GENERAL:

THE STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE DRAWINGS OF ALL OTHER DISCIPLINES AND THE SPECIFICATIONS. THE CONTRACTOR SHALL VERIFY THE REQUIREMENTS OF OTHER TRADES AS TO INSERTS, ANCHORS, SLEEVES, AND OTHER ITEMS TO BE PLACED OR SET IN THE STRUCTURAL WORK.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL SAFETY PRECAUTIONS AND REGULATIONS DURING THE WORK.

THE CONTRACTOR SHALL BE RESPONSIBLE TO CONFIRM ALL THE FIELD DIMENSIONS ANY UNUSUAL CONSTRUCTION CONDITION THAT JEOPARDIZE SAFETY OF LABOR AND/OR PUBLIC, CONTRACTOR SHALL CONTACT ENGINEER IMMEDIATELY BEFORE PROGRESS. IN CASE OF AT THE TIME AND/OR IN FUTURE OR IN CASE OF THE DISCREPANCIES IN THE PROJECT. SPECIFIED MATERIALS AND FASTENERS ARE ALLOWABLE TO BE SUBSTITUTED WITH EQUAL GREATER SPECIFICATION.

COLD-FORMED STEEL NOTES:

1. ALL COLD FORMED STEEL STUDS, JOIST, TRACK & MISC. SHAPES MILL CERTIFIED STEEL TO MEET: A. ASTM A1003 ST GRADE 50, TYPE H 54-97 mil GALV. STEEL

B. ASTM A1003 ST GRADE 33, TYPE H 18-43 mil GALV. STEEL

2. ALL STEEL STUDS, JOIST & TRACK SHALL HAVE A LEGIBLE LABEL, STAMP OR EMBOSSMENT, AT A MAXIMUM OF 48" O.C., INDICATING THE MANUFACTURER'S NAME, LOGO OR INITIALS, ICC EVALUATION SERVICE REPORT NUMBER, THE MATERIAL BASE METAL THICKNESS (UNCOATED) IN .001 in. AND THE YIELD STRENGTH IF DIFFERENT THAN 33 ksi.

3. MILL CERTIFICATES FROM THE COIL PRODUCER SHALL BE MADE AVAILABLE IF REQUESTED. MILL CERTIFICATE TO INCLUDE AS A MINIMUM THE CHEMICAL COMPOSITION, YIELD STRENGTH, TENSILE STRENGTH, ELONGATION, AND COATING THICKNESS.

362S162-33

4. SECTION PROPERTIES:

FLANGE / LEG WIDTH (IN 1/100 in)

SECTION TYPE:

MEMBER DEPTH (IN 1/100 in)

S=STUD OR JOIST SECTION T= TRACK SECTIONS **U=CHANNEL SECTIONS** F=FURRING CHANNELS SECTIONS Z=ZEE SECTIONS

THICKNESS

**THIS PROJECT WILL BE BUILD USING FRAMECAD ® MACHINERY FOR AUTOMATIVE CFS CHANNELS PRODUCTION, THUS, T-SECTION IS REPLACED BY S-SECTION FOR ALL TRACKS, STUDS BLOCKING, TRUSS CHORDS WHERE TYPICALLY T-SECTION IS IN USE.

IN mils (1 mil = 1/1000 in)

MINIMUM DELIVERABLE THICKNESS (mils)	GAUGE	DESIGN THICKNESS (INCHES)
33	20	0.0346
43	18	0.0451
54	16	0.0566
68	14	0.0713
97	12	0.1017
118	10	0.1242

5. STUDS AND TRACKS THAT COMPRISE A HEADER. STRONGBACK OR SILL SHALL NOT BE SPLICED. CURVED HEADERS, STRONGBACKS, AND SPANDREL TRACKS SHALL BE STRETCH FORMED. CLIPPING OR CRIMPING OF FLANGES OR WEBS IS NOT PERMITTED. IF OTHER PROPRIETARY CURVED PRODUCTS ARE PROPOSED THEY SHALL BE SUBMITTED TO DEVCO, WITH APPROPRIATE CALCULATIONS AND/OR TESTING, FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.

