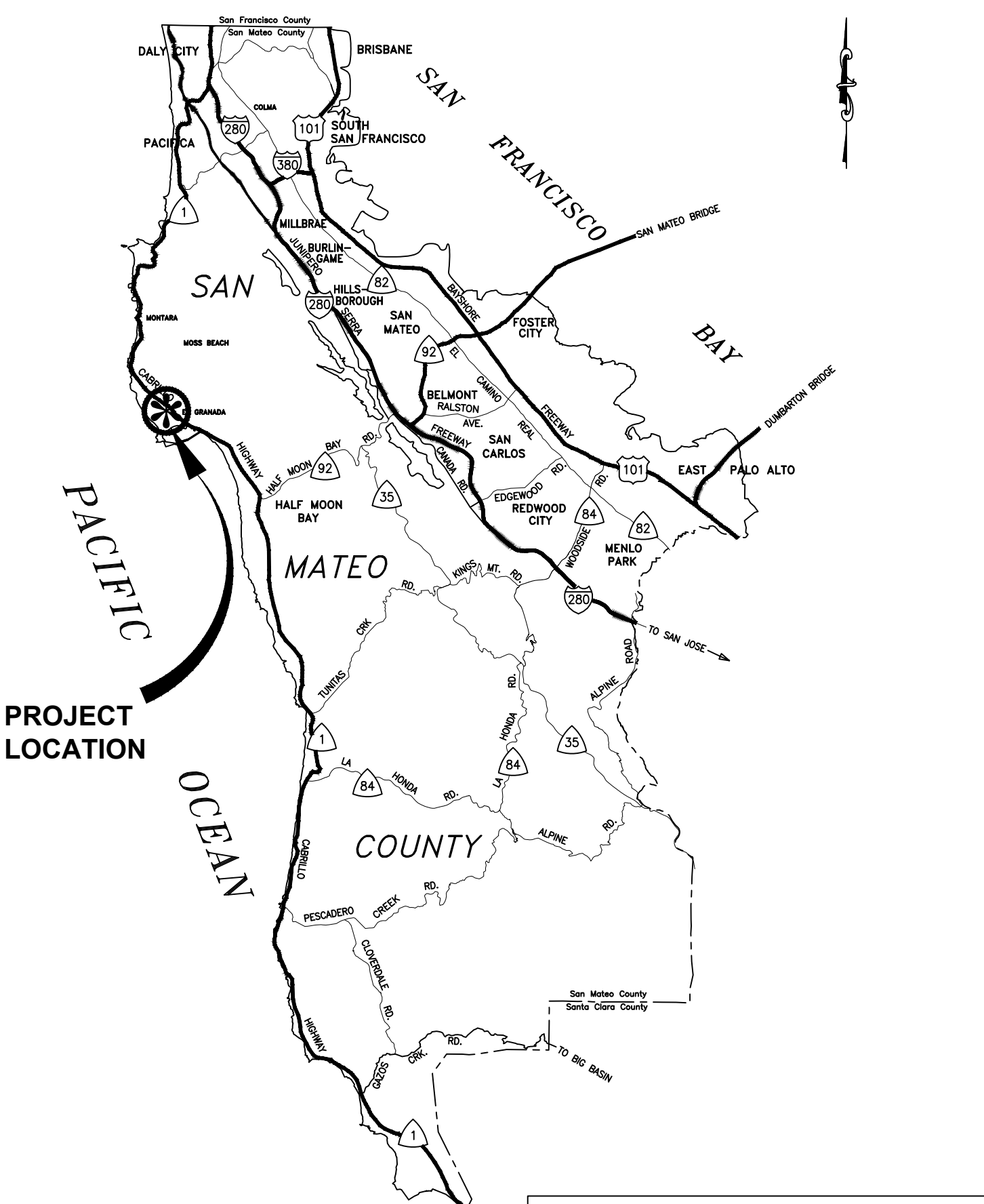


# COUNTY OF SAN MATEO CALIFORNIA

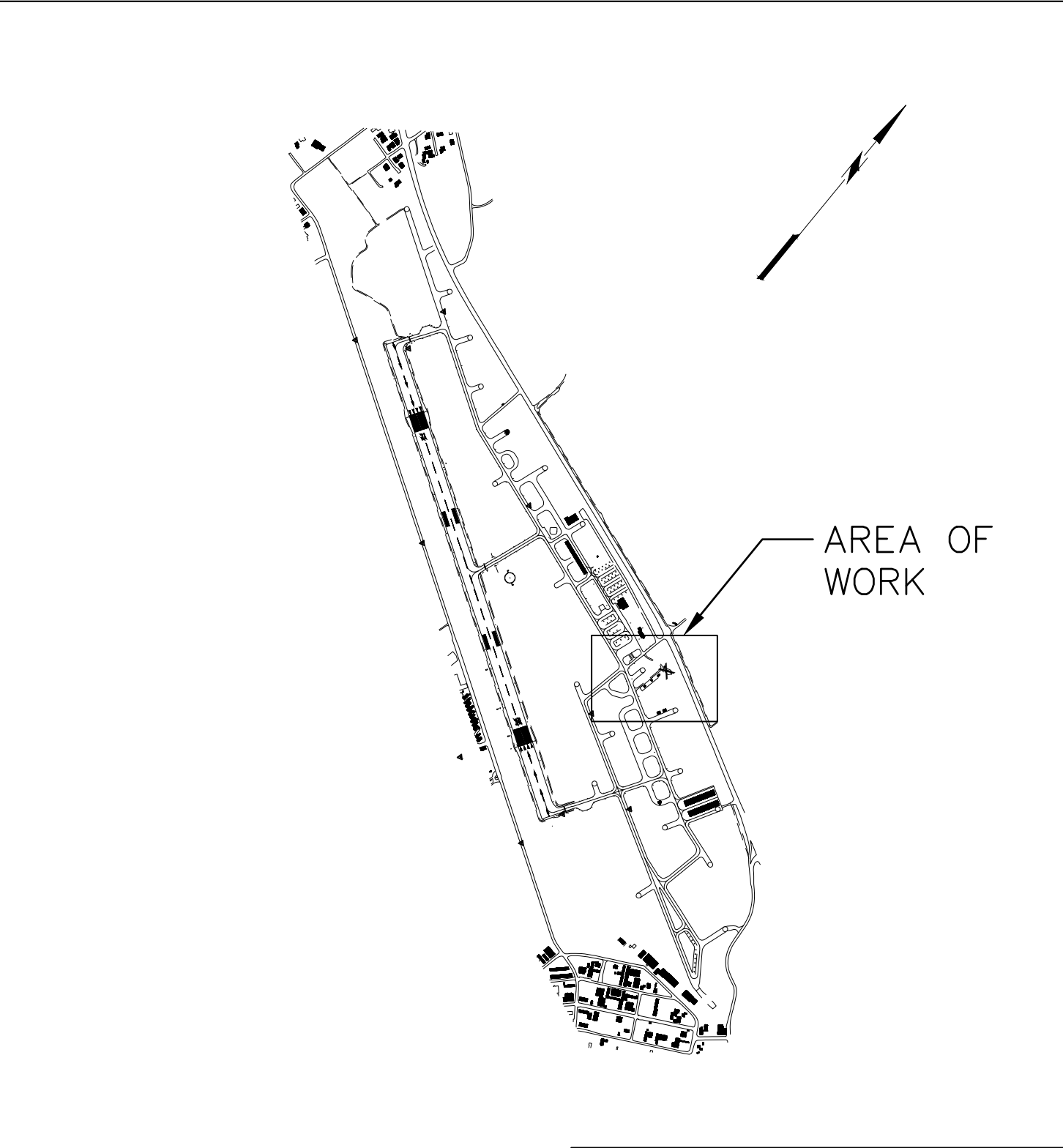
## HALF MOON BAY AIRPORT ELECTRICAL VAULT AND EMERGENCY GENERATOR PROJECT



APPROVED: \_\_\_\_\_  
DATE: 02/23/2024  
ANN MADER STILLMAN,  
DIRECTOR OF PUBLIC WORKS  
R. C. E. # 47882 / EXPIRES 12-31-2025



VICINITY MAP  
NO SCALE



LOCATION MAP  
NO SCALE

TO BE SUPPLEMENTED BY STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD PLANS DATED MAY 2018 AND ADOPTED BY SAN MATEO COUNTY, FEBRUARY 11, 2020, BY RESOLUTION NO. 077227

**ABBREVIATIONS:**

A	AMPERES, AMPERAGE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AL	ALUMINUM
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
AWOS	AUTOMATED WEATHER OBSERVING SYSTEM
BFG	BELOW FINISHED GRADE
C	CONDUIT
CC	COMMON CONTROL
CCR	CONSTANT CURRENT REGULATOR
CT	CURRENT TRANSFORMER
(E)	EXISTING
EMT	ELECTRIC METALLIC TUBING
GF	GROUND FAULT INTERRUPTER TYPE
G, GND	GROUND
HOA	HAND OFF AUTO
HV	HIGH VOLTAGE
IL	INTENSITY LEVEL
JB	JUNCTION BOX
KA	KILOAMP
KCMIL	1000 CIRCULAR MILS
KV	KILOVOLT
KVA	KILOVOLT AMP
KW	KILOWATT
KWHD	KILOWATT-HOUR DEMAND METER
LV	LOW VOLTAGE
LS	LEVEL SELECTION
MCB	MAIN CIRCUIT BREAKER
N	NEUTRAL
NC	NORMALLY CLOSED
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NO	NORMALLY OPEN
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
PAPI	PRECISION APPROACH PATH INDICATOR
PB	PULL BOX
PH	PHASE
RGS	RIGID GALVANIZED STEEL CONDUIT
R/W	RUNWAY
SCO	SERIES CIRCUIT CUTOUT
TW	TAXIWAY
TYP	TYPICAL
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
UN	UNLESS OTHERWISE NOTED
V	VOLTS, VOLTAGE
W	WATTS, WATTAGE, WIRE
WP	WEATHERPROOF
XFMR	TRANSFORMER

**SYMBOLS**

	GFI	NEMA 5-20R GROUND FAULT CIRCUIT INTERRUPTER TYPE, MOUNT 48" AFF UNLESS OTHERWISE NOTED
	WP	NEMA 5-20R DUPLEX RECEPTACLE, GROUND FAULT INTERRUPTER TYPE, WITH WEATHERPROOF COVER, MOUNT AT 42" AFF UNLESS OTHERWISE NOTED
		NEMA 5-20R QUAD RECEPTACLE, MOUNT AT 42" AFF UNLESS OTHERWISE NOTED
		SINGLE POLE TOGGLE SWITCH
		DISCONNECT SWITCH (TICKS INDICATE NUMBER OF POLES)
		CIRCUIT BREAKER (TICKS INDICATE NUMBER OF POLES)
		CONTACTS (NORMALLY OPEN)
		CONTACTS (NORMALLY CLOSED)
		FUSE
		GROUND
		CONTACTOR ("M" DENOTES MOTOR CONTACTOR)
		GENERATOR
		ELECTRICAL METER
		JUNCTION BOX
		CONNECTION POINT OR CABLE SPLICE
		TRANSFORMER
		FUSED DISCONNECT SWITCH
		NON FUSED DISCONNECT SWITCH
		SURFACE MOUNTED PANEL
		BRANCH CIRCUIT HOME RUN WITH CIRCUIT NUMBER SEE PANEL SCHEDULE FOR DETAILS
		WALL MOUNTED LUMINAIRE, LETTER DENOTES TYPE.
		1'x4' LUMINAIRE, LETTER DENOTES TYPE.
		METER
		SURVEY CONTROL POINT
		CONTRACTOR'S STAGING AREA
		WORK AREA
		CONTRACTOR'S ACCESS/HAUL ROUTE
		PROPOSED ELECTRICAL SHED
		PROPOSED GENERATOR PAD
		EXISTING FENCING TO BE REMOVED
		PROPOSED FENCING
		EXISTING UNDERGROUND ELECTRICAL CONDUIT
		PROPOSED UNDERGROUND ELECTRICAL CONDUIT ON SITE PLANS, INDICATES FUTURE WIRING ON CONTROLS DIAGRAMS.
		PROPOSED 16' WIDE VEHICLE GATE

**NOTES:**

- ALL ELECTRICAL WORK SHALL CONFORM TO ALL STATE, LOCAL, AND NATIONAL ELECTRICAL CODES.
- ELECTRICAL CHARACTERISTICS SHALL BE VERIFIED WITH EQUIPMENT MANUFACTURER.
- ITEMS OF SPECIFIC MANUFACTURERS OR APPROVED EQUAL SHALL BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURER'S PRINTED INSTRUCTIONS AND/OR MANUFACTURER'S REPRESENTATIVE'S DIRECTIONS.
- THE CONTRACTOR SHALL FIELD VERIFY ALL LOCATIONS AND DIMENSIONS SHOWN ON DRAWINGS.
- ALL CONDUIT AND WIRING SCHEDULES SHALL BE VERIFIED BEFORE INSTALLATION.
- THE ELECTRICAL CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ALL EQUIPMENT WITH OTHER CONTRACTORS.
- ALL AREAS DISTURBED BY WORK SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN ORIGINAL AS DETERMINED BY THE ENGINEER.
- THE CONTRACTOR SHALL PROVIDE RACEWAYS, WIRING, AND CONNECTIONS FOR ALL CONTROL CIRCUITS AND INTERLOCK.
- ALL ELECTRICAL CONDUIT AND CONDUCTORS DISCONNECTED AND NOT TO BE REUSED SHALL BE REMOVED.
- CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS BEFORE STARTING WORK. IF ONLY A PORTION OF AN EXISTING CIRCUIT IS BEING REMOVED FOR DEMOLITION, CONTINUITY SHALL BE MAINTAINED TO THE REST OF THE REMAINING CIRCUIT.
- ALL BRANCH CIRCUIT CONDUCTORS SHALL BE #12AWG UNLESS OTHERWISE SHOWN.
- ALL BRANCH CIRCUITS SHALL CONSIST OF 2 CONDUCTORS PLUS GROUND, UNLESS OTHERWISE SHOWN.
- CLEAN, PRIME, AND PAINT ALL EXISTING TO REMAIN WIREWAYS, ENCLOSURES, AND PULLBOXES.
- DEFINITIONS:
  - A. "PROVIDE": TO SUPPLY AND CONNECT UP COMPLETE AND READY FOR SAFE AND REGULAR OPERATION THE PARTICULAR WORK REFERRED TO UNLESS SPECIFICALLY OTHERWISE NOTED
  - B. "INSTALL": TO ERECT, MOUNT AND CONNECT COMPLETE WITH RELATED ACCESSORIES.
  - C. "FURNISH" OR "SUPPLY": TO PURCHASE, PROCURE, ACQUIRE AND DELIVER COMPLETE WITH RELATED ACCESSORIES.
  - D. "WORK": LABOR, MATERIAL, EQUIPMENT, APPARATUS, CONTROLS, ACCESSORIES AND OTHER ITEMS REQUIRED FOR PROPER AND COMPLETE INSTALLATION.
  - E. "WIRING": RACEWAY, FITTINGS, WIRE, BOXES AND RELATED ITEMS.
  - F. "CONCEALED": EMBEDDED IN MASONRY OR OTHER CONSTRUCTION, INSTALLED IN FURRED SPACES, WITHIN DOUBLE PARTITIONS OR HUNG CEILINGS, IN TRENCHES, IN CRAWL SPACES OR IN ENCLOSURES.
  - G. "EXPOSED": NOT INSTALLED UNDERGROUND OR "CONCEALED" AS DEFINED ABOVE.
  - H. "EQUIVALENT": EQUAL IN MATERIALS, WEIGHT, SIZE, DESIGN AND EFFICIENCY OF SPECIFIED PRODUCT.
- CONSTRUCTION SEQUENCING: BECAUSE SEQUENCING OF NEW VAULT INSTALLATION, PG&E'S EXTENSION OF UPGRADED SERVICE, AND CUTOVERS OF EXISTING LOADS TO NEW PANELBOARD ARE ESSENTIAL TO MINIMIZING DISRUPTION TO AIRPORT, CONTRACTOR SHALL PROVIDE DETAILED SEQUENCE OF CONSTRUCTION FOR APPROVAL PRIOR TO COMMENCING WORK. CONTRACTOR SHALL CONTACT PG&E REPRESENTATIVE LISTED IN SPECIFICATIONS L-102 UPON AWARD OF CONTRACT TO BEGIN COORDINATION OF NEW ELECTRICAL SERVICE.

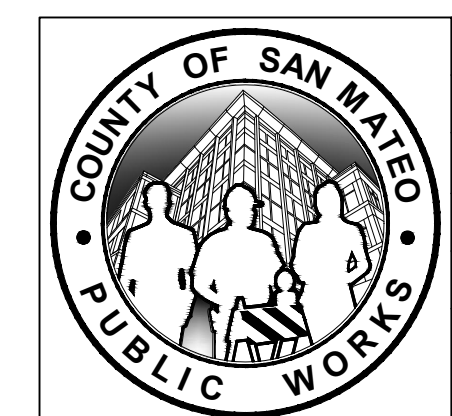
**SHEET INDEX:**

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CD101	DEMOLITION PLAN
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S520	FRAMING DETAILS
S530	ANCHORAGE DETAILS
S601	CERTIFICATES OF COMPLIANCE

C&S Engineers, Inc.  
7801 Folsom Boulevard, Suite 210  
Sacramento, California 95826  
Phone: 916-364-1470  
www.cscos.com



APPROVED DATE: 2-23-2024
RICHARD D. GRAHAM
C&S ENGINEERS, INC.
R.C.E. # C72089 EXPIRES 6-30-2024



DESIGNED BY: BTP	TITLE SHEET ELECTRICAL VAULT AND EMERGENCY GENERATOR	SCALE: NOT TO SCALE
CHECKED BY: MDV		DATE: FEBRUARY 2024
DRAWN BY: KMW		FILE NO. E5079
ANN MADER STILLMAN, DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063	G1001 SHEET 1 OF 32
REVISION	DATE	
FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES		
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FILENAME: F:\PROJECT\116 - SAN MATEO COUNTY\116.003.007 - HAF GENERATOR & VAULT (DESIGN)\DESIGN\CADD\SHEET FILES\16003007\_G-001.DWG (G1001)

**GENERAL CONSTRUCTION NOTES**

1. THE CONTRACTOR'S ATTENTION IS DIRECTED TO SECTION 70-08, ATTACHMENT A - CONSTRUCTION SAFETY AND PHASING PLAN (CSPP) OF THE GENERAL PROVISIONS.
2. THESE DRAWINGS HAVE BEEN PREPARED, IN PART, BASED UPON RECORD DRAWINGS AND/OR CAD FILES FURNISHED BY OTHERS. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, THOSE UTILIZING THE INFORMATION ON THESE DRAWINGS ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY BEFORE USING IT FOR ANY PURPOSE.
3. EXISTING UTILITIES WERE TAKEN FROM PLANS OF RECORD. THEY HAVE BEEN SHOWN TO THE EXTENT KNOWN AND ARE OFFERED IN GOOD FAITH SOLELY FOR INFORMATIONAL PURPOSES. THEY MAY NOT REFLECT ACTUAL LOCATIONS AND MAY NOT BE INCLUSIVE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL UTILITIES PRIOR TO THE START OF CONSTRUCTION.
4. THE ACTUAL LOCATION AND ELEVATION OF ALL UTILITIES SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION.
5. IN THE EVENT OF DAMAGE TO EXISTING UTILITIES OR CABLES, THE ENGINEER AND OWNER SHALL BE NOTIFIED IMMEDIATELY.
6. THE CONTRACTOR SHALL REPAIR ALL DAMAGE TO UTILITIES OR CABLES, AS DIRECTED BY THE ENGINEER, IMMEDIATELY AND AT THE CONTRACTOR'S EXPENSE.
7. ALL AREAS DISTURBED AS A RESULT OF THE CONTRACTOR'S STAGING AND CONSTRUCTION OPERATIONS SHALL BE RESTORED EQUAL TO OR BETTER THAN ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.
8. DURING THE WORK OF THIS CONTRACT, THE CONTRACTOR SHALL FURNISH, ERECT AND MAINTAIN WHATEVER TEMPORARY LIGHTING MAY BE NECESSARY TO KEEP THE TAXIWAY IN OPERATING CONDITION WHEN OPEN FOR AIRCRAFT.
9. ALL DIRT, DUST, STONES AND LOOSE DEBRIS SHALL BE CONTINUOUSLY REMOVED FROM ALL PAVED SURFACES DURING THIS CONTRACT.
10. THE CONTRACTOR SHALL RECONSTRUCT AND MAINTAIN EXISTING ACCESS ROADS AS REQUIRED FOR ACCESS TO THE WORK AREAS.
11. THE CONTRACTOR SHALL CONSTRUCT AND MAINTAIN PROPOSED GRAVEL ACCESS ROADS AT THE APPROXIMATE LOCATION SHOWN.
12. PROPOSED ACCESS ROADS SHALL BE REMOVED UPON COMPLETION OF WORK AND THE AREA RESTORED TO ORIGINAL CONDITION.
13. ALL OF THE CONTRACTOR'S OPERATIONS SHALL REMAIN ON AIRPORT PROPERTY AT ALL TIMES. UNDER NO CIRCUMSTANCES WILL THE CONTRACTOR BE ALLOWED ON ADJACENT PROPERTY.
14. TO THE EXTENT THAT WETLAND AREAS ARE KNOWN, THEY HAVE BEEN DEPICTED ON THE CONTRACT DRAWINGS.
15. IN CASE OF EXISTING WETLAND AREAS, NO EXCAVATION, VEHICLES OR OTHER SOIL DISTURBANCE WILL BE ALLOWED. ANY CLEARING REQUIRED WILL BE PERFORMED WITH HANDHELD TOOLS AND REMOVED BY HAND. NO GRUBBING WILL BE ALLOWED.
16. THIS CONTRACT DOES NOT ALLOW FOR PRICE INCREASES DUE TO ESCALATION IN COST OF UNIT BID ITEMS. THE CONTRACTOR SHALL TAKE THIS INTO CONSIDERATION WHEN PREPARING UNIT PRICES FOR BID.
17. THE COST OF ALL FAILING TESTS PERFORMED BY THE OWNER OR ON THE OWNER'S BEHALF SHALL BE BORNE BY THE CONTRACTOR.
18. THE OWNER RESERVES THE RIGHT TO SALVAGE FENCE MATERIALS. THE MATERIAL TO BE SALVAGED IS IDENTIFIED IN THE SPECIFICATION. SALVAGED MATERIAL SHALL BE STOCKPILED AT A LOCATION DESIGNATED BY THE OWNER IN GOOD CONDITION. ALL OTHER FENCE MATERIAL SHALL BE SPOILED OFF AIRPORT PROPERTY AT A PROPER DISPOSAL SITE SELECTED BY THE CONTRACTOR.

ABANDONED, CABLES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

28. ITEMS OF SPECIFIC MANUFACTURE SHALL BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURER'S PRINTED INSTRUCTIONS AND OR MANUFACTURER'S REPRESENTATIVE DIRECTIONS.
29. ALL GROUND CONNECTIONS SHALL BE MADE USING EXOTHERMIC CONNECTIONS.
30. GROUND RODS SHALL BE INSTALLED AT 500-FT INTERVALS ALONG COUNTERPOISE WIRE.
31. ALL CABLE CONNECTIONS SHALL BE MADE AT LIGHT UNITS OR AT ENDS OF DUCT BANKS UNLESS DIRECTED OTHERWISE.
32. THE OWNER RESERVES THE RIGHT TO SALVAGE LIGHTING EQUIPMENT. THE EQUIPMENT TO BE SALVAGED IS IDENTIFIED IN THE SPECIFICATION. SALVAGED EQUIPMENT SHALL BE STOCKPILED AT A LOCATION DESIGNATED BY THE OWNER IN PROPER WORKING CONDITION. ALL OTHER LIGHTING EQUIPMENT SHALL BE SPOILED OFF AIRPORT PROPERTY AT A PROPER DISPOSAL SITE SELECTED BY THE CONTRACTOR.
33. PROVIDE WATERTIGHT TERMINATION FOR ALL BURIED CONDUIT ENDS.



APPROVED:   
 DATE: 02/23/2024   
*Ann Mader Stillman*   
 ANN MADER STILLMAN,   
 DIRECTOR OF PUBLIC WORKS   
 R. C. E. # 47882 / EXPIRES 12-31-2025

**GRADING AND EXCAVATION NOTES**

19. SELECTIVE GRADING SHALL BE REQUIRED AS DIRECTED BY THE ENGINEER.
20. ALL SPOIL SHALL BE DISPOSED OF OFF-SITE AT THE CONTRACTORS EXPENSE.
21. EXISTING WETLANDS LOCATED ADJACENT TO THE GRADING AREA SHALL NOT BE DISTURBED DURING CONSTRUCTION. PRIOR TO CONSTRUCTION, THE WETLAND BOUNDARIES SHALL BE CLEARLY MARKED IN THE FIELD BY THE CONTRACTOR AND APPROVED BY THE ENGINEER. THE CONTRACTOR SHALL KEEP ALL MATERIALS AND EQUIPMENT FROM ENTERING EXISTING WETLANDS. ANY IMPACTS TO WETLANDS OUTSIDE THE DESIGNATED GRADING AREA SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY AND MITIGATED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER AND ALL AT THE CONTRACTOR'S EXPENSE.

**SURVEY NOTES**

22. FOR TYPICAL SECTIONS, THE CONTOUR INTERVAL EQUALS 1 FOOT. FOR TRANSITIONAL AREAS TO KEYWAYS, THE CONTOUR INTERVAL EQUALS 0.1 FOOT.
23. ALL ELEVATIONS REFER TO NAVD 88 VERTICAL DATUM. COORDINATES REFER NAD 83 HORIZONTAL DATUM.
24. THE TOPOGRAPHIC FEATURES SHOWN HEREON WERE COMPILED FROM AERIAL PHOTOGRAPHY PERFORMED BY R.E.Y ENGINEERS DATED OCTOBER 12, 2022.

**ELECTRICAL AND SIGNAGE NOTES**

25. ALL ELECTRICAL WORK SHALL CONFORM TO APPLICABLE LOCAL, STATE AND NATIONAL ELECTRICAL CODES.
26. THE ELECTRICAL CHARACTERISTICS OF PROPOSED EQUIPMENT SHALL BE VERIFIED TO BE COMPATIBLE WITH EXISTING EQUIPMENT MANUFACTURER PRIOR TO INSTALLATION.
27. ABANDONED CABLES MAY EXIST IN THE VICINITY OF THE PROPOSED WORK. IF ENCOUNTERED, CONTRACTOR SHALL VERIFY THAT THEY ARE ABANDONED PRIOR TO REMOVAL. IF THEY ARE NOT

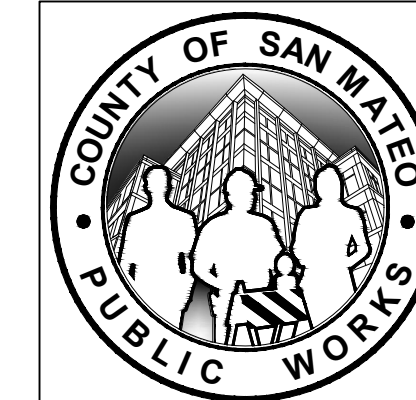
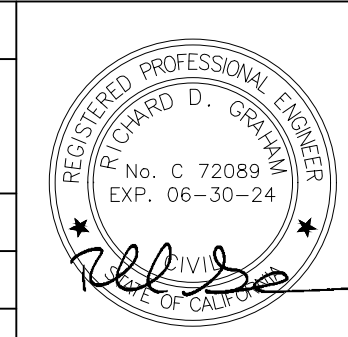
**A1 GENERAL NOTES**

SCALE: NOT TO SCALE

C&S Engineers, Inc.   
 7801 Folsom Boulevard, Suite 210   
 Sacramento, California 95826   
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APPROVED DATE: **2-23-2024**   
 RICHARD D. GRAHAM   
 C&S ENGINEERS, INC.   
 R.C.E. # **C72089** EXPIRES **6-30-2024**

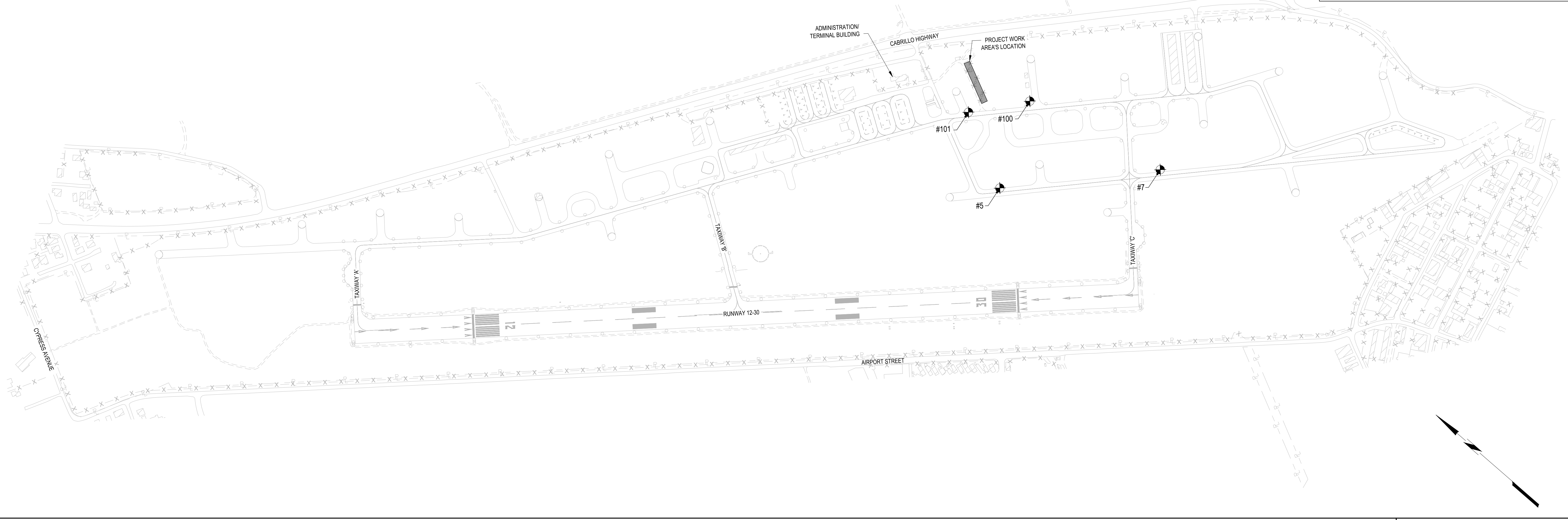


DESIGNED BY: <b>FKN</b>	<b>GENERAL NOTES</b> <b>ELECTRICAL VAULT AND EMERGENCY GENERATOR</b>	SCALE: <b>NOT TO SCALE</b>
CHECKED BY: <b>MDV</b>		DATE: <b>FEBRUARY 2024</b>
DRAWN BY: <b>AA</b>		FILE NO. <b>E5079</b>
ANN MADER STILLMAN, DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO		555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063
REVISION	DATE	FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES
		<b>G1002</b> SHEET 2 OF 32

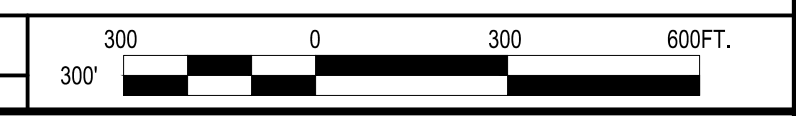
FILENAME: F:\PROJECT\116 - SAN MATEO COUNTY\116.003.007 - HAF GENERATOR & VAULT (DESIGN)\DESIGN\CADD\SHEET FILES\16003007\_G--SERIES.DWG (G1002)



APPROVED: \_\_\_\_\_  
 DATE: 02/23/2024  
 ANN MADER STILLMAN,  
 DIRECTOR OF PUBLIC WORKS  
 R. C. E. # 47882 / EXPIRES 12-31-2025



**B1 GENERAL PLAN & SURVEY CONTROL POINTS**  
 SCALE: 1" = 300'



CONTROL POINT TABLE				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
5	2014877.63	5982941.20	44.75	CONTROL POINT 5
7	2014153.97	5983671.38	36.69	CONTROL POINT 7
100	2015078.46	5983492.02	48.49	R.E.Y 100 MAG NAIL
101	2015337.12	5983190.00	51.44	R.E.Y 101 MAG NAIL

BASIS OF COORDINATES:  
 COORDINATES FOR CONTROL POINTS ARE SHOWN ON THIS SURVEY  
 ARE BASED ON NAD83, EPOCH 2010.0, CALIFORNIA STATE PLANE  
 COORDINATES ZONE 3.

BASIS OF ELEVATIONS:  
 THE ELEVATION SHOWN ON THIS SURVEY ARE BASED  
 ON NAVD88.

- SURVEYOR NOTES:
- ALL DISTANCES AND DIMENSIONS ARE SHOWN IN FEET AND DECIMALS THEREOF OR UNLESS NOTED OTHERWISE
  - DATE OF FIELD SURVEY: OCTOBER 12, 2022
  - 1 FOOT CONTOUR INTERVAL

**A1 SURVEY CONTROL POINTS**  
 SCALE: NOT TO SCALE

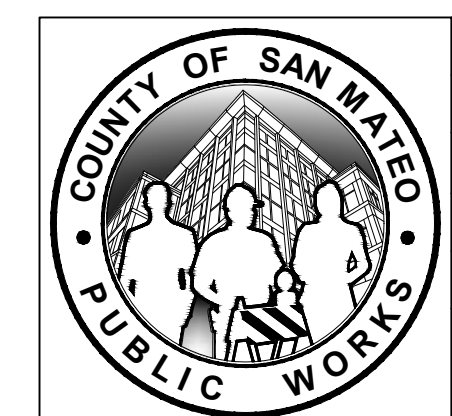
**A3 SURVEYOR NOTES**  
 SCALE: NOT TO SCALE

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 Sacramento, California 95826  
 Phone: 916-364-1470  
 www.cscos.com



APPROVED DATE: 2-23-2024

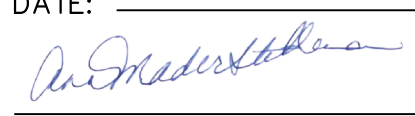
RICHARD D. GRAHAM  
 C&S ENGINEERS, INC.  
 R.C.E. # C72089 EXPIRES 6-30-2024

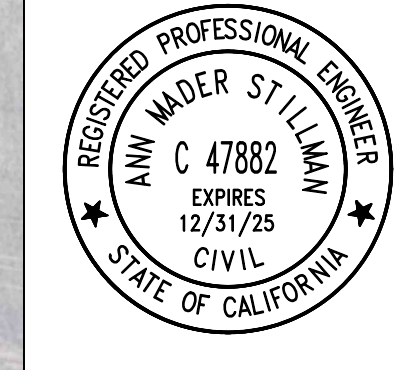


DESIGNED BY: E.A.	GENERAL PLAN & SURVEY CONTROL POINTS	SCALE: 1" = 300'
CHECKED BY: M.D.V.	ELECTRICAL VAULT AND EMERGENCY GENERATOR	DATE: FEBRUARY 2024
DRAWN BY: E.A.		FILE NO. E5079
ANN MADER STILLMAN, DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063	G1100 SHEET 3 OF 32

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES

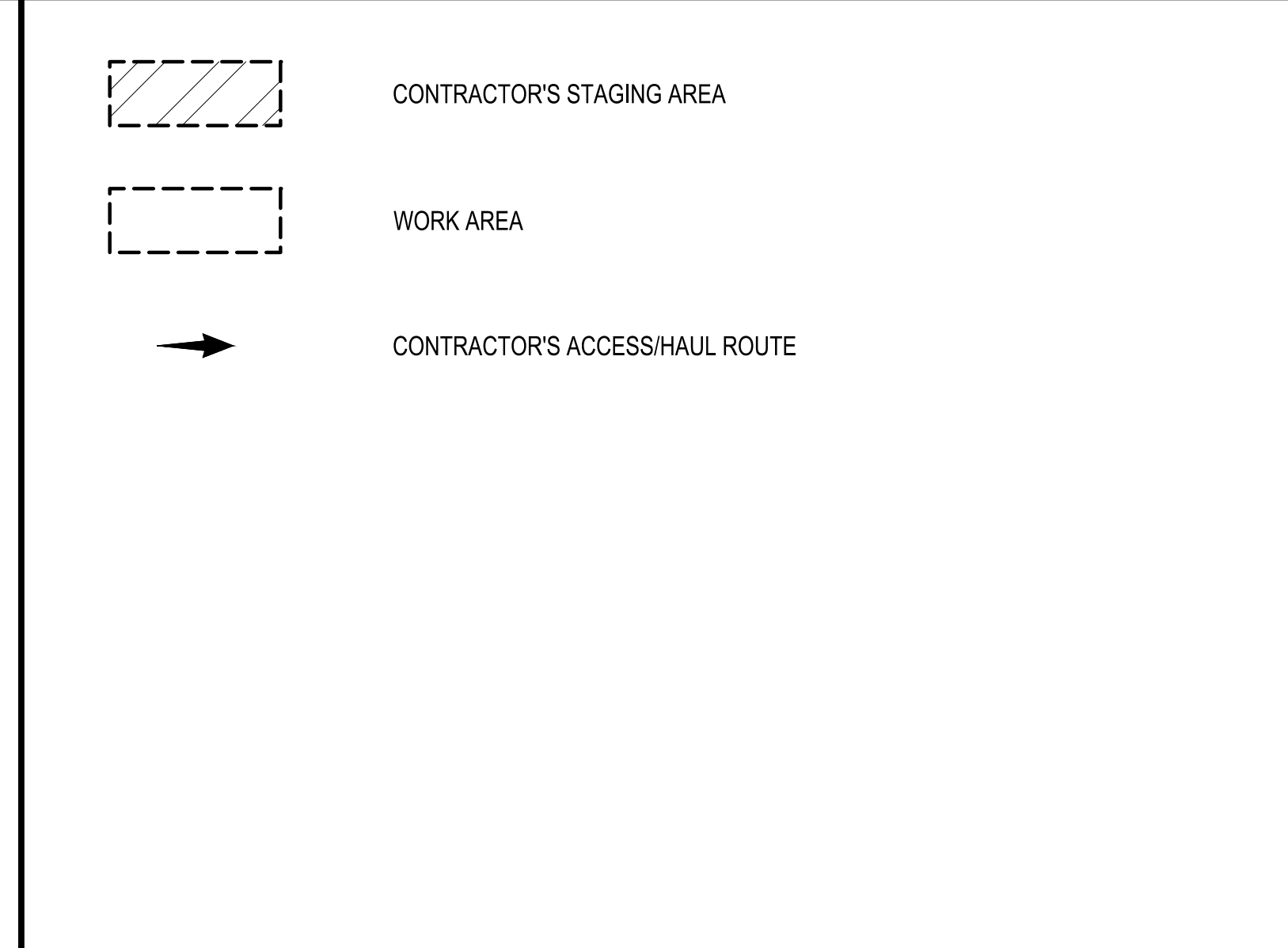
FILENAME: F:\PROJECT\116 - SAN MATEO COUNTY\116.003.007 - HAF GENERATOR & VAULT (DESIGN)\CADD\SHEET FILES\16003007\_01.DWG (B100)

APPROVED: **02/23/2024**  
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 ANN MADER STILLMAN,  
 DIRECTOR OF PUBLIC WORKS  
 R. C. E. # 47882 / EXPIRES 12-31-2025

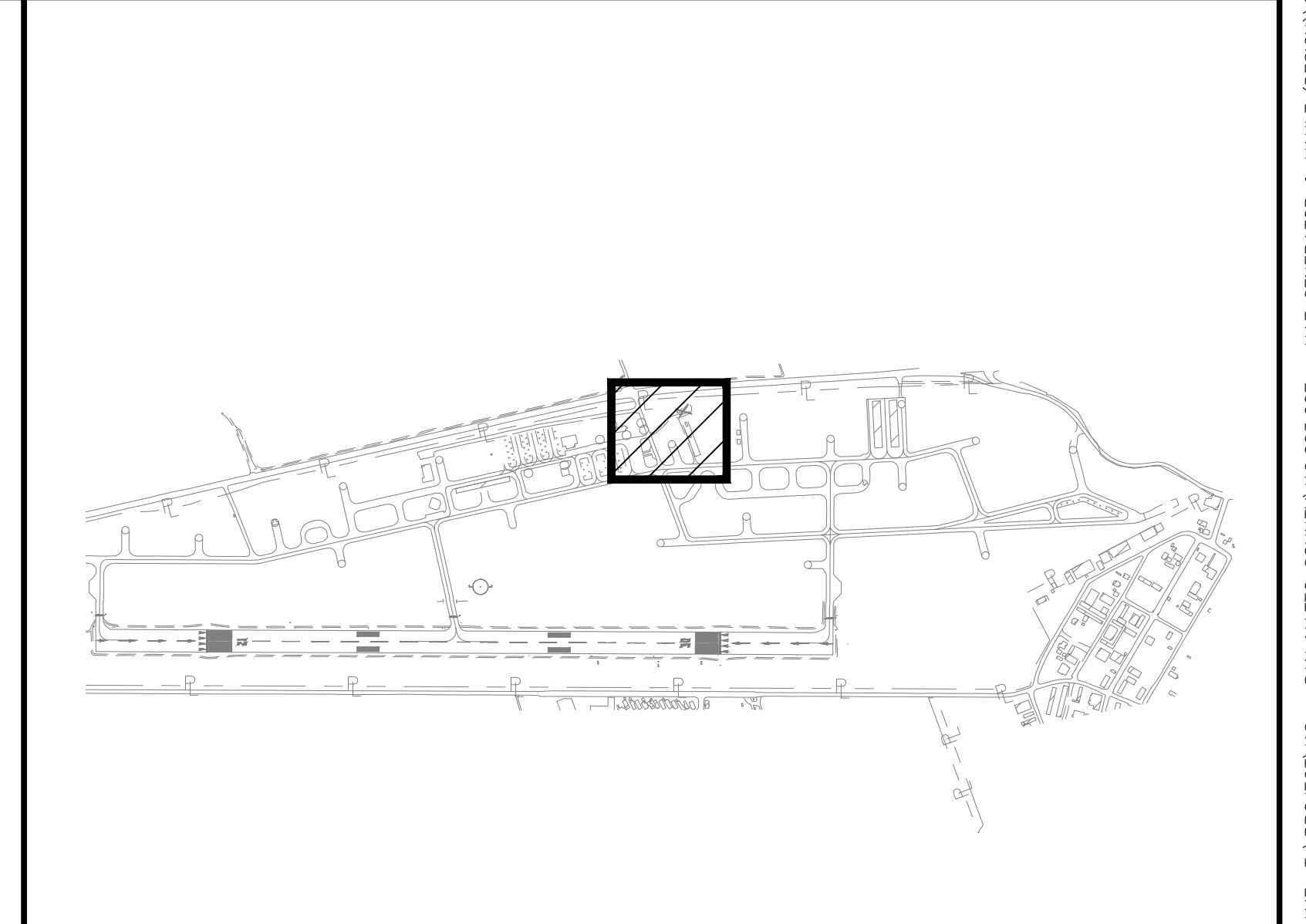


**B1 CONSTRUCTION SAFETY AND PHASING PLAN**  
 SCALE: 1" = 50'

- 101. EXISTING DIRT ROAD.
- 102. PROPOSED WORK LIMIT.
- 103. CONTRACTOR STAGING AREA.
- 104. ENTRANCE AIRPORT GATE.



- A3 GENERAL NOTES**  
 SCALE: NOT TO SCALE
1. THE WORK AREA ENTRANCE WILL BE THE EXISTING NORTH ACCESS GATE VIA CABRILLO HIGHWAY ON THE NORTH-WEST THE ACCESS GATE OF THE AIRPORT, AND IT MUST BE MANNED BY A FLAG PERSON TO MAINTAIN THE SECURITY OF THE AIRPORT AT ALL TIMES WHEN THE GATE IS OPENED OR UNLOCKED.
  2. THE STAGING AREA WILL BE LOCATED AT THE NORTH-WEST NEAR THE ACCESS GATE.
  3. ANY DAMAGE TO EXISTING ROADS, FACILITIES, LANDSCAPE, UTILITIES, AND OTHER ITEMS IN PUBLIC PROPERTY CAUSED BY THE CONTRACTOR OPERATORS, SHALL BE REPAIRED IMMEDIATELY AT CONTRACTOR'S EXPENSE.



**A1 KEY NOTES**  
 SCALE: NOT TO SCALE

**A2 LEGEND**  
 SCALE: NOT TO SCALE

**A3 GENERAL NOTES**  
 SCALE: NOT TO SCALE

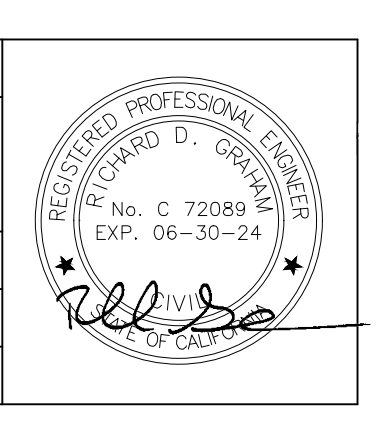
**A4 KEY MAP**  
 SCALE: NOT TO SCALE

**C&S Engineers, Inc.**  
 7801 Folsom Boulevard, Suite 210  
 Sacramento, California 95826  
 Phone: 916-364-1470  
 www.cscos.com

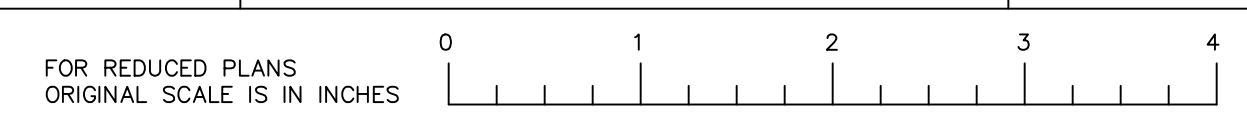


APPROVED DATE: **2-23-2024**

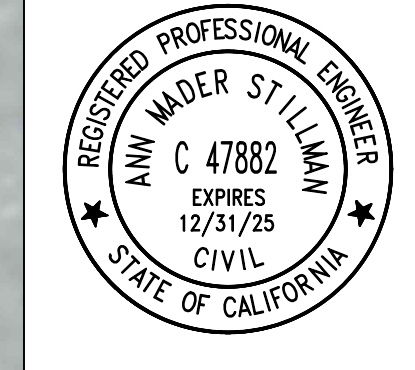
**RICHARD D. GRAHAM**  
 C&S ENGINEERS, INC.  
 R.C.E. # **C72089** EXPIRES **6-30-2024**



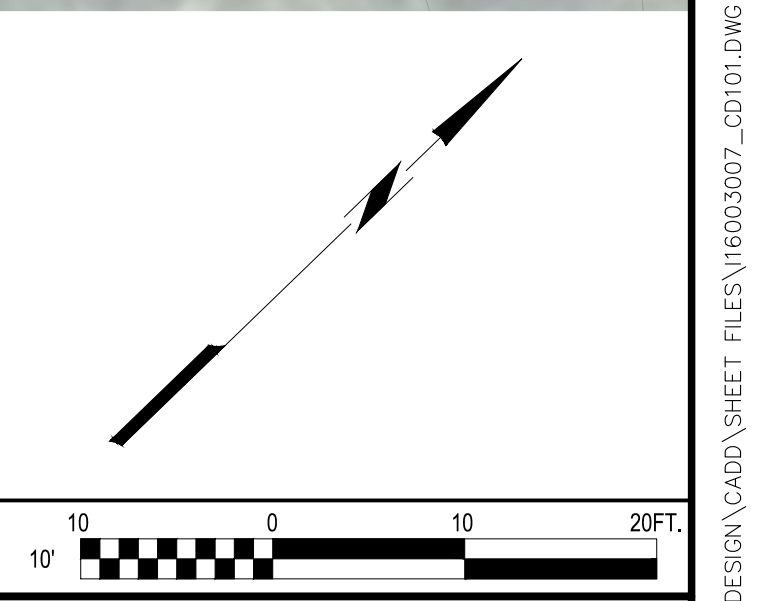
DESIGNED BY: <b>E.A.</b>	<b>CONSTRUCTION SAFETY AND PHASING PLAN</b> <b>ELECTRICAL VAULT AND EMERGENCY GENERATOR</b>	SCALE: <b>1" = 50'</b>
CHECKED BY: <b>M.D.V.</b>		DATE: <b>FEBRUARY 2024</b>
DRAWN BY: <b>E.A.</b>		FILE NO. <b>E5079</b>
ANN MADER STILLMAN, DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO		555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063
REVISION	DATE	GC101 SHEET 4 OF 32



FILENAME: F:\PROJECT\116 - SAN MATEO COUNTY\116.003.007 - HAF GENERATOR & VAULT (DESIGN)\DESIGN\CADD\SHEET FILES\16003007\_GC-SERIES.DWG (CG101)



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 DATE: 02/23/2024   
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 DIRECTOR OF PUBLIC WORKS   
 R. C. E. # 47882 / EXPIRES 12-31-2025

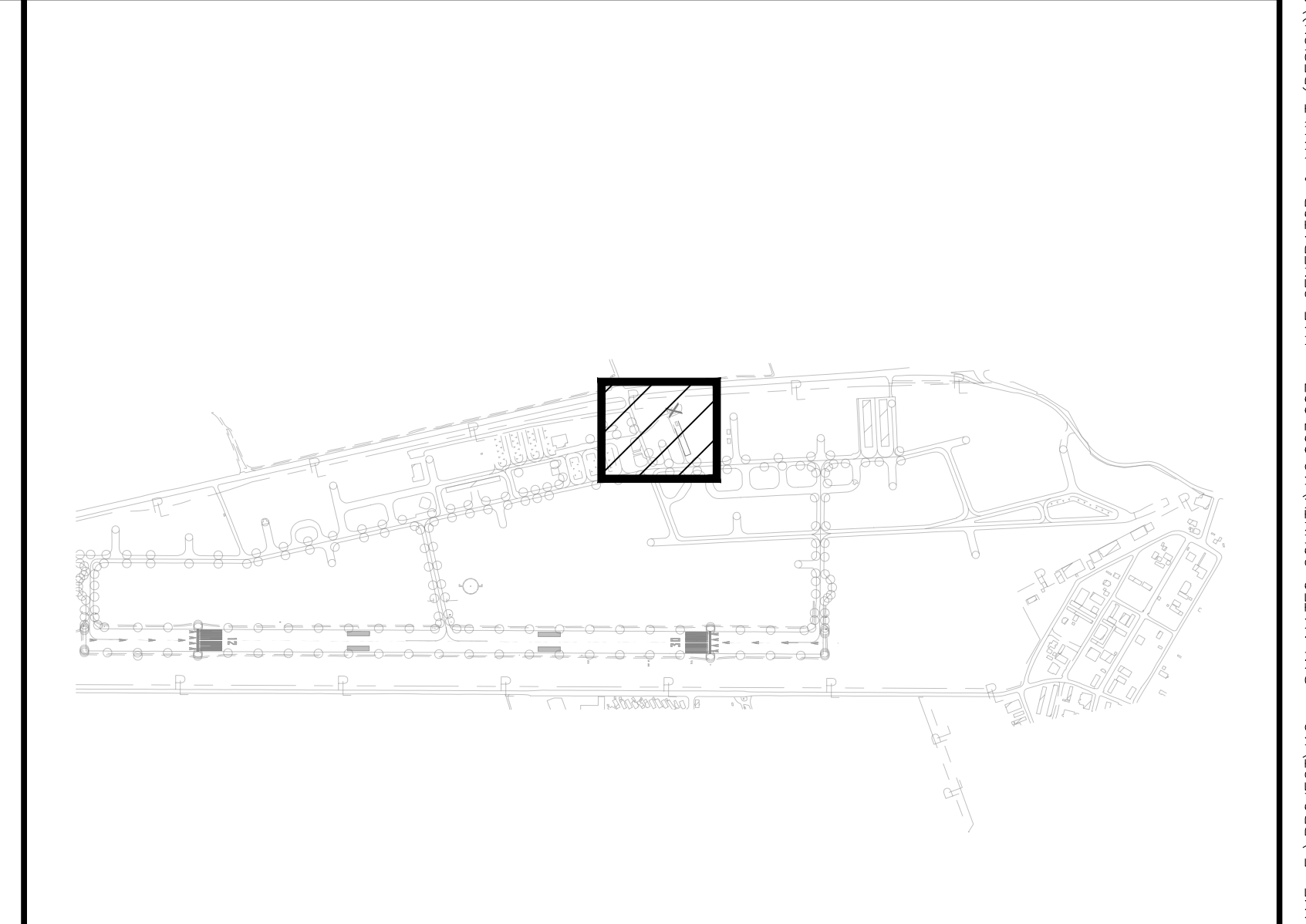


**B1 DEMOLITION PLAN**  
 SCALE: 1" = 10'

101. DEMOLISH EXISTING FENCING. SEE ITEM PER SPECS F-162.

—x—x—x—x— EXISTING FENCING

SEE SHEET EL101 - ELECTRICAL PLAN - DEMOLITION FOR MORE DETAILS.



