ENGINEERED FOUNDATION PLAN
C.P. SEISMIC PIER
SPA 30-7F

FOR: CENTRAL PIERS, INC.
284 N. THORNE AVE.
FRESNO, CA 93706
559-268-0828

BY: ROCK SOLID ENGINEERING, INC.
1100 MAIN STREET, SUITE A
WATSONVILLE, CA 95076
831-724-5868

REGISTERED PROFESSIONAL ENGINEER
YVETTE M. WILSON
No. 60245
CIVIL
STATE OF CALIFORNIA

Signed: 4-17-20

STATE APPROVAL

COMMERCIAL/MODULAR/COMMERCIAL COACH
FOUNDATION SYSTEM
HEALTH AND SAFETY CODE, SECTION 18551
APPROVED

APPROVAL DOES NOT AUTHORIZE OR APPROVE ANY
OMISSIONS OR DEVIATION FROM REQUIREMENTS OF
APPLICABLE STATE LAWS AND REGULATIONS

STATE OF CALIFORNIA
DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT

DIVISION OF CODES AND STANDARDS

BY _____ DATE 4/30/20
SPA NO. 30-7F
THIS PLAN APPROVAL EXPIRES 5/2/23

REV.	DATE	BY	COMMENTS
3	04/17/20	YW	UPDATE TO 2019 CBC/CRC
2	04/25/18	YW	UPDATE TO 2016 CBC/CRC
1	01/04/15	YW	REVISION TO TABLE, PAGE F5
0	02/25/14	YW	UPDATE TO 2013 CBC/CRC

REFERENCE: CALIFORNIA CODE OF REGULATIONS, TITLE 25 & 2019 C.B.C. 3

1. DESIGN LOADS SHALL BE CONSISTENT WITH LOCAL REQUIREMENTS WHERE INSTALLED. THE FOLLOWING DESIGN LOADS ARE INCORPORATED HEREIN:
   FLOOR LIVE LOAD: 50 PSF
   ROOF LIVE LOAD: 30 PSF – 100 PSF AS LISTED IN TABLE SHEET F5
   BASIC WIND SPEED & EXPOSURE: 95–130 MPH. SEE TABLE SHEET F5 3
   SEISMIC DESIGN CATEGORY: E
   SITE CLASS D Ss=1.5 Sds=1.4 Fa=1.4 3
   (PER ASCE 7–16, SECTION 12.14.8.1 Ss NEED NOT EXCEED 1.5. SITE VALUE MAY BE HIGHER).
   THIS DESIGN NOT INTENDED FOR USE IN FLOOD HAZARD AREAS UNLESS A SEPARATE DESIGN ADDRESSING THE FLOOD HAZARD IS SUBMITTED FOR APPROVAL BY THE LOCAL JURISDICTION. 3
2. FOOTINGS ARE TO BE SUPPORTED BY EITHER FIRM, UNSATURATED, UNDISTURBED SOIL OR COMPACTED FILL, ASPHALT OR CONCRETE. FOOTINGS ARE DESIGNED FOR 1500 PSF BEARING CAPACITY AND SHALL BE COMPATIBLE WITH LOCAL SOIL CONDITIONS. ALL FOOTINGS SHALL BE FOUNDED IN ACCORDANCE WITH H.C.D. GUIDLINES AND TITLE 25.
3. STRUCTURAL STEEL:
   A. SHALL CONFORM TO ASTM A36 Fy = 36 KSI MINIMUM.
   B. SHALL BE FABRICATED ACCORDING TO AISC SPECIFICATIONS.
   C. SHALL BE WELDED ACCORDING TO AWS SPECIFICATIONS:
      i. ELECTRODES: E70
      ii. PLATES: ASTM A36
      iii. BOLTS: STANDARD ASTM A307
      iv. THREADED ROD: COLD DRAWN LOW CARBON WELDABLE
   D. ALL METAL COMPONENTS INCLUDING NAILS & SCREWS ETC. ARE TO BE PROTECTIVE COATED.
4. THE C.P. SEISMIC PIER SHALL BE LISTED & LABELED BY BSK ASSOCIATES FOR THESE ULTIMATE LOADS:
   7" THRU 18 INCH PIERS: 3203 LBS. (STRONG DIR), 2273 (WEAK DIR)
   19 INCH X–LARGE PIER: 1553 LBS. (STRONG DIR.) 1462 (WEAK DIR)
   16,000 VERTICAL
5. THIS FOUNDATION SYSTEM IS FOR PLACING COMMERCIAL COACHES CONSTRUCTED WITH LONGITUDINAL OR CROSS JOISTS.
6. THIS FOUNDATION SYSTEM IS DESIGNED TO BE CONSTRUCTED ON A FAIRLY LEVEL SITE WITH NO EXISTING SOIL PROBLEMS. SEE NOTE 2 AND TITLE 25, SECTION 1334(b).
7. STANDARD PIER & FOOTING SPACING PER COACH MANUFACTURER'S INSTALLATION INSTRUCTIONS. WITHOUT MANUAL, SPACING OF STANDARD PIERS TO BE DETERMINED BY TITLE 25, SECTION 1335.5.

