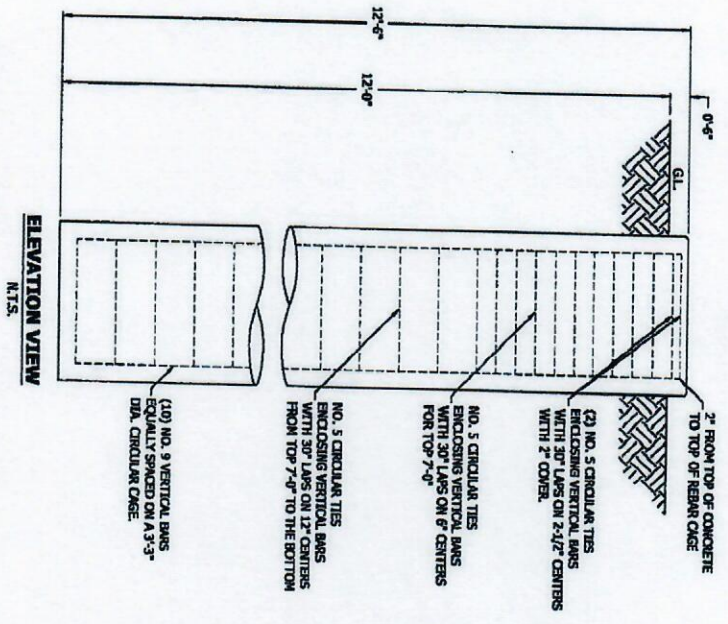
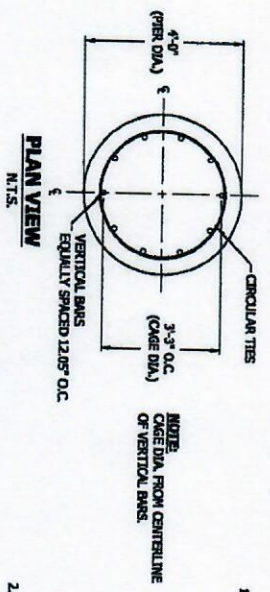


6C1 Boatyard - 30FT Tower



**FACTORED REACTIONS**  
 DOWNLOAD = 1.7 KIPS  
 SHEAR = 2.9 KIPS  
 Q.T.M. = 63 F-KIPS

**VOLUME OF CONCRETE**  
 5.8 CU. YDS

- GENERAL NOTES:**
- FOUNDATION DESIGN HAS BEEN DEVELOPED IN ACCORDANCE WITH GENERALLY ACCEPTED PROFESSIONAL ENGINEERING PRINCIPLES AND PRACTICES WITHIN THE LIMITS OF THE SURFACE DATA PROVIDED. FOUNDATION DESIGN REQUIREMENTS MAY BE REQUIRED IN THE EVENT THE FOLLOWING DESIGN PARAMETERS ARE NOT APPLICABLE FOR THE SURFACE CONDITIONS ENCOUNTERED.

DEPTH (FT)	SOIL TYPE	K (PCF)	V (PCF)	φ (DEG)	C (KSF)	γ (LBS/CU YD)
0.0-1.0	CLAY	5.0	80.0	0.0	0.100	0.055
1.0-2.0	CLAY	150.0	110.0	0.0	1.000	0.010

- WORK SHALL BE IN ACCORDANCE WITH LOCAL CODES, SAFETY REGULATIONS AND UNLESS OTHERWISE NOTED, THE LATEST EDITION OF ACI 318, INCLUDING CODE REQUIREMENTS FOR REINFORCED CONCRETE. PROCEDURES FOR THE PROTECTION OF EXCAVATIONS, DURING CONSTRUCTION AND UTILITIES SHALL BE ESTABLISHED PRIOR TO FOUNDATION INSTALLATION.
- PROPORTIONS OF CONCRETE MATERIALS SHALL BE DETERMINED BY THE APPROPRIATE STATE REQUIREMENTS FOR DESIGN STRUCTURAL CONCRETE. DURABLE CONCRETE FOR RESISTANCE TO LOCAL WEATHERING AND AGGRESSIVE ACTIONS. THE DURABILITY REQUIREMENTS OF ACI 318 CHAPTER 4 SHALL BE SATISFIED BASED ON THE CONDITIONS EXPECTED AT THE SITE. AS A MINIMUM, CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF 4,500 PSI (31.0 MPa) IN 28 DAYS.
- MINIMUM SIZE OF AGGREGATE SHALL NOT EXCEED SIZE FOR INSTALLATION METHOD UTILIZED OR 1/3 CLEAR DISTANCE BETWEEN OR BETWEEN REINFORCING. MAXIMUM SIZE MAY BE INCREASED TO 2/3 CLEAR DISTANCE PROVIDED WORKABILITY AND METHODS OF CONSOLIDATION SUCH AS VIBRATING WILL BE SUFFICIENT TO COMPACT CONCRETE OR TOLLS.
- REINFORCING SHALL BE PERFORMED AND CONFORM TO THE REQUIREMENTS OF ACI 318 AND ASTM A618 GRADE 60 UNLESS OTHERWISE NOTED. SPLICES IN REINFORCEMENT SHALL NOT BE ALLOWED UNLESS OTHERWISE SPECIFIED.
- CONCRETE, WHEN TEMPORARILY CASING IS UTILIZED, BRACING SHALL BE ADEQUATE TO RESIST FORCES OCCURRING FROM FLOWING CONCRETE DURING CASING EXTRACTION.
- WELDING IS PROHIBITED ON REINFORCING STEEL AND EMBEDMENTS.
- MINIMUM CONCRETE COVER FOR REINFORCEMENT SHALL BE 3 INCHES (76 MM) UNLESS OTHERWISE NOTED. APPROVED SPACERS SHALL BE USED TO INSURE A 3 INCH (76 MM) MINIMUM COVER ON REINFORCEMENT.
- SPACERS SHALL BE ATTACHED INTERMITTENTLY THROUGHOUT THE ENTIRE LENGTH OF VERTICAL REINFORCING CAGES TO INSURE CONCENTRIC PLACEMENT OF CAGES IN EXCAVATIONS.
- FOUNDATION TYPE, CONSTRUCTION SHALL BE IN ACCORDANCE WITH GENERALLY ACCEPTED INSTALLATION PRACTICES.
- FOUNDATION DESIGN ASSUMES FIELD INSPECTIONS WILL BE PERFORMED TO VERIFY THAT CONSTRUCTION MATERIALS, INSTALLATION METHODS AND ASSUMED DESIGN PARAMETERS ARE ACCEPTABLE BASED ON CONDITIONS EXISTING AT THE SITE.
- FOR FOUNDATION INSTALLATION TOLERANCES SEE STRUCTURE ASSEMBLY DRAWING.
- EXCAVATION SHALL BE REMOVED FROM BOTTOM OF EXCAVATION PRIOR TO CONCRETE PLACEMENT. SIDES OF EXCAVATION SHALL BE PROTECTED BY SHIELDING OR OTHER MEANS THAT WILL PREVENT SEGREGATION OF CONCRETE MATERIALS, INFILTRATION OF WATER OR SOIL AND OTHER OCCURS WHICH MAY DECREASE THE STRENGTH OR DURABILITY OF THE FOUNDATION.
- FREE FALL CONCRETE MAY BE USED PROVIDED FALL IS VERTICAL DOWN WITHOUT HITTING SIDES OF EXCAVATION, FORMWORK, REINFORCING BARS, FORM TIES, CASE BRACING OR OTHER OBSTRUCTIONS. UNDER NO CIRCUMSTANCES SHALL CONCRETE FALL THROUGH WATER.
- CONSTRUCTION JOINTS, IF REQUIRED AT THE BASE OF THE PIER, MUST BE INTERNATIONALLY ROUGHENED TO A FULL AMPLITUDE OF 1/4 INCH (6 MM). FOUNDATION DESIGN ASSUMES NO OTHER CONSTRUCTION JOINTS.
- TOP OF FOUNDATION OUTSIDE LIMITS OF ANCHOR BOLTS SHALL BE SLOPED TO DRAIN WITH A FINISHED FINISH. AREA INSIDE EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1/4" X 3/4" (3MM X 9MM) MINIMUM.
- FOUNDATION DESIGN ASSUMES CASING, IF USED, WILL NOT BE LEFT IN PLACE. EQUIPMENT, PROCEDURES, AND PROPORTIONS OF CONCRETE MATERIALS SHALL INSURE CONCRETE WILL NOT BE ADVERSELY DISTRIBUTED UPON CASING REMOVAL.
- DRILLING FLUID, IF USED, SHALL BE FULLY DISPLACED BY CONCRETE AND SHALL NOT BE OBSERVABLE TO CONCRETE OR SURROUNDING SOIL. CONTAMINATED CONCRETE SHALL BE REMOVED FROM TOP OF FOUNDATION AND REPLACED WITH FRESH CONCRETE.