**A1 KEYED NOTES**  
 SCALE: NOT TO SCALE

**A2 LEGEND**  
 SCALE: NOT TO SCALE

**A3 SHEET NOTES**  
 SCALE: NOT TO SCALE

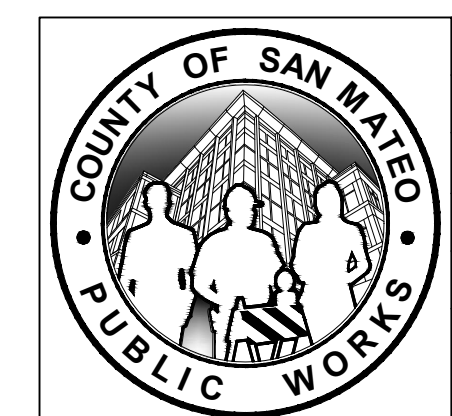
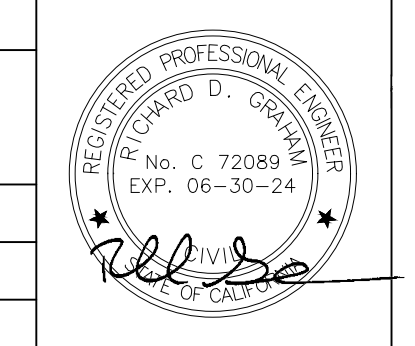
**A4 KEY MAP**  
 SCALE: NOT TO SCALE

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 Sacramento, California 95826  
 Phone: 916-364-1470  
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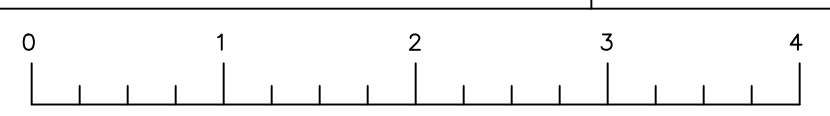


APPROVED DATE: 2-23-2024

RICHARD D. GRAHAM  
 C&S ENGINEERS, INC.  
 R.C.E. # C72089 EXPIRES 6-30-2024



DESIGNED BY: EA	<b>DEMOLITION PLAN</b> <b>ELECTRICAL VAULT AND EMERGENCY GENERATOR</b>	SCALE: 1" = 10'
CHECKED BY: MDV		DATE: FEBRUARY 2024
DRAWN BY: EA		FILE NO. E5079
ANN MADER STILLMAN, DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO		555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063
REVISION	DATE	FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES



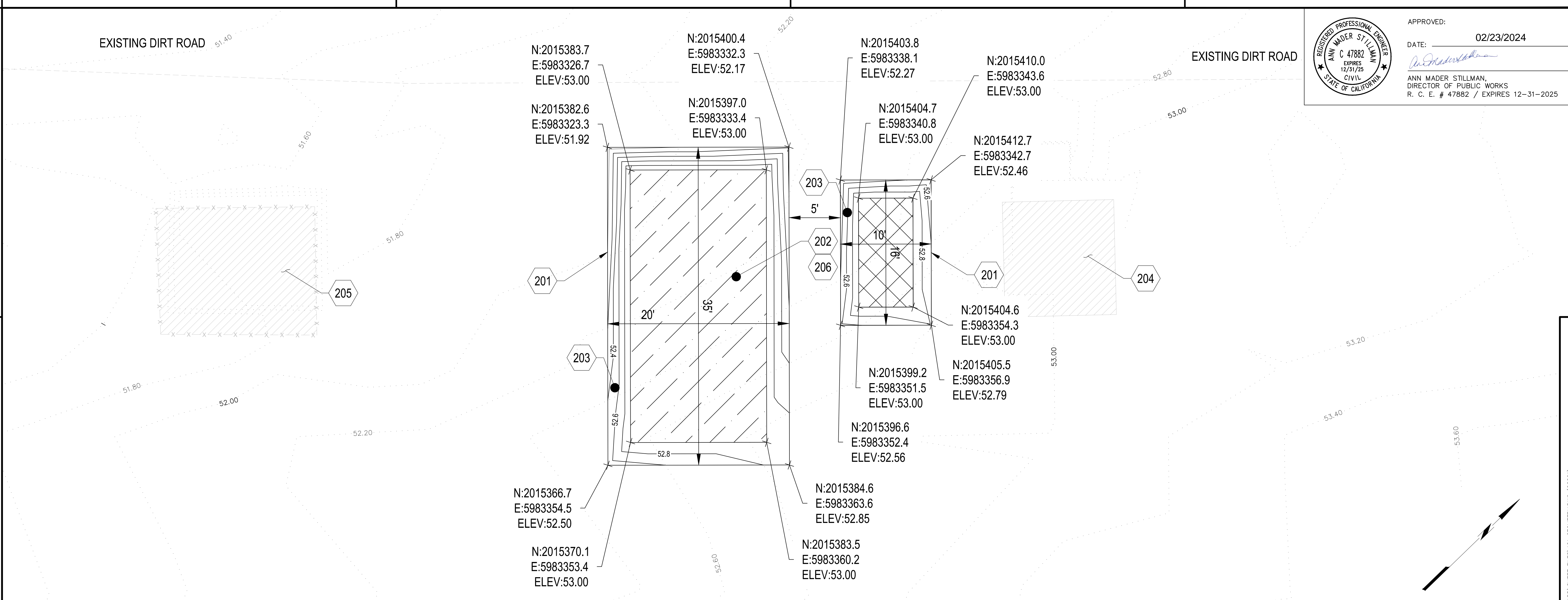
FILENAME: F:\PROJECT\116 - SAN MATEO COUNTY\116.003.007 - HAF GENERATOR & VAULT (DESIGN)\DESIGN\CADD\SHEET FILES\16003007\_CD101.DWG (CD101)

EXISTING DIRT ROAD 51.40

EXISTING DIRT ROAD



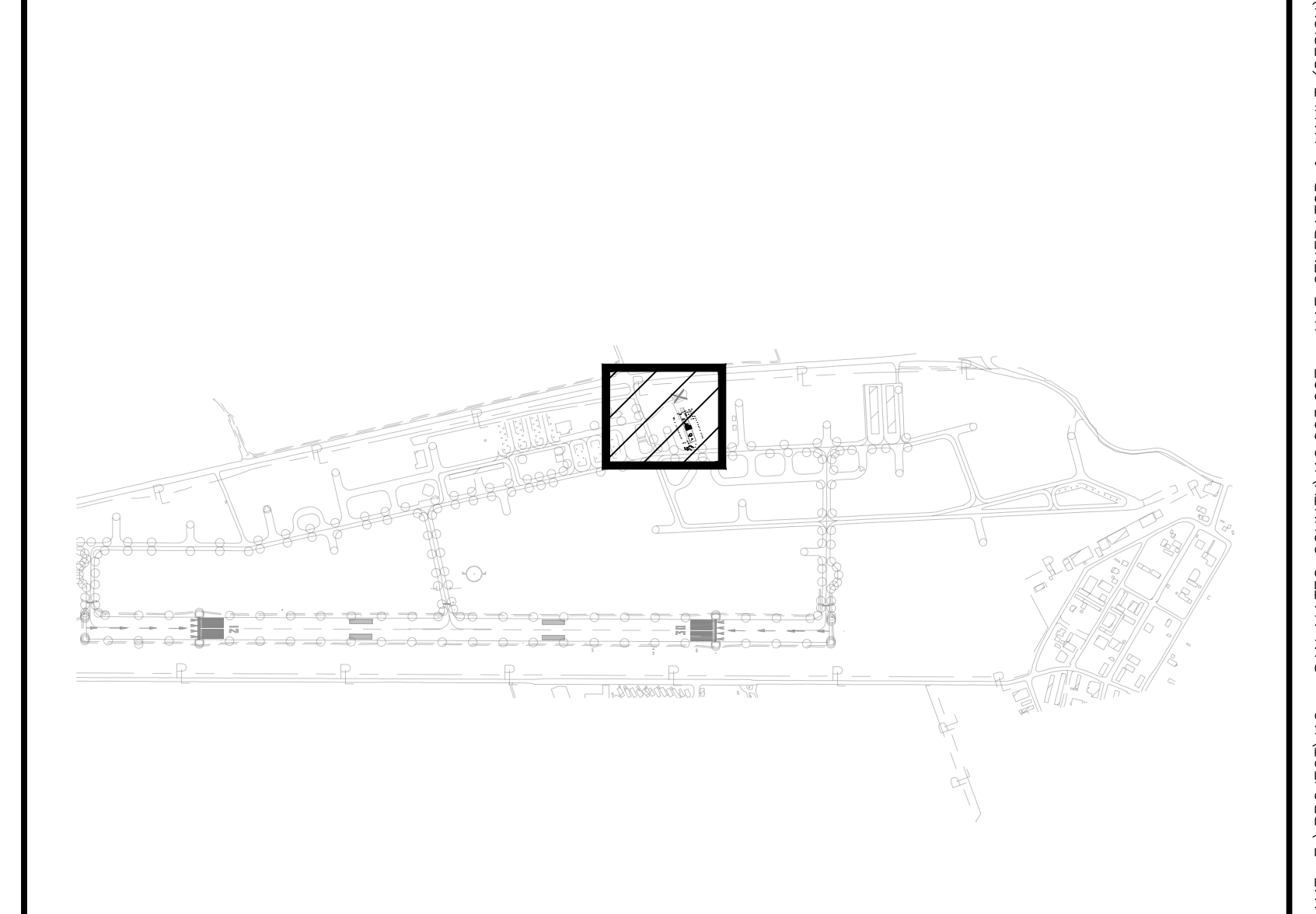
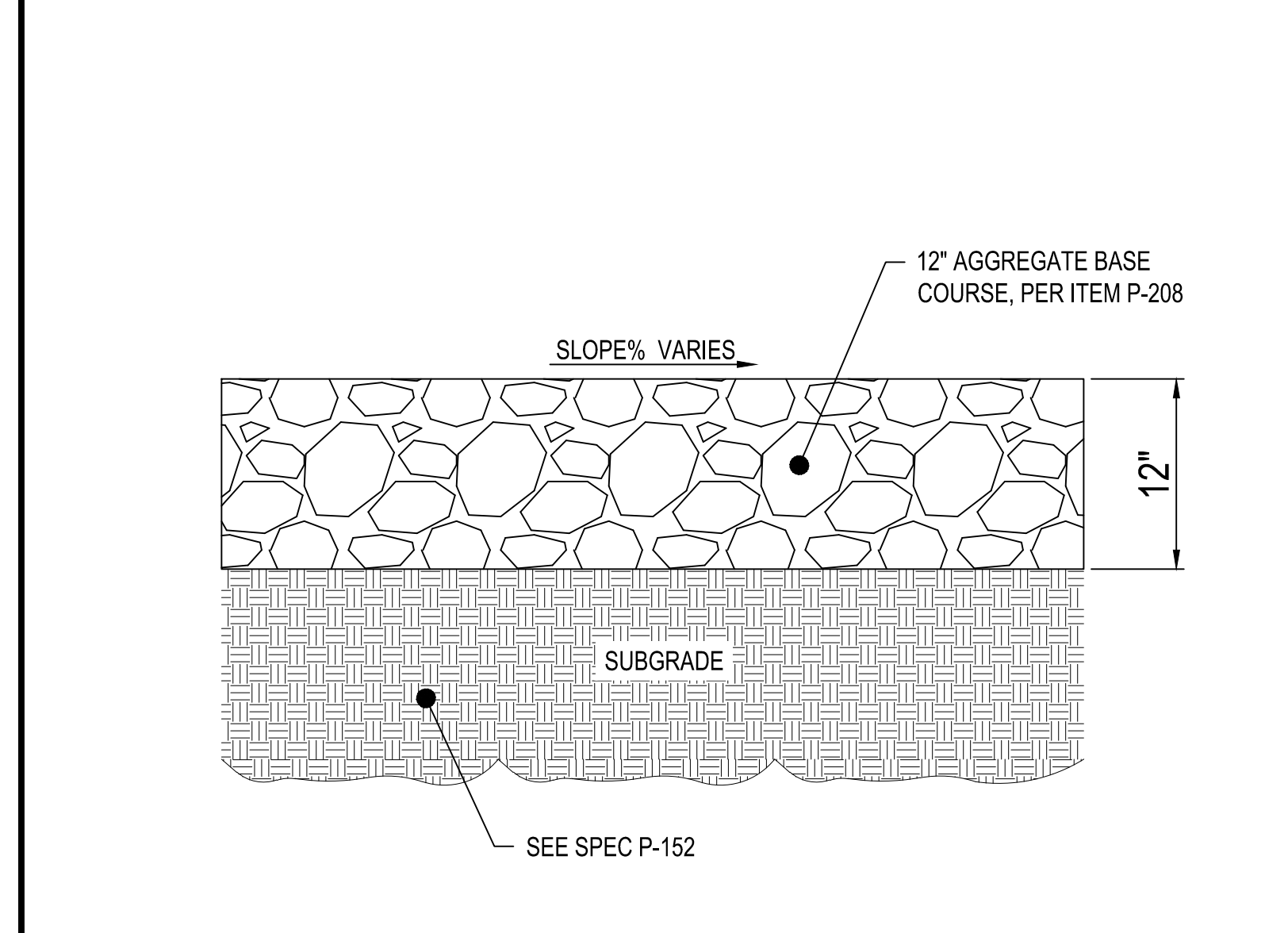
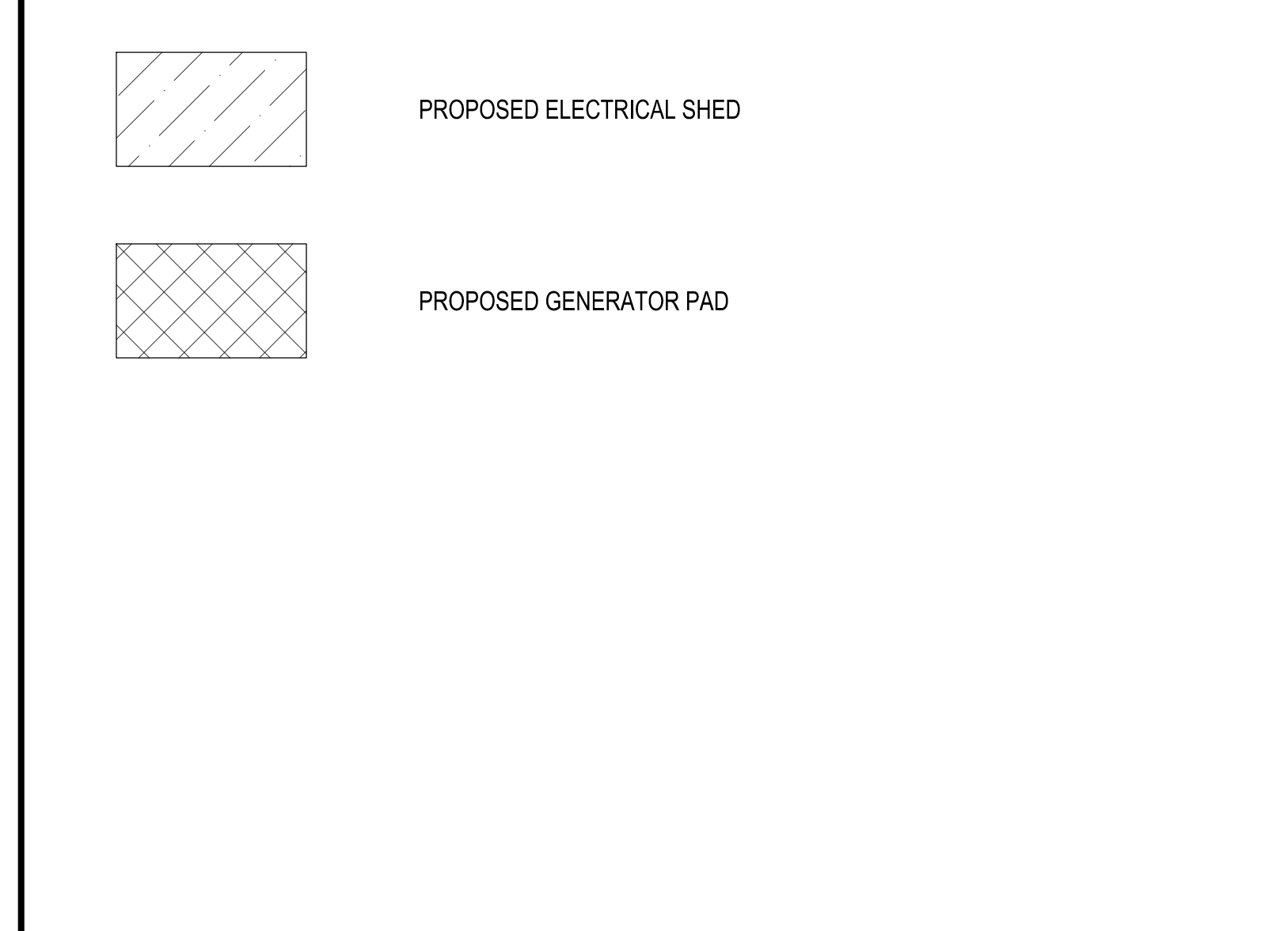
APPROVED: DATE: 02/23/2024  
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R. C. E. # 47882 / EXPIRES 12-31-2025



**B1** GRADING PLAN  
SCALE: 1" = 5'

- 201. MATCHING EXISTING GRADE.
- 202. PROPOSED ELECTRICAL SHED.
- 203. PROPOSED 12" AGGREGATE BASE, SEE DETAIL A3, THIS SHEET.
- 204. AT&T COMMUNICATION TOWERS AND GENERATOR. PROTECT IN PLACE.
- 205. AIRFIELD TOWER. PROTECT IN PLACE.
- 206. SEE FOUNDATION PLAN S101 FOR PAD DETAILS AND DIMENSIONS.

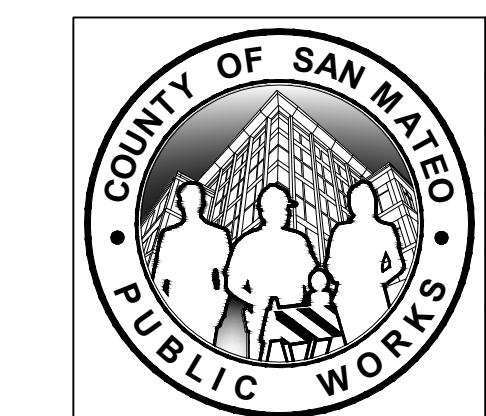
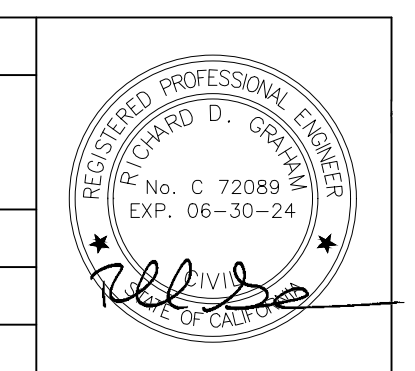
**A1** KEYED NOTES  
SCALE: NOT TO SCALE



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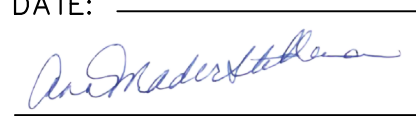


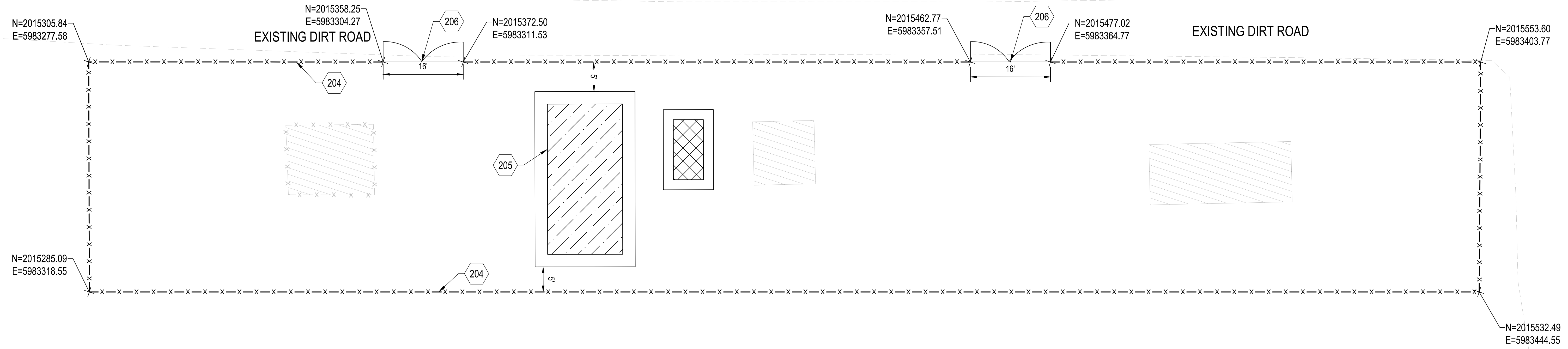
APPROVED DATE: 2-23-2024  
RICHARD D. GRAHAM  
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R.C.E. # C72089 EXPIRES 6-30-2024



DESIGNED BY: MDV	<b>GRADING PLAN</b> <b>ELECTRICAL VAULT AND EMERGENCY GENERATOR</b>	SCALE: 1" = 5'
CHECKED BY: MDV		DATE: FEBRUARY 2024
DRAWN BY: EA		FILE NO. E5079
ANN MADER STILLMAN, DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO		555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063
FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES		CG201 SHEET 6 OF 32

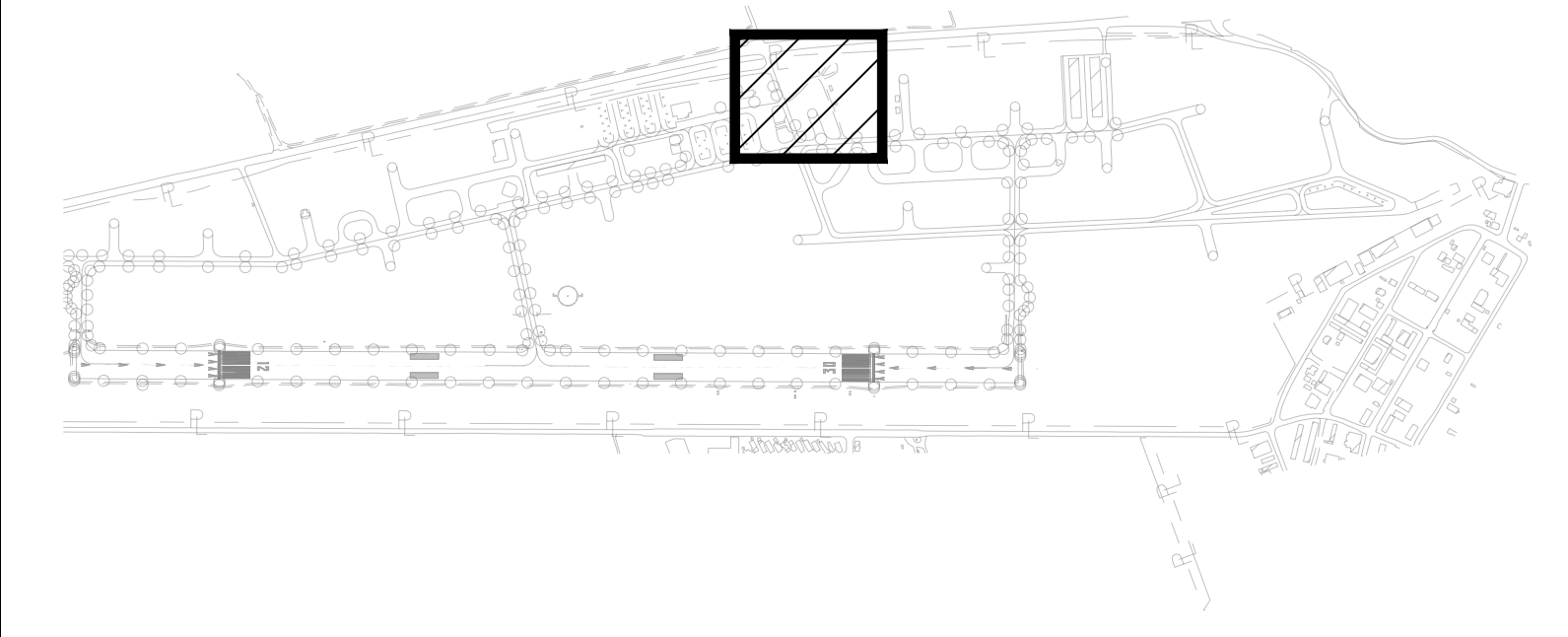
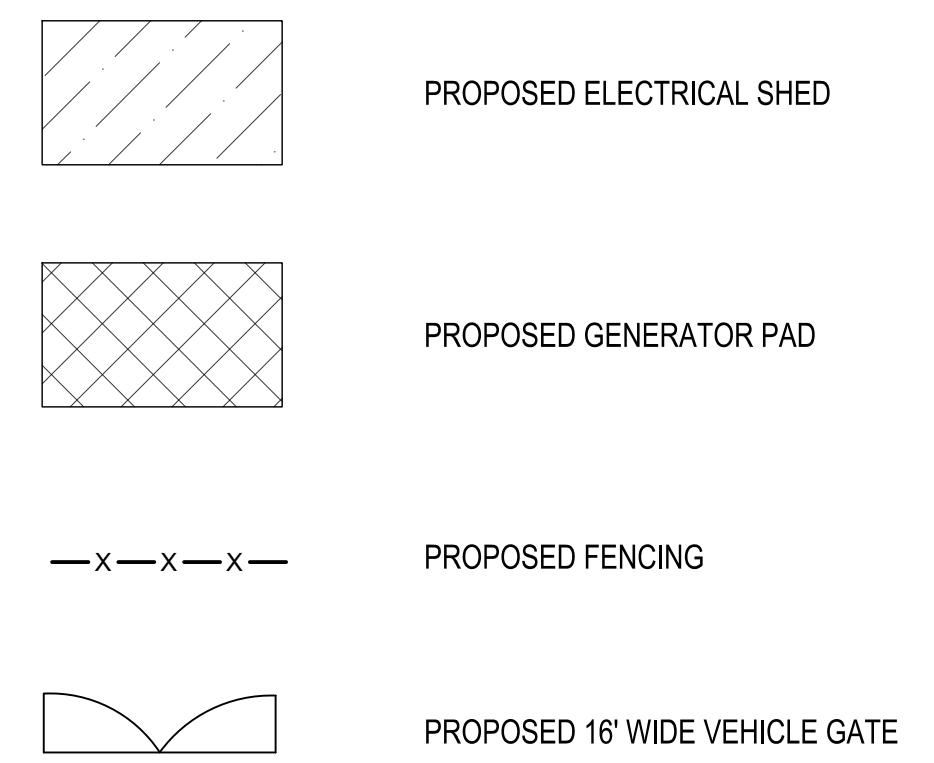
FILENAME: F:\PROJECT\16 - SAN MATEO COUNTY\16.003.007 - HAF GENERATOR & VAULT (DESIGN)\DESIGN\CADD\SHEET FILES\01 GEOMETRY.DWG (CG201)

APPROVED: **02/23/2024**  
 DATE: **02/23/2024**  
  
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 DIRECTOR OF PUBLIC WORKS  
 R. C. E. # 47882 / EXPIRES 12-31-2025



**B1 IMPROVEMENT PLAN**  
 SCALE: 1" = 10'

- 204. FURNISH & INSTALL PROPOSED FENCING, SEE DETAIL A1/ SHEET CG501.
- 205. PROPOSED ELECTRICAL SHED.
- 206. INSTALL 16' WIDE PROPOSED VEHICLE GATE, SEE DETAIL C3/SHEET CG501.



**A1 KEYED NOTES**  
 SCALE: NOT TO SCALE

**A2 LEGEND**  
 SCALE: NOT TO SCALE

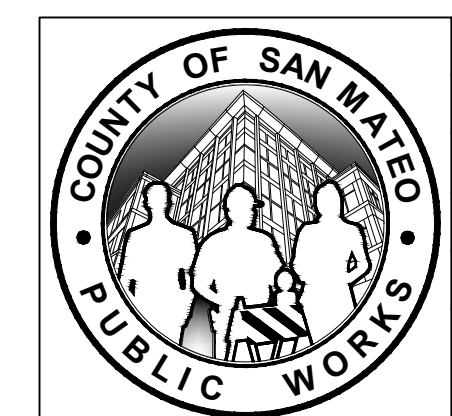
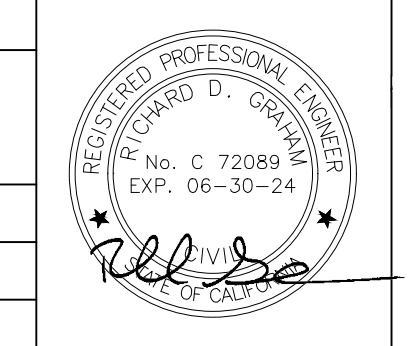
**A3 NOT USED**  
 SCALE: NOT TO SCALE

**A4 KEY MAP**  
 SCALE: NOT TO SCALE

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 RICHARD D. GRAHAM  
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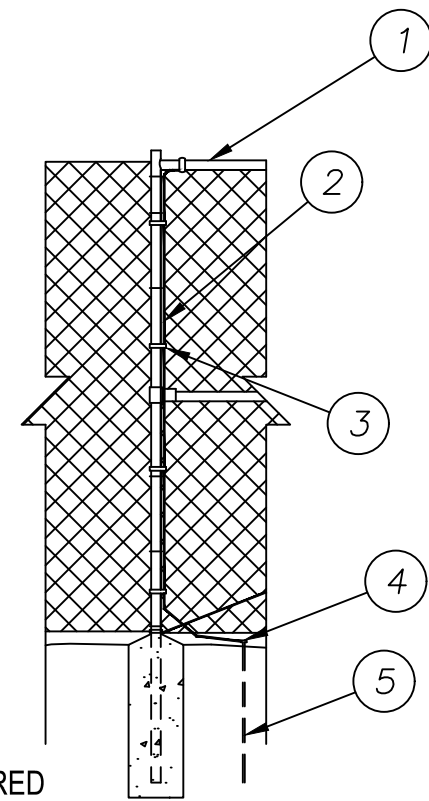


DESIGNED BY: <b>EA</b>		IMPROVEMENT PLAN		SCALE: <b>1" = 10'</b>
CHECKED BY: <b>MDV</b>		ELECTRICAL VAULT AND EMERGENCY		DATE: <b>FEBRUARY 2024</b>
DRAWN BY: <b>EA</b>		GENERATOR		FILE NO. <b>E5079</b>
ANN MADER STILLMAN, DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO		555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063		
REVISION	DATE	FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES		CG202 SHEET 7 OF 32

FILENAME: F:\PROJECT\16 - SAN MATEO COUNTY\16.003.007 - HAF GENERATOR & VAULT (DESIGN)\DESIGN\CADD\SHEET FILES\16003007\_C0102.DWG (CG202)

**GROUNDING NOTES**  
FENCING SHALL BE GROUNDED AS FOLLOWS:

- A. ON EACH SIDE OF EVERY GATE
- B. AT POINTS APPROXIMATELY 150' ON EACH SIDE OF HIGH TENSION LINE CROSSINGS (AS DIRECTED BY ENGINEER)
- C. AT 150' INTERVALS ALONG FENCE WHEN HIGH TENSION LINES ARE WITHIN 100' AND RUN PARALLEL TO THE FENCE LINE
- D. EVERY 1000' OF LENGTH WHEN FENCES ARE LOCATED IN ISOLATED PLACES
- E. EVERY 500' WHEN IN CLOSE PROXIMITY (100' OR LESS) TO PUBLIC ROADS, HIGHWAYS AND BUILDINGS

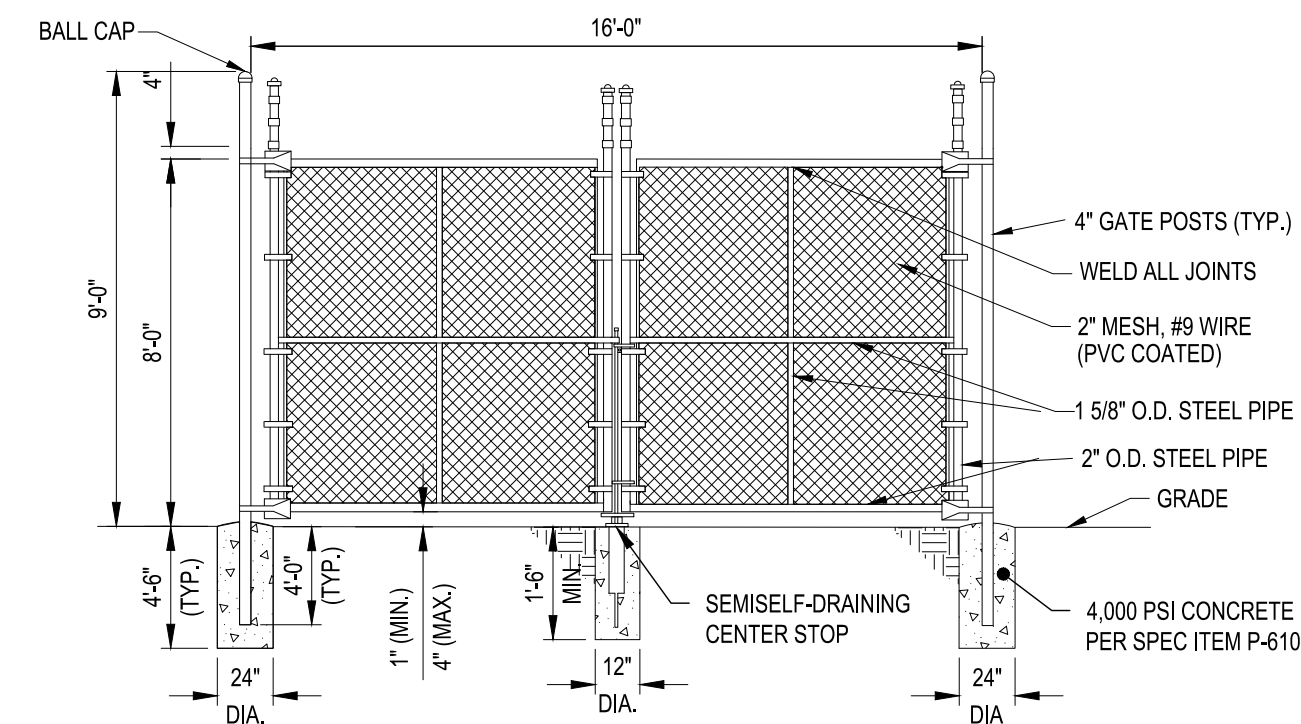


- KEY NOTES**
- 1 FENCE TOP HORIZONTAL RAIL
  - 2 # 1/0 BARE COPPER (TYPICAL FENCE GROUNDING)
  - 3 BURNDY OR APPROVED EQUAL TYPE 'GAR' CLAMPS (4 REQUIRED PER GROUNDING)
  - 4 BURNDY OR APPROVED EQUAL TYPE 'GH' CLAMP
  - 5 3/4" X 10'-0" COPPER CLAD STEEL ROD

**C1 LINE POST FENCE GROUNDING DETAIL**  
SCALE: NOT TO SCALE

**C2 NOT USED**  
SCALE: NOT TO SCALE

**C3 16' WIDE DOUBLE SWING VEHICLE GATE**  
SCALE: NOT TO SCALE



**NOTES:**

- 1. MALLEABLE IRON FORK TYPE LATCH WITH DROP BAR AND PROVISION FOR PADLOCK FURNISHED WITH GATE BY CONTRACTOR.
- 2. THE CONTRACTOR SHALL RESTORE EXISTING GRADE TO ORIGINAL OR BETTER CONDITION AFTER INSTALLING THE GATE. RESTORATION SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND NO SEPARATE PAYMENT SHALL BE MADE.
- 3. GATES SHALL HAVE A HYDRAULIC CLOSE SYSTEM SIMILAR TO LOCKEY USE HYDRAULIC GATE CLOSER TB950 OR APPROVED EQUAL.
- 4. CONTRACTOR SHALL PROVIDE PADLOCKS AND KEYS.
- 5. ALL APPARATUS SHALL BE HEAVY DUTY.

APPROVED: \_\_\_\_\_ DATE: 02/23/2024

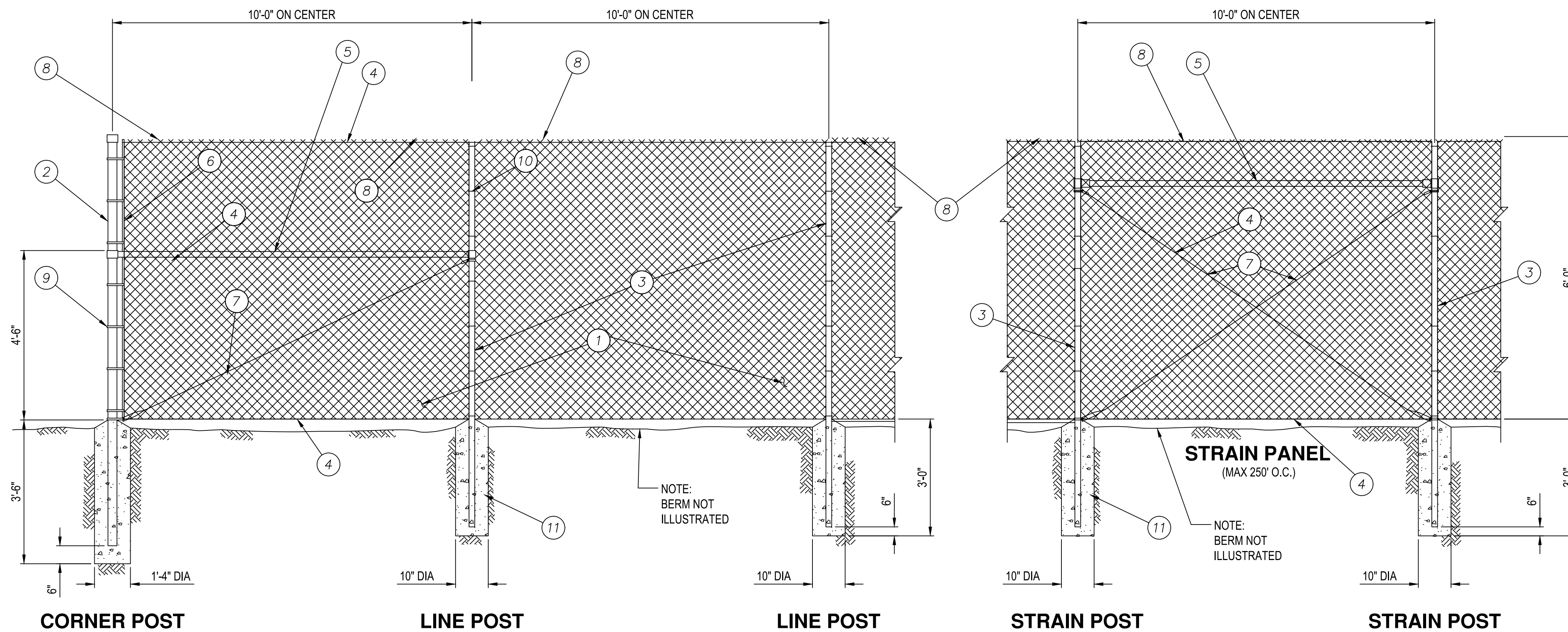
ANN MADER STILLMAN,  
DIRECTOR OF PUBLIC WORKS  
R. C. E. # 47882 / EXPIRES 12-31-2025

**GENERAL NOTES:**

- 1. ALL CONCRETE SHALL BE FC 4000 P.S.I. (28 DAYS), PER SPEC ITEM P-610.
- 2. FITTINGS NOT SPECIFICALLY DETAILED SHALL BE HEAVY DUTY DESIGN.
- 3. FENCE FABRIC SHALL BE GALVANIZED (GBW). POSTS, RAILS, AND BRACES SHALL BE ZINC COATED. SEE THE SPECIFICATIONS.
- 4. USE MID HORIZONTAL BRACE AT ALL CORNERS, ANGLE POINTS, STRAIN PANELS, AND EACH SIDE OF GATE LOCATIONS ONLY.

**KEY NOTES:**

- 1 CHAIN LINK FABRIC - 9 GA. X 2" MESH. (PVC COATED)
- 2 GALVANIZED CORNER POST - 2.875" O.D. SCHEDULE 40 OR SS-40 PIPE.
- 3 GALVANIZED LINE POSTS AND STRAIN POSTS - 1.90" SCHEDULE 40 OR SS-40 PIPE.
- 4 TENSION WIRE - 7 GA. COIL SPRING FASTENED TO FABRIC WITH 12 GA. HOG RINGS @ 18" O.C.
- 5 MID HORIZONTAL BRACE - 1.67" O.D. SCHEDULE 40 OR SS-40 PIPE.
- 6 STRETCHER BAR - 3/16" X 3/4".
- 7 3/8" DIA GALVANIZED TENSION ROD WITH TENSION BAR AT CORNER AND GATE POSTS.
- 8 TIE WIRE AT 24" O.C.
- 9 FABRIC BANDS AT 14" O.C.
- 10 FABRIC TIES OR CLIPS AT 15" O.C.
- 11 CONCRETE POST FOOTING TO BE ROUND AT THE TOP FOR DRAINAGE AND ALLOWED TO CURE FOR 7 DAYS BEFORE ANY STRESS IS PLACED UPON THE FENCE POSTS.



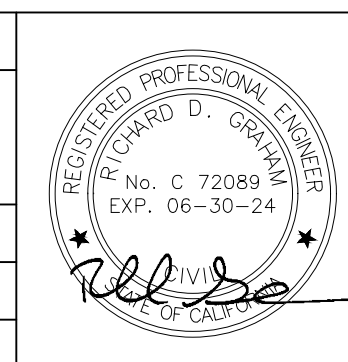
**A1 TYPICAL FENCE DETAILS**  
SCALE: NOT TO SCALE

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RICHARD D. GRAHAM  
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R.C.E. # C72089 EXPIRES 6-30-2024

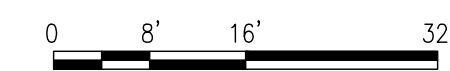
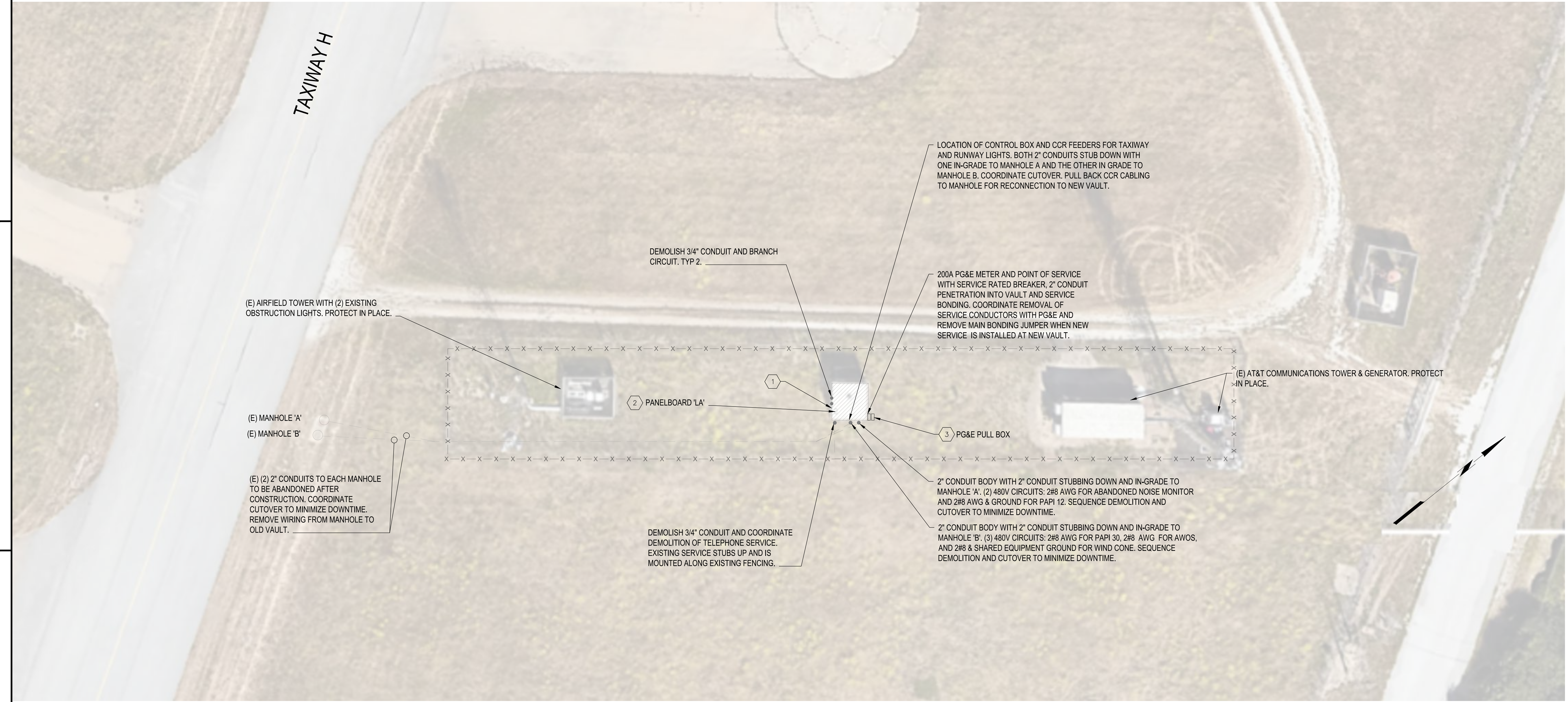


DESIGNED BY: EA	FENCING DETAILS ELECTRICAL VAULT AND EMERGENCY GENERATOR	SCALE: NOT TO SCALE
CHECKED BY: MDV		DATE: FEBRUARY 2024
DRAWN BY: EA		FILE NO. E5079
ANN MADER STILLMAN, DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO		555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063
FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES		CG501 SHEET 8 OF 32

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APPROVED: \_\_\_\_\_  
 DATE: 02/23/2024  
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 R. C. E. # 47882 / EXPIRES 12-31-2025



**GENERAL NOTES**

- A. SEQUENCE DEMOLITION TO MAINTAIN CIRCUITS TO LIMIT DISRUPTION TO AIRPORT. PRIOR TO DEMOLITION, COORDINATE WITH COUNTY AIRPORT REPRESENTATIVE FOR ANTICIPATED DISRUPTION TO AIRPORT SERVICES.
- B. EXISTING FENCE TO BE REMOVED.
- C. ALL REMOVED/DEMOLISHED EQUIPMENT AND DEVICES SHALL BE SPOILED OFF AIRPORT PROPERTY AT A PROPER DISPOSAL SITE SELECTED BY THE CONTRACTOR.

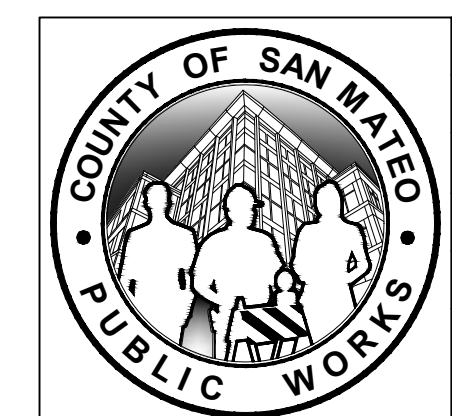
**KEYED NOTES**

- 1. DEMOLISH ELECTRICAL VAULT AND EVERYTHING ENCLOSED THEREIN INCLUDING BUT NOT LIMITED TO: LIGHTS, ANTENNA AND ELECTRICAL EQUIPMENT, CONDUIT AND CONDUCTORS, ELECTRICAL AND TELEPHONE SERVICES.
- 2. AFTER NEW SERVICE IS ENERGIZED IN NEW VAULT, CUT OVER LOADS TO REMAIN ONE BY ONE TO MINIMIZE DISRUPTION TO AIRPORT. WHEN ALL LOADS TO REMAIN ARE CUT OVER, REMOVE PANELBOARD WITH REST OF VAULT.
- 3. PG&E WILL REPLACE THIS PULLBOX, ITS UPSTREAM TRANSFORMER, AND PRIMARY CABLES. CONTACT THE PG&E SERVICE REPRESENTATIVE NOTED IN THE SPECIFICATIONS TO COORDINATE ACCESS AND PHASING.

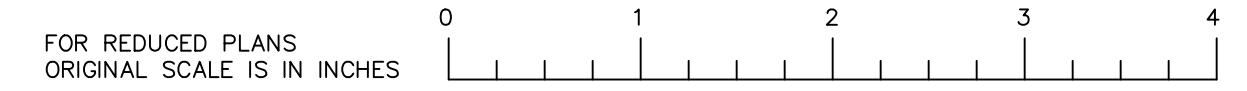
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APPROVED DATE: 2-23-2024
BARTON T. PETERS
C&S ENGINEERS, INC.
R.C.E. # 18924 EXPIRES 12-31-2025



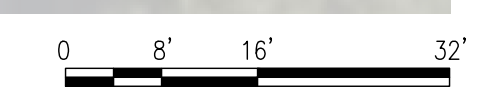
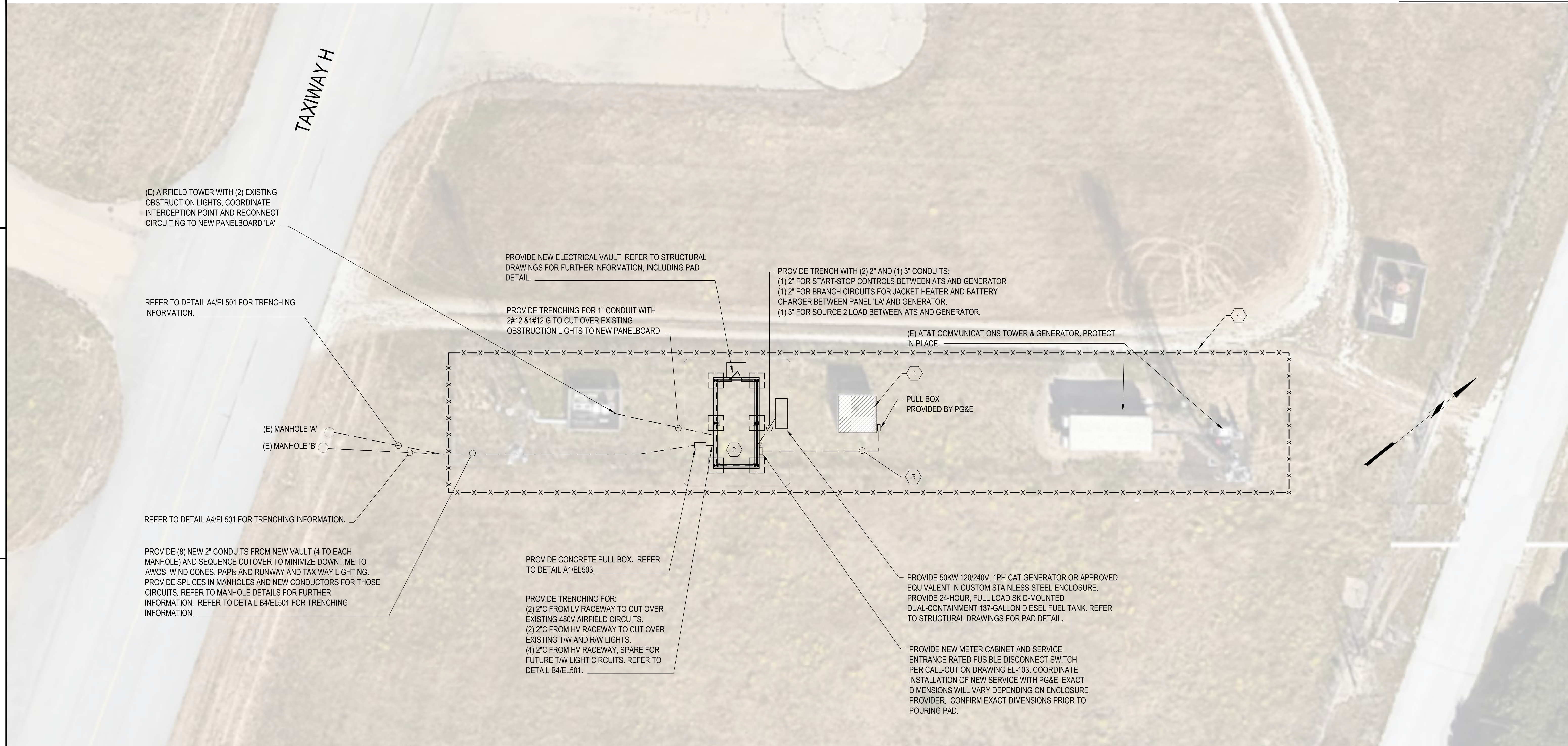
DESIGNED BY: FKN	ELECTRICAL PLAN — DEMOLITION ELECTRICAL VAULT AND EMERGENCY GENERATOR	SCALE: 1" = 16'
CHECKED BY: BP		DATE: FEBRUARY 2024
DRAWN BY: AA		FILE NO. E5079
ANN MADER STILLMAN, DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO		555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063
REVISION	DATE	EL101 SHEET 9 OF 32



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 DATE: 02/23/2024  
 ANN MADER STILLMAN,  
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**GENERAL NOTES**

- A. REFER TO CIVIL DRAWINGS FOR BOLLARD AND FENCING LOCATIONS.
- B. REFER TO DETAIL B1/EL502 FOR VAULT GROUNDING PLAN.
- C. MAINTAIN AT LEAST 5'-0" SEPARATION BETWEEN NEW ELECTRICAL VAULT AND GENERATOR PAD.

**KEYED NOTES**

- 1. LOCATION OF VAULT TO BE DEMOLISHED. COORDINATE CUTOVERS OF ALL BRANCH CIRCUITS TO MAINTAIN AIRFIELD OPERATIONAL DURING CONSTRUCTION.
- 2. PROVIDE PHOTOCELL AND ANTENNA ON ROOF WITH 3/4" CONDUITS DOWN INTO THE VAULT.
- 3. TRENCH AND PROVIDE (1) 4" CONDUIT FROM PG&E PULL BOX TO NEW METER CABINET. PG&E WILL PROVIDE CONDUCTORS AND FINAL CONNECTIONS FROM PULL BOX TO NEW METER. COORDINATE INSTALLATION WITH PG&E. PROVIDE TEMPORARY FEEDER FROM FEED-THRU LUGS IN NEW PANELBOARD TO EXISTING PANEL IN OLD VAULT. THIS TEMPORARY FEEDER WILL BE REMOVED WHEN LAST EXISTING CIRCUITS ARE CUT OVER AND EXISTING PANEL 'LA' IS REMOVED WITH THE ORIGINAL VAULT.
- 4. PROVIDE NEW FENCE. REFER TO CIVIL DRAWINGS.

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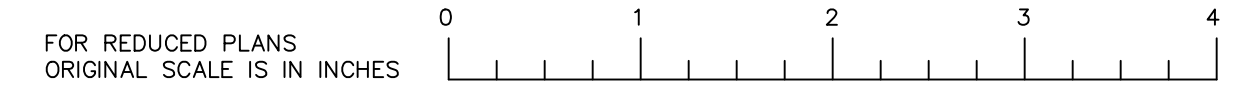


APPROVED DATE: 2-23-2024

BARTON T. PETERS  
 C&S ENGINEERS, INC.  
 R.C.E. # 18924 EXPIRES 12-31-2025



DESIGNED BY: FKN	ELECTRICAL PLAN - NEW ELECTRICAL VAULT AND EMERGENCY GENERATOR	SCALE: 1" = 16"
CHECKED BY: BP		DATE: FEBRUARY 2024
DRAWN BY: AA		FILE NO. E5079
ANN MADER STILLMAN, DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO		555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063
REVISION	DATE	EL102 SHEET 10 OF 32



FILENAME: F:\PROJECT\116 - SAN MATEO COUNTY\116.003.007 - HAF GENERATOR & VAULT (DESIGN)\DESIGN\CADD\SHEET FILES\16003007\_EL-102.DWG (EL102)



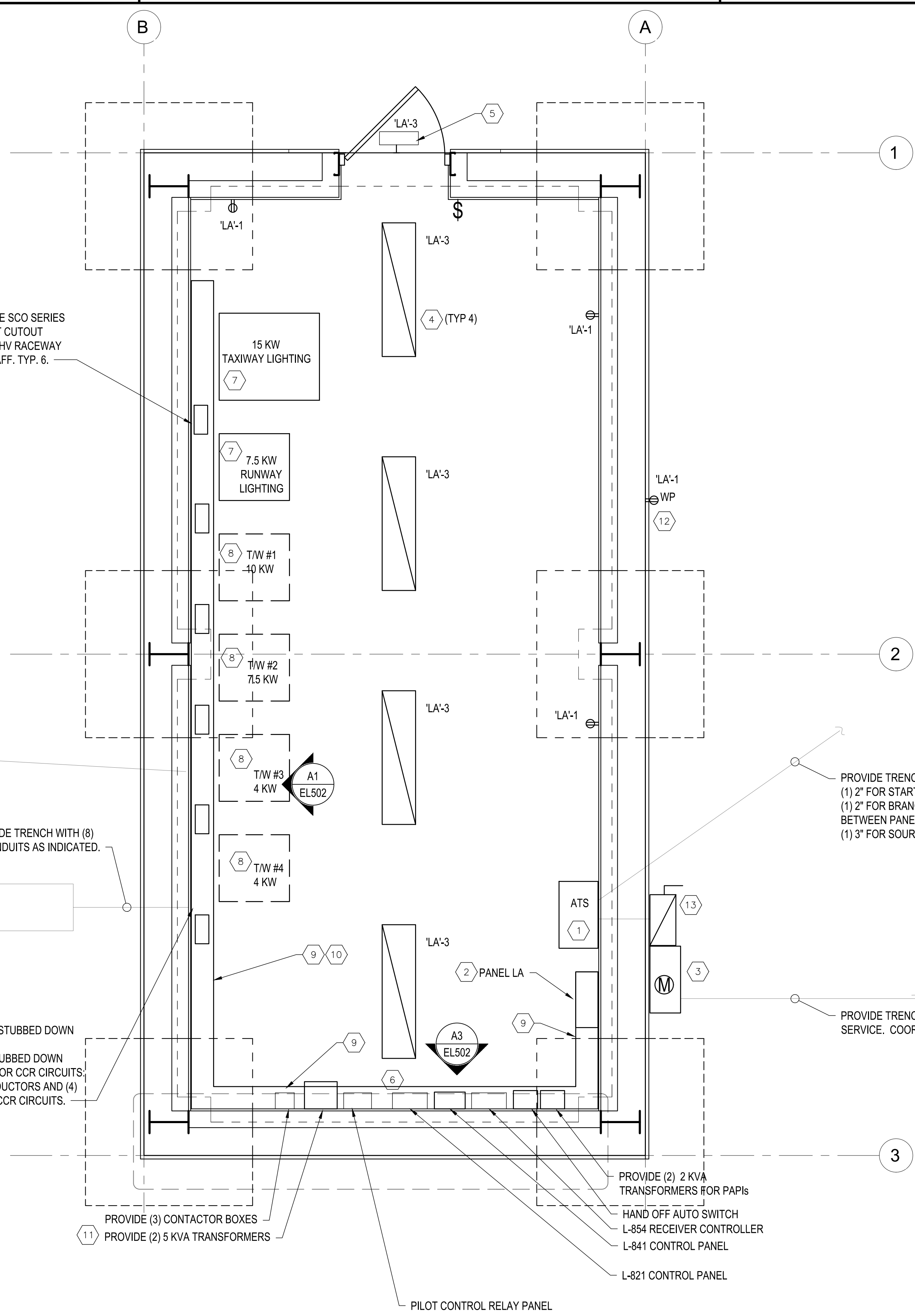
APPROVED: \_\_\_\_\_  
 DATE: 02/23/2024  
 ANN MADER STILLMAN,  
 DIRECTOR OF PUBLIC WORKS  
 R. C. E. # 47882 / EXPIRES 12-31-2025

**GENERAL NOTES**

- A. REFER TO STRUCTURAL DRAWINGS FOR VAULT INFORMATION.
- B. ALL CONDUITS THAT STUB DOWN AND SWEEP UNDER THE FOOTER NEED TO BE RGS WITH TAPE FOR PROTECTION AGAINST CORROSION OR PVC-COATED. AFTER PASSING UNDER THE FOOTER, CONDUITS MAY TRANSITION TO PVC SCHEDULE 40 TO THEIR RESPECTIVE MANHOLE.
- C. REFER TO DRAWING EL102 FOR CONTINUATION OF UNDERGROUND CONDUITS.
- D. PROVIDE GROUND BAR PER SPECIFICATIONS AND FIELD-COORDINATE ACCESSIBLE LOCATION.

**KEYED NOTES**

- 1. PROVIDE 2 POLE CAT CG SERIES ATS OR APPROVED EQUIVALENT. WALL-MOUNTED. PROVIDE SUPPORT AS REQUIRED.
- 2. PROVIDE NEW 400A MCB, 240/120V 1PH, 3W PANEL. REFER TO PANEL SCHEDULE AND SINGLE-LINE DIAGRAM FOR FURTHER INFORMATION.
- 3. PROVIDE SERVICE-RATED METER ENCLOSURE, B-LINE U121816 OR APPROVED EQUIVALENT IN NEMA-3R ENCLOSURE. INSTALL METER SOCKET AT A MINIMUM 48" AFG PER PG&E REQUIREMENTS. STUB FEEDER DOWN AND UP AT THE ATS. REFER TO THE SINGLE LINE DIAGRAM. PROVIDE SUPPORT AS REQUIRED. REFER TO DETAIL C2/EL501 FOR ELEVATION AND MOUNTING POINTS.
- 4. PROVIDE NEW LED STRIP LIGHT FIXTURE, LITHONIA CSS-48-4000LM-MVOLT-40K-80 CRI OR APPROVED EQUIVALENT.
- 5. PROVIDE NEW LED TYPE OUTDOOR WALL PACK WITH INTEGRAL PHOTOCELL ABOVE EXTERIOR DOOR AT 96" AFG. LITHONIA TWX1 LED-P2-40K-MVOLT-PE-DBLXD OR APPROVED EQUIVALENT.
- 6. PROVIDE (1) 3/4" CONDUIT FOR PHOTOCELL AND (1) 3/4" CONDUIT FOR ANTENNA-BOTH MOUNTED TO ROOF. PROVIDE WIRING AS REQUIRED.
- 7. PROVIDE CONSTANT CURRENT REGULATOR L-829 6.6A, 3-STEP.
- 8. ALLOCATE SPACE FOR FUTURE CONSTANT CURRENT REGULATOR FOR FUTURE LED TAXIWAY LIGHTING.
- 9. PROVIDE 8" LV 120/240V WIREWAY AT 36" AFF ALONG THIS WALL.
- 10. PROVIDE 6" HV WIREWAY FOR CCR CABLING AT 18" AFF ALONG THIS WALL. OFFSET THE HV WIREWAY 2" OFF OF THE CCR WALL IN ORDER TO PASS LIQUIDTIGHT FLEX BEHIND IT TO FEED THE CCRs.
- 11. (1) FOR AWOS, (1) FOR WIND SOCK.
- 12. CONVENIENCE RECEPTACLE FOR NEW STANDBY GENERATOR. FOR GENERATOR LOCATION REFER TO DRAWING EL-102.
- 13. PROVIDE HEAVY DUTY, 2-POLE, 240V, 400A, SERVICE-ENTRANCE RATED, FUSIBLE DISCONNECT SWITCH FUSED TO 400A WITH INTEGRAL SURGE PROTECTION IN NEMA-3R ENCLOSURE. PROVIDE SUPPORT AS REQUIRED. PROVIDE NIPPLE FROM METER ENCLOSURE TO DISCONNECT SWITCH. PROVIDE HORIZONTAL CONDUIT THROUGH WALL FROM DISCONNECT SWITCH TO ATS.



PROVIDE SCO SERIES CIRCUIT CUTOFF ABOVE HV RACEWAY AT 24" AFF. TYP. 6.

PROVIDE TRENCH WITH (1) 1" CONDUIT FOR OBSTRUCTION LIGHTS.

CONCRETE PULL BOX. REFER TO DETAIL A1/EL503.

PROVIDE TRENCH WITH (8) 2" CONDUITS AS INDICATED.

PROVIDE (2) 2" CONDUITS STUBBED DOWN FROM LV RACEWAY. PROVIDE (6) CONDUITS STUBBED DOWN FROM THE HV RACEWAY FOR CCR CIRCUITS. (2) CONTAIN 2# 5KV CONDUCTORS AND (4) ARE SPARE FOR FUTURE CCR CIRCUITS.

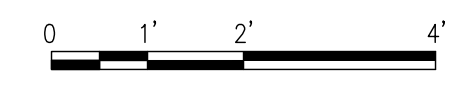
PROVIDE TRENCH WITH (2) 2" AND (1) 3" CONDUITS:  
 (1) 2" FOR START-STOP CONTROLS BETWEEN ATS AND GENERATOR  
 (1) 2" FOR BRANCH CIRCUITS FOR JACKET HEATER AND BATTERY CHARGER BETWEEN PANEL 'LA' AND GENERATOR.  
 (1) 3" FOR SOURCE 2 LOAD BETWEEN ATS AND GENERATOR.

PROVIDE TRENCH WITH 4" CONDUIT TO PG&E PULL BOX FOR NEW SERVICE. COORDINATE INSTALLATION WITH PG&E.

PROVIDE (2) 2 KVA TRANSFORMERS FOR PAPIs  
 HAND OFF AUTO SWITCH  
 L-854 RECEIVER CONTROLLER  
 L-841 CONTROL PANEL  
 L-821 CONTROL PANEL

PROVIDE (3) CONTACTOR BOXES  
 PROVIDE (2) 5 KVA TRANSFORMERS

PILOT CONTROL RELAY PANEL

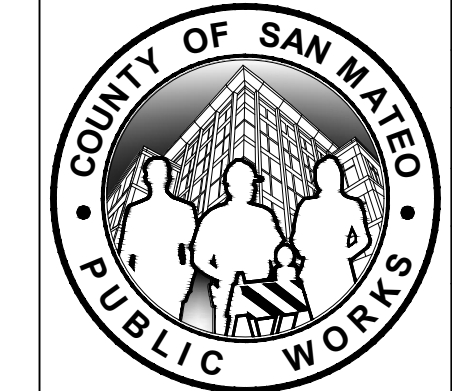


**A1 ENLARGED ELECTRICAL VAULT PLAN**  
 SCALE: 1/2" = 1'

C&S Engineers, Inc.  
 7801 Folsom Boulevard, Suite 210  
 Sacramento, California 95826  
 Phone: 916-364-1470  
 www.cscos.com

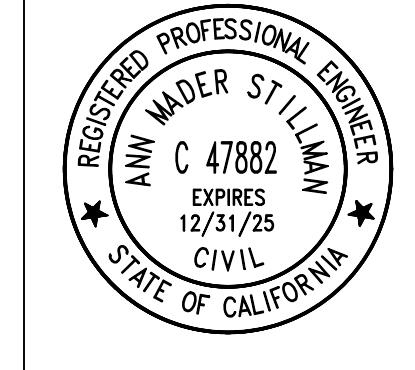


APPROVED DATE: 2-23-2024  
 BARTON T. PETERS  
 C&S ENGINEERS, INC.  
 R.C.E. # 18924 EXPIRES 12-31-2025

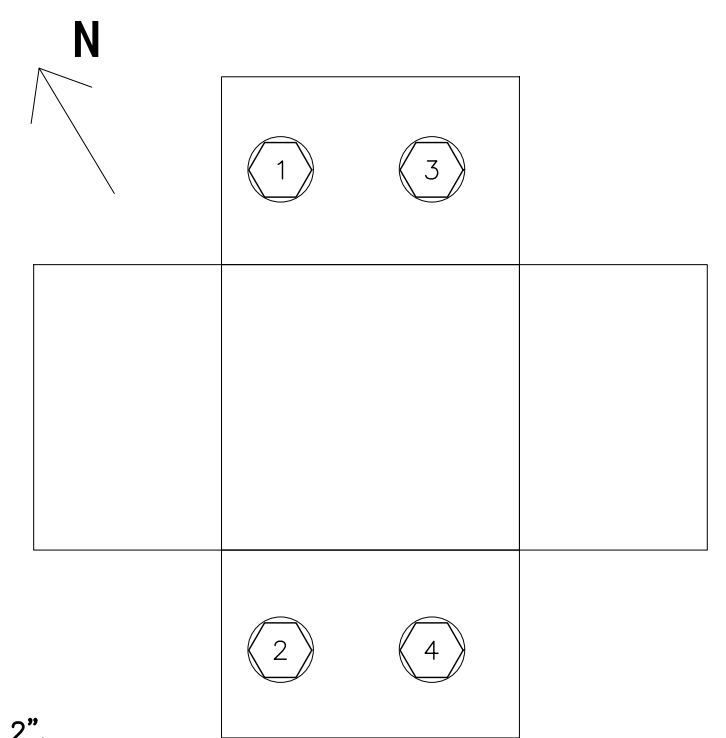


DESIGNED BY: FKN	ENLARGED ELECTRICAL - VAULT PLAN	SCALE: 1/2" = 1'
CHECKED BY: BP	ELECTRICAL VAULT AND EMERGENCY GENERATOR	DATE: FEBRUARY 2024
DRAWN BY: AN	ANN MADER STILLMAN, DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO	FILE NO. E5079
REVISION	DATE	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063
FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES		EL103 SHEET 11 OF 32

FILENAME: F:\PROJECT\116 - SAN MATEO COUNTY\116.003.007 - HAF GENERATOR & VAULT (DESIGN)\DESIGN\CADD\SHEET FILES\116003007\_EL-103.DWG (EL103)

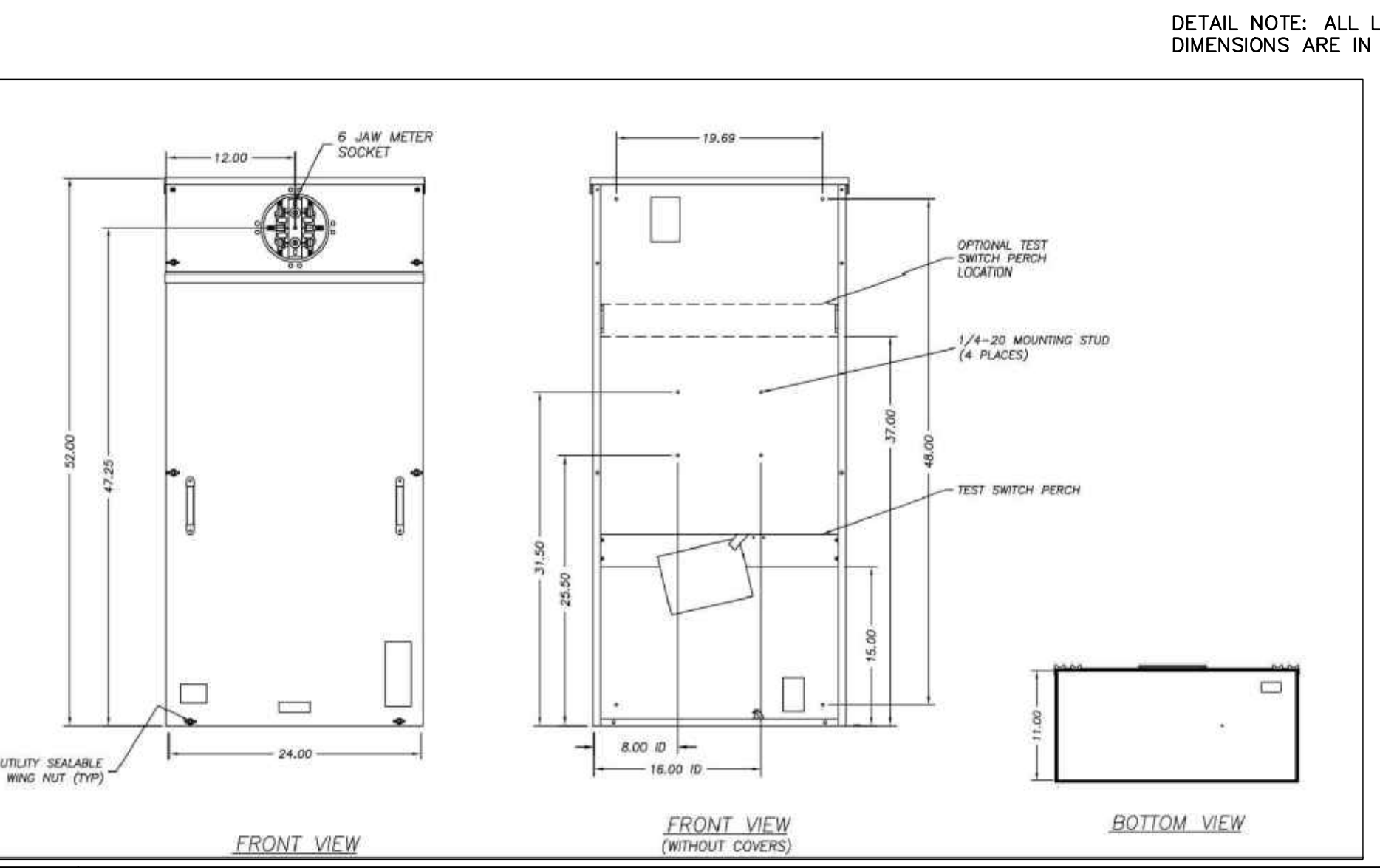


APPROVED: \_\_\_\_\_  
 DATE: 02/23/2024  
 ANN MADER STILLMAN,  
 DIRECTOR OF PUBLIC WORKS  
 R. C. E. # 47882 / EXPIRES 12-31-2025



**GENERAL NOTES:**  
 A. ALL CONDUITS ARE 2".

**KEYED NOTES:**  
 1. CONFIRM WHETHER CCR CONDUCTORS ARE FOR TAXIWAY OR RUNWAY LIGHTS. 2#8 AWG CUT CONDUCTORS IN MANHOLE AND DEMOLISH BACK TO OLD VAULT.  
 2. 2#8 AWG AIRFIELD SIDE CCR CONDUCTORS TO REMAIN.  
 3. CUT CONDUCTORS IN MANHOLE AND DEMOLISH 2#8 AWG FOR PAPI 12 AND 2#8 AWG FOR NOISE MONITOR WITH EQUIPMENT GROUND.  
 4. AIRFIELD SIDE CIRCUITING FOR PAPI 12 TO REMAIN. CIRCUITING FOR NOISE MONITOR TO BE TAPED AND ABANDONED.