FOUNDATION PAD NOTES:

1. TWO FOUNDATION PADS ARE AVAILABLE FOR USE WITH THIS SYSTEM. THE CUSTOMER MAY CHOOSE ONE OF THE PADS FOR THEIR COACH. SEE DETAIL 2, SHEET F6.
2. FDTN PADS SHALL BE PLACED ON FIRM, LEVEL UNDISTURBED SOIL (SEE GEN. NOTE 2)
3. THE FOUNDATION PADS SHALL BE ORIENTED AS SHOWN ON THE PLAN VIEW DRAWING WITH THE BOLT HOLES PERPENDICULAR TO THE CHASSIS BEAM. SEE PLAN VIEW SHEETS F3 AND F4.
4. CONCRETE FOUNDATION PADS
   A. 2500 PSI AT 28 DAYS AS MANUFACTURED BY CENTRAL PIERS. 3
5. PRESSURE TREATED FOUNDATION PAD
   A. 3/4 INCH A.P.A. 48/24 EXTERIOR P.S.I.–83 CC. PLUGGED, NER–QA397,PRP–108.
6. ATTACHMENT TO EXISTING CONCRETE SLAB
   THE C.P. SEISMIC PIER MAY BE ATTACHED TO AN EXISTING COMPETENT CONCRETE SLAB OR CONCRETE FOOTING ACCORDING TO THE FOLLOWING CRITERIA:
   1. ATTACH WITH TWO 5/8" DIAM. REDHEAD WEDGE ANCHORS (OR EQUIV)
   2. MINIMUM EMBEDMENT = 2.5"
   3. MINIMUM CONCRETE THICKNESS = 3¾"
   4. MINIMUM EDGE DISTANCE = 2"

COACH SIZE NOTES:

1. UNLESS APPROVED BY ROCK SOLID ENGINEERING, INC., THE ROOF PITCH SHOULD NOT EXCEED:
   A. SINGLE WIDES: 3:12
   B. DOUBLE AND TRIPLE WIDES: 3:12

2. FOR ANY COACH SIZE OTHER THAN AS SHOWN ON THIS PLAN OR REFERENCED IN THE TABLE SHEET F5, THE LAYOUT SHALL BE REVIEWED & APPROVED BY ROCK SOLID ENGINEERING, INC.

INSPECTION REQUIREMENTS:

1. THE DESIGN OF THIS SYSTEM IS BASED ON STANDARD COMMERCIAL COACHES AS BUILT BY THE MANUFACTURER. SITE BUILT ADDITIONS HAVE NOT BEEN INCLUDED IN THIS DESIGN.
2. ALL DIMENSIONS INCLUDED ON THIS PLAN, INCLUDING COACH SIZE, ROOF HEIGHT AND PIER HEIGHT, SHOULD BE FIELD VERIFIED BY THE LOCAL BUILDING OFFICIAL. ANY DISCREPENCIES SHOULD BE IMMEDIATELY BROUGHT TO THE ENGINEER'S ATTENTION.
3. THE BUILDING PAD SHOULD BE INSPECTED TO ENSURE THAT PROPER SOIL CONDITIONS AND DRAINAGE PATTERNS HAVE BEEN ESTABLISHED IN ACCORDANCE WITH TITLE 25 & THE COACH MANUFACTURER'S REQUIREMENTS.