6. EXTERIOR AND INTERIOR FRAMING, SHEATHING AND FINISH MATERIAL SHALL NOT BRIDGE DEFLECTION JOINTS (COMPENSATION CHANNEL), SEISMIC JOINTS, EXPANSION JOINTS, OR ANY LOCATION WHERE DIFFERENTIAL MOVEMENT OF THE STRUCTURE IS EXPECTED. EXCEPT AS SPECIFICALLY DETAILED WITHIN, SLIP JOINTS SHALL BE INSTALLED BETWEEN FRAMING SUPPORTED BY DIFFERENT FLOORS/ROOF(S). FOR EXAMPLE, A VERTICAL SLIP JOINT SHALL BE INSTALLED BETWEEN A SOFFIT HANGER AND A WALL.

7. SCREW VALUES USED IN DESIGN MEET 2007 "NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS" (AISI S100-07/S2-10) INCLUDING THE 2010 SUPPLEMENT SECTION E4 FOR SCREW CONNECTIONS. SCREWS TO CONFORM TO SAE J78.



8. WELDING

- A. WELDING TO BE PER AWS D1.3 "STRUCTURAL WELDING CODE SHEET STEEL".
 - B. WELDS TO BE INSPECTED PER APPLICABLE BUILDING CODE. C. MINIMUM E60XX ELECTRODES.
 - D. USE LOW HYDROGEN ELECTRODES FOR WELDING SHEET STEEL TO
 - STRUCTURAL STEEL GREATER THAN 1/4" IN THICKNESS. E. ELECTRODES MUST BE ACCEPTABLE (PER THE ROD MANUFACTURER) FOR USE IN SEISMIC APPLICATIONS.
 - F. ALL WELDS OF GALVANIZED STEEL SHALL BE TOUCHED UP WITH A ZINC RICH PRIMER.
 - G. FOR MATERIALS LESS THAN OR EQUAL TO 0.1242" THICK, DRAWINGS SHOW NOMINAL WELD SIZE. FOR SUCH MATERIALS THE EFFECTIVE THROAT OF WELDS SHALL NOT BE LESS THAN THE THICKNESS OF THE THINNEST CONNECTED PART.

STRUCTURAL STEEL NOTES:

- 1. ALL DESIGN, FABRICATION AND ERECTION SHALL CONFORM TO THE AISC STEEL CONSTRUCTION
- MANUAL, 13TH EDITION, WELDING SHALL CONFORM TO THE LATEST AWS AND AISC SPECIFICATIONS.
- 2. WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE BEST PRACTICE AND WITHIN THE TOLERANCES SPECIFIED IN THE AISC SPECIFICATIONS FOR STRUCTURAL STEEL.
- 3. IT IS SPECIFICALLY NOTED THAT BURNED HOLES ARE NOT ACCEPTABLE UNLESS SPECIAL PERMISSION IS GIVEN BY ENGINEER.
- 4. ALL SHOP FABRICATED WORK SHALL BE DONE IN A SHOP APPROVED BY THE GOVERNING AGENCY. FABRICATOR SHALL SUBMIT PROGRAM OF WELDING INSPECTION TO ENGINEER FOR APPROVAL.
- 5. ALL STRUCTURAL STEEL SHALL BE AS FOLLOWS UNO:

ALL WF, WT SHAPES:	A99
CONNECTION PL & MISC STEEL (UNO):	AS
GUSSET & COLLECTOR PLATES:	AS
PIPE COLUMNS (TYPE S, SEAMLESS):	AS
STRUCTURAL TUBING:	AS
ANGLE, CHANNELS:	AS
THREADED ROD:	AS
HEADED SHEAR STUDS:	AS
	GR
	TYF

ELECTRODES:

- 6. ALL HIGH STRENGTH BOLTS SHALL BE ASTM A325-N TYPE UNLESS OTHERWISE NOTED.
- 7. ALL BOLTS USED FOR ERECTION SHALL BE ASTM A325 TYPE WITH THREADS EXCLUDED FROM SHEAR PLANES.
- 8. ALL PLAIN ANCHORS SHALL BE A36; ALL ANCHOR BOLTS SHALL COMPLY WITH ASTM F1554. 3" MINIMUM CONCRETE COVER WILL BE PLACED AROUND ALL ANCHOR BOLTS EXPOSED TO THE WEATHER, U.N.O.
- 9. WELDING MATERIALS: PROVIDE TYPE REQUIRED FOR MATERIALS BEING WELDED, PER AWS D1.1.
- 10. PROVIDE CONTINUOUS INSPECTION FOR ALL FABRICATION AND WELDING OF STRUCTURAL STEEL AS REQUIRED PER CODE REQUIREMENTS.
- 11. ALL COMPLETE PENETRATION GROOVE WELDS IN JOINTS AND SPLICES SHALL BE TESTED 100 PERCENT IN ACCORDANCE WITH IBC . USE ONE OF THE APPROVED METHODS OF TIGHTENING HIGH STRENGTH BOLTS.
- 12. A WELDING SEQUENCE SHALL BE PLANNED TO MINIMIZE RESIDUAL STRESSES AND DISTORTIONS OF INDIVIDUAL MEMBERS AND THE BUILDING RAME. ALL DETAILING. FABRICATION, AND ERECTION SHALL COMPLY WITH AISC, LATEST EDITION.
- 13. UNLESS OTHERWISE NOTED, ALL STIFFENER PLATES ARE 3/8" THICK MINIMUM AND ALL BUTT WELDS ARE FULL PENETRATION WELDS. ERECTION CLIPS, TEMPORARY BRACING, ETC., REQUIRED BY THE CONTRACTOR ARE NOT SHOWN.
- 14. ALL STRUCTURAL STEEL SHALL BE PAINTED WITH ONE SHOP COAT OF ZINC CHROMATE PRIMER OR EQUAL. AFTER ERECTION, FIELD CONNECTIONS SHALL BE TOUCHED UP. DO NOT PAINT PORTION OF STEEL TO BE EMBEDDED IN CONCRETE, HEADED ANCHOR STUDS, FAYING SURFACES OR AREAS TO RECEIVE FIRE PROOFING. EXTERIOR, EXPOSED STEEL MEMBERS ARE SPECIFIED TO BE HOT-DIPPED GALVANIZED OR STAINLESS AS NOTED.
- 15. WELD LENGTHS CALLED FOR ON PLANS ARE THE NET EFFECTIVE LENGTH REQUIRED. WHERE FILLET WELD SYMBOL IS GIVEN WITHOUT INDICATION OF SIZE, USE MINIMUM SIZE WELDS AS SPECIFIED IN AISC MANUAL OF STEEL CONSTRUCTION LATEST EDITION. THIS INCLUDES OPEN WEB JOIST CONNECTIONS.
- 16. THE USE OF E70T-4 WELDING WIRE IS NOT ALLOWED FOR ANY APPLICATION.

GROUND SCREW NOTES:

1. THE GROUND SCREW INSTALLATION TECHNIQUE SHALL BE SUCH THAT IT IS CONSISTENT WITH THE GEOTECHNICAL, LOGISTICAL, ENVIRONMENTAL, AND LOAD CARRYING CONDITIONS OF THE PROJECT.

2. THE LEAD SECTION SHALL BE POSITIONED AT THE LOCATION AS SHOWN ON SCREW PILE PLAN.

3. THE GROUND SCREW SECTIONS SHALL BE ENGAGED AND ADVANCED INTO THE SOIL IN A SMOOTH, CONTINUOUS MANNER AT A RATE OF ROTATION OF 5 TO 20 RPM'S. EXTENSION SECTIONS SHALL BE PROVIDED TO OBTAIN THE REQUIRED MINIMUM OVERALL LENGTH AND INSTALLATION TORQUE AS SHOWN ON THE SCREW PILE LAYOUT PLAN. CONNECT SECTIONS TOGETHER USING COUPLING BOLT(S) AND NUT TORQUED TO 40 FT-LB.

4. SUFFICIENT DOWN PRESSURE SHALL BE APPLIED TO UNIFORMLY ADVANCE THE GROUND SCREW SECTIONS APPROXIMATELY 3 INCHES PER REVOLUTION. THE RATE OF ROTATION AND MAGNITUDE OF DOWN PRESSURE SHALL BE ADJUSTED FOR DIFFERENT SOIL CONDITIONS AND DEPTHS.

5. GROUND SCREWS SHALL BE INSTALLED TO APPROPRIATE DEPTH IN SUITABLE BEARING STRATUM AS DETERMINED BY GEOTECHNICAL ENGINEER.

6. FIELD WELDING SHALL BE PERFORMED BY A WELDER CERTIFIED FOR STRUCTURAL STEEL 7. GROUND SCREWS ARE MADE WITH HOT DIPPED GALVANIZED STRUCTURAL STEEL TO A ISO-DIN 1461 STANDARD.



/PE 316, 50 ksi

a) E70XX FOR A36

b) FOR OTHER STEEL GRADES USE MATCHING WELD METAL AND PROCESSES

SPECIAL INSPECTIONS NOTES:

VERIFICATION & INSPECTION

1705.12 - REQUIRED VERIFICATION AND INSPECTION FOR SEISMIC RESISTANCE 2. SCREW ATTACHMENT, BOLTING, ANCHORING AND OTHER FASTENING OF ELEMENTS OF THE SEISMIC FORCE-RESISTING SYSTEM, INCLUDING

- SHEAR WALLS, BRACES, DIAPHRAGMS, COLLECTORS (DRAG STRUTS) AND HOLD-DOWNS.
- X CBC 1705.12.3 NUMBER 2 4" ON CENTER

SCHEDULE OF SPECIAL INSPECTIONS

- COLUMN HEADER NOTATION USED IN TABLE: C INDICATES CONTINUOUS INSPECTION IS REQUIRED. P INDICATES PERIODIC INSPECTIONS ARE REQUIRED. THE NOTES AND/OR CONTRACT
- DOCUMENTS SHOULD CLARIFY. BOX ENTRY NOTATION USED IN TABLE:
- X IS PLACED IN THE APPROPRIATE COLUMN TO DENOTE EITHER "C" CONTINUOUS OR "P" PERIODIC INSPECTIONS. -- DENOTES A ONE-TIME ACTIVITIY OR ONE WHOSE FREQUENCY IS DEFINED IN SOME
- OTHER MANNER. ADDITIONAL DETAILS REGARDING INSPECTIONS ARE PROVIDED IN THE PROJECT SPECIFICATIONS OR NOTES ON THE DRAWINGS.

C P NOTES

* NOT REQUIRED WHERE FASTENER SPACING OF SHEATHING IS MORE THAN

LOADS WALL: ROOF FLOOF WIND BASIC

R..... -<u>'SOIL E</u> BEARI DEAD ·

WIND BASEL **STRE** REGIS

ALL W - 2019 - 2019 - ASCE FOR - AISC - AISC - ASW



<u>DESI</u> PAR/	<u>GN</u> \METERS:		
GENERAL PARAME	<u>=TERS:</u>		
THE DESIGN FORC2019 CALIFORNIA BLOADS:DEAWALL:10 FROOF:10 FFLOOR:11.5	ES LISTED ARE PER CHAPTER 16 OF JUILDING CODE (CBC-19) ASCE 7-16 AD LOAD (DL) LIVE LOAD (LL) PSF PSF 20 PSF 5 PSF 40 PSF		
WIND DESIGN BASI BASIC WIND SPEEL IMPORTANCE FACT RISK CATEGORY WIND EXPLOSURE. SNOW LOAD (DESIG	S: 110 MPH FOR I 1.0 II II C GN SNOW LOAD)		
SEISMIC DESIGN B. IMPORTANCE FACT SITE CLASSSsSsS1SDsSDsSEISMIC DESIGN C. BASIC SEISMIC FOF R	ASIS: FOR I		
SOIL DATA: BEARING CAPACIT DEAD + LIVE LOADS WIND OR SEISMICH BASED ON GEOTEC STREAMLINE ENGIN REGISTERED PROF	Y: S 2,000 PSF LOADS 2,500 PSF CH REPORT BY NEERING, INC. PROJECT #5035, MARCH 31 2023 FESSIONAL ENGINEER - JEFFREY M RICHELIEU		
ALL WORK SHALL (- 2019 CALIFORNIA - 2019 CALIFORNIA - ASCE 7-16 MINIMU FOR BUILDINGS A - AISC 341-16 SEISM - AISC 360-16 SPEC - ASW D 1.3 STRUC	E /AUTHORITY: COMPLY WITH THE FOLLOWING: RESIDENTIAL CODE (CRC); BUILDING CODE (CBC); JM DESIGN LOADS AND ASSOCIATED CRITERIA AND OTHER STRUCTURES; MIC PROVISIONS FOR STRUCTURAL STEEL BUILDINGS; CHICATION FOR STRUCTURAL STEEL BUILDINGS; CTURAL WELDING CODE - SHEET STEEL;		
SHEET NUMBER	SHEET LIST. SHEET NAME		
S0 S1 S2 S3 S4 S5	COVER SHEET STRUCTURAL FOUNDATION PLAN STRUCTURAL PLANS STRUCTURAL SECTIONS STRUCTURAL SECTIONS & DETAILS STRUCTURAL DETAILS		
		DRAWN BY DZ CHECKED BY MK	SHEET NUMBER: SO SHEET NAME: COVER SHEET
		PROJECT NUMBER 22-108	_



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FOUNDATION NOTES:

INSTALLATION PROCEDURES:

1. THE HELICAL PILE INSTALLATION TECHNIQUE SHALL BE SUCH THAT IT IS CONSISTENT WITH THE GEOTECHNICAL, LOGISTICAL, ENVIRONMENTAL, AND LOAD CARRYING CONDITIONS OF THE PROJECT.

2. THE LEAD SECTION SHALL BE POSITIONED AT THE LOCATION AS SHOWN ON SCREW PILE PLAN.

3. THE HELICAL PILE SECTIONS SHALL BE ENGAGED AND ADVANCED INTO THE SOIL IN A SMOOTH,

CONTINUOUS MANNER AT A RATE OF ROTATION OF 5 TO 20 RPM'S. EXTENSION SECTIONS SHALL BE PROVIDED TO OBTAIN THE REQUIRED MINIMUM OVERALL LENGTH AND INSTALLATION TORQUE AS SHOWN ON THE SCREW PILE

LAYOUT PLAN. CONNECT SECTIONS TOGETHER USING COUPLING BOLT(S) AND NUT TORQUED TO 40 FT-LB.

4. SUFFICIENT DOWN PRESSURE SHALL BE APPLIED TO UNIFORMLY ADVANCE THE HELICAL PILE SECTIONS APPROXIMATELY 3 INCHES PER REVOLUTION. THE RATE OF ROTATION AND MAGNITUDE OF DOWN PRESSURE SHALL BE ADJUSTED FOR DIFFERENT SOIL CONDITIONS AND DEPTHS.

SCREW PILE MAX LOAD FORCES

MAX SHEAR: 1.80 kip MAX COMPRESSION: 7.60 kip MAX UPLIET: 1.25 kip

SCREW PILE MODEL: AMERICAN GROUND SCREW 4.5" DIA.

ON-SITE LOAD TEST TO PROVE SPECIFIED MAX LOADS ARE MET. PILE HEIGHT 4.5" DIA. - 2000MM MAX.

SCREW PILE LOADS SCHEDULE / SCREW PILE SPECIFICATION

MARK	PILE MODEL	PILE DEPTH, INCH, MIN	MAX SHEAR X, KIP	MAX SHEAR Y, KIP	MAX COMPRESSION, KIP
1	4.5" DIA	60	1.40	1.80	7.60
2	4.5" DIA	60	1.50	1.80	6.95
3	4.5" DIA	60	1.05	0.50	4.80







4 SCREW PILE TO I-BEAM DETAIL 1 1/2" = 1'-0"

5 SCREW PILE TO FLOOR JOISTS DETAIL 1 1/2" = 1'-0"

SHEET NAME: STRUCTURAL FOUNDATION PLAN

SHEET NUMBER

S1

DRAWN BY

DZ

CHECKED BY

MK

PROJECT NUMBER 22-108



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5' - 1 3/8"

Α



DRAWN BY DZ CHECKED BY MK PROJECT NUMBER



SHEET NUMBER: **S**3

3 ARCH PROFILES CONNECTION 1" = 1'-0"





2 STRUCTURAL SECTION 1/4" = 1'-0"



$\langle \rangle$	$\checkmark \checkmark \checkmark \land$	
	WALL STUD	SCHEDULE
MARK	STUDS TYPE	STUD SECTIONS
S1	DOUBLE STUD	(2) 600S162-54 (50 ksi)
S2	TRIPLE STUD	(3) 600S162-54 (50 ksi)
S3	TRIPLE STUD CORNER POST	(3) 600S162-54 (50 ksi
S4	DOUBLE STUD	(2) 362S162-33 (33 ksi)
S5	TRIPLE STUD CORNER POST	(3) 362S162-33 (33 ksi)

DRAWN BY DZ CHECKED BY MK PROJECT NUMBER

22-108

SHEET NAME: STRUCTUR

SHEET NUMBER:

STRUCTURAL SECTIONS & DETAILS



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