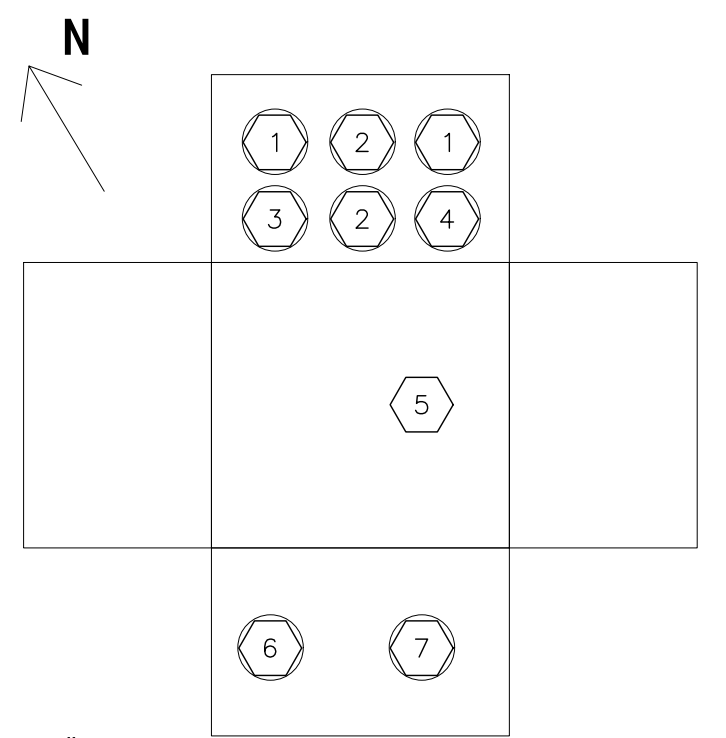
DETAIL NOTE: ALL LISTED DIMENSIONS ARE IN INCHES.

**NOTES:**  
 1. CONSTRUCTION:  
 -TYPE ER  
 -SEALABLE COVERS  
 -ANSI 61 GRAY ELECTROCOAT FINISH  
 2. SOCKET RATING:  
 -C.T METER SOCKET  
 -20 AMP, 600 VOLT  
 -SINGLE PHASE/THREE PHASE  
 3. LISTINGS:  
 -UL 414 LISTED  
 -COMPLIES WITH ANSI C12.7  
 -COMPLIES WITH EUSERC DRAWING 314  
 4. TEST SWITCH PERCH CAN BE REMOVED AND INSTALLED WITH A GREATER OFFSET DISTANCE FROM THE COVER.  
 5. RECOMMENDED B-LINE CT MOUNTING BASE:  
 -6019 A  
 -6019 HA  
 -6019 E  
 -6019 HE  
 -6019 HAL  
 -6019 HEL  
 -6019 HALS  
 -6019 HELS

**C1 MANHOLE A SKETCH - DEMO WORK**  
 SCALE: NOT TO SCALE

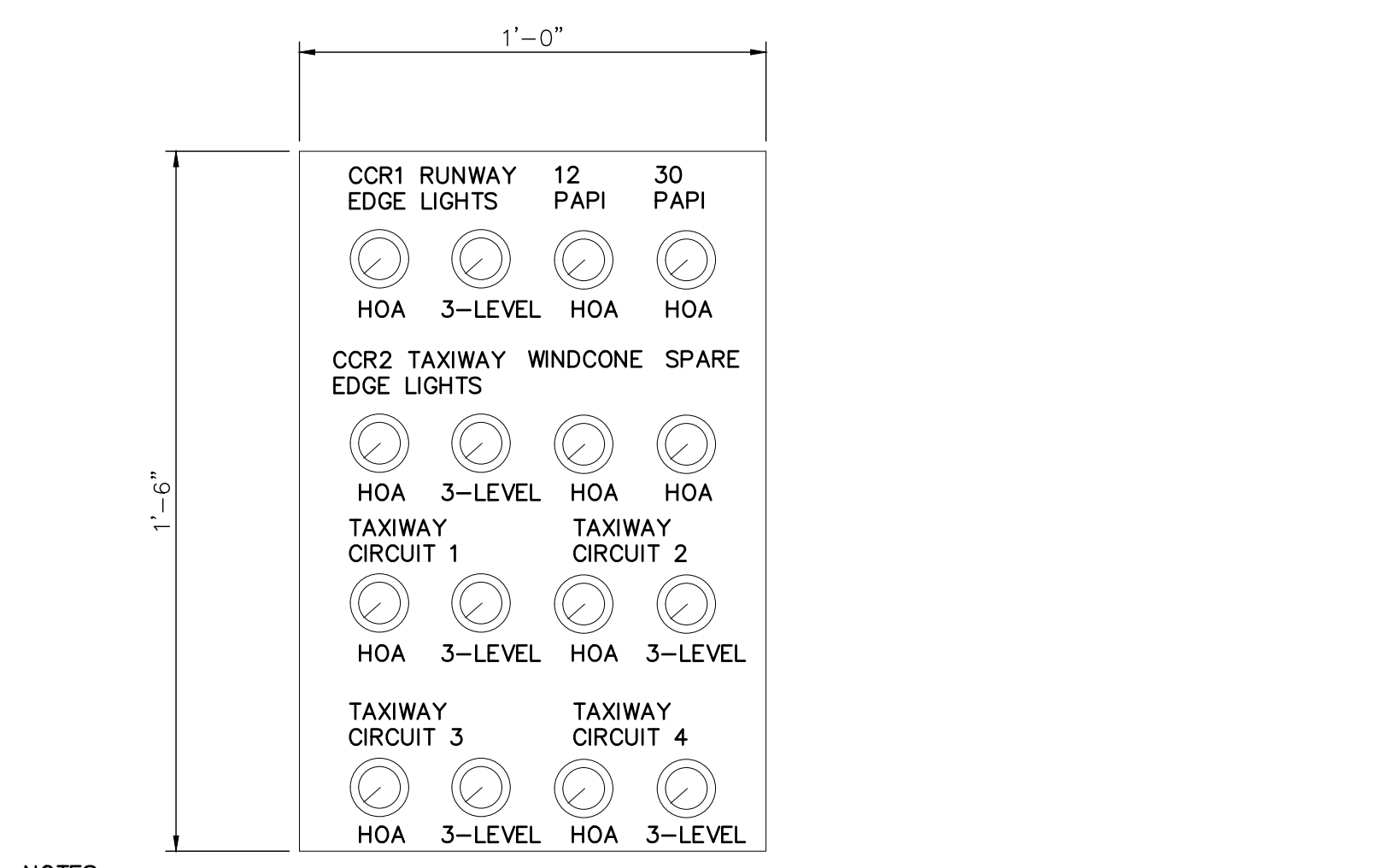
**C2 U121816 METER ENCLOSURE**  
 SCALE: NOT TO SCALE

**C4 NOT USED**  
 SCALE: NOT TO SCALE

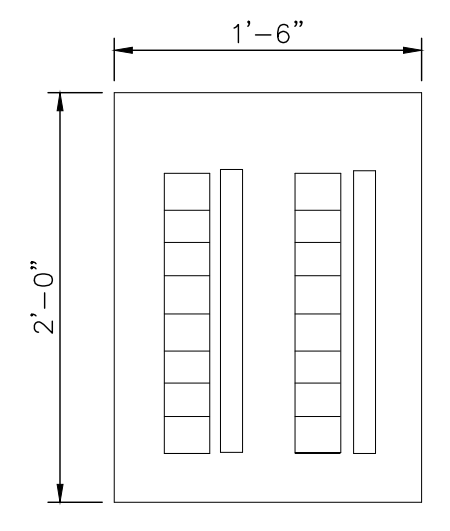


**GENERAL NOTES:**  
 A. 1. ALL CONDUITS ARE 2".  
 B. PROVIDE L-823 SPLICE KITS AS NEEDED.

**KEYED NOTES:**  
 1. CAP AND ABANDON.  
 2. PROVIDE NEW SPARE CONDUIT TO TEST BOX IN NEW VAULT WITH PULL STRING FOR FUTURE TAXIWAY CCR CIRCUIT.  
 3. PROVIDE NEW CONDUIT WITH 2#8 SKV AWG TO NEW CCR IN NEW VAULT.  
 4. PROVIDE NEW CONDUIT WITH 2#8 AWG & 1#8 AWG G FOR PAPI 12.  
 5. SPLICE EXISTING AND NEW PAPI 12 CONDUCTORS. SPLICE EXISTING AND NEW CCR CONDUCTORS.  
 6. EXISTING CCR CIRCUIT. 2#8 AWG.  
 7. EXISTING PAPI 12 AND ABANDONED NOISE MONITORING CIRCUIT.



**NOTES:**  
 1. LIGHTING CONTROL PANEL L-821, TYPE 1, CLASS S, STYLE 1, SHALL BE SURFACE MOUNTED ON WALL AS PER PLANS.  
 2. LEAVE INTENSITY SELECTOR ON LOW FOR BOTH CCR1 AND CCR2 RUNWAY EDGE LIGHTS.



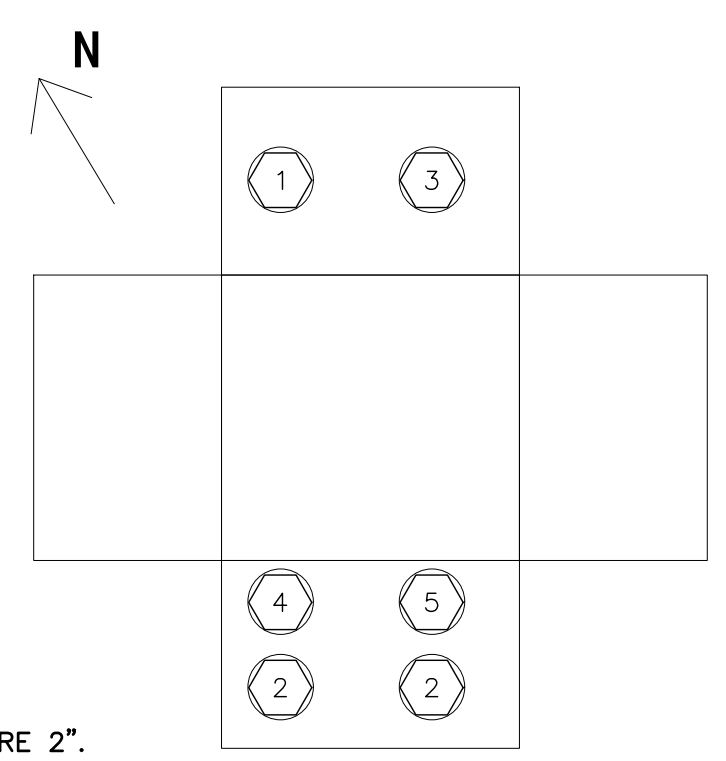
**NOTES:**  
 1. PROVIDE PLUG IN TYPE CONTROL RELAYS WIRED TO TERMINAL BLOCKS AS SHOWN ON THE CONTROL WIRING DETAIL ON EL-502. THESE RELAYS SHALL MEET REQUIREMENTS OF AC150/5345-13A.  
 2. PANEL ENCLOSURE SHALL BE NEMA 1 WITH LATCHING, HINGED COVER AND INNER PANEL AS MANUFACTURED BY HOFFMAN OR EQUAL.  
 3. PANEL SHALL BE FABRICATED WITH RELAY SOCKETS, TERMINAL STRIPS, WIREWAY, ETC. AS MANUFACTURED BY MANUFACTURER OF L-821 PANEL OR EQUAL.

**B1 MANHOLE A SKETCH - NEW WORK**  
 SCALE: NOT TO SCALE

**B2 L-821 DETAIL**  
 SCALE: NOT TO SCALE

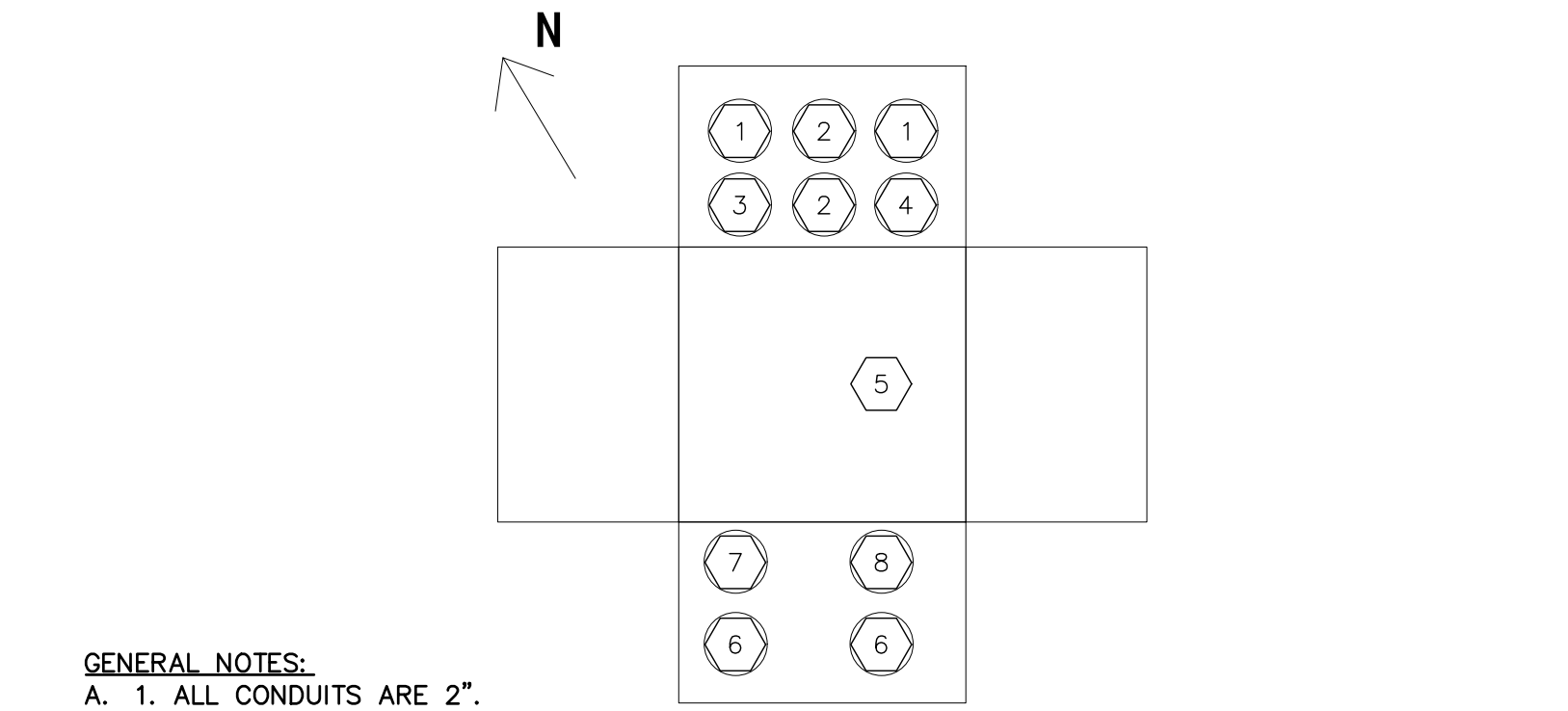
**B3 LIGHTING RELAY PANEL DETAIL**  
 SCALE: NOT TO SCALE

**B4 8 CONDUIT TRENCH DETAIL**  
 SCALE: NOT TO SCALE



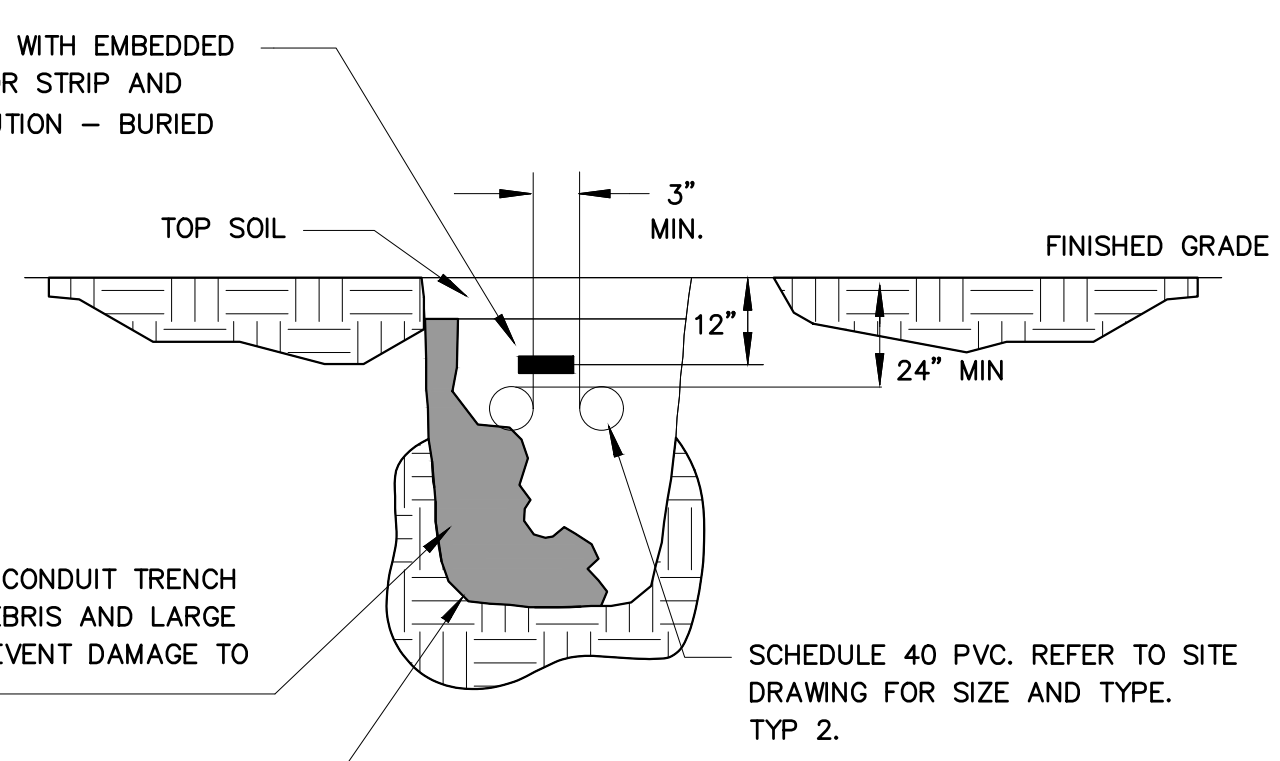
**GENERAL NOTES:**  
 A. 1. ALL CONDUITS ARE 2".

**KEYED NOTES:**  
 1. CONFIRM WHETHER CCR CONDUCTORS ARE FOR TAXIWAY OR RUNWAY LIGHTS. 2#8 AWG CUT CONDUCTORS IN MANHOLE AND DEMOLISH BACK TO OLD VAULT.  
 2. 1#8 AWG AIRFIELD SIDE CCR CONDUCTOR TO REMAIN.  
 3. CUT CONDUCTORS IN MANHOLE AND DEMOLISH 6#8 AWG FOR PAPI 30, AWOS, AND WIND CONE WITH EQUIPMENT GROUND.  
 4. AIRFIELD SIDE CIRCUITING FOR PAPI 30, AWOS, AND WIND CONE TO REMAIN.  
 5. EXISTING SPARE.



**GENERAL NOTES:**  
 A. 1. ALL CONDUITS ARE 2".  
 B. PROVIDE L-823 SPLICE KITS AS NEEDED.

**KEYED NOTES:**  
 1. CAP AND ABANDON.  
 2. PROVIDE NEW SPARE CONDUIT TO TEST BOX IN NEW VAULT WITH PULL STRING FOR FUTURE TAXIWAY CCR CIRCUIT.  
 3. PROVIDE NEW CONDUIT WITH 2#8 AWG NEW CCR IN NEW VAULT.  
 4. PROVIDE NEW CONDUIT WITH 6#8 AWG & 1#8 AWG G FOR PAPI 30, AWOS, AND WIND CONE.  
 5. SPLICE EXISTING AND NEW PAPI 30, AWOS, AND WIND CONE CONDUCTORS. SPLICE EXISTING AND NEW CCR CONDUCTORS.  
 6. EXISTING CCR CIRCUIT. 1#8 AWG.  
 7. EXISTING PAPI 30, AWOS AND WIND CONE CIRCUITS.  
 8. EXISTING SPARE.

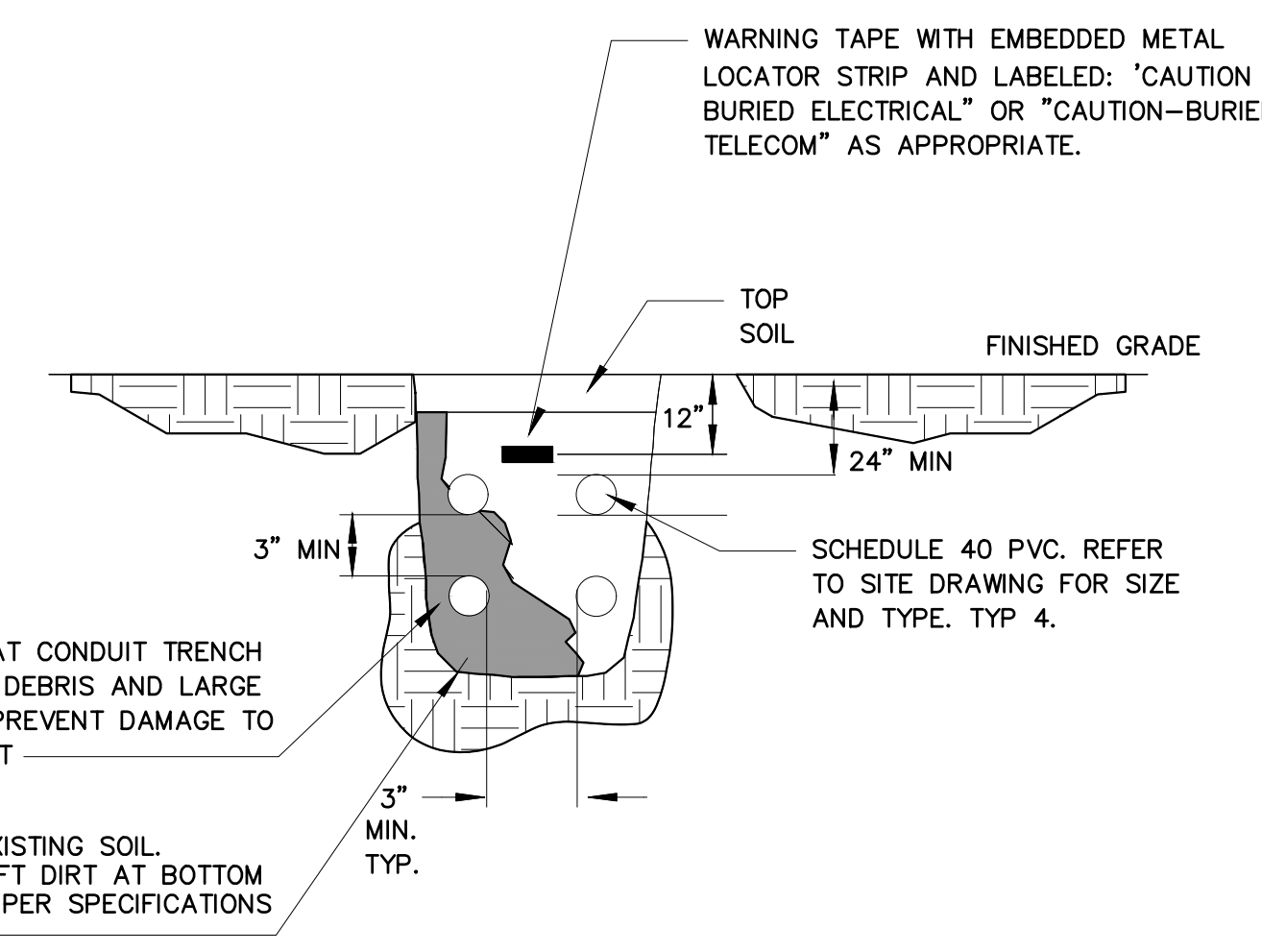


WARNING TAPE WITH EMBEDDED METAL LOCATOR STRIP AND LABELED: "CAUTION - BURIED ELECTRICAL".

ENSURE THAT CONDUIT TRENCH IS FREE OF DEBRIS AND LARGE ROCKS TO PREVENT DAMAGE TO THE CONDUIT

BACKFILL EXISTING SOIL. PROVIDE SOFT DIRT AT BOTTOM OF TRENCH PER SPECIFICATIONS L-110.

SCHEDULE 40 PVC. REFER TO SITE DRAWING FOR SIZE AND TYPE. TYP 2.



WARNING TAPE WITH EMBEDDED METAL LOCATOR STRIP AND LABELED: "CAUTION - BURIED ELECTRICAL" OR "CAUTION-BURIED TELECOM" AS APPROPRIATE.

ENSURE THAT CONDUIT TRENCH IS FREE OF DEBRIS AND LARGE ROCKS TO PREVENT DAMAGE TO THE CONDUIT

BACKFILL EXISTING SOIL. PROVIDE SOFT DIRT AT BOTTOM OF TRENCH PER SPECIFICATIONS L-110.

SCHEDULE 40 PVC. REFER TO SITE DRAWING FOR SIZE AND TYPE. TYP 4.

**A1 MANHOLE B SKETCH - DEMO WORK**  
 SCALE: NOT TO SCALE

**A2 MANHOLE B SKETCH - NEW WORK**  
 SCALE: NOT TO SCALE

**A3 2-CONDUIT TRENCH DETAIL**  
 SCALE: NOT TO SCALE

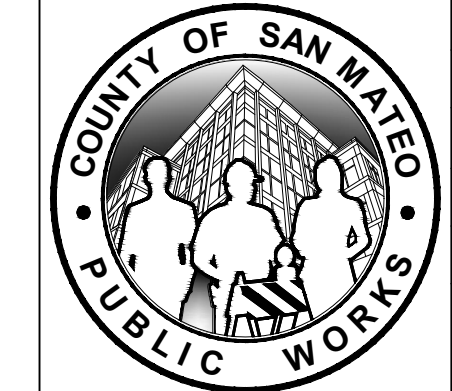
**A4 4-CONDUIT TRENCH DETAIL**  
 SCALE: NOT TO SCALE

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 Sacramento, California 95826  
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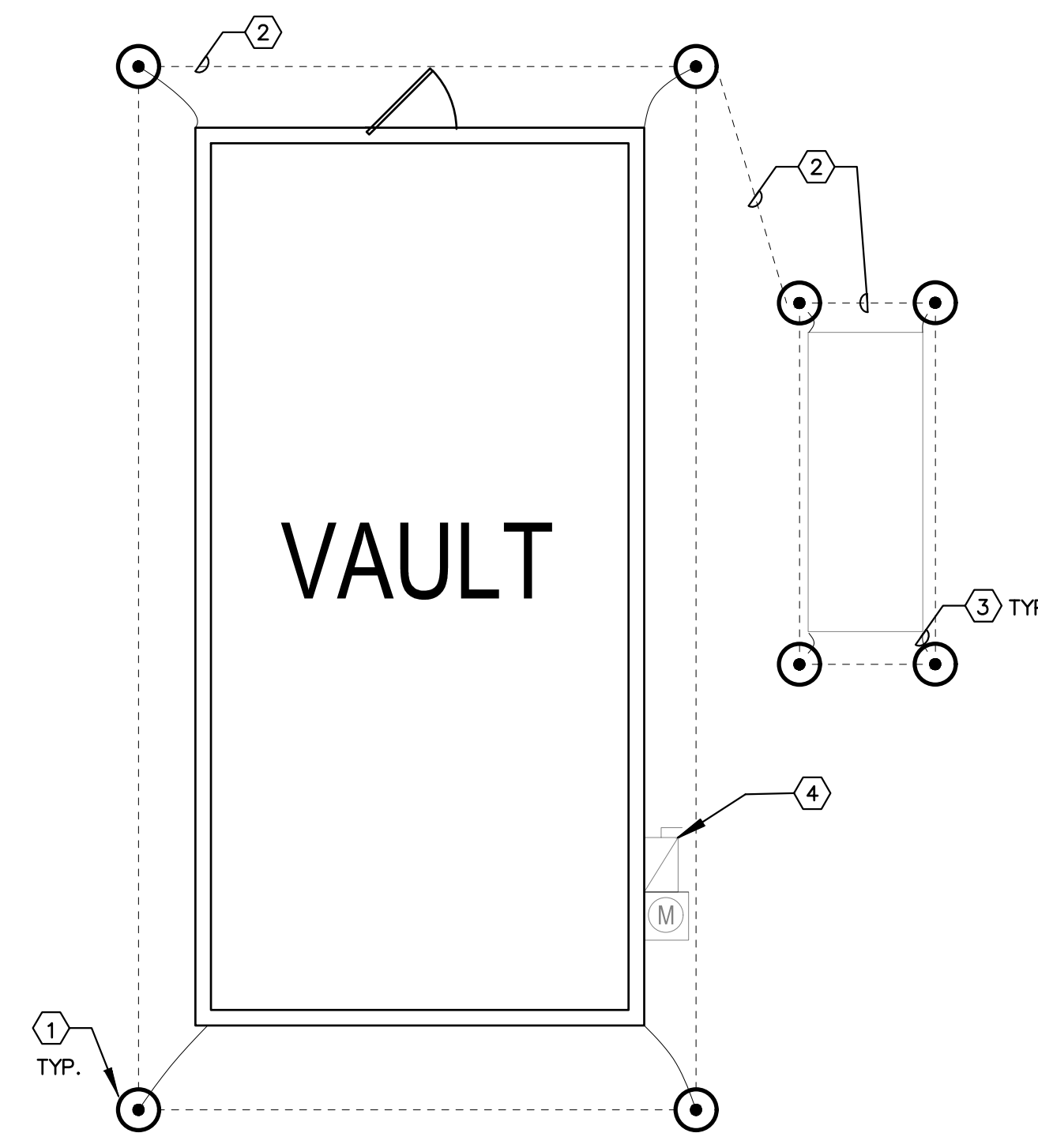
BARTON T. PETERS  
 C&S ENGINEERS, INC.  
 R.C.E. # 18924 EXPIRES 12-31-2025



DESIGNED BY: FKN	ELECTRICAL DETAILS		SCALE: NOT TO SCALE
CHECKED BY: BP	ELECTRICAL VAULT AND EMERGENCY GENERATOR		DATE: FEBRUARY 2024
DRAWN BY: AA	ANN MADER STILLMAN, DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO		FILE NO. E5079
REVISION	DATE	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063	EL501 SHEET 12 OF 32

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES

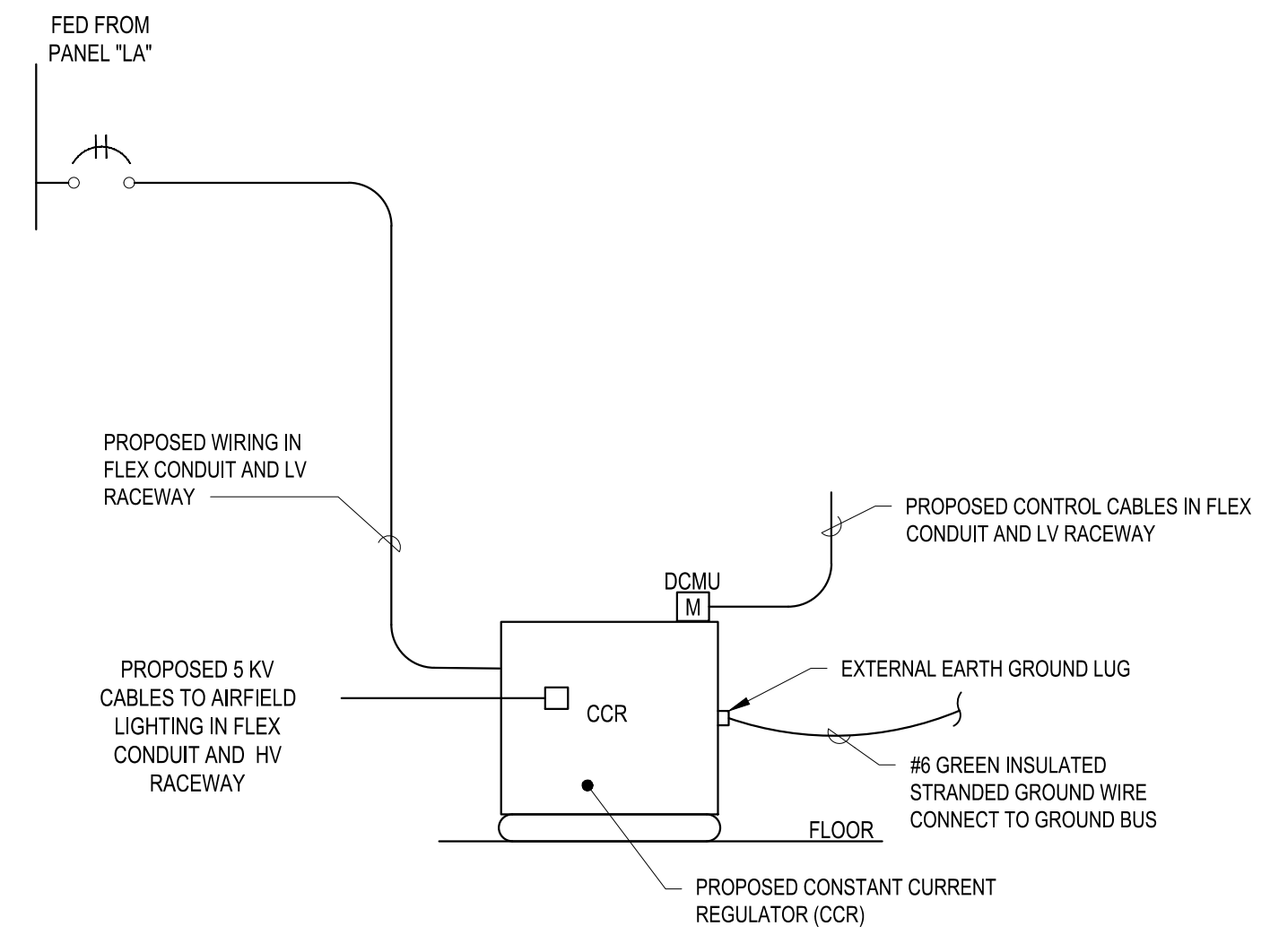
FILENAME: F:\PROJECT\116 - SAN MATEO COUNTY\116.003.007 - HAF GENERATOR & VAULT (DESIGN)\DESIGN\CADD\SHEET FILES\16003007\_EL-501.DWG (EL501)



**GENERAL NOTES:**  
 A. GROUND RING AND GROUND ROD LAYOUT IS DIAGRAMMATICALLY SHOWN. CONTRACTOR SHALL FIELD VERIFY AND COORDINATE EXACT LOCATION.  
 B. ALL CONDUITS SHALL TRANSITION TO RGS PRIOR TO PASSING UNDER THE FOOTER AND ENTERING THE VAULT AND SHALL BE TAPED FOR PROTECTION AGAINST CORROSION FROM THE SOIL. PROVIDE GROUND BUSHINGS AND BOND CONDUITS TO GROUNDING ELECTRODE SYSTEM.

**KEYED NOTES:**  
 1. GROUND ROD SHALL BE MINIMUM 10 FEET IN LENGTH AND 3/4 INCH DIAMETER. ALL CONNECTIONS TO GROUND RODS BELOW GROUND SHALL BE BY EXOTHERMIC WELD CONNECTION. INSTALL GROUND RODS A MINIMUM OF 10'-0" AND A MAXIMUM OF 30'-0" APART.  
 2. PROVIDE DIRECT BURIED #1/0 BARE COPPER CONDUCTOR AT MINIMUM 30 INCH BELOW GRADE 5 FEET FROM BUILDING FOUNDATION AND 2 FEET FROM THE EQUIPMENT.  
 3. PROVIDE BONDING WITH #1/0 BARE COPPER CONDUCTOR FROM GROUND LOOP TO REBAR IN PAD AND STEEL ENCLOSURE.  
 4. SERVICE RATED FUSIBLE DISCONNECT SWITCH - PROVIDE MAIN BONDING JUMPER AND TIE GROUND BAR INTO GROUNDING ELECTRODE SYSTEM PER NEC 250. REFER TO VAULT PLAN IN DETAIL A1/EL103.

**B1 VAULT GROUNDING PLAN**  
 SCALE: NOT TO SCALE



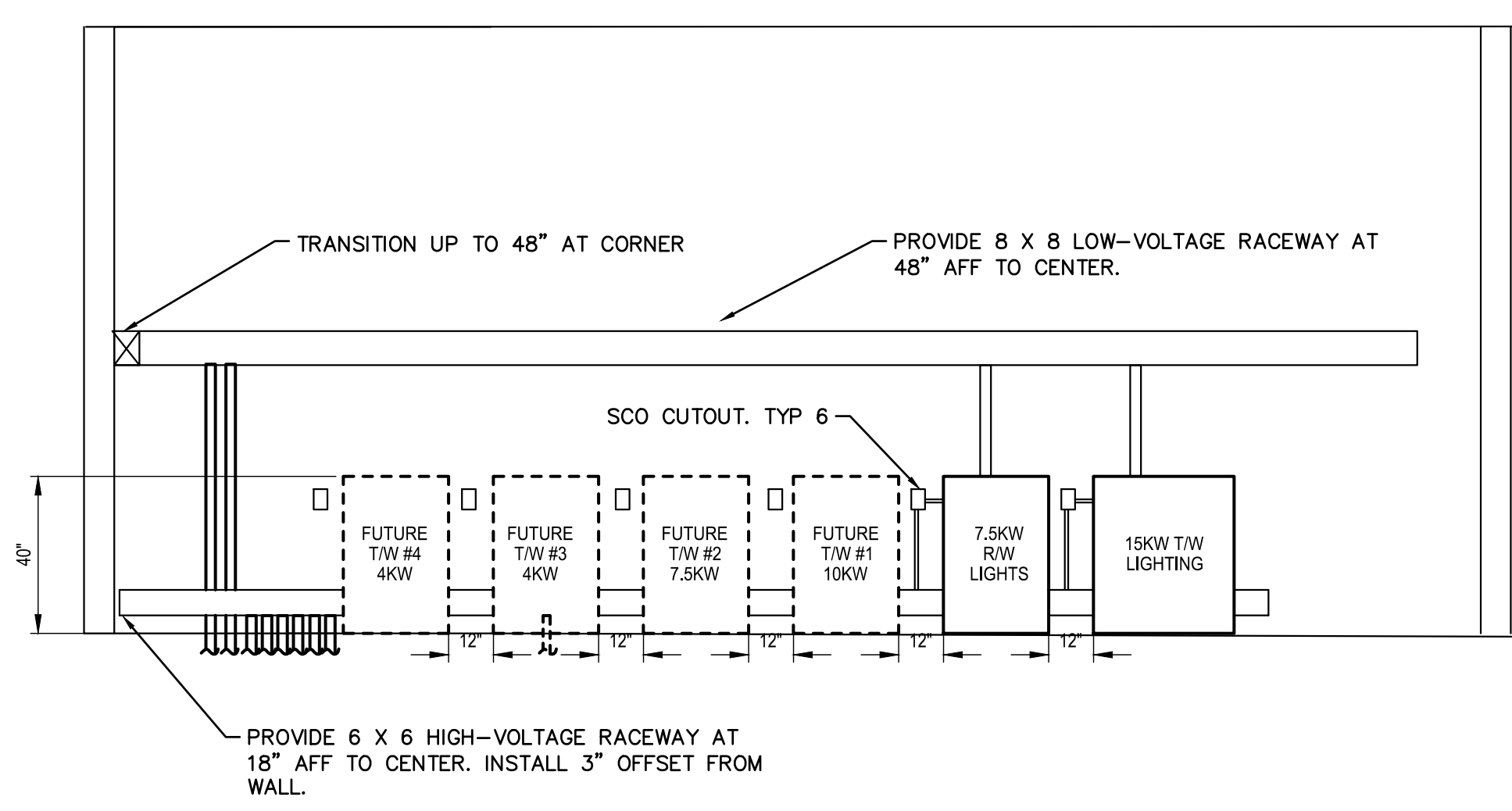
**C3 CONSTANT CURRENT REGULATOR DETAIL**  
 SCALE: NOT TO SCALE

**C4 NOT USED**  
 SCALE: NOT TO SCALE

APPROVED: \_\_\_\_\_  
 DATE: 02/23/2024  
  
 ANN MADER STILLMAN,  
 DIRECTOR OF PUBLIC WORKS  
 R. C. E. # 47882 / EXPIRES 12-31-2025

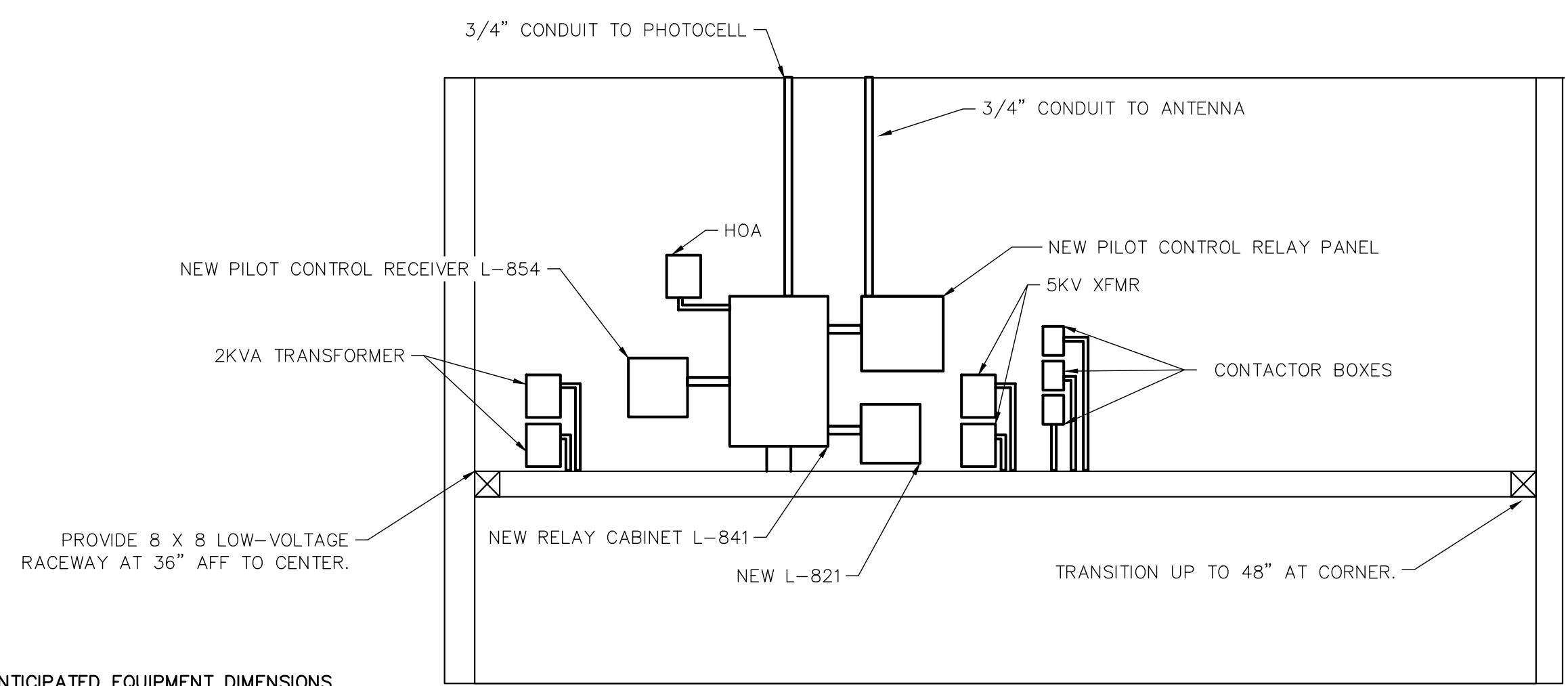
**B3 NOT USED**  
 SCALE: NOT TO SCALE

**B4 NOT USED**  
 SCALE: NOT TO SCALE



**GENERAL NOTES:**  
 A. PROVIDE LIQUID-TIGHT FLEX CONDUIT CONNECTIONS TO CCRs FROM HV AND LV RACEWAYS.

**A1 WEST WALL ELEVATION - SECTION A1 PROPOSED**  
 SCALE: NOT TO SCALE



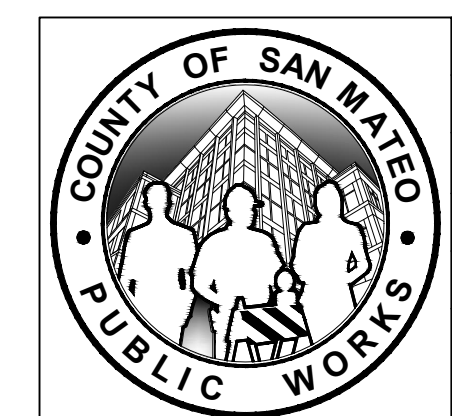
**GENERAL NOTES:**  
 A. ELEVATION IS BASED ON ANTICIPATED EQUIPMENT DIMENSIONS. ADJUST LAYOUT, MAINTAINING PROPER NEC WORKING CLEARANCES, IF ACTUAL CUSTOM CONTROL PANEL DIMENSIONS VARY.

**A3 SOUTH WALL ELEVATION - SECTION A3 PROPOSED**  
 SCALE: NOT TO SCALE

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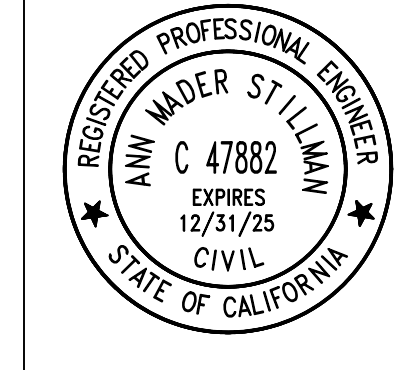


APPROVED DATE: 2-23-2024  
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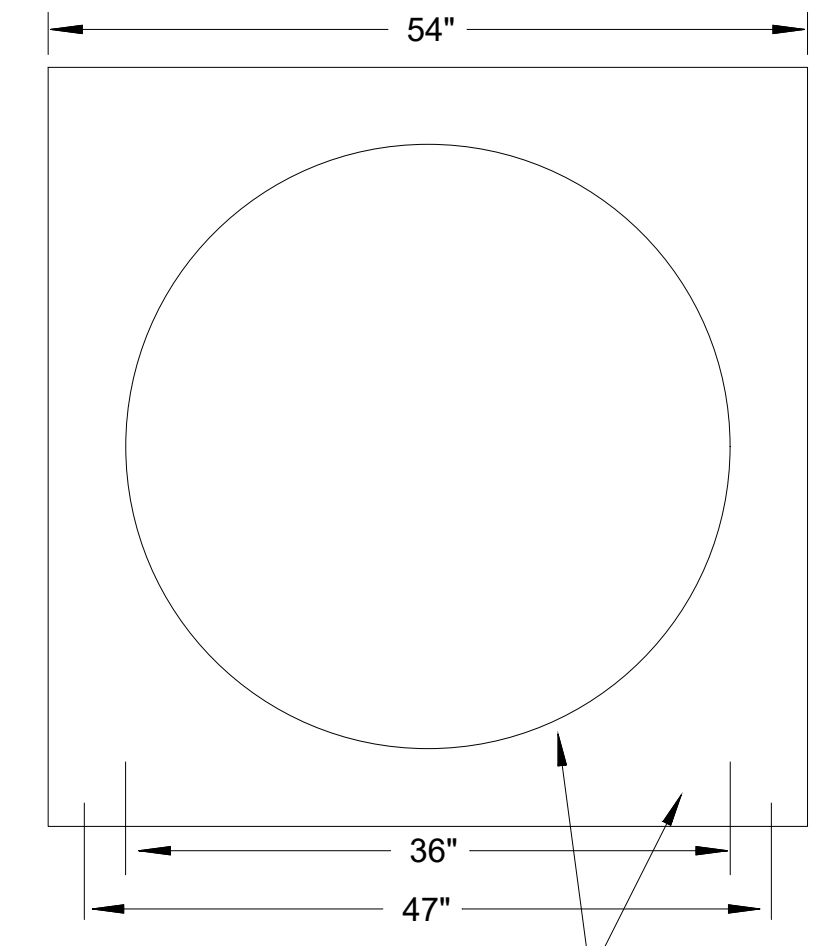
DESIGNED BY: FKN		ELECTRICAL DETAILS		SCALE: NOT TO SCALE
CHECKED BY: BP		ELECTRICAL VAULT AND EMERGENCY		DATE: FEBRUARY 2024
DRAWN BY: AA		GENERATOR		FILE NO. E5079
ANN MADER STILLMAN, DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO		555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063		
REVISION	DATE	FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES		EL502 SHEET 13 OF 32

FILENAME: F:\PROJECT\116 - SAN MATEO COUNTY\116.003.007 - HAF GENERATOR & VAULT (DESIGN)\DESIGN\CADD\SHEET FILES\16003007\_EL-502.DWG (EL502)



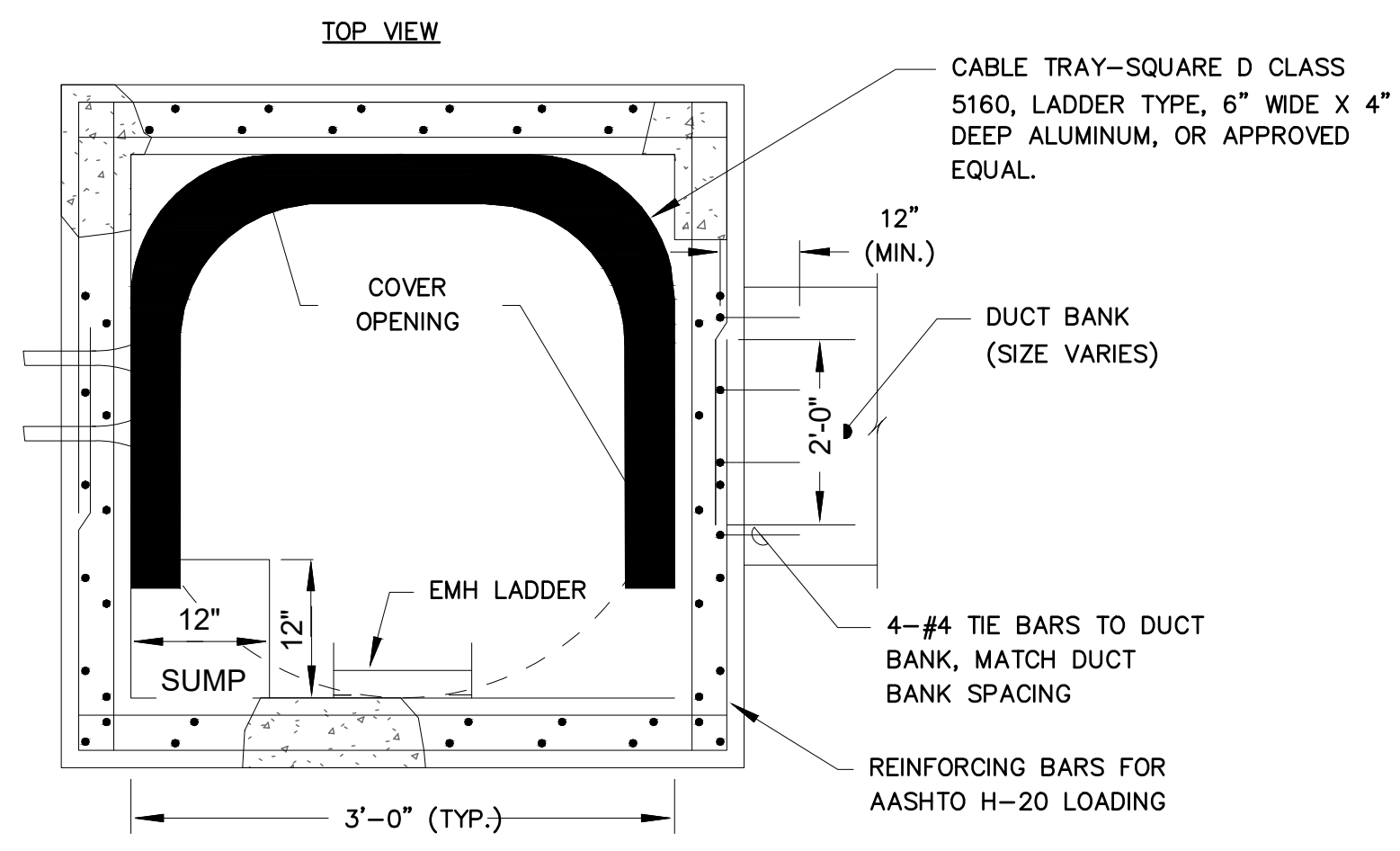
APPROVED: \_\_\_\_\_  
 DATE: 02/23/2024  
 ANN MADER STILLMAN,  
 DIRECTOR OF PUBLIC WORKS  
 R. C. E. # 47882 / EXPIRES 12-31-2025

SHALL FIELD VERIFY AND COORDINATE EXACT LOCATION.

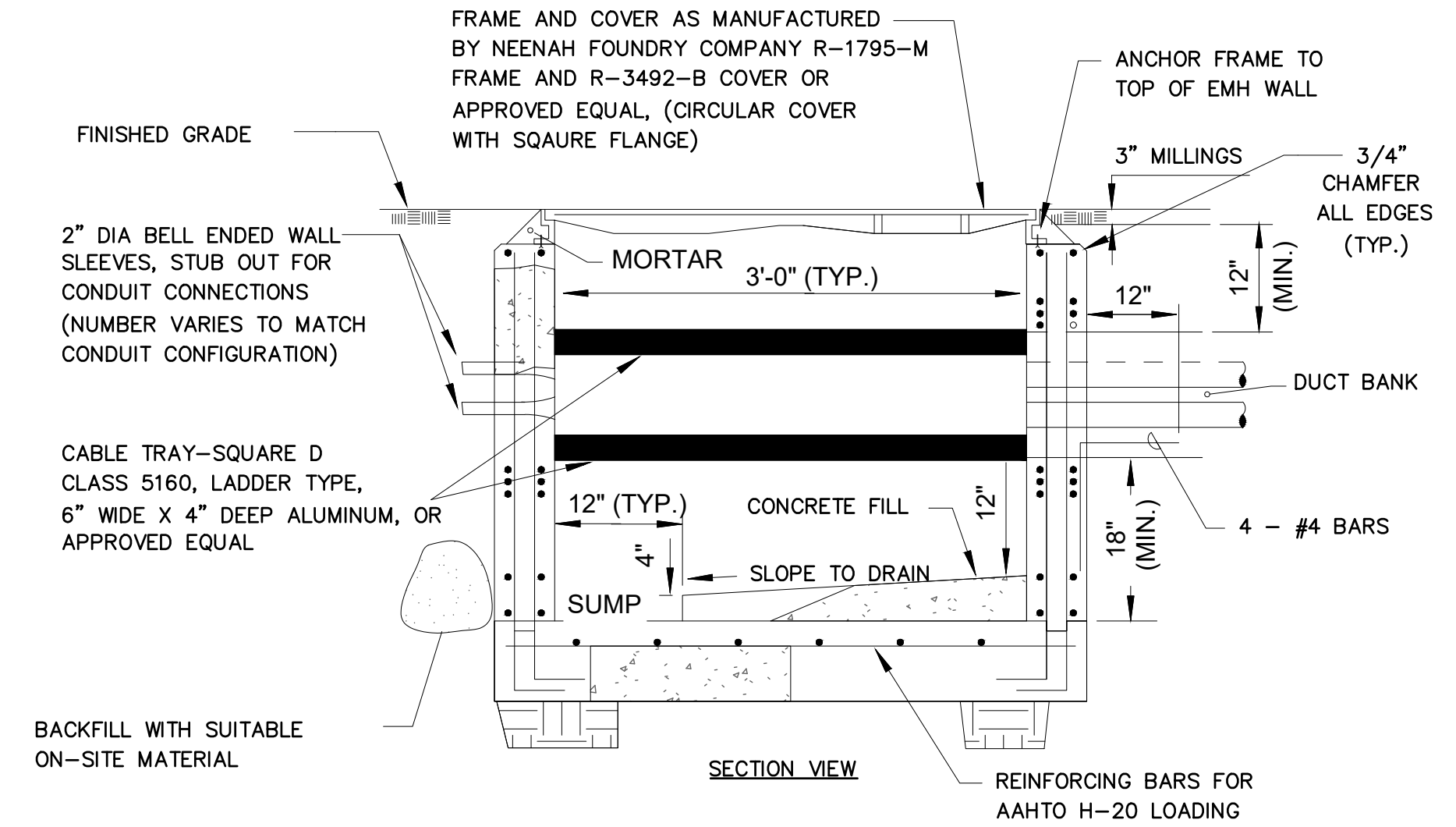


- ELECTRICAL PULLBOX NOTES:**
1. PRECAST STRUCTURE SHALL BE DESIGNED FOR AASHTO H-20 LOADING
  2. ALL CONCRETE SHALL CONFORM TO ACI 318-89.
  3. ALL REINFORCING STEEL SHALL CONFORM TO ASTM A-615, GRADE 60.
  4. ALL CONNECTION TO STRUCTURES SHALL BE SEALED WATERIGHT.
  5. STAMP "ELECTRIC" ALL PULLBOX COVERS.
  6. PROVIDE 2 THREADED INSERTS AND PULLING EYES ON WALL OPPOSITE EACH DUCT BANK/CONDUIT OPENING.
  7. BACKFILL AROUND ELECTRICAL PULLBOX WITH SUITABLE ON-SITE MATERIAL.
  8. PROVIDE 4 - #4 TIE BARS FOR TYING TO DUCT BANK.

