

FILE NO.

REVISIONS

REV	DESCRIPTION	DWN	CHK	APP
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REV	DESCRIPTION	DWN	CHK	APP

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ROHN[®]
 PRODUCTS LLC
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 PEORIA, IL 61601-5999
 TOLL FREE 800-727-ROHN

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RTL STANDARD SERIES
 SOLID MAT FOUNDATIONS
 PRESUMPTIVE CLAY PER ANSI/TIA-222-H

DWN:	JHY	CHK'D:	AS	DATE:	4/29/2022
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ENGR:	AS	SHEET #:	2 OF 3
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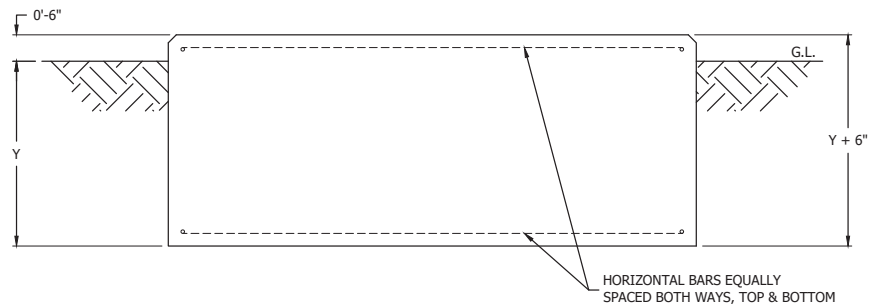
PRJ. ENGR:	AS	PRJ. MANAG'R:	
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DRAWING NO:	RTL-CAT-FND	REV:	0
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MAT FOUNDATIONS

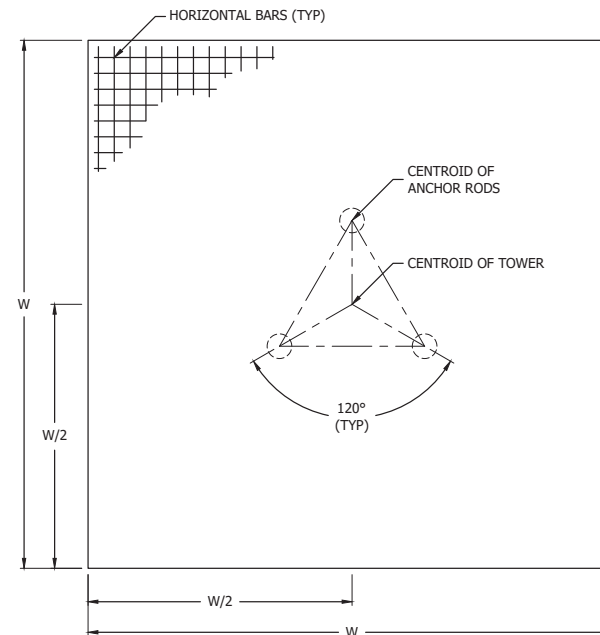
FOUNDATION I.D. NUMBER	RTL STANDARD SERIES TOWER HEIGHT (FT)			DEPTH, Y (FT)	MAT WIDTH, W (FT)	HORIZONTAL BARS (QTY) #SIZE	TOTAL CONCRETE VOLUME (CU.YDS.)
	LIGHT	MEDIUM	HEAVY				
SM1	N/A	40 - 50	N/A	3.5	9.00	(12) #6 (48 TOTAL)	12.0
SM2	N/A	60 - 70	N/A	3.5	11.25	(14) #6 (56 TOTAL)	18.8
SM3	N/A	80 - 90	N/A	4.5	12.25	(18) #6 (72 TOTAL)	27.8

- GENERAL NOTES:**
- TOWER HEIGHTS INDICATED AS N/A ARE NOT COMPATIBLE WITH THE FOUNDATION ID NUMBER.
 - FOR STANDARD FOUNDATION NOTES, SEE DRAWING NUMBER B090548.
 - FOR ANCHOR ROD LAYOUT, SIZE AND QUANTITY, SEE ASSEMBLY DRAWING FOR TOWER.



ELEVATION VIEW
 N.T.S.

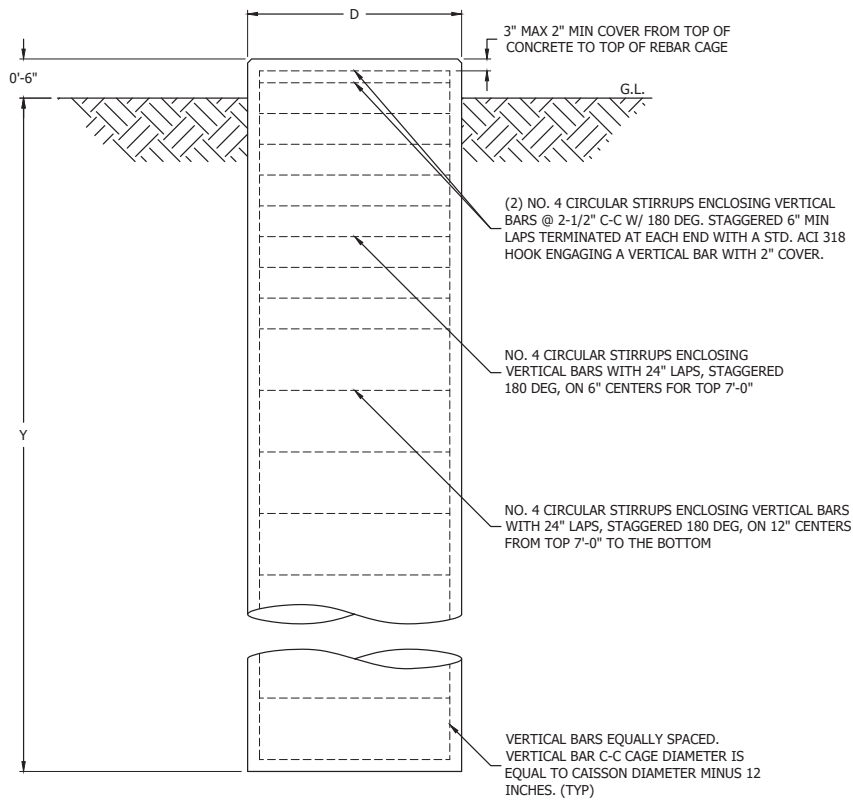
HORIZONTAL BARS EQUALLY SPACED BOTH WAYS, TOP & BOTTOM



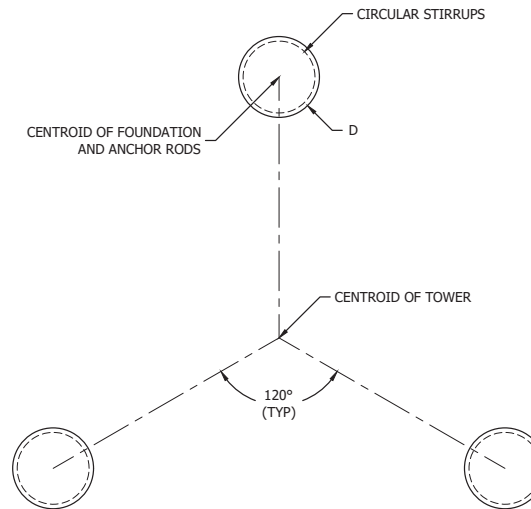
PLAN VIEW
 N.T.S.

- GENERAL NOTES:**
1. TOWER HEIGHTS INDICATED AS N/A ARE NOT COMPATIBLE WITH THE FOUNDATION ID NUMBER.
 2. FOR STANDARD FOUNDATION NOTES, SEE DRAWING NUMBER B090548.
 3. FOR ANCHOR ROD LAYOUT, SIZE AND QUANTITY, SEE ASSEMBLY DRAWING FOR TOWER.

CAISSON FOUNDATIONS							
FOUNDATION I.D. NUMBER	RTL STANDARD SERIES TOWER HEIGHT (FT)			DIAMETER, D (FT)	DEPTH, Y (FT)	VERTICAL BARS PER PIER (QTY) #SIZE	TOTAL CONCRETE VOLUME (3 PIERS) (CU.YDS.)
	LIGHT	MEDIUM	HEAVY				
C1	100 - 140	N/A	N/A	3.0	13	(10) #7	10.6
C2	150 - 190	N/A	N/A	3.0	18	(10) #7	14.5
C3	N/A	100 - 120	N/A	3.0	23	(10) #7	18.5
C4	N/A	130	100 - 110	3.0	31	(10) #7	24.7
C5	N/A	140 - 160	120 - 130	3.0	35	(10) #7	27.9
C6	N/A	170	140	3.5	31	(12) #7	33.7
C7	N/A	180	150	3.5	37	(12) #7	40.1
C8	N/A	190	160 - 170	4.0	34	(16) #7	48.2
C9	N/A	N/A	180 - 190	4.5	35	(20) #7	62.7



ELEVATION VIEW
N.T.S.



PLAN VIEW
N.T.S.

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RTL STANDARD SERIES
CAISSON FOUNDATIONS
PRESUMPTIVE CLAY PER ANSI/TIA-222-H

DWN: JHY CHK'D: AS DATE: 4/29/2022

ENGR: AS SHEET #: 3 OF 3

PRJ. ENGR: AS PRJ. MANG'R:

DRAWING NO: RTL-CAT-FND REV: 0

STANDARD FOUNDATION NOTES
ANSI/TIA-222-G/H

1. STANDARD FOUNDATION DESIGNS ARE IN ACCORDANCE WITH ANSI/TIA-222-G/H, "STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND ANTENNA SUPPORTING STRUCTURES" FOR THE FOLLOWING PRESUMPTIVE CLAY SOIL PARAMETERS:

N (blows/ft) [blows/m]	Φ (deg)	Y (lb/ft ³) [kN/m ³]	C (psf) [kPa]	Ultimate Bearing (psf) [kPa]		Ultimate Skin Friction (psf) [kPa]	k (pci) [kN/m ³]	ε _{so}
				Shallow Fnds.	Deep Fnds.			
8 [26]	0	110 [17]	1000 [48]	5000 [240]	9000 [431]	500 [24]	150 [41,000]	0.01
GROUND WATER TABLE IS AT OR BELOW FOUNDATION DEPTH MAXIMUM FROST PENETRATION DEPTH LESS THAN FOUNDATION DEPTH								

2. THE PURCHASER SHALL VERIFY THAT ACTUAL SITE SOIL PARAMETERS MEET OR EXCEED ANSI/TIA-222-G/H PRESUMPTIVE CLAY SOIL DESIGN PARAMETERS AND THAT THE DEPTH OF STANDARD FOUNDATIONS ARE ADEQUATE BASED ON THE FROST PENETRATION AND/OR ZONE OF SEASONAL MOISTURE VARIATION AT THE SITE. FOUNDATION DESIGN MODIFICATIONS MAY BE REQUIRED IN THE EVENT PRESUMPTIVE CLAY SOIL PARAMETERS ARE NOT APPLICABLE FOR THE ACTUAL SUBSURFACE CONDITIONS ENCOUNTERED.
3. A SITE-SPECIFIC INVESTIGATION IS REQUIRED FOR CLASS III STRUCTURES IN ACCORDANCE WITH ANSI/TIA-222-G/H.
4. FOUNDATION DESIGNS ASSUME FIELD INSPECTIONS WILL BE PERFORMED BY THE PURCHASER'S REPRESENTATIVE TO VERIFY THAT CONSTRUCTION MATERIALS, INSTALLATION METHODS AND ASSUMED DESIGN PARAMETERS ARE ACCEPTABLE BASED ON THE CONDITIONS EXISTING AT THE SITE.
5. WORK SHALL BE IN ACCORDANCE WITH THE PROJECT CONSTRUCTION DOCUMENTS, LOCAL CODES, SAFETY REGULATIONS AND UNLESS OTHERWISE NOTED, THE LATEST REVISION OF ACI 318, "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE". PROCEDURES FOR THE PROTECTION OF EXCAVATIONS, EXISTING CONSTRUCTION AND UTILITIES SHALL BE ESTABLISHED PRIOR TO FOUNDATION INSTALLATION.
6. CONCRETE MATERIALS SHALL CONFORM TO THE APPROPRIATE STATE REQUIREMENTS FOR EXPOSED STRUCTURAL CONCRETE.
7. PROPORTIONS OF CONCRETE MATERIALS SHALL BE SUITABLE FOR THE INSTALLATION METHOD UTILIZED AND SHALL RESULT IN DURABLE CONCRETE FOR RESISTANCE TO LOCAL ANTICIPATED AGGRESSIVE ACTIONS. THE DURABILITY REQUIREMENT OF ACI 318 SHALL BE SATISFIED BASED ON THE CONDITIONS EXPECTED AT THE SITE. AS A MINIMUM, CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF 4500 PSI (31.0 MPa) IN 28 DAYS.
8. MAXIMUM SIZE OF AGGREGATE SHALL NOT EXCEED SIZE SUITABLE FOR INSTALLATION METHOD UTILIZED OR 3/4 CLEAR DISTANCE BEHIND OR BETWEEN REINFORCING. WORKABILITY AND METHODS OF CONSOLIDATION SUCH AS VIBRATING SHALL BE UTILIZED TO PREVENT HONEYCOMBS OR VOIDS.
9. REINFORCEMENT SHALL BE DEFORMED AND CONFORM TO THE REQUIREMENTS OF ASTM A615 GRADE 60 UNLESS OTHERWISE NOTED. SPLICES IN REINFORCEMENT SHALL NOT BE ALLOWED UNLESS OTHERWISE INDICATED.
10. REINFORCING CAGES SHALL BE BRACED TO RETAIN PROPER DIMENSIONS DURING HANDLING, THROUGHOUT PLACEMENT OF CONCRETE AND DURING EXTRACTION OF TEMPORARY CASING.
11. WELDING IS PROHIBITED ON REINFORCING STEEL AND EMBEDMENTS.
12. 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. CONCRETE COVER FROM TOP OF FOUNDATION TO ENDS OF VERTICAL REINFORCEMENT SHALL NOT EXCEED 3 INCHES (76 mm) NOR BE LESS THAN 2 INCHES (51 mm).

13. SPACERS SHALL BE ATTACHED INTERMITTENTLY THROUGHOUT THE ENTIRE LENGTH OF VERTICAL REINFORCING CAGES TO INSURE CONCENTRIC PLACEMENT OF CAGES IN EXCAVATIONS.
14. FOUNDATION DESIGNS ASSUME STRUCTURAL BACKFILL TO BE COMPACTED IN 8 INCH (200 mm) MAXIMUM LAYERS TO 95% OF MAXIMUM DRY DENSITY AT OPTIMUM MOISTURE CONTENT IN ACCORDANCE WITH ASTM D698. ADDITIONALLY, STRUCTURAL BACKFILL MUST HAVE A MINIMUM COMPACTED UNIT WEIGHT OF 110 POUNDS PER CUBIC FOOT (17 kN/m³).
15. FOUNDATION DESIGNS ASSUME AN INSTALLATION ON A PROPERLY DRAINED LEVEL SITE.
16. FOUNDATION INSTALLATION SHALL BE SUPERVISED BY PERSONNEL KNOWLEDGEABLE AND EXPERIENCED WITH THE PROPOSED FOUNDATION TYPE. CONSTRUCTION SHALL BE IN ACCORDANCE WITH GENERALLY ACCEPTED INSTALLATION PRACTICES.
17. ALL CONSTRUCTION AND SAFETY EQUIPMENT AND TEMPORARY SUPPORTS REQUIRED FOR CONSTRUCTION SHALL BE DETERMINED, FURNISHED AND INSTALLED BY THE CONTRACTOR BASED ON THE MEANS AND METHODS CHOSEN BY THE CONTRACTOR. ALL CONSTRUCTION ACTIVITIES SHALL BE PERFORMED BY COMPETENT, QUALIFIED AND TRAINED PERSONNEL.
18. FOR FOUNDATION AND ANCHOR TOLERANCES SEE ANCHOR ROD LAYOUT DRAWING.
19. LOOSE MATERIAL SHALL BE REMOVED FROM BOTTOM OF EXCAVATION PRIOR TO CONCRETE PLACEMENT. SIDES OF EXCAVATION SHALL BE ROUGH AND FREE OF LOOSE CUTTINGS.
20. CONCRETE SHALL BE PLACED IN A MANNER THAT WILL PREVENT SEGREGATION OF CONCRETE MATERIALS, INFILTRATION OF WATER OR SOIL AND OTHER OCCURRENCES WHICH MAY DECREASE THE STRENGTH OR DURABILITY OF THE FOUNDATION.
21. FREE FALL CONCRETE MAY BE USED PROVIDED FALL IS VERTICAL DOWN WITHOUT HITTING SIDES OF EXCAVATION, FORMWORK, REINFORCING BARS, ANCHORAGES, FORM TIES, CAGE BRACING OR OTHER OBSTRUCTIONS. UNDER NO CIRCUMSTANCES SHALL CONCRETE FALL THROUGH WATER.
22. CONCRETE SHALL BE PLACED AGAINST UNDISTURBED SOIL EXCEPT FOR PIERS SUPPORTED ON SPREAD FOUNDATIONS. FORMS FOR PIERS SHALL BE REMOVED PRIOR TO PLACING STRUCTURAL BACKFILL.
23. CONSTRUCTION JOINTS, IF REQUIRED IN DRILLED PIER OR CAISSON FOUNDATIONS, SHALL BE AT LEAST 12 INCHES (305 mm) BELOW BOTTOM OF EMBEDMENTS AND MUST BE INTENTIONALLY ROUGHENED TO A FULL AMPLITUDE OF 1/4 INCH (6 mm). FOUNDATION DESIGN ASSUMES NO OTHER CONSTRUCTION JOINTS.
24. CONSTRUCTION JOINTS, IF REQUIRED AT THE BASE OF PIERS SUPPORTED ON SPREAD FOUNDATIONS, SHALL BE INTENTIONALLY ROUGHENED TO A FULL AMPLITUDE OF 1/4 INCH (6 mm). FOUNDATION DESIGN ASSUMES NO OTHER CONSTRUCTION JOINTS.
25. CASING, IF USED, SHALL NOT BE LEFT IN PLACE. EQUIPMENT, PROCEDURES, AND PROPORTIONS OF CONCRETE MATERIALS SHALL INSURE CONCRETE WILL NOT BE ADVERSELY DISTURBED UPON CASING REMOVAL. DRILLING FLUID, IF USED, SHALL BE FULLY DISPLACED BY CONCRETE AND SHALL NOT BE DETRIMENTAL TO CONCRETE OR SURROUNDING SOIL. CONTAMINATED CONCRETE SHALL BE REMOVED FROM TOP OF FOUNDATION AND REPLACED WITH FRESH CONCRETE.
26. TOP OF FOUNDATION SHALL BE SLOPED TO DRAIN WITH A FLOATED FINISHED. EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 3/4" X 3/4" (19 mm X 19 mm) MINIMUM.
27. FOR ANCHOR BLOCK TYPE FOUNDATIONS, FOR GUYED MASTS, ADDITIONAL CORROSION PROTECTION MAY BE REQUIRED FOR STEEL GUY ANCHORS IN DIRECT CONTACT WITH SOIL. DESIGN ASSUMES PERIODIC INSPECTIONS WILL BE PERFORMED OVER THE LIFE OF THE STRUCTURE TO DETERMINE IF ADDITIONAL ANCHOR CORROSION PROTECTION MEASURES SHALL BE IMPLEMENTED BASED ON OBSERVED SITE-SPECIFIC CONDITIONS.

FILE NO.

REVISIONS

REV	DESCRIPTION	DWN	CHK	APP
6	REVISED TO ANSI/TIA-222-G/H	SWG	HA	HA
DATE: 1/28/2020				



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ANSI/TIA-222-G/H
STANDARD FOUNDATION DESIGN NOTES

DWN:	FAD	CHK'D:	HA	DATE:	11/20/2009
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ENGR:	HA	SHEET #:	1 OF 1
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PRJ. ENGR:	PRJ. MANG'R:
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DRAWING NO:	B090548	REV:	6
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