HCD
Exp 5/2/22

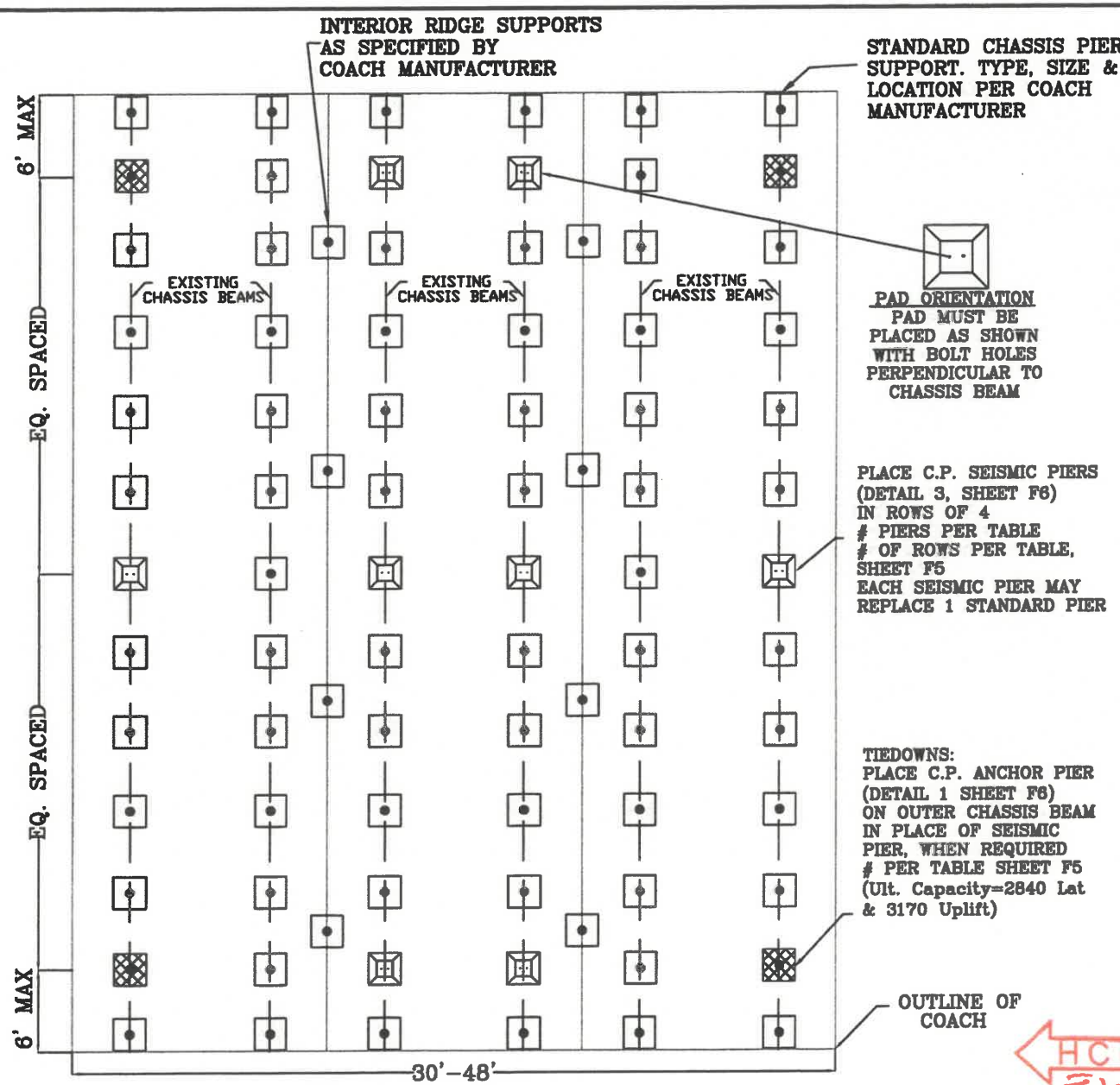
Signed: 4-17-20

ROCK SOLID ENGINEERING, INC.

