL, AND CLOSE SUPERVISION BY THE CONTRACTOR. HE WILL BE REQUIRED TO DO HIS SCHEDULING ARRANGEMENT TO MINIMIZE DISRUPTION OF NORMAL ACTIVITIES OF THE BUILDING. WHERE SHUTDOWN OF POWER TO EXISTING PANELS IS REQUIRED TO ALTERATION WORK, IT SHALL BE DONE AT A TIME SPECIFIED AND SCHEDULED BY THE OWNER'S REPRESENTATIVE.
- WHERE INTERRUPTION OF A CIRCUIT FEEDING EXISTING EQUIPMENT, RECEPTACLES, LIGHTING FIXTURES OR BECAUSE OF NEW WORK, THE CIRCUIT SHALL BE REHABILITATED AND MADE CONTINUOUS FROM PANEL TO LAST EXISTING OUTLET.

CODES, STANDARDS & GUIDES

PARTIAL LIST OF APPLICABLE CODES AS OF January 1, 2020	
2019 California Administrative Code, Part 1, Title 24 C.C.R.	2016 Edition
2019 California Building Code (CBC), Part 2, Title 24 C.C.R.	2016 Edition
(2018 International Building Code Volumes 1-2 and 2019 California Amendments)	2017 Edition
2019 California Electrical Code (CEC), Part 3, Title 24 C.C.R.	2017 Edition
(2017 National Electrical Code and 2019 California Amendments)	2016 Edition
2019 California Mechanical Code (CMC) Part 4, Title 24 C.C.R.	2015 Edition
(2018 Uniform Mechanical Code and 2019 California Amendments)	2016 Edition
2019 California Plumbing Code (CPC), Part 5, Title 24 C.C.R.	2016 Edition
(2018 Uniform Plumbing Code and 2019 California Amendments)	2016 Edition
2019 California Energy Code (CEC), Part 6, Title 24 C.C.R.	2015 Edition
2019 California Fire Code, Part 9, Title 24 C.C.R.	2015 Edition
(2018 International Fire Code and 2019 California Amendments)	2012 Edition
2019 California Green Building Standards Code, Part 11, Title 24 C.C.R.	2012 Edition
2019 California Reference Standards, Part 12, Title 24 C.C.R.	2012 Edition
Title 19 C.C.R., Public Safety, State Fire Marshal Regulations.	2017 Edition
2016 ASME A17.1/CSA B44-13 Safety Code for Elevators and Escalators (per 2019 CBC Part 2 Ch 35)	2003 Edition
	1999 Edition

PARTIAL LIST OF APPLICABLE STANDARDS		
NFPA 13	Automatic Sprinkler Systems	2016 Edition
NFPA 14	Standpipe Systems	2016 Edition
NFPA 17	Dry Chemical Extinguishing Systems	2017 Edition
NFPA 17a	Wet Chemical Systems	2017 Edition
NFPA 20	Stationary Pumps	2016 Edition
NFPA 22	Water tanks for Private Fire Protection	2016 Edition
NFPA 24	Private Fire Mains	2016 Edition
NFPA 72	National Fire Alarm Code	2016 Edition
NFPA 80	Fire doors and Other Opening Protectives	2016 Edition
NFPA 92	Standard for Smoke Control Systems	2012 Edition
NFPA 253	Critical Radiant Flux of Floor Covering Systems	2015 Edition
NFPA 2001	Clean Agent Fire Extinguishing Systems	2015 Edition
ICC 300	ICC Standards on Bleachers, Folding and Telescoping Seating and Grand stands	2012 Edition
UL 300	Fire Testing of Fire Extinguishing Systems for Protection Of Restaurant Cooking Areas	2017 Edition
UL 484	Audible Signal Appliances	2003 Edition
UL 521	Heat Detectors for Fire Protective Signaling Systems	1999 Edition

Reference code section for NFPA Standards- 2019 CBC (SFM) Chapter 35. See Chapter 35 for State of California amendments to NFPA Standards.

* All parts of the 2019 California Building Code become effective January 1, 2020 except the effective date for the use of the 2019 Building Energy Efficiency Standards (Title 24, Part 1, Chapter 10 and Part 6, and affected provisions in Part 11 [Cal. Green Building Standards Code]) is January 8, 2019 and the effective date for California Administrative Code, Part 1, Title 24 is January 8, 2019.

LIGHTING FIXTURE SCHEDULE

ABBREVIATIONS:		NOTES:							
CLG	= CEILING	1. VERIFY EXACT CEILING TYPE AND PROVIDE PROPER FIXTURES WITH ALL NECESSARY MOUNTING ACCESSORIES.							
REC	= RECESS								
CHN	= CHAIN HUNG								
PEN	= PENDANT								
SPC	= SPECIAL								
LED	= LED								
TYPE	MTG.	MANUFACTURER AND CATALOG NUMBER	FINISH	LAMP TYPE	TOTAL WATTS	VOLT	DESCRIPTION		
A	PEN	MARK LIGHTING #PLN8-LSL-MSLA-80CRI-40K-ID800LMF-20/80-MIN1-MVOLT-nLIGHT-FLEP-F2-36A	WH	LED	24.3	120	PENDANT MOUNT LED LIGHTING FIXTURE WITH COMPLETE MOUNTING ACCESSORY.		
AE	PEN	MARK LIGHTING #PLN8-LSL-MSLA-80CRI-40K-ID800LMF-20/80-MIN1-MVOLT-nLIGHT-FLEP-F2-36A-E10WCLP	WH	LED	24.3	120	SAME AS TYPE "A" EXCEPT WITH BUILT-IN EMERGENCY BATTERY PACK.		
A1	PEN	MARK LIGHTING #PLN8-LSL-MSLA-80CRI-40K-ID1000LMF-20/80-MIN1-MVOLT-nLIGHT-FLEP-F2-36A	WH	LED	31.6	120	PENDANT MOUNT LED LIGHTING FIXTURE WITH COMPLETE MOUNTING ACCESSORY.		
B	CLG	LITHONIA #STL4-20L-E21-LP840-LSXR10	WH	LED	20	120	SURFACE MOUNT LED LIGHTING FIXTURE WITH COMPLETE MOUNTING ACCESSORY AND BUILT-IN SENSOR SWITCH.		
X	SPC	LITHONIA #LV-S-W-1-R-120	WH	LED	2.3	120	EXIT SIGN, UNIVERSAL MOUNT.		

MEP Component Anchorage Note
All mechanical, plumbing, and electrical components shall be anchored and installed per the details on the DSA-approved construction documents. The following components shall be anchored or braced to meet the force and displacement requirements prescribed in the 2019 CBC Sections 1617A.1.19 through 1617A.1.26 and ASCE 7-16 Chapters 13, 26 and 30:

- All permanent equipment and components.
- 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.
- 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:

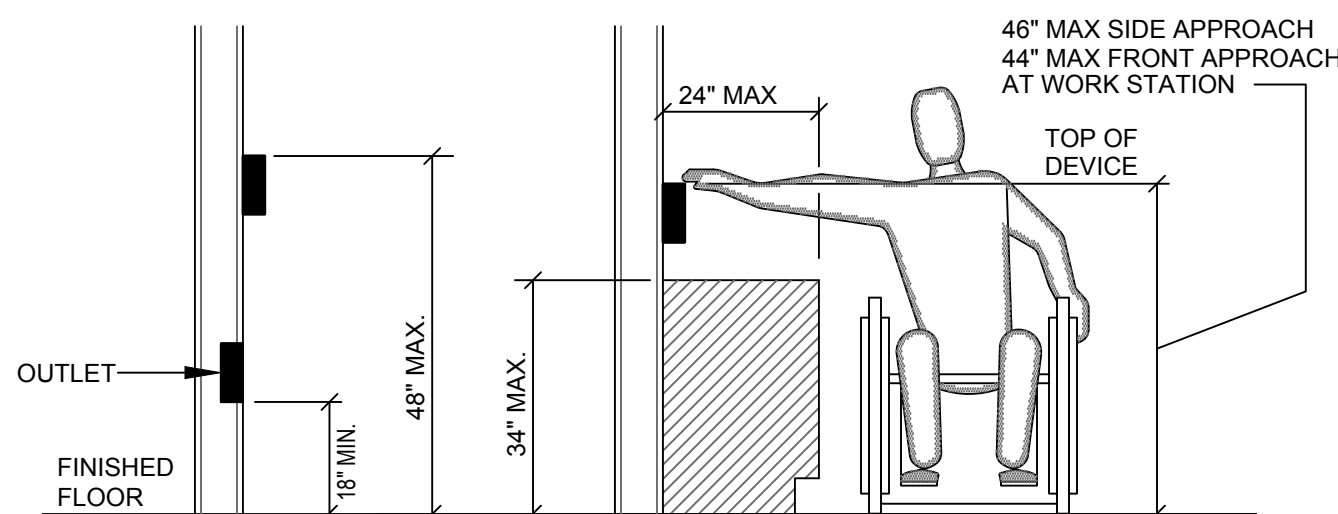
- Components weighing less than 400 pounds and having a center of mass located 4 feet or less above the adjacent floor or roof level that directly support the component.
- Components weighing less than 20 pounds, or in the case of distributed systems, less than 5 pounds per foot, which are suspended from a roof or floor or hung from a wall.

The anchorage of all mechanical, electrical and plumbing components shall be subject to the approval of the design professional in general responsible charge or structural engineer delegated responsibility and acceptance by DSA. The project inspector will verify that all components and equipment have been anchored in accordance with the above requirements.

Piping, Ductwork, and Electrical Distribution System Bracing Note
Piping, ductwork, and electrical distribution systems shall be braced to comply with the forces and displacements prescribed in ASCE 7-16 Section 13.3 as defined in ASCE 7-16 Sections 13.6.5, 13.6.6, 13.6.7, 13.6.8, and 2019 CBC, Sections 1617A.1.24, 1617A.1.25 and 1617A.1.26.

The method of showing bracing and attachments to the structure for the identified distribution system are as noted below. When bracing and attachments are based on a preapproved installation guide (e.g. OSHPD OPM for 2013 CBC or later), copies of the bracing system installation guide or manual shall be available on the jobsite prior to the start of and during the hanging and bracing of the distribution systems. The Structural Engineer of Record shall verify the adequacy of the structure to support the hanger and brace loads.

Mechanical Piping (MP), Mechanical Ducts (MD), Plumbing Piping (PP), Electrical Distribution Systems (E):
 MP MD PP E - Option 1: Detailed on the approved drawings with project specific notes and details.
 MP MD PP E - Option 2: Shall comply with the applicable OSHPD Pre-Approval (OPM #) #____.

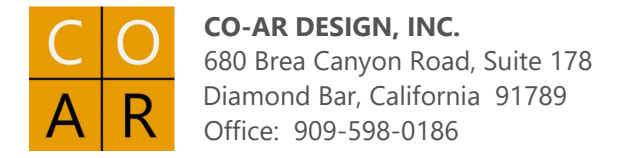
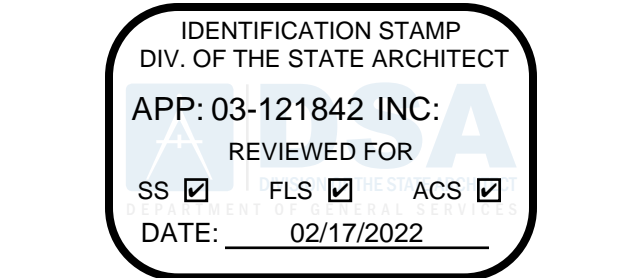


MOUNTING HEIGHTS OVER OBSTRUCTION

MOUNTING HEIGHTS

N.T.S.

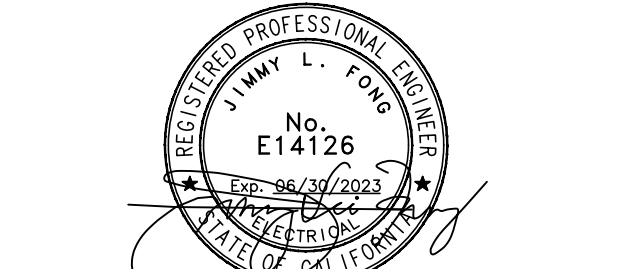
- TYPICAL MOUNTING HEIGHTS ABOVE FINISHED FLOOR (UNLESS OTHERWISE NOTED ON DRAWINGS)**
- +48" TO TOP OF BOX: LIGHT SWITCHES, DIMMER SWITCHES, FIRE ALARM PULL STATION, DUCT DETECTOR TEST PANEL, INTERCOM CALL SWITCH, SPEAKER VOLUME CONTROL, T-STATS, BY-PASS TIMER, WALL TELEPHONE.
 - +18" TO BOTTOM OF BOX: ALL DUPLEX RECEPTACLES, WALL OUTLET FOR DESK TELEPHONE, COMPUTER OUTLET, UNLESS OTHERWISE NOTED.



Dennis J. Lee, N.CARB denmsl@coar.design.com

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(818) 859-7081 Y21-011



PROJECT: **CTE ROBOTICS CLASSROOM UPGRADE - NOGALES HIGH SCHOOL**

401 NOGALES STREET LA PUENTE CA 91744

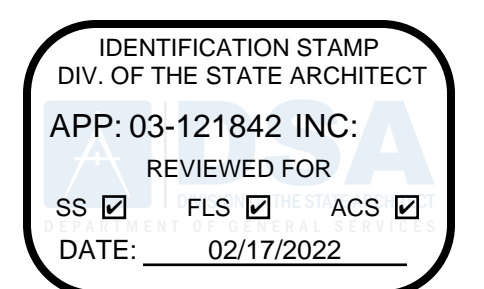
CLIENT: ROWLAND UNIFIED SCHOOL DISTRICT
1830 NOGALES STREET
ROWLAND HEIGHTS, CA 91748

NO.	REVISIONS	DATE
1	DESIGN DEVELOPMENT	4/22/2021
2	CONSTRUCTION DOCUMENTATION	7/6/2021
3	DSA SUBMITTAL	10/8/2021

PROJECT NO: 202015
SCALE: AS SHOWN
DATE: 9/23/2021
DRAWN BY: JF
CHECKED BY: HY
SHEET TITLE:

SYMBOL LIST, FIXTURE SCHED., CODES, GENERAL NOTES, AND DETAIL

SHEET NO:



ARCHITECT:
CO-AR DESIGN, INC.
 680 Brea Canyon Road, Suite 178
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 Dennis J. Lee, NCARB dennisl@coar-design.com

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 NOTES:

(RELOCATED) PANEL EG													
120/208 VOLTS			MAIN BRK: 90 AMPS, 3 POLE			BUS RATING: 225A			LOCATION: STORAGE RM M-14				
3 PHASE			FEEDER: MATCH TO EXISTING			MOUNTING: FLUSH							
4 WIRE													
LOCATION	WATTAGE	LTG	REC	MIS	CIR	BKR	BKR	CIR	MIS	REC	LTG	WATTAGE	LOCATION
SPARE					SPR	1	20-1					1500	HAND DRYER, TOILET M-20
SPARE					SPR	3	20-1					1500	HAND DRYER, TOILET M-21
FCPS			1000			5	20-1					200	ROOF OUTLET
SPARE					SPR	7	20-3					360	TOILET M-21, M-20
SPARE						9						360	RECEPTACLE OFF, M-17
SPARE						11						360	RECEPTACLE OFF, M-17
SPARE					SPR	13	15-3						SPARE
SPARE						15							SPARE
SPARE						17							SPARE
SPARE					SPR	19	20-3						SPARE
SPARE						21							SPARE
SPARE						23							SPARE
SPARE					SPR	25	20-3						SPARE
SPARE						27							SPARE
SPARE						29							SPARE
SPARE					SPR	31	20-3						SPARE
SPARE						33							SPARE
SPARE						35							SPARE
SPARE					SPR	37	20-1					3360	RTU-02
SPARE					SPR	39	20-1					3360	
SPARE						41						3360	

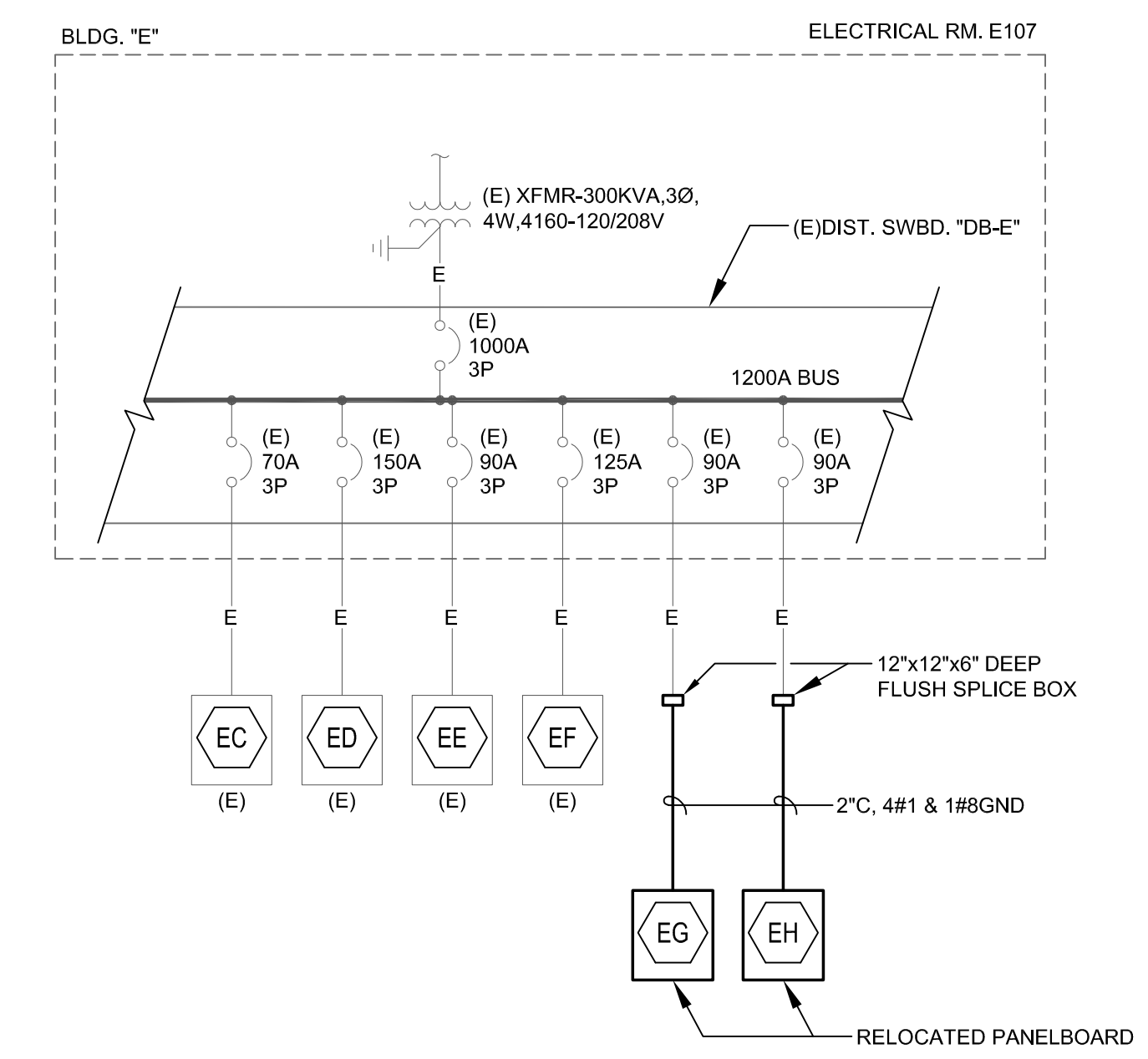
PH-A= 5220 VA PH-B= 5220 VA PH-C= 4920 VA
 TOTAL CONNECTED LOAD: 15360 VA OR 42.67 AMPS @ 120/208 VOLTS - 3 PHASE
 LCL: 0 VA X 1.25% = 0 VA
 FDL: 15360 VA + 0 VA (LCL) = 15360 VA OR 42.67 A

* PROVIDE "LOCK-ON" DEVICE AND PAINT "RED" TO (E) CIRCUIT BREAKER.
 * REMOVE AND REPLACE 20 AMPS, 3 POLE WITH 40 AMPS, 3 POLE CIRCUIT BREAKER. MATCH TYPE AND A.I.C. RATING.