FRAME AND COVER AS MANUFACTURED BY NEENAH FOUNDRY COMPANY R-1795-M FRAME AND R-3492-B COVER OR APPROVED EQUAL, (CIRCULAR COVER WITH SQUARE FLANGE)



PLAN VIEW



SECTION VIEW

**C3 NOT USED**  
SCALE: NOT TO SCALE

**C4 NOT USED**  
SCALE: NOT TO SCALE

**B3 NOT USED**  
SCALE: NOT TO SCALE

**B4 NOT USED**  
SCALE: NOT TO SCALE

**A1 ELECTRICAL PULL BOX DETAIL**  
SCALE: NOT TO SCALE

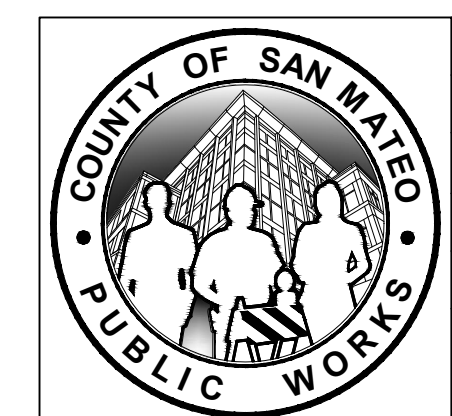
**A3 NOT USED**  
SCALE: NOT TO SCALE

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 7801 Folsom Boulevard, Suite 210  
 Sacramento, California 95826  
 Phone: 916-364-1470  
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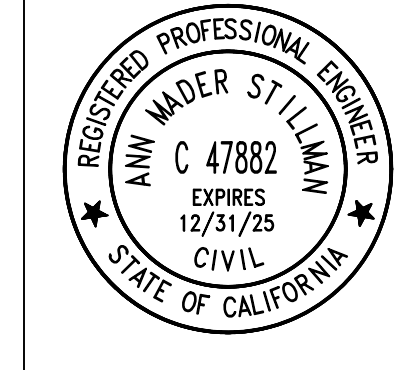
APPROVED DATE: 2-23-2024

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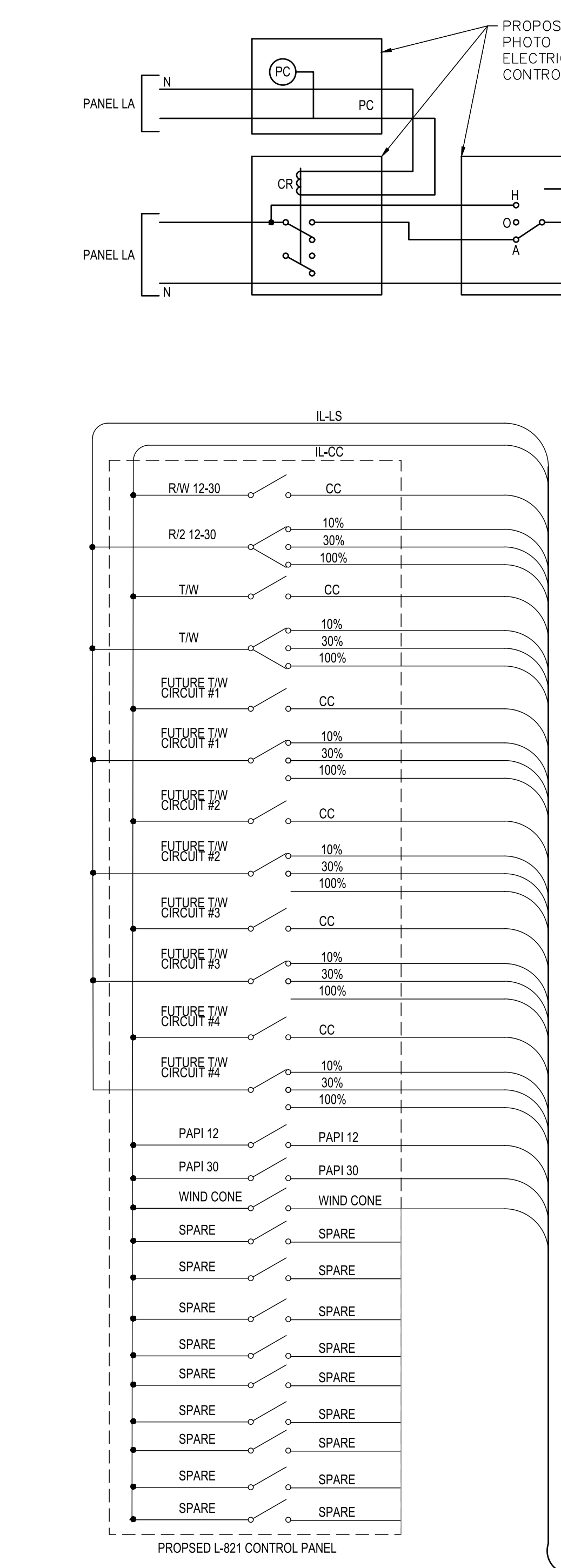
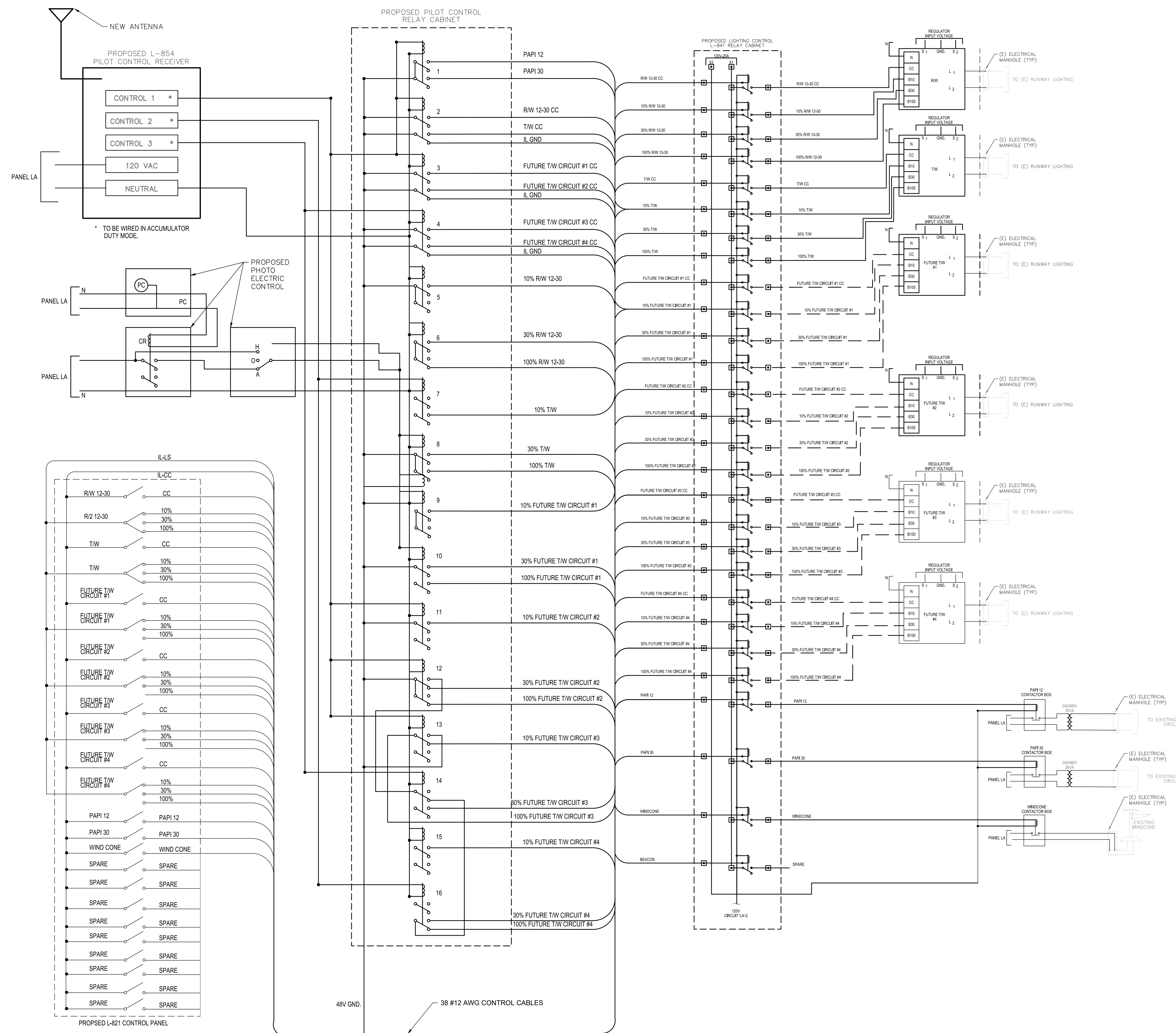


DESIGNED BY: FKN		ELECTRICAL DETAILS		SCALE: NOT TO SCALE
CHECKED BY: BP		ELECTRICAL VAULT AND EMERGENCY GENERATOR		DATE: FEBRUARY 2024
DRAWN BY: AA		ANN MADER STILLMAN, DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO		FILE NO. E5079
REVISION	DATE	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063		EL503 SHEET 14 OF 32
FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES				
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FILENAME: F:\PROJECT\116 - SAN MATEO COUNTY\116.003.007 - HAF GENERATOR & VAULT (DESIGN)\DESIGN\CADD\SHEET FILES\16003007\_EL-503.DWG (EL503)



APPROVED:   
 DATE: 02/23/2024   
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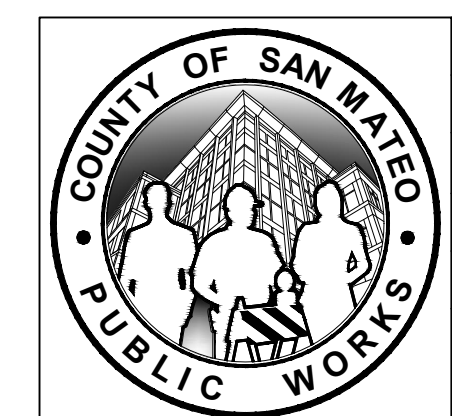
**GENERAL NOTES:**  
 A. PROVIDE ALL CONTROL WIRES AND RELAYS.  
 B. CONTRACTOR SHALL PROVIDE A SHOP DRAWING OF THE CONTROL WIRING FOR APPROVAL BY THE ENGINEER.  
 C. ALL WORK IS NEW EXCEPT FOR THE EXISTING MANHOLES AND WIRING DOWNSTREAM OF THOSE MANHOLES.

**SEQUENCE OF OPERATION**  
**PILOT CONTROL MODE:**  
 THE PILOT CONTROL/MANUAL SWITCH IS IN THE PILOT CONTROL POSITION (CLOSED). THREE MICROPHONE CLICKS TURNS THE RUNWAY ON TO 10%, AND TAXIWAY ON. FIVE MICROPHONE CLICKS TURNS THE RUNWAY ON TO 30%, AND TAXIWAY REMAINS ON. SEVEN MICROPHONE CLICKS TURNS THE RUNWAY ON 100%. TAXIWAY REMAINS ON.  
**MANUAL CONTROL MODE:**  
 THE PILOT CONTROL/MANUAL SWITCH IS IN THE MANUAL POSITION (OPEN). THEREFORE, THE LIGHTS CAN ONLY BE TURNED ON OR OFF FROM THE L-821 CONTROL PANEL. THE WINDCONE CAN ONLY BE ACTIVATED IN THE MANUAL MODE AND BY THE PHOTO CONTROL.

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 Phone: 916-364-1470  
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 BARTON T. PETERS  
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 R.C.E. # 18924 EXPIRES 12-31-2025



DESIGNED BY: <b>FKN</b>	<b>CONTROLS WIRING DETAIL</b>		SCALE: <b>NOT TO SCALE</b>
CHECKED BY: <b>BP</b>	<b>ELECTRICAL VAULT AND EMERGENCY GENERATOR</b>		DATE: <b>FEBRUARY 2024</b>
DRAWN BY: <b>AA</b>	ANN MADER STILLMAN, DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO		FILE NO. <b>E5079</b>
REVISION	DATE	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063	<b>EL504</b> SHEET 15 OF 32

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES

FILENAME: F:\PROJECT\116 - SAN MATEO COUNTY\116.003.007 - HAF GENERATOR & VAULT (DESIGN)\DESIGN\CADD\SHEET FILES\16003007\_EL-504.DWG (EL504)

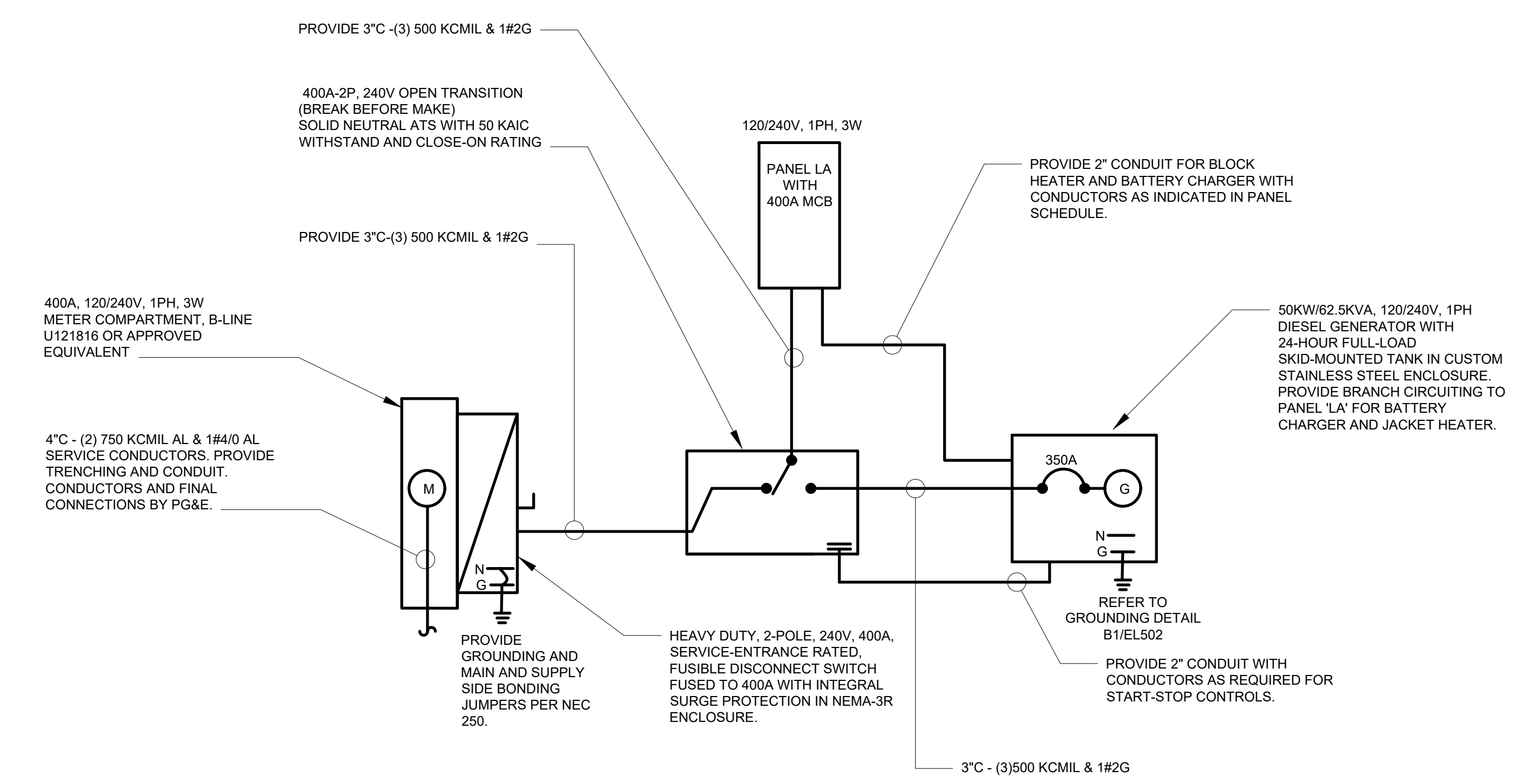




APPROVED: \_\_\_\_\_  
 DATE: 02/23/2024  
 ANN MADER STILLMAN,  
 DIRECTOR OF PUBLIC WORKS  
 R. C. E. # 47882 / EXPIRES 12-31-2025

TYPE: NEW, SURFACE-MOUNTED, NEMA-1										BUS: 400		AMP	
SERVICE: 240/120V, 1 PH, 3W										MAIN: 400		AMP	
POLES: 42										NEUTRAL: FULL			
										AIC: 42 KAIC			
**	ØA	ØB	DESCRIPTION	WIRE	CB	CKT	CB	WIRE	DESCRIPTION	ØA	ØB	**	
2	0.72		CONVENIENCE RECEPTACLES	2#12, 1#12G	20A-1P	1	2	20A-1P	2#12, 1#12G	0.6			
1		0.16	INDOOR/OUTDOOR LTG	2#12, 1#12G	20A-1P	3	4	20A-1P	2#12, 1#12G		0.138	1	
1	2.5		WIND CONE (5 KVA XFMR)	2#8, 1#8G	30A-2P	5	6	30A-2P					
		2.5	-	-	-	7	8	-					
1	2.5		AWOS (5 KVA XFMR)	2#8, 1#8G	30A-2P	9	10	20A-1P					
		2.5	-	-	-	11	12	30A-2P					
1	0.83		PAPI 12 (2 KVA XFMR)	2#8, 1#8G	15A-2P	13	14	-					
		0.83	-	-	-	15	16	50A-2P					
1	0.83		PAPI 30 (2 KVA XFMR)	2#8, 1#8G	15A-2P	17	18	-					
		0.83	-	-	-	19	20	30A-2P					
			SPARE		20A-1P	21	22	-					
			SPARE		20A-1P	23	24	30A-2P					
			SPARE		20A-1P	25	26	-					
			SPARE		20A-1P	27	28	50A-2P					
			SPARE		20A-1P	29	30	-					
			SPARE		20A-1P	31	32	80A-2P					
			SPARE		20A-1P	33	34	-					
			SPARE		20A-1P	35	36	30A-2P					
	3.75		7.5 KW CCR RUNWAY	2#6, 1#10G	50A-2P	35	36	30A-2P	2#10, 1#10G				
		3.75	-	-	-	37	38	-					
	7.5		15 KW CCR TAXIWAY	2#2, 1#8G	100A-2P	39	40	40A-2P	2#8, 1#8G				
		7.5	-	-	-	41	42	-					
**	DEMAND FACTORS AS NOTED					LOAD SUMMARY				ØA	ØB		
1	LTG & CONTINUOUS LOAD					NON-CONTINUOUS LOAD				2.5	2.5		
2	RECEPTACLE LOAD					LIGHTING & CONTINUOUS LOAD		X 1.25		20.3	19.9		
						RECEPTACLE LOAD				0.7	0.0		
						TOTAL KVA				41.0	22.4		
						TOTAL CONNECTED LOAD =		63.4475		KVA			
						CURRENT AT 240, 1PH =		264.4		A			

- GENERAL NOTES:
- PROVIDE 400A FEED-THRU LUGS TO BACK-FEED EXISTING PANELBOARD PRIOR TO FINAL DEMOLITION.
  - CONFIRM CIRCUITING REQUIREMENTS FOR BATTERY CHARGER AND JACKET HEATER PRIOR TO ORDERING PANELBOARD.
  - PROVIDE PANELBOARD WITH INTEGRAL TVSS.



**SINGLE LINE NOTES**

- COORDINATE NEW SERVICE INSTALLATION WITH PG&E.
- ALL CONDUCTORS ARE COPPER, UON.

**A1 ELECTRICAL PANEL SCHEDULE**  
 SCALE: NOT TO SCALE

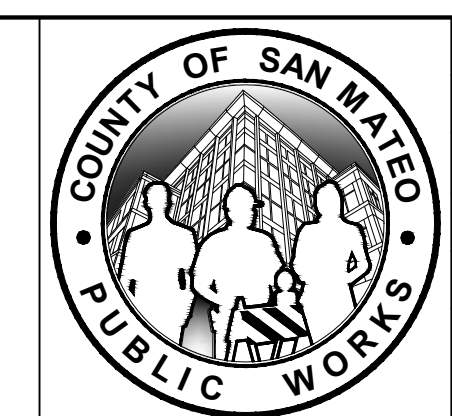
**A3 ELECTRICAL SINGLE LINE DIAGRAM**  
 SCALE: NOT TO SCALE

C&S Engineers, Inc.  
 7801 Folsom Boulevard, Suite 210  
 Sacramento, California 95826  
 Phone: 916-364-1470  
 www.cscos.com



APPROVED DATE: 2-23-2024

BARTON T. PETERS  
 C&S ENGINEERS, INC.  
 R.C.E. # 18924 EXPIRES 12-31-2025



DESIGNED BY: FKN	SINGLE LINE DIAGRAM AND PANEL SCHEDULE		SCALE: NOT TO SCALE
CHECKED BY: BP	ELECTRICAL VAULT AND EMERGENCY GENERATOR		DATE: FEBRUARY 2024
DRAWN BY: AA	ANN MADER STILLMAN, DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO		FILE NO. E5079
REVISION	DATE	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063	EL601 SHEET 17 OF 32

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES

FILENAME: F:\PROJECT\116 - SAN MATEO COUNTY\116.003.007 - HAF GENERATOR & VAULT (DESIGN)\DESIGN\CADD\SHEET FILES\116003007\_EL-601.DWG (EL601)

GENERAL

- THESE GENERAL NOTES SUPPLEMENT THE REQUIREMENTS OF THE PROJECT SPECIFICATIONS. IN CASE OF CONFLICT WITH THE SPECIFICATIONS, CONTACT THE OWNER'S REPRESENTATIVE PRIOR TO PROCEEDING WITH THE WORK.
- THE CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH THE SITE AND LOCAL CONDITIONS.
- CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH LOCAL BUILDING CODES, CODES OF APPLICABLE REGULATORY AGENCIES, AND WITH PROJECT SPECIFICATIONS AND DRAWINGS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF ALL TRADES AND FOR CHECKING ALL DIMENSIONS. REPORT DISCREPANCIES TO THE OWNER'S REPRESENTATIVE FOR CLARIFICATION PRIOR TO PROCEEDING WITH THE WORK.
- THE CONTRACTOR SHALL COMPLY WITH LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY BEARING UPON THE PERFORMANCE OF THE WORK.
- SUBJECT TO THE STRUCTURAL ENGINEER'S ACCEPTANCE, UTILIZE DETAILS FOR SIMILAR CONDITIONS WHEN DETAILS FOR CONSTRUCTION ARE NOT INDICATED FOR A SPECIFIC CONDITION.
- DETAILS ON SHEETS TITLED "TYPICAL DETAILS" APPLY TO SITUATIONS OCCURRING ON THE PROJECT THAT ARE THE SAME OR SIMILAR TO THOSE SPECIFICALLY REFERENCED. TYPICAL DETAILS ARE NOT NOTED AT EACH LOCATION AT WHICH THEY ARE APPLICABLE.
- WHERE NOT INDICATED ON THE STRUCTURAL DRAWINGS, SEE THE ARCHITECTURAL, CIVIL, MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION, AND ANY OTHER DRAWINGS FOR:
  - ELEVATIONS AND SLOPES.
  - SIZE, LOCATION AND EXTENT OF CURBS, FLOOR DEPRESSIONS, AND TOPPING SLABS.
  - SIZE AND LOCATION OF DRAINS, TRENCHES, SLAB OPENINGS, AND WALL OPENINGS.
  - SIZE, TYPE AND LOCATION OF NON-LOAD BEARING PARTITIONS, CONCRETE AND STEEL FINISHES.
  - SIZE AND LOCATION OF SLEEVES AND HANGERS.
  - ITEMS EMBEDDED IN THE STRUCTURE OR PENETRATING THE STRUCTURE.
  - CONNECTION OF ARCHITECTURAL, CIVIL, MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION OR ANY OTHER ITEMS TO THE STRUCTURE AND CONNECTION OF ITEMS NOT TYPICALLY DETAILED ON THE STRUCTURAL DRAWINGS.
  - WATERPROOFING AND DAMP PROOFING.
  - SITE AND SUBGRADE DRAINAGE SYSTEMS AND DETAILS.
- CONNECTIONS OF ALL TRADES TO THE STRUCTURE SHALL BE DESIGNED AND DETAILED BY THE CONTRACTOR. CONNECTIONS TO STRUCTURAL MEMBERS SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW. RESPONSIBILITY FOR THE PERFORMANCE OF THE SUPPLIED SYSTEM AND ASSOCIATED CONNECTIONS SHALL REMAIN THAT OF THE CONTRACTOR. ALL CONNECTIONS SHALL BE DESIGNED BY AN ENGINEER LICENSED IN THE STATE IN WHICH THE PROJECT IS LOCATED.
- OPENINGS AND PENETRATIONS THROUGH STRUCTURAL ELEMENTS AND ITEMS EMBEDDED IN STRUCTURAL ELEMENTS THAT ARE NOT INDICATED ON THE STRUCTURAL DRAWINGS SHALL BE REVIEWED BY STRUCTURAL ENGINEER PRIOR TO IMPLEMENTING WORK.
- DO NOT SCALE DRAWINGS TO DETERMINE DIMENSIONAL INFORMATION.
- DO NOT PLACE MATERIALS OR EQUIPMENT ON UNFINISHED FLOORS OR ROOFS IN EXCESS OF 20 PSF NOR ON FINISHED FLOORS OR ROOFS IN EXCESS OF THE INDICATED DESIGN LIVE LOADS. AVOID IMPACT LOADING.
- THE STRUCTURE WAS DESIGNED FOR THE IN-SERVICE CONDITIONS ONLY. THE METHODS, PROCEDURES AND SEQUENCES OF CONSTRUCTION ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO MAINTAIN AND ENSURE THE INTEGRITY OF THE STRUCTURE AT ALL STAGES OF CONSTRUCTION.
- DRAWINGS DO NOT INDICATE TEMPORARY REQUIREMENTS. NEED FOR TEMPORARY SHORING AND BRACING, TEMPORARY DEWATERING, TEMPORARY EARTH RETENTION, TEMPORARY WATER CUTOFF OR OTHER TEMPORARY MEASURES MAY BE INDICATED ON DRAWINGS AT SELECTED AREAS AS SUGGESTIONS FOR THE CONTRACTOR'S CONVENIENCE. THE DRAWINGS DO NOT IDENTIFY ALL AREAS OR CONDITIONS REQUIRING TEMPORARY MEASURES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM TEMPORARY MEASURES INDICATED ON THE DRAWINGS, IDENTIFY OTHER AREAS OR CONDITIONS REQUIRING TEMPORARY MEASURES, DETERMINE MOST EFFICIENT TEMPORARY SYSTEMS, AND DESIGN AND CONSTRUCT REQUIRED TEMPORARY SYSTEMS. ALL TEMPORARY SYSTEMS SHALL BE DESIGNED BY A LICENSED ENGINEER IN THE STATE IN WHICH THE PROJECT IS LOCATED.
- INFORMATION RELATED TO EXISTING CONDITIONS REPRESENTS KNOWLEDGE BASED UPON INFORMATION PROVIDED BY THE OWNER BUT WITHOUT GUARANTEE OF ACCURACY. REPORT EXISTING CONDITIONS THAT VARY FROM THOSE SHOWN ON THE CONTRACT DOCUMENTS TO THE OWNER'S REPRESENTATIVE. DO NOT DEVIATE FROM THE CONTRACT DOCUMENTS WITHOUT WRITTEN DIRECTION FROM THE OWNER'S REPRESENTATIVE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO EXISTING CONSTRUCTION WHILE PERFORMING WORK. THE CONTRACTOR SHALL PROPERLY REINSTATE EXISTING FINISHES, FIREPROOFING OR ITEMS THAT ARE REMOVED OR DAMAGED WHILE PERFORMING WORK.
- UNLESS NOTED OTHERWISE, ELEVATIONS ON THE DRAWINGS ARE RELATIVE TO THE ELEVATION OF THE FIRST FLOOR, WHICH IS PROJECT ELEVATION 0'-0". VERIFY ALL ELEVATIONS WITH RESPECT TO REFERENCE DATUM ELEVATIONS WITH CIVIL DRAWINGS.

DESIGN CRITERIA

- ALL CONSTRUCTION SHALL CONFORM TO THE MORE RESTRICTIVE OF THE FOLLOWING CODES, THE MOST RECENT EDITIONS OF THE STANDARDS ADOPTED BY THE AUTHORITY HAVING JURISDICTION AS REFERENCED THROUGHOUT THE STRUCTURAL GENERAL NOTES, AND THE FOLLOWING DESIGN CRITERIA:
  - BUILDING CODE: 2022 CALIFORNIA BUILDING CODE
  - BUILDING OCCUPANCY CATEGORY (IBC TABLE 1604.5): II
  - DESIGN DEAD LOADS: SELF-WEIGHT OF MATERIALS AND SYSTEMS + 5 PSF COLLATERAL LOAD
  - DESIGN LIVE LOADS (REDUCIBLE WHERE ALLOWED PER BUILDING CODE):
    - ROOFS: 20 PSF
  - DESIGN SNOW LOADS:
    - GROUND SNOW LOAD, PG: 0 PSF
  - DESIGN WIND LOADS:
    - LATERAL LOAD RESISTANCE SYSTEM (BUILDING CODE): BASIC WIND SPEED: 92 MILES PER HOUR
    - WIND IMPORTANCE FACTOR, IW: 1.0
    - WIND EXPOSURE: C
    - INTERNAL PRESSURE COEFFICIENT: +0.18, -0.18
    - COMPONENTS AND CLADDING: SEE TYPICAL DETAIL
  - DESIGN SEISMIC LOADS:
    - SITE CLASS: D
    - SEISMIC IMPORTANCE FACTOR, IE: 1.0
    - MAPPED SPECTRAL RESPONSE ACCELERATION, SS: 0.211g
    - MAPPED SPECTRAL RESPONSE ACCELERATION, S1: 0.875g
    - SPECTRAL RESPONSE COEFFICIENT, SDS: 1.768g SEE ASCE/SEI 7-16 SECTION 11.4.8
    - SPECTRAL RESPONSE COEFFICIENT, SD1: 0.992g
    - SEISMIC DESIGN CATEGORY: E
    - BASIC SEISMIC FORCE RESISTING SYSTEM: ORDINARY STEEL MOMENT FRAMES
    - ORDINARY STEEL CONCENTRICALLY BRACED FRAMES
    - SEISMIC RESPONSE COEFFICIENT, CS: 0.0
    - DESIGN BASE SHEAR: 0.0\*W
    - RESPONSE MODIFICATION FACTOR, R: 3
    - ANALYSIS PROCEDURE USED: EQUIVALENT LATERAL FORCE (ASCE 7 SECTION 12.8)
    - NON-STRUCTURAL COMPONENTS: PER ASCE/SEI 7-16 CHAPTER 13, REFER TO RESPECTIVE DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.

DEFERRED SUBMITTALS

- DEFERRED SUBMITTALS ARE DEFINED AS THOSE PORTIONS OF THE DESIGN THAT ARE NOT SUBMITTED AT THE TIME OF THE PERMIT APPLICATION AND THAT ARE TO BE SUBMITTED TO THE BUILDING OFFICIAL WITHIN A SPECIFIED PERIOD.
- DEFERRAL OF ANY SUBMITTAL ITEMS SHALL HAVE THE PRIOR APPROVAL OF THE BUILDING OFFICIAL. THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE SHALL LIST THE DEFERRED SUBMITTALS ON THE CONSTRUCTION DOCUMENTS FOR REVIEW BY THE BUILDING OFFICIAL.
- DOCUMENTS FOR DEFERRED SUBMITTAL ITEMS SHALL BE SUBMITTED TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE WHO SHALL REVIEW THEM AND FORWARD THEM TO THE BUILDING OFFICIAL WITH A NOTATION INDICATING THAT THE DEFERRED SUBMITTAL DOCUMENTS HAVE BEEN REVIEWED AND FOUND TO BE IN GENERAL CONFORMANCE TO THE DESIGN OF THE BUILDING.
- THE DEFERRED SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THE DEFERRED SUBMITTAL DOCUMENTS HAVE BEEN APPROVED BY THE BUILDING OFFICIAL.
- ALL DEFERRED SUBMITTAL ITEMS ARE TO BE DESIGNED BY THE VENDOR AND SHALL BE DESIGNED BY AN ENGINEER LICENSED IN THE STATE IN WHICH THE PROJECT IS LOCATED.
- DEFERRED SUBMITTAL ITEMS INCLUDE:
  - PRE-ENGINEERED METAL BUILDING HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS
  - VIBRATION AND SEISMIC CONTROLS FOR ELECTRICAL SYSTEMS

FOUNDATIONS - GENERAL

- FOUNDATION DESIGN IS BASED ON RECOMMENDATIONS INCLUDED IN GEOTECHNICAL ENGINEERING REPORT NO. 21684.000.001 BY ENGE0 INCORPORATED DATED MARCH 29, 2023.
- ALL SUBGRADES AND EXCAVATIONS SHALL BE INSPECTED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACING REINFORCING AND CONCRETE. NOTIFY THE GEOTECHNICAL ENGINEER WHEN THE SUBGRADES AND EXCAVATIONS ARE READY FOR INSPECTION.
- ALL SUBGRADES SHALL BE PREPARED AND ALL FILL SHALL BE COMPACTED, AND MOISTURE CONTROLLED AS SPECIFIED IN THE GEOTECHNICAL REPORT AND THE PROJECT SPECIFICATIONS.
- ALL SLAB ON GRADE AREAS SHALL BE INSPECTED BY A SOILS TESTING LABORATORY AND BE PROOF ROLLED. ALL SOFT SPOTS ENCOUNTERED SHALL BE REMOVED AND REPLACED TO FINISHED GRADE WITH APPROVED FILL MATERIAL AS SPECIFIED IN THE GEOTECHNICAL REPORT AND THE PROJECT SPECIFICATIONS.
- NO FOUNDATIONS SHALL BE PLACED ONTO OR AGAINST SUBGRADES CONTAINING FREE WATER, FROST OR ICE.
- PLACE BACKFILL BEHIND RETAINING WALLS AFTER CONCRETE OR MASONRY HAS ATTAINED FULL DESIGN STRENGTH. BRACE RETAINING WALLS UNTIL ATTACHED FLOORS AND SLABS ON GRADE ARE COMPLETE AND HAVE ATTAINED FULL DESIGN STRENGTH. NO HEAVY EQUIPMENT SHALL BE ALLOWED WITHIN A 1H:1V SLOPE AS MEASURED FROM THE BASE OF THE WALL.
- THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE IMMEDIATELY IN THE EVENT THAT THE SOILS CONDITIONS ENCOUNTERED VARY FROM THOSE SHOWN ON THE BORING LOGS OF THE GEOTECHNICAL ENGINEERING REPORT.
- THE CONTRACTOR SHALL DESIGN AND CONSTRUCT ALL TEMPORARY CASING, PROTECTION, SHORING, BRACING, DEWATERING, AND UNDERPINNING NECESSARY TO COMPLETE THE WORK. ALL TEMPORARY SYSTEMS SHALL BE DESIGNED BY AN ENGINEER LICENSED IN THE STATE IN WHICH THE PROJECT IS LOCATED.
- LOCATE AND PROTECT EXISTING UTILITIES TO REMAIN DURING AND AFTER CONSTRUCTION.
- REMOVE ABANDONED FOUNDATIONS AND UTILITIES WHICH INTERFERE WITH NEW CONSTRUCTION UNLESS OTHERWISE INDICATED.
- CONCRETE WORK BELOW GRADE SHALL BE DETAILED AS WATER-TIGHT CONSTRUCTION. CONSTRUCTION JOINTS BELOW GRADE SHALL BE WATER-TIGHT.

SHALLOW FOUNDATIONS

- ALL FOOTINGS SHALL BEAR ON UNDISTURBED SOIL HAVING A MINIMUM ALLOWABLE BEARING CAPACITY OF 1500 PSF AT A MINIMUM DEPTH OF 1'-6" BELOW FINISHED GRADE.
- FINISHED GRADE IS DEFINED AS TOP OF SLAB FOR INTERIOR FOOTINGS AND LOWEST ADJACENT GRADE WITHIN 5 FEET OF EXTERIOR FOOTINGS.

CONCRETE

- ALL CONCRETE SHALL BE IN ACCORDANCE WITH ACI 318 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" AND WITH ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS".
- CONCRETE DETAILING SHALL BE IN ACCORDANCE WITH THE ACI DETAILING MANUAL, SP-66 AND ACI 315 "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT". SUBMIT SHOP DRAWINGS FOR REVIEW.
- CONCRETE PLACEMENT AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS".
- PROVIDE NORMAL-WEIGHT CONCRETE WITH 28-DAY COMPRESSIVE STRENGTHS AS INDICATED:
  - FOOTINGS: 3000 PSI
  - SLABS ON GRADE: 4000 PSI
  - EQUIPMENT PADS: 4000 PSI
- ALL CONCRETE REQUIRING LOW PERMEABILITY SHALL HAVE A MAXIMUM WATER-CEMENTITIOUS MATERIAL RATIO OF 0.45 AND A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4000 PSI.
- ALL CONCRETE SUBJECT TO FREEZING AND THAWING SHALL HAVE A MAXIMUM WATER-CEMENTITIOUS MATERIAL RATIO OF 0.42 AND A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4500 PSI.
- ALL CONCRETE SLABS ON GRADE SHALL HAVE A MAXIMUM WATER-CEMENTITIOUS MATERIAL RATIO OF 0.45.
- CONCRETE SHALL HAVE, AT THE POINT OF DELIVERY, A SLUMP OF 4 INCHES AS DETERMINED BY ASTM C143/C143M. SLUMP TOLERANCES SHALL MEET THE REQUIREMENTS OF ACI 117. WHEN A PLASTICIZING ADMIXTURE OR HIGH-RANGE WATER-REDUCING ADMIXTURE CONFORMING TO ASTM C494/C494M IS PERMITTED TO INCREASE THE SLUMP OF CONCRETE, CONCRETE SHALL HAVE BEEN PROPORTIONED TO A SLUMP OF 2 TO 4 IN. BEFORE THE ADMIXTURE IS ADDED AND A MAXIMUM SLUMP OF 8 IN. AT THE POINT OF DELIVERY AFTER THE ADMIXTURE IS ADDED.
- ADDITION OF WATER TO A CONCRETE BATCH WITH INSUFFICIENT SLUMP WILL NOT BE PERMITTED, UNLESS THE SUPPLIER HAS SPECIFICALLY WITHHELD WATER FROM THE BATCH AT THE PLANT. IN SUCH CASE, THE MIX DESIGN AND TRUCK TICKET MUST CLEARLY STATE THE MAXIMUM AMOUNT OF WATER THAT CAN BE ADDED TO THE CONCRETE BATCH ON SITE. IN NO CASE SHALL THE MAXIMUM WATER-CEMENTITIOUS MATERIAL RATIO BE EXCEEDED.
- ALL EXTERIOR CONCRETE SUBJECT TO FREEZING AND THAWING SHALL BE AIR ENTRAINED SO AS TO RESULT IN A TOTAL AIR CONTENT OF 6% +/- 1.5% FOR CONCRETE USING 3/4-INCH AND 1-INCH MAXIMUM AGGREGATE SIZE.
- COLD WEATHER CONCRETING SHALL BE DONE IN ACCORDANCE WITH ACI 306 "COLD WEATHER CONCRETING". HOT WEATHER CONCRETING SHALL BE DONE IN ACCORDANCE WITH ACI 305 "HOT WEATHER CONCRETING".
- NO CHLORIDES AND/OR ADMIXTURES CONTAINING CHLORIDES SHALL BE USED IN ANY CONCRETE.
  - CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH: 3 INCHES CONCRETE EXPOSED TO EARTH OR WEATHER:
    - NO. 6 BAR AND LARGER: 2 INCHES
    - NO. 5 BAR AND SMALLER: 1-1/2 INCHES
  - CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND:
    - SLABS, WALLS, JOISTS:
      - NO. 14 AND NO. 18 BARS: 1-1/2 INCHES
      - NO. 11 BAR AND SMALLER: 3/4 INCHES
    - BEAMS, COLUMNS:
      - PRIMARY REINFORCEMENT, TIES, STIRRUPS, SPIRALS: 1-1/2 INCHES
- CHAMFER ALL EXPOSED CORNERS WITH 1/4-INCH, 45 DEGREE CHAMFERS.
- PROVIDE FINISHES AS INDICATED IN THE PROJECT SPECIFICATIONS AND IN THE ARCHITECTURAL DRAWINGS.
- JOINTS NOT INDICATED SHALL BE MADE AND LOCATED TO LEAST IMPAIR THE STRENGTH AND APPEARANCE OF THE STRUCTURE. HORIZONTAL JOINTS ARE NOT PERMITTED IN CONCRETE EXCEPT WHERE THEY NORMALLY OCCUR OR WHERE INDICATED. VERTICAL JOINTS SHALL OCCUR ONLY AT LOCATIONS ACCEPTED BY STRUCTURAL ENGINEER.
- ROUGHEN CONCRETE SURFACES OF CONSTRUCTION JOINTS TO 1/4" INCH AMPLITUDE AND CLEAN OF LAITANCE, FOREIGN MATTER, AND LOOSE PARTICLES. LOCATE CONSTRUCTION JOINTS AS SHOWN ON THE DRAWINGS. SUBMIT ALTERNATE JOINT LOCATIONS OR JOINTS NOT SHOWN TO THE OWNER'S REPRESENTATIVE FOR REVIEW AND APPROVAL PRIOR TO PROCEEDING WITH THE WORK.
- AT LOCATIONS WHERE CONCRETE IS CAST AGAINST EXISTING CONCRETE, ROUGHEN CONTACT SURFACES TO 1/4 INCH AMPLITUDE AND CLEAN OF LAITANCE, FOREIGN MATTER, AND LOOSE PARTICLES.
- AT LOCATIONS WHERE CONCRETE IS CAST AGAINST EXISTING MASONRY, THOROUGHLY ROUGHEN CONTACT SURFACES BY LIGHT SANDBLASTING OR OTHER SUITABLE MEANS AND MASONRY, FOREIGN MATTER, AND LOOSE PARTICLES.
- CONTROL JOINTS FOR SLABS ON GRADE SHALL BE AS NOTED IN PLAN, OR, IF NOT NOTED, IN A SQUARE PATTERN AND BE NOT MORE THAN 15 FEET ON CENTER, UNLESS OTHERWISE NOTED. IF CONTROL JOINTS ARE CUT, THEY SHALL BE CUT WITHIN 12 HOURS AFTER THE CONCRETE IS PLACED.
- PITCH CONCRETE SLABS AS REQUIRED TO FLOOR DRAINS. SLAB ON GRADE MINIMUM THICKNESS SHALL BE MAINTAINED AT SLOPED SLABS.
- THE CONCRETE CONTRACTOR SHALL REVIEW ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS AND CONSULT WITH OTHER CONTRACTORS FOR OPENINGS, SLEEVES, ANCHORS, HANGERS, INSERTS, SLAB DEPRESSIONS AND OTHER ITEMS RELATED TO THE CONCRETE WORK AND SHALL ASSUME RESPONSIBILITY FOR THEIR PROPER LOCATION. NO CORING OF CAST-IN-PLACE CONCRETE IS ALLOWED WITHOUT PRIOR APPROVAL BY THE STRUCTURAL ENGINEER.
- REFER TO ARCHITECTURAL, MECHANICAL, ELECTRICAL, PROCESS AND PLUMBING DRAWINGS FOR MISCELLANEOUS PADS. FURNISH AND INSTALL AS REQUIRED.
- NO STRUCTURAL CONCRETE SHALL BE PLACED UNTIL THE CONCRETE DESIGN MIXES, THE CONCRETE PLACEMENT PROCEDURE, THE LOCATION OF CONSTRUCTION JOINTS AND THE SETTING OF REINFORCING STEEL IS REVIEWED BY THE STRUCTURAL ENGINEER AND ARCHITECT AS APPLICABLE.
- CHECKED SHOP DRAWINGS SHOWING REINFORCING DETAILS, INCLUDING STEEL SIZES, LAPS, SPACING AND PLACEMENT, LOCATIONS AND DETAILS OF ALL CONSTRUCTION JOINTS, SLAB DEPRESSIONS, OPENINGS, CURBS, AND ANY OTHER DETAILING REQUIRED TO DETAIL THE WORK SHALL BE SUBMITTED FOR REVIEW PRIOR TO FABRICATION.
- NO ALUMINUM OF ANY TYPE SHALL BE ALLOWED IN THE CONCRETE, UNLESS COATED TO PREVENT ALUMINUM-CONCRETE REACTION. THIS INCLUDES PUMPING THROUGH ALUMINUM PIPE.
- FORMWORK, SHORING, AND RESHORING SHALL BE IN ACCORDANCE WITH ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS" AND ACI 347 "RECOMMENDED PRACTICE FOR CONCRETE FORMWORK". DESIGN AND DETAILING OF FORMWORK, SHORING, AND RESHORING SYSTEMS SHALL BE THE RESPONSIBILITY OF CONTRACTOR. ALL FORMWORK, SHORING, AND RESHORING SYSTEMS SHALL BE DESIGNED BY AN ENGINEER LICENSED IN THE STATE IN WHICH THE PROJECT IS LOCATED.
- DO NOT REMOVE FORMWORK PRIOR TO CONCRETE BEING SUFFICIENTLY CURED TO PREVENT DAMAGE BY FORMWORK REMOVAL OR PRIOR TO CONCRETE ATTAINING 75% OF THE SPECIFIED 28-DAY COMPRESSIVE STRENGTH.
- CONCRETE FILL THICKNESS SHOWN ON THE DRAWINGS ARE MINIMUM THICKNESSES. NO ALLOWANCES HAVE BEEN SHOWN FOR ADDITIONAL CONCRETE REQUIRED TO COMPENSATE FOR FRAME, DECK, OR FORMWORK DEFLECTIONS TO MAINTAIN SURFACE TOLERANCES SPECIFIED.

CONCRETE CONTINUED

- HEADED CONCRETE ANCHORS SHALL BE MANUFACTURED BY NELSON STUD WELDING CO., LORAIN, OHIO, OR OTHER MANUFACTURER ACCEPTABLE TO STRUCTURAL ENGINEER. SEE DRAWINGS FOR DIAMETER AND NOMINAL LENGTH. INSTALLATION AND TESTING SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. MATERIAL SHALL CONFORM TO ASTM A108.
- DEFORMED BAR ANCHORS SHALL BE MANUFACTURED BY NELSON STUD WELDING CO., LORAIN, OHIO, OR OTHER MANUFACTURER ACCEPTABLE TO STRUCTURAL ENGINEER. INSTALLATION AND TESTING SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. MATERIAL SHALL CONFORM TO ASTM A996.
- MECHANICALLY VIBRATE ALL CONCRETE WHEN PLACED. ENSURE FULL CONSOLIDATION OF CONCRETE AROUND REINFORCING STEEL, POST-TENSIONING STEEL, DOWELS, ANCHOR BOLTS, DEFORMED BAR ANCHORS, HEADED CONCRETE ANCHORS AND OTHER SIMILAR ITEMS DURING CONCRETE PLACEMENT.
- CONCRETE SLABS ON GRADE AND CONCRETE TOPPING SLABS SHALL BE CONSTRUCTED PER ACI 302.1R "GUIDE FOR CONCRETE FLOOR AND SLAB CONSTRUCTION" AND ACI 302.2R "GUIDE FOR CONCRETE SLABS THAT RECEIVE MOISTURE-SENSITIVE FLOORING MATERIALS". THE SLABS SHALL BE PLACED IN STRIP POURS. CONCRETE AGGREGATE MATERIALS SHALL BE SUFFICIENTLY GRADED AND CONCRETE SLABS-ON-GRADE SHALL BE CURED AS REQUIRED TO MINIMIZE POSSIBILITY OF SLAB CURLING.
- CONTINUOUSLY MOIST CURE CONCRETE SLABS ON GRADE FOR 7 DAYS MINIMUM. WATER FOG SPRAYS, PONDING, SATURATED ABSORPTIVE COVERS, OR MOISTURE RETAINING COVERS MAY BE USED. CURING COMPOUNDS ARE NOT ACCEPTABLE.
- TEST CYLINDERS SHALL BE MADE AND TESTED AS OUTLINED THE PROJECT SPECIFICATIONS.

CONCRETE REINFORCING STEEL

- FABRICATE AND PLACE REINFORCING STEEL IN ACCORDANCE WITH ACI 315 "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT" AND ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE".
- UNLESS NOTED OTHERWISE, REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60. REINFORCING STEEL THAT IS TO BE WELDED SHALL CONFORM TO ASTM A706, GRADE 60.
- WELDED WIRE REINFORCEMENT SHALL CONFORM TO ASTM A1064 AND SHALL BE PLAIN WIRE. SUPPLY IN FLAT SHEETS. ROLLS SHALL NOT BE PERMITTED. UNLESS NOTED OTHERWISE, LAPS OF WELDED WIRE REINFORCEMENT SHALL BE A MINIMUM OF TWO WIRE MESHES.
- SMOOTH STEEL DOWELS IN SLABS ON GRADE SHALL CONFORM TO ASTM A36.
- ALL FIELD BENDING OF REINFORCING SHALL BE PERFORMED COLD. HEATING OF BARS SHALL NOT BE PERMITTED.
- UNLESS NOTED OTHERWISE, "CONTINUOUS" REINFORCEMENT SHALL HAVE MINIMUM TENSION LAP OF CLASS "B" PER ACI 318 AT SPLICES AND SHALL HOOK AT DISCONTINUOUS ENDS. REINFORCEMENT SPECIFIED AS CONTINUOUS THROUGH COLUMNS, PIERS, FOUNDATION CAPS OR OTHER INTERSECTING ELEMENTS. ALTERNATIVELY, REINFORCEMENT SPECIFIED AS CONTINUOUS SHALL BE LAP SPICED WITH A CLASS "B" LAP SPICE TO DOWELS IN THE INTERSECTING ELEMENTS THAT DEVELOP THE FULL YIELD STRENGTH OF THE CONTINUOUS REINFORCEMENT. FOR REQUIRED LAP SPICE LENGTHS, SEE TYPICAL DETAIL.
- REINFORCEMENT SHALL BE CONTINUOUS ACROSS JOINTS AND AROUND CORNERS OR SPLICE BARS SHALL BE PROVIDED IN ACCORDANCE WITH THE LATEST EDITION OF ACI 315 OR ACI 315R. CORNER BARS SHALL BE PROVIDED AT ALL WALL CORNERS, EQUAL TO THE HORIZONTAL WALL REINFORCEMENT.
- DO NOT CUT OR WELD REINFORCING STEEL WITHOUT PRIOR ACCEPTANCE OF STRUCTURAL ENGINEER. WHEN WELDING IS INDICATED ON THE DRAWINGS, PROCEDURES SHALL BE IN ACCORDANCE WITH AWS D14.
- PROVIDE REBAR CHAIRS FOR REINFORCING STEEL. PROVIDE ADDITIONAL LONGITUDINAL SUPPORT BARS AS REQUIRED TO ASSURE PROPER SUPPORT FOR REINFORCING STEEL AND WELDED WIRE REINFORCEMENT.
- PROVIDE ALL ACCESSORIES NECESSARY TO SUPPORT REINFORCEMENT AT POSITIONS SHOWN ON THE PLANS AND DETAILS. PLASTIC COATED ACCESSORIES SHALL BE USED IN ALL EXPOSED CONCRETE WORK.

NON-SHRINK GROUT

- ALL GROUT AT COLUMN BASE PLATES, BEAM BEARING PLATES, AND EQUIPMENT BASE PLATES SHALL BE NON-METALLIC, SHRINKAGE-RESISTANT GROUT CONFORMING TO ASTM C 1107/1107M.
- GROUT SHALL BE FACTORY-PACKAGED WITH NONMETALLIC AGGREGATE, NONCORROSIVE AND NONSTAINING, MIXED WITH WATER TO CONSISTENCY SUITABLE FOR APPLICATION AND A 30-MINUTE WORKING TIME.
- COMPLY WITH MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS FOR SHRINKAGE-RESISTANT GROUTS.
- NON-METALLIC, SHRINKAGE-RESISTANT GROUT SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS OF TWO TIMES THE COMPRESSIVE STRENGTH OF THE SUPPORTING CONCRETE FOUNDATIONS, 5000 PSI MINIMUM.
- NON-METALLIC, SHRINKAGE-RESISTANT GROUT SHALL BE INSTALLED AT COLUMN BASE PLATES, BEAM BEARING PLATES, AND EQUIPMENT BASE PLATES PRIOR TO LOAD BEING APPLIED.

POST-INSTALLED ANCHORS

- CONCRETE MECHANICAL ANCHORS SHALL BE WEDGE EXPANSION TYPE, MADE OF STEEL, HILTI KWIK-BOLT TZ EXPANSION ANCHOR, AS MANUFACTURED BY HILTI, INC. (ICC ESR-1917) OR APPROVED EQUAL.
- CONCRETE ADHESIVE ANCHORS SHALL BE HILTI HIT-RE 500 V3 ADHESIVE ANCHORAGE SYSTEMS, AS MANUFACTURED BY HILTI, INC. (ICC ESR-3814) OR APPROVED EQUAL. TYPICAL UNLESS NOTED OTHERWISE. THREADED RODS USED IN ADHESIVE ANCHORAGE SYSTEMS SHALL MEET THE REQUIREMENTS OF ASTM A193, GRADE B7. REINFORCING BARS USED IN ADHESIVE ANCHORAGE SYSTEMS SHALL BE ASTM A615, GRADE 60 REINFORCING BARS. REMOVE GREASE, OIL, RUST, AND OTHER LAITANCE FROM RODS AND DOWELS PRIOR TO INSTALLATION.
- PROVIDE STAINLESS STEEL FASTENERS FOR EXTERIOR USE OR WHEN EXPOSED TO WEATHER. PROVIDE GALVANIZED CARBON STEEL ANCHORS AT OTHER LOCATIONS, UNLESS OTHERWISE NOTED.
- IF REINFORCEMENT IS ENCOUNTERED DURING DRILLING, ABANDON AND SHIFT THE HOLE LOCATION TO AVOID THE REINFORCEMENT. PROVIDE A MINIMUM OF 2 ANCHOR DIAMETERS OR 1 INCH, WHICHEVER IS LARGER, OF SOUND CONCRETE BETWEEN THE DOWEL AND THE ABANDONED HOLE. FILL THE ABANDONED HOLE WITH NON-SHRINK GROUT. IF THE ANCHOR OR DOWEL MAY NOT BE SHIFTED AS NOTED, THE ENGINEER WILL DETERMINE A NEW LOCATION.
- LOCATE REINFORCEMENT AND CONFIRM FINAL ANCHOR LOCATIONS PRIOR TO FABRICATING PLATES, MEMBERS, OR OTHER STEEL ASSEMBLIES ATTACHED WITH MECHANICAL ANCHORS.
- ALL POST-INSTALLED ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND THE APPLICABLE ICC EVALUATION SERVICES REPORT.



APPROVED: \_\_\_\_\_  
 DATE: 02/23/2024  
 ANN MADER STILLMAN,  
 DIRECTOR OF PUBLIC WORKS  
 R. C. E. # 47882 / EXPIRES 12-31-2025

EMBEDDED ITEMS IN CONCRETE

- INSTALL ANCHOR RODS, ACCURATELY LOCATED, TO ELEVATIONS REQUIRED AND COMPLYING WITH TOLERANCES IN SECTION 7.5 OF AISCS "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES".
- EMBEDMENTS (CONDUITS, PIPES, SLEEVES, ETC.) OF ANY MATERIAL NOT HARMFUL TO CONCRETE, AND WITHIN LIMITATIONS NOTED BELOW, SHALL BE PERMITTED IN CONCRETE WITH APPROVAL OF THE STRUCTURAL ENGINEER. PROVIDED THEY ARE NOT CONSIDERED TO STRUCTURALLY REPLACE THE DISPLACED CONCRETE.
- ANY ALUMINUM EMBEDMENTS IN STRUCTURAL CONCRETE SHALL BE COATED OR COVERED TO PREVENT ALUMINUM-CONCRETE REACTION OR ELECTROLYTIC ACTION BETWEEN ALUMINUM AND STEEL.
  - THEY SHALL NOT BE LARGER IN OUTSIDE DIMENSION THAN 1/3 THE OVERALL THICKNESS OF SLAB, WALL, OR BEAM IN WHICH THEY ARE EMBEDDED;
  - THEY SHALL NOT BE SPACED CLOSER THAN THREE (3) DIAMETERS OR WIDTHS ON CENTER;
  - THEY SHALL NOT IMPAIR SIGNIFICANTLY THE STRENGTH OF THE CONSTRUCTION.
- NO ELECTRICAL CONDUIT SHALL BE PLACED ABOVE THE WELDED WIRE REINFORCEMENT IN SLABS ON GRADE.
- SPECIFIED CONCRETE COVER FOR PIPES, CONDUITS, AND FITTINGS SHALL NOT BE LESS THE 1-1/2 INCH FOR CONCRETE EXPOSED TO EARTH OR WEATHER, NOR LESS THAN 3/4 INCH FOR CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH THE GROUND.

STRUCTURAL STEEL


- ALL STRUCTURAL STEEL SHALL BE FABRICATED BY A FABRICATOR WITH ONE OF THE FOLLOWING MINIMUM QUALIFICATIONS AND BE APPROVED BY AUTHORITY HAVING JURISDICTION (AHJ). QUALIFICATIONS SHALL BE IN EFFECT AT TIME OF BID.
  - INTERNATIONAL ACCREDITATION SERVICE, INC. (IAS) APPROVED FABRICATOR
  - AISC CERTIFIED FABRICATOR (STD)
  - AHJ CERTIFIED FABRICATOR
- FABRICATOR SHALL SUBMIT DOCUMENTATION OF THEIR CERTIFICATION WITH THE FIRST SHOP DRAWING SUBMITTAL.
- STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISCS 360 "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS" AND AISCS 303 "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES" USING LOAD AND RESISTANCE FACTOR DESIGN (LRFD).
- STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING DESIGNATED ASTM STANDARDS:
  - WIDE FLANGES: ASTM A 992
  - HOLLOW STRUCTURAL SECTIONS (HSS): ASTM A 500, GRADE C
  - CHANNELS AND ANGLES: ASTM A 36
  - PLATES: ASTM A 36, TYPICAL U.N.O.
  - CONTINUITY PLATES AND CAP PLATES AT MOMENT CONNECTIONS: ASTM A 572, GRADE 50
  - PIPE: ASTM A 53, GRADE B
  - ANCHOR RODS: ASTM F 1554, GRADE 36
- BOLTED CONNECTIONS SHALL BE DESIGNED AND INSTALLED USING HIGH-STRENGTH BOLTS IN ACCORDANCE WITH THE RCSC "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A 325 OR A 490 BOLTS". USE ASTM A 325 BOLTS IN BEARING-TYPE CONNECTIONS WITH THREADS PERMITTED IN THE SHEAR PLANE (TYPE N), UNLESS OTHERWISE NOTED. WASHERS SHALL CONFORM TO ASTM F 436. CONNECTIONS MAY BE SNUG-TIGHTENED, UNLESS NOTED OTHERWISE.
- INSTALL ANCHOR RODS AT COLUMN BASE PLATES WITH ASTM A 36 STEEL PLATE WASHERS AND ASTM A 563 STEEL HEAVY HEX NUTS. INSTALL ANCHOR RODS AT OTHER LOCATIONS AS INDICATED WITH ASTM F 436, TYPE 1, STEEL HARDENED WASHERS AND ASTM A 563 STEEL HEAVY HEX NUTS.
- WELDING SHALL CONFORM TO STANDARDS OF AWS D1.1 "STRUCTURAL WELDING CODE—STEEL: TYPICAL AND AWS D1.8 "STRUCTURAL WELDING CODE—SEISMIC SUPPLEMENT" WHERE SPECIFIED. ELECTRODES FOR FIELD AND SHOP WELDING SHALL CONFORM TO AWS RECOMMENDATIONS. WELDS NOT INDICATED ON THE DRAWINGS SHALL BE AWS MINIMUM OR AS REQUIRED TO SATISFY STRENGTH CRITERIA, WHICHEVER IS GREATER. FOLLOW PREHEAT REQUIREMENTS OF AWS. TO MINIMIZE THE USE OF PREHEAT, LOW HYDROGEN ELECTRODES MAY BE UTILIZED. LOW HYDROGEN ELECTRODES SHALL BE USED FOR WELDING TO CONCRETE EMBEDMENT PLATES OR OTHER STRUCTURAL STEEL ELEMENT IN CONTACT WITH CONCRETE OR MASONRY.
- WELDERS SHALL BE CERTIFIED BY AWS AND THE APPLICABLE AUTHORITY HAVING JURISDICTION.
- GENERALLY, DRAWINGS DO NOT DISTINGUISH BETWEEN SHOP-WELDING AND FIELD-WELDING. THE CONTRACTOR SHALL DETERMINE THE MOST ECONOMICAL, EFFICIENT AND PRACTICAL COMBINATIONS OF SHOP-WELDING AND FIELD-WELDING.
- ALL STRUCTURAL STEEL EXCEPT EMBEDDED STEEL WHICH IS IN CONTACT WITH CONCRETE, STEEL TO BE FIREPROOFED, AND STEEL TO BE GALVANIZED SHALL BE CLEANED AND SHOP-PRIMED AS INDICATED IN THE PROJECT SPECIFICATIONS. SEE THE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR FINISH PAINTING REQUIREMENTS.
- UNLESS SPECIFICALLY SHOWN TO BE PAINTED, GALVANIZE ALL EXTERIOR STRUCTURAL STEEL. PROVIDE GALVANIZING AS INDICATED IN THE PROJECT SPECIFICATIONS. TOUCH-UP GALVANIZING WITH GALVANIZING REPAIR PAINT AS INDICATED IN THE PROJECT SPECIFICATIONS.