ENGINEERED FOUNDATION PLAN
CENTRAL PIERS – SPA 30–7F

3 04/17/20

SHEET F2 OF 6



PLAN Not to Scale

TRIPLE WIDE COACH

REGISTERED PROFESSIONAL ENGINEER
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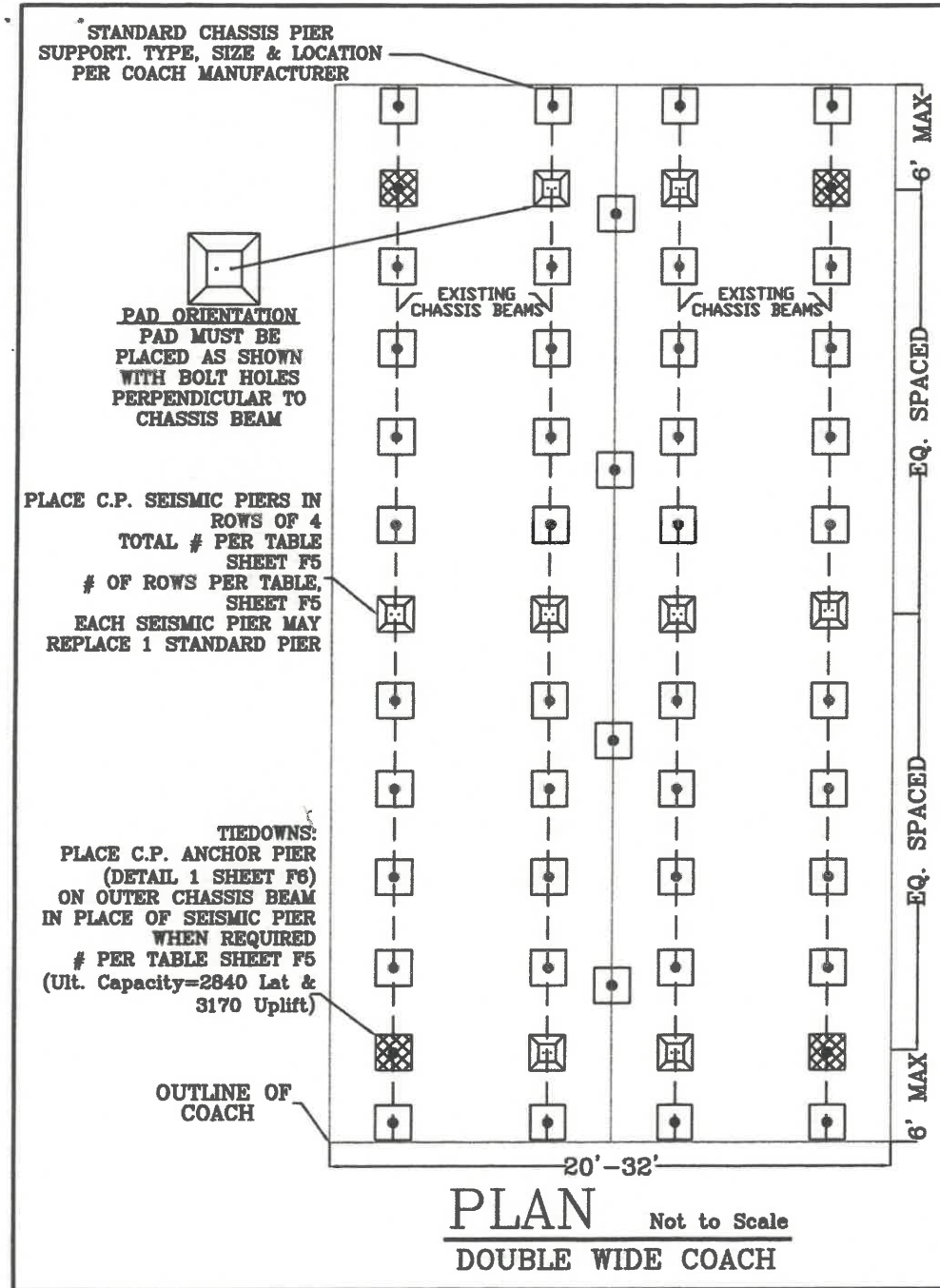
ENGINEERED FOUNDATION PLAN