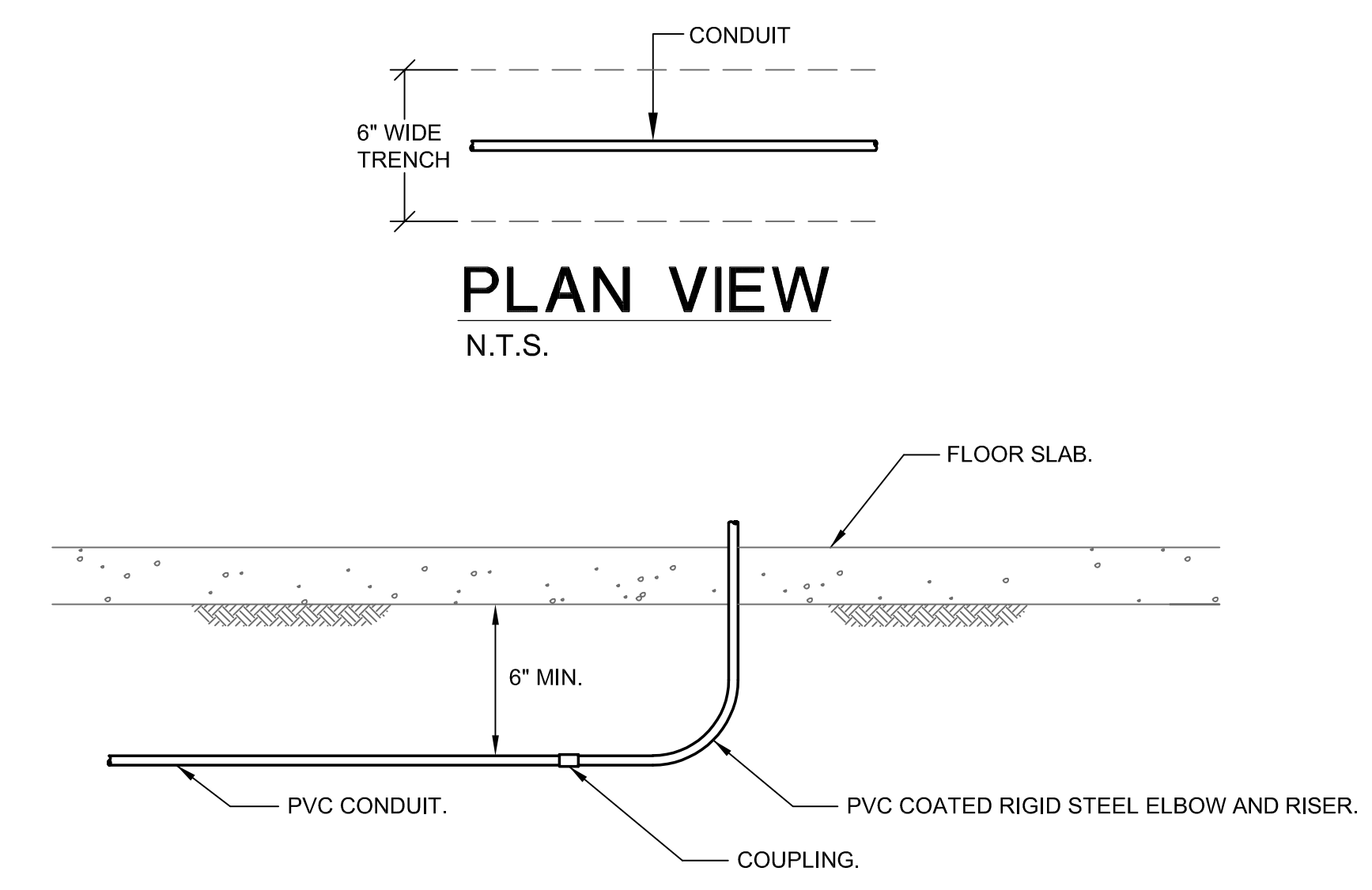
(RELOCATED) PANEL EH													
120/208 VOLTS			MAIN BRK: 70 AMPS, 3 POLE			BUS RATING: 225A			LOCATION: STORAGE RM M-14				
3 PHASE			FEEDER: MATCH TO EXISTING			MOUNTING: FLUSH							
4 WIRE													
LOCATION	WATTAGE	LTG	REC	MIS	CIR	BKR	BKR	CIR	MIS	REC	LTG	WATTAGE	LOCATION
LTG, CLASSROOM M-22	729		30			1	20-1					300	RECEPTACLE, CR M-22
LTG, CLASSROOM M-22	729		30			1	20-1					300	RECEPTACLE, CR M-22
LTG, STO. OFF, RESTROOM	216		9			5	20-1					600	RECEPTACLE, CR M-22
RECEPTACLE, CR M-22	300					1	20-1					600	RECEPTACLE, CR M-22, STO.
RECEPTACLE, CR M-22	300					1	20-1					600	RECEPTACLE, CR M-22
DN IDF	600					1	20-1					300	RECEPTACLE, CR M-22
SPARE						13	20-3						RECEPTACLE, CR M-22
SPARE						15							RECEPTACLE, CR M-22
SPARE						17							RECEPTACLE, CR M-22
SPARE						19	20-3					1000	208 VOLTS RECEPTACLE
SPARE						21							208 VOLTS RECEPTACLE
SPARE						23							208 VOLTS RECEPTACLE
SPARE						25	20-3					1000	RECEPTACLE, CR M-22
SPARE						27							RECEPTACLE, CR M-22
SPARE						29							RECEPTACLE, CR M-22
RECEPTACLE, CR M-22	600					2	20-1					300	RECEPTACLE, CR M-22
RECEPTACLE, CR M-22	600					3	20-1					300	RECEPTACLE, CR M-22
RECEPTACLE, CR M-22	900					3	20-1					300	RECEPTACLE, CR M-22
RECEPTACLE, CR M-22	600					2	20-1					360	RECEPTACLE, OFF, M-17
SPARE						39	20-1						RECEPTACLE, OFF, M-17
SPARE						41	20-1						PROJECTOR

PH-A= 5989 VA PH-B= 5089 VA PH-C= 5716 VA
 TOTAL CONNECTED LOAD: 16794 VA OR 46.65 AMPS @ 120/208 VOLTS - 3 PHASE
 LCL: 1674 VA X 1.25% = 2092.5 VA
 FDL: 15120 VA + 2093 VA (LCL) = 17213 VA OR 47.81 A

* REMOVE AND REPLACE (3) 3 POLE, 20 AMPS WITH (5) 1 POLE, 20 AMPS AND (2) 2 POLE, 20 AMPS CIRCUIT BREAKER. MATCH TYPE AND A.I.C. RATING.

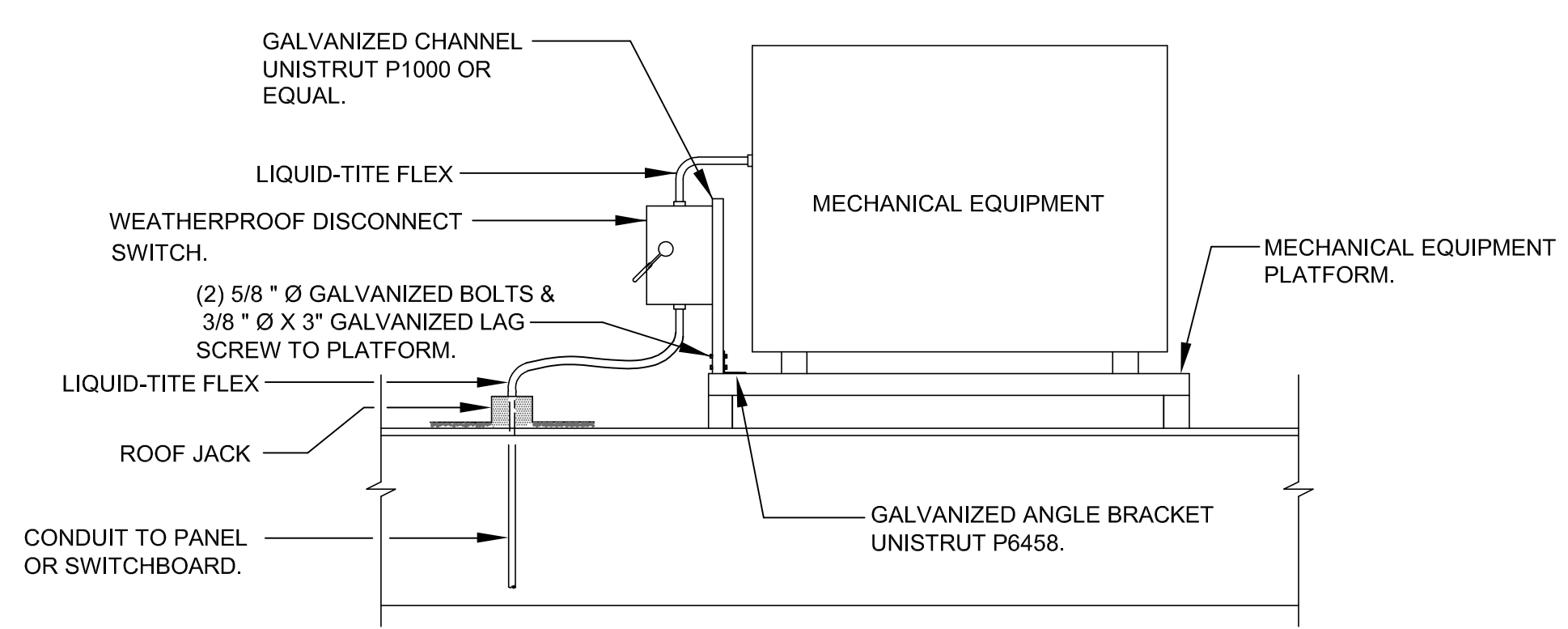


PARTIAL SINGLE LINE DIAGRAM
 N.T.S.



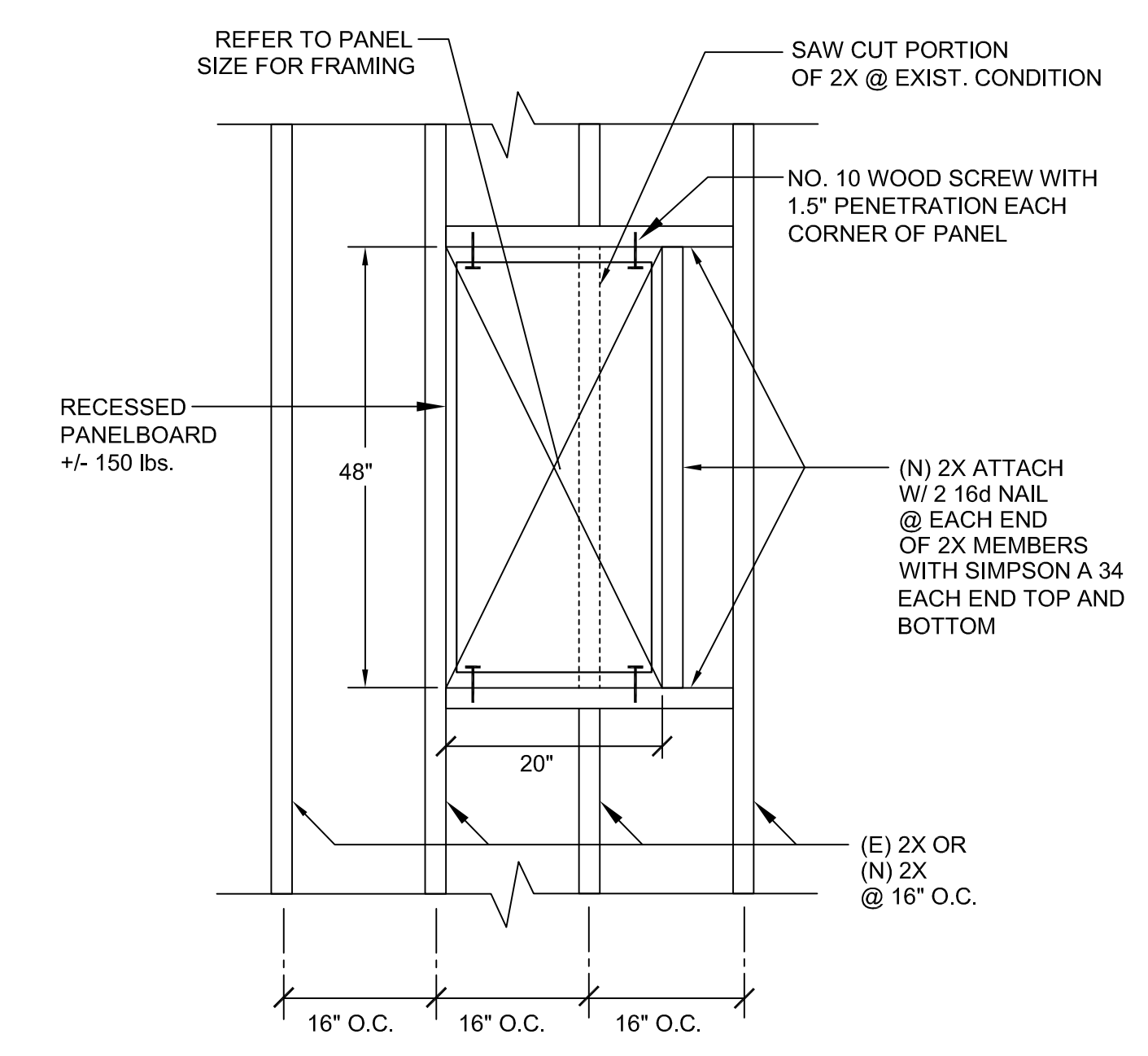
TYPICAL UNDERGROUND CONDUIT INSTALLATION UNDER FLOOR SLAB
 N.T.S.

6
 E-1.2



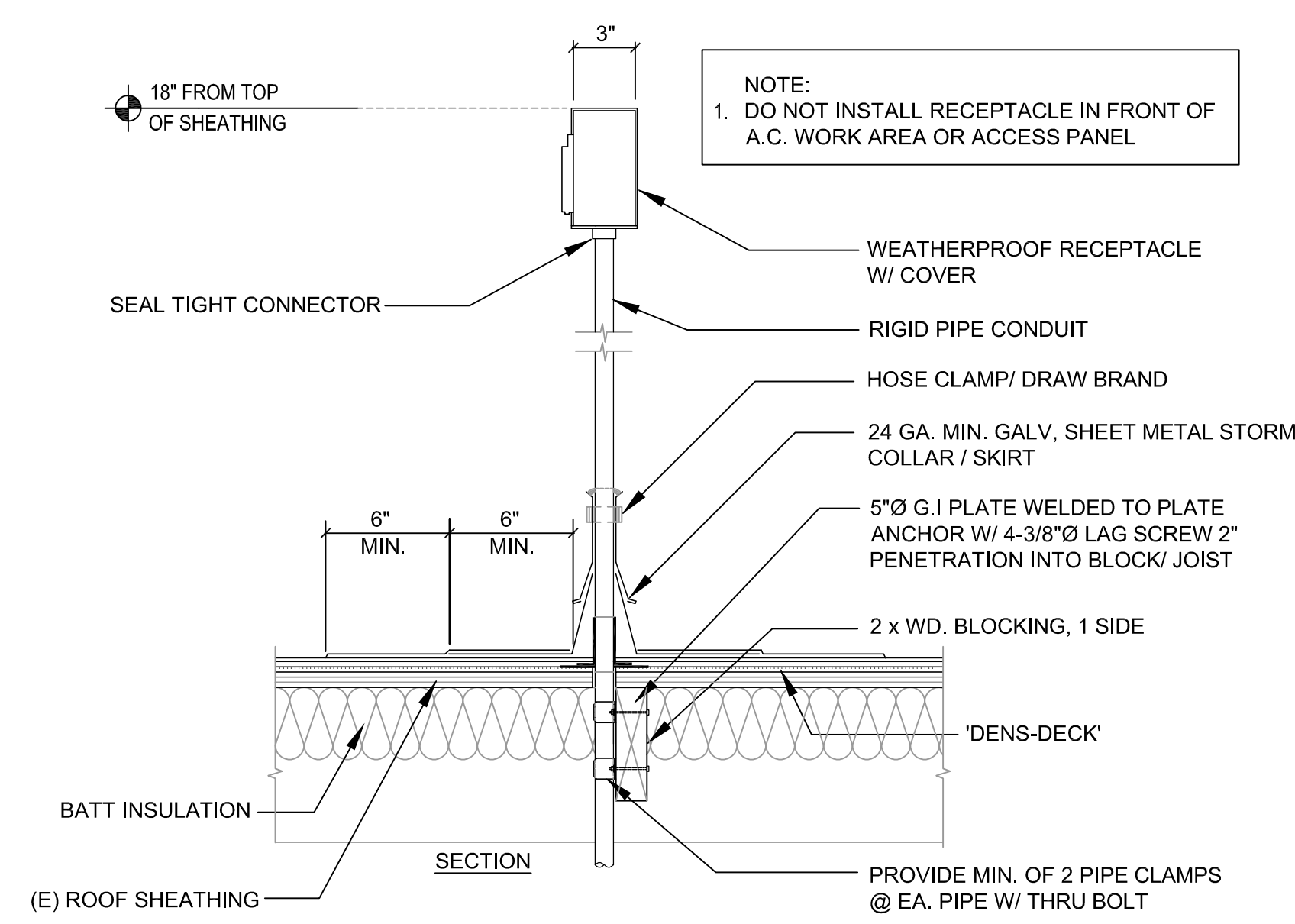
DISCONNECT SWITCH MOUNTING DETAIL
 N.T.S.

4
 E-1.2



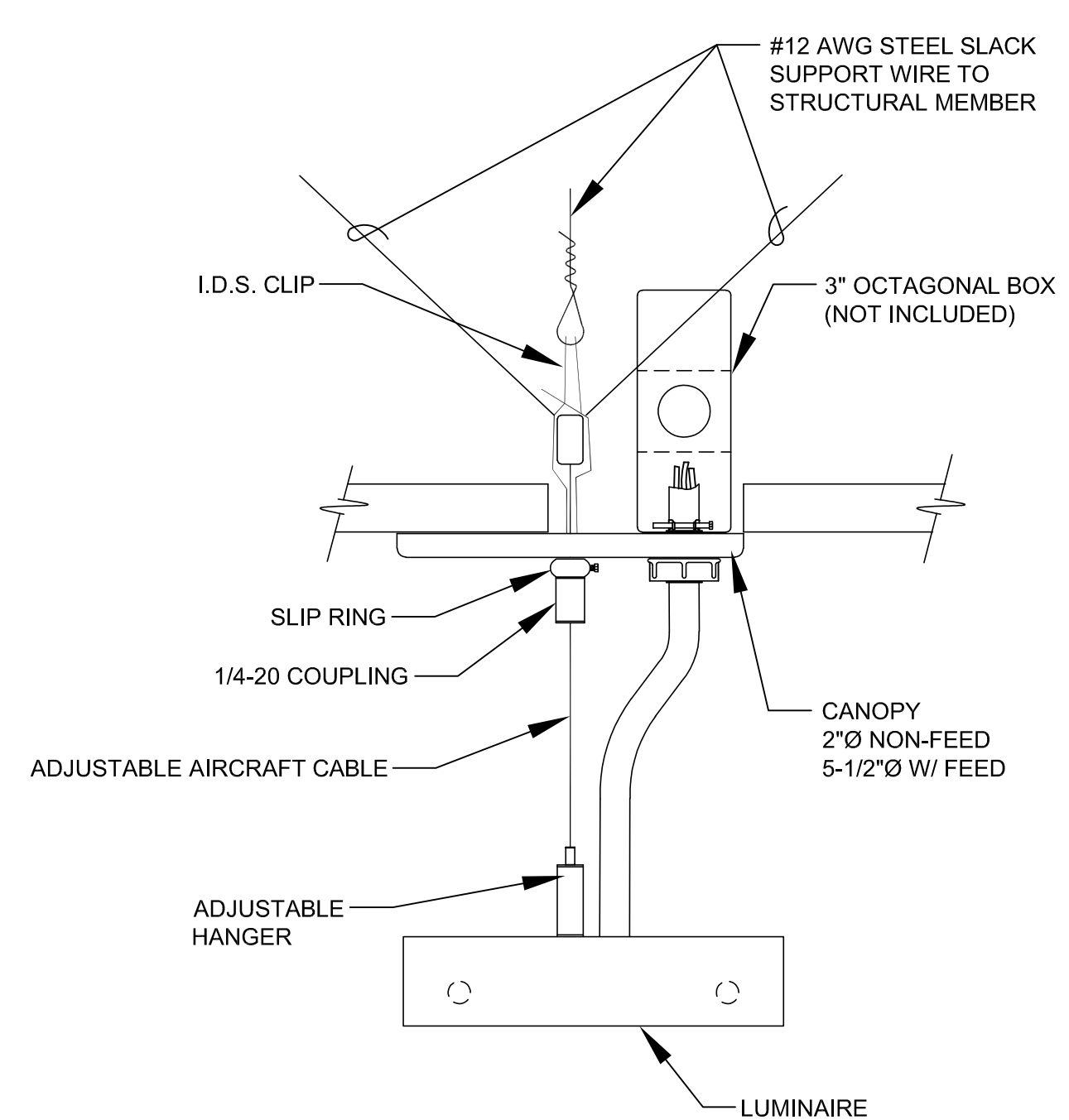
TYP. ELECTRICAL PANELBOARDS/SIGNAL PANEL OR CABINETS, FLUSH MOUNTED
 N.T.S.