C&S Engineers, Inc.  
 7801 Folsom Boulevard, Suite 210  
 Sacramento, California 95826  
 Phone: 916-364-1470  
 www.cscos.com



APPROVED DATE: 08/08/2023	
BRYAN K. SALT	
C&S ENGINEERS, INC.	
S.E. # 5662 / EXPIRES 12/31/2024	

	DESIGNED BY: J.L.	<b>GENERAL STRUCTURAL NOTES 1/2</b> <b>ELECTRICAL VAULT AND EMERGENCY GENERATOR</b>	SCALE: NOT TO SCALE
	CHECKED BY: B.K.S.		DATE: AUGUST 4, 2023
	DRAWN BY: C.A.V.		FILE NO.: E5079
REVISION	DATE	ANN MADER STILLMAN, DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063
FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES			S001 SHEET 18 OF 32

APPROVED: \_\_\_\_\_  
 DATE: 02/23/2024  
  
 ANN MADER STILLMAN,  
 DIRECTOR OF PUBLIC WORKS  
 R. C. E. # 47882 / EXPIRES 12-31-2025

ABBREVIATIONS

AB	ANCHOR BOLT(S)	L	LEDGER
ACI	AMERICAN CONCRETE INSTITUTE	LBS	POUND(S)
ADDL	ADDITIONAL	Ld <sub>b</sub>	REBAR DEVELOPMENT LENGTH
AESS	ARCHITECTURALLY EXPOSED STRUCTURAL STEEL	L <sub>ext</sub>	REBAR STRAIGHT EXTENSION
AFF	ABOVE FINISH FLOOR	L90	REBAR 90 DEGREE HOOK LENGTH
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	L135	REBAR 135 DEGREE HOOK LENGTH
ALT	ALTERNATE	L180	REBAR 180 DEGREE HOOK LENGTH
ALUM	ALUMINUM	LL	LIVE LOAD
ARCH	ARCHITECT OR ARCHITECTURAL DOCUMENTS	LLH	LONG LEG HORIZONTAL
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS	LLV	LONG LEG VERTICAL
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	LSH	LONG SIDE HORIZONTAL
AWS	AMERICAN WELDING SOCIETY	LSV	LONG SIDE VERTICAL
AVG	AVERAGE	LP	LOW POINT
		LWC	LIGHT WEIGHT CONCRETE
BP	BASE PLATE	MATL	MATERIAL
B/CONC	BOTTOM OF CONCRETE	MAX	MAXIMUM
B/FTG	BOTTOM OF FOOTING	MCJ	MASONRY CONTROL JOINT
B/DECK	BOTTOM OF DECK	MECH	MECHANICAL
B/BDG	BUILDING	MEZZ	MEZZANINE
B/MAT	BOTTOM OF MAT	MFR	MANUFACTURER
BPE	BOTTOM OF PILE ELEVATION	MID	MIDDLE
B/SLAB	BOTTOM OF SLAB	MIN	MINIMUM
B/STL	BOTTOM OF STEEL	MISC	MISCELLANEOUS
		MEP	MECHANICAL, ELECTRICAL AND PROCESS
CC	CONCRETE COLUMN	MTL	METAL
CB	CONCRETE BEAM	MO	MASONRY OPENING
CALCS	CALCULATIONS		
CIP	CAST IN PLACE	NAAMM	NATIONAL ASSOCIATION OF ARCHITECTURAL METAL MANUFACTURERS
CJ	CONTROL JOINT OR CONSTRUCTION JOINT	NF	NEAR FACE
CJP	COMPLETE JOINT PENETRATION	NIC	NOT IN CONTRACT
CLR	CLEAR	NO	NUMBER
CMU	CONCRETE MASONRY UNIT	NS	NEAR SIDE
COL	COLUMN	NTS	NOT TO SCALE
CONC	CONCRETE		
CONT	CONTINUOUS	O.C.	ON CENTER
C	CENTERLINE	O.C.E.W.	ON CENTER, EACH WAY
		OPP	OPPOSITE
D	COMPOSITE STEEL DECK / STEEL ROOF DECK / FORM DECK	PCI	PRESTRESSED CONCRETE INSTITUTE
DB	DIAMETER OF REBAR	PC	PILE/PIER CAP
DBL	DOUBLE	PCF	POUNDS PER CUBIC FOOT
DEPR	DEPRESSION	PL	PLATE
DEG	DEGREE	PLF	POUNDS PER LINEAR FOOT
DTL	DETAIL	PSI	POUNDS PER SQUARE INCH
DIA	DIAMETER	PT, PT	POST-TENSIONED
DIAG	DIAGONAL	PSF	POUNDS PER SQUARE FOOT
DM	DIMENSION		
DL	DEAD LOAD	QTY	QUANTITY
DN	DOWN		
DP	DRILLED PIER	RO	ROOF OPENING
		RAD	RADIUS
E	MODULUS OF ELASTICITY	REINF	REINFORCED OR REINFORCING
EA	EACH		
EF	EACH FACE	SDI	STEEL DECK INSTITUTE
EFEW	EACH FACE, EACH WAY	SL	SNOW LOAD
EJ	EXPANSION JOINT	SIM	SIMILAR
ELEC	ELECTRICAL	SII	STEEL JOIST INSTITUTE
EL	ELEVATION	SOG	SLAB ON GRADE
EMB	EMBEDMENT	SPEC	SPECIFICATION
EOS	EDGE OF SLAB	SQ	SQUARE
EQ	EQUAL	SS	STAINLESS STEEL
EQUIP	EQUIPMENT	STD	STANDARD
EW	EACH WAY	STIFF	STIFFENER
EXIST	EXISTING	STL	STEEL
EXP	EXPANSION	SW	SHEARWALL
EXT	EXTERIOR		
FDN	FOUNDATION	T/8TM CHORD	TOP OF BOTTOM CHORD
FF	FINISH FLOOR	T&B	TOP AND BOTTOM
FN	FINISH	T/CAP	TOP OF CAP
FD	FLOOR DRAIN	T/CONC	TOP OF CONCRETE
FLG	FLANGE	T/CURB	TOP OF CURB
FLR	FLOOR	T/DECK	TOP OF DECK
FRMG	FRAMING	T/FTG	TOP OF FOOTING
F.S.	FOUNDATION STEP	T/GRADE	TOP OF GRADE
FT	FOOT (FEET)	T/GRATING	TOP OF GRATING
FTG	FOOTING	TL	TOTAL LOAD
FY	YIELD STRESS STEEL	T/MAT	TOP OF MAT
		T/PC	TOP OF PILE CAP
G	GRATING	T/PIER	TOP OF PIER ELEVATION
GA	GAGE OR GAUGE	T/SLAB	TOP OF SLAB
GALV	GALVANIZED	T/S	TOP OF STEEL
GB	GRADE BEAM	T/WALL	TOP OF WALL ELEVATION
		TYP	TYPICAL
HSA	HEADED STUD ANCHOR		
HORIZ	HORIZONTAL	UL	UNDERWRITERS LABORATORIES
H.P.	HIGH POINT	UNO	UNLESS NOTED OTHERWISE
HS	HIGH STRENGTH	UT	ULTRASONIC TESTING
HT	HEIGHT		
		VERT	VERTICAL
I (I <sub>N4</sub> )	MOMENT OF INERTIA	WP	WORK POINT
IBC	INTERNATIONAL BUILDING CODE	WWR	WELDED WIRE REINFORCEMENT
ICC	INTERNATIONAL CODE COUNCIL	WF	WALL FOOTING
ID	INSIDE DIAMETER	W	WALL
IN	INCH		
INFO	INFORMATION	X-STRONG	EXTRA STRONG
INT	INTERIOR	XX-STRONG	DOUBLE EXTRA STRONG
JT	JOINT	#	NUMBER
K	KIP = 1000 LBS		
KSI	KIPS PER SQUARE INCH		

LEGEND

CONCRETE WALL  
FOR THICKNESS AND REINFORCING SEE WALL SCHEDULE.

MASONRY WALL  
FOR THICKNESS AND REINFORCING SEE WALL SCHEDULE.

INDICATES PEMB BRACING, SEE ELEVATIONS

INDICATES STEEL DECK MARK - REFER TO PLAN NOTES

INDICATES DIRECTION OF PRINCIPAL CONCRETE FLOOR OVER COMPOSITE DECK OR ROOF DECKING FLUTE DIRECTION

WELDED WIRE REINFORCEMENT  
6X6-W2.1XW2.1

WIRE SIZE

WIRE SPACING IN INCHES

INDICATES ELEVATION DIFFERENCE

INDICATES LIMITS OF OPENING

ONLY LATEST REVISION IS "CLOUDED" LETTERS OR NUMBERS INDICATE ADDENDA/BULLETINS

POPULATE FIELD IF THE RFI NUMBER NEEDS TO BE SHOWN

KEYED NOTE SYMBOL

INDICATES WORK, DATUM OR CONTROL POINT

INDICATES DETAIL CALLOUT

INDICATES FULL HEIGHT SECTION CALLOUT

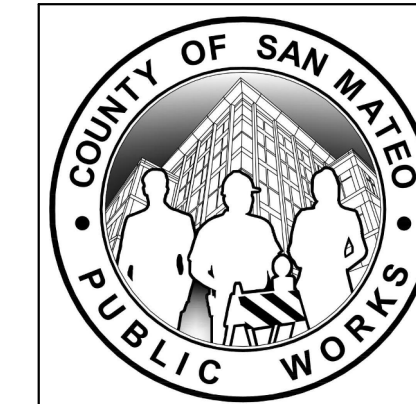
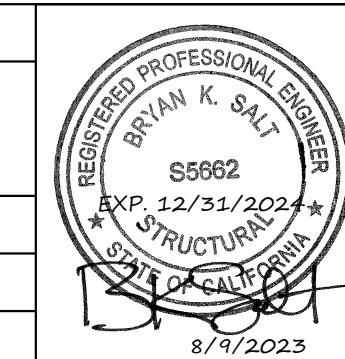
INDICATES ELEVATION CALLOUT

C&S Engineers, Inc.  
 7801 Folsom Boulevard, Suite 210  
 Sacramento, California 95826  
 Phone: 916-364-1470  
 www.cscos.com



APPROVED DATE: 08/08/2023

BRYAN K. SALT  
 C&S ENGINEERS, INC.  
 S.E. # 5662 / EXPIRES 12/31/2024



DESIGNED BY: J.L.	GENERAL STRUCTURAL NOTES 2/2	SCALE: NOT TO SCALE
CHECKED BY: B.K.S.	ELECTRICAL VAULT AND EMERGENCY GENERATOR	DATE: AUGUST 4, 2023
DRAWN BY: C.A.V.	ANN MADER STILLMAN, DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO	FILE NO.: E5079
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FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES		S002 SHEET 19 OF 32

**CBC 1704A.2 SPECIAL INSPECTIONS AND TESTS:**

THE OWNER OR THE OWNER'S AUTHORIZED AGENT, OTHER THAN THE CONTRACTOR, SHALL EMPLOY ONE OR MORE APPROVED AGENCIES TO PROVIDE SPECIAL INSPECTIONS AND TESTS DURING CONSTRUCTION ON THE TYPES OF WORK SPECIFIED IN SECTIONS NOTED BELOW AND IDENTIFY THE APPROVED AGENCIES TO THE BUILDING OFFICIAL.

**CBC 1704A.2.1 SPECIAL INSPECTOR QUALIFICATIONS:**

PRIOR TO THE START OF THE CONSTRUCTION, THE APPROVED AGENCIES SHALL PROVIDE WRITTEN DOCUMENTATION TO THE BUILDING OFFICIAL DEMONSTRATING THE COMPETENCE AND RELEVANT EXPERIENCE OR TRAINING OF THE SPECIAL INSPECTORS WHO WILL PERFORM THE SPECIAL INSPECTIONS AND TESTS DURING CONSTRUCTION. EXPERIENCE OR TRAINING SHALL BE CONSIDERED RELEVANT WHERE THE DOCUMENTED EXPERIENCE OR TRAINING IS RELATED IN COMPLEXITY TO THE SAME TYPE OF SPECIAL INSPECTION OR TESTING ACTIVITIES FOR PROJECTS OF SIMILAR COMPLEXITY AND MATERIAL QUALITIES. THESE QUALIFICATIONS ARE IN ADDITION TO QUALIFICATIONS SPECIFIED IN OTHER SECTIONS OF THIS CODE.

**1704.2.4 REPORT REQUIREMENT:**

APPROVED AGENCIES SHALL KEEP RECORDS OF SPECIAL INSPECTIONS AND TESTS, AND APPROVED AGENCY SHALL SUBMIT REPORTS OF SPECIAL INSPECTIONS AND TESTS TO THE BUILDING OFFICIAL, AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. REPORTS SHALL INDICATE THAT WORK INSPECTED OR TESTED WAS OR WAS NOT COMPLETED IN CONFORMANCE TO APPROVED CONSTRUCTION DOCUMENTS. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF THEY ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE PRIOR TO THE COMPLETION OF THAT PHASE OF THE WORK. A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS AND TESTS, AND CORRECTION OF ANY DISCREPANCIES NOTED IN THE INSPECTIONS OR TESTS, SHALL BE SUBMITTED AT A POINT IN TIME AGREED UPON PRIOR TO THE START OF WORK BY THE OWNER OR THE OWNER'S AUTHORIZED AGENT TO THE BUILDING OFFICIAL.

**CBC 1704.2.5 SPECIAL INSPECTION OF FABRICATED ITEMS:**

WHERE FABRICATION OF STRUCTURAL LOAD-BEARING OR LATERAL LOAD-RESISTING MEMBERS OR ASSEMBLIES IS BEING CONDUCTED ON THE PREMISES OF A FABRICATOR'S SHOP, SPECIAL INSPECTIONS OF THE FABRICATED ITEMS SHALL BE PERFORMED DURING FABRICATION.

**1704.2.5.1 FABRICATOR APPROVAL:**

SPECIAL INSPECTIONS DURING FABRICATION ARE NOT REQUIRED WHERE THE WORK IS DONE ON THE PREMISES OF A FABRICATOR APPROVED TO PERFORM SUCH WORK WITHOUT SPECIAL INSPECTION. APPROVAL SHALL BE BASED ON REVIEW OF THE FABRICATOR'S WRITTEN FABRICATION PROCEDURES AND QUALITY CONTROL MANUALS THAT PROVIDE A BASIS FOR CONTROL OF MATERIALS AND WORKMANSHIP, WITH PERIODIC AUDITING OF FABRICATION AND QUALITY CONTROL PRACTICES BY AN APPROVED AGENCY OR THE BUILDING OFFICIAL. AT COMPLETION OF FABRICATION, THE APPROVED FABRICATOR SHALL SUBMIT A CERTIFICATE OF COMPLIANCE TO THE OWNER OR THE OWNER'S AUTHORIZED AGENT FOR SUBMITTAL TO THE BUILDING OFFICIAL AS SPECIFIED IN SECTION 1704.5 STATING THAT THE WORK WAS PERFORMED IN ACCORDANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS.

SEE PROJECT SPECIFICATIONS AND REFERENCED STANDARDS FOR FREQUENCY OF TESTING.

AT THE CONCLUSION OF CONSTRUCTION, A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS AND CORRECTION OF PREVIOUSLY NOTED DISCREPANCIES SHALL BE SUBMITTED.

THE SPECIAL INSPECTOR SHALL OBSERVE THE WORK ASSIGNED FOR CONFORMANCE TO THE APPROVED DESIGN DRAWINGS AND SPECIFICATIONS.

THE FOLLOWING TYPES OF WORK SHALL BE INSPECTED BY A SPECIAL INSPECTOR IN ACCORDANCE WITH CHAPTER 17 OF THE CALIFORNIA BUILDING CODE.

REQUIRED SPECIAL INSPECTIONS AND TESTS OF CONCRETE CONSTRUCTION (CBC - TABLE 1705.3)						
VERIFICATION AND INSPECTION TASK	REFERENCE STANDARD	CBC REFERENCE	CONTINUOUS	PERIODIC	REQUIRED	NOT REQUIRED
1. INSPECTION OF REINFORCING STEEL, AND VERIFY PLACEMENT.	ACI 318: Ch 20, 25.2, 25.3, 26.5.1-26.5.3	1908.4		X	●	○
1A. INSPECTION OF PRESTRESSING TENDONS, AND VERIFY PLACEMENT.	ACI 318: Ch 20, 25.2, 25.3, 26.5.1-26.5.3	1908.4		X	○	●
2. REINFORCING BAR WELDING:	AWS D1.4, ACI 318: 26.4	--			○	●
a. VERIFY WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A706	--	--		X	○	●
b. INSPECT SINGLE-PASS FILLET WELDS, MAXIMUM 5/16"; AND	--	--		X	●	○
c. INSPECT ALL OTHER WELDS	--	--	X		●	○
3. INSPECT ANCHORS CAST IN CONCRETE.	ACI 318: 17.8.2	--		X	●	○
4. INSPECT ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS.	--	--			○	○
a. ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS.	ACI 318: 17.8.2.4	--	X		●	○
b. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4.a.	ACI 318: 17.8.2	--		X	○	●
5. VERIFYING USE OF REQUIRED DESIGN MIX.	ACI 318: CH 19, 26.4.3, 26.4.4	1904.1, 1904.2, 1908.2, 1908.3		X	●	○
6. PRIOR TO CONCRETE PLACEMENT, FABRICATION SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	ASTM C172, ASTM C31, ACI 318: 26.4.5, 26.12	1908.10	X		●	○
7. INSPECT CONCRETE AND/OR SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	ACI 318: 26.4.5	1908.6, 1908.7, 1908.8	X		●	○
8. VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	ACI 318: 26.4.7-26.4.9	1908.9		X	●	○
9. INSPECT ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS.	--	--			○	○
a. APPLICATION OF PRESTRESSING FORCES; AND	ACI 318: 26.9.2.1	--	X		○	●
b. GROUTING OF BONDED PRESTRESSING TENDONS.	ACI 318: 26.9.2.3	--	X		○	●
10. INSPECTION ERECTION OF PRECAST CONCRETE MEMBERS.	ACI 318: CH 26.8	--		X	○	●
11. VERIFY IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS.	ACI 318: 26.10.2	--		X	○	●
12. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBERS BEING FORMED.	ACI 318: 26.10.1(B)	--		X	●	○
A. WHERE APPLICABLE, ALSO SEE SECTION 1705.12, SPECIAL INSPECTIONS FOR SEISMIC RESISTANCE.						
B. SPECIFIC REQUIREMENTS FOR SPECIAL INSPECTION SHALL BE INCLUDED IN THE RESEARCH REPORT FOR THE ANCHOR ISSUED BY AN APPROVED SOURCE IN ACCORDANCE WITH CHAPTER 17.8.2 IN ACI 318 OR OTHER QUALIFICATION PROCEDURES. WHERE SPECIFIC REQUIREMENTS ARE NOT PROVIDED, SPECIAL INSPECTION REQUIREMENTS SHALL BE SPECIFIED BY THE REGISTERED DESIGN PROFESSIONAL AND SHALL BE APPROVED BY THE BUILDING OFFICIAL PRIOR TO THE COMMENCEMENT OF THE WORK.						



APPROVED: \_\_\_\_\_  
 DATE: 02/23/2024  
 ANN MADER STILLMAN,  
 DIRECTOR OF PUBLIC WORKS  
 R. C. E. # 47882 / EXPIRES 12-31-2025

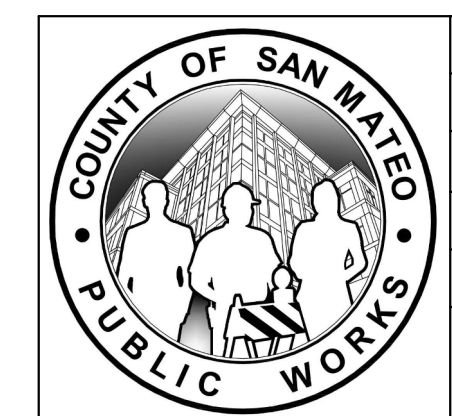
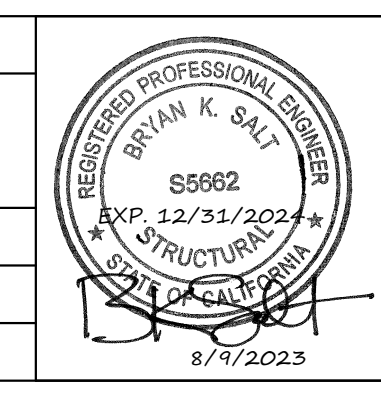
REQUIRED SPECIAL INSPECTIONS AND TESTS OF SOILS (CBC - TABLE 1705.6)				
VERIFICATION AND INSPECTION TASK	CONTINUOUS	PERIODIC	REQUIRED	NOT REQUIRED
1. VERIFY MATERIALS BELOW FOOTINGS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.		X	●	○
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.		X	●	○
3. PERFORM CLASSIFICATION AND TESTING OF CONTROLLED FILL MATERIALS.		X	●	○
4. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF CONTROLLED FILL.	X		●	○
5. PRIOR TO PLACEMENT OF CONTROLLED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.		X	●	○

C&S Engineers, Inc.  
 7801 Folsom Boulevard, Suite 210  
 Sacramento, California 95826  
 Phone: 916-364-1470  
 www.cscos.com



APPROVED DATE: 08/08/2023

BRYAN K. SALT  
 C&S ENGINEERS, INC.  
 S.E. # 5662 / EXPIRES 12/31/2024



DESIGNED BY: J.L.	CBC SPECIAL INSPECTIONS ELECTRICAL VAULT AND EMERGENCY GENERATOR	SCALE: NOT TO SCALE
CHECKED BY: B.K.S.		DATE: AUGUST 4, 2023
DRAWN BY: C.A.V.		FILE NO.: E5079
ANN MADER STILLMAN, DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO		555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063
REVISION	DATE	S003 SHEET 20 OF 32

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES

\*\* STRUCTURAL STEEL INSPECTIONS:  
SPECIAL INSPECTIONS AND NONDESTRUCTIVE TESTING OF STRUCTURAL STEEL ELEMENTS IN BUILDINGS, STRUCTURES AND PORTIONS THEREOF SHALL BE IN ACCORDANCE WITH THE QUALITY ASSURANCE INSPECTION REQUIREMENTS OF AISC 360

(QC) QUALITY CONTROL:  
SHALL BE PROVIDED BY THE FABRICATOR AND ERECTOR.

(QA) QUALITY ASSURANCE:  
SHALL BE PROVIDED BY OTHERS WHEN REQUIRED BY THE AUTHORITY HAVING JURISDICTION (AHJ), APPLICABLE BUILDING CODE (ABC), PURCHASER, OWNER, OR ENGINEER OF RECORD (EOR). NONDESTRUCTIVE TESTING (NDT) SHALL BE PERFORMED BY THE AGENCY OR FIRM RESPONSIBLE FOR QUALITY ASSURANCE, EXCEPT AS PERMITTED IN ACCORDANCE WITH SECTION N7.

(O) OBSERVE - EQUIVALENT TO PERIODIC INSPECTION:  
OBSERVE THESE ITEMS ON A RANDOM BASIS. OPERATIONS NEED NOT BE DELAYED PENDING THESE INSPECTIONS.

(P) PERFORM - EQUIVALENT TO CONTINUOUS INSPECTION:  
PERFORM THESE TASKS FOR EACH WELDED JOINT OR MEMBER.

OBSERVATION OF WELDING OPERATIONS AND VISUAL INSPECTION OF IN-PROCESS AND COMPLETED WELDS SHALL BE THE PRIMARY METHOD TO CONFIRM THAT THE MATERIALS, PROCEDURES AND WORKMANSHIP ARE IN CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS FOR STRUCTURAL STEEL. ALL PROVISIONS OF AWS D1.1/D1.1M STRUCTURAL WELDING CODE—STEEL FOR STATICALLY LOADED STRUCTURES SHALL APPLY.

VISUAL INSPECTION TASKS PRIOR TO WELDING (AISC 360 - TABLE N5.4-1 AND C-N5.4-1)					
VISUAL INSPECTION TASKS	AWS D1.1/D1.1M REFERENCE	QC		QA	
		TASK	DOC.	TASK	DOC.
SIZE, LENGTH, AND LOCATION OF WELDS	6.3	P	--	P	--
MANUFACTURER CERTIFICATIONS FOR WELDING CONSUMABLES AVAILABLE	6.2	P	--	P	--
MATERIAL IDENTIFICATION (TYPE/GRADE)	6.2	O	--	O	--
WELDER IDENTIFICATION SYSTEM (1)	6.4, WQ, (A)	O	--	O	--
FIT-UP OF GROOVE WELDS (INCLUDES JOINT GEOMETRY)	-	O	--	O	--
- JOINT PREPARATION	6.5.2				
- DIMENSIONS (ALIGNMENT, ROOT OPENING, ROOT FACE, BEVEL)	5.15				
- CLEANLINESS (CONDITIONS OF STEEL SURFACES)	5.18				
- TACKING (TACK WELD QUALITY AND LOCATION)	5.10, 5.22.1.1				
- BACKING TYPE AND FIT (IF APPLICABLE)					
CONFIGURATION AND FINISH OF ACCESS HOLES	6.5.2, 5.17, SECTION J1.6	O	--	O	--
FIT-UP OF GROOVE WELDS	-	O	--	O	--
- DIMENSIONS (ALIGNMENT, GAPS AT ROOT)	5.22.1.1				
- CLEANLINESS (CONDITIONS OF STEEL SURFACES)	5.15				
- TACKING (TACK WELD QUALITY AND LOCATION)	5.18				
CHECK WELDING EQUIPMENT	6.2, 5.11	O	--	O	--

1. THE FABRICATOR OR ERECTOR, AS APPLICABLE, SHALL MAINTAIN A SYSTEM BY WHICH A WELDER WHO HAS WELDED A JOINT OR MEMBER CAN BE IDENTIFIED. STAMPS, IF USED, SHALL BE THE LOW-STRESS TYPE.

A. IDENTIFICATION SYSTEM NOT REQUIRED BY AWS D1.1/D1.1M

WQ WELDER QUALIFICATIONS

VISUAL INSPECTION TASKS DURING WELDING (AISC 360 - TABLE N5.4-2 AND C-N5.4-2)					
VISUAL INSPECTION TASKS	AWS D1.1/D1.1M REFERENCE	QC		QA	
		TASK	DOC.	TASK	DOC.
USE OF QUALIFIED WELDERS	6.4	O	--	O	--
CONTROL AND HANDLING OF WELDING CONSUMABLES	6.2	O	--	O	--
- PACKAGING	5.3.1				
- EXPOSURE CONTROL	5.32 (FOR SMAAW), 5.33 (FOR SAW)				
NO WELDING OVER CRACKED TACKS	5.18	O	--	O	--
ENVIRONMENTAL CONDITIONS	-	O	--	O	--
- WIND SPEED WITHIN LIMITS	5.12.1				
- PRECIPITATION AND TEMPERATURE	5.12.2				
WPS FOLLOWED	6.3.3, 6.5.2, 5.5, 5.21	O	--	O	--
- SETTINGS ON WELDING EQUIPMENT	--				
- TRAVEL SPEED	--				
- SELECTED WELDING MATERIALS	--				
- SHIELDING GAS TYPE/FLOW RATE	--				
- PREHEAT APPLIED	5.6, 5.7				
- INTERPASS TEMPERATURE MAINTAINED (MIN/MAX)	--				
- PROPER POSITION (F, V, H, OH)	--				
WELDING TECHNIQUES	6.5.2, 6.5.3, 5.24	O	--	O	--
- INTERPASS AND FINAL CLEANING	5.30.1				
- EACH PASS WITHIN PROFILE LIMITATIONS	--				
- EACH PASS MEETS QUALITY REQUIREMENTS	--				

VISUAL INSPECTION TASKS AFTER WELDING (AISC 360 - TABLE N5.4-3 AND C-N5.4-3)					
VISUAL INSPECTION TASKS	AWS D1.1/D1.1M REFERENCE	QC		QA	
		TASK	DOC.	TASK	DOC.
WELD CLEANED	5.30.1	O	--	O	--
SIZE, LENGTH, AND LOCATION OF WELDS	6.5.1	P	--	P	--
WELDS MEETS VISUAL ACCEPTANCE CRITERIA	6.5.3	P	--	P	--
- CRACK PROHIBITION	T-6.1(1)				
- WELD/BASE-METAL FUSION	T-6.1(2)				
- CRATER CROSS SECTION	T-6.1(3)				
- WELD PROFILES	T-6.1(4), 5.24				
- WELD SIZE	T-6.1(6)				
- UNDERCUT	T-6.1(7)				
- POROSITY	T-6.1(8)				
ARC STRIKES	5.29	P	--	P	--
K-AREA (1)	(1)	P	--	P	--
BACKING REMOVED AND WELD TABS REMOVED (IF REQUIRED)	5.10, 5.31	P	--	P	--
REPAIR ACTIVITIES	6.5.3, 5.26	P	--	P	--
DOCUMENT ACCEPTANCE OR REJECTION OF WELDED JOINT OR MEMBER	6.5.4, 6.5.5	P	--	P	--

1. WHEN WELDING OF DOUBLER PLATES, CONTINUITY PLATES OR STIFFENERS HAS BEEN PERFORMED IN THE K-AREA, VISUALLY INSPECT THE WEB K-AREA FOR CRACKS WITHIN 3 IN. (75 MM) OF THE WELD.


INSPECTION TASKS PRIOR TO BOLTING (AISC 360 - TABLE N5.6-1 AND C-N5.6-1)					
VISUAL INSPECTION TASKS	APPLICABLE RCSC SPECIFICATION REFERENCE	QC		QA	
		TASK	DOC.	TASK	DOC.
MANUFACTURER'S CERTIFICATIONS AVAILABLE FOR FASTENER MATERIALS	2.1, 9.1	O	--	P	--
FASTENERS MARKED IN ACCORDANCE WITH ASTM REQUIREMENTS	F-C-2.1, 9.1, ASTM STANDARDS	O	--	O	--
PROPER FASTENERS SELECTED FOR THE JOINT DETAIL	2.3.2, 2.7.2, 9.1	O	--	O	--
PROPER BOLTING PROCEDURE SELECTED FOR THE JOINT DETAIL	4, 8	O	--	O	--
CONNECTING ELEMENTS, INCLUDING THE APPROPRIATE FAYING SURFACE CONDITION AND HOLE PREPARATION, IF SPECIFIED, MEET APPLICABLE REQUIREMENTS	3, 9.1, 9.3	O	--	O	--
PRE-INSTALLATION VERIFICATION TESTING BY INSTALLATION PERSONNEL OBSERVED FOR FASTENER ASSEMBLIES AND METHODS USED	7, 9.2	O	--	O	--
PROPER STORAGE PROVIDED FOR BOLTS, NUTS, WASHERS AND OTHER FASTENER COMPONENTS	2.2, 8, 9.1	P	--	O	--

INSPECTION TASKS DURING BOLTING (AISC 360 - TABLE N5.6-2 AND C-N5.6-2)					
VISUAL INSPECTION TASKS	APPLICABLE RCSC SPECIFICATION REFERENCE	QC		QA	
		TASK	DOC.	TASK	DOC.
FASTENER ASSEMBLIES PLACED IN ALL HOLES AND WASHERS (IF REQUIRED) ARE POSITIONED AS REQUIRED	8.1, 9.1	O	--	O	--
JOINT BROUGHT TO THE SNUG TIGHT CONDITION PRIOR TO THE PRETENSIONING OPERATION	8.1, 9.1	O	--	O	--
FASTENER COMPONENT NOT TURNED BY THE WRENCH PREVENTED FROM ROTATING	8.2, 9.2	O	--	O	--
BOLTS ARE PRETENSIONED PROGRESSING SYSTEMATICALLY FROM THE MOST RIGID POINT TOWARD THE FREE EDGES	8.2, 9.2	O	--	O	--

APPROVED: **02/23/2024**

DATE: *Ann Mader Stillman*

ANN MADER STILLMAN,  
DIRECTOR OF PUBLIC WORKS  
R. C. E. # 47882 / EXPIRES 12-31-2025



INSPECTION TASKS AFTER BOLTING (AISC 360 - TABLE N5.6-3 AND C-N5.6-3)					
VISUAL INSPECTION TASKS	APPLICABLE RCSC SPECIFICATION REFERENCE	QC		QA	
		TASK	DOC.	TASK	DOC.
DOCUMENT ACCEPTANCE OR REJECTION OF BOLTED CONNECTIONS	-	P	--	P	--

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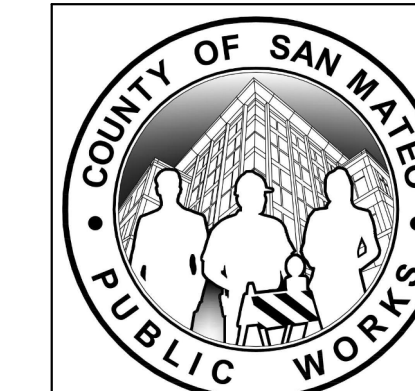
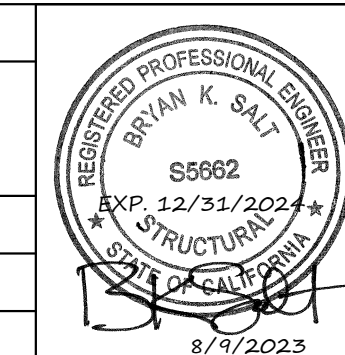
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C&S Engineers, Inc.  
7801 Folsom Boulevard, Suite 210  
Sacramento, California 95826  
Phone: 916-364-1470  
www.cscos.com

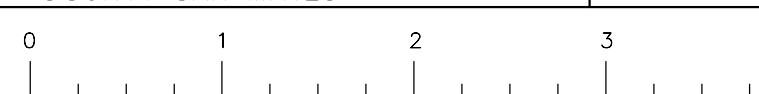


APPROVED DATE: 08/08/2023

BRYAN K. SALT  
C&S ENGINEERS, INC.  
S.E. # 5662 / EXPIRES 12/31/2024



DESIGNED BY: J.L.	(STEEL) AISC 360 SPECIAL INSPECTIONS	SCALE: NOT TO SCALE
CHECKED BY: B.K.S.	ELECTRICAL VAULT AND EMERGENCY GENERATOR	DATE: AUGUST 4, 2023
DRAWN BY: C.A.V.	ANN MADER STILLMAN, DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO	FILE NO.: E5079
REVISION	DATE	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063
FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES		S004 SHEET 21 OF 32





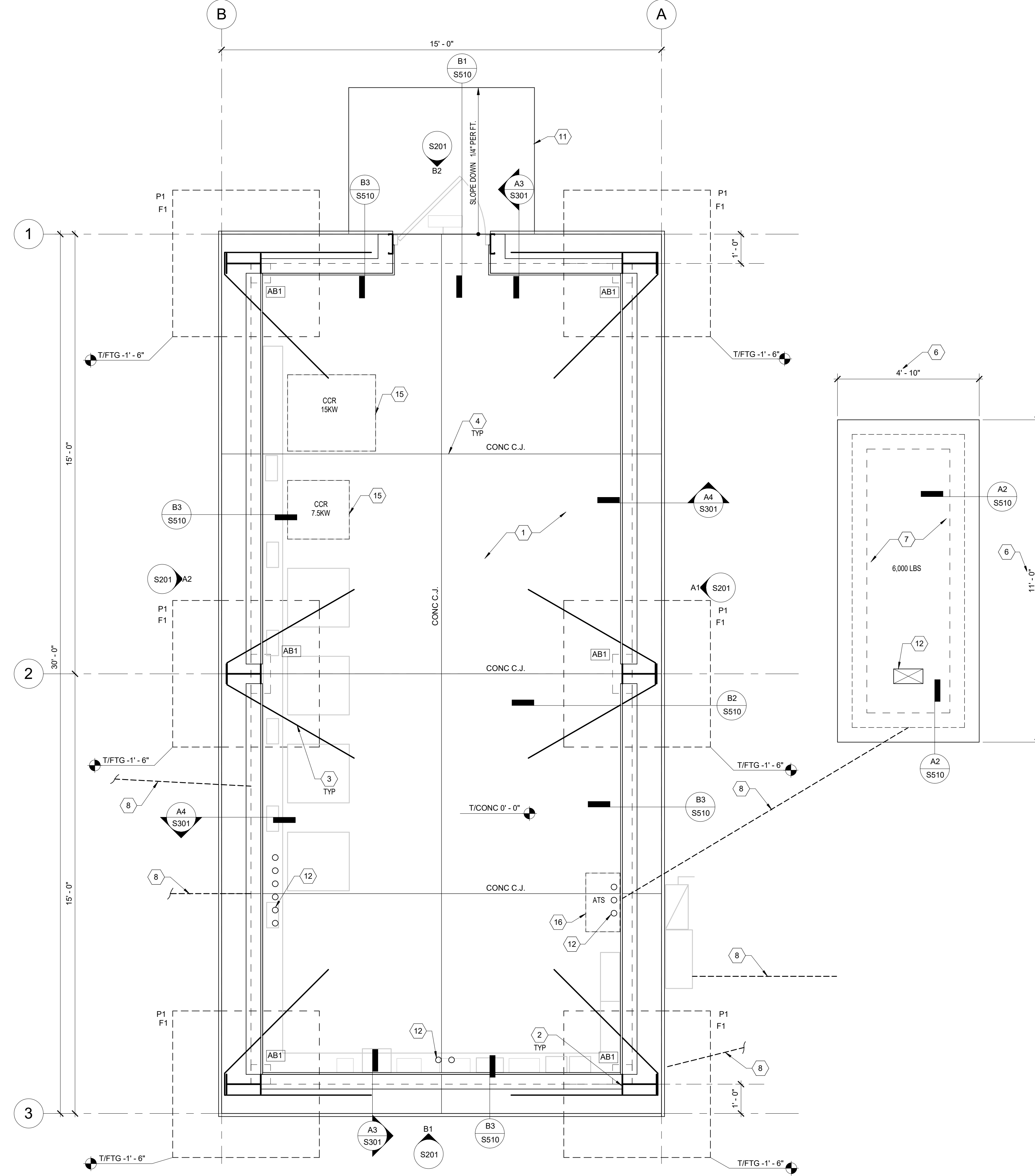
APPROVED: \_\_\_\_\_  
 DATE: 02/23/2024  
 ANN MADER STILLMAN,  
 DIRECTOR OF PUBLIC WORKS  
 R. C. E. # 47882 / EXPIRES 12-31-2025

**SHEET NOTES:**

- A. TOP OF STRUCTURAL REFERENCE ELEVATION = 0'-0" WHICH IS THE TOP OF FINISHED SLAB ELEVATION FOR FIRST FLOOR. VERIFY ALL ELEVATIONS WITH RESPECT TO REFERENCE DATUM ELEVATIONS WITH CIVIL DRAWINGS.
- B. REFER TO SHEETS S001, S002, S003 AND S004 FOR GENERAL STRUCTURAL NOTES, ABBREVIATIONS, LEGEND AND SPECIAL INSPECTIONS.
- C. THE ARCHITECT FURNISHES ALL ELEVATIONS AND DIMENSIONS. RESOLVE ANY DISCREPANCY WITH ARCHITECT. NOTIFY C&S COMPANIES THROUGH ARCHITECT OF ANY VARIATIONS FROM DIMENSIONS AND CONDITIONS SHOWN BY THESE DRAWINGS.
- D. ALL OPENINGS THROUGH FLOORS, WALLS OR ROOF ARE NOT SHOWN ON PLANS. COORDINATE ALL OPENING LOCATIONS WITH ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS. COORDINATE ADDITIONAL FRAMING REQUIREMENTS OR REINFORCING WITH TYPICAL DETAILS.
- E. REFER TO SHEET S201 FOR FRAMING ELEVATIONS.
- F. REFER TO SHEET S301 FOR FRAMING SECTIONS.
- G. REFER TO S500 SERIES SHEETS FOR TYPICAL DETAILS.
- H. REFER TO S510 SERIES SHEETS FOR FOUNDATION DETAILS.
- I. REFER TO S520 SERIES SHEETS FOR FRAMING DETAILS.
- J. AB DENOTES ANCHOR BOLTS. SEE SCHEDULE ON SHEET S510 FOR SIZE AND EMBEDMENT. REFER TO PEMB DRAWINGS FOR EXACT LOCATIONS.
- K. F DENOTES ISOLATED SPREAD FOOTING. SEE SCHEDULE ON SHEET S510 FOR SIZE AND REINFORCING. FOOTING SHALL BE CENTERED UNDER COLUMN U.N.O.
- L. P DENOTES CONCRETE PIER. SEE DETAIL A3/S301 FOR SIZE AND REINFORCING.
- M. REFER TO PEMB MANUFACTURER DRAWINGS FOR FRAMES, GIRTS, WALL PANELS AND VERTICAL BRACING. IF BRACE LOCATIONS DIFFER FROM WHAT IS SHOWN ON PLANS, CONTACT STRUCTURAL ENGINEER OF RECORD.

**KEYED NOTES:**

- KEYNOTE NUMBERS MAY NOT BE SEQUENTIAL ON SHEET
- 1 6" THICK CONCRETE SLAB ON GRADE WITH #4 AT 12" O.C. EACH WAY OVER 4" A.B.C. REFER TO SOILS REPORT FOR SUBBASE REQUIREMENTS.
- 2 PRE-ENGINEERED METAL BUILDING (PEMB) COLUMN. CENTER CONCRETE PIER AND ISOLATED SPREAD FOOTING ON COLUMN CENTERLINE.
- 3 HAIRPIN REINFORCING BARS. REFER TO TYPICAL DETAILS FOR ADDITIONAL INFORMATION.
- 4 CONCRETE C.J. - REFER TO TYPICAL DETAILS FOR ADDITIONAL INFORMATION.
- 6 APPROXIMATE DIMENSIONS OF GENERATOR PAD - COORDINATE FINAL SIZE AND LOCATION WITH CIVIL AND ELECTRICAL DRAWINGS AND SPECIFICATIONS.
- 7 6" THICK CONCRETE GENERATOR PAD ON GRADE WITH #5 AT 12" O.C. EACH WAY OVER 4" A.B.C. REFER TO SOILS REPORT FOR SUBBASE REQUIREMENTS.
- 8 ELECTRICAL CONDUITS, REFER TO ELECTRICAL DRAWINGS.
- 11 5" CONCRETE SLAB OVER SUBGRADE WITH #3 AT 18" O.C. EACH WAY PARALLEL TO EXTERIOR WALL. EXTEND REINFORCING SLAB 18" MINIMUM PAST DOOR JAMB OR EDGE OF SLAB WHICHEVER IS LONGER. PERPENDICULAR TO EXTERIOR WALL, EXTEND REINFORCED SLAB 60" PAST DOOR SILL. IN ALL CASES THE REINFORCED SLAB EXTENDS TO AN EDGE OF SLAB OR SCORE LINE.
- 12 APPROXIMATE LOCATION OF ELECTRICAL CONDUIT IN CONCRETE SLAB - COORDINATE EXACT CONDUIT LOCATIONS WITH ELECTRICAL DRAWINGS. FOR REQUIREMENTS FOR SMALL OPENINGS IN CONCRETE SLAB REFER TO TYPICAL DETAIL A2/S501.
- 15 FLOOR MOUNTED EQUIPMENT - FOR SEISMIC ANCHORAGE REQUIREMENTS REFER TO TYPICAL DETAIL C3/S530 FOR ADDITIONAL INFORMATION. COORDINATE FINAL LOCATION AND SIZE WITH ELECTRICAL DRAWINGS AND SPECIFICATIONS.
- 16 WALL MOUNTED ATC CABINET - FOR SEISMIC ATTACHMENT AND BACKING PLATE REQUIREMENTS REFER TO DETAIL ST5.00/S530 FOR ADDITIONAL INFORMATION. COORDINATE FINAL LOCATION AND SIZE WITH ELECTRICAL DRAWINGS AND SPECIFICATIONS.

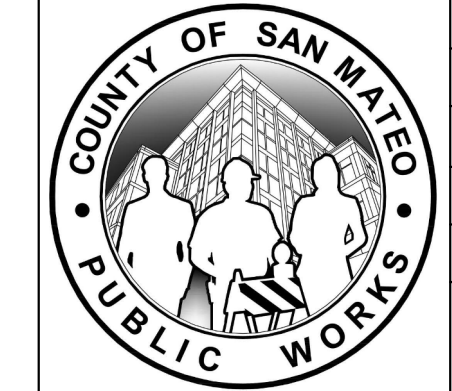
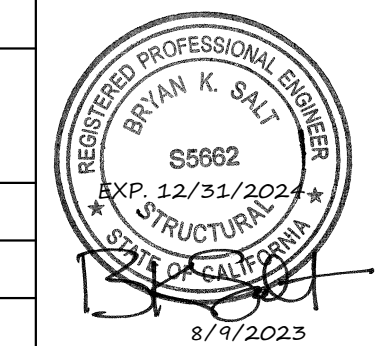


**A1 FOUNDATION PLAN**  
SCALE: 1/2" = 1'-0"

C&S Engineers, Inc.  
 7801 Folsom Boulevard, Suite 210  
 Sacramento, California 95826  
 Phone: 916-364-1470  
 www.cscos.com



APPROVED DATE: 08/08/2023  
 BRYAN K. SALT  
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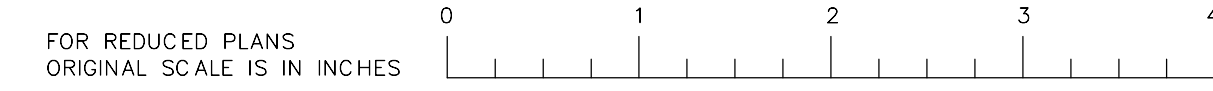


DESIGNED BY: J.L.	ANN MADER STILLMAN, DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO
CHECKED BY: B.K.S.	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063
DRAWN BY: C.A.V.	
REVISION	DATE

**FOUNDATION PLAN**  
**ELECTRICAL VAULT AND EMERGENCY GENERATOR**

SCALE: AS SHOWN  
 DATE: AUGUST 4, 2023  
 FILE NO.: E5079

S101  
 SHEET 22 OF 32



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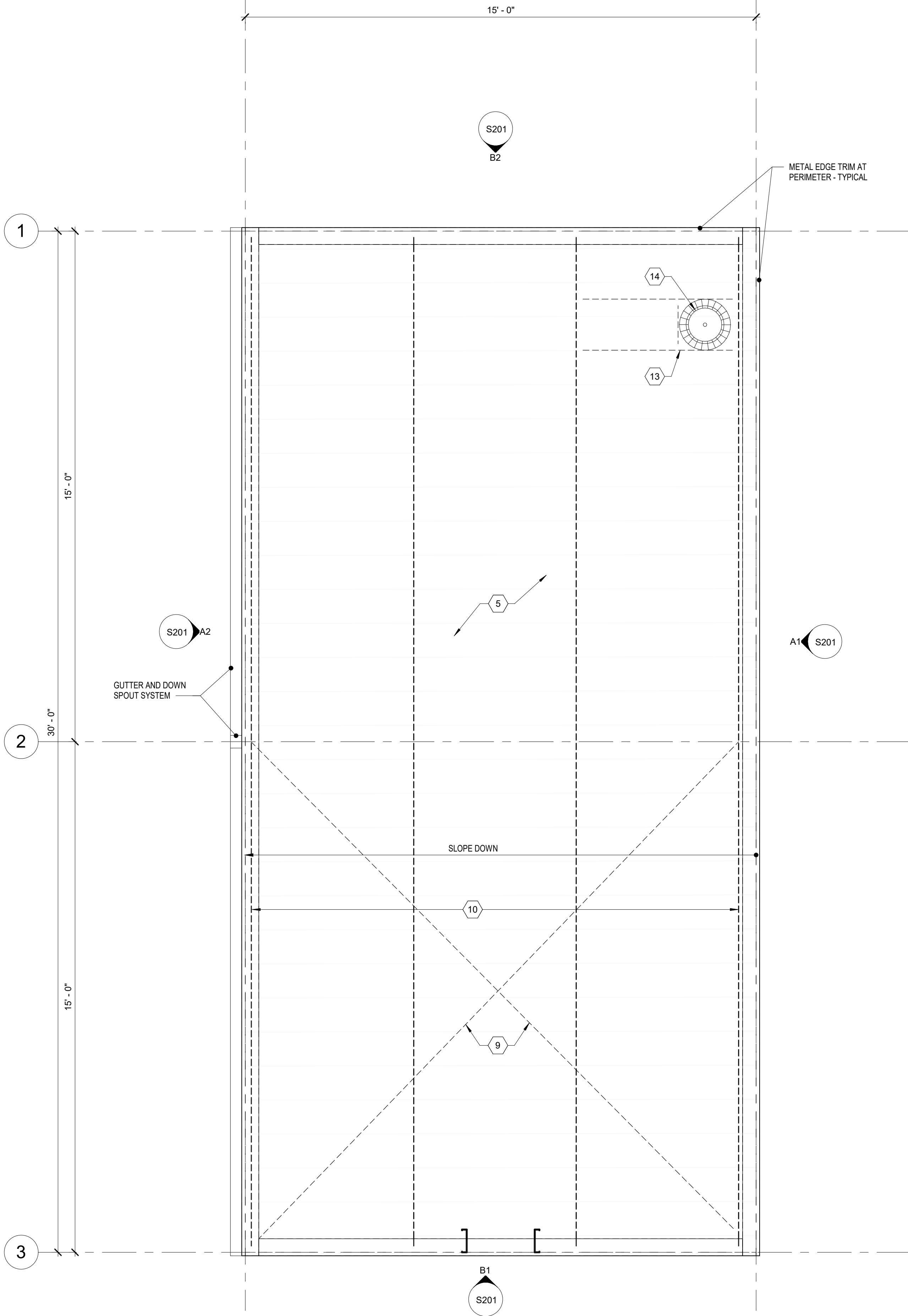
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APPROVED: \_\_\_\_\_  
 DATE: 02/23/2024  
 ANN MADER STILLMAN,  
 DIRECTOR OF PUBLIC WORKS  
 R. C. E. # 47882 / EXPIRES 12-31-2025

**SHEET NOTES:**

- A. TOP OF STRUCTURAL REFERENCE ELEVATION = 0'-0" WHICH IS THE TOP OF FINISHED SLAB ELEVATION FOR FIRST FLOOR. VERIFY ALL ELEVATIONS WITH RESPECT TO REFERENCE DATUM ELEVATIONS WITH CIVIL DRAWINGS.
- B. REFER TO SHEETS S001, S002, S003 AND S004 FOR GENERAL STRUCTURAL NOTES, ABBREVIATIONS, LEGEND AND SPECIAL INSPECTIONS.
- C. THE ARCHITECT FURNISHES ALL ELEVATIONS AND DIMENSIONS. RESOLVE ANY DISCREPANCY WITH ARCHITECT. NOTIFY C&S COMPANIES THROUGH ARCHITECT OF ANY VARIATIONS FROM DIMENSIONS AND CONDITIONS SHOWN BY THESE DRAWINGS.
- D. ALL OPENINGS THROUGH FLOORS, WALLS OR ROOF ARE NOT SHOWN ON PLANS. COORDINATE ALL OPENING LOCATIONS WITH ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS. COORDINATE ADDITIONAL FRAMING REQUIREMENTS OR REINFORCING WITH TYPICAL DETAILS.
- E. REFER TO SHEET S201 FOR FRAMING ELEVATIONS.
- F. REFER TO SHEET S301 FOR FRAMING SECTIONS.
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- H. REFER TO S510 SERIES SHEETS FOR FOUNDATION DETAILS.
- I. REFER TO S520 SERIES SHEETS FOR FRAMING DETAILS.
- J. REFER TO PEMB MANUFACTURER DRAWINGS FOR FRAMES, GIRTS, WALL PANELS AND VERTICAL BRACING. IF BRACE LOCATIONS DIFFER FROM WHAT IS SHOWN ON PLANS, CONTACT STRUCTURAL ENGINEER OF RECORD.

**KEYED NOTES:**

- # KEYNOTE NUMBERS MAY NOT BE SEQUENTIAL ON SHEET
- 5 ROOF FRAMING AND ROOF PANELS BY PRE-ENGINEERED METAL BUILDING VENDOR.
- 9 HORIZONTAL BRACING, REFER TO PRE-ENGINEERED METAL BUILDING (PEMB) DRAWINGS.
- 10 ROOF PURLINS, REFER TO PRE-ENGINEERED METAL BUILDING (PEMB) DRAWINGS.
- 13 PROVIDE SUPPORT FRAMING AT VENTILATOR AND ROOF OPENING AS REQUIRED. VENTILATOR WEIGHT = 50 LBS.
- 14 20-INCH TURBINE ROOF VENTILATOR - SEE SPECIFICATIONS.