NOTE: SEE STRUCTURE ASSEMBLY DRAWING FOR FOUNDATION LAYOUT AND ANCHORAGE EMBEDMENT DRAWING NUMBER.

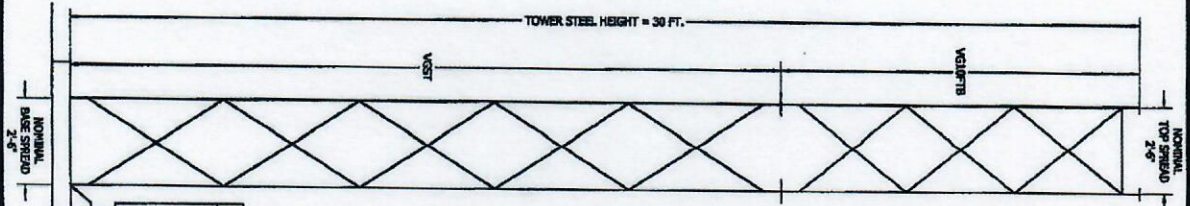
**PRELIMINARY  
NOT FOR CONSTRUCTION**

FILE NO. <b>Q17-11015</b>	DATE <b>7/6/2017</b>
REVISIONS	DRAWN BY <b>1 OF 1</b>
DESCRIPTION	PROJECT NO. <b>Q17-11015-1 CAISSON</b>
DRAWN BY <b>RCS</b>	DATE <b>7/6/2017</b>
CHECKED <b>RCS</b>	PROJECT NO. <b>Q17-11015-1</b>
DATE <b>7/6/2017</b>	PROJECT NO. <b>Q17-11015-1</b>
PROJECT NO. <b>Q17-11015-1</b>	PROJECT NO. <b>Q17-11015-1</b>
PROJECT NO. <b>Q17-11015-1</b>	PROJECT NO. <b>Q17-11015-1</b>

**ROHN**  
 FOUNDATION DETAIL

DRILLED PIER  
 FOUNDATION DETAIL





MAXIMUM FACTORED REACTIONS	
COMPRESSION	= 28.7 KIPS
TENSION	= 27.9 KIPS
TOTAL SHEAR	= 2.9 KIPS
O.T.M.	= 63.0 FT-KIPS

(9) ANCHOR BOLTS (22 TOTAL)  
 3/4" DIA. X 42" LONG  
 5/8" DIA. X 18" LONG

TOWER DESIGN LOADINGS		
DESIGN WIND LOAD PER ANSI/AIA-223-6: BASIC WIND SPEED (NO ICE) = 100 MPH BASIC WIND SPEED (ICE) = 40 MPH DESIGN ICE THICKNESS = 1.0 IN. STRUCTURE CLASS = II EXPOSURE CATEGORY = D TOPOGRAPHIC CATEGORY = 1 EARTHQUAKE SPECTRAL RESPONSE ACCELERATION: SS = 0.17Z		
THIS TOWER IS DESIGNED TO SUPPORT THE FOLLOWING LOADS:		
ELEVATION (FT)	ANTENNA TYPE	LINE SIZE (NOM)
TOP	LIGHTNING ROD	-
30	SPR 714 w/o radome (18 GRZ) (22.0 DEG)	(1) 7/8"

TOWER DESIGNED FOR 400% LINES AND LOADINGS

SECTION MAIN MEMBER SCHEDULE			
SECTION	LEG	DIAGONAL	
VEIGHTB	PIPE 2.375x0.154	L1 1/2x1 1/2x1/8 (3)	
WEST	PIPE 2.375x0.154	L1 1/2x1 1/2x1/8 (3)	

NOTE: SECTION NUMBERS ARE FOR REFERENCE ONLY. FOR NOMINAL PIPE WIDTH DIMENSIONS, REFER TO THE STRESS ANALYSIS. THE NUMBERS SHOWN IN PARENTHESES INDICATE THE NUMBER OF BAYS FROM TOP TO BOTTOM.

FILE NO.	Q17-11016-1			
REV.	DESCRIPTION	DATE	CHK	APP

PRELIMINARY  
 NOT FOR CONSTRUCTION

PO BOX 5999  
 MERRILL, WI 53401-5999  
 TEL: (414) 660-7700 FAX: (414) 660-7701

DESIGN PROFILE  
 30' VE TOWER  
 BOLTWOOD- SITE A

DATE: JUN/06/17  
 SHEET # 1 OF 1

DRWING NO:	Q17-11016-1-FOUNDATION
REV:	0