2
 E-1.2



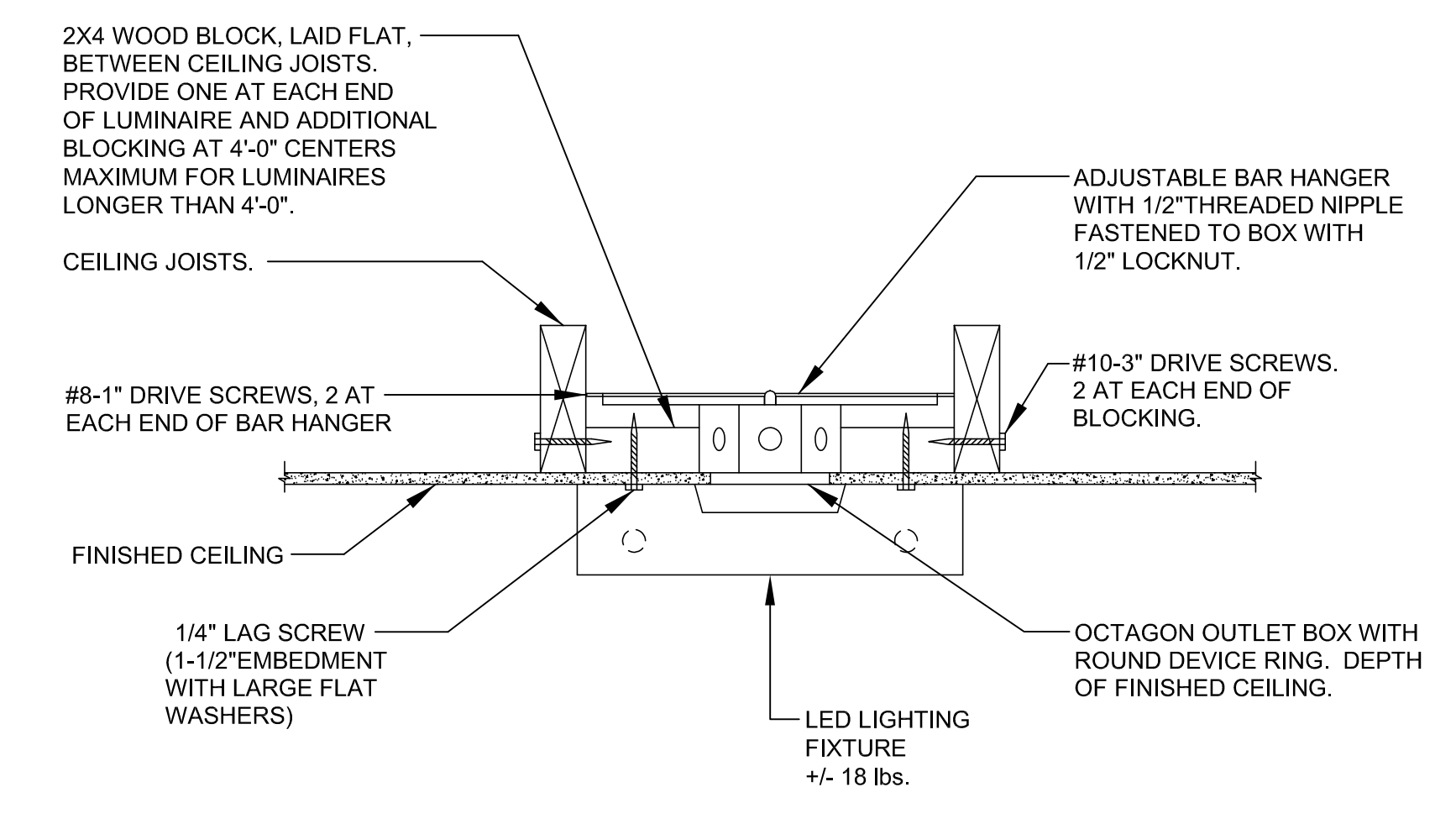
ROOF OUTLET MOUNTING DETAIL
 N.T.S.
 DETAIL IS ALSO TYPICAL FOR ROOF CONDUIT PENETRATION.

5
 E-1.2



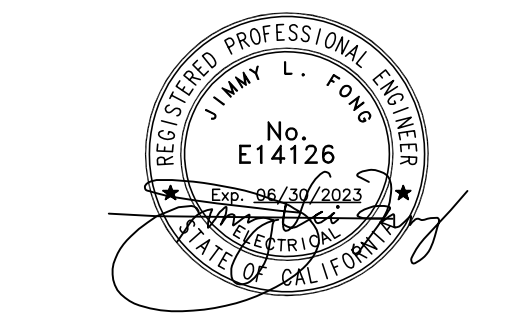
PENDANT MOUNTED LIGHTING FIXTURE
 N.T.S.

3
 E-1.2

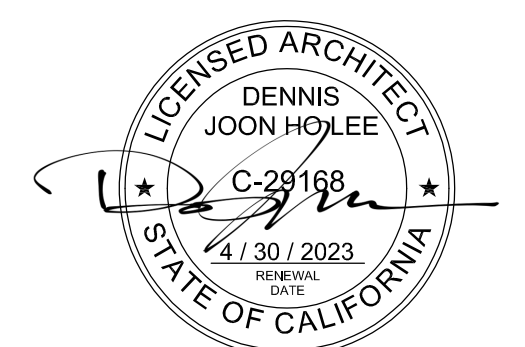


SURFACE LUMINAIRE ON GYPSUM BOARD CEILING
 N.T.S.

1
 E-1.2



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CTE ROBOTICS
NOGALES UPGRADE -
CLASSROOMS HIGH SCHOOL

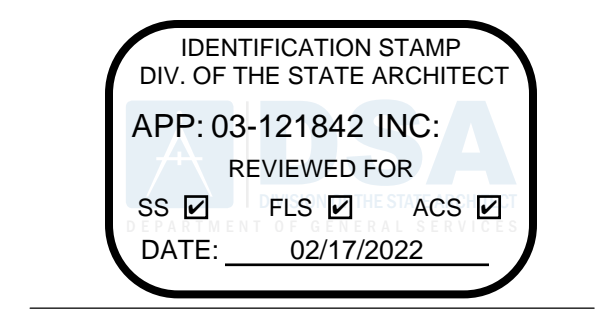
401 NOGALES STREET LA
 PUENTE CA 91744

ROWLAND UNIFIED SCHOOL DISTRICT
 1830 NOGALES STREET
 ROWLAND HEIGHTS, CA 91748

SUBMITTAL REVISIONS:
 1 DESIGN DEVELOPMENT 4/22/2021
 2 CONSTRUCTION DOCUMENTATION 7/26/2021
 3 DSA SUBMITTAL 10/8/2021

PROJECT NO: 202015
 SCALE: AS SHOWN
 DATE: 9/23/2021
 DRAWN BY: HY
 CHECKED BY: JE
PANEL SCHEDULES, DETAILS & PARTIAL SINGLE LINE DIAGRAM

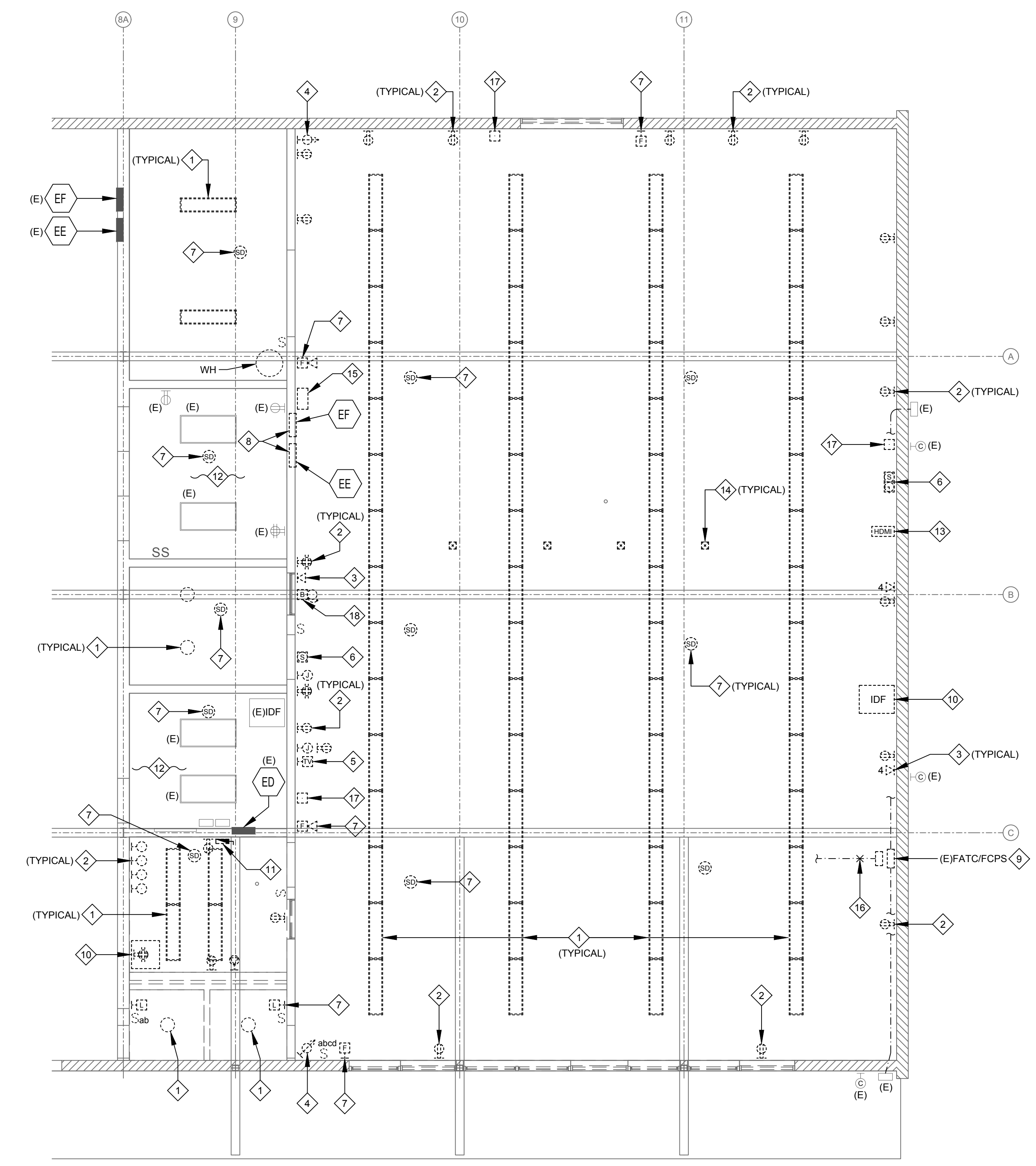
SHEET NO: **E-1.2**



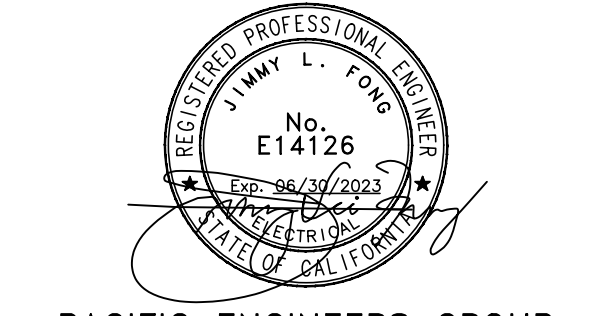
ARCHITECT:
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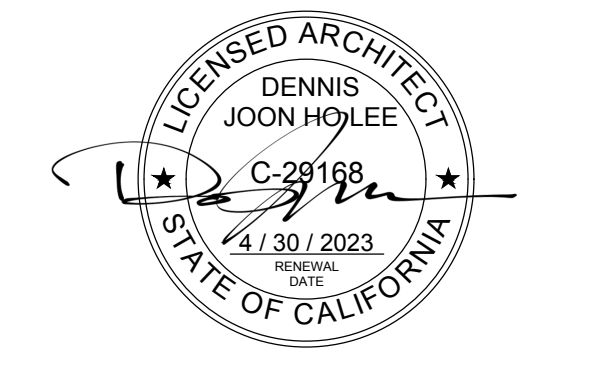
- DEMOLITION KEYED NOTES**
- 1 DISCONNECT AND REMOVE LIGHTING FIXTURES, WALL SWITCHES INCLUDING WIRES, CONDUIT AND CONTROL WIRINGS UP TO PANELBOARD.
 - 2 DISCONNECT AND REMOVE RECEPTACLE OUTLETS INCLUDING WIRES AND CONDUIT UP TO PANELBOARD. PROVIDE COVER TO FLUSH BOX, CUT, CAP CONCEAL CONDUIT AND ABANDON IN PLACE.
 - 3 DISCONNECT AND REMOVE DATA OUTLET INCLUDING RACEWAYS AND CABLE UP TO IDF CABINET.
 - 4 DISCONNECT AND REMOVE INTRUSION DETECTION DEVICES INCLUDING CONDUIT AND CABLES UP TO TERMINAL CABINET.
 - 5 DISCONNECT AND REMOVE TV OUTLET INCLUDING CONDUIT AND CABLE UP TO TERMINAL CABINET.
 - 6 DISCONNECT AND REMOVE CLOCK AND SPEAKERS INCLUDING WIRES AND CONDUIT UP TO TERMINAL CABINET.
 - 7 CAREFULLY DISCONNECT, REMOVE AND REPLACE FIRE ALARM SMOKE DETECTORS, HEAT DETECTORS, HORN, STROBES AND PULL STATION. REMOVE AND REPLACE WIRES AND CONDUIT UP TO TERMINAL CABINET NEW LOCATION. SEE NEW FIRE ALARM PLAN SHEET FA-2.1.
 - 8 CAREFULLY DISCONNECT, REMOVE AND RELOCATE PANELBOARDS, INTERCEPT AND EXTEND MAIN FEEDER CABLES VIA PULL BOX TO PANELBOARDS NEW LOCATION. FEEDER AND CONDUIT SIZE TO MATCH EXISTING. PATCH OPENING AND PAINT TO MATCH WALL COLOR.
 - 9 CAREFULLY DISCONNECT, REMOVE AND RELOCATE FIRE ALARM POWER SUPPLY CONTROL PANEL (FCPS) AND TERMINAL CABINET. PULL BACK WIRES UP TO WALL MOUNTED EXTERIOR PULL BOX AND REMOVE CONDUIT. INTERCEPT AND EXTEND REMAINING WIRES AND CONDUIT TO TERMINAL CABINET NEW LOCATION.
 - 10 DISCONNECT AND REMOVE IDF CABINET INCLUDING ASSOCIATED ELECTRONIC DEVICES, PULLBACK FIBER OPTIC CABLE UP TO EXTERIOR WALL MOUNTED PULLBOX AND REMOVE CONDUIT.
 - 11 DISCONNECT AND REMOVE SWITCH INCLUDING ASSOCIATED WIRES AND CONDUIT.
 - 12 PROTECT IN PLACE ALL EXISTING ELECTRICAL DEVICES IN THIS ROOM U.O.N. CAREFUL NOT TO DISCONNECT POWER SUPPLY.
 - 13 DISCONNECT AND REMOVE HDMI INPUT OUTLET INCLUDING WIRES AND CONDUIT.
 - 14 DISCONNECT AND REMOVE POWER POLE INCLUDING WIRES AND CONDUIT UP TO PANELBOARD.
 - 15 DISCONNECT AND REMOVE CCTV CONTROL PANEL INCLUDING WIRES AND CONDUIT.
 - 16 CAREFULLY CUT FIRE ALARM CONDUIT, INTERCEPT, EXTEND AND REROUTE TO TERMINAL CABINET NEW LOCATION.
 - 17 DISCONNECT AND REMOVE EMERGENCY PUSH BUTTON SWITCH INCLUDING WIRES AND CONDUIT. CUT AND CAP CONCEAL CONDUIT AND ABANDON IN PLACE.
 - 18 DISCONNECT AND REMOVE ALARM BELL INCLUDING WIRES AND CONDUIT.