**A1 ROOF FRAMING PLAN**

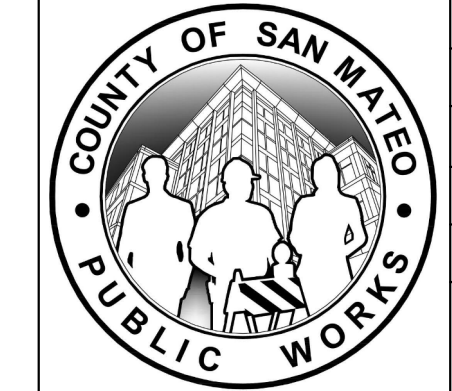
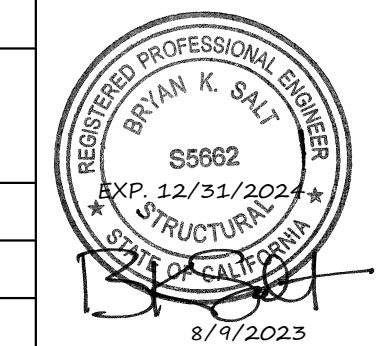
SCALE: 1/2" = 1'-0"

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 Sacramento, California 95826  
 Phone: 916-364-1470  
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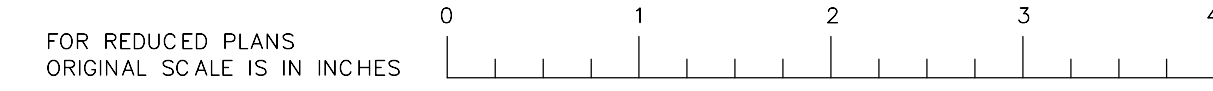


APPROVED DATE: 08/08/2023

BRYAN K. SALT  
 C&S ENGINEERS, INC.  
 S.E. # 5662 / EXPIRES 12/31/2024



DESIGNED BY: J.L.		ROOF FRAMING PLAN		SCALE: AS SHOWN
CHECKED BY: B.K.S.		ELECTRICAL VAULT AND EMERGENCY GENERATOR		DATE: AUGUST 4, 2023
DRAWN BY: C.A.V.		ANN MADER STILLMAN, DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO		FILE NO.: E5079
REVISION	DATE	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063		S102 SHEET 23 OF 32

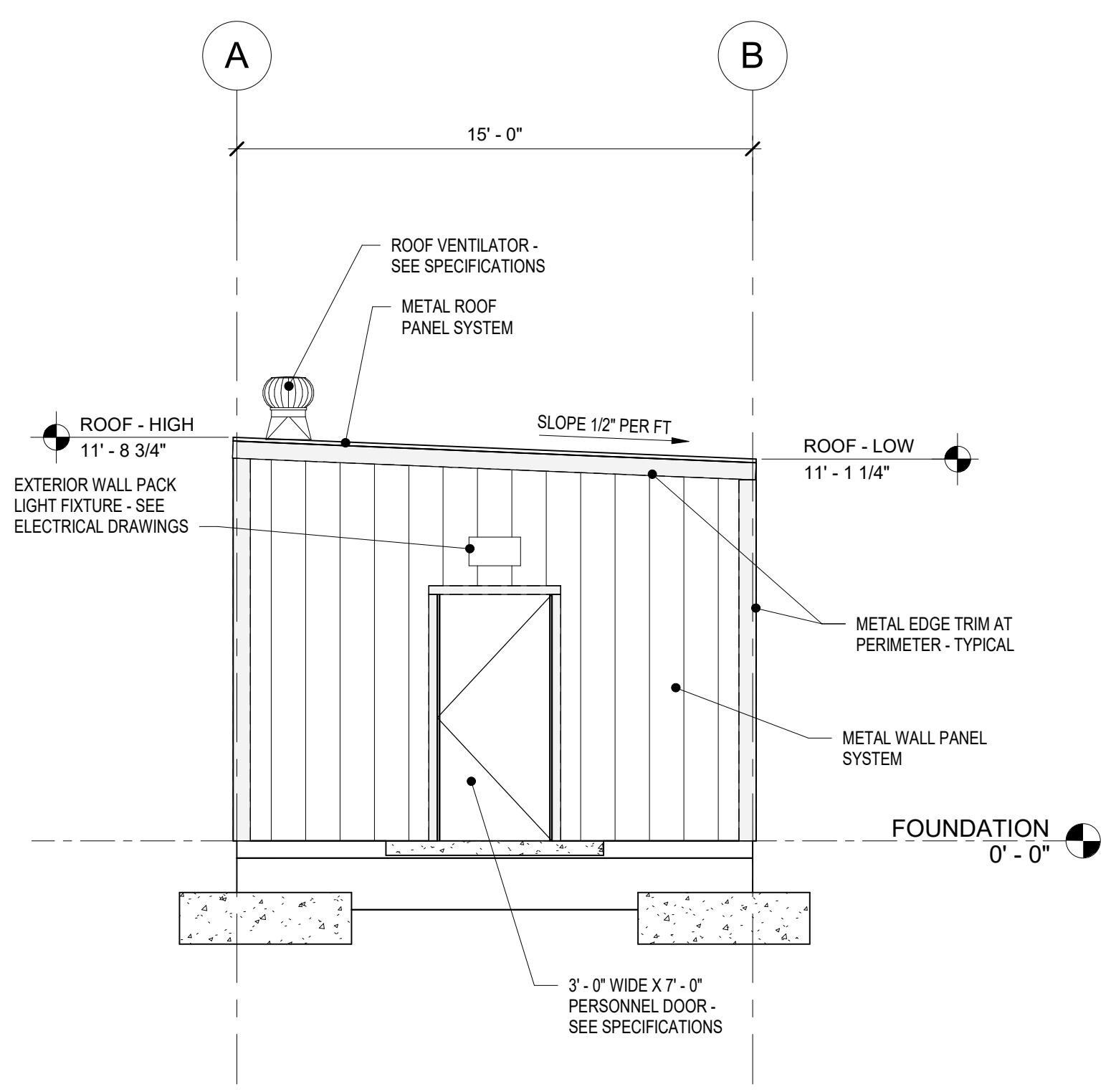
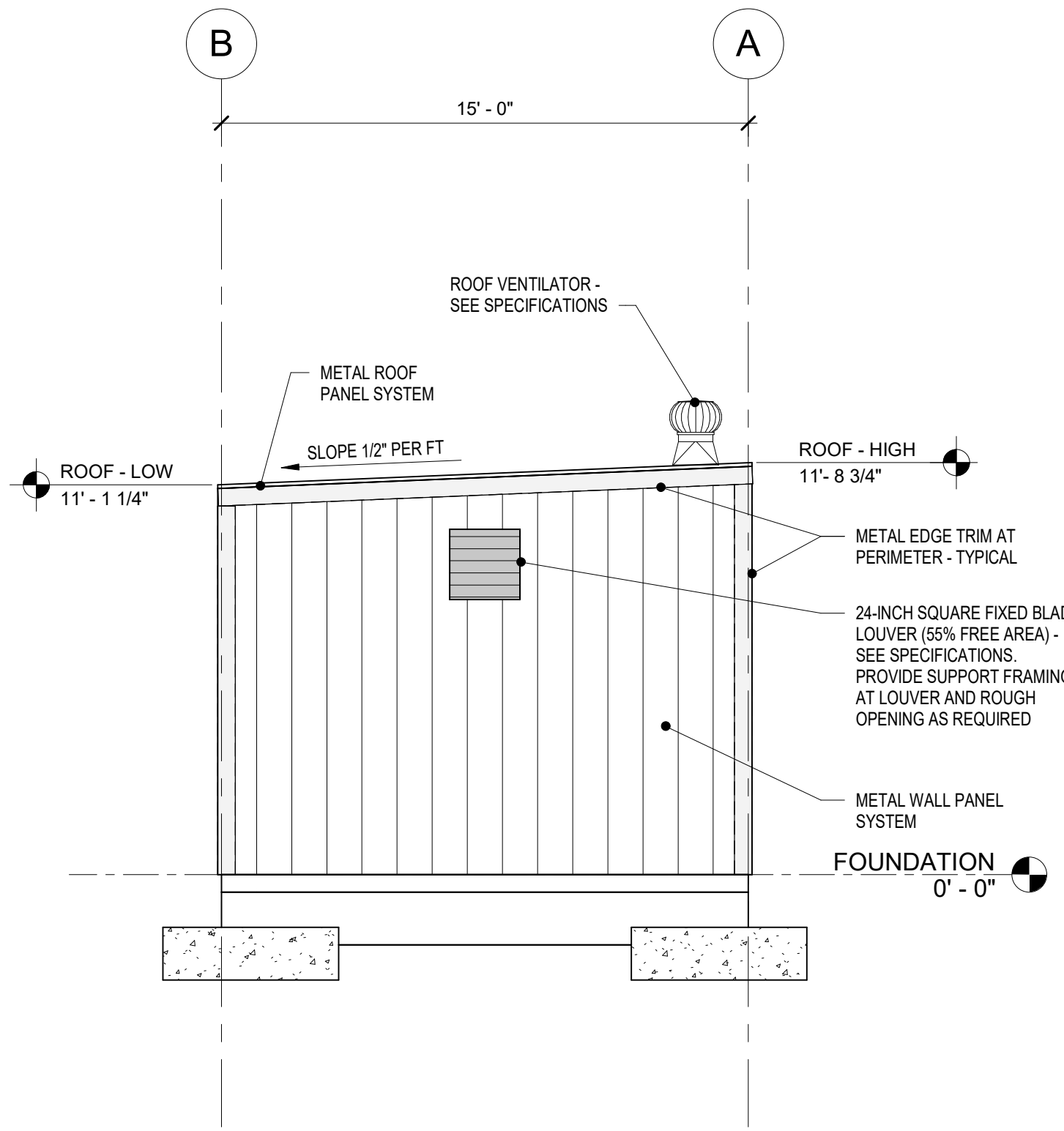


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4



APPROVED: \_\_\_\_\_  
 DATE: 02/23/2024  
 ANN MADER STILLMAN,  
 DIRECTOR OF PUBLIC WORKS  
 R. C. E. # 47882 / EXPIRES 12-31-2025

**SHEET NOTES:**

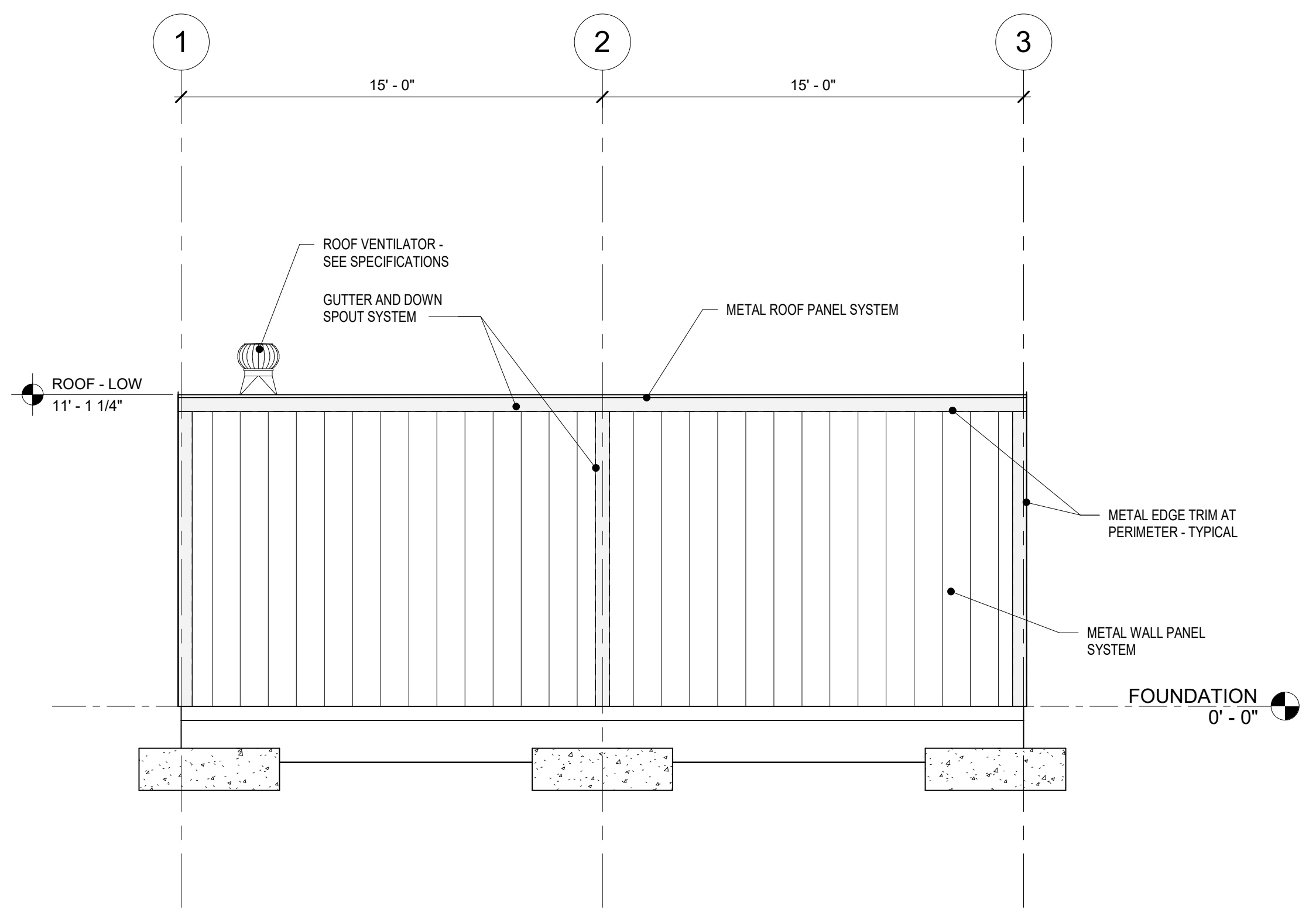
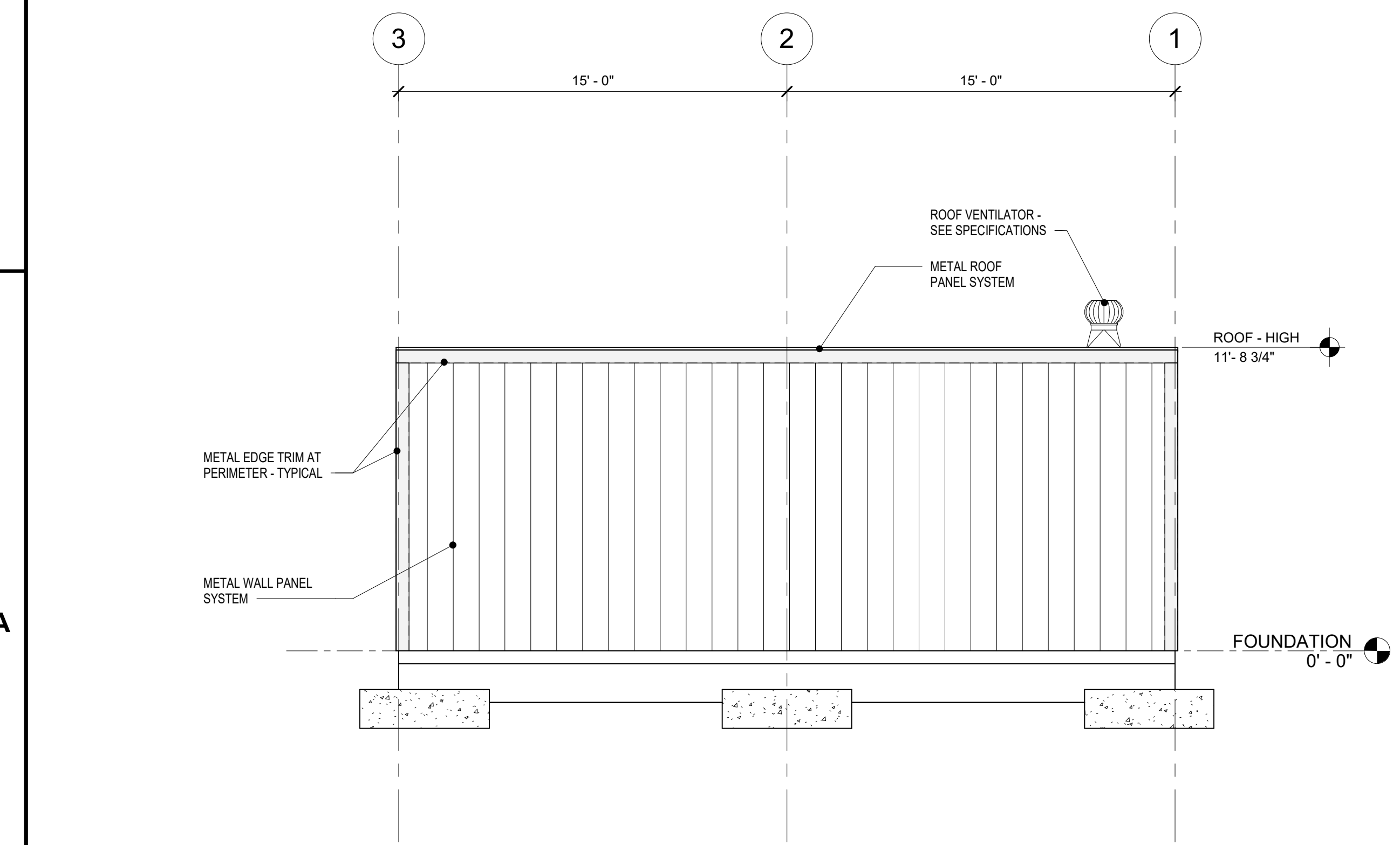
- A. TOP OF STRUCTURAL REFERENCE ELEVATION = 0'-0" WHICH IS THE TOP OF FINISHED SLAB ELEVATION FOR FIRST FLOOR. VERIFY ALL ELEVATIONS WITH RESPECT TO REFERENCE DATUM ELEVATIONS WITH CIVIL DRAWINGS.
- B. REFER TO SHEETS S001, S002, S003 AND S004 FOR GENERAL STRUCTURAL NOTES, ABBREVIATIONS, LEGEND AND SPECIAL INSPECTIONS.
- C. THE ARCHITECT FURNISHES ALL ELEVATIONS AND DIMENSIONS. RESOLVE ANY DISCREPANCY WITH ARCHITECT. NOTIFY C&S COMPANIES THROUGH ARCHITECT OF ANY VARIATIONS FROM DIMENSIONS AND CONDITIONS SHOWN BY THESE DRAWINGS.
- D. ALL OPENINGS THROUGH FLOORS, WALLS OR ROOF ARE NOT SHOWN ON PLANS. COORDINATE ALL OPENING LOCATIONS WITH ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS. COORDINATE ADDITIONAL FRAMING REQUIREMENTS OR REINFORCING WITH TYPICAL DETAILS.
- E. REFER TO SHEET S201 FOR FRAMING ELEVATIONS.
- F. REFER TO SHEET S301 FOR FRAMING SECTIONS.
- G. REFER TO S500 SERIES SHEETS FOR TYPICAL DETAILS.
- H. REFER TO S510 SERIES SHEETS FOR FOUNDATION DETAILS.
- J. REFER TO S520 SERIES SHEETS FOR FRAMING DETAILS.
- K. REFER TO PEMB MANUFACTURER DRAWINGS FOR FRAMES, GIRTS, WALL PANELS AND VERTICAL BRACING. IF BRACE LOCATIONS DIFFER FROM WHAT IS SHOWN ON PLANS, CONTACT STRUCTURAL ENGINEER OF RECORD.

**KEYED NOTES:**

KEYNOTE NUMBERS MAY NOT BE SEQUENTIAL ON SHEET

**B1 ELEVATION ALONG GRIDLINE 3**  
 SCALE: 1/4" = 1'-0"

**B2 ELEVATION ALONG GRIDLINE 1**  
 SCALE: 1/4" = 1'-0"



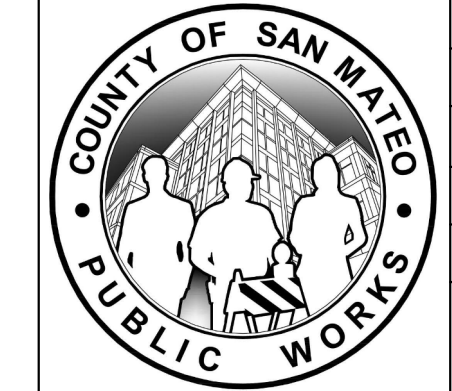
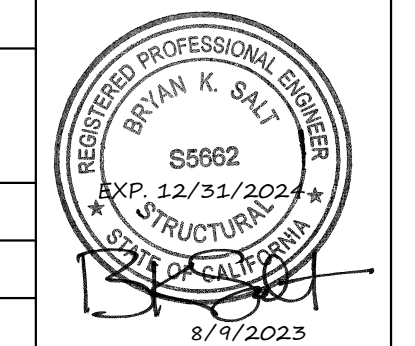
**A1 ELEVATION ALONG GRIDLINE A**  
 SCALE: 1/4" = 1'-0"

**A2 ELEVATION ALONG GRIDLINE B**  
 SCALE: 1/4" = 1'-0"

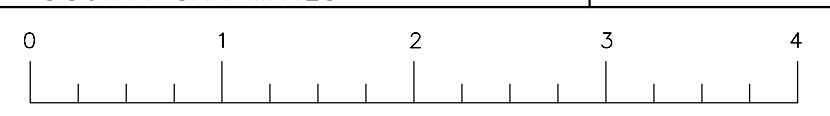
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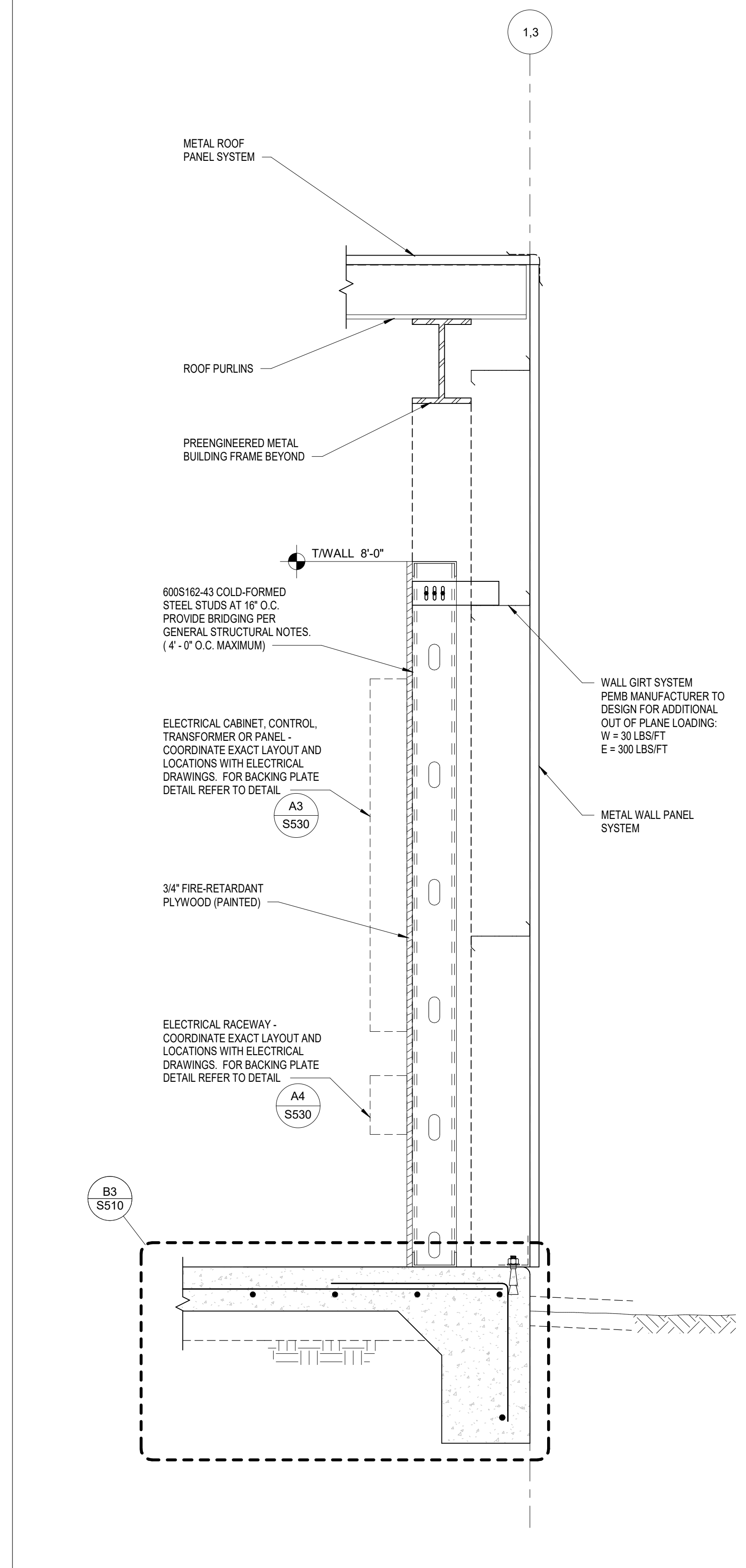
APPROVED DATE: 08/08/2023  
 BRYAN K. SALT  
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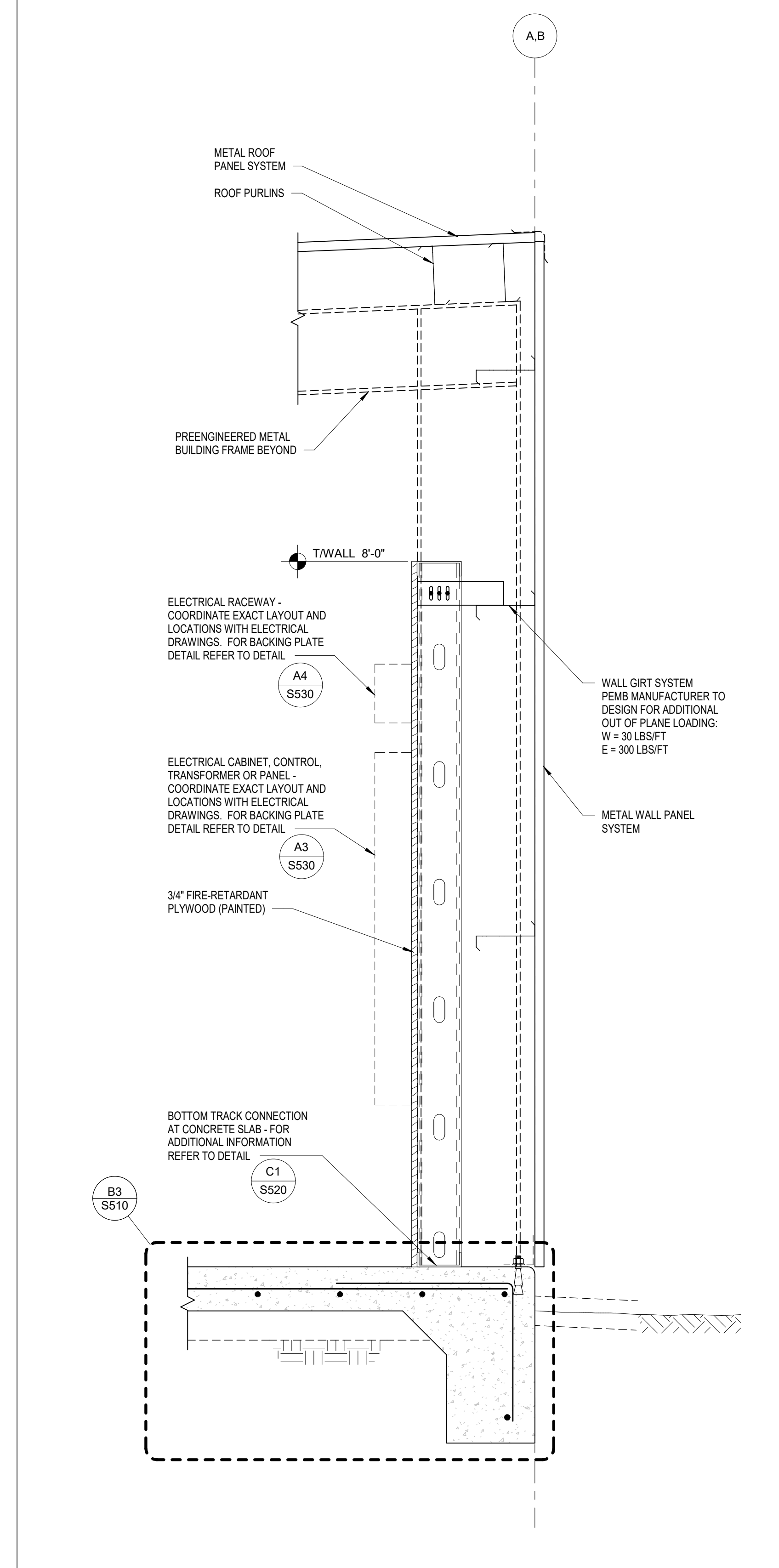
DESIGNED BY: J.L.		FRAME ELEVATIONS		SCALE: AS SHOWN
CHECKED BY: B.K.S.		ELECTRICAL VAULT AND EMERGENCY GENERATOR		DATE: AUGUST 4, 2023
DRAWN BY: C.A.V.		ANN MADER STILLMAN, DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO		FILE NO.: E5079
REVISION	DATE	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063		S201 SHEET 24 OF 32
FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES				



APPROVED: **02/23/2024**  
 DATE: *Ann Mader Stillman*  
 ANN MADER STILLMAN,  
 DIRECTOR OF PUBLIC WORKS  
 R. C. E. # 47882 / EXPIRES 12-31-2025



**A3 WALL SECTION**  
 SCALE: NOT TO SCALE

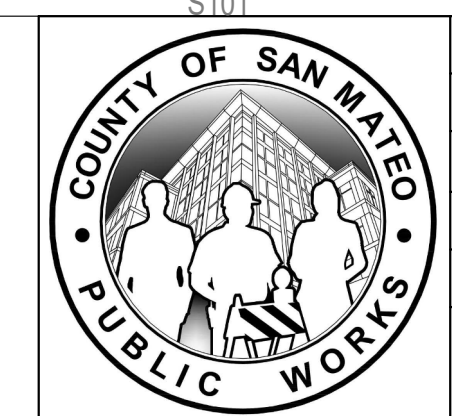
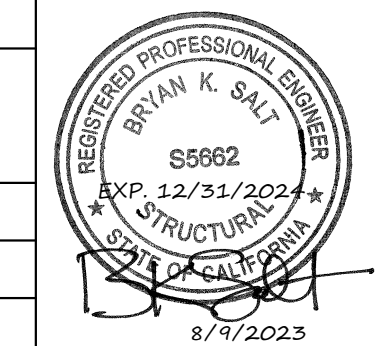


**A4 WALL SECTION**  
 SCALE: NOT TO SCALE

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 S.E. # 5662 / EXPIRES 12/31/2024



REVISION		DATE	DESIGNED BY: J.L.	CHECKED BY: B.K.S.	DRAWN BY: C.A.V.	ANN MADER STILLMAN, DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063	SCALE: AS SHOWN	DATE: AUGUST 4, 2023	FILE NO.: E5079

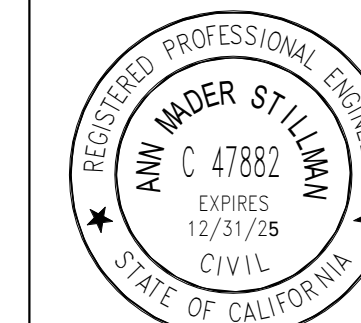
FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES  
 0 1 2 3 4  
**S301**  
 SHEET 25 OF 32

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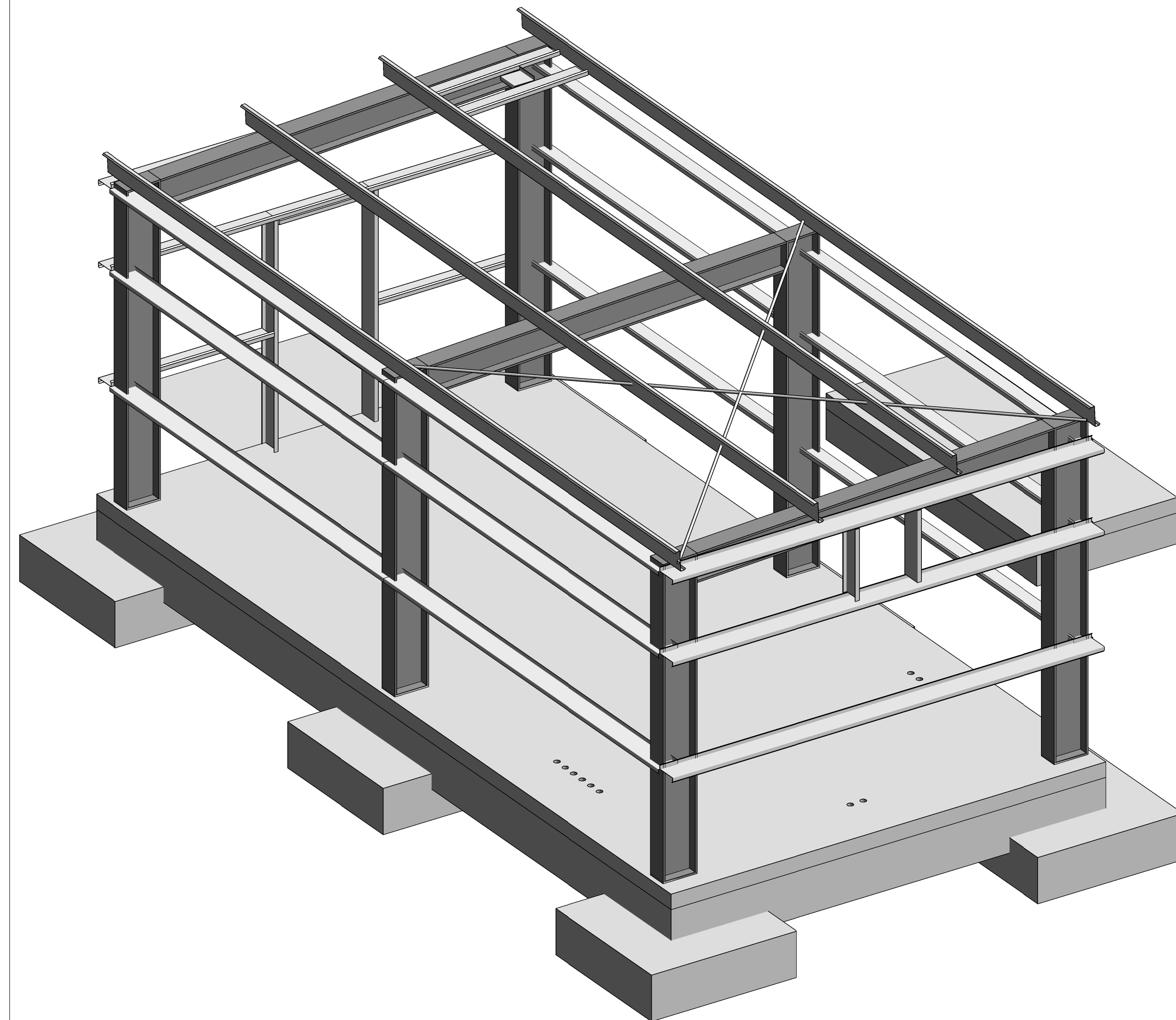
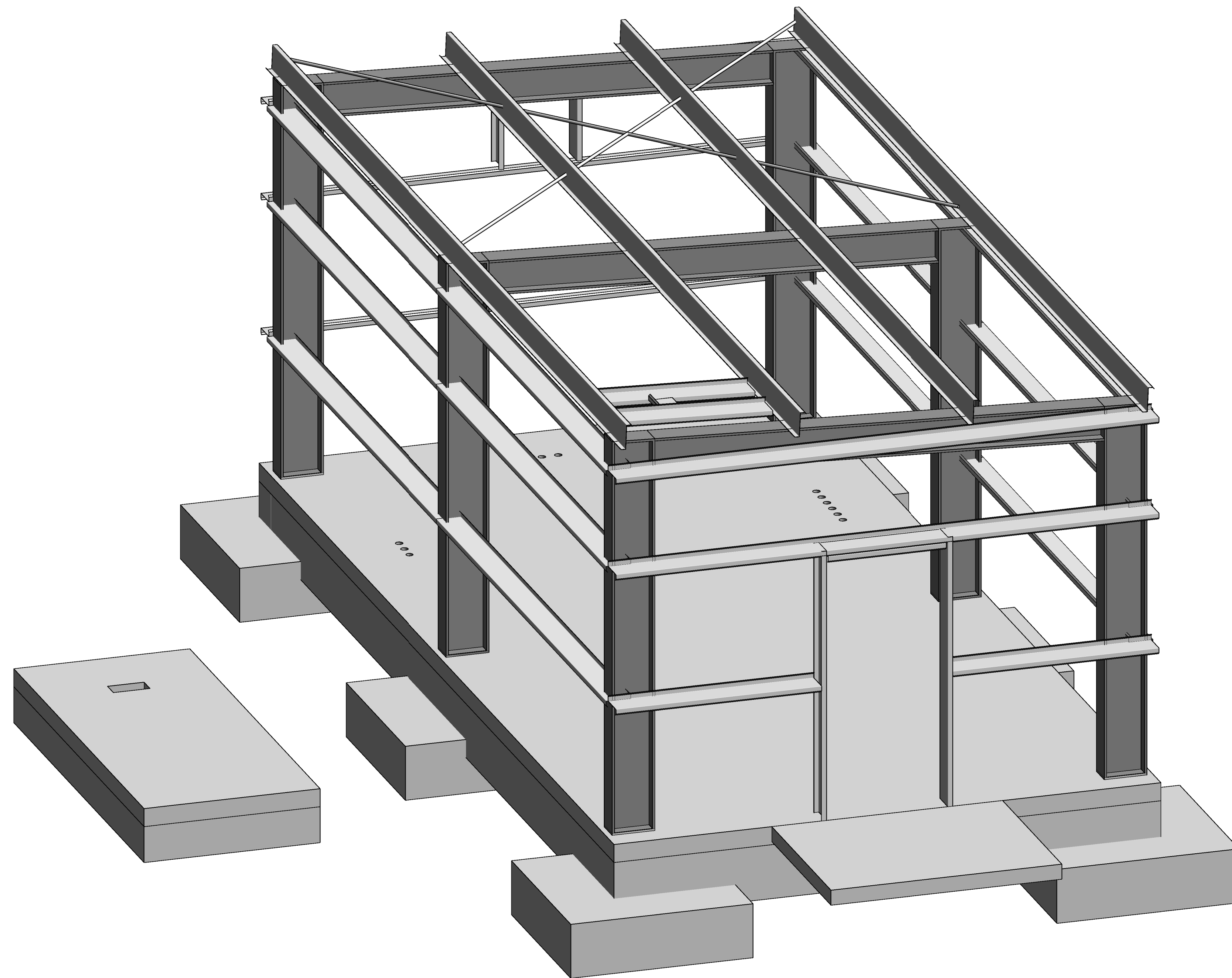


APPROVED:

DATE: 02/23/2024

*Ann Mader Stillman*

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DIRECTOR OF PUBLIC WORKS  
R. C. E. # 47882 / EXPIRES 12-31-2025



C

C

B

B

A

A

**A1 PEMB STRUCTURE**  
SCALE: NOT TO SCALE

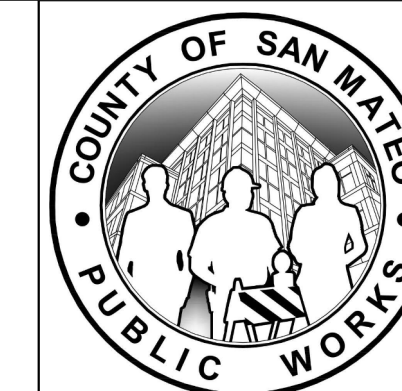
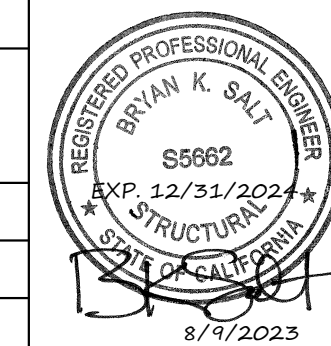
**A3 PEMB STRUCTURE**  
SCALE: NOT TO SCALE

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S.E. # 5662 / EXPIRES 12/31/2024




DESIGNED BY: J.L.	PEMB STRUCTURE ELECTRICAL VAULT AND EMERGENCY GENERATOR	SCALE: NOT TO SCALE
CHECKED BY: B.K.S.		DATE: AUGUST 4, 2023
DRAWN BY: C.A.V.		FILE NO.: E5079
ANN MADER STILLMAN, DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063	S310 SHEET 26 OF 32
REVISION	DATE	FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES
		0 1 2 3 4

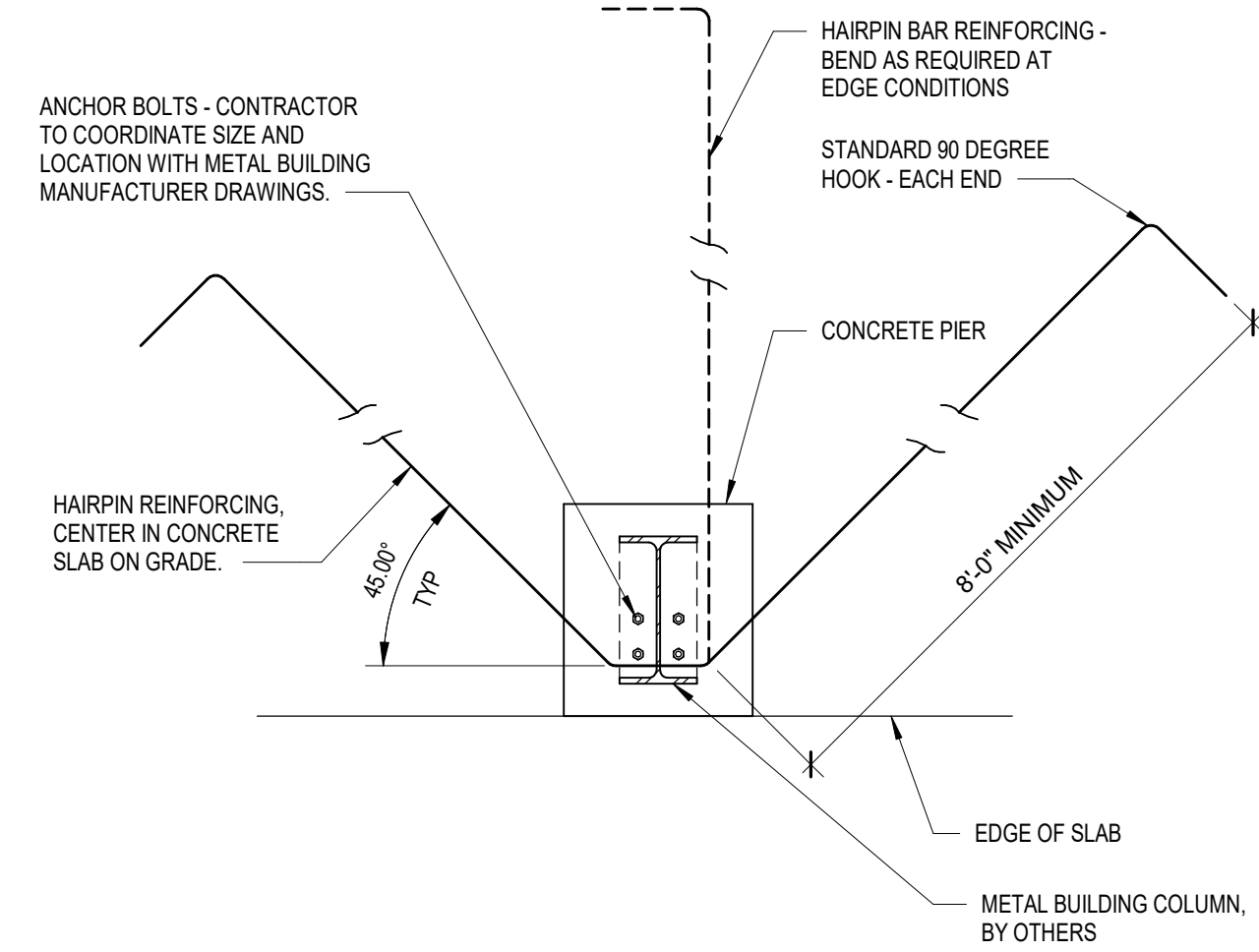
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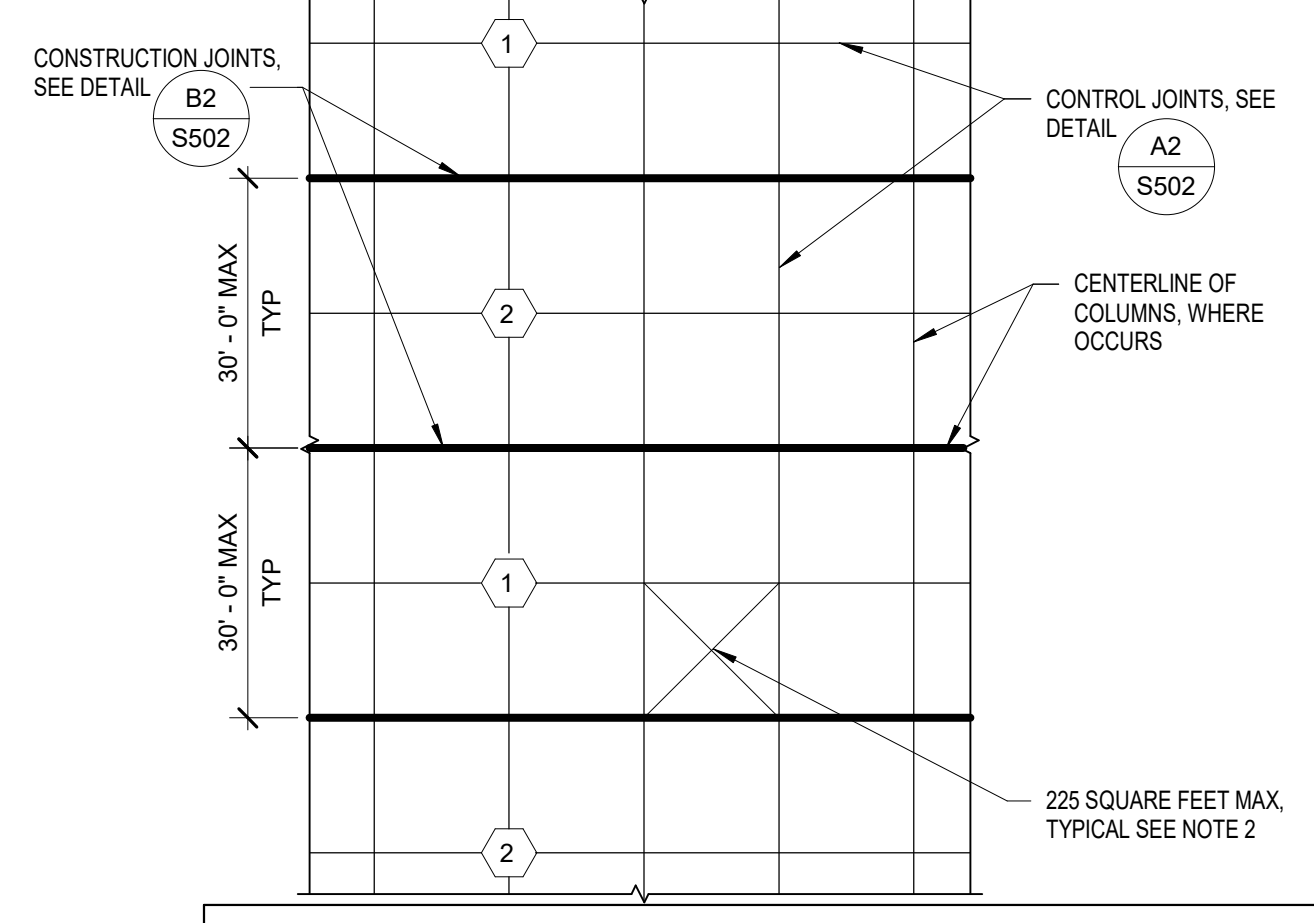
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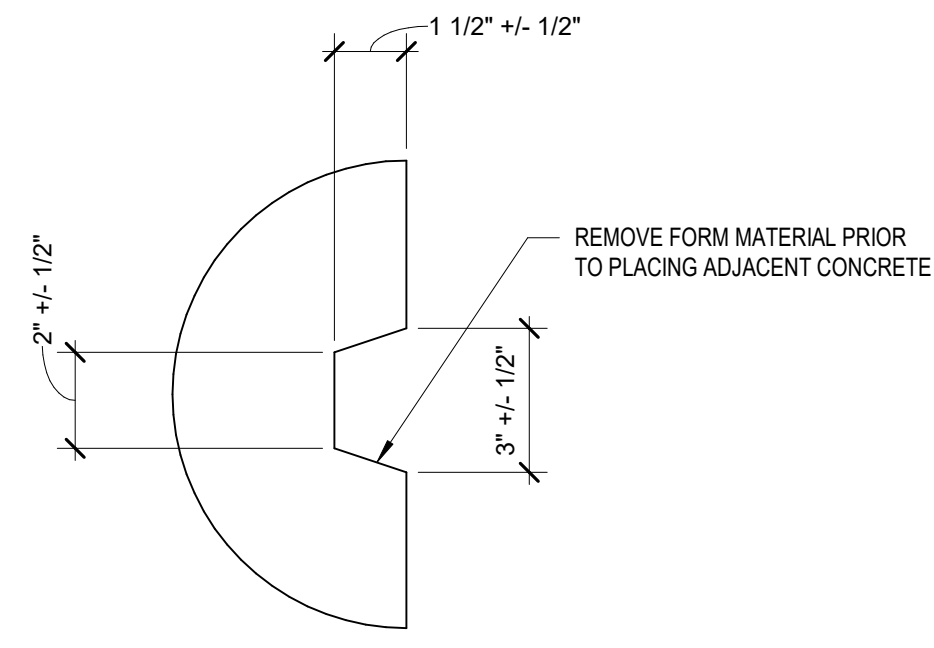
APPROVED: **02/23/2024**  
 DATE: **02/23/2024**  
  
 ANN MADER STILLMAN,  
 DIRECTOR OF PUBLIC WORKS  
 R. C. E. # 47882 / EXPIRES 12-31-2025



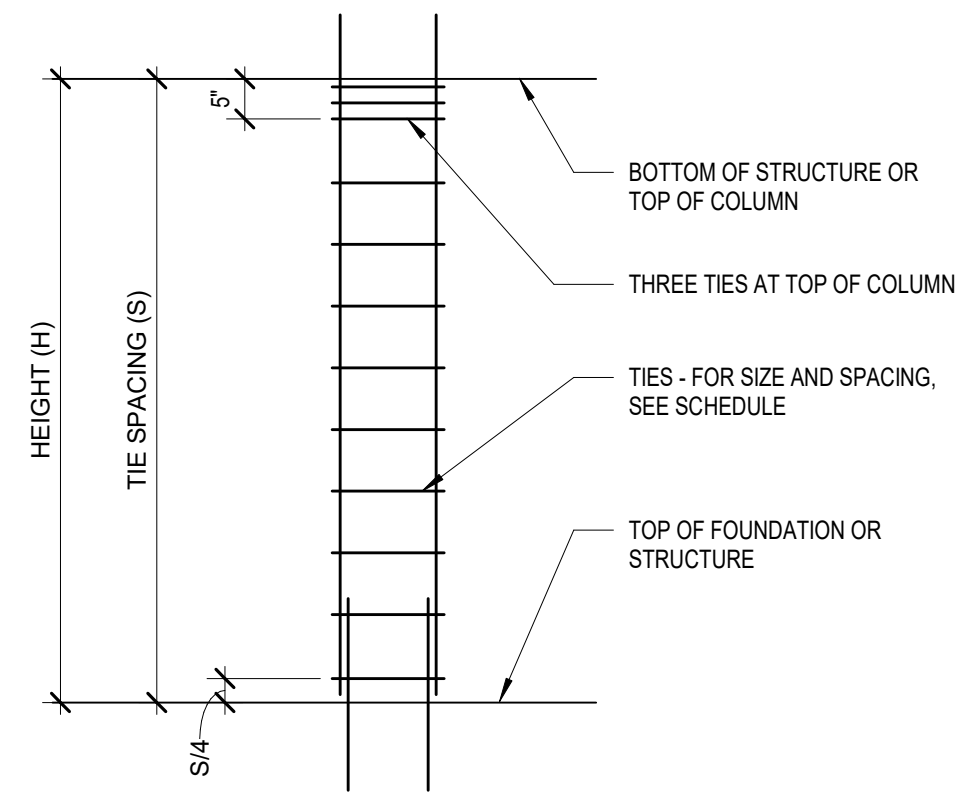
**C2** TYPICAL DETAIL - HAIRPIN REINFORCING AT ANCHOR RODS  
 SCALE: NOT TO SCALE



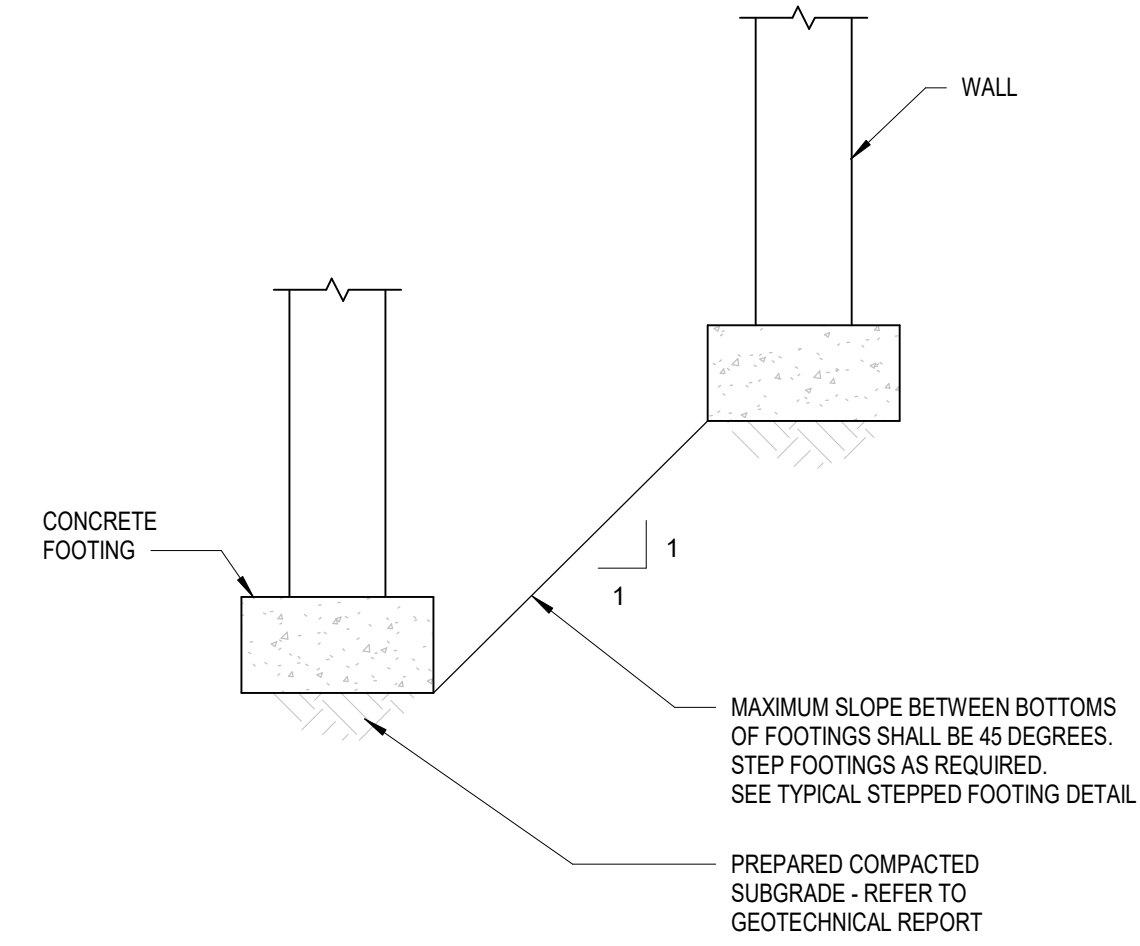
**C3** TYPICAL DETAIL - METHOD OF POURING SLAB ON GRADE  
 SCALE: NOT TO SCALE



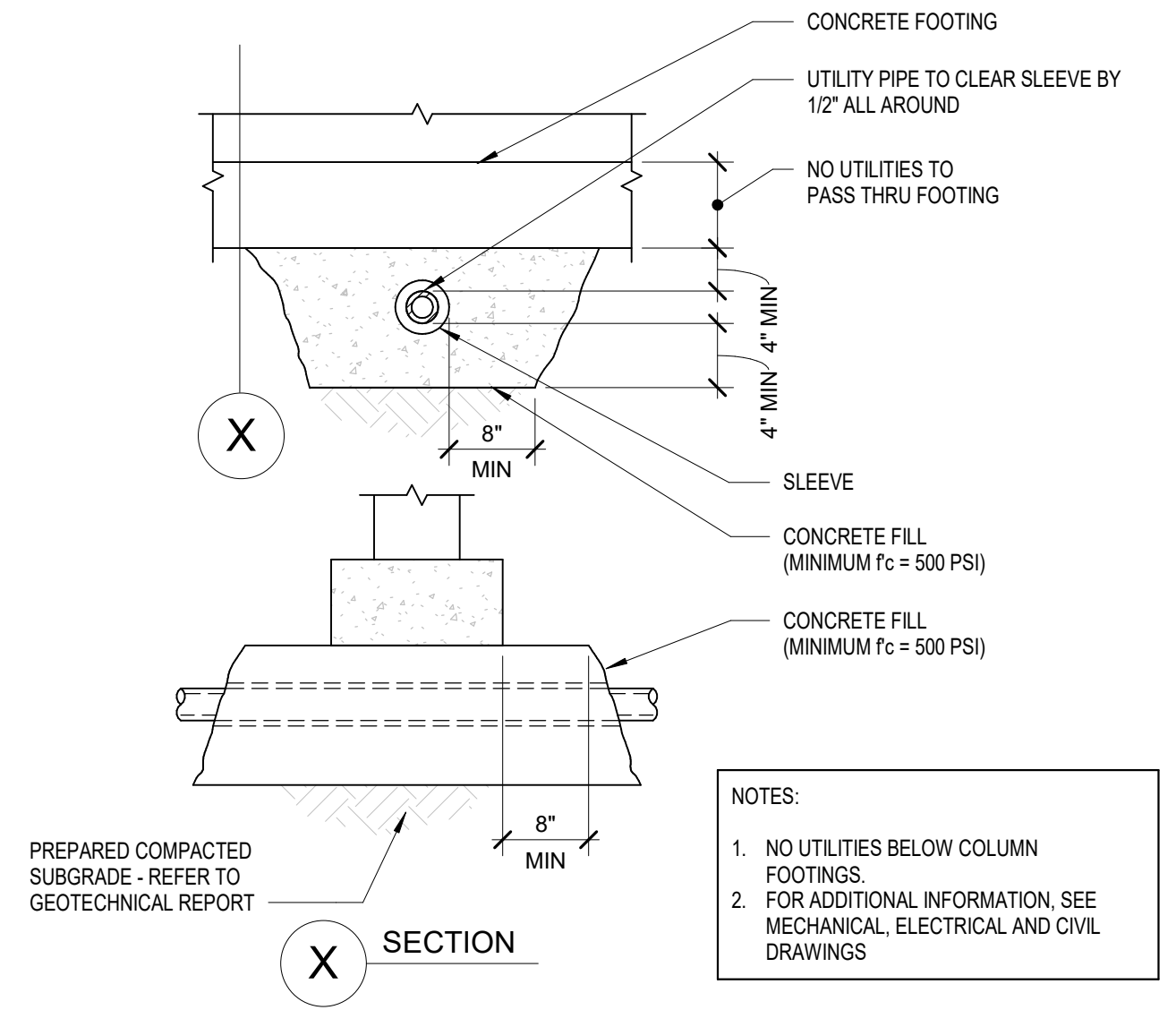
**B1** TYPICAL DETAIL - KEY IN CONCRETE  
 SCALE: NOT TO SCALE



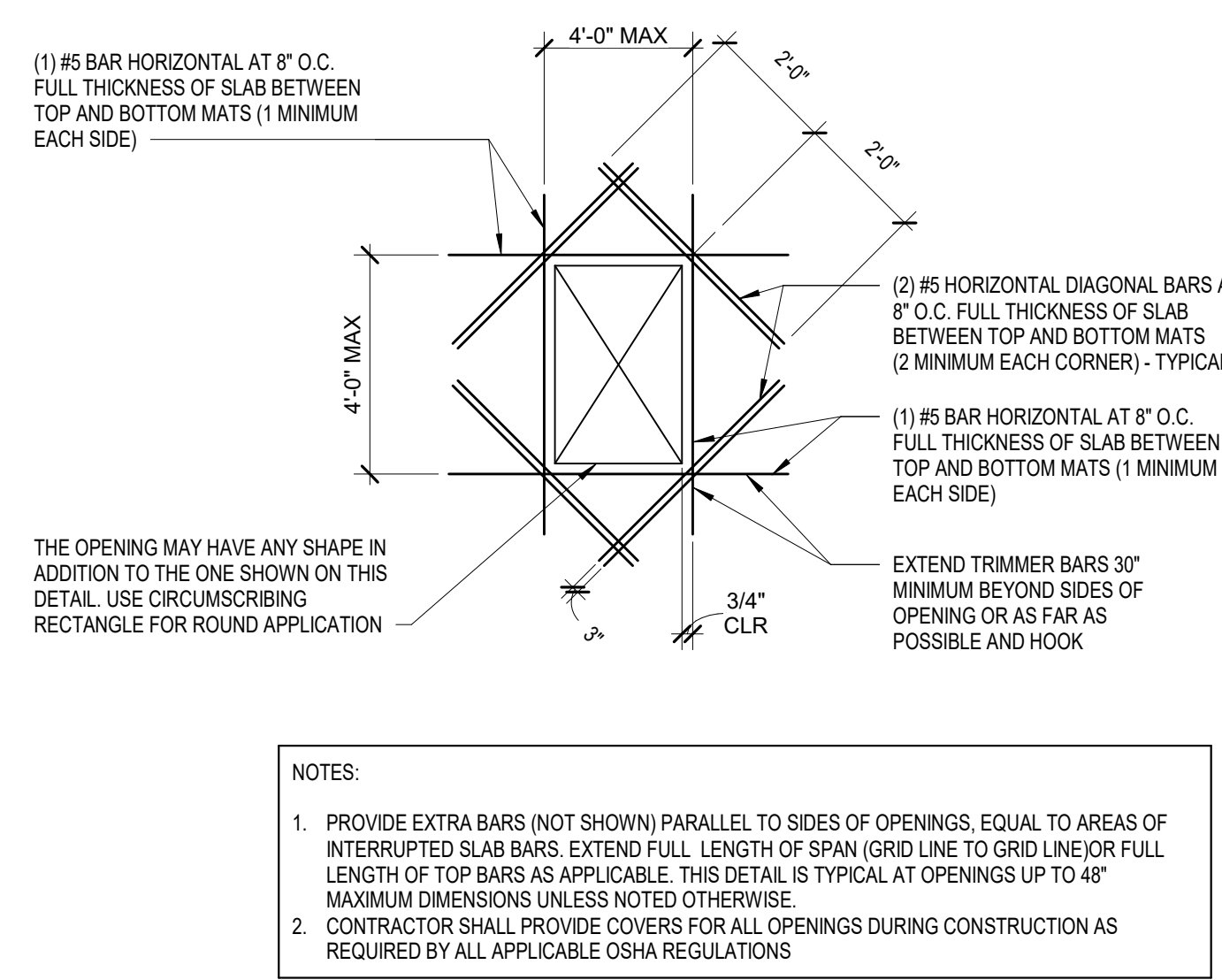
**B2** TYPICAL DETAIL - TIE SPACING FOR CONCRETE COLUMN  
 SCALE: NOT TO SCALE



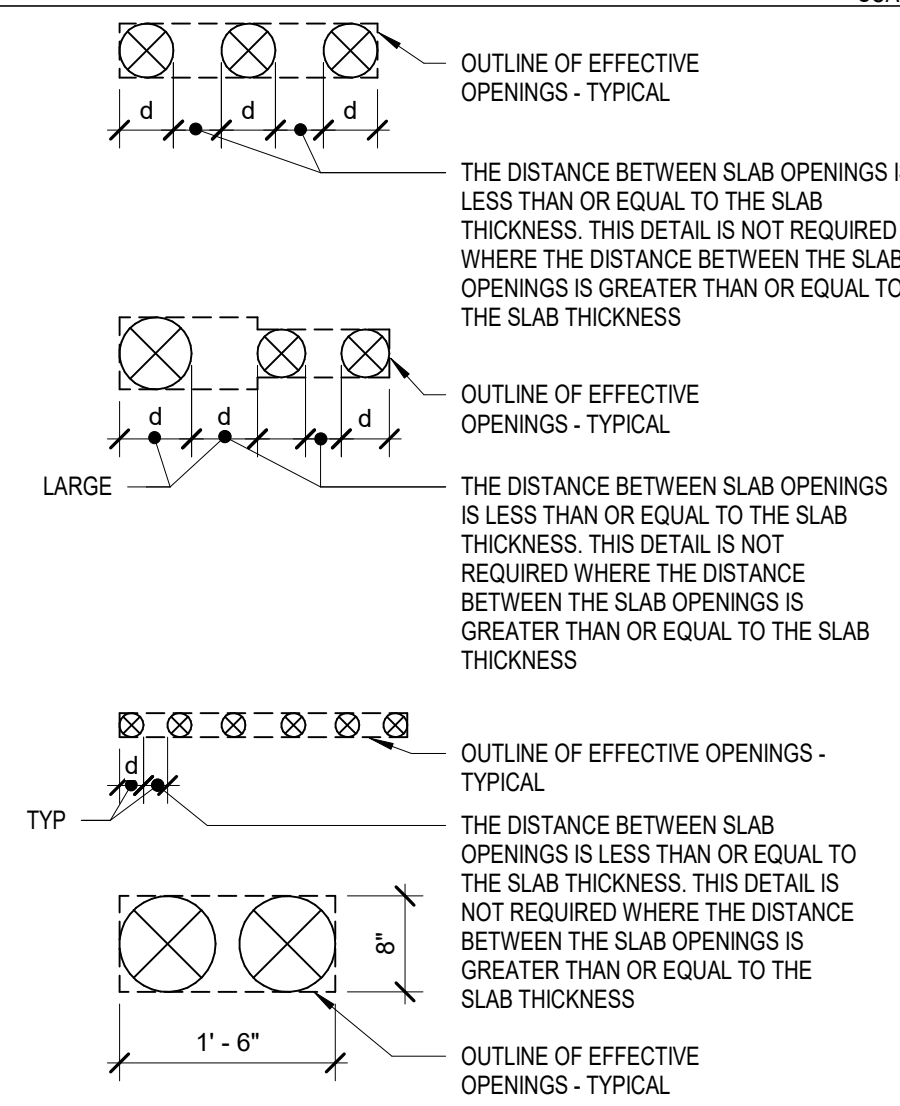
**B3** TYPICAL DETAIL - MAXIMUM SLOPE BETWEEN ADJACENT FOOTINGS  
 SCALE: NOT TO SCALE