CENTRAL PIERS – SPA 30-7F

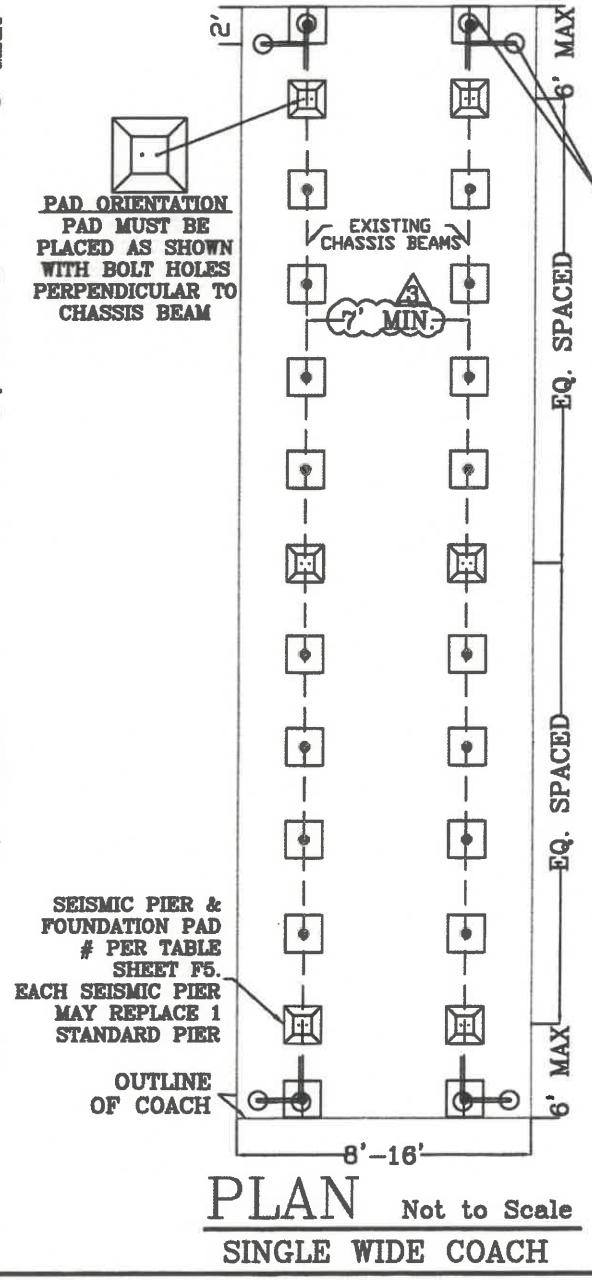
3 04/17/20

SHEET F3
OF 6



PLAN Not to Scale

DOUBLE WIDE COACH



PLAN Not to Scale

SINGLE WIDE COACH

REGISTERED PROFESSIONAL ENGINEER
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ENGINEERED FOUNDATION PLAN

CENTRAL PIERS – SPA 30-7F

3 04/17/20

SHEET F4
OF 6

△3 TABLE REVISED IN ACCORDANCE WITH 2019 CBC CALCS

		MAX. ROOF LIVE LOAD (PSF)		30 PSF			60 PSF			60 PSF			100 PSF		
		MAX. WIND LOAD(MPH,EXP)		95C			100C			120B			130C		
COACH SIZE				# OF SEISMIC PIERS	# OF ROWS	# OF TIE DOWNS	# OF SEISMIC PIERS	# OF ROWS	# OF TIE DOWNS	# OF SEISMIC PIERS	# OF ROWS	# OF TIE DOWNS	# OF SEISMIC PIERS	# OF ROWS	# OF TIE DOWNS
WIDTH		LENGTH	ROOF PITCH												
SINGLE WIDES	8'–16'	20'–48'	3:12	4	2 ROWS	4	4	2 ROWS	4*	4	2 ROWS	4*	4	2 ROWS	4*
		48.5'–60'	3:12	6	3 ROWS	4	6	3 ROWS	4*	6	3 ROWS	4*	6	3 ROWS	6*
		60.5'–78'	3:12	8	4 ROWS	4	8	4 ROWS	4*	8	4 ROWS	4*	8	4 ROWS	6*
DOUBLE WIDES	20'–32'	26'–48'	3:12	8	2 ROWS	0	4	2 ROWS	4	4	2 ROWS	4	4	2 ROWS	4
		48.5'–66'	3:12	12	3 ROWS	0	8	3 ROWS	4	8	3 ROWS	4	8	3 ROWS	4
		66.5'–78'	3:12	16	4 ROWS	0	12	4 ROWS	4	12	4 ROWS	4	10	4 ROWS	6
TRIPLE WIDES	30'–48'	30'–48'	3:12	12	3 ROWS	0	8	3 ROWS	4	8	3 ROWS	4	8	3 ROWS	4
		48.5'–60'	3:12	12	3 ROWS	0	8	3 ROWS	4	8	3 ROWS	4	6	3 ROWS	6
		60.5'–78'	3:12	16	4 ROWS	0	12	4 ROWS	4	12	4 ROWS	4	10	4 ROWS	6

TABLE NOTES

TO USE TABLE, FIND COACH WIDTH THEN LENGTH. FOLLOW ROW ACROSS TO DESIGN ROOF (SNOW) LOAD THEN DESIGN WIND LOAD. READ TOTAL NUMBER OF C.P. SEISMIC PIERS, NUMBER OF ROWS & TIEDOWNS REQUIRED. SEE PLAN SHEETS F3 AND F4 FOR PLACEMENT OF C.P. SEISMIC PIERS AND TIEDOWN SPECIFICATIONS.

FOR EXAMPLE, FOR A 24'x60' COACH WITH A DESIGN SNOW LOAD OF 60 PSF & 100 MPH, EXPOSURE C WIND LOAD, READ 8 C.P. SEISMIC PIERS, PLACED IN 3 ROWS, WITH 4 C.P. ANCHOR PIER TIEDOWNS. LAYOUT SHOWN IN DOUBLE WIDE PLAN VIEW SHEETS F4.

*FOR SINGLE WIDES, WHEN THE NUMBER OF TIEDOWNS IS SHOWN WITH AN ASTERISK (*), INSTALL MIN. 2 EARTH AUGER TIEDOWNS AT EACH ENDWALL OF THE HOME. THIS GENERALLY APPLIES EXCEPT FOR 95 MPH, EXPOSURE C WITH A 30 PSF ROOF LOAD.

COACH SIZES REFER TO NOMINAL SIZES THAT ARE COMMONLY MANUFACTURED. IF THE EXACT SIZE OF THE COACH IS NOT LISTED, CHECK THE NEXT HIGHER OR LOWER SIZE AND USE THE ONE THAT REQUIRED MORE PIERS.

THE TIEDOWNS SHALL BE LISTED & INSTALLATION INSTRUCTIONS SHALL BE ON SITE AT TIME OF INSPECTION.

NO MORE THAN 1/3 OF THE TOTAL NUMBER OF C.P. SEISMIC AND ANCHOR PIERS MAY BE EXTENDED ABOVE 22.75 INCHES MEASURED FROM THE BASE OF THE PIER TO THE TOP PLATE OF THE PIER.

REGISTERED PROFESSIONAL ENGINEER
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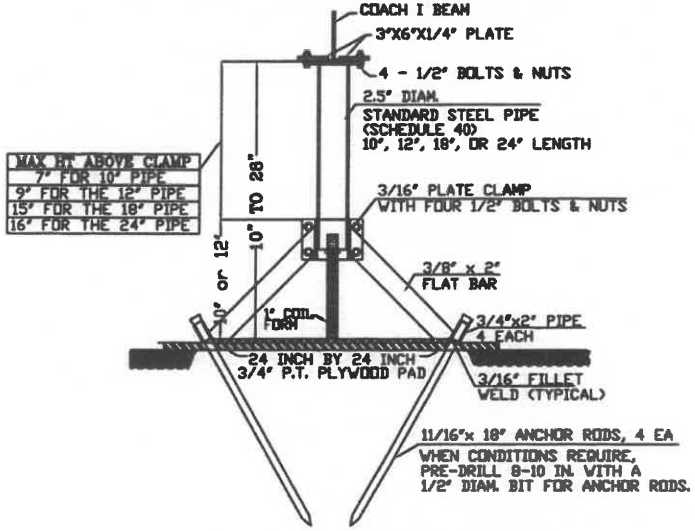
△3 04/17/20