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



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CTE ROBOTICS CLASSROOM UPGRADE - NOGALES HIGH SCHOOL

401 NOGALES STREET LA
 PUENTE CA 91744

CLIENT:
 ROWLAND UNIFIED SCHOOL DISTRICT
 1830 NOGALES STREET
 ROWLAND HEIGHTS, CA 91748

SUBMITTALS REVISIONS:

1	DESIGN DEVELOPMENT	4/22/2021
2	CONSTRUCTION DOCUMENTATION	7/6/2021
3	DSA SUBMITTAL	10/8/2021

PROJECT NO: 202015
 SCALE: AS SHOWN
 DATE: 8/23/2021
 DRAWN BY: HY
 CHECKED BY: JF
 SHEET TITLE:

DEMOLITION PLAN

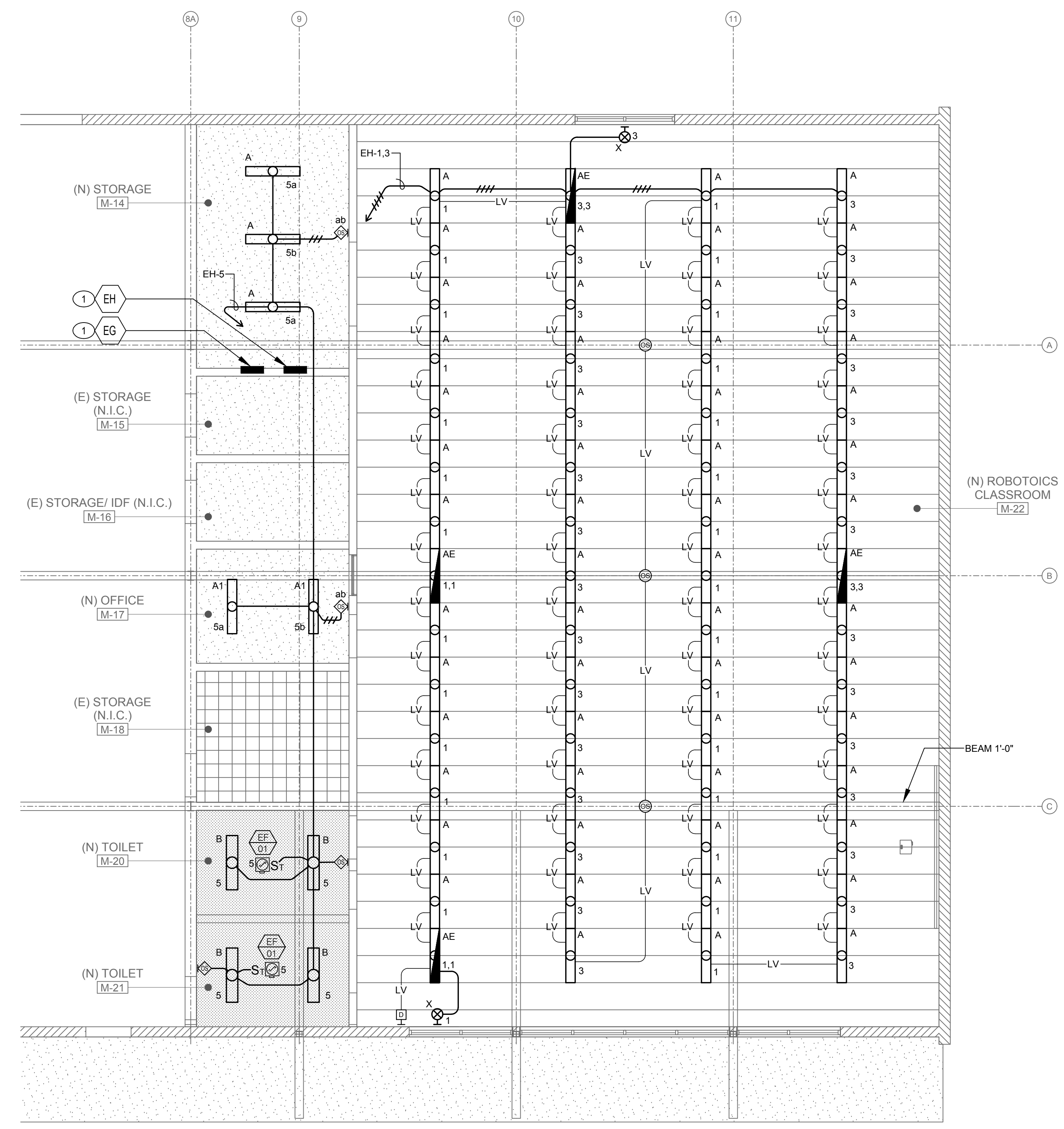
SHEET NO:

KEYED NOTES
 1 PANELBOARD NEW LOCATION. SAW CUT WALL TO FIT PANELBOARD AND CONDUITS. PATCH AND PAINT WALL TO MATCH FINISHED WALL COLOR.

IDENTIFICATION STAMP
 DIV. OF THE STATE ARCHITECT
 APP: 03-121842 INC:
 REVIEWED FOR:
 SS FLS ACS
 DATE: 02/17/2022

ARCHITECT:
CO-AR DESIGN, INC.
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 Diamond Bar, California 91789
 Office: 909-598-0186
 Dennis J. Lee, NCARB dennisl@coar.design

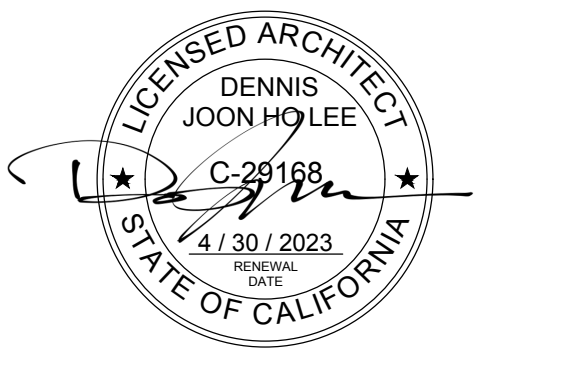
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 NOTES:



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



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PROJECT:
CTE ROBOTICS CLASSROOM UPGRADE - NOGALES HIGH SCHOOL

401 NOGALES STREET LA
 PUENTE CA 91744

CLIENT:
ROWLAND UNIFIED SCHOOL DISTRICT
 1830 NOGALES STREET
 ROWLAND HEIGHTS, CA 91748

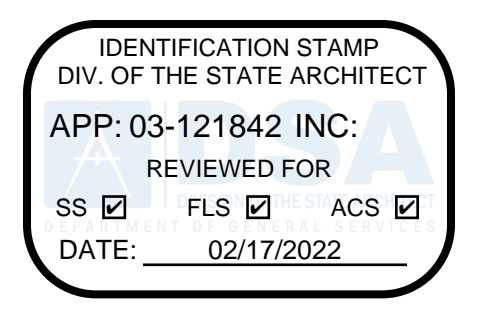
SUBMITTALS REVISIONS:

1	DESIGN DEVELOPMENT	4/22/2021
2	CONSTRUCTION DOCUMENTATION	7/6/2021
3	DSA SUBMITTAL	10/8/2021

PROJECT NO: 202015
 SCALE: AS SHOWN
 DATE: 8/23/2021
 DRAWN BY: HY
 CHECKED BY: JF
 SHEET TITLE:

LIGHTING PLAN

SHEET NO:

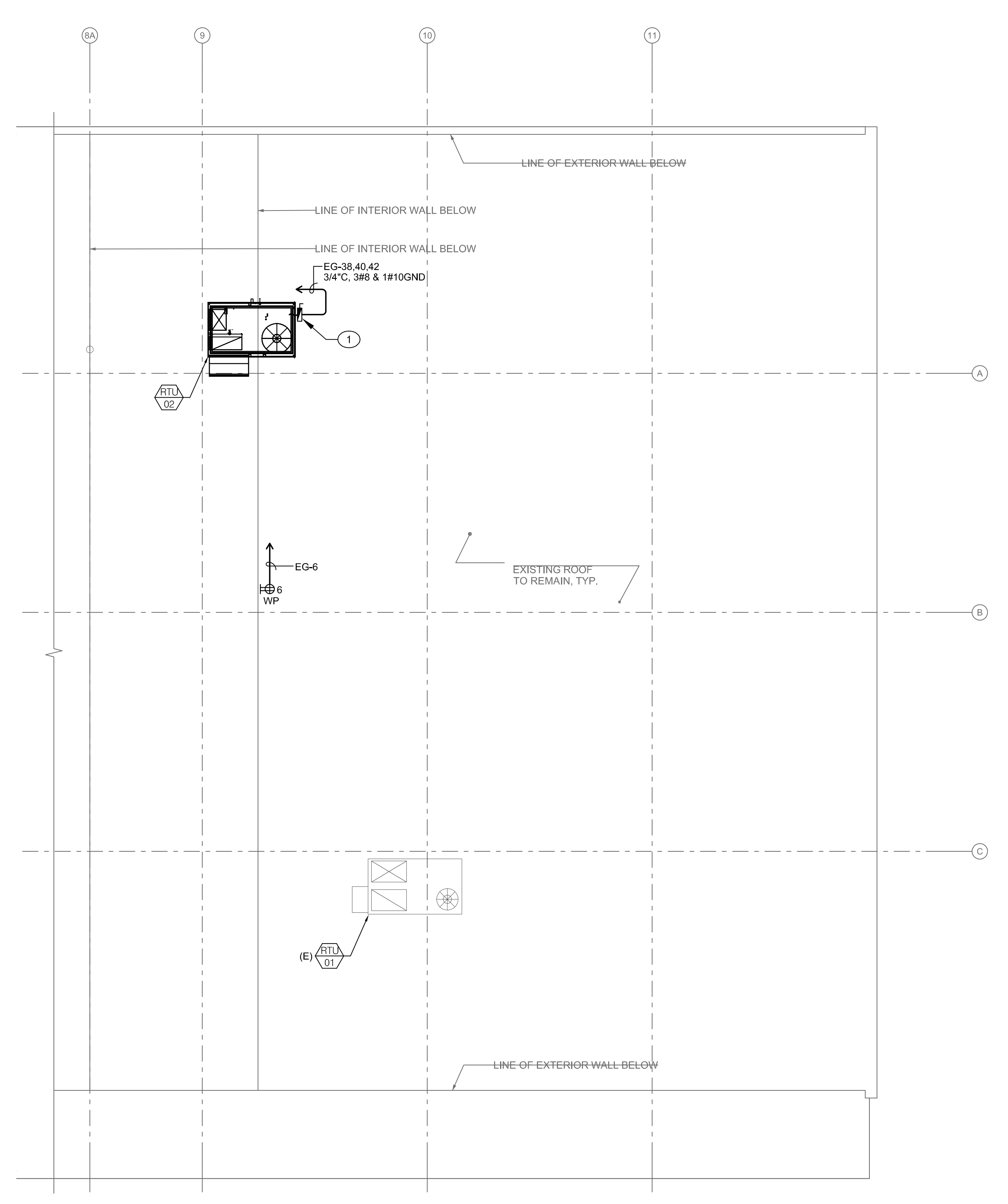


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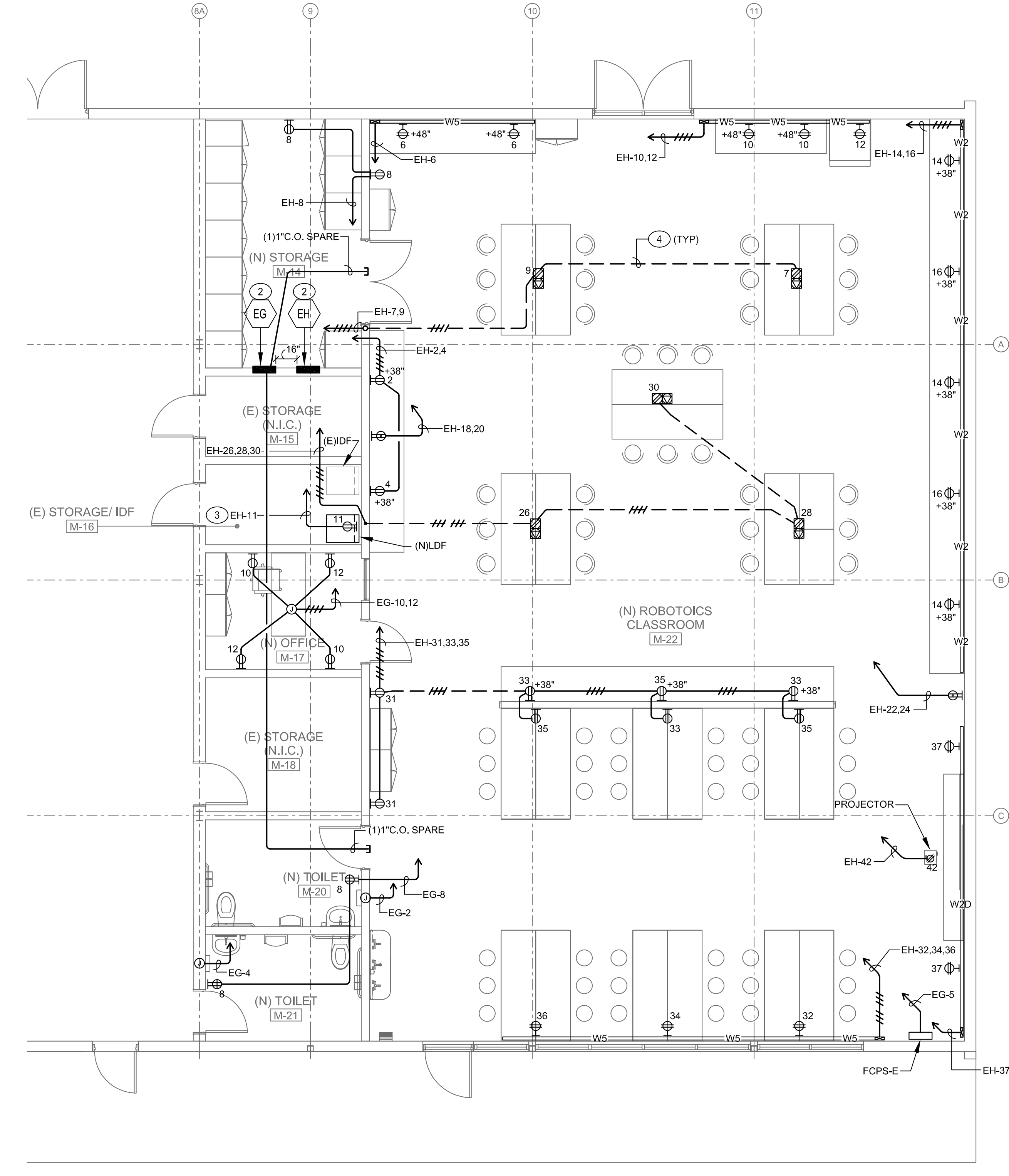
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 NOTES:

- KEYED NOTES**
- DISCONNECT SWITCH-FUSIBLE TYPE, 60 AMPS, 3 POLE, 250 VOLTS WITH (3)45 AMPS FUSE IN NEMA-3R ENCLOSURE.
 - PANELBOARD NEW LOCATION, SAW CUT WALL TO FIT PANELBOARD AND CONDUITS. PATCH AND PAINT WALL TO MATCH FINISHED WALL COLOR. SEE DETAIL 3/E1.2 FOR DETAILS.
 - 3/4" C, 2#12 & 1#12G PLUS 1#6G TO EH-11. CONNECT 1#6 GROUND TO METAL FRAME OF LDF & GROUND BUS OF PANEL EH.
 - SEE DETAIL 6/E-1.2.

NOTE:
 LABEL ALL ELECTRICAL COVERS/FACEPLATES WITH CORRESPONDING PANEL AND CIRCUIT NUMBER.



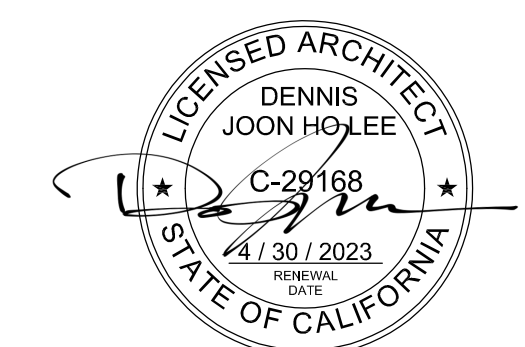
ROOF POWER PLAN
 SCALE: 3/16" = 1'-0"



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



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CTE ROBOTICS CLASSROOM UPGRADE - NOGALES HIGH SCHOOL

401 NOGALES STREET LA
 PUENTE CA 91744
 CLIENT:
ROWLAND UNIFIED SCHOOL DISTRICT
 1830 NOGALES STREET
 ROWLAND HEIGHTS, CA 91748

DATE	DESCRIPTION
4/22/2021	1. DESIGN DEVELOPMENT
7/6/2021	2. CONSTRUCTION DOCUMENTATION
10/8/2021	3. DSA SUBMITTAL

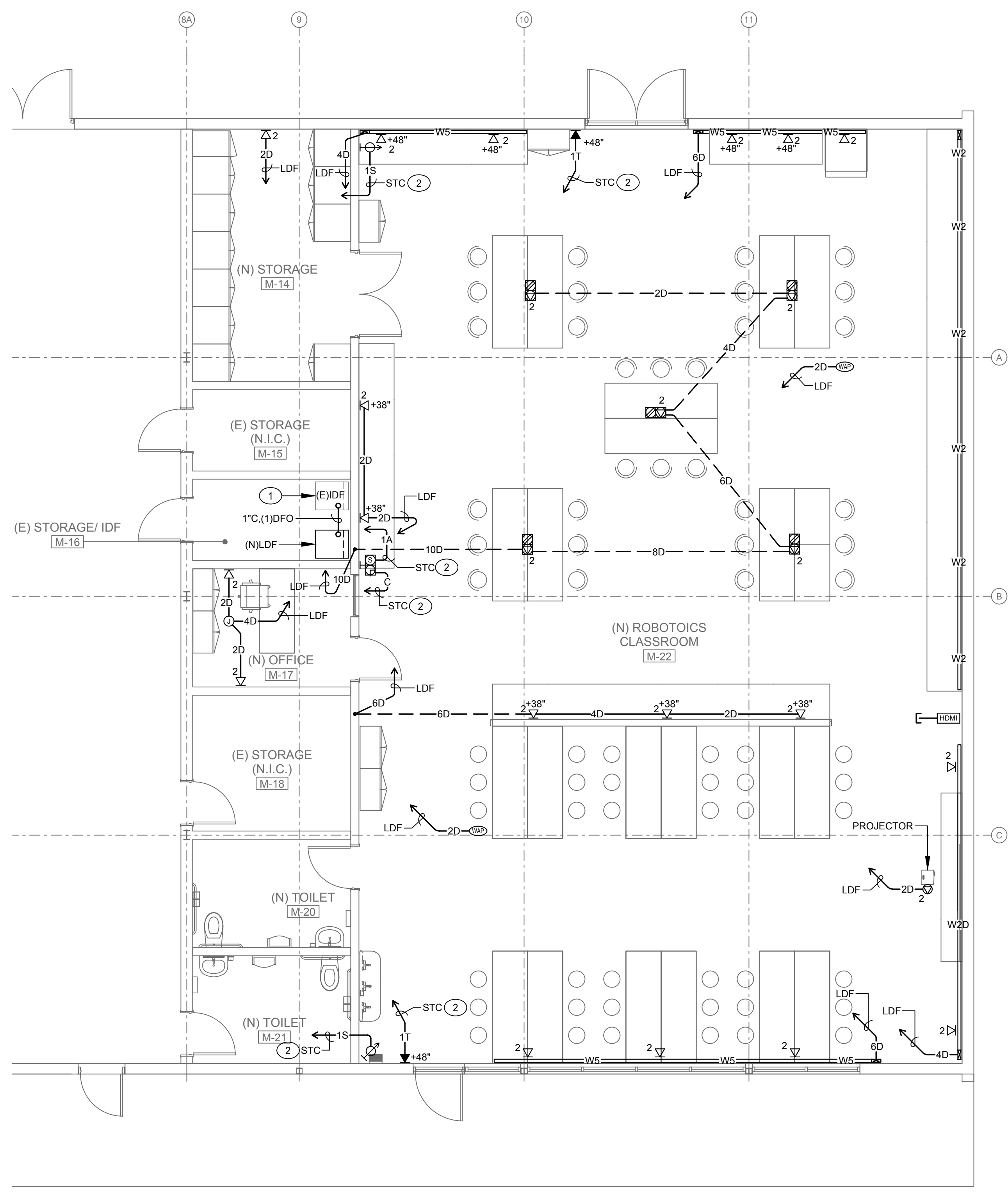
PROJECT NO: 202015
 SCALE: AS SHOWN
 DATE: 9/23/2021
 DRAWN BY: HY
 CHECKED BY: JE
POWER PLANS

- KEYED NOTES**
- 1 ADD PATCH PANEL, ELECTRONIC EQUIPMENT OR MODULE TO INCLUDE NEW DEVICES AS INDICATED.
 - 2 FOR EXISTING TERMINAL CABINET "STC" LOCATION, SEE SHEET FA-1.2 SITE PLAN.

IDENTIFICATION STAMP
 DIV. OF THE STATE ARCHITECT
 APP: 03-121842 INC.
 REVIEWED FOR:
 SS FLS ACS
 DATE: 02/17/2022

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 Diamond Bar, California 91789
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 Dennis J. Lee, NCARB dennisl@coar.design

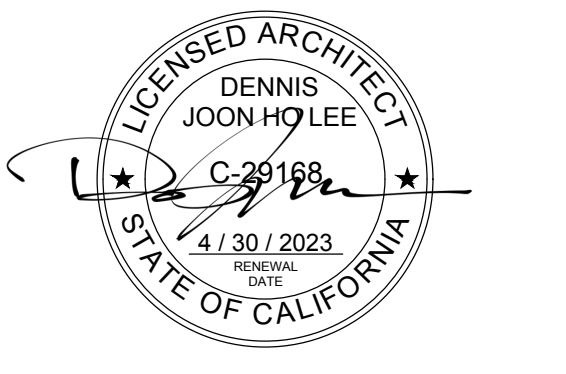
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 NOTES:



DATA & SIGNAL PLAN
 SCALE: 3/16" = 1'-0" **1**



PACIFIC ENGINEERS GROUP
 Consulting Electrical Engineers
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 (818) 859-7081 Y21-011



PROJECT:
CTE ROBOTICS CLASSROOM UPGRADE - NOGALES HIGH SCHOOL

401 NOGALES STREET LA
 PUENTE CA 91744

CLIENT:
ROWLAND UNIFIED SCHOOL DISTRICT
 1830 NOGALES STREET
 ROWLAND HEIGHTS, CA 91748

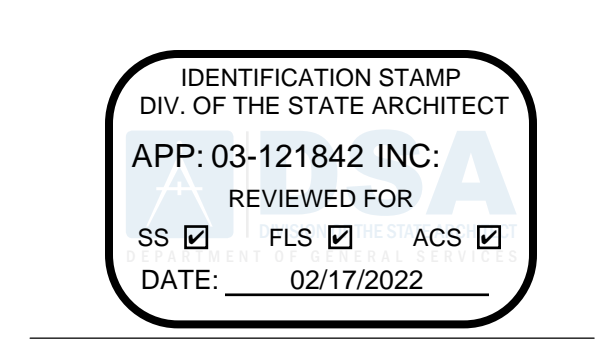
SUBMITTALS REVISIONS:

1	DESIGN DEVELOPMENT	4/22/2021
2	CONSTRUCTION DOCUMENTATION	7/6/2021
3	DSA SUBMITTAL	10/8/2021

PROJECT NO: 202015
 SCALE: AS SHOWN
 DATE: 8/23/2021
 DRAWN BY: HY
 CHECKED BY: JF
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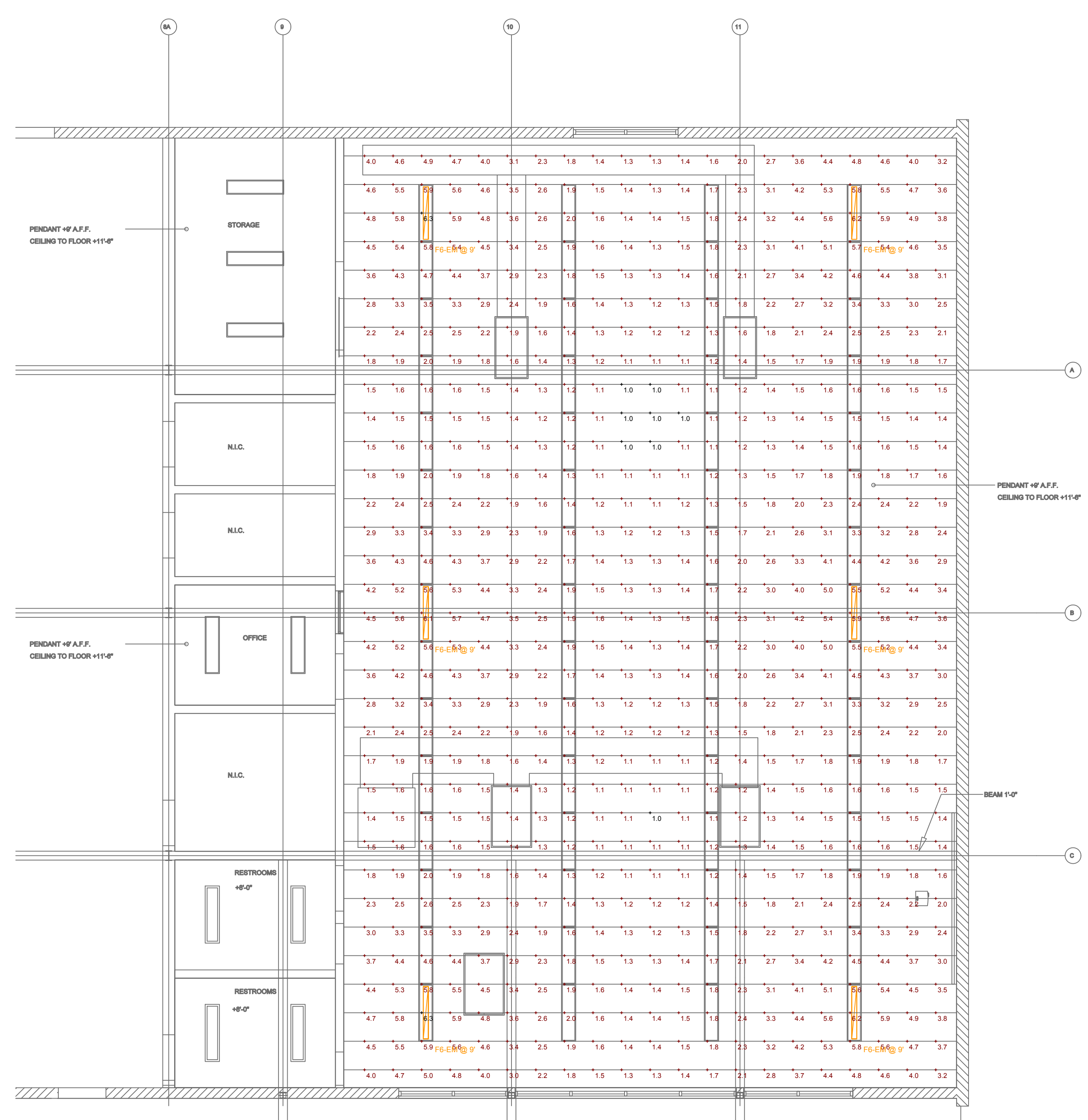
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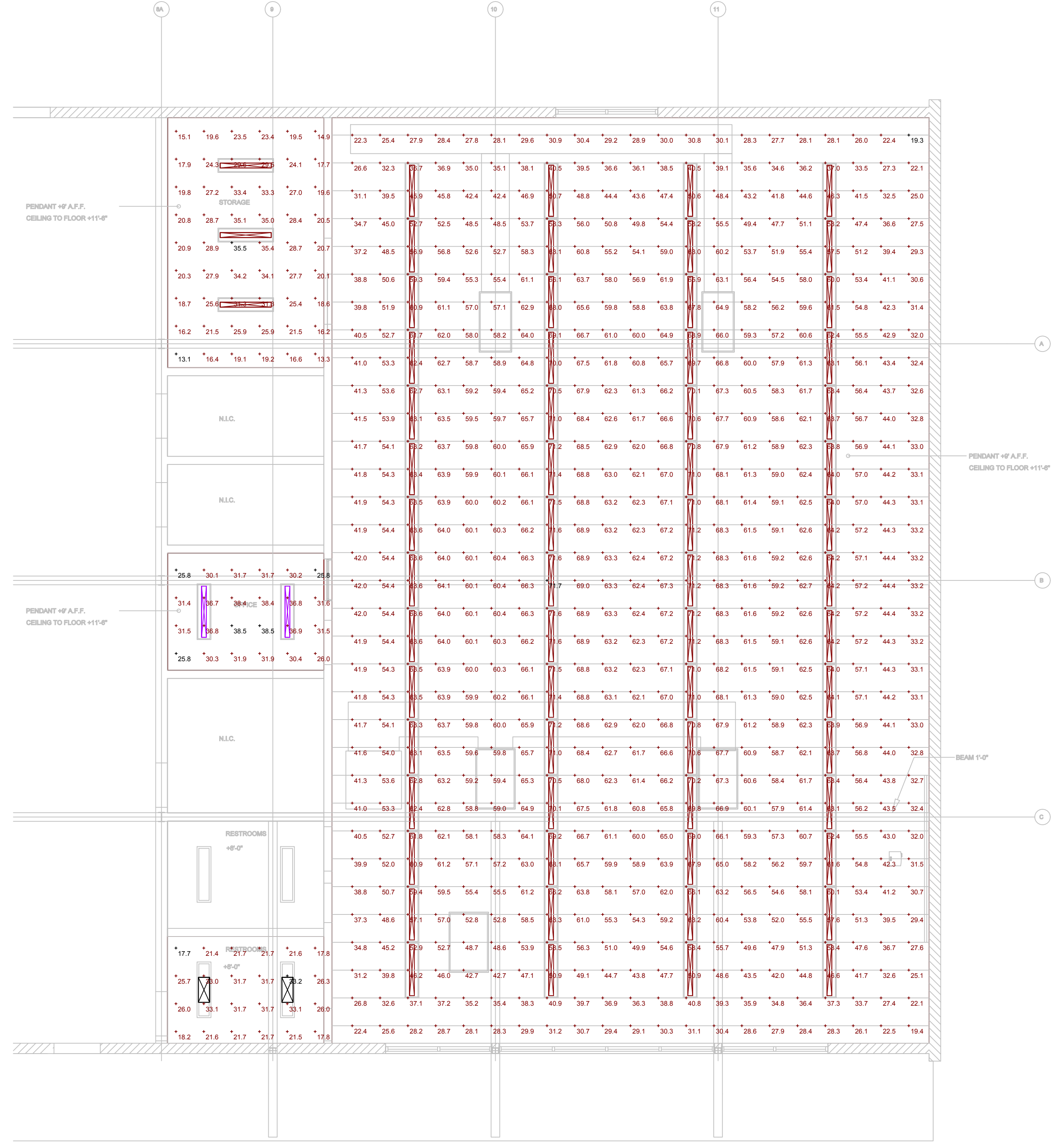


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EMERGENCY PHOTOMETRIC PLAN
SCALE: 3/16" = 1'-0" 2



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

Symbol	Label	Quantity	Description	Catalog Number	Description	Notes	Number of Lamps	Lumen Output (lm)	Efficiency (lm/w)	Beam Angle	Height (ft)	Beam Diameter (ft)	Beam Area (sq ft)	Footcandle (fc)
+	FE-EM	3	Emergency Lighting	FLS 477 B200-40K CDS004F 200W 4000K	FLS 477 B200-40K CDS004F 200W		1	2000	100	120°	14.31	24.31	592.5	100%

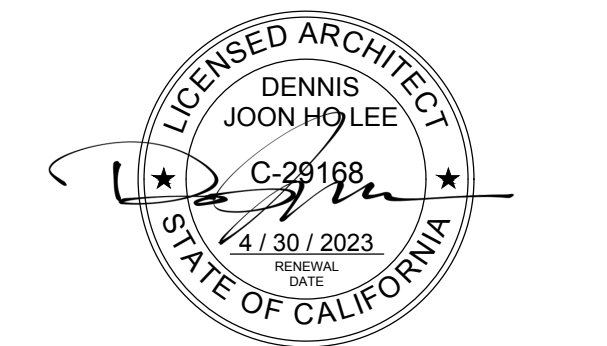
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
EMERGENCY - OPEN AREA	+	2.5 fc	6.3 fc	1.0 fc	6.3:1	2.5:1

Symbol	Label	Quantity	Description	Catalog Number	Description	Notes	Number of Lamps	Lumen Output (lm)	Efficiency (lm/w)	Beam Angle	Height (ft)	Beam Diameter (ft)	Beam Area (sq ft)	Footcandle (fc)
F4		2	Linear Lighting	DL2 200 L21 LPM4	DL2 200 NOMINAL LUMENS LINEAR		1	2000	100	120°	14.31	24.31	592.5	100%
FB		63	Main Architectural Lighting	FLS 477 B200-40K CDS004F 200W	FLS 477 B200-40K CDS004F 200W		1	2000	100	120°	14.31	24.31	592.5	100%
FB-2		2	Main Architectural Lighting	FLS 477 B200-40K CDS004F 200W	FLS 477 B200-40K CDS004F 200W		1	2000	100	120°	14.31	24.31	592.5	100%

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
OPEN AREA @ 2'-6" AFF	+	53.9 fc	71.7 fc	19.3 fc	3.7:1	2.8:1
RESTROOM @ 2'-6" AFF (TYPICAL)	+	25.3 fc	33.2 fc	17.7 fc	1.9:1	1.4:1
STORAGE @ 2'-6" AFF	+	24.0 fc	35.5 fc	13.1 fc	2.7:1	1.8:1
OFFICE @ 2'-6" AFF	+	32.4 fc	38.5 fc	25.8 fc	1.5:1	1.3:1



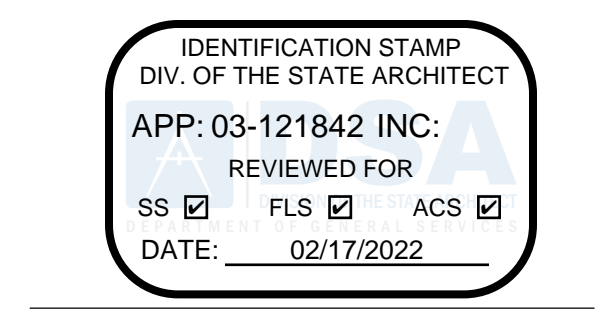
PACIFIC ENGINEERS GROUP
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PROJECT: CTE ROBOTICS CLASSROOM UPGRADE - NOGALES HIGH SCHOOL
CLIENT: ROWLAND UNIFIED SCHOOL DISTRICT
1830 NOGALES STREET
ROWLAND HEIGHTS, CA 91748

REVISIONS	DATE	BY
1 DESIGN DEVELOPMENT	4/22/2021	
2 CONSTRUCTION DOCUMENTATION	7/6/2021	
3 DSA SUBMITTAL	10/8/2021	

PROJECT NO: 202015
SCALE: AS SHOWN
DATE: 8/23/2021
DRAWN BY: JF
CHECKED BY: JF
SHEET TITLE: PHOTOMETRIC PLAN



ARCHITECT: CO-AR DESIGN, INC. 680 Brea Canyon Road, Suite 178 Diamond Bar, California 91789 Office: 909-598-0186

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FIRE ALARM SYMBOL LIST

- FATC FIRE ALARM TERMINAL CABINET WITH TERMINAL STRIPS.
- MFACP MAIN FIRE ALARM CONTROL PANEL.
- FA FIRE ALARM.
- FCPS FIRE ALARM POWER SUPPLY.
- MFATC MAIN FIRE ALARM TERMINAL CABINET WITH TERMINAL STRIPS.
- WP WEATHERPROOF.
- FIRE ALARM WALL MOUNTED HORN WITH STROBE LIGHT, CANDELA RATING AS INDICATED. *96" TO TOP OF STROBE LIGHT. "A1" DENOTES AUDIBLE FIRE ALARM SIGNAL CIRCUIT AND "V2" DENOTE VISUAL FIRE ALARM SIGNAL CIRCUIT. "15cd" DENOTES CANDELA RATING.
- S1-1 FIRE ALARM MANUAL PULL STATION. PROVIDE MONITOR MODULE TO EACH DEVICE. *48". "S1-1" DENOTES LOOP MODULE (SLC #1) IDENTIFICATION NUMBER.
- EXTERIOR W.P. FIRE ALARM HORN. "A1-1" DENOTES AUDIBLE FA SIGNAL CIRCUIT NUMBER.
- FIRE ALARM STROBE MOUNT AT *96" TO TOP OF STROBE, CANDELA RATING AS INDICATED. "V2-1" DENOTES FIRE ALARM SIGNAL CIRCUIT NUMBER. "15cd" DENOTES 15cd CANDELA RATING.
- ADDRESSABLE SMOKE DETECTOR, PHOTOELECTRIC TYPE. "S1-1" DENOTES LOOP DETECTOR IDENTIFICATION NUMBER.
- ADDRESSABLE HEAT DETECTOR MOUNTED IN CEILING WITH ACCESS PANEL. "S1-1" DENOTES LOOP DETECTOR IDENTIFICATION NUMBER.
- MONITOR MODULE. "S1-1" DENOTES LOOP DETECTOR IDENTIFICATION NUMBER.
- CONTROL RELAY MODULE. "S1-1" DENOTES LOOP DETECTOR IDENTIFICATION NUMBER.

FIRE ALARM CABLE AND WIRING

- "F" CABLE - "WEST PENN" NO. D990, 1 PAIR #18 NON-SHIELDED - FIRE ALARM ADDRESSABLE LOOP.
- "M" CABLE - "WEST PENN D975", 1 PAIR #18.
- "UM" CABLE - "WEST PENN AQ3245", 2 PAIR #16.
- "V" CABLE - 2#12 AWG-FIRE ALARM VISUAL CIRCUIT CABLE.
- "A" CABLE - 2#12 AWG FIRE ALARM AUDIO CIRCUIT CABLE.
- "C" CABLE - 2#12 AWG.
- "S" CABLE - 2#12 AWG.
- "P" CABLE - 2#14 TWISTED PAIR.
- 3/4"C, WITH ONE "F" CABLE, ONE "A" CABLE AND ONE "V" CABLE.
- 3/4" CONDUIT WITH ONE "F" CABLE.
- 3/4" CONDUIT WITH TWO "F" CABLES.
- 3/4" CONDUIT WITH ONE "V" CABLE.
- 3/4" CONDUIT WITH TWO "V" CABLES.
- 3/4" CONDUIT WITH ONE "A" CABLE.
- 3/4" CONDUIT WITH TWO "A" CABLES.
- 1-1/2" CONDUIT WITH TWO "F", TWO "A", TWO "V" CABLES.
- 1" CONDUIT WITH TWO "A", TWO "V" CABLES.
- 1" CONDUIT WITH ONE "F", ONE "A", TWO "V" CABLES.

SYMBOLS	COMPONENT	NOTIFIER	CSFM NO.
[E]	MAIN FIRE ALARM CONTROL PANEL (E)	NFS2-3030	7165-0028:0224
[S]	SMOKE DETECTOR, PHOTOELECTRIC TYPE WITH B210LP BASE	FAPT-851	7272-0028:0206
[H]	HEAT DETECTOR W/ 210LP BASE	FST-851H	7270-0028:0196
[P]	PULL STATION WITH MONITOR MODULE	NBG-12 DUAL ACTION	7150-0028:0199
[ST]	STROBE, WALL MOUNT	SYSTEM SENSOR SRL	7125-1653:0504
[ST]	HORN-STROBE, WALL MOUNT	SYSTEM SENSOR P4RL	7135-1653:0503
[WP]	EXTERIOR HORN	SYSTEM SENSOR-HRK WITH MWBB BACKBOX	7135-1653:0189
[M]	MONITOR MODULE	FMM-4-20	7300-0028:0254
[R]	CONTROL RELAY MODULE	FRM-1(A)	7300-0028:0219

FIRE ALARM NOTES

- 1) APPLICABLE STANDARD NFPA 72, as adopted and amended in CBC Chapter 35
- 2) 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.
- 3) UPON COMPLETION OF SYSTEM INSTALLATION, A SATISFACTORY TEST OF THE ENTIRE SYSTEM SHALL BE MADE IN THE PRESENCE OF A DSA PROJECT INSPECTOR.
- 4) A STAMPED SET OF APPROVED FIRE ALARM DESIGN DOCUMENTS SHALL BE ON THE JOB SITE AND USED FOR INSTALLATION.
- 5) ANY DISCREPANCIES BETWEEN THE DRAWINGS AND THE CODE OR RECOGNIZED STANDARDS SHALL BE BROUGHT TO THE ATTENTION OF DSA AND THE ARCHITECT/ENGINEER OF THE PROJECT.
- 6) DSA, ARCHITECT/ENGINEER AND OWNER SHALL BE NOTIFIED A MINIMUM OF 48 HOURS PRIOR TO THE FINAL INSPECTION AND/OR TESTING.
- 7) ALL PENETRATIONS THROUGH RATED ASSEMBLIES REQUIRING OPENING PROTECTION SHALL BE PROVIDED WITH A PENETRATION FIRE STOP SYSTEM AS IDENTIFIED IN CBC CHAPTER 7, UL OR OTHER APPROVED LAB TESTING CRITERIA. APPROVED TYPES OF MATERIALS SHALL BE IDENTIFIED WITHIN THE PROJECT SPECIFICATIONS WITHIN THE FIRE ALARM SECTION.
- 8) WALL MOUNTED VISIBLE NOTIFICATION DEVICES SHALL HAVE THEIR BOTTOMS MOUNTED AT 80" MINIMUM AND 96" MAXIMUM FROM FINISHED FLOOR.
- 9) WALL MOUNTED AUDIBLE NOTIFICATION DEVICES SHALL HAVE THEIR TOPS MOUNTED AT 90" MINIMUM AND 100" MAXIMUM FROM FINISHED FLOOR AND NO CLOSER THEN 6" TO A HORIZONTAL STRUCTURE.
- 10) AUDIBLE DEVICES SHALL PROVIDE A SOUND PRESSURE LEVEL OF 15 DECIBELS (dBA) ABOVE THE AVERAGE AMBIENT SOUND LEVEL OR FIVE dBA ABOVE THE MAXIMUM SOUND LEVEL HAVING A DURATION OF AT LEAST 60 SECONDS, WHICHEVER IS GREATER, IN EVERY OCCUPIABLE SPACE WITHIN THE BUILDING.
- 11) AUDIBLE DEVICES SHALL BE SYNCHRONIZED TEMPORAL CODE 3 PATTERN.
- 12) THE CONTRACTOR SHALL ADJUST/INSTALL ALL DEVICES TO MAXIMIZE PERFORMANCE AND TO MINIMIZE FALSE ALARMS.
- 13) VISIBLE DEVICES SHOULD NOT EXCEED TWO FLASHES PER SECOND AND SHOULD NOT BE SLOWER THAN ONE FLASH EVERY SECOND. THE DEVICE SHALL HAVE A PULSING LIGHT SOURCE NOT LESS THAN 15 CANDELA. VISIBLE DEVICES WITHIN 55' FROM EACH OTHER SHALL BE SYNCHRONIZED.
- 14) IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO MAINTAIN CONTINUITY OF THE EXISTING FIRE ALARM SYSTEM, CENTRAL STATION REPORTING SYSTEM, SMOKE MANAGEMENT SYSTEM, AND ANY OTHER LIFE SAFETY EQUIPMENT EXISTING AT THE SITE AND AFFECTED BY HIS WORK ON THE PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIRE WATCH OR OTHER MITIGATING MEASURES FOR SYSTEMS THAT ARE MADE INACTIVE OR OTHERWISE COMPROMISED AS A RESULT OF THE WORK PERFORMED BY THAT CONTRACTOR.
- 15) ALL FIRE ALARM WIRING SHALL BE FPLOR FPLP (FIRE POWER LIMITED OR FIRE POWER LIMITED PLENUM) AS REQUIRED FOR APPLICATION. WIRING IN CONDUIT ABOVE GROUND MAY BE TYPE THHN OR THWN.
- 16) PER NEC STANDARDS, ALL WIRING IS TO BE PULLED THROUGH EACH JUNCTION BOX AND CONNECTED DIRECTLY TO EACH FIRE DEVICE. DO NOT SPLICE THE WIRE. ALL BOXES TO BE SIZED PER NEC.
- 17) 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.
- 18) ALL FIRE ALARM CIRCUITS SHALL BE IN CONDUIT, SURFACE RACEWAY OR OPEN RUN ABOVE CEILINGS, UNDER FLOORS AND IN WALLS IN A NEAT AND PROTECTED MANNER AS INDICATED ON DESIGN DOCUMENTS. EXPOSED CIRCUITS ARE ONLY PERMITTED WHEN NOTED AS EXPOSED ON DESIGN DOCUMENTS.
- 19) FIRE ALARM PANEL, REMOTES, AND COMPONENTS SHALL BE SECURED TO MOUNTING SURFACES PER MANUFACTURERS SPECIFICATIONS. NO SINGLE DEVICE SHALL EXCEED 20 LBS. WITHOUT SPECIAL MOUNTING DETAILS.
- 20) 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.
- 21) THE INSTALLING CONTRACTOR SHALL PROVIDE A COMPLETED "SYSTEM RECORD OF COMPLETION" PER NFPA 72, FIGURE 17.2.2.
- 22) FIRE ALARM CONTROL PANELS AND REMOTE ANNUNCIATORS SHALL BE INSTALLED WITH THEIR BOTTOMS MOUNTED AT 48" ABOVE THE FINISHED FLOOR.
- 23) THE INSTALLING CONTRACTOR SHALL PROVIDE SYSTEM PROGRAMMING FOR SUPERVISORY MONITORING PER CBC SECTION 901.6.2.
- 24) SUPERVISORY MONITORING SHALL BE TESTED AND VERIFIED AS SENDING CORRECT SIGNALS IN CONJUNCTION WITH FINAL ACCEPTANCE TEST.
- 25) OWNER SHALL BE RESPONSIBLE FOR ESTABLISHING A FIRE SYSTEM MONITORING CONTRACT OR PROVISIONS.
- 26) PROVIDE (2)2x2' OPENING FOR ALL CEILING IDENTIFIED AS HARD, PLASTER & TILE CEILINGS. TO ACCOMMODATE CONDUIT INSTALLATION TO HEAT DETECTOR IN ATTIC SPACE PATCH AND REPAIR TO MATCH EXISTING CEILING.
- 27) IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO VERIFY THE TYPE OF CEILING CONSTRUCTION AND TO PROVIDE THE PROPER TYPE OF BOX MOUNTING AND SUPPORT FOR FIRE ALARM INITIATION DEVICES.

FIRE ALARM SEQUENCE OF OPERATION					
DEVICE / ACTION	MANUAL PULL STATION	AREA SMOKE DETECTOR	AREA HEAT DETECTORS	POWER FAILURE	NOTES
ANNUNCIATE ALARM AT FACP AND REMOTE ANNUNCIATOR	X	X	X		
ANNUNCIATE SUPERVISORY CONDITION AT FACP AND REMOTE ANNUNCIATOR	X	X	X	X	
ANNUNCIATE TROUBLE AT FACP AND REMOTE ANNUNCIATOR	X	X	X	X	[1]
ACTIVATE AUDIBLE/VISUAL SIGNAL THROUGHOUT SCHOOL (ALARM)	X	X	X		
CONTACT CENTRAL STATION (UDACT)	X	X	X	X	
SHUT DOWN AIR HANDLING EQUIPMENT	X	X	X		[2]

[1] INDICATE TROUBLE ON WIRING FAULT OR DEVICE AS REQUIRED.
 [2] SHUT DOWN ONLY AIR HANDLER EQUIPMENT IN THE BUILDING OR AREA WHERE ALARM CONDITION OCCURS.

FIRE ALARM SIGNAL CIRCUIT SCHEDULE												
CKT. NO.	QUAN. BELL	QUAN. STROBE 15 cd	QUAN. STROBE 30 cd	QUAN. STROBE 75 cd	QUAN. STROBE 110cd	QUAN. OUTDOOR HORN	TOTAL AMPS	WIRE SIZE	DISTANCE (IN FEET)	TO MFACP	TO POWER EXTENDER	PERCENT VOLTAGE DROP
V1		2		2				0.30	#12	260	X	1.08
A1								0.00				0.00
V2								0.00				0.00
A2								0.00				0.00

I = TOTAL CURRENT FLOW IN ALARM CONDITION
 L = LENGTH OF CIRCUIT FROM SUPPLY TO LAST DEVICE (IN FEET)
 21.6 = RESISTIVITY OF COPPER CONDUCTOR PER CIRCULAR MILL (10.8 X 2 FOR TWICE THE LENGTH)
 C.M. = CROSS SECTIONAL AREA OF CONDUCTOR IN CIRCULAR MILLS
 VOLTAGE DROP = $\frac{I \times L \times 21.6}{C.M.}$

CLASSROOM BLDG-E BATTERY CALCULATIONS - REMOTE POWER SUPPLY FCPS (E)

EQUIPMENT MODEL	QUANTITY	SUPERVISORY CURRENT, A		ALARM CURRENT, A		
		UNIT	TOTAL	UNIT	TOTAL	
POWER SUPPLY FCPS	1	0.065	0.065	0.91	0.91	
110cd ALARM STROBE LIGHT 24 VDC	2	0	0	0.148	0.296	
75cd ALARM STROBE LIGHT 24 VDC	7	0	0	0.107	0.749	
30cd ALARM STROBE LIGHT 24 VDC	0	0	0	0.063	0	
15cd ALARM STROBE LIGHT 24 VDC	5	0	0	0.043	0.215	
HORN	8	0	0	0.069	0.552	
STANDBY AH	1.56		SUB TOTAL	0.07	SUB TOTAL	2.722
ALARM AH	0.68		HOURS	24.00	HOURS	0.25
TOTAL	2.24		AH STANDBY	1.56	AH ALARM	0.6805

* PROVIDE NEW 7 AH BATTERY PACK. (0.25 HRS. = 15 MIN.)

BUILDING A-ADMIN. AREA.

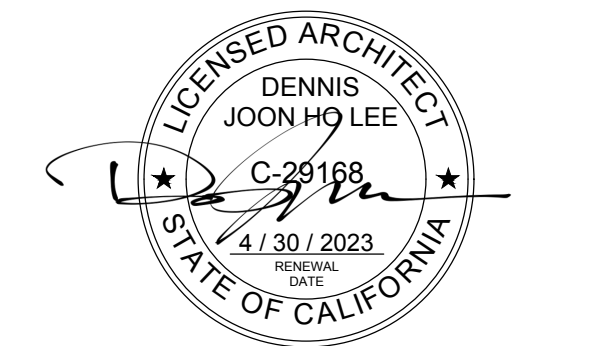
BATTERY SIZING CALCULATIONS - NFS2 3030D - (E)MFACP A#03-114768						
DEVICE NAME (NOTIFIER)	QTY	SUPERVISORY CURRENT		ALARM CURRENT		
		UNIT	TOTAL	UNIT	TOTAL	
CPU2-3030D	1	0.34	0.34	0.42	0.42	
REMOTE ANNUNCIATOR	1	0.05	0.05	0.1	0.1	
LCM-320	3	0.13	0.39	0.13	0.39	
LEM-320	3	0.1	0.3	0.1	0.3	
UDACT COMMUNICATOR	1	0	0	0.03	0.03	
NCM-W NETWORK MODULE	1	0.11	0.11	0.11	0.11	
AVPS-24 AUXILARY POWER SUPPLY	18	0.018	0.324	0.018	0.324	
HEAT DETECTOR (E)391 + (N)5 = 395	396	0.0007	0.2772	0.0065	2.574	
PHOTOELECTRIC SMOKE DETECTOR (E)474-(E)11+ (N)14 = 477	477	0.00021	0.10017	0.0068	3.2436	
FMM ADDRESSABLE MONITOR MODULE	10	0.00021	0.0021	0.005	0.05	
FRM ADDRESSABLE CONTROL MODULE (E)45+(N)2 = 47	47	0.00026	0.01222	0.0065	0.3055	
UNIVERSAL ZONE CODER MODULE UZC-26	1	0.05	0.05	0.085	0.085	
PULL STATION (E)28 - (E)2 + (N)2 = 28	28	0.00021	0.00588	0.0688	1.9264	
SPRINKLER BELL	1	0	0	0.03	0.03	
STANDBY AH	47.08		SUB TOTAL	1.96	SUB TOTAL	9.8885
ALARM AH	2.47		HOURS	24.00	HOURS	0.25
SUB-TOTAL	49.55		AH STANDBY	47.08	AH ALARM	2.472125
30% SPARE	12.39					
TOTAL	61.94					

* PROVIDE NEW 100 AMPERE-HOUR(AH) BATTERY PACK TO REPLACE EXISTING (0.25 HRS. = 15 MIN.)

NOTE: REPROGRAM AND TEST FIRE ALARM SYSTEM AFTER NEW DEVICES ARE INSTALLED.



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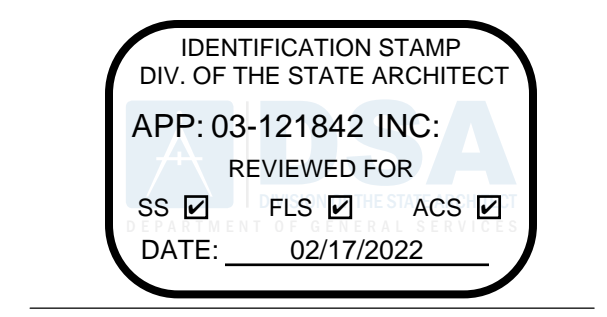
401 NOGALES STREET LA PUEENTE CA 91744

CLIENT: ROWLAND UNIFIED SCHOOL DISTRICT 1830 NOGALES STREET ROWLAND HEIGHTS, CA 91748

SUBMITTALS REVISIONS	DATE
1 DESIGN DEVELOPMENT	4/22/2021
2 CONSTRUCTION DOCUMENTATION	7/6/2021
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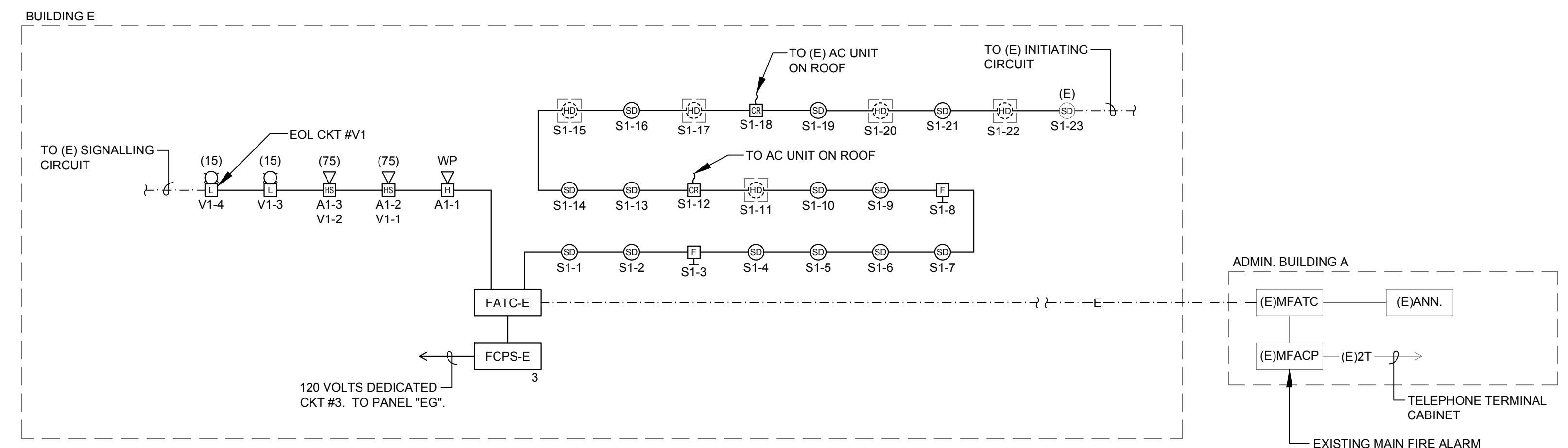
PROJECT NO: 202015
 SCALE: AS SHOWN
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 DRAWN BY: JF
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 SHEET TITLE: FIRE ALARM SYMBOL LIST, NOTES & CALCULATIONS

SHEET NO: FA-1.0

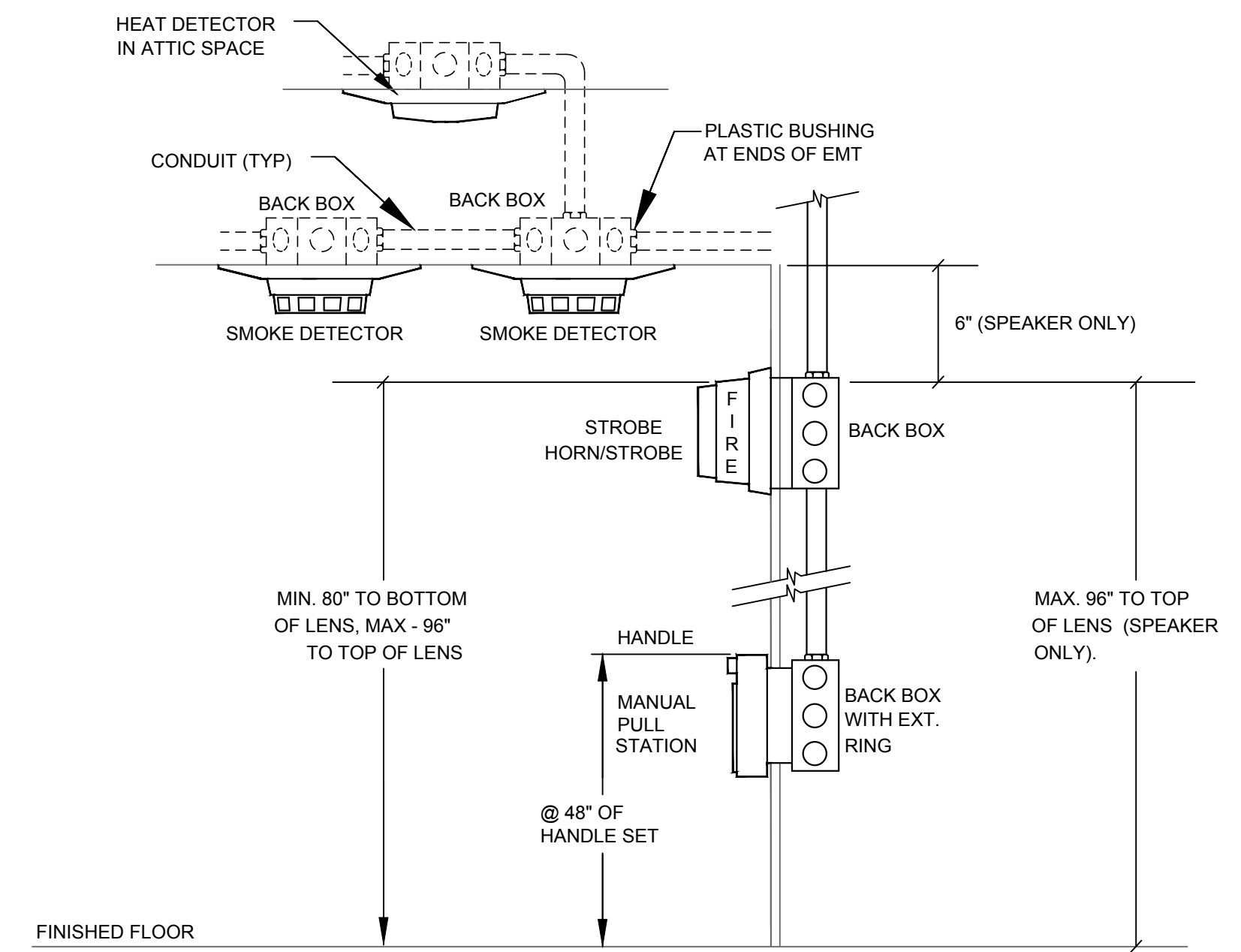


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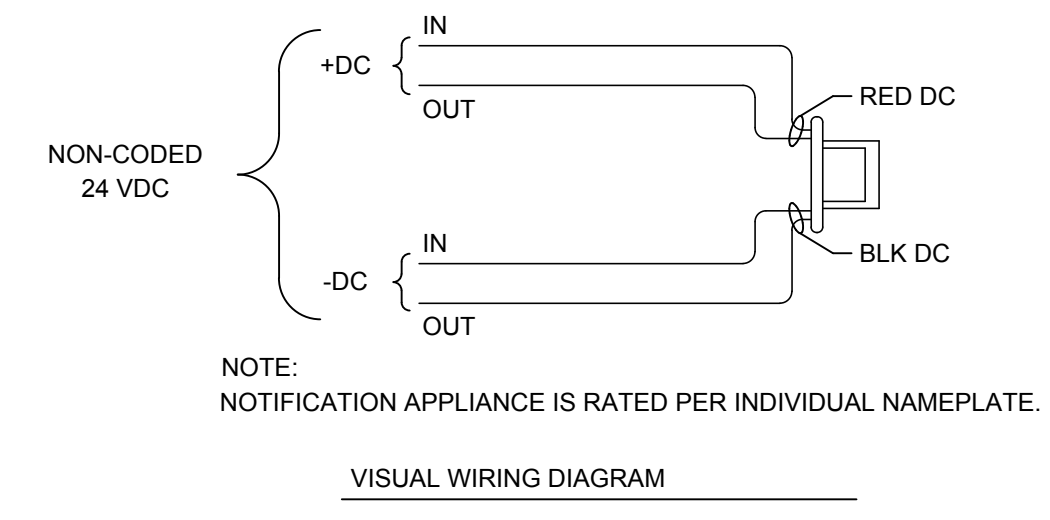
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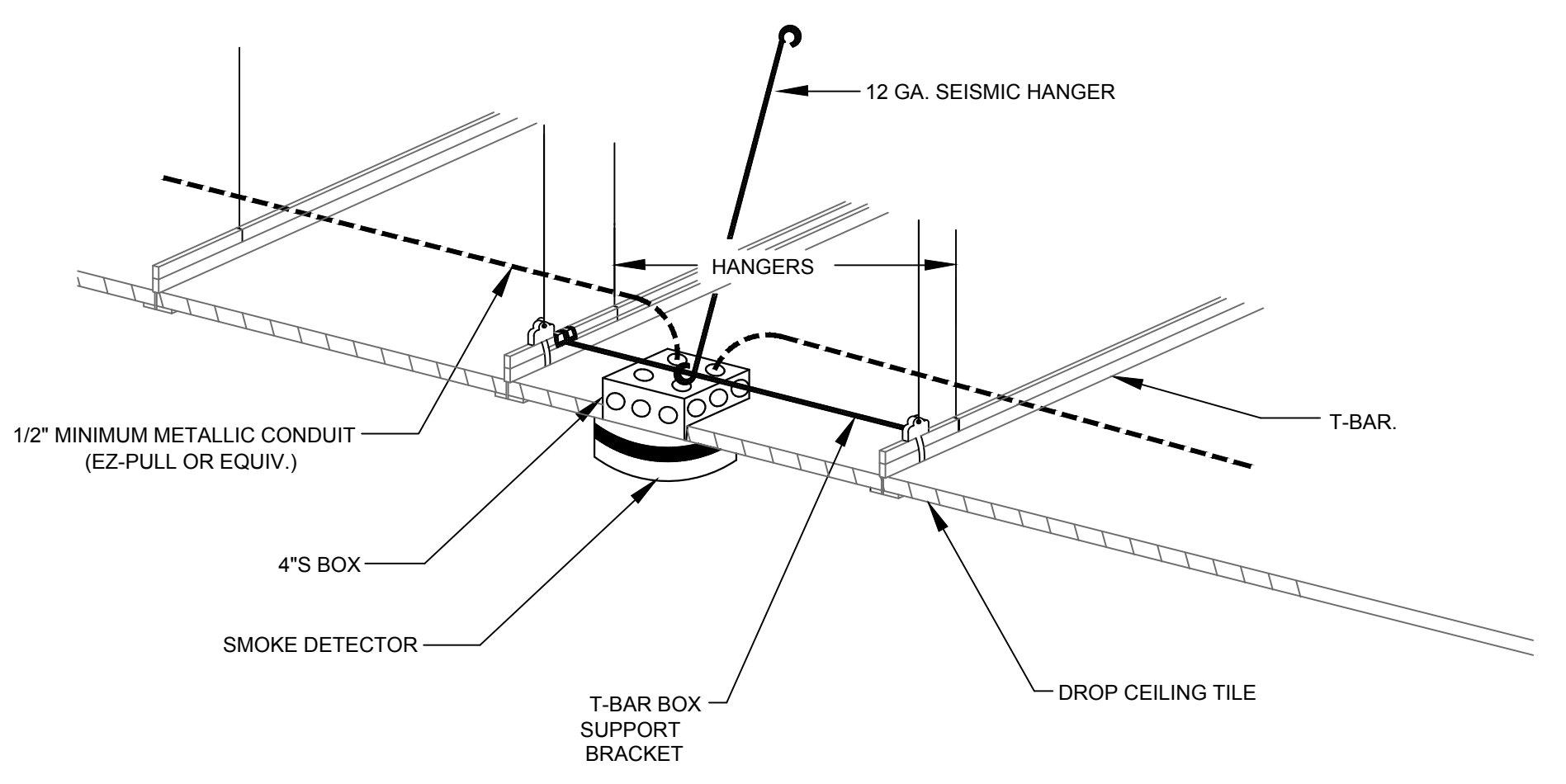
FIRE ALARM RISER DIAGRAM
N.T.S.



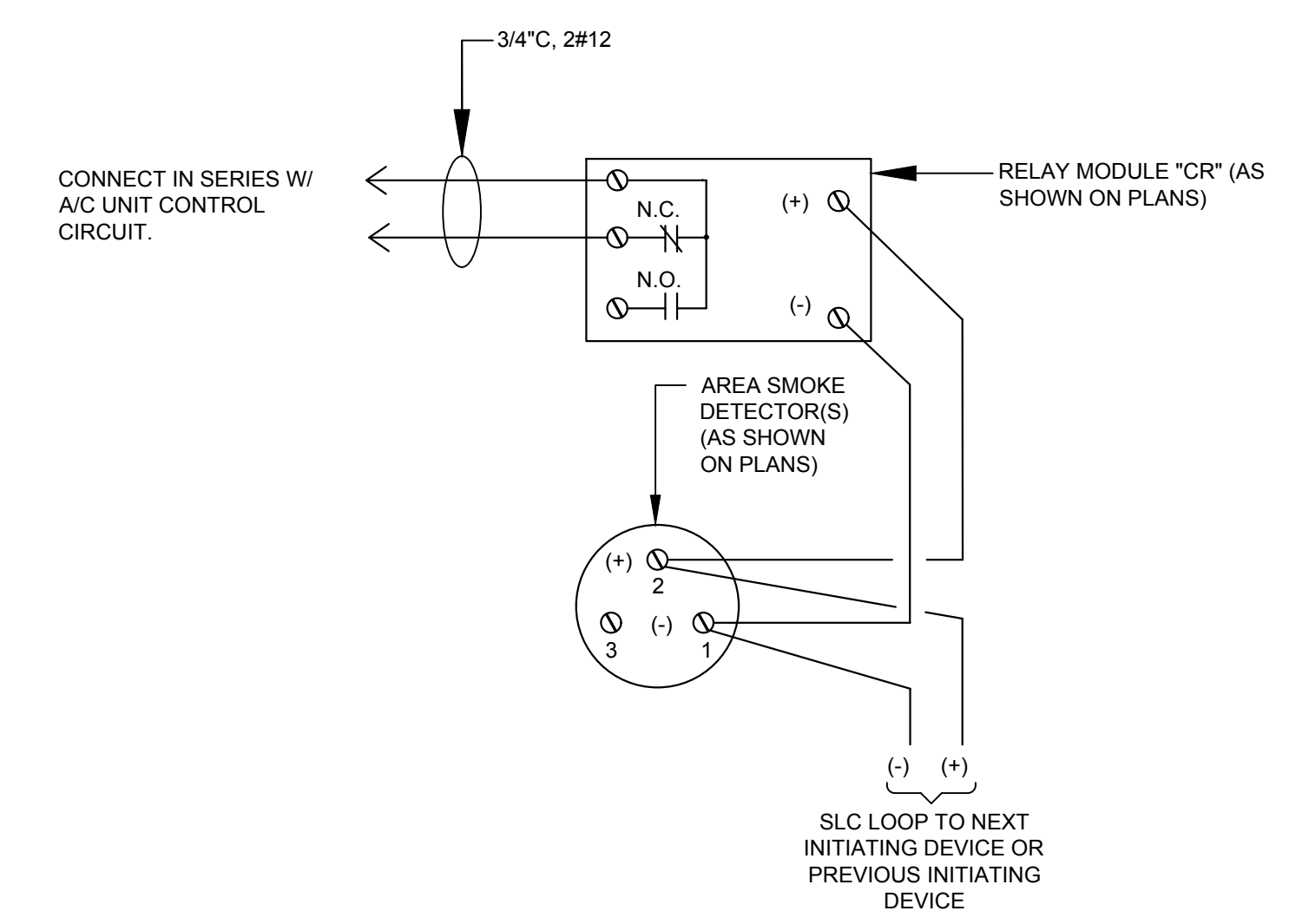
PULL STATION, HORN & STROBE HEIGHT REQUIREMENTS
N.T.S.



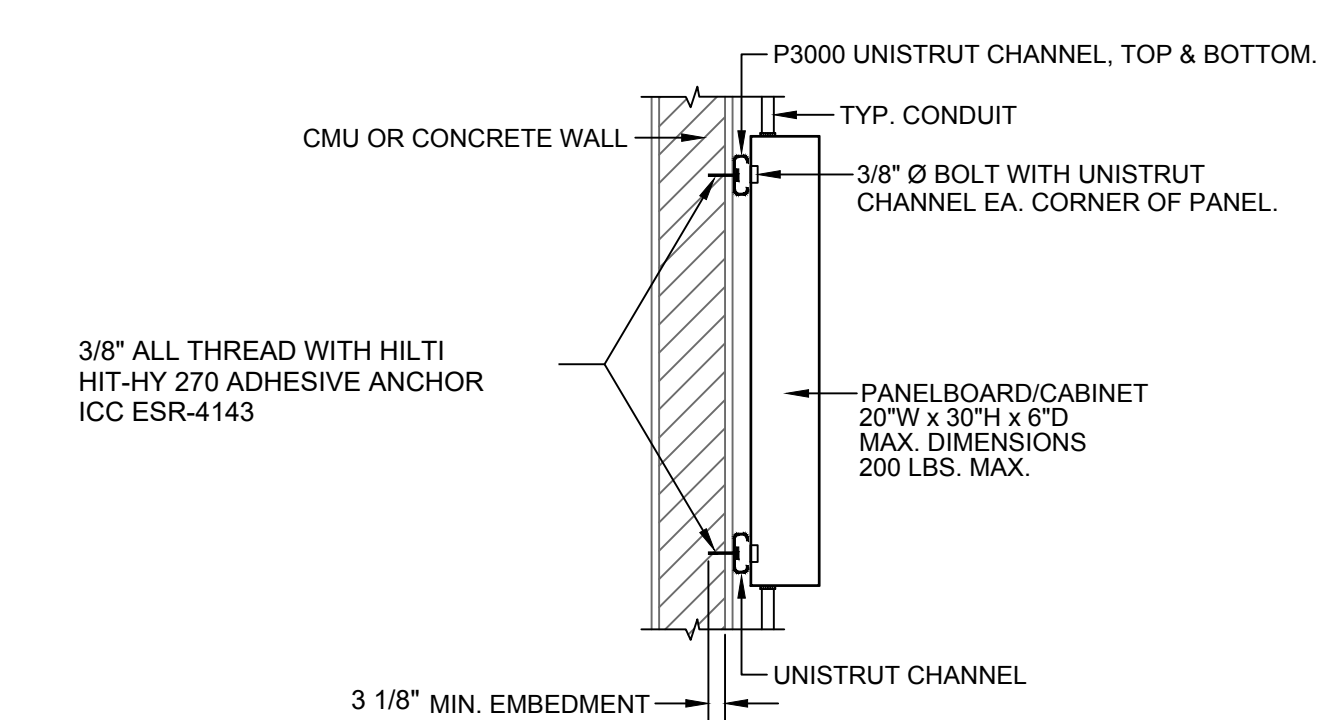
STROBE LIGHT
N.T.S.



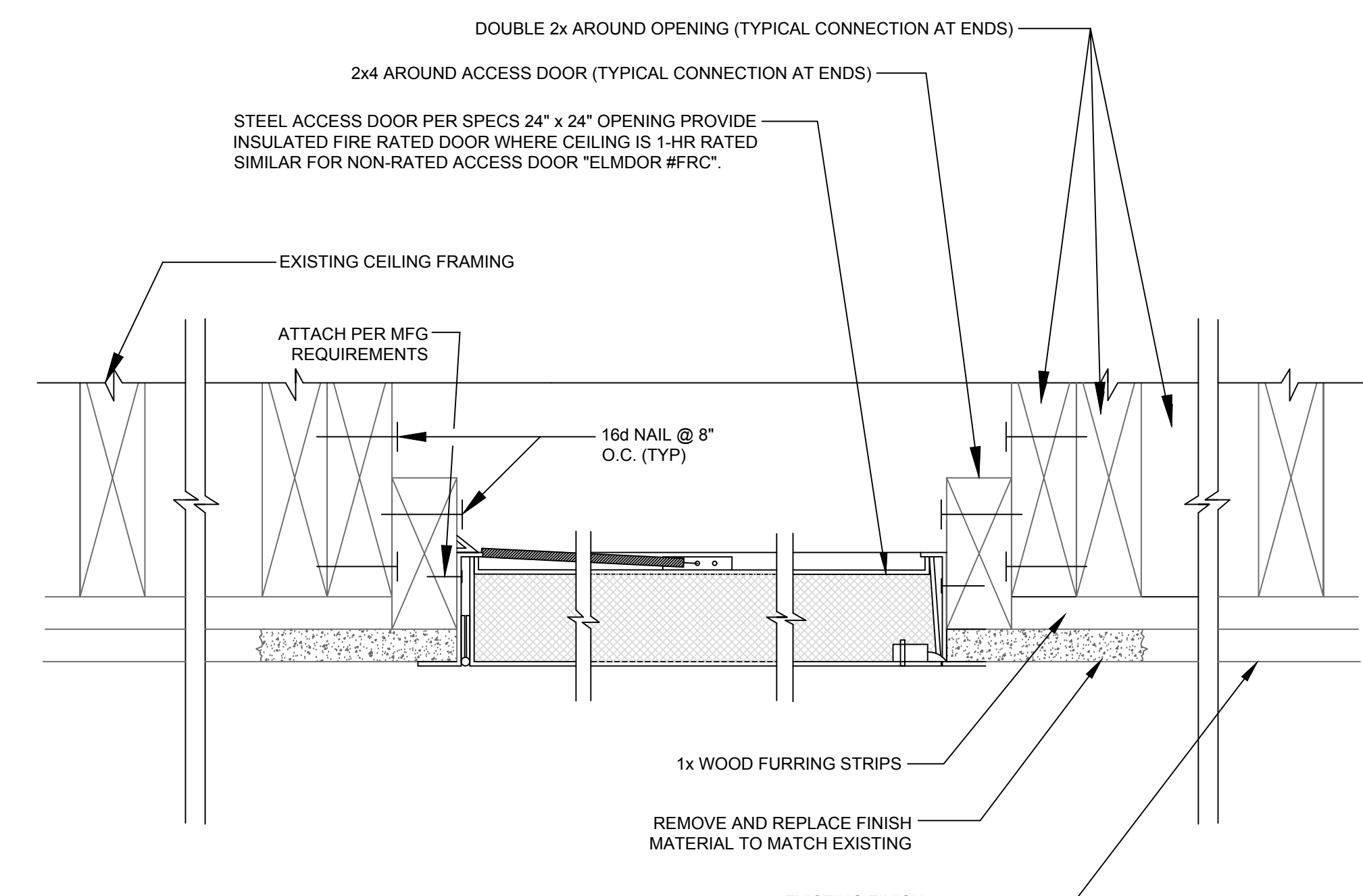
TYPICAL SMOKE DETECTOR CEILING MOUNT INSTALLATION DETAIL
N.T.S.



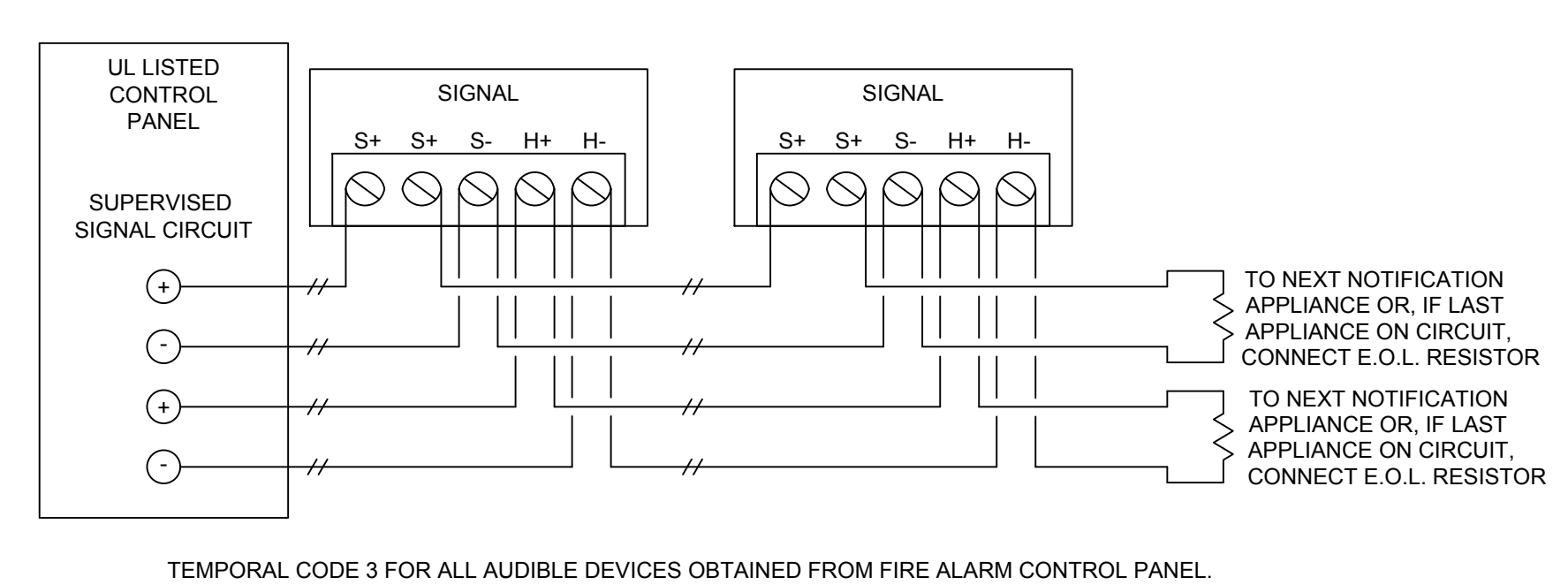
TYPICAL A/C UNIT SHUT DOWN CONTROLS (LOW VOLTAGE CONTROL CIRCUIT)
N.T.S.



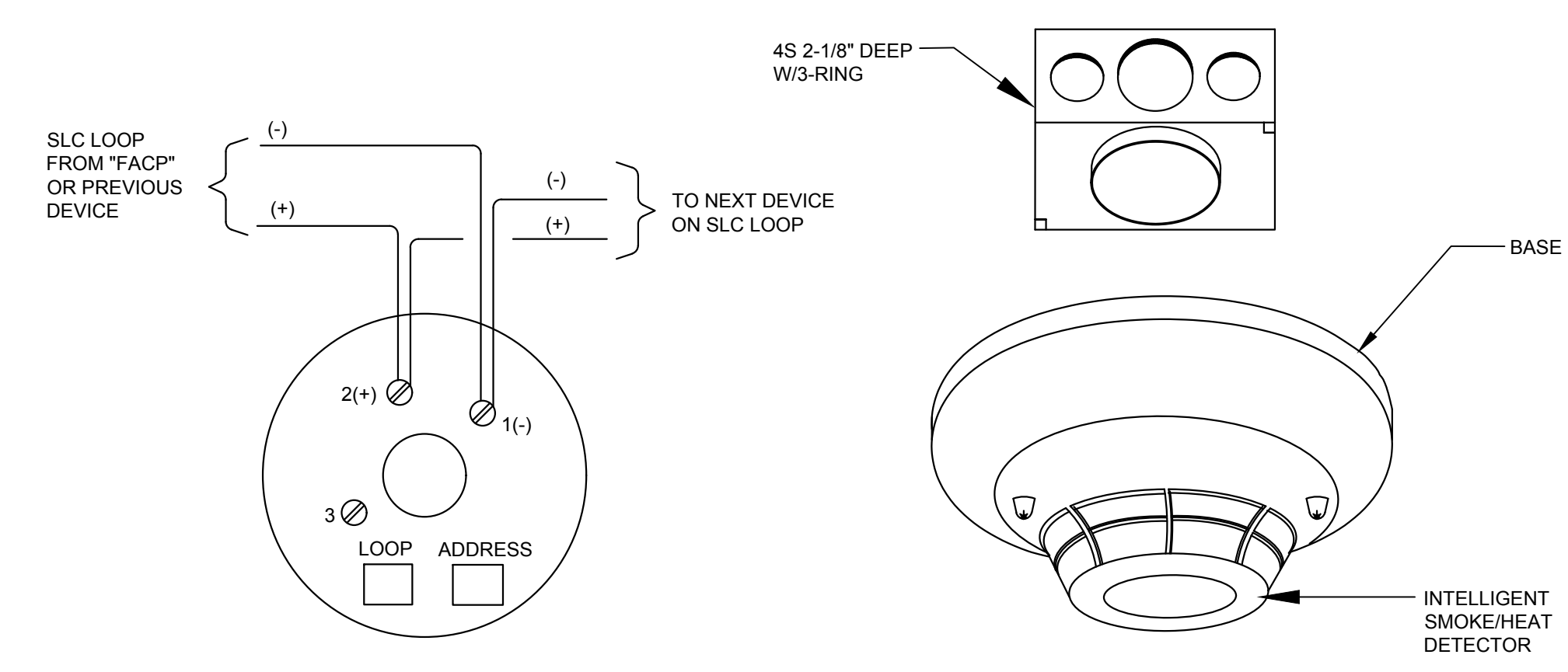
TYP. PANELBOARD OR SIGNAL CABINETS DETAILS
N.T.S.



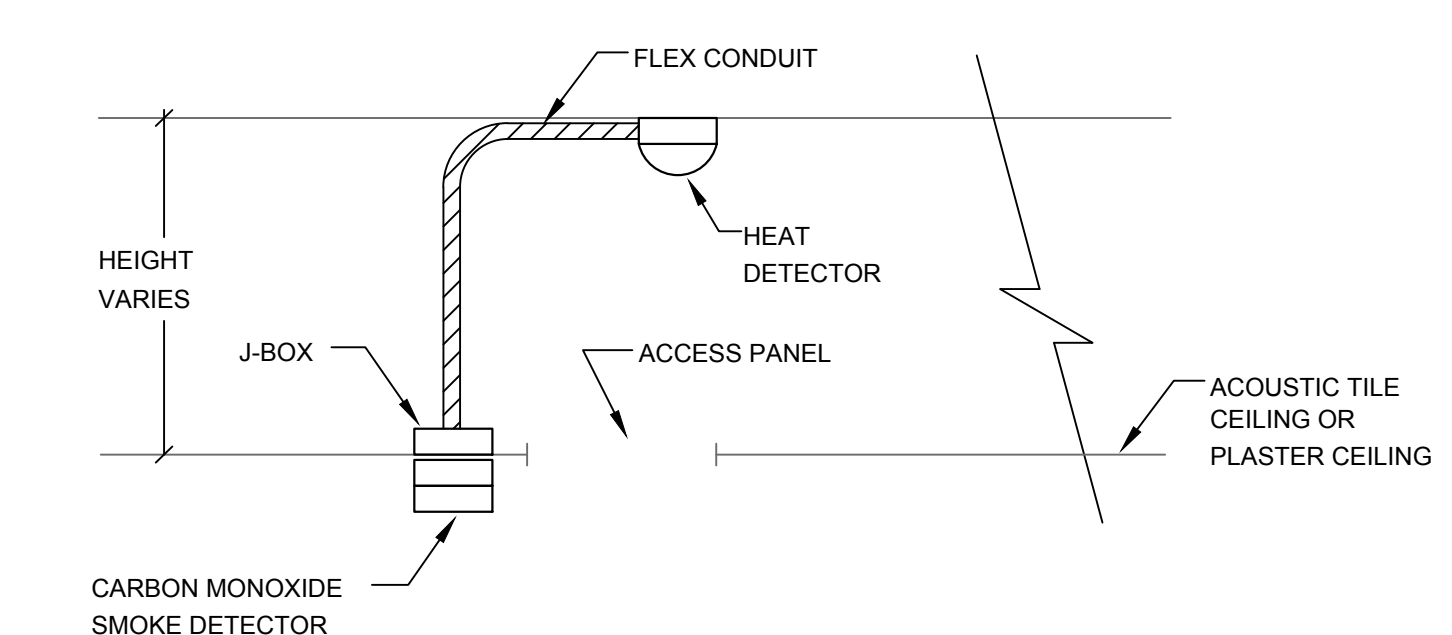
CEILING ACCESS DOOR
N.T.S.



DUAL INPUT HORN/STROBE
N.T.S.

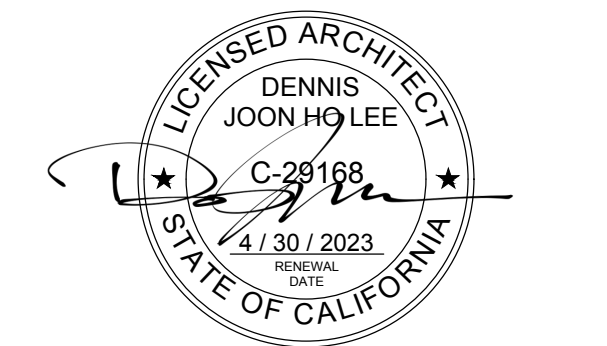


HEAT/SMOKE DETECTOR
N.T.S.



TYPICAL SMOKE DETECTOR & HEAT DETECTOR MOUNTING DETAIL AT ACCESS PANEL
N.T.S. (APPLICABLE TO ALL SHEETS)

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PROJECT: CTE ROBOTICS CLASSROOM UPGRADE - NOGALES HIGH SCHOOL

401 NOGALES STREET LA PUENTE CA 91744

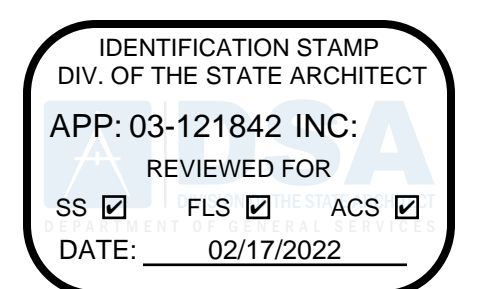
CLIENT: ROWLAND UNIFIED SCHOOL DISTRICT 1830 NOGALES STREET ROWLAND HEIGHTS, CA 91748

NO.	REVISIONS	DATE
1	DESIGN DEVELOPMENT	4/22/2021
2	CONSTRUCTION DOCUMENTATION	7/6/2021
3	DSA SUBMITTAL	10/8/2021

PROJECT NO: 202015
SCALE: AS SHOWN
DATE: 8/23/2021
DRAWN BY: HY
CHECKED BY: JF

SHEET TITLE: FIRE ALARM DETAILS AND RISER DIAGRAM

SHEET NO:

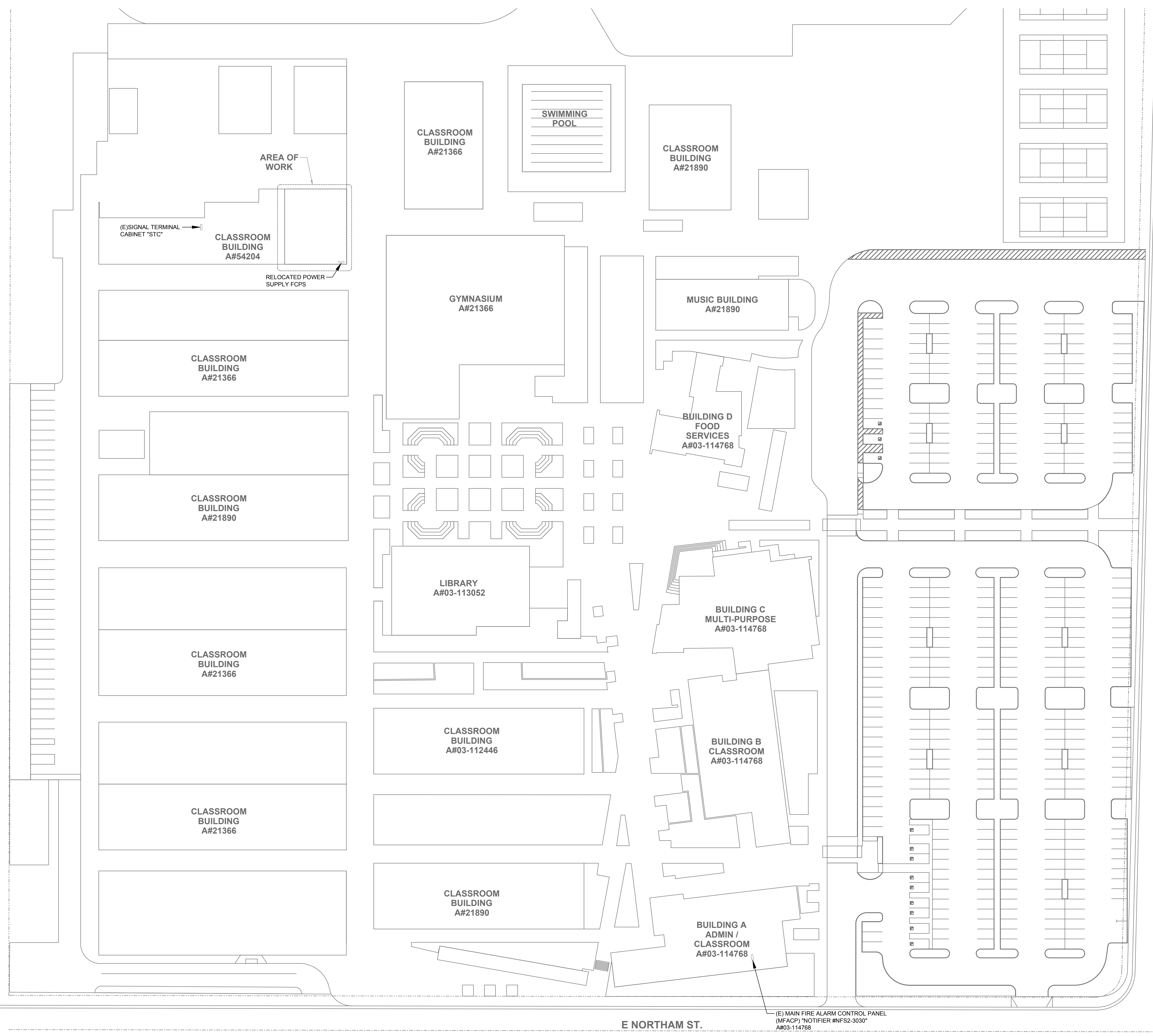


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 680 Brea Canyon Road, Suite 178
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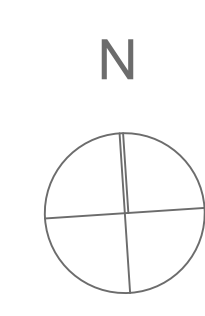
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NOGALES ST.

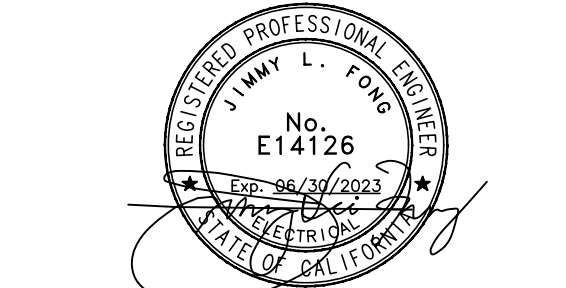
E NORTHAM ST.



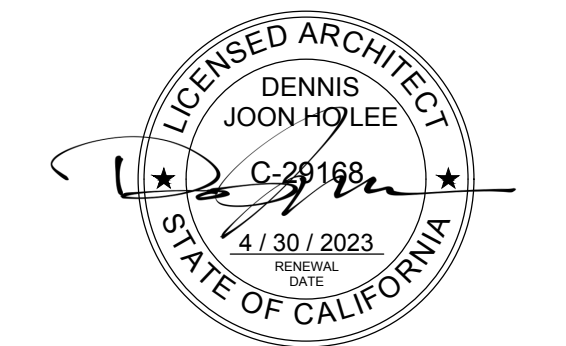
FIRE ALARM SITE PLAN

SCALE: 1" = 40'

1



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401 NOGALES STREET LA
 PUENTE CA 91744

ROWLAND UNIFIED SCHOOL DISTRICT
 1830 NOGALES STREET
 ROWLAND HEIGHTS, CA 91748

SUBMITTALS REVISIONS:

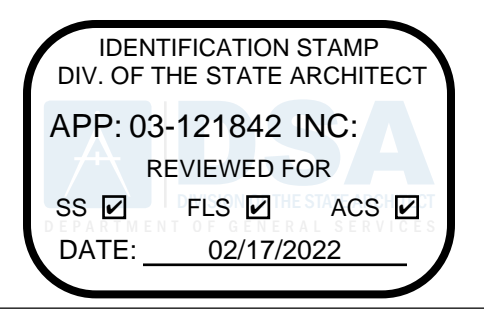
1	DESIGN DEVELOPMENT	4/22/2021
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 DRAWN BY: HY
 CHECKED BY: JF

FIRE ALARM SITE PLAN

SHEET NO:

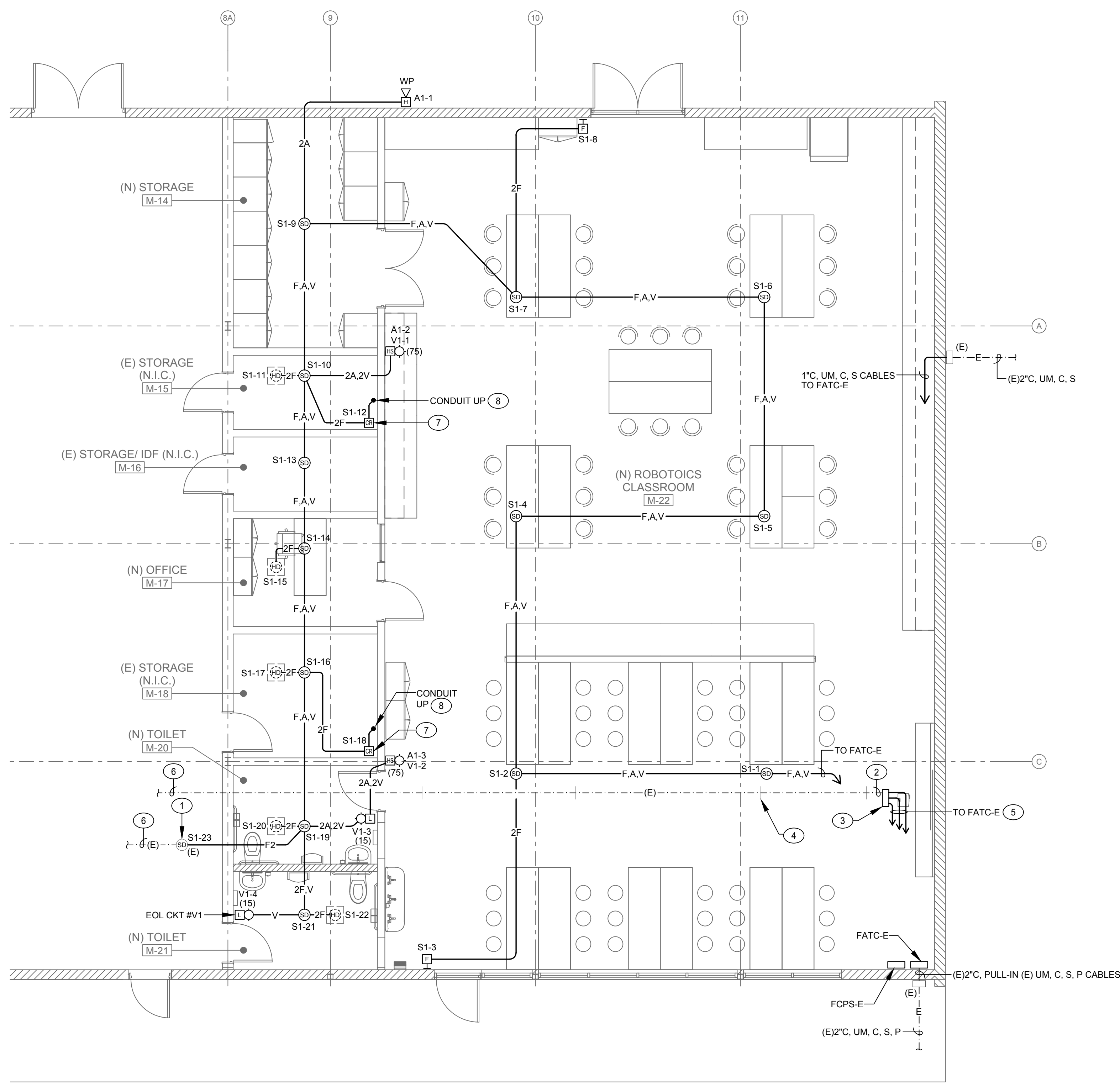
FA-1.2



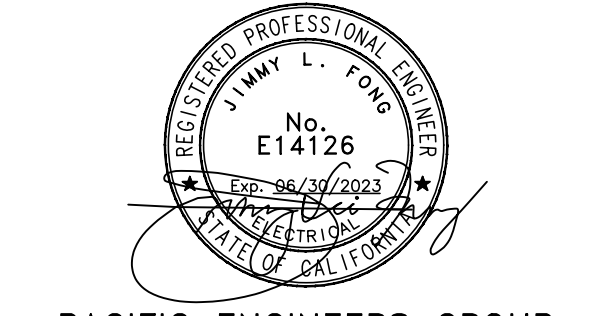
ARCHITECT:
CO-AR DESIGN, INC.
 680 Brea Canyon Road, Suite 178
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 Office: 909-598-0186
 Dennis J. Lee, NCARB dennisl@coar-design.com

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 NOTES:

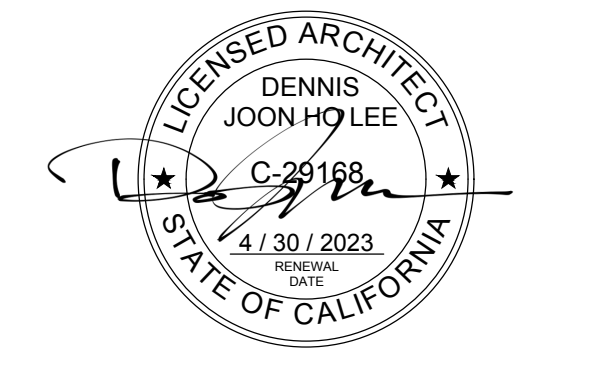
- KEYED NOTES**
- EXISTING SMOKE DETECTOR FROM AS-BUILT SHEET EFA1.01, A803-112147. TERMINATE NEW WIRES AND CONDUIT AS INDICATED.
 - EXISTING FIRE ALARM CONDUIT AND WIRES, INTERCEPT AND EXTEND TO FIRE ALARM TERMINAL CABINET (FATC) NEW LOCATION VIA NEW PULLBOX.
 - NEW PULLBOX 6"x6"x16" LONG WITH TERMINAL STRIP.
 - EXISTING CONDUIT HANGER SUPPORT.
 - MATCH CONDUIT AND FIRE ALARM CABLES TO EXISTING.
 - TO EXISTING REMAINING DEVICES.
 - 4S-BOX WITH CONTROL RELAY MODULE. MOUNT HIGH ON WALL.
 - 3/4"Ø, 2#12, CONNECT TO AC UNIT ON ROOF FOR AUTOMATIC SHUT-OFF. SEE WIRING DETAIL 8FA-1.1.



FIRE ALARM PLAN 1
 SCALE: 3/16" = 1'-0"



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 DRAWN BY: HY
 CHECKED BY: JF
 SHEET TITLE:

FIRE ALARM PLAN