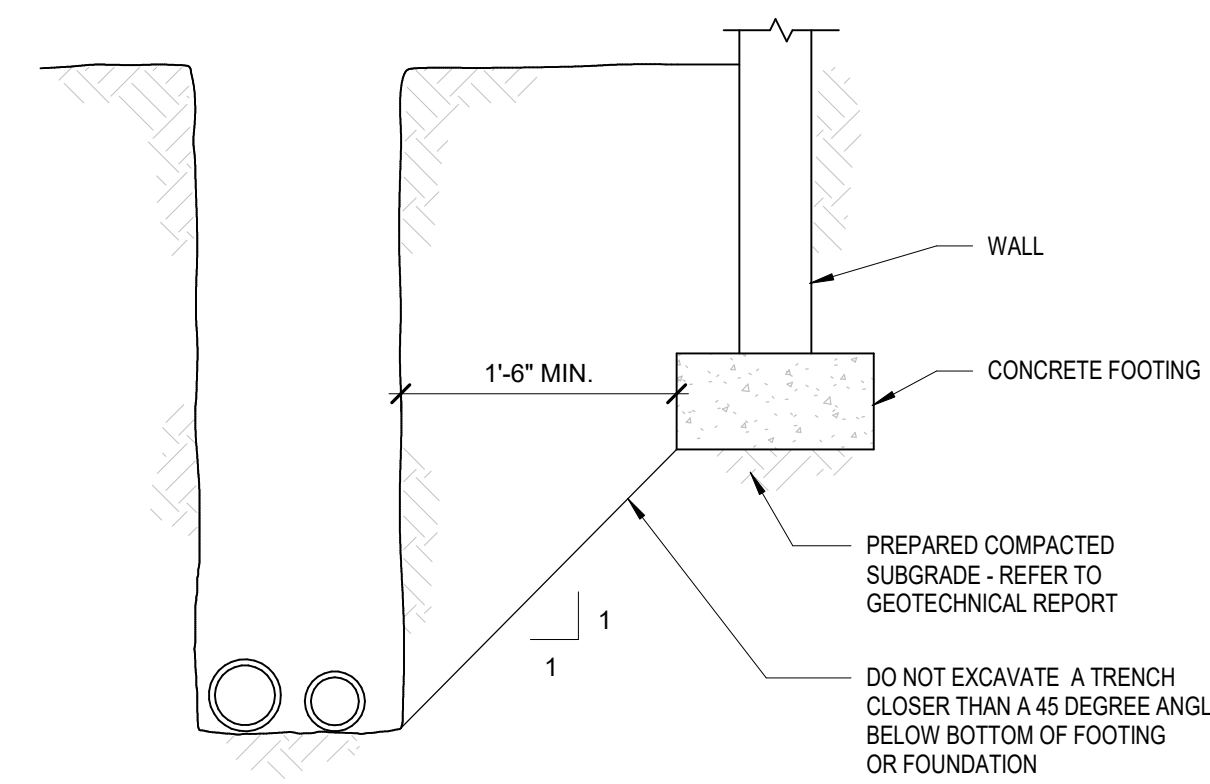
**B4** TYPICAL DETAIL - UTILITY BELOW WALL FOOTING  
 SCALE: NOT TO SCALE



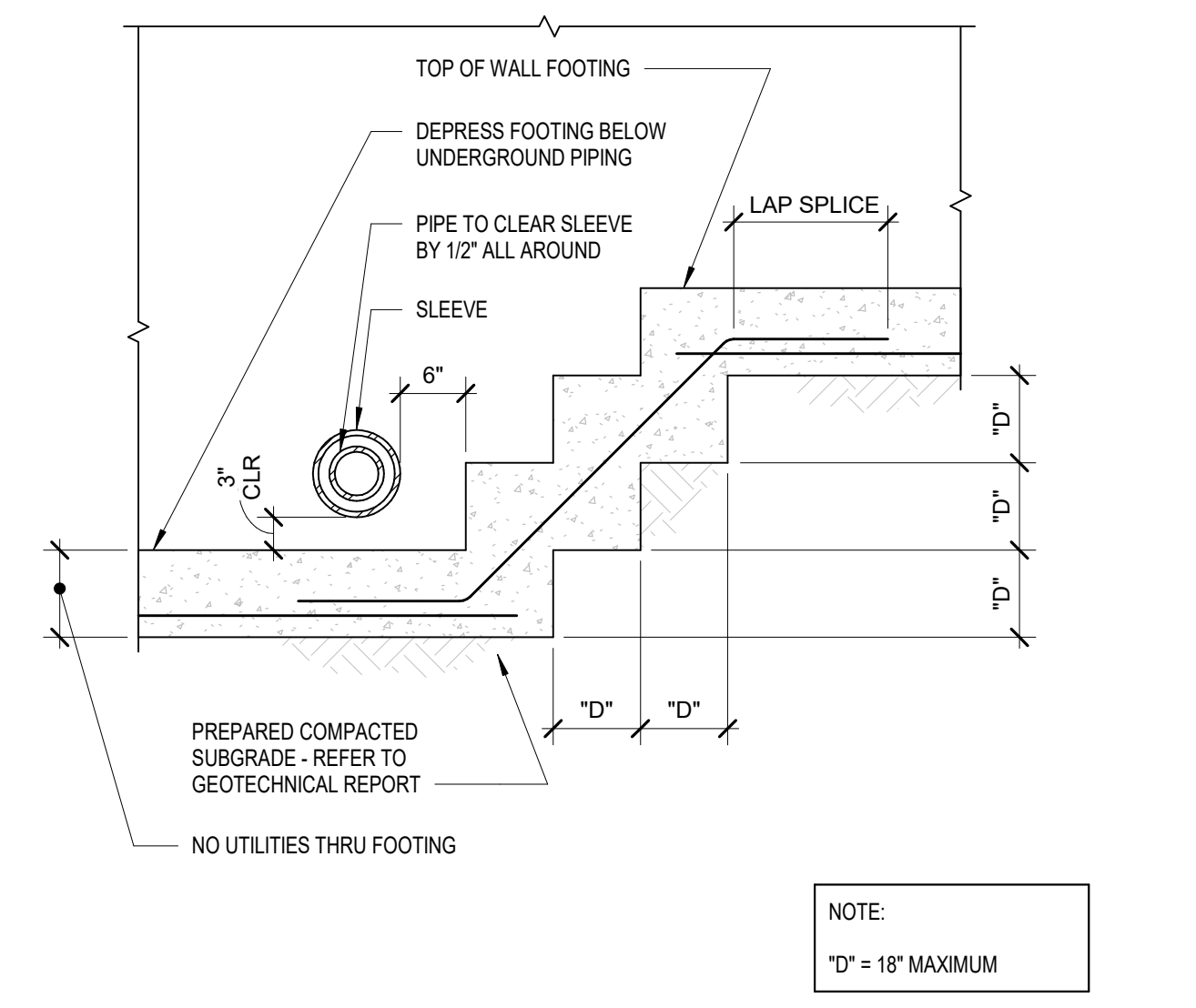
**A1** TYPICAL DETAIL - PLAN VIEW OPENING IN CONCRETE SLAB ON GRADE  
 SCALE: NOT TO SCALE



**A2** TYPICAL DETAIL - PLAN VIEW SMALL MULTIPLE OPENINGS IN CONCRETE SLAB, WALL OR MAT FOUNDATION  
 SCALE: NOT TO SCALE



**A3** TYPICAL DETAIL - TRENCH ADJACENT TO FOOTING  
 SCALE: NOT TO SCALE

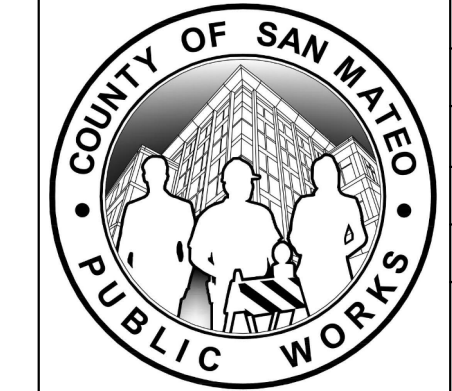
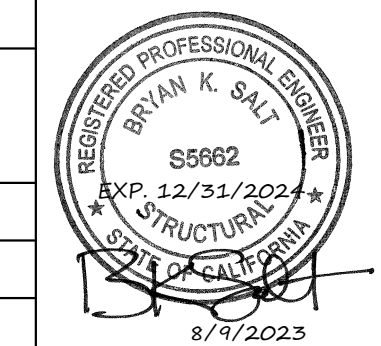


**A4** TYPICAL DETAIL - STEPPED FOOTING  
 SCALE: NOT TO SCALE

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APPROVED DATE: 08/08/2023  
 BRYAN K. SALT  
 C&S ENGINEERS, INC.  
 S.E. # 5662 / EXPIRES 12/31/2024



DESIGNED BY: J.L.  
 CHECKED BY: B.K.S.  
 DRAWN BY: C.A.V.  
 ANN MADER STILLMAN,  
 DIRECTOR OF PUBLIC WORKS  
 COUNTY SAN MATEO  
 555 COUNTY CENTER, 5th FLOOR  
 REDWOOD CITY, CALIFORNIA 94063  
 SCALE: AS SHOWN  
 DATE: AUGUST 4, 2023  
 FILE NO.: E5079  
 S501  
 SHEET 27 OF 32

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES  
 0 1 2 3 4

**TENSION LAP SPLICE LENGTHS**  
(GRADE 60 - NORMAL WEIGHT CONCRETE)

BAR SIZE	LAP CLASS	f <sub>c</sub> = 3,000 psi				f <sub>c</sub> = 4,000 psi				f <sub>c</sub> = 5,000 psi			
		TOP BARS		OTHER BARS		TOP BARS		OTHER BARS		TOP BARS		OTHER BARS	
		CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2
#3	A	22	32	17	25	19	28	15	22	17	25	13	19
	B	28	42	22	32	24	36	19	28	22	33	17	25
#4	A	29	43	22	33	25	37	19	29	22	33	17	26
	B	37	56	29	43	32	48	25	37	29	43	22	33
#5	A	36	54	28	41	31	47	24	36	28	42	22	32
	B	47	70	36	54	40	60	31	47	36	54	28	42
#6	A	43	64	33	50	37	56	29	43	33	50	26	38
	B	56	84	43	64	48	72	37	56	43	65	33	50
#7	A	63	94	48	72	54	81	42	63	49	73	37	56
	B	81	122	63	94	70	106	54	81	63	94	49	73
#8	A	72	107	55	82	62	93	48	72	55	83	43	64
	B	93	139	72	107	80	121	62	93	72	108	55	83
#9	A	81	121	62	93	70	105	54	81	63	94	48	72
	B	105	157	81	121	91	136	70	105	81	122	63	94
#10	A	91	136	70	105	79	118	61	91	70	105	54	81
	B	118	177	91	136	102	153	79	118	91	137	70	105
#11	A	101	151	78	116	87	131	67	101	78	117	60	90
	B	131	196	101	151	113	170	87	131	101	152	78	117

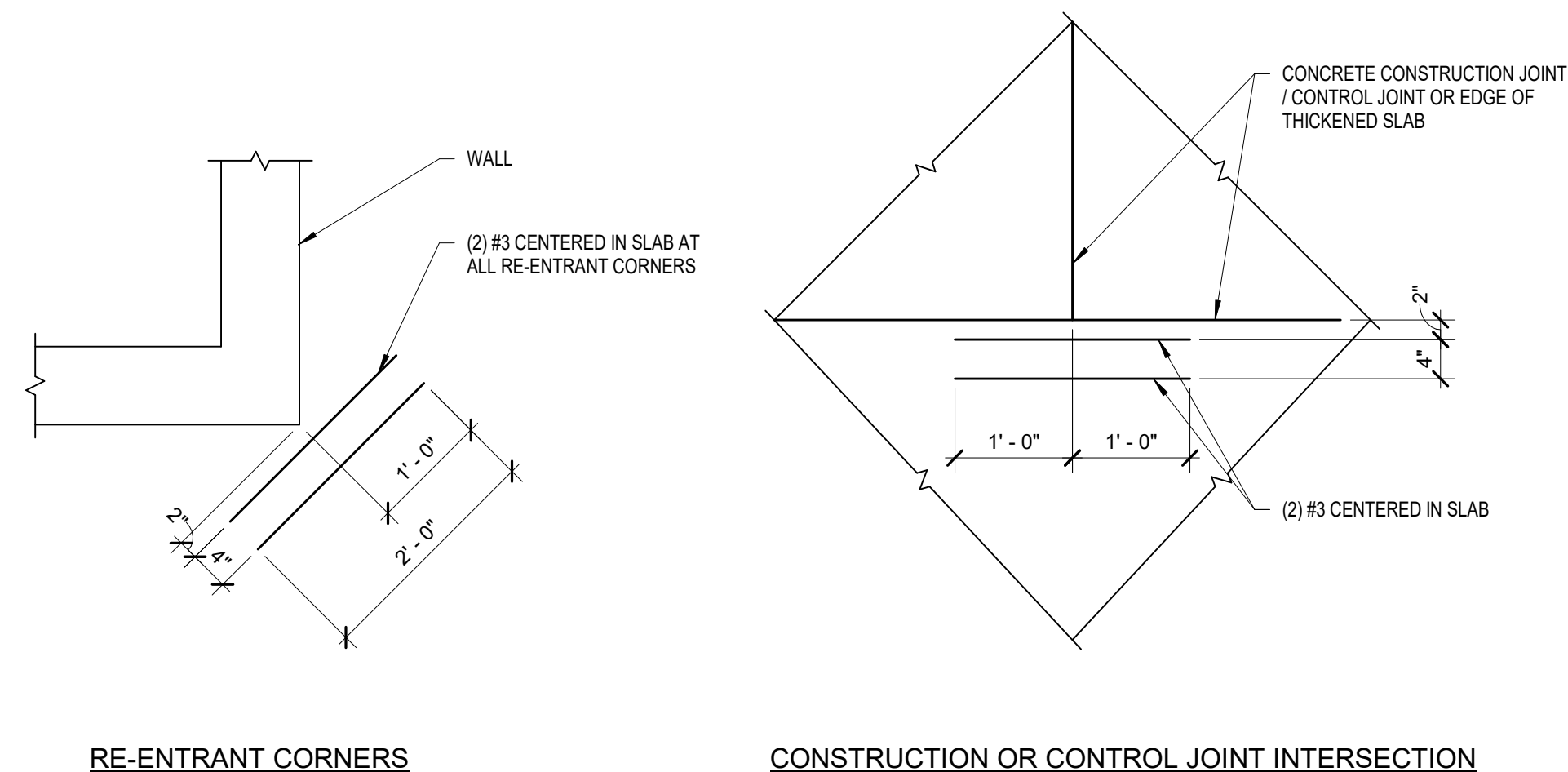
NOTES:

- TABULATED VALUES FOR BEAMS OR COLUMNS ARE BASED ON TRANSVERSE REINFORCEMENT AND CONCRETE COVER MEETING MINIMUM CODE REQUIREMENTS. LENGTHS ARE IN INCHES.
- CASES 1 AND 2, WHICH DEPEND ON THE TYPE OF STRUCTURAL ELEMENT, CONCRETE COVER, AND THE CENTER-TO-CENTER SPACING OF THE BARS, ARE DEFINED AS:

BEAMS OR COLUMNS	CASE 1	COVER AT LEAST 1db AND c-c. SPACING AT LEAST 2db
	CASE 2	COVER LESS THAN 1db OR c-c. SPACING LESS THAN 2db
ALL OTHERS	CASE 1	COVER AT LEAST 1db AND c-c. SPACING AT LEAST 3db
	CASE 2	COVER LESS THAN 1db OR c-c. SPACING LESS THAN 3db

- LAP CLASS A VALUES ARE THE REQUIRED TENSION DEVELOPMENT LENGTHS. (LAP SPLICE LENGTHS ARE MULTIPLES OF TENSION DEVELOPMENT LENGTHS.)
- CLASS A - 1.0ld (ACI 318-14, SECTION 25.5.2.1)
- CLASS B = 1.3ld (ACI 318-14, SECTION 25.5.2.1)
- TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 12 INCHES OF CONCRETE CAST BELOW THE BARS.
- FOR LIGHTWEIGHT AGGREGATE CONCRETE, MULTIPLY THE TABULATED VALUES BY 1.3. OR WHEN l<sub>di</sub> IS SPECIFIED, THE FACTOR IS 6.7 √f<sub>c</sub> / f<sub>ct</sub> ≥ 1.0.
- FOR EPOXY-COATED BARS, MULTIPLY THE TABULATED VALUES BY ONE OF THE FOLLOWING FACTORS:

CONCRETE COVER AND SPACING	TOP BARS	OTHER BARS
COVER < 3db OR c-c. SPACING > 7db	1.7 / 1.3 - 1.31	1.50
COVER ≤ 3db OR c-c. SPACING ≤ 7db	1.20	1.20



APPROVED: **ANN MADER STILLMAN**  
 REGISTERED PROFESSIONAL ENGINEER  
 CIVIL  
 STATE OF CALIFORNIA  
 C 47882  
 EXPIRES 12/31/25

DATE: **02/23/2024**

ANN MADER STILLMAN,  
 DIRECTOR OF PUBLIC WORKS  
 R. C. E. # 47882 / EXPIRES 12-31-2025

**C1** TYPICAL DETAIL - REINFORCING TENSION LAP AND SPLICE LENGTHS

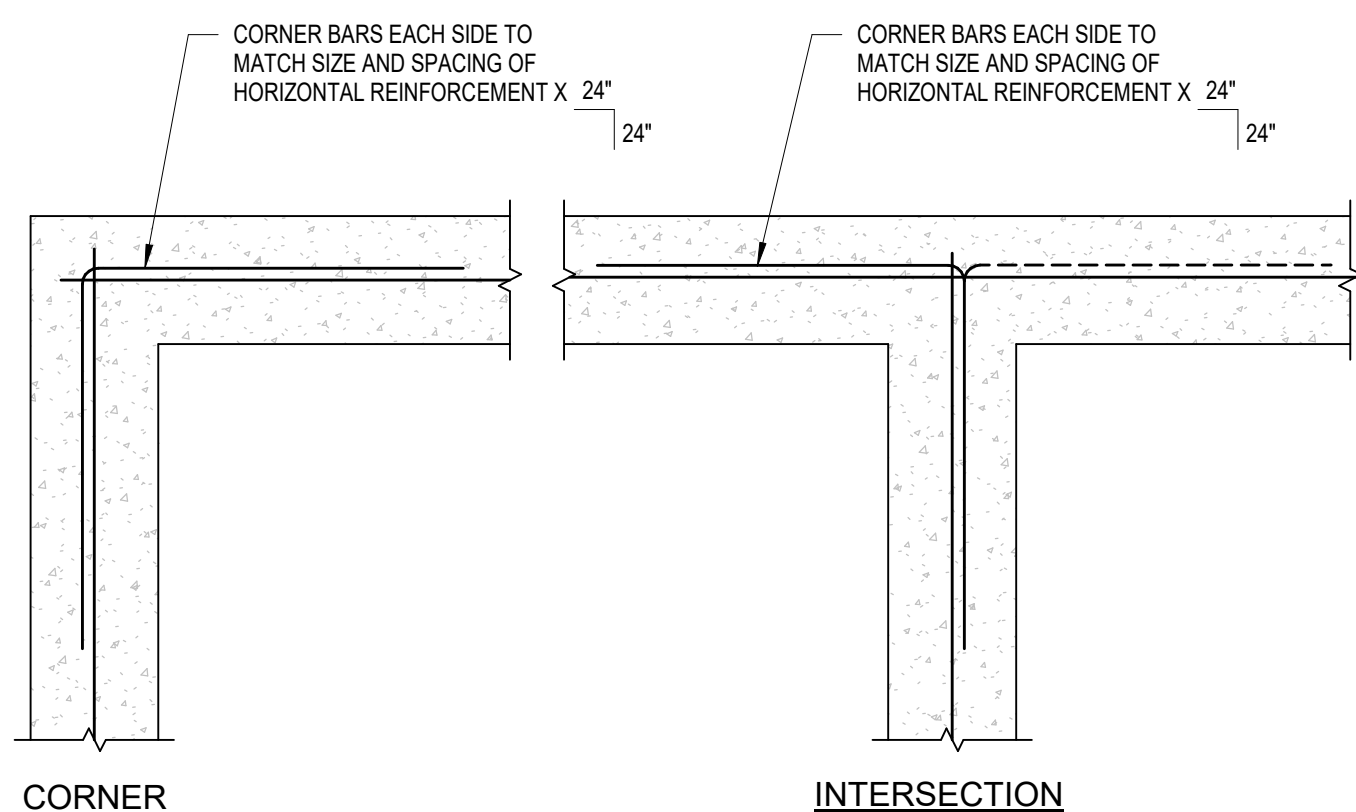
03310.00.20

SCALE: NOT TO SCALE

**C3** TYPICAL DETAIL - PLAN VIEW REINFORCING IN SLAB ON GRADE

03310.00.23

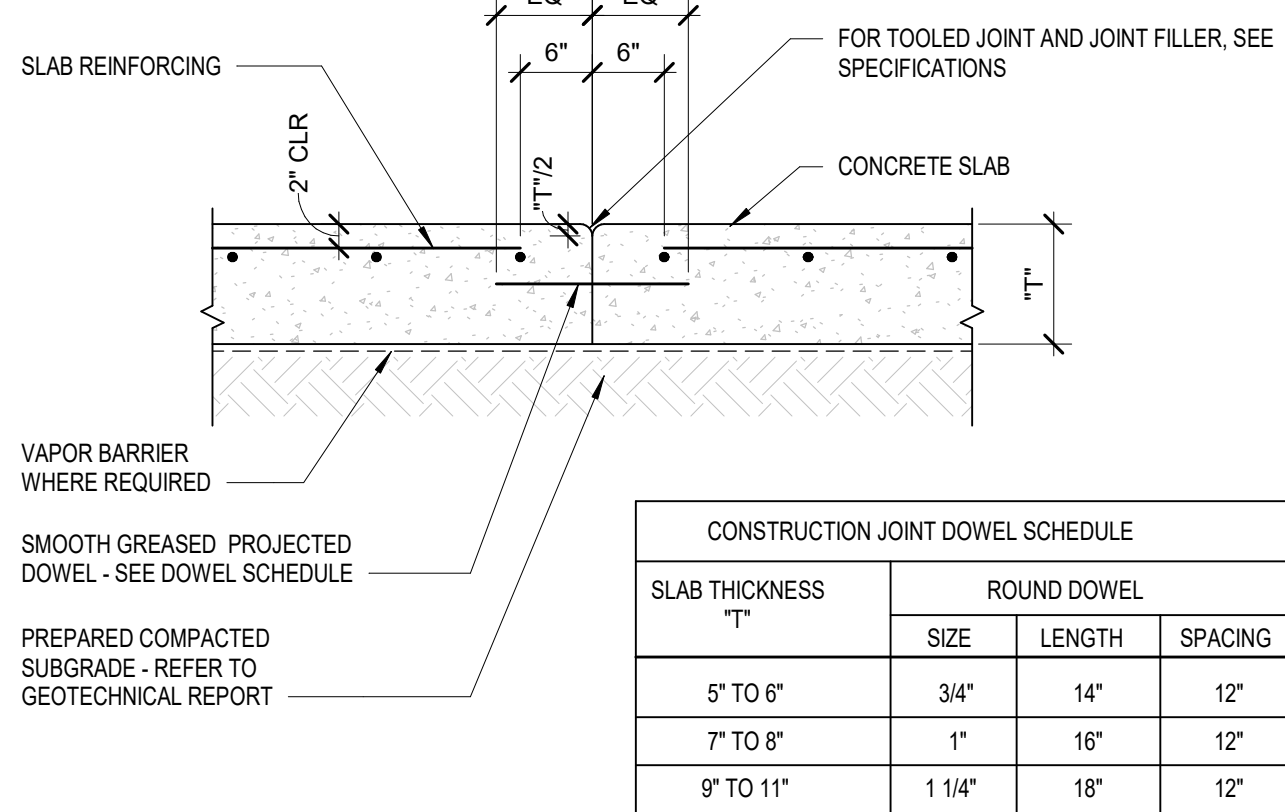
SCALE: NOT TO SCALE



03310.00.08

**B1** TYPICAL DETAIL - CORNER REINFORCING IN CONCRETE FOOTING AND STEM WALL

SCALE: NOT TO SCALE



03310.00.05

**B2** TYPICAL DETAIL - DOELED CONSTRUCTION JOINT IN REINFORCED CONCRETE SLAB ON GRADE

SCALE: NOT TO SCALE

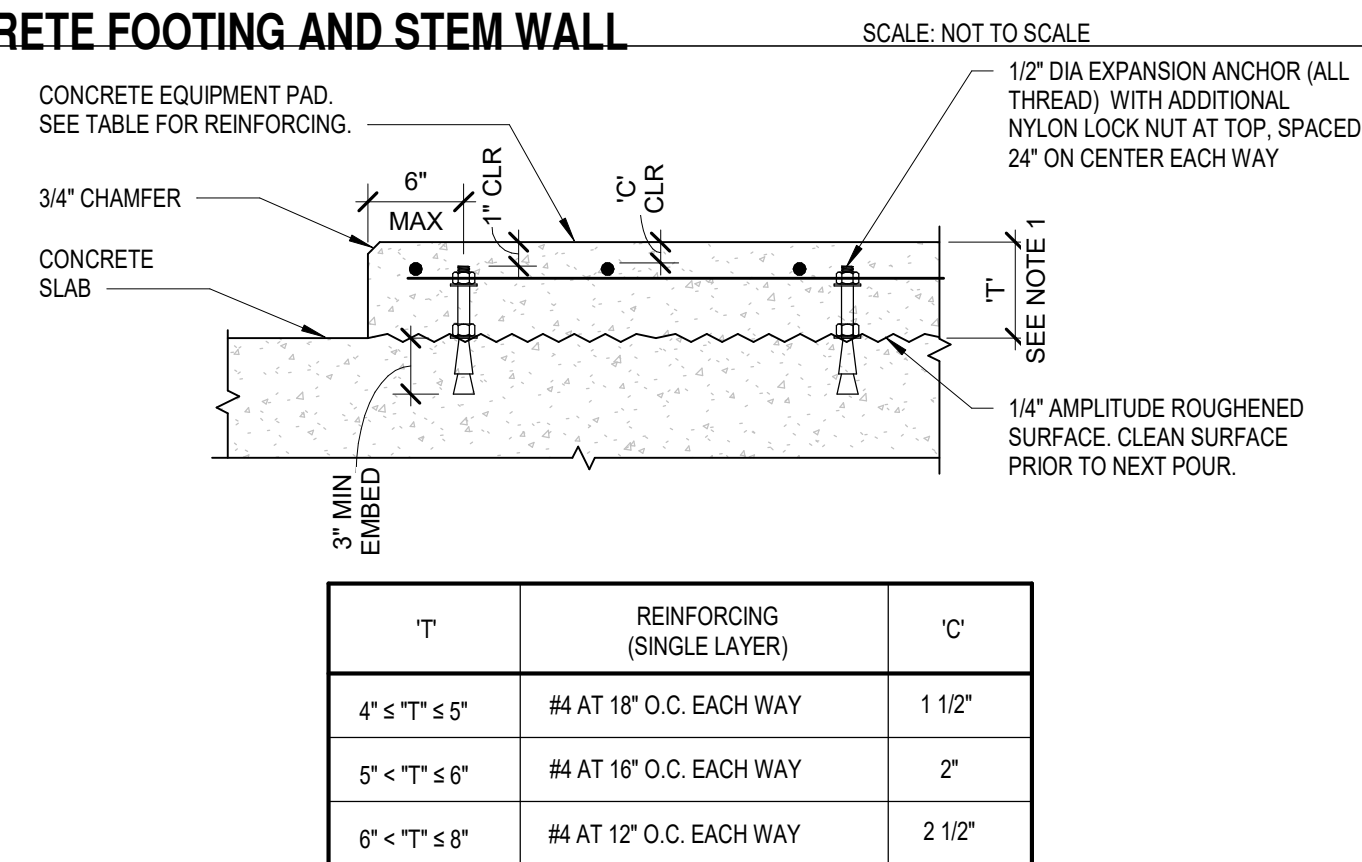
TYPE OF STANDARD HOOK	BAR SIZE	MINIMUM INSIDE BEND DIAMETER, (in)	STRAIGHT EXTENSION L exts (in)	TYPE OF STANDARD HOOK	BAR DATA				HOOKED REINFORCING TENSION DEVELOPMENT LENGTH (GRADE 60 - NORMAL WEIGHT CONCRETE)				HOOKED END LENGTH	
					BAR DIA	D <sub>b</sub> (in)	INSIDE DIA (in)	3,000 psi L <sub>dh</sub> (in)	4,000 psi L <sub>dh</sub> (in)	5,000 psi L <sub>dh</sub> (in)	6,000 psi L <sub>dh</sub> (in)	3000 TO 6000 psi L <sub>90</sub> (in)	L <sub>180</sub> (in)	
90-DEGREE HOOK	#3 TO #8	6D <sub>b</sub>	12D <sub>b</sub>	POINT AT WHICH BAR IS DEVELOPED 90° BEND L <sub>ext</sub> L <sub>90</sub>	#3	0.375	2 1/4	6	6	6	6	6	5	
	#9 TO #11	8D <sub>b</sub>			#4	0.500	3	8	7	6	6	8	6	
180-DEGREE HOOK	#3 TO #8	6D <sub>b</sub>	GREATER OF 4D <sub>b</sub> AND 2.5 (in)	POINT AT WHICH BAR IS DEVELOPED 180° BEND L <sub>ext</sub> L <sub>180</sub>	#5	0.625	3 3/4	10	9	8	7	10	7	
	#9 TO #11	8D <sub>b</sub>			#6	0.750	4 1/2	12	10	9	9	12	8	
					#7	0.875	5 1/4	14	12	11	10	14	10	
					#8	1.000	6	16	14	12	11	16	11	
					#9	1.128	9 1/2	18	15	14	13	19	15	
					#10	1.270	10 3/4	20	17	16	14	22	17	
					#11	1.410	12	22	19	17	16	24	19	

1. STANDARD 90 DEGREE HOOK EMBEDMENT LENGTHS ARE BASED ON BAR SIDE COVER ≥ 2.5" AND BAR END COVER ≥ 2" WITHOUT TIES AROUND HOOKS.  
 2. WHEN SIDE COVER AND/OR END COVER REQUIREMENTS ARE NOT SATISFIED BAR DEVELOPMENT LENGTH SHALL BE INCREASED BY A FACTOR OF 1.3.  
 3. TABULATED VALUES SHALL BE MULTIPLIED BY 1.2 FOR EPOXY-COATED HOOKED REINFORCING.  
 4. HOOKED REINFORCING IS NOT CONSIDERED EFFECTIVE FOR DEVELOPING BARS IN COMPRESSION.

03310.00.14

**B3** TYPICAL DETAIL - REINFORCEMENT TENSION DEVELOPMENT AND HOOKED LENGTH SCHEDULE

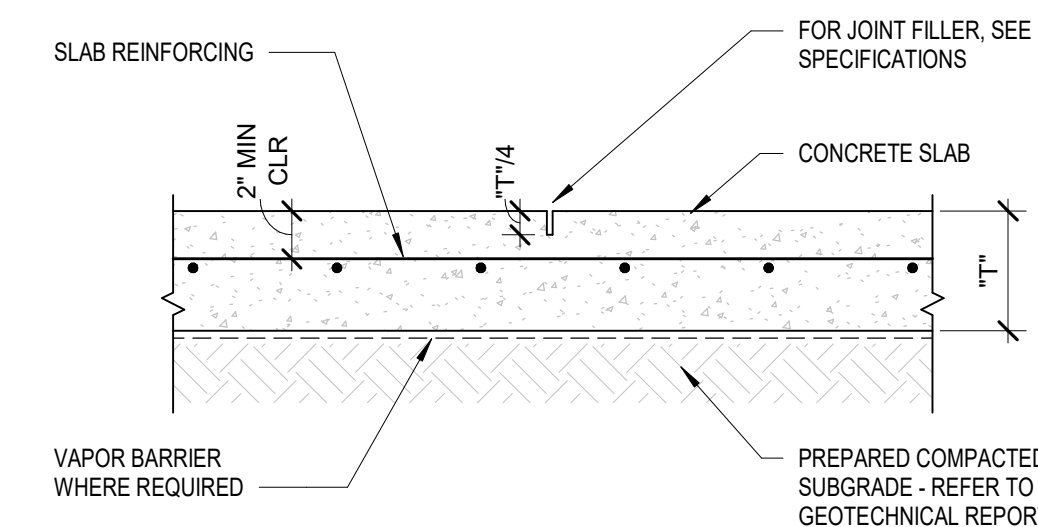
SCALE: NOT TO SCALE



03310.00.41

**A1** TYPICAL DETAIL - CONCRETE EQUIPMENT PAD AT CONCRETE SLAB

SCALE: NOT TO SCALE



03310.00.09

**A2** TYPICAL DETAIL - SAW CUT CONTROL JOINT IN REINFORCED CONCRETE SLAB ON GRADE

SCALE: NOT TO SCALE

TYPE OF STANDARD HOOK	BAR SIZE	MINIMUM INSIDE BEND DIAMETER, (in)	STRAIGHT EXTENSION L exts (in)	TYPE OF STANDARD HOOK	COLUMN	BEAM	BAR DATA				HOOKED END LENGTH	
							BAR DIA	D <sub>b</sub> (in)	INSIDE DIA (in)	L <sub>90</sub> (in)	L <sub>135</sub> (in)	L <sub>180</sub> (in)
90-DEGREE HOOK	#3 TO #5	4D <sub>b</sub>	GREATER OF 6D <sub>b</sub> AND 3 (in)	90° BEND L <sub>ext</sub> L <sub>90</sub>	90 BEND - 135 BEND ALTERNATE HOOKS	ALTERNATE HOOKS STIRRUP - 1	#3	0.375	1 1/2	4	4	4
	#6 TO #8	6D <sub>b</sub>	12D <sub>b</sub>				#4	0.500	2	4 1/2	4 1/2	4
135-DEGREE HOOK	#3 TO #5	4D <sub>b</sub>	GREATER OF 6D <sub>b</sub> AND 3 (in)	135° BEND L <sub>ext</sub> L <sub>135</sub>	TIES	135 BEND STIRRUP - 2	#5	0.625	2 1/2	6	5 1/2	4
	#6 TO #8	6D <sub>b</sub>					#6	0.750	4 1/2	12	8	6
180-DEGREE HOOK	#3 TO #5	4D <sub>b</sub>	GREATER OF 4D <sub>b</sub> AND 2.5 (in)	180° BEND L <sub>ext</sub> L <sub>180</sub>	CROSS TIES	90 BEND 135 BEND CROSS TIES AT STIRRUP - 2	#7	0.875	5 1/4	14	9	6 1/2
	#6 TO #8	6D <sub>b</sub>					#8	1.000	6	16	10 1/2	7

03310.00.15

**A3** TYPICAL DETAIL - REINFORCING BEND AND HOOK LENGTHS FOR STIRRUPS, TIES AND HOOPS

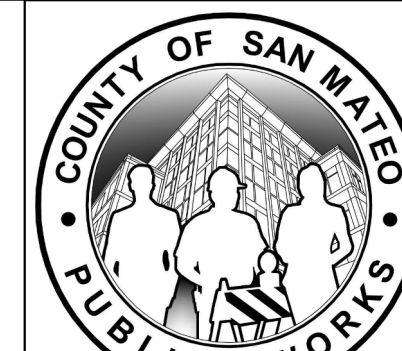
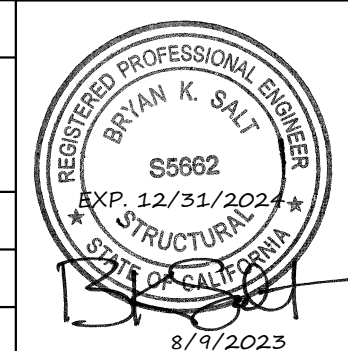
SCALE: NOT TO SCALE

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 7801 Folsom Boulevard, Suite 210  
 Sacramento, California 95826  
 Phone: 916-364-1470  
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APPROVED DATE: 08/08/2023

BRYAN K. SALT  
 C&S ENGINEERS, INC.  
 S.E. # 5662 / EXPIRES 12/31/2024



DESIGNED BY: J.L.  
 CHECKED BY: B.K.S.  
 DRAWN BY: C.A.V.

**TYPICAL DETAILS 2/2**  
**ELECTRICAL VAULT AND EMERGENCY GENERATOR**

ANN MADER STILLMAN,  
 DIRECTOR OF PUBLIC WORKS  
 COUNTY SAN MATEO

555 COUNTY CENTER, 5th FLOOR  
 REDWOOD CITY, CALIFORNIA 94063

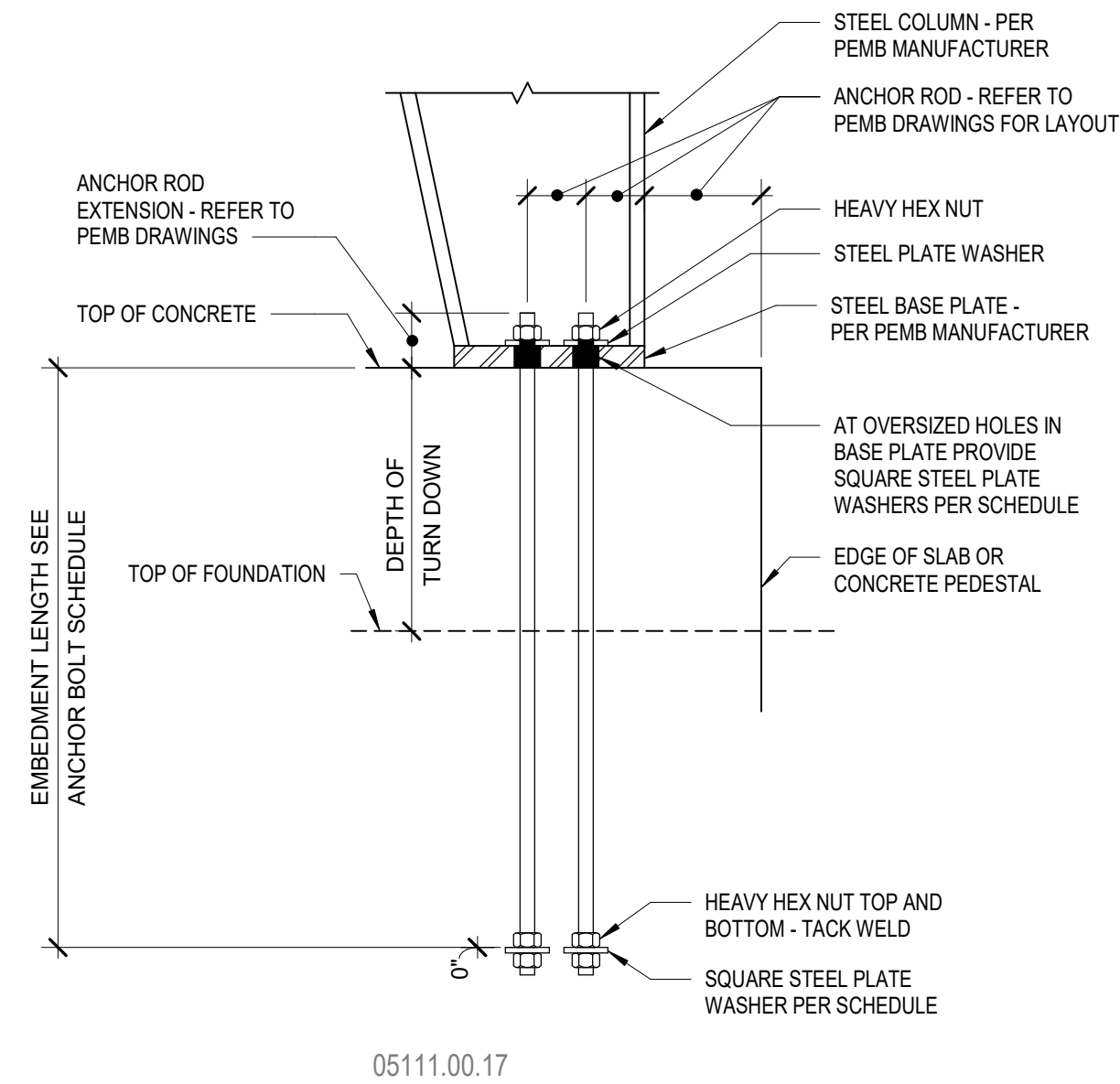
SCALE: AS SHOWN  
 DATE: AUGUST 4, 2023  
 FILE NO.: E5079

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES

S502  
 SHEET 28 OF 32

(AB) ANCHOR BOLT SCHEDULE		
ANCHOR RODS		
MARK	DIAMETER (IN.)	EMBEDMENT (IN.)
AB1	3/4	31

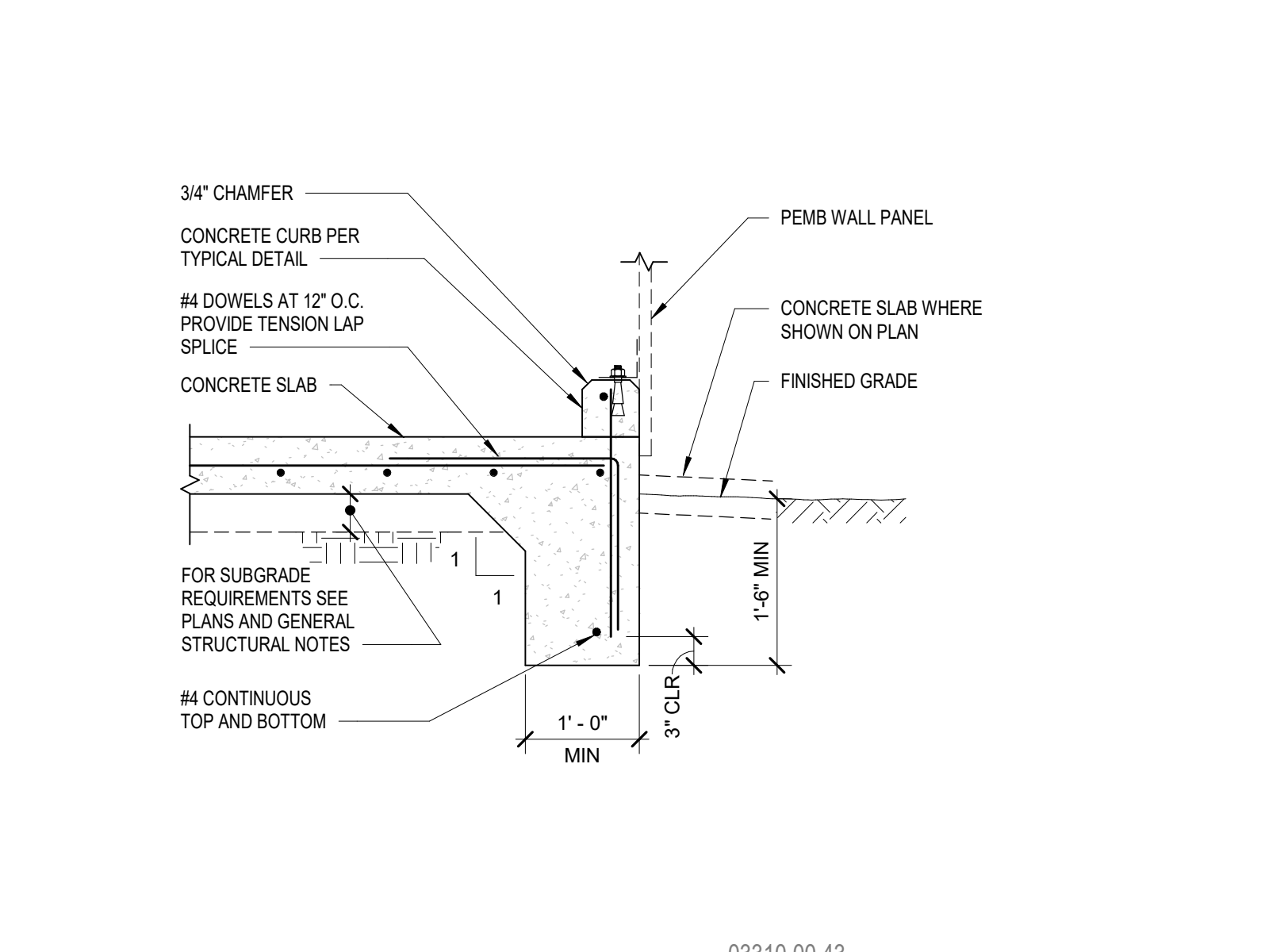
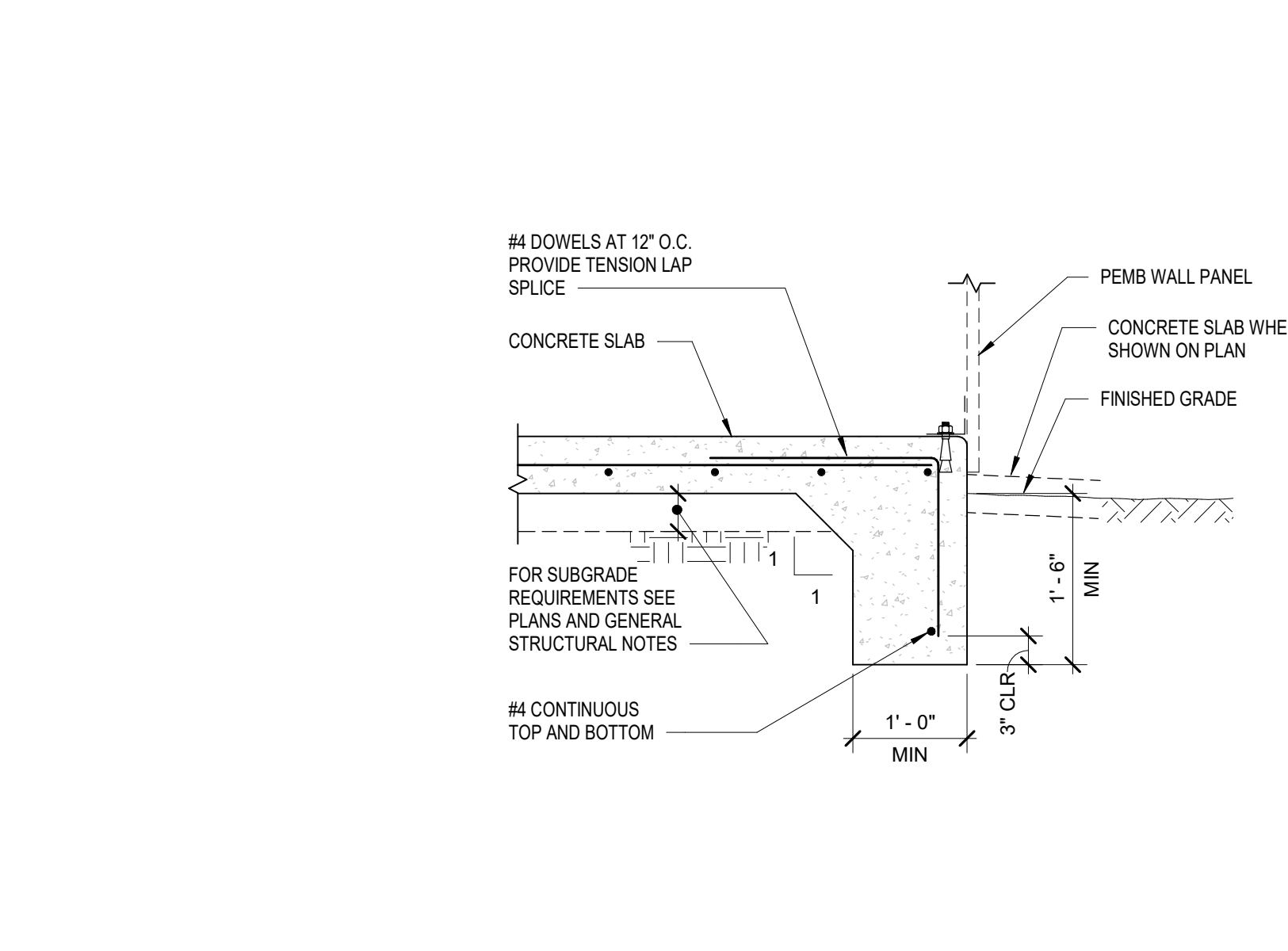
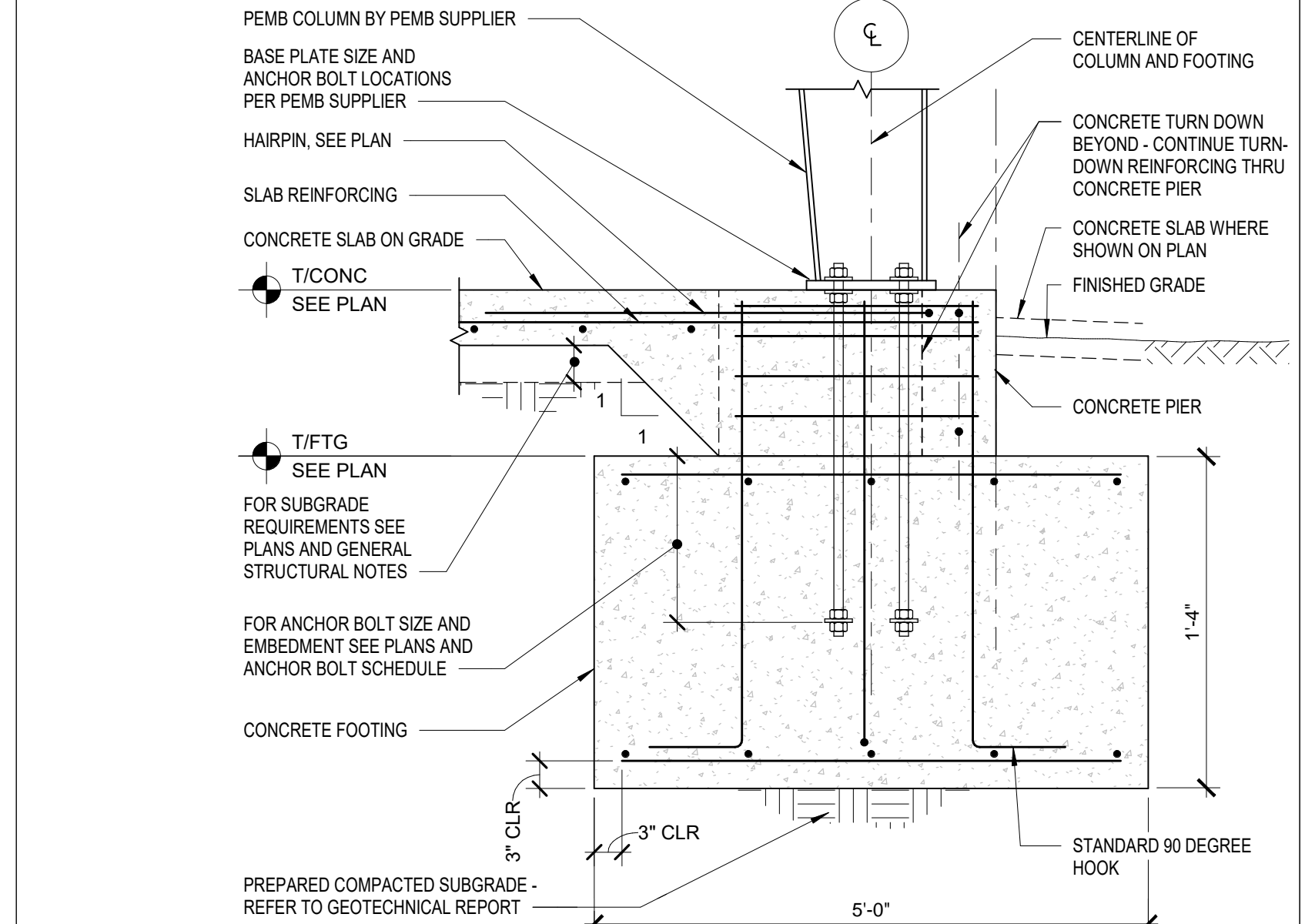
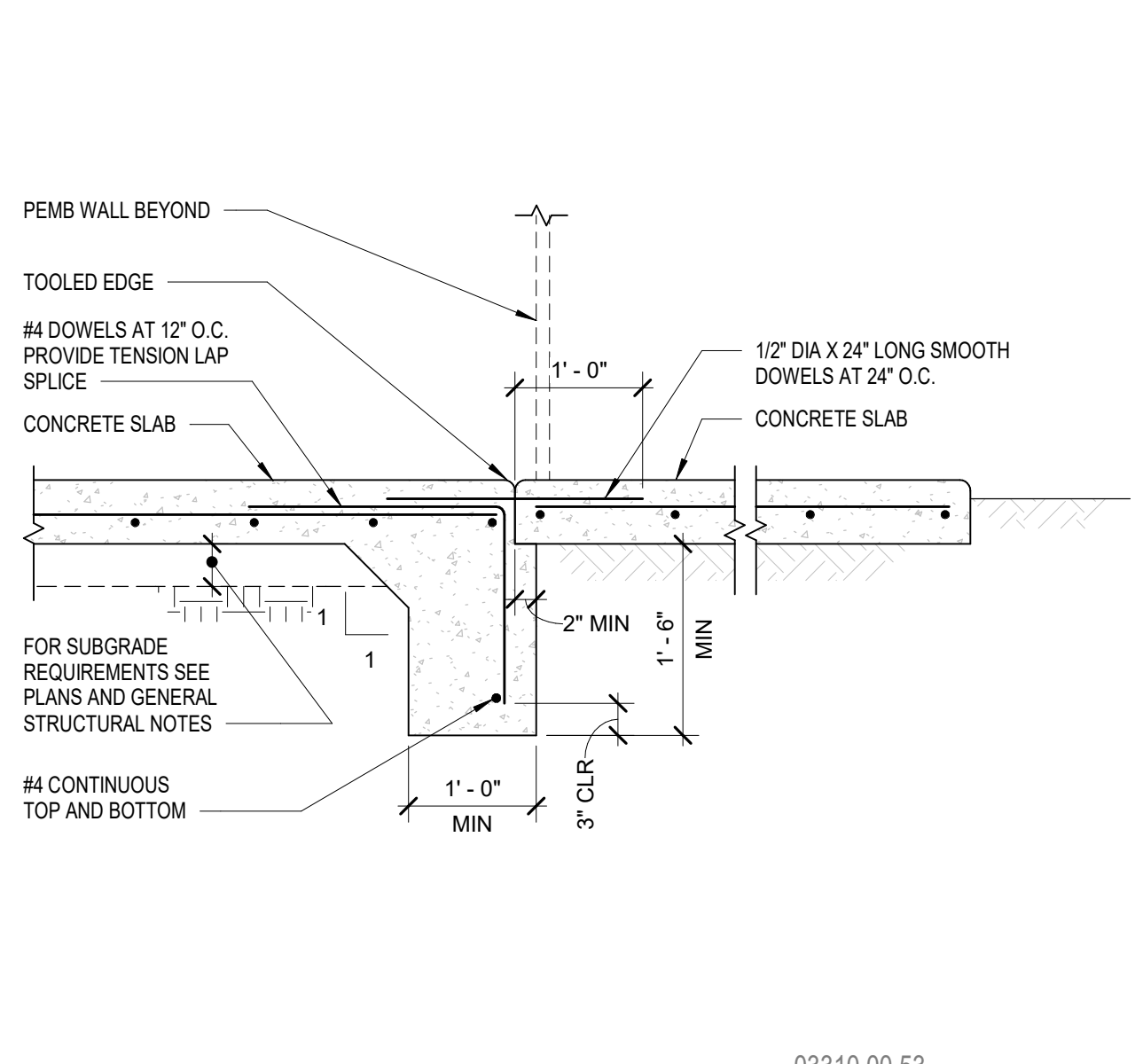
ANCHOR BOLT PLATE WASHERS (GRADE 36 STEEL UNLESS NOTED OTHERWISE)			
F1554 ANCHOR ROD DIA	STEEL PLATE WASHER (A36)	HOLE SIZE AT STEEL PLATE WASHER	OVERSIZED HOLE DIA AT STEEL BASE PLATE
3/4"	1/4" X 2" X 2"	13/16"	1 5/16"
7/8"	5/16" X 2 1/2" X 2 1/2"	15/16"	1 9/16"
1"	3/8" X 3" X 3"	1 1/16"	1 13/16"
1 1/4"	1/2" X 3" X 3"	1 5/16"	2 1/16"
1 1/2"	1/2" X 3 1/2" X 3 1/2"	1 9/16"	2 5/16"



APPROVED:   
 DATE: 02/23/2024   
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 DIRECTOR OF PUBLIC WORKS   
 R. C. E. # 47882 / EXPIRES 12-31-2025

(F) FOOTING SCHEDULE					
MARK	DIMENSIONS			REINFORCING	REMARKS
	"W"	"L"	"H"		
F1	5'-0"	5'-0"	1'-6"	(6) #5 EACH WAY TOP AND BOTTOM	

**C1** TYPICAL DETAIL - ANCHOR BOLT PLATE WASHERS AND HOLE SIZES AT PEMB STEEL COLUMN BASE PLATES

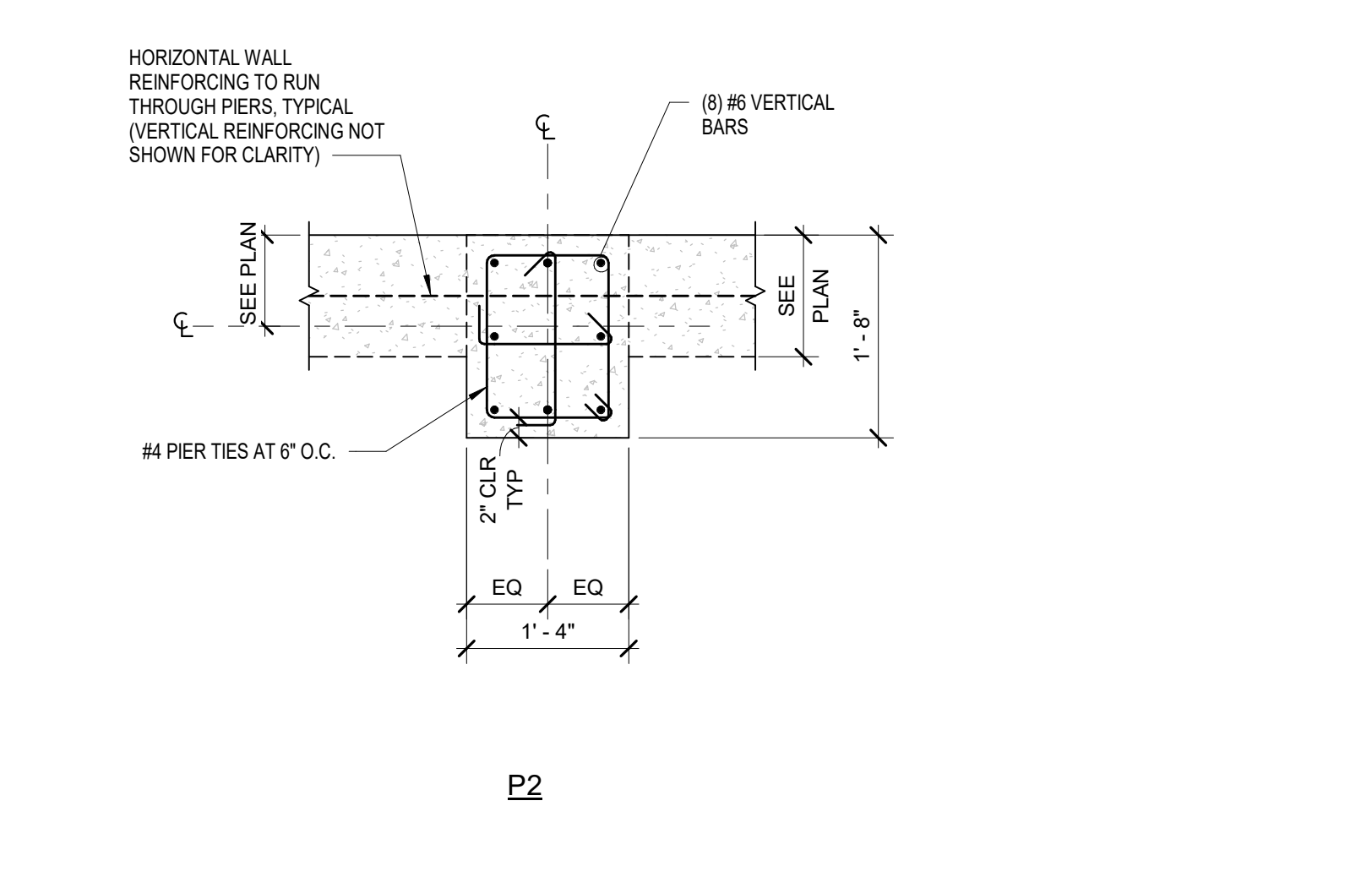
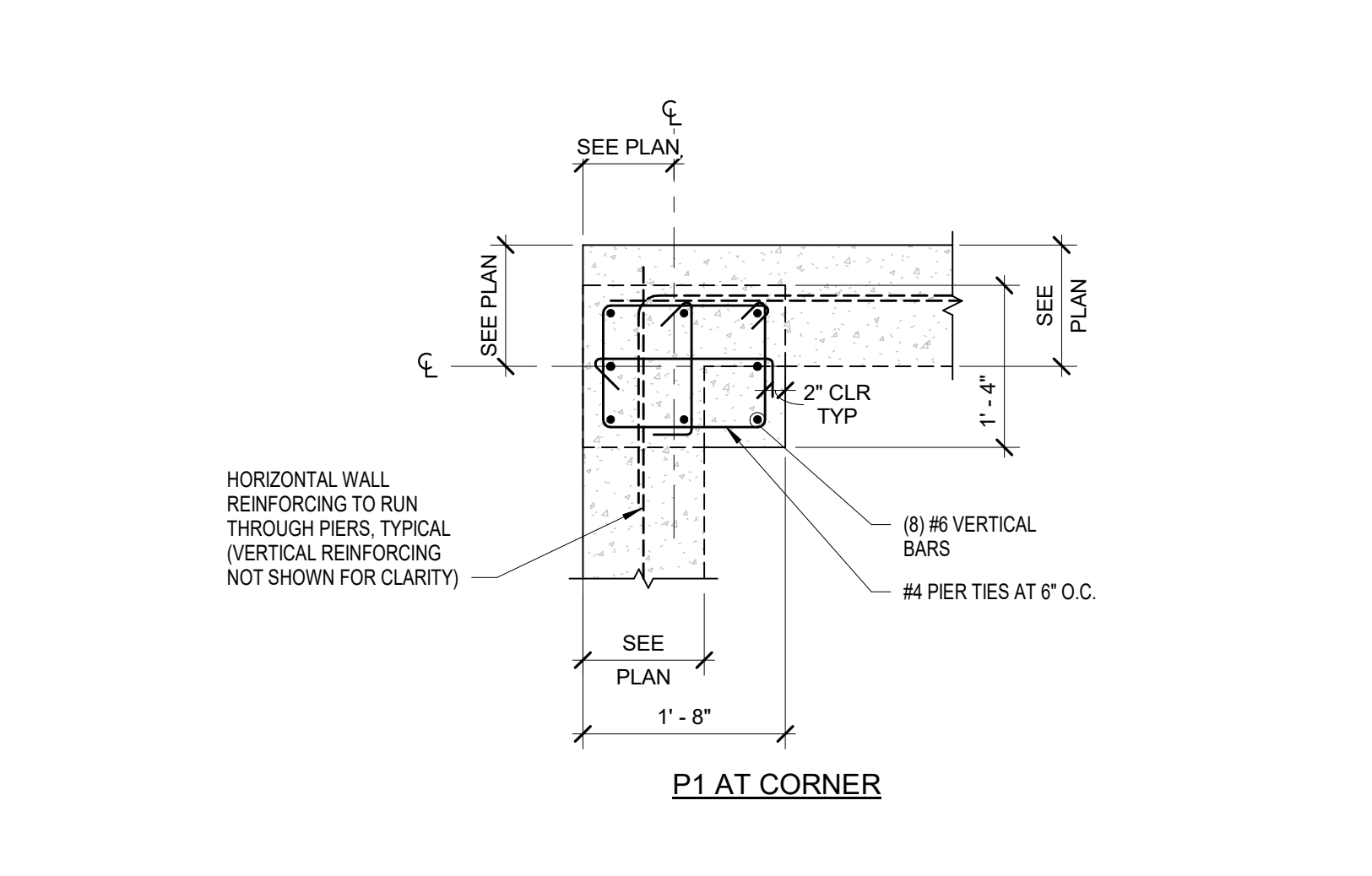
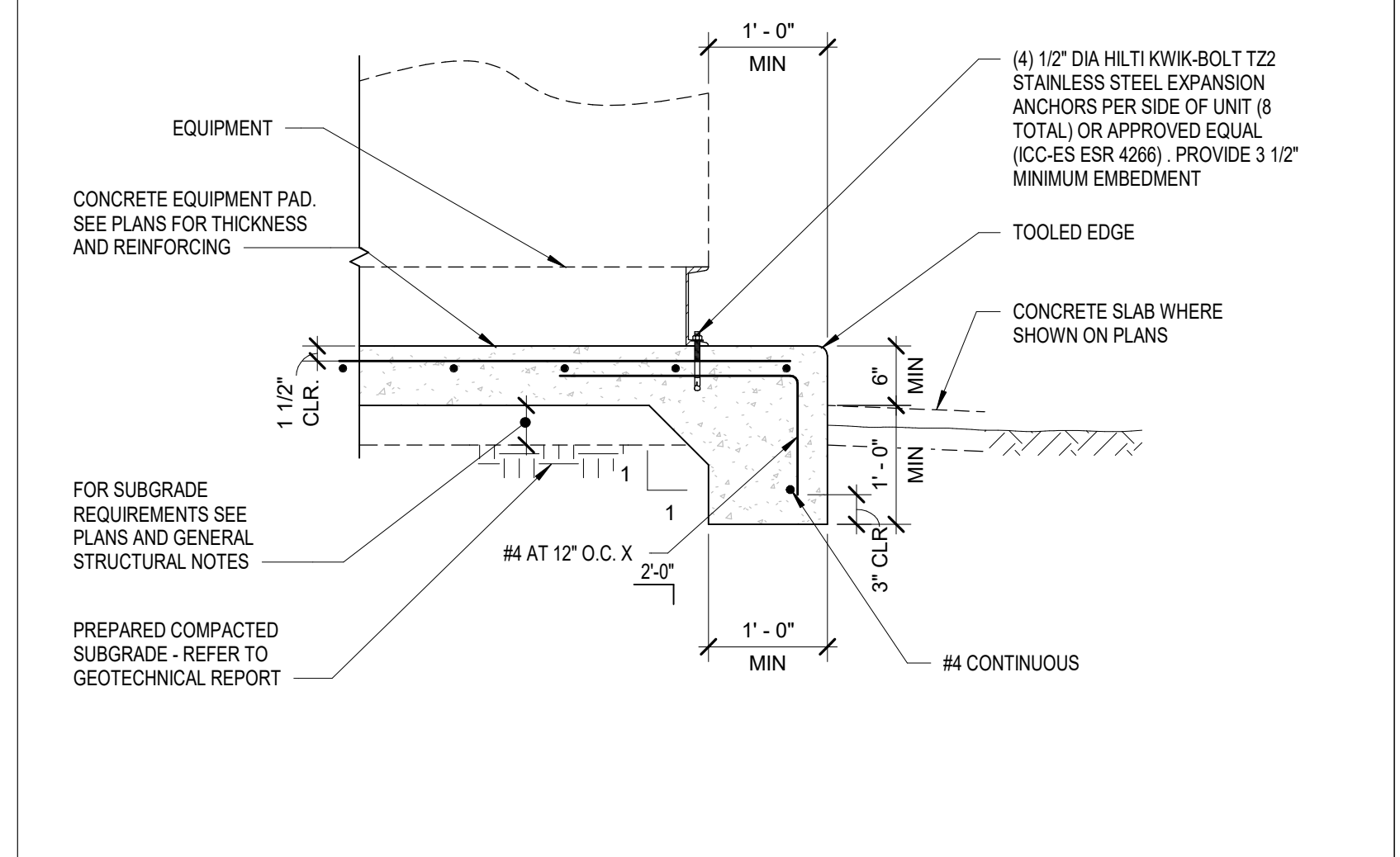