SHEET F5 OF 6

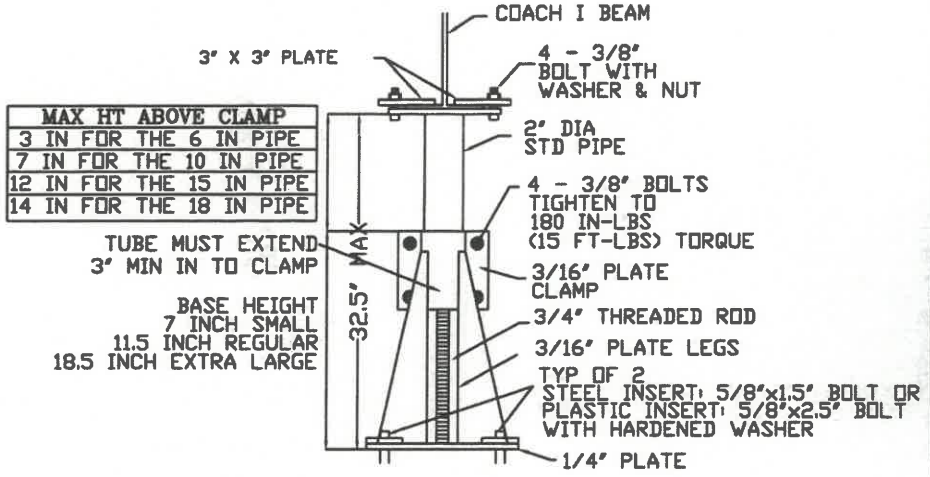
C.P. ANCHOR PIER TIEDOWN, WHEN REQUIRED FOR DOUBLE & TRIPLE WIDES, SEE TABLE SHEET F5



1 C.P. ANCHOR PIER

NOT TO SCALE

LISTING #186.6 BY CTC PATENT #5873679



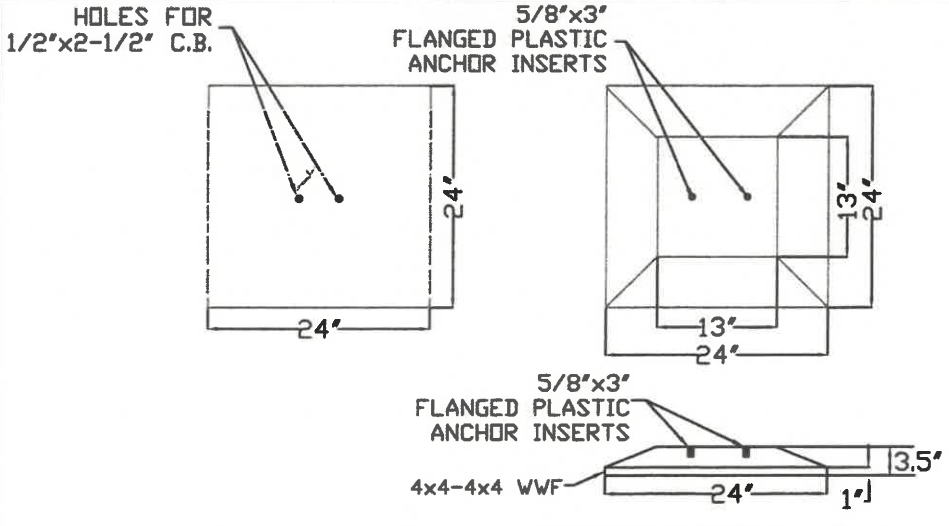
MAX HT ABOVE CLAMP
3 IN FOR THE 6 IN PIPE
7 IN FOR THE 10 IN PIPE
12 IN FOR THE 15 IN PIPE
14 IN FOR THE 18 IN PIPE

3 SEISMIC PIER

NOT TO SCALE

C.P. SEISMIC PIER #1-PATENT #5595366

LISTING #C03-044-60F BY BSK

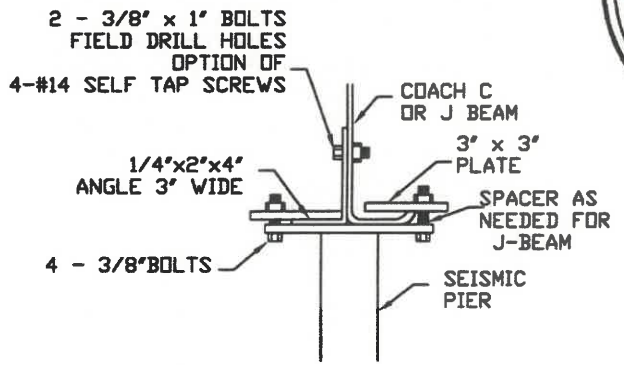


PLYWOOD PAD

PRECAST C.P. PRO PAD

2 FOUNDATION PADS

NOT TO SCALE



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4 TYPICAL BEAM CONNECTION

NOT TO SCALE

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SHEET F6 OF 6