**B1** TYPICAL DETAIL - TURN DOWN AT CONCRETE SLAB

**B2** TYPICAL DETAIL - PEMB EXTERIOR COLUMN FOOTING

**B3** TYPICAL DETAIL - PEMB WALL PANEL AT CONCRETE SLAB

TYPICAL DETAIL - CONCRETE SLAB AT PEMB WALL PANEL



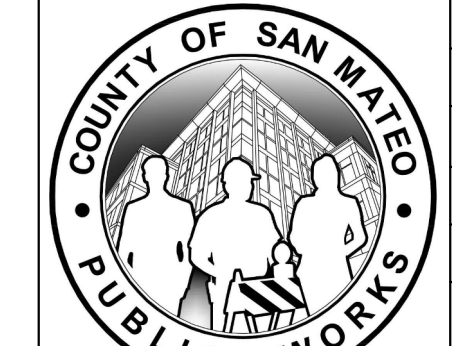
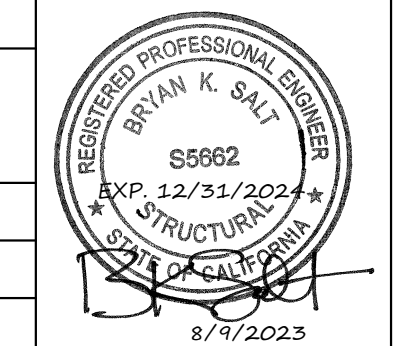
**A2** GENERATOR CONCRETE PAD

**A3** CONCRETE PIER AT PEMB STEEL COLUMN

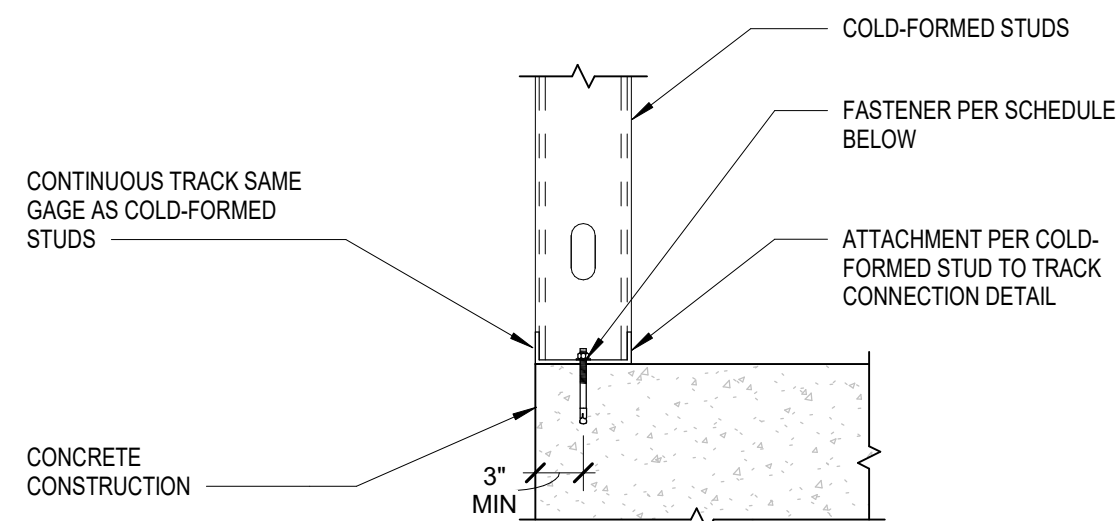
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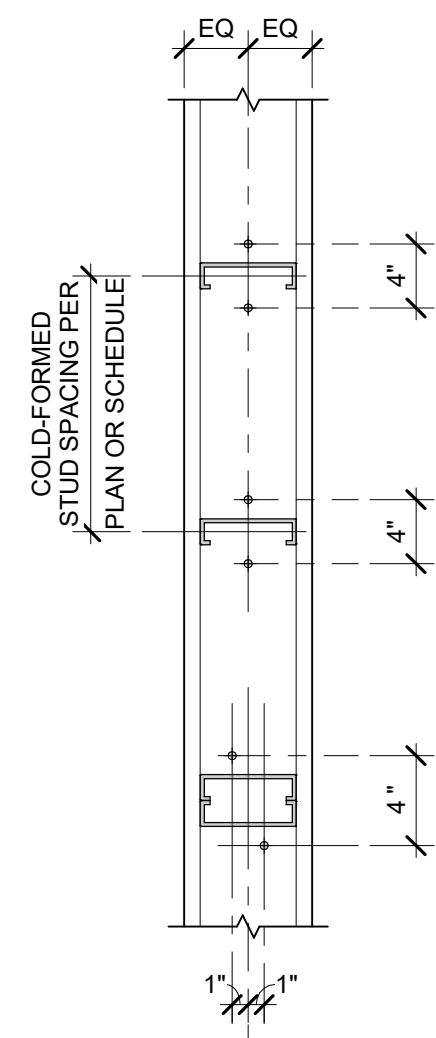
APPROVED DATE: 08/08/2023   
 BRYAN K. SALT   
 C&S ENGINEERS, INC.   
 S.E. # 5662 / EXPIRES 12/31/2024



SCALE: NOT TO SCALE			
DESIGNED BY:	CHECKED BY:	DRAWN BY:	DATE:
J.L.	B.K.S.	C.A.V.	
ANN MADER STILLMAN, DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO			555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063
FOUNDATION DETAILS AND SCHEDULES ELECTRICAL VAULT AND EMERGENCY GENERATOR			SCALE: AS SHOWN DATE: AUGUST 4, 2023 FILE NO.: E5079
FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES			S510 SHEET 29 OF 32

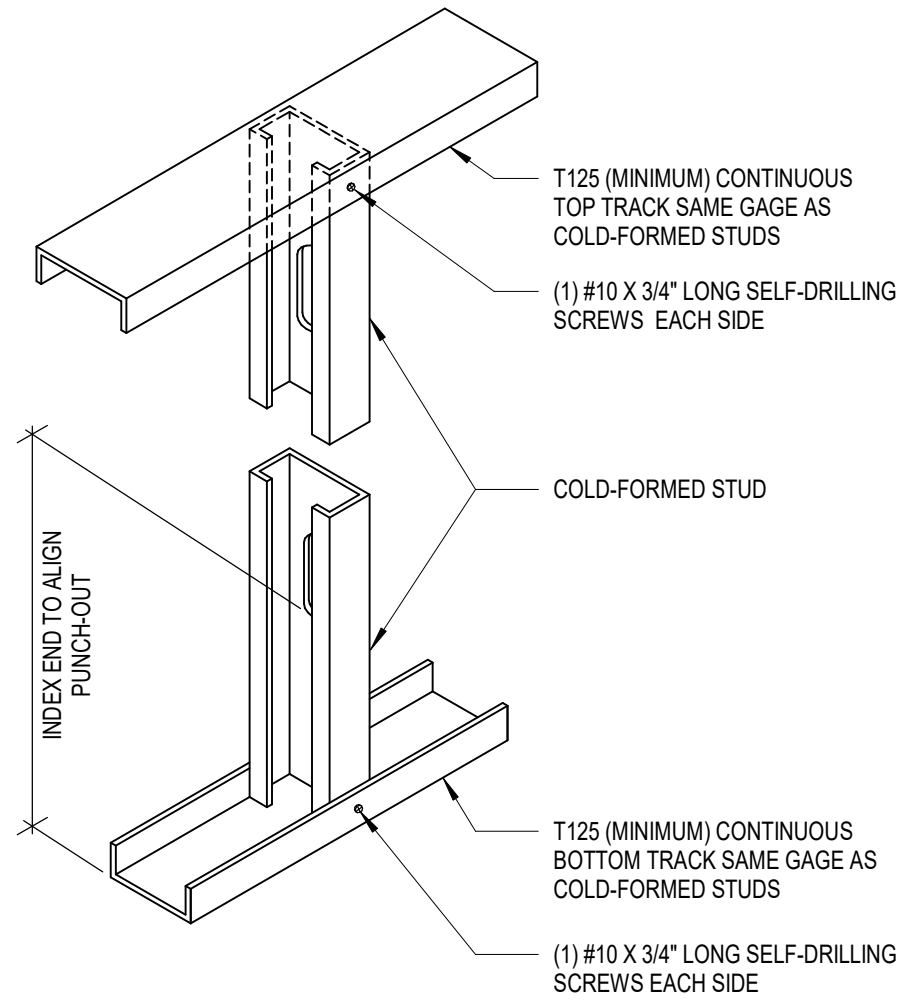


FASTENER SCHEDULE	
LOCATION	# OF FASTENERS REQUIRED
TYPICAL FRAMING	3/8" HILTI KWIK BOLT TZ2 (ICC ESR 4266) EXPANSION ANCHOR WITH 2 1/2" EMBEDMENT AT 16" O.C. (OR APPROVED EQUAL)
JAMB STUDS	(2) 3/8" HILTI KWIK BOLT TZ2 (ICC ESR 4266) EXPANSION ANCHOR WITH 2 1/2" EMBEDMENT AT EACH STUD (OR APPROVED EQUAL)

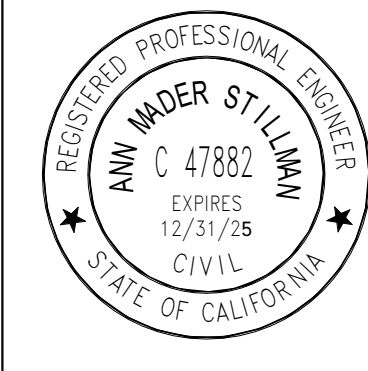


- NOTES:
- 3/4" MINIMUM EMBED REQUIRED FOR ALL FASTENERS
  - MAINTAIN 4" MINIMUM SPACING FOR ALL FASTENERS

PLAN VIEW OPTIONS



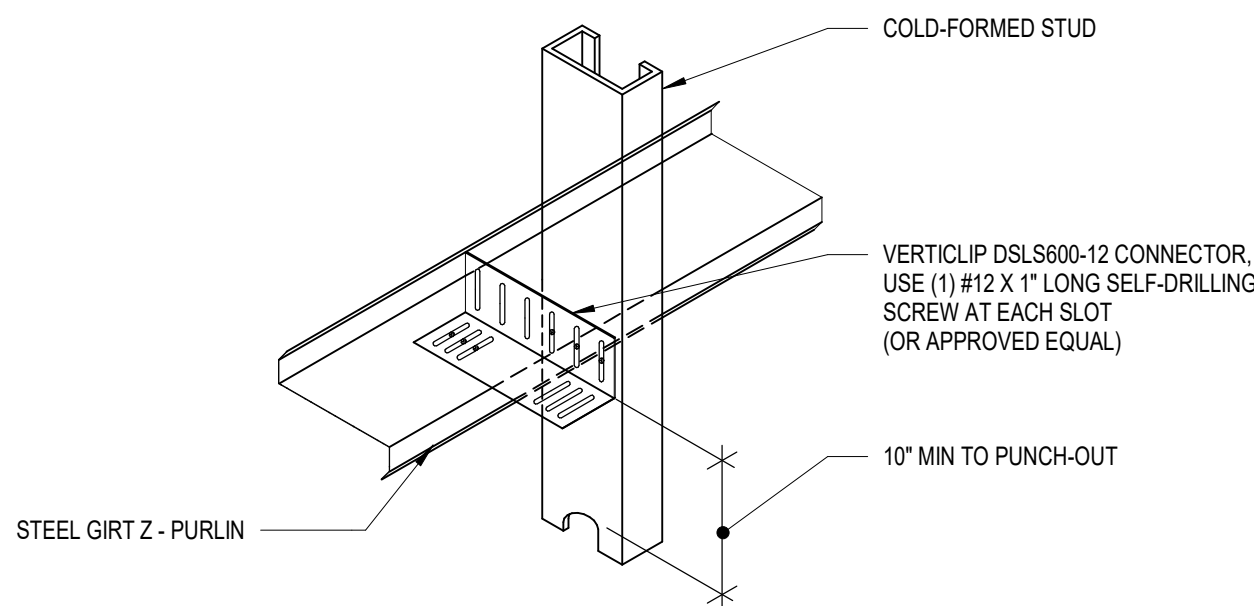
05411.00.06



APPROVED:   
 DATE: 02/23/2024   
 ANN MADER STILLMAN,   
 DIRECTOR OF PUBLIC WORKS   
 R. C. E. # 47882 / EXPIRES 12-31-2025

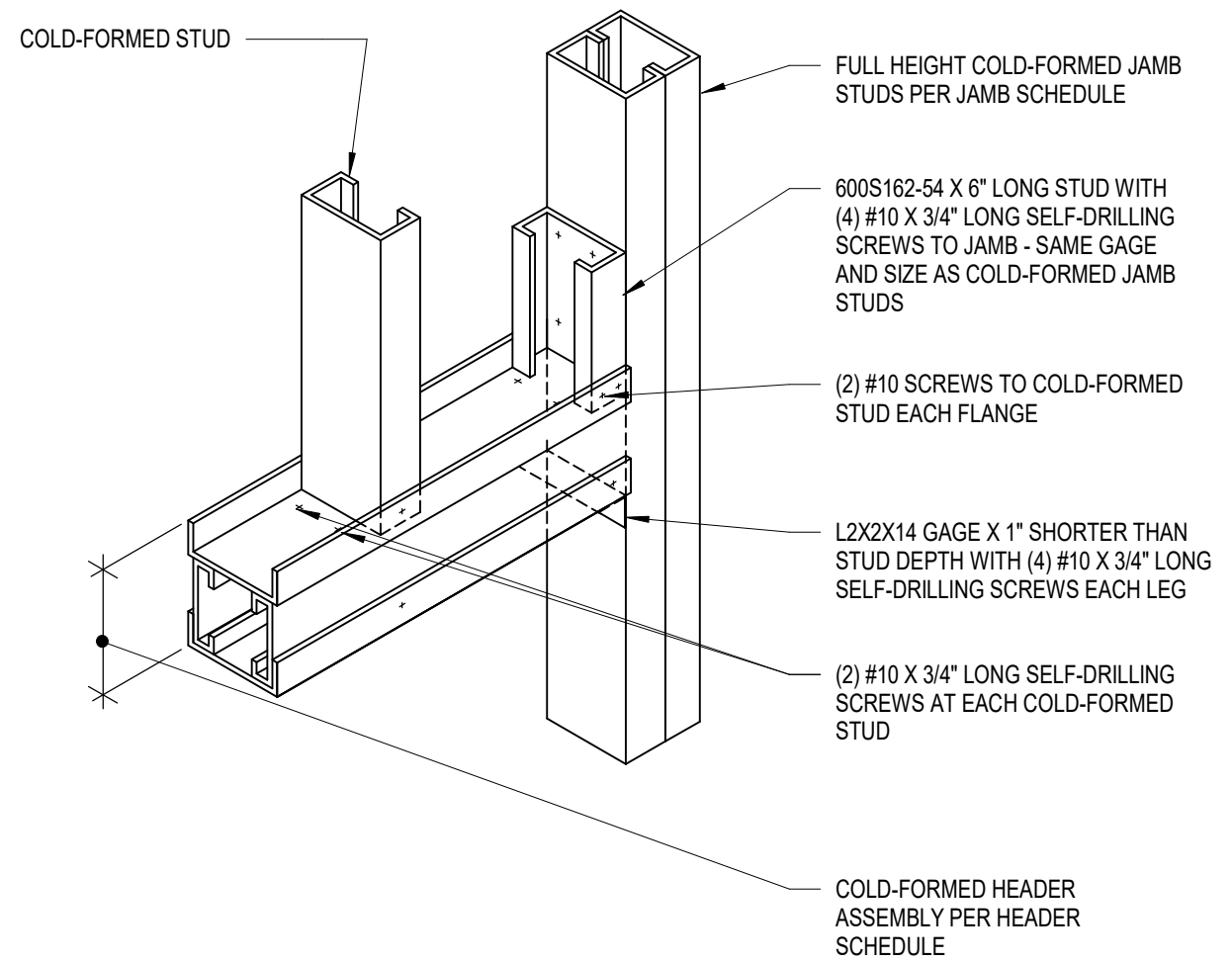
C1 TYPICAL DETAIL - BOTTOM TRACK CONNECTION AT CONCRETE

C3 TYPICAL DETAIL - COLD-FORMED STUD TO TRACK CONNECTION



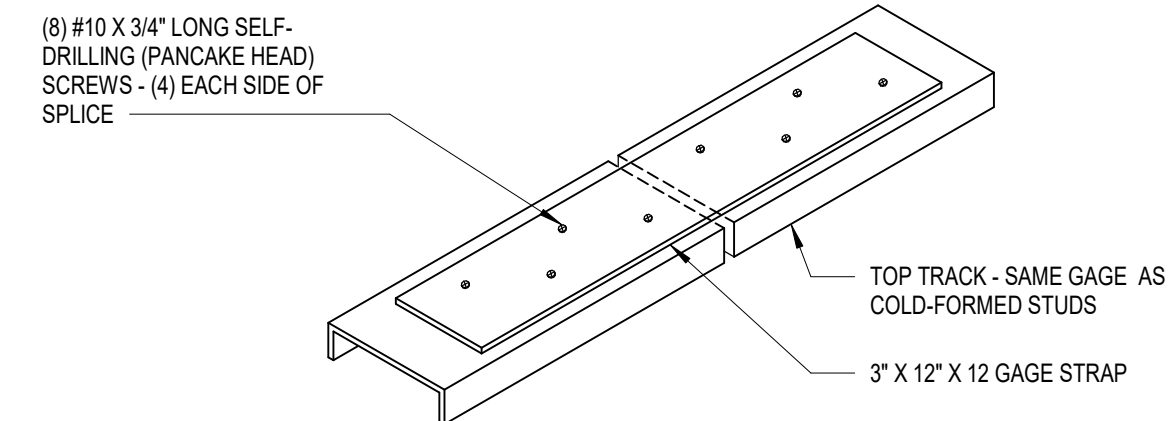
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B1 VERTICAL SLIDE TO STEEL CLIP DETAIL



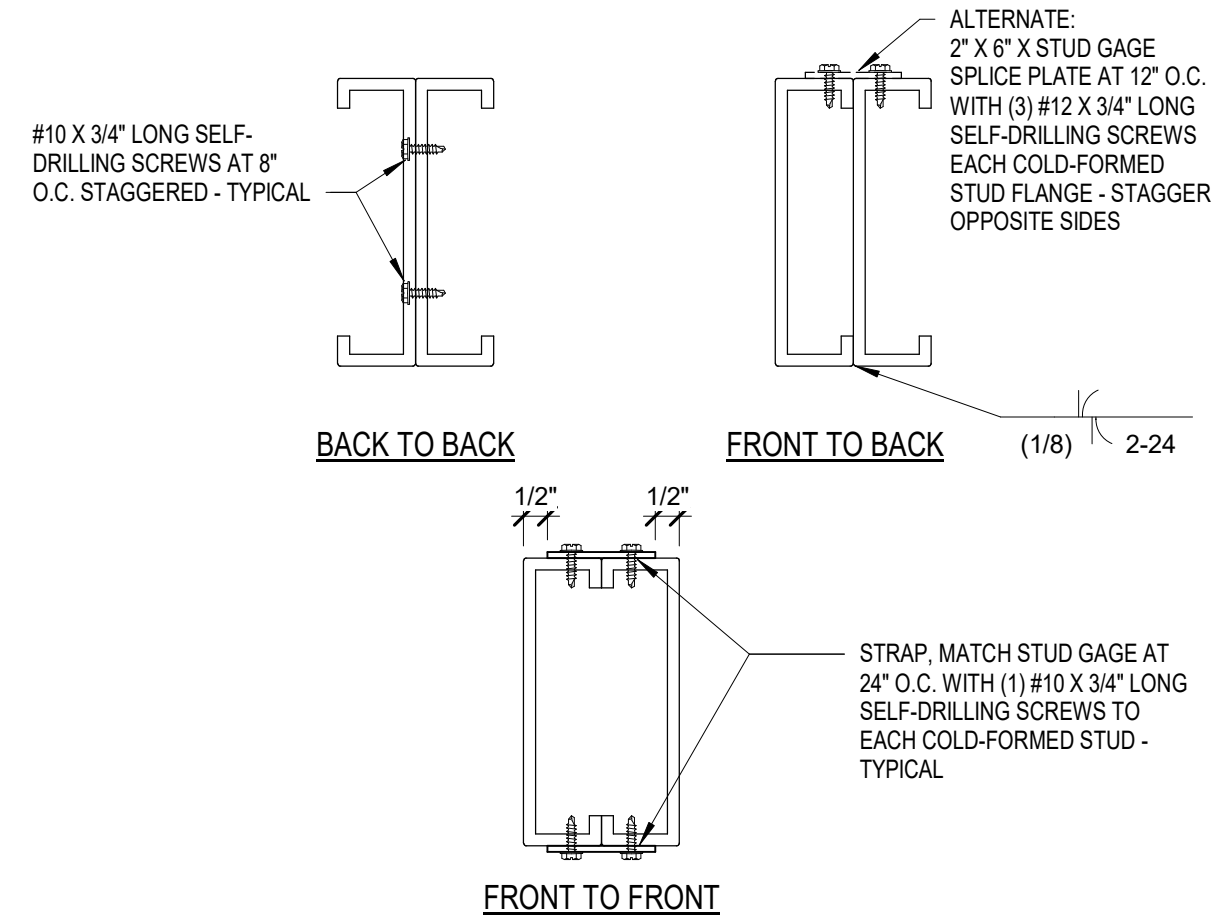
05411.00.02

B2 TYPICAL DETAIL - COLD-FORMED HEADER - 4 PIECE ASSEMBLY AT JAMB STUD



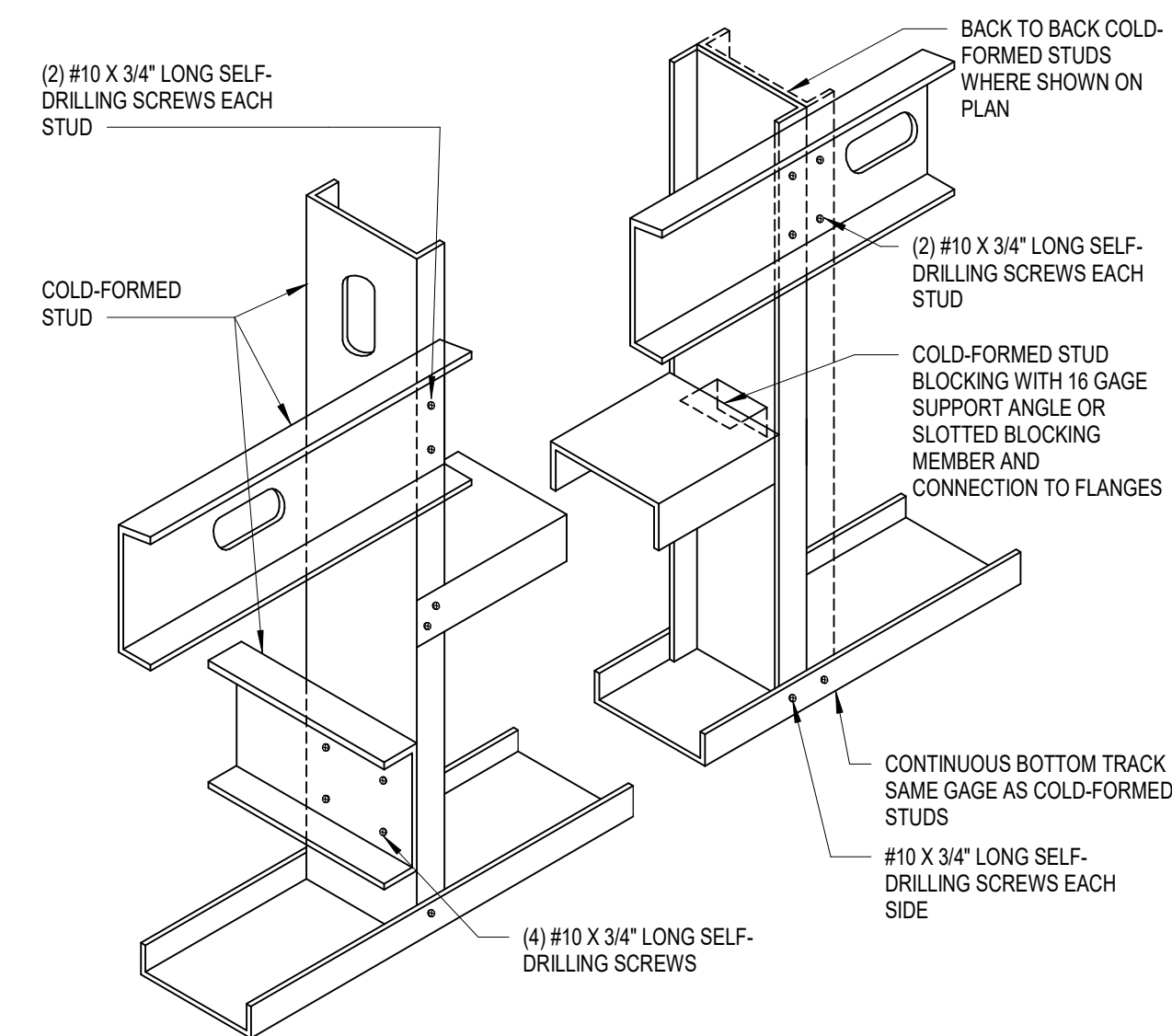
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B3 TYPICAL DETAIL - SPLICE IN TOP TRACK



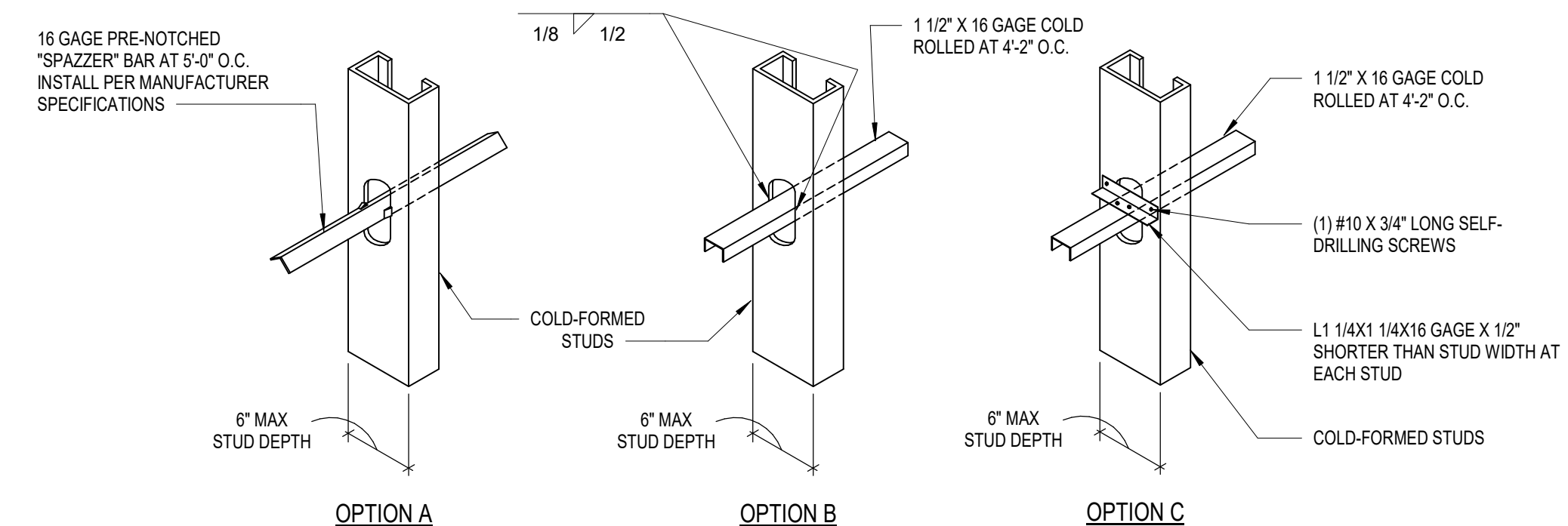
05411.00.03

B4 TYPICAL DETAIL - STUD TO STUD CONNECTIONS



05411.00.05

A2 TYPICAL DETAIL - TRACK AND BLOCKING TO COLD-FORMED STUD ATTACHMENT



NOTE:   
 ALTERNATE BRIDGING INCLUDING BUT NOT LIMITED TO CLARKDETRICH OR THE STEEL NETWORKS SYSTEMS ARE ACCEPTABLE

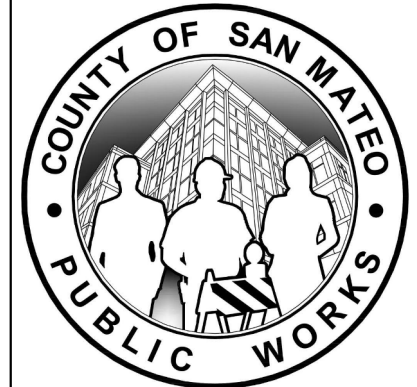
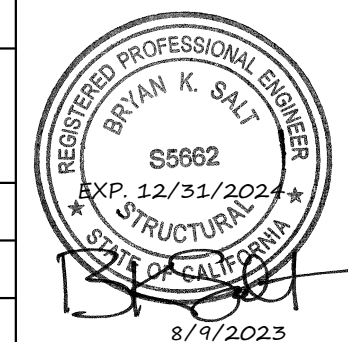
A3 TYPICAL DETAIL - BRIDGING ATTACHMENT

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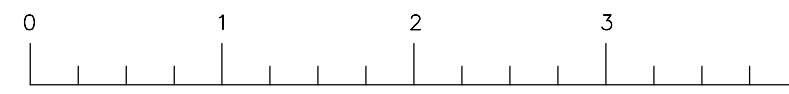
DESIGNED BY: J.L.   
 CHECKED BY: B.K.S.   
 DRAWN BY: C.A.V.

FRAMING DETAILS   
 ELECTRICAL VAULT AND EMERGENCY   
 GENERATOR

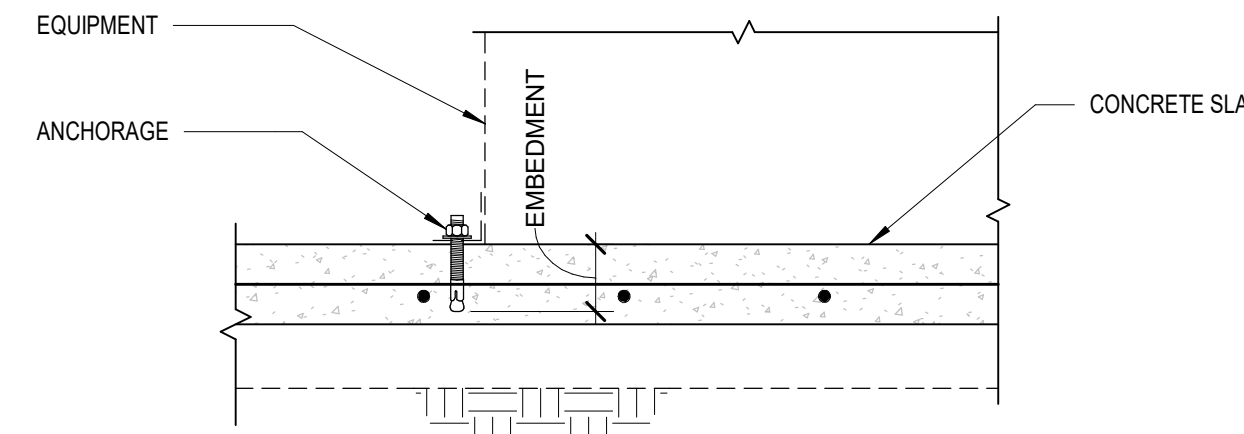
SCALE: AS SHOWN   
 DATE: AUGUST 4, 2023   
 FILE NO: E5079

ANN MADER STILLMAN,   
 DIRECTOR OF PUBLIC WORKS   
 COUNTY SAN MATEO   
 555 COUNTY CENTER, 5th FLOOR   
 REDWOOD CITY, CALIFORNIA 94063

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES

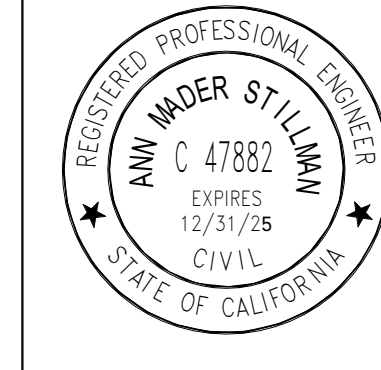


S520 SHEET 30 OF 32



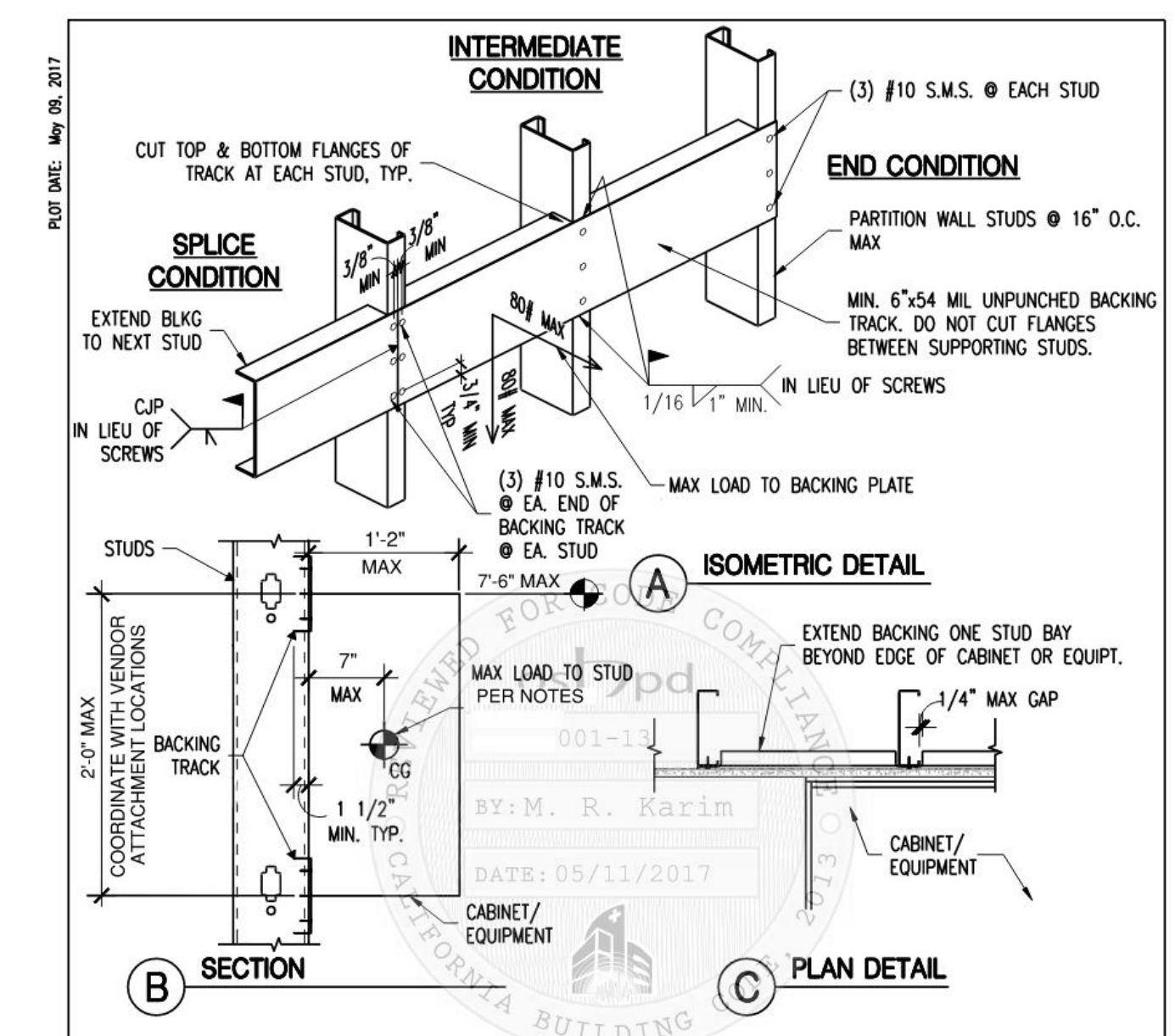
EQUIPMENT	WEIGHT LBS (MAX)	ANCHORAGE DIA	QUANTITY (MIN)	EMBEDMENT (INCHES)	EDGE DISTANCE (INCHES)	MINIMUM CONCRETE THICKNESS (INCHES)
CCR - 7.5 KW	530	1/2	4	2 1/2	---	5
CCR - 15 KW	865	1/2	4	2 1/2	---	5

- NOTES:
- REFER TO ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS FOR SIZE AND LOCATION OF CONCRETE PADS AND EQUIPMENT. EXACT WEIGHTS, DIMENSIONS, LOCATIONS AND ANCHORAGE ARE SUBJECT TO VERIFICATION PRIOR TO CONSTRUCTION DUE TO VENDOR SPECIFIC INFORMATION.
  - INSTALL ANCHORS INDICATED IN ALL CONNECTION POINTS PROVIDED BY EQUIPMENT MANUFACTURER.
  - DO NOT DAMAGE OR CUT REINFORCING DURING INSTALLATION.
  - ALL CONCRETE MECHANICAL ANCHORS SHALL BE HILTI KWIK-BOLT TZ2 (ICC ESR 4266) EXPANSION ANCHORS OR APPROVED EQUAL. REFER TO POST-INSTALLED ANCHORS GENERAL NOTES FOR ADDITIONAL INFORMATION.



APPROVED: \_\_\_\_\_  
 DATE: 02/23/2024  
 ANN MADER STILLMAN,  
 DIRECTOR OF PUBLIC WORKS  
 R. C. E. # 47882 / EXPIRES 12-31-2025

**C3 TYPICAL DETAIL - EQUIPMENT SEISMIC ANCHORAGE**  
 SCALE: NOT TO SCALE

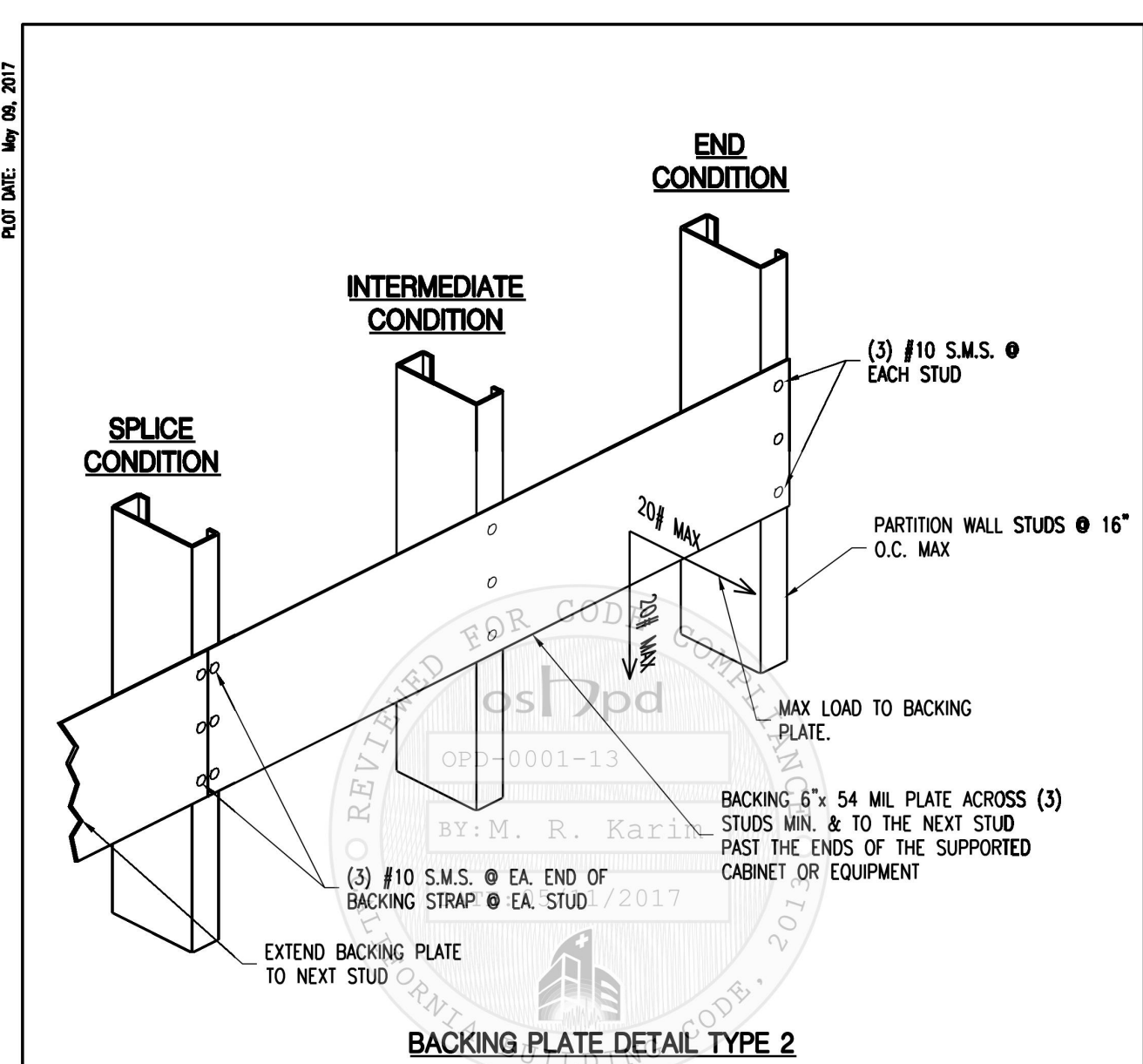


- NOTES:
- BACKING, CONNECTION TO STUD, AND STUDS FOR CABINETS OR EQUIPMENT EXCEEDING THIS LIMIT SHALL BE DESIGNED AND DETAILED BY ROP IN RESPONSIBLE CHARGE.
  - STUDS MAY BE USED FOR ATTACHMENT OF CABINETS OR EQUIPMENT DISTRIBUTING LESS THAN 20# PER STUD (CENTER OF GRAVITY LESS THAN 6" FROM FACE OF STUD).
  - NOTCHING OR CUTTING OF BACKING PLATE IS NOT PERMITTED EXCEPT AS SHOWN.
  - 380 LB TOTAL VERTICAL LOAD PER STUD (285 PLF).

SECTION TITLE: STANDARD PARTITION WALL DETAILS	OPD NO.:
SHEET TITLE: BACKING PLATE DETAIL TYPE 1	ST5.00

05/11/2017 OPD-0001-13; Reviewed for Code Compliance by Karim Page 49 of 86

**A3 BACKING PLATE DETAIL TYPE 1**  
 SCALE: NOT TO SCALE



- NOTES:
- THIS DETAIL MAY BE USED FOR ATTACHMENT OF CABINETS OR EQUIPMENT DISTRIBUTING LESS THAN 20# PER STUD (CENTER OF GRAVITY LESS THAN 6" FROM FACE OF STUD).
  - SEE ST5.00 FOR ALTERNATE WELDING OPTION.
  - NOTCHING OR CUTTING OF BACKING PLATE IS NOT PERMITTED.

SECTION TITLE: STANDARD PARTITION WALL DETAILS	OPD NO.:
SHEET TITLE: BACKING PLATE DETAIL TYPE 2	ST5.01

05/11/2017 OPD-0001-13; Reviewed for Code Compliance by Karim Page 50 of 86

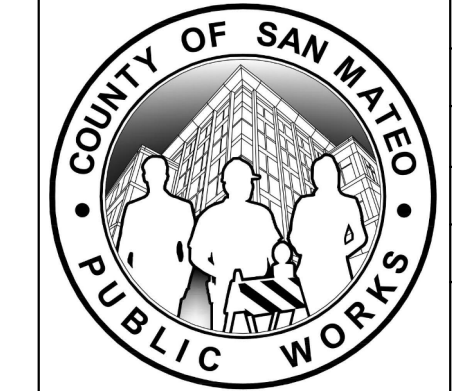
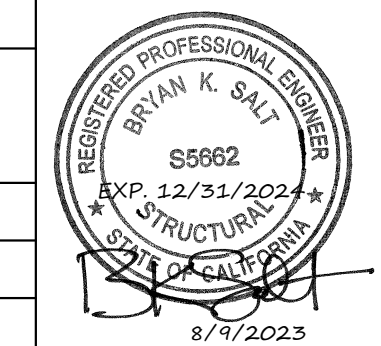
**A4 BACKING PLATE DETAIL TYPE 2**  
 SCALE: NOT TO SCALE

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 7801 Folsom Boulevard, Suite 210  
 Sacramento, California 95826  
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APPROVED DATE: 08/08/2023

BRYAN K. SALT  
 C&S ENGINEERS, INC.  
 S.E. # 5662 / EXPIRES 12/31/2024



DESIGNED BY: J.L.	ANCHORAGE DETAILS	SCALE: AS SHOWN
CHECKED BY: B.K.S.	ELECTRICAL VAULT AND EMERGENCY GENERATOR	DATE: AUGUST 4, 2023
DRAWN BY: C.A.V.	ANN MADER STILLMAN, DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO	FILE NO.: E5079
REVISION	DATE	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063
FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES		S530 SHEET 31 OF 32

APPROVED: **02/23/2024**  
 DATE: *Ann Mader Stillman*  
 ANN MADER STILLMAN,  
 DIRECTOR OF PUBLIC WORKS  
 R. C. E. # 47882 / EXPIRES 12-31-2025

STATE OF CALIFORNIA  
**Solar And Battery**  
 CALIFORNIA ENERGY COMMISSION

**CERTIFICATE OF COMPLIANCE** NRCC-SAB-E  
 This document is used to demonstrate compliance with prescriptive PV and battery requirements in 140.10/170.2 for nonresidential, multifamily and mixed-use buildings and prescriptive solar thermal requirements in 170.2(d)3C for multifamily and hotel/motel occupancies. When PV/battery/solar thermal requirements don't apply or are traded using the performance approach, this document demonstrates compliance with mandatory solar readiness requirements in 110.10/160.8 for newly constructed buildings which are either multifamily ten stories or fewer, hotel/motel ten stories or fewer or all other nonresidential buildings three stories or fewer. It is also used to demonstrate compliance with solar readiness in 110.10/160.8 for additions to nonresidential, multifamily or hotel/motel building types which add more than 2,000 ft<sup>2</sup> of roof area. Alterations, or additions of less than 2,000 ft<sup>2</sup> of roof area, are not required to comply with solar readiness, solar PV and battery requirements and do not need to complete this document.

Project Name: HAF Electrical Building (2022) Report Page: (Page 1 of 5)  
 Project Address: 9850 Cabrillo Hwy, Half Moon Bay, CA 94019 Date Prepared: 2023-01-04T17:34:41-05:00

**A. GENERAL INFORMATION**

01 Project Location (city)	Half Moon Bay, CA	04 Building Occupancies	All Other Occupancies
02 Climate Zone	3	05 Construction Type	New construction w/ roof <=533 ft <sup>2</sup>
03 Conditioned Floor Area (ft <sup>2</sup> )	0	06 Number of Stories	Bldg <= 3 stories

**B. PROJECT SCOPE**  
 The compliance path the project is using to comply per 110.10(b)18/140.10/170.2(g and h) is indicated below.

**Compliance with Solar Readiness Requirements in 110.10(b)18**

<input type="checkbox"/>	Provide Solar Ready Area no exceptions	The project has allocated a solar zone on the roof plan per requirements in §110.10(b), as documented in Table F.
<input type="checkbox"/>	Exception to Solar Ready Area: Installed Solar Photovoltaic System	The project includes a permanently installed solar electric system having a nameplate DC power rating, measured under Standard Test Conditions, of no less than one watt per square foot of roof area as documented in Table G.
<input type="checkbox"/>	Exception to Solar Ready Area: Installed Solar Water Heating System	The project is a hotel/motel or high-rise multifamily occupancy and includes a permanently installed domestic solar water-heating system complying with 170.2(d)3C and Reference Residential Appendix RA4, as documented in Table H.
<input type="checkbox"/>	Exception to Solar Ready Area: Smart Thermostat and Alternative Energy Efficiency Measure	The project is a multifamily occupancy where all thermostats in each dwelling unit comply with §110.10(a) AND at least one additional measure listed in Exception 4 to §110.10(b)18 is installed, as documented in Table I.
<input type="checkbox"/>	Exception to Solar Ready Area: Roof is designed for vehicular traffic, parking or for heliport	Plan sheet showing roof designed for vehicular traffic, parking or heliport
<input checked="" type="checkbox"/>	Exception to Solar Ready Area: Roof too small	The project is new construction and has a total roof area <= 533 square feet!
<input type="checkbox"/>	Exception to Solar Ready Area: Number of building stories	The project is nonresidential > 3 stories or multifamily/ hotel/motel > 10 stories.

**FOOTNOTE:** Buildings with roof area <=533 ft<sup>2</sup> would have a required solar zone < 80 ft<sup>2</sup> and are therefore exempt per 110.10(b).

Registration Number: CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance  
 Generated Date/Time: Report Version: 2022.0.000  
 Documentation Software: Energy Code Ace  
 Schema Version: rev 20220101  
 Compliance ID: 81556-0123-0002  
 Report Generated: 2023-01-04 14:34:44

STATE OF CALIFORNIA  
**Solar And Battery**  
 CALIFORNIA ENERGY COMMISSION

**CERTIFICATE OF COMPLIANCE** NRCC-SAB-E  
 This document is used to demonstrate compliance with prescriptive PV and battery requirements in 140.10/170.2 for nonresidential, multifamily and mixed-use buildings and prescriptive solar thermal requirements in 170.2(d)3C for multifamily and hotel/motel occupancies. When PV/battery/solar thermal requirements don't apply or are traded using the performance approach, this document demonstrates compliance with mandatory solar readiness requirements in 110.10/160.8 for newly constructed buildings which are either multifamily ten stories or fewer, hotel/motel ten stories or fewer or all other nonresidential buildings three stories or fewer. It is also used to demonstrate compliance with solar readiness in 110.10/160.8 for additions to nonresidential, multifamily or hotel/motel building types which add more than 2,000 ft<sup>2</sup> of roof area. Alterations, or additions of less than 2,000 ft<sup>2</sup> of roof area, are not required to comply with solar readiness, solar PV and battery requirements and do not need to complete this document.

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**Compliance with Solar Photovoltaic (PV) and Battery Requirements in 140.10/170.2(g and h)**

<input type="checkbox"/>	Provided PV system and battery storage sized per 140.10/170.2 (g and h)	The project has included an installed PV system and battery storage system per requirements in 140.10/170.2(g and h) as documented in Table J.
<input type="checkbox"/>	Exception to PV and Battery: Not enough Solar Access Roof Area	The total of all available Solar Access Roof Area(s) of the project site is less than three percent of the conditioned floor area as documented in Table J.
<input type="checkbox"/>	Exception to PV and Battery: Required PV < 4kW	The required PV system size is less than 4 kW dc as documented in Table J.
<input type="checkbox"/>	Exception to PV and Battery: No contiguous Solar Access Roof Area	The Solar Access Roof Area(s) of the project site contains less than 80 contiguous square feet as documented in Table J.
<input type="checkbox"/>	Exception to PV and Battery: Can't meet snow load	The project has a roof design where the enforcement authority has verified it is not possible for the PV system, including panels, modules, components, supports, and attachments to the roof structure, to meet ASCE 7-16 Chapter 7, Snow Loads.
<input type="checkbox"/>	Exception to PV and Battery: Multi-tenant without VNEM or Community Solar	The project is a multi-tenant building in an area where a load serving entity does not provide either a Virtual Net Metering (VNEM) or community solar program.
<input type="checkbox"/>	The prescriptive PV/battery requirement has been traded off using the performance compliance approach as documented on the PRF Certificate of Compliance form.	The project is a multi-tenant building in an area where a load serving entity does not provide either a Virtual Net Metering (VNEM) or community solar program.

**Compliance with Solar Thermal Water Heating Requirements in 170.2(d)3C (Multifamily and hotel/ motel occupancies only)**

<input type="checkbox"/>	The project includes a hotel/motel or multifamily occupancy with a gas or propane central water-heating system (serves 2+ dwelling units) and includes a permanently installed domestic solar water-heating system to comply with 170.2(d)3C and Reference Residential Appendix RA4, as documented in Table H. Compliance meets Exception 2 to solar ready requirements in 110.10(b).
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Registration Number: CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance  
 Generated Date/Time: Report Version: 2022.0.000  
 Documentation Software: Energy Code Ace  
 Schema Version: rev 20220101  
 Compliance ID: 81556-0123-0002  
 Report Generated: 2023-01-04 14:34:44

STATE OF CALIFORNIA  
**Solar And Battery**  
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**C. COMPLIANCE RESULTS**  
 Results in this table are automatically calculated from data input and calculations in Tables F through I. Note: If any cell on this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D, for guidance or see the applicable Table referenced below.

Allocated Solar Zone		Installed PV System		Installed SWH System		Smart Thermostat and Alternative EE Measure		Compliance Results						
01	02	03	04	05	06	07	08							
Required Minimum Area (ft <sup>2</sup> )	<= Designated Area (ft <sup>2</sup> )	OR	Required Minimum DC Power Rating (Watts)	<=	Designed DC Power Rating (Watts)	OR	Required Minimum Solar Savings Fraction	<=	Designed/Rated Solar Savings Fraction	OR	JAS Compliant Thermostat Specified?	OR	Alternative Energy Efficiency Measure	COMPLIES with Exceptional Conditions
(See Table F)			(See Tables G or J)		(See Table H)		(See Table I)							
Location in construction documents showing the location for inverters and metering equipment and a pathway for the routing of conduit/plumbing to the electrical service/ water heating system per §110.10(c). Battery storage system design meets the minimum requirements in Joint Appendix JA12 and the minimum energy (kWh)/ power (kW) capacity per Table J.														Not Applicable

**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. ALLOCATED SOLAR ZONE**  
 This section does not apply to this project.

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**G. PERMANENTLY INSTALLED SOLAR PV FOR SOLAR READY EXCEPTION**  
 This section does not apply to this project.

**H. PERMANENTLY INSTALLED SOLAR HOT WATER SYSTEMS**  
 This section does not apply to this project.

**I. SMART THERMOSTATS AND ALTERNATIVE EFFICIENCY MEASURE FOR SOLAR READY EXCEPTION**  
 This section does not apply to this project.

**J. PHOTOVOLTAIC (PV) AND BATTERY SYSTEMS**  
 This section does not apply to this project.

**K. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION**

Form/Title  
 NRCC-SAB-01-E - Must be submitted for all buildings that must comply with solar readiness or PV/battery requirements.

**L. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE**  
 There are no forms required for this project.

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

Documentation Author Name: Bryan Salt  
 Company: C&S Engineers, Inc.  
 Address: 2575 E. Camelback Rd #740  
 City/State/Zip: Phoenix, AZ 85016  
 Signature Date: 1/5/2023  
 CEJA/HERS Certification Identification (if applicable):  
 Phone: 602-422-8622

**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 (reasonable designer) of Title 24, Part 1 and Part 6 of the California Code of Regulations.
- 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 or occupant.

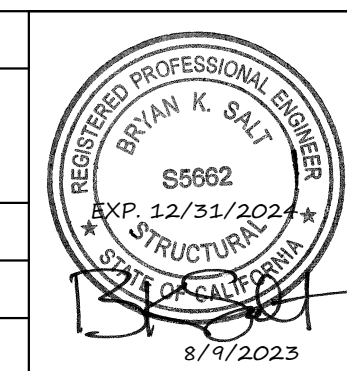
Responsible Designer Name: Bryan Salt  
 Company: C&S Engineers, Inc.  
 Address: 2575 E. Camelback Rd #740  
 City/State/Zip: Phoenix, AZ 85016  
 Signature Date: 1/5/2023  
 License: CE 50682 / SE 5682  
 Phone: 602-422-8622

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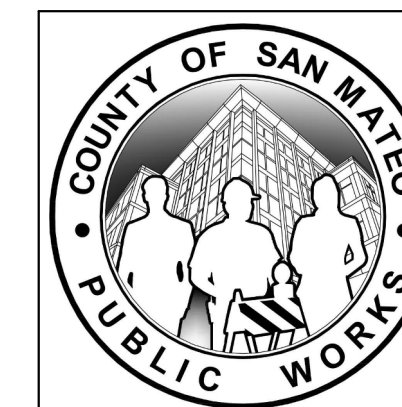
C&S Engineers, Inc.  
 7801 Folsom Boulevard, Suite 210  
 Sacramento, California 95826  
 Phone: 916-364-1470  
 www.cscos.com



APPROVED DATE: 08/08/2023



BRYAN K. SALT  
 C&S ENGINEERS, INC.  
 S.E. # 5682 / EXPIRES 12/31/2024



DESIGNED BY: J.L.	CERTIFICATES OF COMPLIANCE ELECTRICAL VAULT AND EMERGENCY GENERATOR	SCALE: AS SHOWN
CHECKED BY: B.K.S.		DATE: AUGUST 4, 2023
DRAWN BY: C.A.V.		FILE NO.: E5079
ANN MADER STILLMAN, DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063	S601 SHEET 32 OF 32
REVISION	DATE	FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES